LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

IDIQ CONTRACT FOR BRIDGE RATING STATEWIDE

CONTRACT NOS. 4400027650, 4400027651, AND 4400027652

Request for Qualifications

September 12, 2023

Original

MODJESKI and MASTERS

Stantec

moffatt & nichol

DOTD FORM: 24-102

(Revised January 1, 2023)

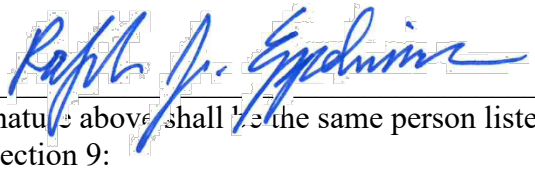
PROPOSAL TO PROVIDE CONSULTANT SERVICES

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

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

1. Contract Name as shown in the advertisement	**IDIQ Contract for Bridge Rating - Statewide**
2. Contract Number(s) as shown in the advertisement	**4400027650, 4400027651, and 4400027652**
3. State Project Number(s), if shown in the advertisement	
4. Prime consultant name **(name must match as registered with the Louisiana Secretary of State where such registration is required by law**)	**Modjeski and Masters, 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.0000570
6. Prime consultant mailing address	1100 Poydras Street, Suite 900, New Orleans, LA 70163
7. Prime consultant physical address (existing or to be established, if location is used as an evaluation criteria)	1100 Poydras Street, Suite 900, New Orleans, LA 70163
8. Name, title, phone number, and email address of prime consultant's contract point of contact	Cullen J. Ledet, PE Senior Project Manager 504-524-4344 CJLedet@modjeski.com
9. Name, title, phone number, and email address of the official with signing authority for this proposal	Ralph J. Eppehimer, PE Senior Vice President 504-524-4344 RJEppehimer@modjeski.com

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

10. This is to certify that all information contained herein is accurate and true, and that the team presently has sufficient staff to perform these services within the designated time frame. By submitting this proposal, proposer certifies that it is not engaged in a boycott of Israel and it will, for the duration of its contract obligations, refrain from a boycott of Israel. Proposer also certifies and agrees that the following information is correct: In preparing its response, the proposer has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israeli-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The proposer also has not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. DOTD reserves the right to reject the response of the bidder or proposer if this certification is subsequently determined to be false, and to terminate any contract awarded based on such a false response.	 Signature above shall be the same person listed in Section 9: Date: September 12, 2023

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):	Firm(s)' %:

12. <u>Past Performance Evaluation Discipline Table:</u>

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 (please specify).

Past Performance Evaluation Discipline(s)	% of Overall Contract	Modjeski and Masters, Inc.	Stantec	Moffatt & Nichol			Each Discipline must total to 100%
Bridge	100%	60%	25%	15%			**100%**
Identify the percentage of work for the **<u>overall contract</u>** to be performed by the prime consultant and each sub-consultant.							
Percent of Contract	**100%**	60%	25%	15%			**100%**

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 (please specify)" and include the classification title inside the parentheses.

The DOTD Job Classification(s) to be used can be found at the following link:

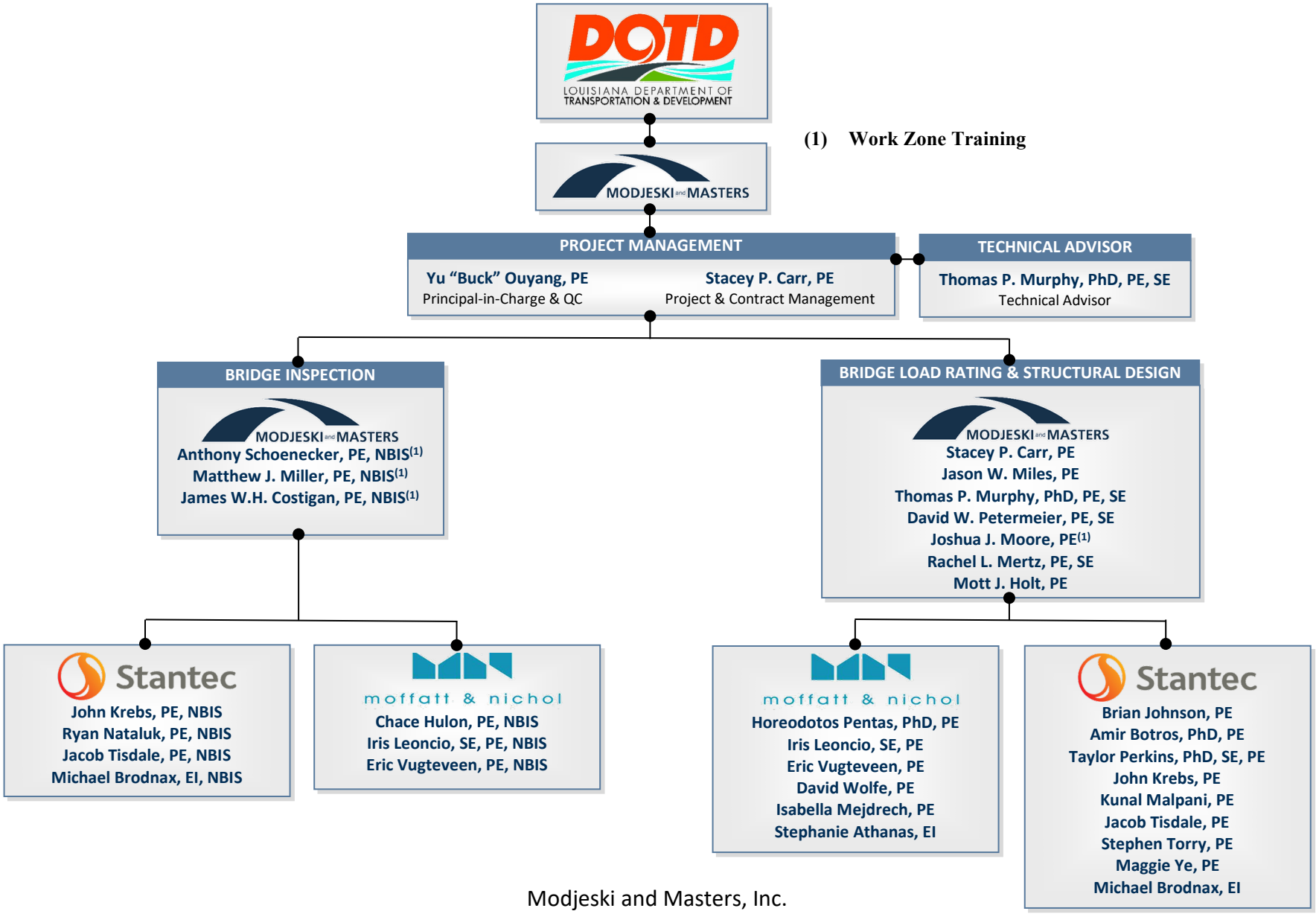
http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Engineering/CCS/Job_Qualification/Job%20Classifications%20with%20Descriptions.pdf

Firm name	DOTD Job Classification	Number of personnel committed to this contract	Total number of personnel available in this DOTD Job Classification (if needed)
Modjeski and Masters, Inc.	Principal	3	7
	Supervisor Engineer	6	15
	Supervisor - Other	0	11
	Engineer	3	6
	Engineer-Other	0	21
	Engineer Intern	3	19
	Technician	1	2
	Senior Technician	1	3
	CADD Technician	1	9
	Professional	0	1
Stantec Consulting Services Inc.	Principal	1	2
	Engineer	4	9
	Engineer Intern	2	8
	Technician	1	2
	Inspector – Bridge	3	10
Moffatt & Nichol	Administrative	1	150
	CADD-Operator	2	93
	Engineer	4	34
	Engineer – Other	4	405
	Engineer Intern	3	142

(Add rows as needed)

14. Organizational Chart:

Provide an organizational chart showing ALL **relevant** prime consultant and sub-consultant (if applicable) personnel assigned to the contract, area of project responsibility for each, and reporting lines for the purposes of this contract. An individual's role does not necessarily have to match their DOTD job classification identified in Section 13. **If applicable, identify all personnel performing traffic engineering analysis and/or QC of traffic engineering analysis by placing an asterisk next to their name. Include the certificates required by the Traffic Engineering Process and Report Training Requirements article of the Advertisement in Section 20.** It is acceptable to use an 11x17 format for Section 14.



(1) Work Zone Training

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. Make sure the P.E. discipline is also listed (highlighted in table) that is meeting the MPR; e.g. professional civil engineer should show the discipline of the license as civil if meeting that 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 and discipline meeting MPR/ certification & number (Ex: PE # - Civil)	State of license	License / certification expiration date
1	Yu "Buck" Ouyang, PE	Modjeski and Masters, Inc.	PE #26117 – Civil	LA	09/30/2025
	David W. Petermeier, PE, SE	Modjeski and Masters, Inc.	PE #34486 – Civil	LA	09/30/2023
2	Yu "Buck" Ouyang, PE	Modjeski and Masters, Inc.	PE #26117 – Civil	LA	09/30/2025
	David W. Petermeier, PE, SE	Modjeski and Masters, Inc.	PE #34486 – Civil	LA	09/30/2023
3	Yu "Buck" Ouyang, PE	Modjeski and Masters, Inc.	PE #26117 – Civil	LA	09/30/2025
	David W. Petermeier, PE, SE	Modjeski and Masters, Inc.	PE #34486 – Civil	LA	09/30/2023
4	Stacey P. Carr, PE	Modjeski and Masters, Inc.	PE #26796 – Civil	LA	09/30/2024
	Thomas P. Murphy, PhD, PE, SE	Modjeski and Masters, Inc.	PE #45353 – Civil	LA	09/30/2025
	Taylor Perkins, PhD, SE, PE	Stantec Consulting Services Inc.	PE #47449 – Structural	LA	09/30/2023
	Herodotos Pentas, PhD, PE	Moffatt & Nichol	PE #24660 – Civil	LA	09/30/2024
	Iris Leoncio, SE, PE	Moffatt & Nichol	PE #47438 – Structural	LA	09/30/2023
5	Rachel L. Mertz, PE, SE	Modjeski and Masters, Inc.	PE #39764 – Civil	LA	09/30/2023
	Joshua J. Moore, PE	Modjeski and Masters, Inc.	PE #36342 – Civil	LA	09/30/2023
	Jason W. Miles, PE	Modjeski and Masters, Inc.	PE #37773 – Civil	LA	09/30/2025
	Mott J. Holt, PE	Modjeski and Masters, Inc.	PE #45908 – Civil	LA	03/31/2024
	Amir Botros, PhD, PE	Stantec Consulting Services Inc.	PE #43701 – Civil	LA	03/31/2024
	John Krebs, PE	Stantec Consulting Services Inc.	PE #37259 – Civil	LA	09/30/2024
	Kunal Malpani, PE	Stantec Consulting Services Inc.	PE #43016 – Civil	LA	03/31/2025
	Maggie Ye, PE	Stantec Consulting Services Inc.	PE #44061 – Civil	LA	03/31/2024
	Herodotos Pentas, PhD, PE	Moffatt & Nichol	PE #24660 – Civil	LA	09/30/2024
	Iris Leoncio, SE, PE	Moffatt & Nichol	PE #47438 – Structural	LA	09/30/2023
	Eric Vugteveen, PE	Moffatt & Nichol	PE #38667 – Civil	LA	09/30/2024

(Add rows as needed)

16. Staff Experience:

Résumés shall be provided for all prime and sub-consultant personnel listed in Sections 14 and/or 15 of the proposal. Résumés of personnel not identified in Section 14 or Section 15 of the proposal should not be included and will not be evaluated. Résumés should be **limited to 2 pages per person**. Any certificates required by the advertisement are to be placed in Section 20.

<table>
<tr><td colspan="5">Firm employed by Modjeski and Masters, Inc.</td><td rowspan="5">  </td></tr>
<tr><td>Name</td><td colspan="2">Yu Ouyang, PE</td><td colspan="2">Years of relevant experience with this employer</td><td>32</td></tr>
<tr><td>Title</td><td colspan="2">Senior Vice President & Principal</td><td colspan="2">Years of relevant experience with other employer(s)</td><td>2</td></tr>
<tr><td colspan="6">Degree(s) / Years / Specialization
MS / 1990 / Civil Engineering MS / 1985 / Structural Engineering BS / 1982 / Civil Engineering</td></tr>
<tr><td colspan="3">Active registration number / state / expiration date</td><td colspan="2">26117 LA 9/30/2025</td></tr>
<tr><td>Year registered</td><td>1994</td><td>Discipline</td><td colspan="3">Civil</td></tr>
<tr><td colspan="6">Contract role(s) / brief description of responsibilities
Mr. Ouyang has been with Modjeski and Masters, Inc. since 1991, and has vast bridge engineering experience, ranging from conventional designs to special projects of high complexity, and from feasibility studies to construction services. He specializes in the design of fixed and movable highway and railroad bridges, and the rating and rehabilitation of existing bridges. His expertise also extends to analysis of complex bridge structures, vessel collision risk assessment and protection systems, seismic design, analysis and retrofit, and fatigue evaluations. He brings extensive experience in managing engineering and design efforts of varying sizes and difficulties, and in leading, coordinating and managing technical teams and subconsultants.</td></tr>
<tr><td>Experience dates (mm/yy–mm/yy)</td><td colspan="5">Experience and qualifications relevant to the proposed contract; i.e., “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).</td></tr>
<tr><td>09/17 – 03/21</td><td colspan="5">LA 16 over Tangipahoa River, Tangipahoa Parish, LA | LADOTD
M&M developed all necessary topographic surveys, preliminary and final plans for this bridge replacement project on LA 16, between LA 51 and LA 1054, in Amite City, LA. This project included reconstruction of the approach slabs and roadway on the east and west sides of the bridge. It was anticipated that traffic shall be maintained during construction with an on-site diversion roadway and bridge. The plans were prepared in accordance with AASHTO LRFD Bridge Design Specifications and the Bridge Design and Evaluation Manual (BDEM), DOTD 2017 Design Guidelines, DOTD 2016 Standard Specifications for Roads and Bridges, DOTD Road Design Manual, and DOTD Hydraulics Manual. QA/QC was provided in accordance with Part 1, Chapter 3 of BDEM. Construction Related Engineering Support was provided and is currently on-going. Mr. Ouyang served as the Project Manager for this project.</td></tr>
<tr><td>09/17 – 05/21</td><td colspan="5">US 61 at Thompson Creek, West Feliciana Parish, LA | LADOTD
M&M provided all necessary preliminary and final plans for the rehabilitation of the northbound bridge and replacement of the southbound bridge on US 61 over Thompson Creek, between LA 10 and LA 964, near St. Francisville, LA. It was anticipated that traffic would be maintained during the construction of the new southbound bridge with temporary two-way traffic on the rehabilitated northbound bridge. The project also included the design and detailing of adding a helper bent to the northbound bridge. The plans were prepared in accordance with AASHTO LRFD Bridge Design Specifications and the Bridge Design and Evaluation Manual (BDEM), DOTD 2017 Design Guidelines, DOTD 2016 Standard Specifications for Roads and Bridges, DOTD Road Design Manual, and DOTD Hydraulics Manual. QA/QC was provided in accordance with Part 1, Chapter 3 of BDEM. Construction Related Engineering Support was provided and is currently on-going. Mr. Ouyang served as the Project Manager for this project.</td></tr>
<tr><td>09/17 – 02/20</td><td colspan="5">LA 1064 at Little Natalbany River, Livingston Parish, LA | LADOTD
M&M developed all necessary topographic surveys, preliminary and final plans for this bridge replacement project on LA 1064, near LA 43 and Hoover Road, in Albany, LA. This project included reconstruction of the approach slabs and roadway on the east and west sides of</td></tr>
</table>

	the bridge. It was anticipated that the roadway would be closed during construction and a detour route was detailed. The plans were prepared in accordance with AASHTO LRFD Bridge Design Specifications and the Bridge Design and Evaluation Manual (BDEM), DOTD 2017 Design Guidelines, DOTD 2016 Standard Specifications for Roads and Bridges, DOTD Road Design Manual, DOTD Hydraulics Manual, and DOTD Location and Survey Manual. QA/QC was provided in accordance with Part 1, Chapter 3 of BDEM. Construction Related Engineering Support was also provided. Mr. Ouyang served as the Project Manager for this project.
03/17 - ongoing	**LA 1 – Port Allen Bridge Replacement, Port Allen, LA | LADOTD** The ongoing project consists of replacing the existing northbound and southbound bridge structures on LA 1 over the Intracoastal Canal Waterway (ICWW). The proposed LA 1 SB Bridge will consist of 3 - 12' travel lanes and 2 - 10' shoulders and will be approximately 2,680' long. The proposed LA 1 NB Bridge will consist of 2 - 12' travel lanes and 2 - 10' shoulders (LA 1 NB roadway), a permanent 2' wide median barrier and 1 - 12' travel lane with 2 - 6' shoulders (I-10 EB Exit Ramp roadway). The Exit Ramp and LA 1 NB roadway will be separated by a permanent 2' wide median barrier until the LA 1 NB Bridge will bifurcate where the LA 1 NB roadway and I-10 EB Exit Ramp roadway will be carried on separate bridge structures. The LA 1 NB Bridge and I-10 EB Exit Ramp Bridge will be approximately 2,700' and 354' long, respectively. Both LA 1 NB and LA 1 SB Bridges will consist of a 870' long haunched three span continuous steel plate girder main span unit over the ICWW and prestressed concrete LG girder approach spans. Mr. Ouyang serves as Project Manager for this project.
08/09-12/11	**S.P. 700-08-0109: LA 160 Bridges – Caney Creek and Bodcau Bayou | LADOTD** M&M developed final plans, permit drawings, construction cost estimate and special provisions for a new integral bridge design and analysis developed for the LADOTD. The two subject bridge sites that cross Caney Creek and Bodcau Bayou in Bossier Parish, LA were the first two fully integral bridges in the state. Strain gauge and other testing was conducted to follow the behavior of the bridge design over a period of time. The plans were prepared in accordance with AASHTO LRFD Bridge Design Specifications and the Bridge Design and Evaluation Manual (BDEM) and DOTD Standard Specifications for Roads and Bridges. QA/QC was provided in accordance with Part 1, Chapter 3 of BDEM. Mr. Ouyang served as the project manager and supervised a team of engineers that performed the LUSAS analysis, bridge design and detailing, and construction services.
02/01-08/14	**S.P. 700-18-0014 – Huey P. Long Bridge Widening, Jefferson Parish, LA | LADOTD** The widening project for the H.P. Long Bridge included new vehicular approaches on both sides of the Mississippi River consisting of three lanes plus shoulders and ramps. The project entailed replacing existing approaches while maintaining traffic through the corridor. Included elements: existing foundations, pile and drill-shaft supported piers, prestressed concrete girder spans and multiple-span steel continuous units. The plans were prepared in accordance with AASHTO LRFD Bridge Design Specifications and the Bridge Design and Evaluation Manual (BDEM) and DOTD Standard Specifications for Roads and Bridges. Mr. Ouyang served as a lead design engineer and technical advisor for this project.

16. **Staff Experience:**

Firm employed by **Modjeski and Masters, Inc.**			
Name	**Stacey P. Carr, PE**	Years of relevant experience with this employer	32
Title	Project Manager - Structures	Years of relevant experience with other employer(s)	1
Degree(s) / Years / Specialization		MS 2004 Structural BS 1990 Civil	
Active registration number / state / expiration date		26796 LA 9/30/2024	
Year registered	1996	Discipline	Civil

Contract role(s) / brief description of responsibilities:
Ms. Carr has extensive experience in the rating, strengthening and design of highway, railroad, and combined highway/railroad structures, including large cantilever spans and movable bridges. Ms. Carr has overseen the gamut for rating bridges from small concrete slab spans to complex steel structures, movable bridges and gusset plates, as featured below. She is well experienced with AASHTOWare Bridge Rate (BrR) and is knowledgeable of both LFR and LRFR rating requirements. Special Training: NHI Course No. 130092, Fundamentals of LRFR and Applications of LRFR for Bridge Superstructures.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
02/23 – Ongoing	**H.009859.5 Load Rating of 160 Bridges. Statewide, LA | LADOTD** Modjeski and Masters, Inc. is performing plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, including large cantilever trusses, vertical lifts and swing spans. Gusset, truss, floorsystem and substructure components are being rated. Bridge inspections focus on gusset plates and existing member conditions for rating. AASHTOWare BrR is being used for the ratings, which follow the AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual. Ms. Carr is the Project Manager who oversees and performs primary QA/QC for the load rating of the bridges.
11/19 – 06/21	**H.009859.5: Load Rating of Fourteen Complex Bridges | LADOTD** Modjeski and Masters, Inc. is performing plan and document retrieval, bridge inspection (as needed), analysis and load rating, sampling/instrumentation and non-destructive testing (as needed), and plan production (as needed) for 14 complex bridges. The bridge types include swing spans, bascule spans, truss spans and curved steel spans. For the analysis and load rating task, M&M is generating a system structural model and performing an analysis of each bridge to determine dead and live load forces in the members. For the bridge superstructures, AASHTOWare BrR software is being used. All load rating analysis will follow current AASHTO Manual for Bridge Evaluation, LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications. Ms. Carr was the Project Manager who oversaw and performed primary QA/QC for the load rating of the bridges.
03/21 – 09/21	**H.009859.5 Two Bridges Load Rating. Caddo and St. Tammany Parishes, Louisiana | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge analysis, and load and resistance factor rating of two bridge structures. AASHTOWare BrR was used for the ratings, which follow the AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual. Ms. Carr was the Project Manager who oversaw and performs primary QA/QC for the load rating of the bridges.
07/19 – 05/21	**H.012485.1: Load Rating of 354 Off System Bridges | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection (as needed), analysis and load rating, sampling/instrumentation and non-destructive testing (as needed), and plan production (as needed) for 354 off system bridges including prestressed concrete, reinforced concrete and steel plate girder bridges. For the analysis and load rating task, M&M generated a system structural model and performing an analysis of each bridge to determine dead and live load forces in the members. For the bridge superstructures, AASHTOWare BrR software was used. For the complex bridges, a three-dimensional structural model was needed. All

	load rating analysis followed current AASHTO Manual for Bridge Evaluation, LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications. Ms. Carr was the Project Manager who oversaw and performed primary QA/QC for the load rating of the bridges.
07/19 – 06/21	**H.000303.6: Danziger Bridge Repair and Rating | LADOTD** Modjeski and Masters, Inc. performed repair and load rating services for the Danziger Bridge, a steel vertical lift structure with a steel girder superstructure supported by reinforced concrete piers, and the flanking prestressed concrete approach structures. AASHTOWare Bridge Rating BrR software was used to perform load rating based on the present condition, capacity and loading of the bridge. All load rating analysis followed current AASHTO Manual for Bridge Evaluation, LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications. Ms. Carr was the Project Manager who oversaw and performed primary QA/QC for the load rating.
1/17 - 08/18	**H.009859.5: Nineteen Complex Bridge Load Rating and Evaluation. Louisiana | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, mainly movable bridges. Gusset, truss, floorsystem and substructure components were rated. Bridge inspections focused on gusset plates and existing member conditions for rating. AASHTOWare BrR is being used for the ratings, which follow current AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual. Ms. Carr was the Project Manager who oversees and performs primary QA/QC for the load rating of the bridges.
02/16 - 10/17	**H.009859.5: Ten Truss Bridges Load Rating and Evaluation. Louisiana | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, including large cantilever trusses, vertical lifts and swing spans. Gusset, truss, floorsystem and substructure components were rated. Bridge inspections focused on gusset plates and existing member conditions for rating. AASHTOWare BrR was used for the ratings, which follow the AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual. Ms. Carr was Project Manager who oversaw and performed primary QA/QC for the load rating of the bridges.
09/14-12/16	**H.009859.5 (A): Rating and Posting of On-System State Bridges. Louisiana | LADOTD** M&M performed load rating analyses for 110 existing bridge structures using the Load and Resistance Factor Rating Method. Elements to be rated include superstructure and substructure components. Provisions in the AASHTO Manual for Bridge Evaluation as well as LADOTD Policies and Guidelines for Bridge Rating and Evaluation were followed. Ms. Carr was group leader, oversaw, and performed primary QA/QC for the load rating of the structures which included reinforced concrete, prestressed concrete and steel plate girder bridges.
02/13-02/15	**H.009859.5: Crescent City Connection, Bridge No. 1, New Orleans, LA | LADOTD** M&M performed an inspection and LRFR load rating of the Greater New Orleans Bridge #1, a 13,428 foot truss bridge with a main span of 1,575 feet. The rating included the superstructure, including gusset plates and deck, and selected substructure elements. Ms. Carr oversaw and performed primary QA/QC for the load rating of the bridge.
04/10-12/12	**T.O. 701-65-1460 & H.005710: US 190 Miss. River Bridge, Baton Rouge, LA | LADOTD** The US 190 Mississippi River Bridge carries one railroad track between the main bridge trusses and has two-lane highways brackets either side of the main cantilever truss bridge. This Task Order and Supplements were for the rating of the railroad portions per AREMA requirements and rating of the vehicular portions per AASHTO LRFR requirements. Ms. Carr oversaw and participated in the rating of the bridge.

16. **Staff Experience:**

Firm employed by **Modjeski and Masters, Inc.**					
Name	**Jason W. Miles, PE**		Years of relevant experience with this employer		14
Title	Project Manager - Structures		Years of relevant experience with other employer(s)		0
Degree(s) / Years / Specialization			BS 2008 Civil		
Active registration number / state / expiration date			37773 LA 09/30/2025		
Year registered	2013	Discipline	Civil		

Contract role(s) / brief description of responsibilities:
Mr. Miles has been employed as a Design Engineer in the New Orleans office of Modjeski and Masters, Inc. since 2009. During this period, he has been engaged in multiple complex projects. The majority of his time has been spent in complex structural analysis, 3-D structural modeling, steel member shop drawing review, assessment of steel fabricator quality control reports, and in performing finite element analysis using both the LUSAS and Florida Pier programs. Mr. Miles attended the AASHTOWare Bridge Rate (BrR) meeting titled "AASHTOWare Bridge Design and Rating Software User Group Meeting" in August 2014 and 2016. He also completed NHI Course No. 130092, Fundamentals of LRFR and Applications of LRFR for Bridge Superstructures and NHI Course No. 130081, LRFD for Highway Bridge Superstructures. Mr. Miles also has experience with finite element analysis, in particular through the use of Lusas software to check AASHTOWare BrR results.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
02/23 – Ongoing	**H.009859.5 Load Rating of 160 Bridges. Statewide, LA | LADOTD** Modjeski and Masters, Inc. is performing plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, including large cantilever trusses, vertical lifts and swing spans. Gusset, truss, floorsystem and substructure components are being rated. Bridge inspections focus on gusset plates and existing member conditions for rating. AASHTOWare BrR is being used for the ratings, which follow the AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual. Mr. Miles provides technical guidance to bridge raters involved in a variety of bridge types, including steel trusses and movable spans. Ratings are being performed using AASHTOWare BrR with refinements done in Excel when needed. Mr. Miles is also performing general QA/QC and rating report review.
06/20 - Ongoing	**H.010603.6 I-20 Mississippi River Bridge at Vicksburg Monitoring | LADOTD** Piers E-2 and E-1 of the I-20 Bridge in Vicksburg have been experiencing movements and have been under a monitoring program since 2002. The objective of this project is to capture both longitudinal and transverse displacements and tilts of the piers and provide system redundancy through the installation of jointmeter/tiltmeters and GPS instrumentation systems. Replacement vibrating wire jointmeters will be installed at five locations to determine the magnitudes of displacement over time. Replacement biaxial tiltmeters will be installed at four locations to determine the changes in tilt occurring over time at the bridge piers. All measurements will be reported wirelessly to a data logger connected to a cellular modem. Mr. Miles serves as the project manager and will be analyzing and monitoring data to provide advance warning of pier and bridge longitudinal movement and pier tilt.
03/21 - 10/21	**H.009859.5 I-210 Bridge over Prien Lake Structural Rating, Calcasieu Parish | LADOTD** Modjeski and Masters, Inc. performed the as-is/as-repaired Load and Resistance Factor Rating (LRFR) of Prien Lake Eastbound and Westbound Main Bridge and Approaches for a total length of over 17,000 feet. Analysis included LUSAS FEM models, AASHTOWare BrR models of continuous span girders and ratable superstructure components, analysis of girder splices for rating and use of the AISC moment Gradient Modified Cb as needed. The "Girder System Superstructure" definition was used for the girder spans, and the "Floor System Superstructure" definition was used to model the continuous stringer units and floorbeams without crossframes. The steel plate girders were modeled separately from the multi-span continuous stringer floor system because of the pin and hanger arrangements. All BrR-models utilized a line girder analysis. Design and legal load capacity ratings were calculated for the girders and link joint connections of the steel plate girder spans, and for the caps of

	the pile bents. Ratings for the superstructure and substructure were calculated using Load and Resistance Factor Rating (LRFR) methodology. Mr. Miles provided QA/QC, including calculation checking and report review
11/19 – 05/21	**H.009859.5: Load Rating of Fourteen Complex Bridges | LADOTD** Modjeski and Masters, Inc. is performing plan and document retrieval, bridge inspection (as needed), analysis and load rating, sampling/instrumentation and non-destructive testing (as needed), and plan production (as needed) for 14 complex bridges. The bridge types include swing spans, bascule spans, truss spans and curved steel spans. For the analysis and load rating task, M&M is generating a system structural model and performing an analysis of each bridge to determine dead and live load forces in the members. For the bridge superstructures, AASHTOWare BrR software is being used. For the complex bridges, a three-dimensional structural model is needed. M&M is also developing influence lines and COMPSTIL2 input files for complex substructures including hammerheads and inverted-T pier caps. All load rating analysis will follow current AASHTO Manual for Bridge Evaluation, LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications. Mr. Miles operated as a co-manager overseeing the technical aspects of the complex bridge ratings. Mr. Miles provided QA/QC, including calculation checking and report review.
07/19 – 05/21	**H.000303.6: Danziger Bridge Repair and Rating | LADOTD** Modjeski and Masters, Inc. performed repair and load rating services for the Danziger Bridge, a steel vertical lift structure with a steel girder superstructure supported by reinforced concrete piers, and the flanking prestressed concrete approach structures. AASHTOWare Bridge Rating BrR software was used to perform load rating based on the present condition, capacity and loading of the bridge. All load rating analysis followed current AASHTO Manual for Bridge Evaluation, LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications. Mr. Miles performed analysis of the span using a 3D FEM model in LUSAS. Analysis included investigating thermal gradient effects, validating data from bridge monitoring systems, and an LRFR load rating.
07/19 – 04/21	**H.012485.1: Load Rating of 354 Off System Bridges | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection (as needed), analysis and load rating, sampling/instrumentation and non-destructive testing (as needed), and plan production (as needed) for 354 off system bridges including prestressed concrete, reinforced concrete and steel plate girder bridges. For the analysis and load rating task, M&M generated a system structural model and performing an analysis of each bridge to determine dead and live load forces in the members. For the bridge superstructures, AASHTOWare BrR software was used. For the complex bridges, a three-dimensional structural model was needed. All load rating analysis followed current AASHTO Manual for Bridge Evaluation, LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications. Mr. Miles provided technical guidance to bridge raters involved in a variety of bridge types, including slab spans, prestressed girder spans, and grid deck on steel beam spans. Mr. Miles provided specific guidance on ratings of timber substructure elements. Ratings were performed using AASHTOWare BrR with refinements done in Excel when needed. Mr. Miles also performed general QA/QC and rating report review.
02/17-08/18	**H.009859.5: Nineteen Complex Bridge Load Rating and Evaluation. Louisiana | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, mainly movable bridges. Gusset, truss, floorsystem and substructure components were rated. Bridge inspections focused on gusset plates and existing member conditions for rating. AASHTOWare BrR was used for the ratings, which follow current AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual. Mr. Miles participated in the load rating analysis and reporting for this project.
03/16-10/17	**H.009859.5: Ten Truss Bridges Load Rating and Evaluation. Louisiana | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, including large cantilever trusses, vertical lifts and swing spans. Gusset, truss, floorsystem and substructure components were rated. Bridge inspections focused on gusset plates and existing member conditions for rating. AASHTOWare BrR was used for the ratings, which followed the AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual. Mr. Miles participated in the load rating analysis and reporting for this project.

16. **Staff Experience:**

Firm employed by **Modjeski and Masters, Inc.**					
Name	**Joshua J. Moore, PE**		Years of relevant experience with this employer	17	
Title	Senior Engineer & Field Inspector		Years of relevant experience with other employer(s)	0	
Degree(s) / Years / Specialization			BS 2006 Civil		
Active registration number / state / expiration date			36342 LA 09/30/2023 NBIS Certified Inspector / Sprat Level III Certified Work Zone Training Compliant		
Year registered	2011	Discipline	Civil		

Contract role(s) / brief description of responsibilities

Mr. Moore has over 17 years of bridge design, analysis, rating, and rehabilitation experience coupled with over 13 years of bridge inspection experience. He has been involved in a variety of projects including design, analysis, evaluation, and retrofit; routine, emergency, and forensic inspection; and construction and project management of complex steel and concrete structures. Mr. Moore's wide range of experience and knowledge has allowed him to serve Modjeski and Masters' clients as both a design and field resource. As a capable and experienced design engineer who is also a fully-trained and experienced NBIS field inspector, team leader, and SPRAT Level III rope access supervisor, Mr. Moore has served as an inspection team leader, rating engineer, and repair design engineer for multiple complex structures. Mr. Moore is currently a Senior Engineer in the Field Services Unit as well as the Assistant Program Coordinator for Modjeski and Masters' Technical and Rope Access Program. He is based in New Orleans.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
09/22 - Ongoing	**Mississippi Office of State Aid Road Construction (MS-OSARC) Bridge Inspection and Related Services; Statewide, MS | MS-OSARC** Modjeski and Masters is the prime consultant to provide consulting engineering services to Mississippi Office of State Aid and Road Construction (MS-OSARC) as part of a multi-year IDIQ project. M&M supports the MS-OSARC Bridge Inspection Program Manager (BIPM) and staff within numerous counties in the State of Mississippi. Services under this contract include routine and fracture critical member inspection, load capacity rating, and bridge inspection services for various bridges throughout the state of Mississippi. M&M will also provide Operational Support to MS-OSARC in its oversight and management of the NBI by providing Quality Control/Assurance Review, Inspection Oversight and NBI Data Management of the NBI. M&M will also provide recommendations for improvements and enhancements to MS-OSARC’s Bridge Management Program. M&M will complete each task order using multiple inspection and load rating teams, which will utilize various access methods including technical and rope access methods and will utilize AASHTOWare to rate bridges. Mr. Moore is a Lead Bridge Inspector and also leads the bridge load rating team for this project.
11/19 – 05/21	**H.009859.1: Load Rating of Fourteen Complex Bridges | LADOTD** Modjeski and Masters, Inc. is performing plan and document retrieval, bridge inspection (as needed), analysis and load rating, sampling/instrumentation and non-destructive testing (as needed), and plan production (as needed) for 14 complex bridges. The bridge types include swing spans, bascule spans, truss spans and curved steel spans. For the analysis and load rating task, M&M is generating a system structural model and performing an analysis of each bridge to determine dead and live load forces in the members. For the bridge superstructures, AASHTOWare BrR software is being used. All load rating analysis will follow current AASHTO Manual for Bridge Evaluation, LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications. Mr. Moore assisted in the management of the project and provided guidance to the rating team. Mr. Moore performed structural analysis, evaluation, and quality control.

07/19 – 05/21	**H.012485.1: Load Rating of 354 Off System Bridges | LADOTD** Modjeski and Masters, Inc. is performing plan and document retrieval, bridge inspection (as needed), analysis and load rating, sampling/instrumentation and non-destructive testing (as needed), and plan production (as needed) for 354 off system bridges including prestressed concrete, reinforced concrete and steel plate girder bridges. For the analysis and load rating task, M&M is generating a system structural model and performing an analysis of each bridge to determine dead and live load forces in the members. For the bridge superstructures, AASHTOWare BrR software is being used. For the complex bridges, a three-dimensional structural model is needed. All load rating analysis will follow current AASHTO Manual for Bridge Evaluation, LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications. Mr. Moore assisted in the management of the project and provided guidance to the rating team. Mr. Moore performed structural analysis, evaluation, and quality control.
11/18 - Ongoing	**Luling–Destrehan Bridge Latent Defects Review**. **Luling, Louisiana | LADOTD** Mr. Moore serves as an Inspection Team Leader for this investigation of latent defects in the Luling–Destrehan Bridge Stay Cable system. Specific tasks includes review and evaluation of existing project documentation, performance of an on-site investigation of the stay cables and anchorages and developing a report of the findings and associated recommendations.
10/17 - 08/18	**H.009859.5: Nineteen Complex Bridge Load Rating and Evaluation. Louisiana | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, mainly movable bridges. Gusset, truss, floorsystem and substructure components were rated. Bridge inspections focused on gusset plates and existing member conditions for rating. AASHTOWare BrR was used for the ratings, which followed the AASHTO Manual for Bridge Evaluation, LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications. Mr. Moore assisted in the management of the project and provided guidance to the rating team. Mr. Moore performed structural analysis, evaluation, and quality control. Mr. Moore also participated in several of the bridge inspections
02/16-10/17	**H.009859.5: Ten Truss Bridges Load Rating and Evaluation. Louisiana | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, including large cantilever trusses, vertical lifts and swing spans. Gusset, truss, floorsystem and substructure components were rated. Bridge inspections focused on gusset plates and existing member conditions for rating. AASHTOWare BrR was used for the ratings, which follow current AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual. Mr. Moore assisted in the management of the project and provided guidance to the rating team. Mr. Moore performed structural analysis, evaluation, and quality control. Mr. Moore also participated in several of the bridge inspections.
09/14-12/16	**H.009859.5 (A): Rating and Posting of On-System State Bridges. Louisiana | LADOTD** M&M performed load rating analyses for 110 existing bridge structures using the Load and Resistance Factor Rating Method. Elements to be rated include superstructure and substructure components. Provisions in the AASHTO Manual for Bridge Evaluation as well as LADOTD Policies and Guidelines for Bridge Rating and Evaluation were followed. Mr. Moore participated in the load rating of the bridges and performed structural analysis, evaluation, and quality control.
04/13 - 2/14	**H.009859: Crescent City Connection, Bridge No. 1, New Orleans, LA** This Task Order consists of inspection and LRFR load rating for the Greater New Orleans Bridge No. 1 – a complex steel cantilever through truss bridge. The rating is to include the superstructure, (including gusset plates and deck), selected substructure elements and piers. Mr. Moore developed and carried out photogrammetric methods to verify gusset plate geometry as part of the gusset plate evaluation. Mr. Moore also led the technical access inspection team.

16. **Staff Experience:**

Firm employed by **Modjeski and Masters, Inc.**				
Name	**David W. Petermeier, PE, SE**		Years of relevant experience with this employer	32
Title	Senior Vice-President		Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			MS 1991 Civil BS 1989 Civil	
Active registration number / state / expiration date			PE 34486 LA 9/30/2023	
Year registered	2009	Discipline	Civil	

Contract role(s) / brief description of responsibilities

Mr. Petermeier has experience in the design, analysis, and rehabilitation of highway and railroad structures of various sizes and complexity levels for many state, municipal, and private entities and has been a key participant on many award-winning structural projects. His experience includes complex bridge design/rating such as truss bridges, cable-stay bridges, segmental bridges, tied arch bridges, two-girder system bridges, as well as bascule, swing and vertical lift movable structures.

01/12-02/15	**Quincy Bayview Bridge Stay Cable Evaluation. Quincy, Illinois | Illinois DOT** The Quincy Bayview Bridge is a cable-stayed structure that carries two lanes of westbound US 24 traffic across the Mississippi River. M&M was retained by IDOT to conduct an investigation of the bridge's stay cable system, identifying and quantifying damage to the stay cables and anchorages, drawing conclusions from the evaluation, and providing recommendations for the future maintenance needs of the bridge. The bridge's 900-foot main span and two 440-foot back spans are supported by 56 stay cables anchored on two H-shaped towers that reach 182 feet above the roadway deck. M&M developed a comprehensive inspection/testing plan to determine the extent and location of damage to the stay cable system while minimizing intrusive testing and interruptions to the traveling public. This included a complete "hands-on" visual and tactile inspection of each cable, including anchorages, utilizing technical access inspection methods, non-destructive and vibration testing to the stay cables, and in-situ and laboratory testing of grout and water samples. Mr. Petermeier was the Project Manager and QA/QC reviewer for this project.
11/09-2/11	**Interstate 80 Mississippi River Bridge. LeClaire, Iowa | Illinois DOT, Bureau of Bridges and Structures** The main spans of this Mississippi River bridge consist of 16 continuous steel two-girder system spans with cantilevered floorbeams and stringers for a total length of 2,692 feet. The Illinois DOT discovered cracks in the top flanges of various cantilevered floorbeams during a routine inspection. M&M was contracted to perform emergency services to investigate, repair, and rehabilitate the cause of the cracking. Field testing included the installation and monitoring of strain gages and displacement sensors at critical cantilevered floorbeam locations. Finite element analysis, refined to simulate the actual behavior of the structure based on field testing results, was performed to determine the cause of the cracks, the susceptibility of the current details to future cracking, and the appropriate repair. Repair plans were prepared for the replacement of all cantilever floorbeams at expansion dams and stringer relief joints. Rehabilitation details were prepared to correct the fatigue prone details and prevent future cracking. Mr. Petermeier was the Project Manager for this work.
01/06-01/11	**Huey P. Long Widening. New Orleans, Louisiana | Louisiana DOT and Development** The Huey P. Long Bridge is an existing high-level combined railroad and highway bridge that crosses the Mississippi River near New Orleans, Louisiana. The main span cantilever through truss carried two railroad tracks within the truss and narrow 2-lane roadways bracketed off each side of the truss. M&M performed the preliminary and final design for widening each roadway from 18 feet to 43 feet with the addition of two new cantilever trusses attached to each side of the existing truss. This project also involved the strengthening of the existing river piers to support the widened truss and new highway approach spans. M&M provided extensive construction assistance during all phases of construction. Mr. Petermeier supervised the design of the approach span footings, the approach span cross girders at the approach/main span interfaces, and the development of jacking details for the cross girder erection during staged construction.
3/11-10/11	**Red River Bridge (LA 6). Grand Ecore, Louisiana | Louisiana DOT and Development**

	Phase II engineering services were provided for the replacement of the deteriorated bridge deck on this two-lane bridge while maintaining one-way traffic. The main bridge, a three-span continuous deck plate girder structure, is a two girder system. The approaches consist of 15 simple girder spans. A fourth stringer-line was added to the main bridge segment for staging purposes of the two girder system and all approach span steel beams were replaced and made composite with the new deck. M&M provided the following services: preliminary and final design, special provisions, traffic control plans, LRFR rating of the structure, and construction assistance. Mr. Petermeier was the Project Manager for this work.
07/08-10/11	**Well Road Bridge (LA 3249). West Monroe, Louisiana | Louisiana DOT and Development** Phase I and II engineering services were provided for the superstructure replacement and substructure widening of the Well Road Bridge over I-20. The superstructure replacement utilized accelerated construction methods. The new spans were pre-assembled complete with the deck and barriers within staging areas near the structure. Self-propelled modular transporters (SPMTs) removed the old spans and placed the new spans during a weekend closure. Accelerated construction provided minimal interruption to traffic on this heavily traveled structure. M&M provided the following services: preliminary and final design, traffic control plans, special provisions, LRFR rating of the structure, and construction assistance. Mr. Petermeier was the Project Manager for this work.
12/06-4/07	**Keokuk Municipal Bridge. Keokuk, Iowa | City of Keokuk** The Keokuk Municipal Bridge consists of a through truss swing span and 10 through truss fixed spans crossing the Mississippi River. It was evaluated for passage of standard wheelbase 286,000 lb. cars. M&M performed load capacity ratings and developed rehabilitation recommendations. Mr. Petermeier was the Project Manager.
5/04-04/05	**Government Bridge over the Mississippi River. Rock Island, Illinois | Rock Island Arsenal** The Government Bridge is a movable combined highway/railroad double deck through truss. The structure consists of eight steel through truss spans and a swing span which rotates 360 degrees to accommodate river traffic. M&M was involved in a series of projects on this structure which included vertical clearance rehabilitation, load rating the truss and highway floorsystem, analysis of strain gage data for a fatigue analysis, and designing/detailing structural repairs. M&M has also performed routine in-depth bridge inspections for the structure which included the preparation of inspection reports with condition ratings, updated deficiencies table, and provided repair recommendations with cost estimates. Mr. Petermeier was the Project Manager for the majority of these projects.

16. **Staff Experience:**

Firm employed by **Modjeski and Masters, Inc.**					
Name	**Rachel L. Mertz, PE, SE**		Years of relevant experience with this employer		25
Title	Senior Project Manager		Years of relevant experience with other employer(s)		0
Degree(s) / Years / Specialization			MS 2004 Civil BS 1998 Civil		
Active registration number / state / expiration date			39765 LA 9/30/2023		
Year registered	2015	Discipline	Civil		

Contract role(s) / brief description of responsibilities

Ms. Mertz has experience in the inspection, analysis, load capacity rating, preliminary and final design, and rehabilitation for highway, railroad, and pedestrian bridges of various sizes and complexities. She has also served as Team Leader for routine bridge inspections and has directed the preparation of hydraulic reports for typical waterways. She is well experienced with AASHTOWare Bridge Rate (BrR) and LFR/LRFR.

01/20–06/20	**Gateway Bridge over the Mississippi River Tower Evaluation. Clinton, Iowa | Illinois DOT** M&M performed a special inspection and evaluation of the tower legs of the Gateway Bridge. The 30-span structure consists of two units of three-span continuous beam spans and three units of three-span continuous two-girder system spans on the Iowa approach, a suspension span, and 15 continuous two-girder system spans with four hinges on the Illinois approach. IDOT requested a special inspection due to the significant deterioration at the base of the main span steel towers. The load capacity rating of each tower leg was then updated based on the measured section loss. The tower legs were rated for AASHTO HS loading at inventory and operating levels. When the HS20 inventory rating factor was less than 1.0 for a tower leg, that leg was also rated at operating level for the Illinois posting and routine permit vehicles and the FHWA emergency vehicles. Due to the rating results, repair recommendations were also provided. Ms. Mertz served as the Project Manager.
09/18-03/19	**Joe Page Bridge (IL 16/100) over the Illinois River. Hardin, Illinois | Illinois DOT** M&M was tasked with updating as-inspected load capacity ratings for the Joe Page. Load capacity ratings were updated for new/changed defects from the 2017 NBIS Inspection; only new/changed defects requiring a detail sketch in the NBIS report were rated. Load capacity ratings were also updated for several other members that did not have new/changed deterioration; these additional members are identified in the following sections. Load capacity ratings for the superstructure members (excluding gusset plates) were performed utilizing AASHTOWare Bridge Rating (BrR), Version 6.8.2. A pre-existing BrR model provided by IDOT was modified for detailed deterioration shown in the inspection report. Load capacity rating analyses were performed in accordance with the AASHTO Load Factor Rating Method. As directed by IDOT, truss member deterioration was modeled utilizing the capacity override feature in BrR which is a change in the way deterioration was previously input for truss members in the pre-existing BrR model. To be consistent within the model, previously entered truss deterioration was removed and modeled using the capacity override feature. The model was also updated for the rehabilitation project that was completed in 2017. Ms. Mertz was the Project Manager.
01/16-07/17	**Illinois DOT Legal Loads Parametric Evaluation. Statewide, Illinois | Illinois DOT** The Illinois DOT was notified by the FHWA that a parametric study was required to verify whether the State's load rating procedures were in compliance with FHWA mandates in order to continue the practice of assigning load ratings. M&M performed the parametric study, identified areas in load rating procedures that did not meet federal mandates, and recommended policy changes which included modifications to existing posting/permit vehicles and the introduction of new posting/permit vehicles. The implementation of these recommendations allowed IDOT to continue assigning load ratings and improved the accuracy of IDOT's rating evaluations. As part of this study, M&M analyzed 280 structure configurations and calculated over 2000 force effects for each study vehicle. Ms. Mertz was the Project Manager.

06/13-08/14	**Murray Baker Bridge Load Ratings. Peoria, Illinois | Illinois DOT** M&M calculated the as-inspected load capacity ratings for the Murray Baker Bridge over the Illinois River. The bridge consists of a three-span continuous girder unit on the north approach, a five-span cantilevered through truss with a suspended middle span, a four-span continuous girder unit and one simply supported girder span on the south approach. The superstructure, including notable deterioration, was modeled and rated using AASHTOWare Bridge Rating. The gusset plates, truss pins, and coped stringer ends were also rated as part of this project. An all-inclusive load ratings report was prepared and posting recommendations were provided. As part of this work, M&M also identified critically deteriorated members that need to be repaired ahead of a planned rehabilitation project and calculated ballpark cost estimates for these immediate repairs. Ms. Mertz was the Project Manager for this work.
09/11-2/12 and 11/12-06/13	**IL Route 18 Bridge over the Illinois River Load Ratings. Henry, Illinois | Illinois DOT** The Illinois Route 18 Bridge consists of a two-span continuous girder unit, six simple span through trusses, and two three-span continuous girder units. As-built and as-inspected load capacity ratings were developed for the approach spans and main spans (including gusset plates). The structure was modeled and rated using Virtis in accordance with the AASHTO Load Factor Rating Method. Members were rated for AASHTO HS loading, as well as Illinois' special rating and permit vehicles. The as-built and as-inspected load capacity ratings for the simple span through-truss gusset plates were performed in accordance with the 2009 FHWA Load Rating Guidance for Bolted and Riveted Gusset Plates in Truss Bridges, as supplemented by the IDOT BBS gusset plate rating guidelines. A proprietary M&M developed gusset plate analysis spreadsheet was utilized for rating typical top and bottom chord gusset plates. For both through-trusses, as-built load capacity ratings for the lower pin at L0 was performed in accordance with the AASHTO Load Factor Rating Method. Pin ratings were based on live load forces from the Virtis analyses. Ms. Mertz was the Project Manager for this work.
05/10-04/11	**Martin Luther King Bridge Load Ratings. East St. Louis, Illinois | Illinois DOT** The Martin Luther King Bridge carries three lanes of FAP Route 799 over the Mississippi River. The Illinois Approach, consisting of 21 spans, and the Missouri Approach, consisting of 10 spans, are composed of a variety of superstructure types, including continuous multi-beam spans, simple multi-beam spans, and deck truss spans. The main span is a three-span cantilevered through truss. The total length of the structure is approximately 4,010 feet. As-built and as-inspected load capacity ratings were performed for the superstructure elements of the approach and main spans, including the substructure elements of the steel bents. The superstructure was modeled and rated using AASHTOWare Bridge Rating, in accordance with the AASHTO Load Factor Rating Method (LFR). The substructure was rated using hand calculations which included p-delta effects due to the measured lean of the bents. Members were rated for AASHTO HS loading, as well as Illinois legal and permit vehicles. Ms. Mertz was the Project Engineer for the development of load capacity ratings.

16. **Staff Experience:**

Firm employed by **Modjeski and Masters, Inc.**			
Name	**Thomas P. Murphy, PhD, PE, SE**	Years of relevant experience with this employer	23
Title	Chairman and Senior Vice President	Years of relevant experience with other employer(s)	5
Degree(s) / Years / Specialization	PhD 2000 Civil Engineering MS 1995 Civil Engineering BS 1994 Civil Engineering		
Active registration number / state / expiration date	45353 LA 9/30/2023		
Year registered 2021	Discipline: Civil		

Contract role(s) / brief description of responsibilities

Dr. Murphy's professional experience includes the analysis, design, detailing, and rehabilitation of a variety of bridges including cable-stayed, suspension, arch, truss, and girder bridges with special emphasis on seismic analysis and design. Dr. Murphy is involved in all aspects of bridge engineering, from the development of design specifications and leading research projects to the completion of conceptual studies for specific crossings, preliminary and final design, and construction stage issues. Dr. Murphy has led several major bridge design efforts, as well as collapse investigations, research projects, and peer reviews.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract, *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
12/11 – 09/23	**I-476 Hawk Falls Bridge Replacement. Pennsylvania | Pennsylvania Turnpike Commission** Dr. Murphy is the Project Manager and is the technical advisor for the arch design for this $65M (estimated) project. Dr. Murphy's tasks included initial structural arrangement and span layout evaluations, preliminary stability and moment magnification studies, and constructability reviews. He is also facilitating coordination with multiple agencies and stakeholders. The existing Hawk Falls Bridge on the Pennsylvania Turnpike is a 738'-long, three-span deck truss bridge with a deck I-beam approach span. Another bridge located directly to the north of the Hawk Falls Bridge, is a 111'-long three-span overpass bridge crossing PA State Route 534. Both are located within Hickory Run State Park. The Turnpike desired to have both bridges widened and upgraded to allow for future widening to a six-lane mainline section. To accomplish this, M&M determined that replacing both structures was the most cost-effective and efficient option. A new three rib, 480'-long span steel arch and a new 151'-long, single span bridge is currently in Final Design, which will replace the existing structures. In addition to innovative structural details to simplify construction and future inspections, the project also involves significant efforts to convert state park land for the new alignment.
10/18 - 09/20	**Chirajara Cable-Stayed Bridge Replacement Peer Review. Colombia | Coviandes SAS** Dr. Murphy served as M&M's Project Manager for the in-depth review of the Chirajara Cable-Stayed Bridge Replacement design. Tasks include the development of analytical models, verification of loadings, construction stage analysis, capacity calculations, review of construction alterations, load testing reviews, shop drawing reviews, evaluation of erection plans, and reviews of contractor QC reports for the 1000' span cable stayed structure.
08/09 - 04/23	**I-74 Mississippi River Arch Bridge. Iowa | Iowa DOT** Dr. Murphy was the Engineer of Record for the arch superstructures and has been involved in all aspects of the design including stability evaluations, aerodynamic mitigation measures, security studies, erection analysis, and criteria development. The I-74 corridor in the Quad Cities is approximately seven miles long and crosses the Mississippi River between Bettendorf, Iowa and Moline, Illinois. Twin, 800' span basket handle true arch bridges will be constructed to replace the existing crossing. M&M, as part of the project team, designed the twin arch superstructures.

11/04 - 07/16	**Monongahela River Bridge. Pennsylvania | Pennsylvania Turnpike Commission** Dr. Murphy, served as a Project Manager, led the management, design, and complex analysis for all structural aspects of the project (span layout studies, bridge type studies, TS&L preparation, and final design). His responsibilities also included monitoring of scope, schedule, budget, and subconsultant coordination. This new bridge design project is part of the 24-mile-long Mon/Fayette Allegheny Expressway. The Monongahela River Bridge is a mainline structure which will span the former U.S. Steel Duquesne Works, several railroad tracks, and the Monongahela River. The new $215M (estimated) bridge is expected to be a three-span, cable-stayed structure with a main span of approximately 1,100' and back spans of approximately 600.'
05/05-01/07	**St. Croix River Bridge Visual Quality Manual. Minnesota | Jacobs (formerly Edwards & Kelcey, Inc.)** Dr. Murphy, serving as senior engineer, was responsible for the preliminary analyses and design of a variety of extradosed cable bridge concepts. He participated in the public involvement process, representing the structural engineers at the stakeholder meetings. The new St. Croix River Bridge will be an extradosed bridge, consisting of 3,400 feet of bridge with maximum spans of 470 feet, located in the environmentally sensitive St. Croix River Valley. M&M participated in the bridge type study which led to a visual quality manual. Several extradosed bridge types were analyzed in the preliminary stages of the project. This will be the first extradosed bridge in the United States upon completion.
09/01-01/05	**I-70 Mississippi River Cable-Stayed Bridge. Missouri | Illinois DOT** Dr. Murphy's contributions included: performing the initial bridge type study, which involved conceptual design and cost analysis of a variety of bridge types; development of project-wide site-specific seismic design criteria; processing preliminary seismic analysis and design; and facilitation of the public involvement process. In final design, Dr. Murphy performed analyses of the global bridge structure for traffic and seismic loadings, as well as one of the first three-dimensional nonlinear construction stage analyses ever performed on a bridge of this size. He also performed detailed finite element modeling of various critical details including those details required for structural hardening to enhance bridge security. The proposed bridge consisted of a cable-stayed structure with three planes of cables and two single-pylon towers inclined nine degrees from the river and soaring 435' above the roadway. The structure would have carried relocated I-70 and I-64 and provided four traffic lanes plus two full shoulders in each direction, making it one of the widest bridges ever built across the Mississippi River at 222'. The overall length of the structure would have been 3,150', with a 2,000' main channel span (which would have completely spanned the river).

16. Staff Experience:

Firm employed by **Modjeski and Masters, Inc.**					
Name	**Mott J. Holt, PE**		Years of relevant experience with this employer	6	
Title	Engineer - Structures		Years of relevant experience with other employer(s)	0	
Degree(s) / Years / Specialization			BS 2016 Civil		
Active registration number / state / expiration date			45908 LA 03/31/2024		
Year registered	2021	Discipline	Civil		

Contract role(s) / brief description of responsibilities: Mr. Holt has been employed in the New Orleans office of Modjeski and Masters, Inc. since January 2017. He is assigned to the firm's Structural Design Section and has been primarily involved in a variety of bridge rating projects, including large truss, movable, and cantilevered structures. He has also been involved in scour analysis projects to assess the structural stability of existing deep foundation caissons and piers located at large river crossings.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/23 - Ongoing	**H.009859.5 Load Rating of 160 Bridges. Statewide, LA | LADOTD** Modjeski and Masters, Inc. is performing plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, including large cantilever trusses, vertical lifts and swing spans. Gusset, truss, floorsystem and substructure components are being rated. Bridge inspections focus on gusset plates and existing member conditions for rating. AASHTOWare BrR is being used for the ratings, which follow the AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual. Mr. Holt is performing rating analysis of superstructure and substructure elements of various bridge types. Elements rated included cast-in-place concrete slabs, precast concrete panels, prestressed concrete girders, concrete bent caps, timber bent caps and timber piles. Mr. Holt utilizes AASHTOWare, AutoCAD, Excel and LEAP Bridge Concrete software in the ratings. Mr. Holt assists in project management and bridge assignments.
04/19 - 05/21	**H.009859.5: Load Rating of Fourteen Complex Bridges | LADOTD** Modjeski and Masters, Inc. is performing plan and document retrieval, bridge inspection (as needed), analysis and load rating, sampling/instrumentation and non-destructive testing (as needed), and plan production (as needed) for 14 complex bridges. The bridge types include swing spans, bascule spans, truss spans and curved steel spans. For the analysis and load rating task, M&M is generating a system structural model and performing an analysis of each bridge to determine dead and live load forces in the members. For the bridge superstructures, AASHTOWare BrR software is being used. All load rating analysis will follow current AASHTO Manual for Bridge Evaluation, LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications. Mr. Holt performed rating analysis of superstructure elements of a steel swing truss bridge. Elements rated included main truss members, floorbeams, stringers, gussets and chord splices. Mr. Holt utilized AASHTOWare, AutoCAD, Excel and LUSAS software in the ratings. Mr. Holt utilized LUSAS software to model 3D load distribution effects resulting from a missing wedge support at one of the rest piers of the swing truss.
07/19 - 05/21	**H.000303.6: Danziger Bridge Repair and Rating | LADOTD** Modjeski and Masters, Inc. performed repair and load rating services for the Danziger Bridge, a steel vertical lift structure with a steel girder superstructure supported by reinforced concrete piers, and the flanking prestressed concrete approach structures. AASHTOWare Bridge Rating BrR software was used to perform load rating based on the present condition, capacity and loading of the bridge. All load rating analysis followed AASHTO Manual for Bridge Evaluation, LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications. Mr. Holt performed rating analysis of superstructure and substructure elements of the approach spans.

	Elements rated included slab spans, prestressed concrete girders, and concrete bent caps. Mr. Holt utilized AASHTOWare, AutoCAD, Excel and LEAP Bridge Concrete software in the ratings.
07/19 - 05/21	**H.012485.1: Load Rating of 354 Off System Bridges | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection (as needed), analysis and load rating, sampling/ instrumentation and non-destructive testing (as needed), and plan production (as needed) for 354 off system bridges including prestressed concrete, reinforced concrete and steel plate girder bridges. For the analysis and load rating task, M&M generated a system structural model and performing an analysis of each bridge to determine dead and live load forces in the members. For the bridge superstructures, AASHTOWare BrR software was used. For the complex bridges, a three-dimensional structural model was needed. All load rating analysis will follow current AASHTO Manual for Bridge Evaluation, LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications. Mr. Holt performed rating analysis of superstructure and substructure elements of various bridge types. Elements rated included cast-in-place concrete slabs, precast concrete panels, prestressed concrete girders, concrete bent caps, timber bent caps and timber piles. Mr. Holt utilized AASHTOWare, AutoCAD, Excel and LEAP Bridge Concrete software in the ratings. Mr. Holt assisted in project management and bridge assignments.
01/17 - 06/17	**H.009859.5: Nineteen Complex Bridge Load Rating and Evaluation. Louisiana | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, mainly movable bridges. Gusset, truss, floorsystem and substructure components were rated. Bridge inspections focused on gusset plates and existing member conditions for rating. AASHTOWare BrR was used for the ratings, which follow current AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual. Elements rated included concrete slab spans, concrete girders, steel girders, floorbeams, stringers and concrete bent caps. Mr. Holt utilized AASHTOWare, AutoCAD, Excel and LEAP Bridge Concrete software in the ratings. Mr. Holt also assisted in the analyzing and rating of makeshift field supports, which had been installed outside of the originally designed bearing locations of a swing span.
03/17 - 06/17	**H.009859.5: Ten Truss Bridges Load Rating and Evaluation. Louisiana | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, including large cantilever trusses, vertical lifts and swing spans. Gusset, truss, floorsystem and substructure components were rated. Bridge inspections focused on gusset plates and existing member conditions for rating. AASHTOWare BrR was used for the ratings, which followed the AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual. Mr. Holt performed rating analysis of superstructure elements of a steel cantilevered truss bridge and a steel vertical lift bridge. Elements rated included main truss members and floorbeams. Mr. Holt utilized AASHTOWare, AutoCAD and Excel software in the ratings.

16. **Staff Experience:**

Firm employed by **Modjeski and Masters, Inc.**			
Name	**Anthony E. Schoenecker, PE**	Years of relevant experience with this employer	14
Title	Senior Project Manager / New Orleans Field Services Manager	Years of relevant experience with other employer(s)	4
Degree(s) / Years / Specialization		BS 2005 Civil Engineering	
Active registration number / state / expiration date		35786 LA 03/31/2025 NBIS Certified Inspector / SPRAT Level III Certified Workzone Compliant	
Year registered	2010	Discipline	Civil

Contract role(s) / brief description of responsibilities

Mr. Schoenecker is a Louisiana licensed Professional Engineer and will serve as Bridge Inspection Project Manager for this contract. He is the M&M New Orleans office Field Services Manager and is an NBIS Inspection Team Leader responsible for the coordination and execution of inspections and condition reporting. He is trained in Technical and Rope Access techniques and has numerous inspection certifications including: NHI 130055 - Safety Inspection of In-Service Bridges (and NHI 130053 Refresher Course), NHI 130078 - Fracture Critical Inspection Techniques for Steel Bridges; Level I and II Liquid Penetrant and Magnetic Particle Inspection; SPRAT Level III Rope Access Technician, and UAV Remote Pilot (Drone) Operator Permit.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
09/22 – Ongoing	**Mississippi Office of State Aid Road Construction Bridge Inspection and Related Services. Statewide, MS | MS-OSARC** Modjeski and Masters is the prime consultant to provide consulting engineering services to Mississippi Office of State Aid and Road Construction (MS-OSARC) as part of a multi-year IDIQ project. M&M supports the MS-OSARC Bridge Inspection Program Manager (BIPM) and staff within numerous counties in the State of Mississippi. Services under this contract include routine and fracture critical member inspection, load capacity rating, and bridge inspection services for various bridges throughout the state of Mississippi. M&M will also provide Operational Support to MS-OSARC in its oversight and management of the NBI by providing Quality Control/Assurance Review, Inspection Oversight and NBI Data Management of the NBI. M&M will also provide recommendations for improvements and enhancements to MS-OSARC's Bridge Management Program. M&M will complete each task order using multiple inspection and load rating teams, which will utilize various access methods including technical and rope access methods and will utilize AASHTOWare to rate bridges. Mr. Schoenecker is the Project Manager for this contract, leading all efforts while providing Contract Administration and Quality Control/Quality Assurance.
12/19 – 12/20	**Alaska Bridges Inspections – Statewide, AK | Alaska Railroad** Modjeski and Masters performed the in-depth inspection, pin ultrasonic testing, structural capacity assessment and rating, pin and gusset evaluations and fatigue analysis for three bridges in Alaska. The Hurricane Gulch Bridge is a 910' ft deck arch bridge over the Hurricane Creek carrying a single railroad track. The main arch span is 388 feet long and flanking deck truss is 120'. The approach includes DPG spans on steel towers. The Mears Bridge is a 1300 ft bridge over the Tanana River carrying a single railroad track. The main through truss span is 700 feet long and the approach includes 118' deck truss and several DPG span on steel towers. The Gold Creek Bridge is a 704 ft bridge over the Susitna River carrying a single railroad track. The main through truss span is 504 feet long and the approach includes several TPG span on concrete piers. Mr. Schoenecker was an inspection team leader for this project.

3/17 – 1/18 9/16 – 11/16 12/14 – 8/15 11/13 – 2/14	**44-2687 In-Depth Inspection of Complex Structures Retainer – Various Bridges, Statewide | LADOTD** As a member of a multi-firm team, Modjeski and Masters was tasked to provide Structural, Mechanical, Electrical, and Coatings inspection services to perform multiple In-Depth Bridge Inspections for various bridges throughout the state of Louisiana, as a part of the ongoing statewide Complex Structures Inspection Retainer with the LADOTD. The list of bridges in this contract included the Gramercy Bridge over the Mississippi River, the I-210 Bridge over Prien Lake, Louisa Bridge over the Intracoastal Canal, and the LA 47 Bridge over the Mississippi River Gulf Outlet. The inspections were performed using technical rope access and rappelling, aerial work platforms, and standard climbing techniques. Bridge conditions, including specific defects, were documented and presented in an inspection report and PONTIS/Inspect-Tech forms, along with repair recommendations and a full coatings evaluation report. Mr. Schoenecker participated as Team Leader in the inspection of five bridges and was Project Manager for two bridges under this contract. Mr. Schoenecker additionally served as office support for two bridges under this contract.
9/19 – 5/21 10/17 – 4/18 10/16 – 3/17 11/15 – 3/16 10/14 – 1/15 10/13 – 2/14	**Huey P. Long Bridge Annual Inspection | New Orleans Public Belt Railroad** The Huey P. Long Bridge is a steel cantilever through-truss railroad and highway bridge across the Mississippi River, with a main bridge crossing of 3,525 feet and several miles of steel plate girder approaches. The main bridge features four deck truss spans, two anchor spans of 529 feet and 532 feet, two cantilever spans of 144 feet, a simple span of 531 feet, and a suspended span of 503 feet. Mr. Schoenecker was an inspection team member from 2009-2012 and inspection team leader from 2013-2018 for this annual inspection which included a 100% hands-on visual inspection of all structural elements, including fatigue-sensitive and fracture-critical members, comprising the main bridge structure and approaches, for both the railroad and highway.
6/13 – 9/13	**Crescent City Connection No. 1 & 2 Rating and Inspection. New Orleans, LA | LADOTD** Mr. Schoenecker was the inspection team leader and rope access supervisor for this project and was responsible for the coordination of the inspection and with the rating analysis team. M&M performed an inspection and LRFR load rating of both of these 13,428-foot truss bridges with main spans of apx 1,575 feet. The in-depth inspection focused on each member and the gusset plates, using technical rope access methods for access.
2/17 – 7/18	**Nineteen Complex Bridges Load Rating and Evaluation, Statewide, LA | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, mainly movable bridges. Gusset, truss, floorsystem and substructure components were rated. Bridge inspections focused on gusset plates and existing member conditions for rating. AASHTOWare BrR was used for the ratings, which followed the AASHTO *Manual for Bridge Evaluation*, the LADOTD *Policies and Guidelines for Bridge Rating and Evaluation*, and LADOTD *Bridge Design and Evaluation Manual*. Mr. Schoenecker served as an inspection team leader for the Gramercy and Crescent City Connection #2 Bridges, both Mississippi River Crossings.
3/15 – 10/15 4/14 – 6/14 4/13 – 11/13 10/12 – 11/12 5/11 – 11/11	**NYSBA Multiple Bridge Inspections. Statewide, New York | New York State Bridge Authority** Mr. Schoenecker participated as a Team Member and a Team Leader over multiple years for the inspection of seven bridges (Bear Mountain, Newburgh-Beacon North and South, Rip Van Winkle, Mid-Hudson, and Kingston-Rhinecliff, and Popoloped Creek) operated by the NYSBA over the Hudson River. Bridge types include suspension, deck truss, cantilevered through truss, and combinations thereof. (3 truss bridges and 2 suspension bridges).
9/11 – 10/11	**I-80 Bridge (LeClaire). Quad Cities Illinois. | Illinois DOT** Mr. Schoenecker participated as team leader for this week-long inspection of a Multi Span Deck Girder Bridge over the Mississippi River. This bridge had recent roadway bracket repairs. Inspection using I-DOT standard reporting and PONTIS systems. Inspection was performed from snooper truck required solo climbing techniques.

16. **Staff Experience:**

Firm employed by **Modjeski and Masters, Inc.**				
Name	**Matthew J. Miller, PE**	Years of relevant experience with this employer	12	
Title	Project Manager – Field Services	Years of relevant experience with other employer(s)	0	
Degree(s) / Years / Specialization		BS 2010 Civil Engineering		
Active registration number / state / expiration date		39534 LA 09/30/2023 NBIS Certified Inspector Work Zone Training Compliant		
Year registered	2015	Discipline	Civil	

Contract role(s) / brief description of responsibilities

Mr. Miller is a registered professional engineer with 12 years of experience in the Field Services Section in the New Orleans Office. During his time at M&M, Mr. Miller has been primarily involved with CE&I inspection services on bridge repair and construction projects, and with the detailed, interim and special inspections of numerous railroad bridges. He has been involved in numerous emergency inspections and troubleshooting. Mr. Miller is certified in a variety of Bridge Inspection industry standard training, including FHWA-NHI Bridge Inspection Refresher and FHWA-NHI Safety of In-Service Bridges courses, e-Railsafe Safety Training, M&M's Technical and Rope Access 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 years of experience specified in the applicable MPR(s).
8/19 – 4/20 12/18 – 2/19 11/15 - 1/16 10/14 – 1/15 10/13 – 11/13	**Huey P. Long Bridge Annual Inspection | New Orleans Public Belt Railroad** The Huey P. Long Bridge is a steel cantilever through-truss railroad and highway bridge across the Mississippi River, with a main bridge crossing of 3,525 feet and several miles of steel plate girder approaches. The main bridge features four deck truss spans, two anchor spans of 529 feet and 532 feet, two cantilever spans of 144 feet, a simple span of 531 feet, and a suspended span of 503 feet. Mr. Miller served as a bridge inspector and team leader for the inspection of this bridge.
10/18 – 12/18	**Sunshine Bridge Emergency Inspection and Repairs. Donaldsonville, LA | LADOTD** In 2018, a barge mounted crane was traveling upstream in the western most channel of the river. The crane's height exceeded the vertical clearance of the span, and the back-stay of the crane impacted the downstream bottom chord of the truss. The impact caused significant damage to a bottom chord member, tearing off the bottom plate of the box member and inducing severe out of plane distortion. The member in question was a primary load path compression member, designed to carry 1,700 kips of dead load. LADOTD closed the bridge immediately and began the task of investigation and repair. Modjeski and Masters, Inc. (M&M) was selected as the lead consultant for bridge repairs. After closing the bridge directly after the incident, LADOTD engaged M&M to perform an emergency hands-on inspection using technical rope access techniques. The inspection team documented the primary damaged member as well as a host of other damaged elements, including bottom laterals, stringer bearings, and gusset plates. Technical rope access was critical in locating and documenting all damaged bridge elements. M&M also provided construction engineering and inspection of the repair efforts. Mr. Miller provided emergency inspection and CE&I services.
11/13 – 1/14	**44-2687 In-Depth Inspection of Complex Structures Retainer – Various Bridges, Statewide | LADOTD** As a member of a multi-firm team, Modjeski and Masters was tasked to provide Structural, Mechanical, Electrical, and Coatings inspection services to perform multiple In-Depth Bridge Inspections for various bridges throughout the state of

	Louisiana, as a part of the ongoing statewide Complex Structures Inspection Retainer with the LADOTD. The list of bridges in this contract included the Gramercy Bridge over the Mississippi River, the I-210 Bridge over Prien Lake, Louisa Bridge over the Intracoastal Canal, and the LA 47 Bridge over the Mississippi River Gulf Outlet. The inspections were performed using technical rope access and rappelling, aerial work platforms, and standard climbing techniques. Bridge conditions, including specific defects, were documented and presented in an inspection report and PONTIS/Inspect-Tech forms, along with repair recommendations and a full coatings evaluation report. Mr. Miller was an inspection team member for this project, responsible for coordination assistance with subconsultants, and preparing the inspection report.
04/16 – 01/18	**Union Pacific Railroad System Wide Inspections | UPRR Systemwide** Modjeski and Masters performed a system-wide inspection of steel bridges for Union Pacific Railroad (UPRR). A total of 1,280 bridges were inspected. The types of bridges inspected include through trusses, deck trusses, through plate girders, and deck plate girders on steel towers. Also included were movable structures such as bascule, swing and vertical lift bridges. Modjeski and Masters provided uniformity throughout the entire system by identifying inconsistencies in describing levels of severity noted with deficiencies and assisted the UPRR inspectors in identifying problem areas and the causes associated with them. Mr. Miller was the inspection team leader for this project.
7/14-9/14	**Belle Chasse Lift Bridge Inspection. Belle Chasse, Louisiana | New Orleans & Gulf Coast Railway** The New Orleans & Gulf Coast Railway selected M&M to perform an in-depth structural, mechanical and electrical inspection of the Belle Chasse Bridge over the Intracoastal Waterway. All structural members were observed at close range along with a close visual inspection of the electrical and mechanical systems. The inspection team took measurements of metalwork losses that could possibly result in reduced load carrying capacity of the structure. Mr. Miller served as inspection team leader for this bridge.

16. **Staff Experience:**

Firm employed by **Modjeski and Masters, Inc**.					
Name	**James W. H. Costigan, PE**		Years of relevant experience with this employer	8	
Title	Engineer – Field Services		Years of relevant experience with other employer(s)	0	
Degree(s) / Years / Specialization			BS 2015 Civil		
Active registration number / state / expiration date			0044328 LA 9/30/2024 Work Zone Training Compliant NBIS Certified Inspector		
Year registered	2020	Discipline	Civil		

Contract role(s) / brief description of responsibilities

Mr. Costigan joined M&M in 2015 and is a Structural Engineer Intern for the Field Service Section. His experience includes highway and railroad large river and movable bridge inspection, design and construction monitoring. He has been the resident engineer on a highway bascule bridge roadway grating replacement project, a railroad bascule bridge floor system replacement project, and a railroad bascule bridge link pin replacement project. Mr. Costigan has assisted in the design of a new bridge fender system and many other repair designs following inspection findings. Mr. Costigan is a FHWA Certified Bridge Inspector and is an Inspection Team Leader, actively participates in Modjeski and Master's Technical Access Program as a Worker.

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
12/19 – 12/20	**Alaska Bridges Inspections – Statewide, AK | Alaska Railroad** Modjeski and Masters performed the in-depth inspection, pin ultrasonic testing, structural capacity assessment and rating, pin and gusset evaluations and fatigue analysis for three bridges in Alaska. The Hurricane Gulch Bridge is a 910' ft deck arch bridge over the Hurricane Creek carrying a single railroad track. The main arch span is 388 feet long and flanking deck truss is 120'. The approach includes DPG spans on steel towers. The Mears Bridge is a 1300 ft bridge over the Tanana River carrying a single railroad track. The main through truss span is 700 feet long and the approach includes 118' deck truss and several DPG span on steel towers. The Gold Creek Bridge is a 704 ft bridge over the Susitna River carrying a single railroad track. The main through truss span is 504 feet long and the approach includes several TPG span on concrete piers. Mr. Costigan assisted in the inspection of two large truss railroad bridges and was the team leader for a third railroad truss inspection. These inspections included technical access work, standard climbing, eyebar load sharing verification, and UAV drone flights. Mr. Costigan was also responsible for authoring the 30 day and 90 day inspection reports for these three bridges.
10/18-03/19	**H.012343.6 Sunshine Bridge Collision – Emergency Response. Donaldsville, LA | LADOTD** The Louisiana Route 70 Sunshine Bridge is a steel cantilever through truss bridge that carries four lanes of traffic over the Mississippi River near Donaldsonville, LA. The three main truss spans are each about 800 feet in length and provide up to 133 feet in vertical clearance above high water. On October 12, 2018, a barge mounted crane was traveling upstream in the western most channel of the river. There was insufficient clearance as the barge passed underneath the bridge, and the back-stay of the crane impacted the downstream bottom chord of the truss. The impact caused significant damage to a bottom chord member, tearing off the bottom plate of the box member and inducing severe out of plane distortion. The member in question was a primary load path compression member, designed to carry 1,700 kips of dead load. LADOTD closed the bridge to traffic directly after the incident and engaged Modjeski and Masters to perform an emergency hands-on inspection using technical rope access techniques. With the damage documented, work on repair concepts began. Mr. Costigan was instrumental in the inspection of the damage as well as the construction engineering and inspection of the repair efforts.

2/17 – 6/17	**H.009859.5: Nineteen Complex Bridge Load Rating and Evaluation. Louisiana | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, mainly steel vertical lifts. Gusset, truss, floorsystem and substructure components were rated. Bridge inspections focused on gusset plates and existing member conditions for rating. AASHTOWare BrR was used for the ratings, which followed the AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual. Mr. Costigan was responsible for inspection services and was an Inspection Team Leader
3/16 – 7/16	**H.009859.5: Ten Truss Bridges Load Rating and Evaluation. Louisiana | LADOTD** Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection and analysis, and load and resistance factor rating of complex bridge structures, including large cantilever trusses, vertical lifts and swing spans. Gusset, truss, floorsystem and substructure components were rated. Bridge inspections focused on gusset plates and existing member conditions for rating. AASHTOWare BrR was used for the ratings, which followed the AASHTO Manual for Bridge Evaluation, the LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications. Mr. Costigan was responsible for special inspections and inspection documentation.
11/15-2/16 10/17-4/18	**Huey P. Long Inspection. Jefferson Parish, LA. Public Belt Railroad** The Huey P. Long Bridge is a high-level, combination highway and railroad bridge which crosses the Mississippi River. Modjeski and Masters, Inc. provides the following services for this bridge: annual routine inspections, 1/3 in-depth inspection each year, analysis of special railroad loading, emergency accident inspections repairs, engineering services for bridge maintenance, valuation (or Replacement Value). Mr. Costigan was part of the inspection team.
5/16 -07/16	**H.010016: US 11 Bridge over Lake Pontchartrain, New Orleans, LA** Within the US 11 Bridge, commonly known as the 5 mile bridge, are two double-leaf bascule spans (North Draw and South Draw). There was considerable damage to the bridge as a result of Hurricane Katrina. M&M was retained to determine the improvement needs structural, electrical and mechanical to extend the life by 20-30 years and to prepare rehabilitation plans. Mr. Costigan was responsible for bridge inspection and repair/ replacement design and documentation.

16. **Staff Experience:**

Firm employed by **Stantec Consulting Services Inc.**					
Name	**Amir Botros, PhD, PE**		Years of relevant experience with this employer	3	
Title	Senior Structural Engineer		Years of relevant experience with other employer(s)	15	
Degree(s) / Years / Specialization			PhD | 2015 | Civil Engineering; MS | 2009 | Civil Engineering; BS | 2005 | Civil Engineering		
Active registration number / state / expiration date			PE No. 43701 | LA | 3/31/2024		
Year registered	2019	Discipline	Civil Engineering		
Contract role(s) / brief description of responsibilities As lead engineer, Amir will supervise the structure engineering team on the load rating tasks under this retainer contract. Additionally, he will perform complex structural analysis/finite element analysis (if necessary), and review load rating reports prepared by structural team members. Amir has been a member of the precast prestressed concrete institute (PCI) for many years and has participated in many of the PCI research projects.					
Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).				
01/21 - Ongoing	**MISSISSIPPI STATEWIDE COMPLEX BRIDGE INSPECTIONS & LOAD RATINGS | Mississippi Office of State Aid Road Construction | Statewide, MS** Load Rating QA/QC. Amir oversees QA/QC load rating analyses for over 200 bridges annually. Inspections performed by Stantec assist with developing load rating models and performing analysis using AASHTOWare BrR, RC Pier, and STAAD. Load ratings are performed in accordance with AASHTO MBE and using the load factor rating (LFR) method to match the original design as requested by the client. Structure types include steel trusses, structural steel plate girders, reinforced concrete girders and slabs, reinforced concrete box culverts, and prestressed concrete girders.				
10/21 - 04/22	**TRUSS BRIDGE INSPECTIONS AND LOAD RATINGS | MDOT | Statewide, MS** Lead Structural Engineer. Project included inspecting and load rating four complex steel through truss bridges. Amir's responsibilities included performing quality reviews of load ratings for the four truss bridges. AASHTOWare BrR was used to model and analyze all truss members including main members, floor beams, stringers, and gusset plates. LFR method was used at the request of MDOT and to have the ability to compare with the original designs.				
08/22 - 11/22	**ALDOT LOAD RATING OF 12 COMPLEX BRIDGES | ALDOT | Statewide, AL** Lead Structural Engineer. Project consisted of rating 12 complex bridges in accordance with ALDOT Policies and Guidelines for Bridge Rating and Evaluation using AASHTOWare BrR. The bridge types comprised of continuous cast-in-place concrete T-beam spans, post-tensioned channel beams, continuous steel plate-girders, and concrete encased steel I-beams. Amir reviewed the as-built drawings /standard plans of the bridges, determined appropriate load rating method, supervised engineers on load rating analysis, and reviewed load rating summary reports.				
02/21 - 04/21	**LOAD RATING OF MALL OF LOUISIANA BRIDGES | CITY OF BATON ROUGE | Baton Rouge, LA** Lead Structural Engineer. Project consisted of rating of three bridges in accordance with LADOTD Policies and Guidelines for Bridge Rating and Evaluation. Bridge types comprised prestressed LG concrete girders and Quad beams. Substructures comprised reinforced concrete caps and prestressed concrete piles. Amir reviewed the as-built plans of the bridges, determined appropriate load rating method, supervised engineers on load rating analysis and reviewed the load rating reports.				
02/21 - 07/21	**ALDOT LOAD RATING OF 42 BRIDGES | ALDOT | Statewide, AL** Lead Structural Engineer. Load rating of 42 bridges in accordance with ALDOT Policies and Guidelines for Bridge Rating and Evaluation. Bridge types comprised of cast in place simple and continuous concrete T beam spans, Post-tensioned Channel beams and continuous steel plate-girders. Amir reviewed the as-built / standard plans of the bridges, determining the appropriate load rating method, supervising engineers on the load rating analysis and review of load rating reports.				
10/19 - 12/20	**RC CULVERTS TESTING AND RATING OF 100 CULVERTS | LADOTD H.009859.5 | Statewide, LA** Lead Structural Engineer. Project consisted of developing a load rating methodology for reinforced concrete box culverts that accounts for the actual field conditions, performance history, and advanced modeling techniques. Results were verified through diagnostic testing of a sample of culverts representing the existing LA inventory. Amir's responsibilities included building 3D FE analytical models of the parametric study, designing instrumentation and diagnostic load test procedure, development of load rating guidelines and a technical report that summarizes the proposed load				

	rating guidelines and supervising engineers on load rating 100 representative culverts selected from the existing Louisiana inventory using the proposed guidelines.
02/19 - 12/20	**LOAD RATING OF 396 OFF SYSTEM BRIDGES | LADOTD H.012485.5 | Statewide, LA** Lead Structural Engineer. Load rating of 396 bridges in accordance with LADOTD Policies and Guidelines for Bridge Rating and Evaluation. Bridge types comprised cast in place concrete slab spans, precast concrete slab spans, prestressed concrete girders, steel plate-girders, in addition to RC box and arch culverts. Substructures comprised various components including reinforced concrete caps, timber caps, timber piles and steel H piles. Amir determined the appropriate load rating method, supervised engineers on the load rating analysis and reviewed load rating reports.
11/19 - 01/20	**EVALUATION AND LOAD TESTING OF FIVE BRIDGES | LADOTD H.009859.5 | Cameron, LA** Lead Structural Engineer. Five bridges were posted for a load lesser than LA State Legal Loads and/or Special Hauling Vehicles. Based on vast experience with similar bridges, load test coupled with detailed three-dimensional Finite Element Analysis reveal that bridges can carry higher loads than those estimated by design codes. Amir's responsibilities included supervising the crew on performing the load tests, developing Finite Element models, and performing refined analysis for the controlling spans in the five bridges with the aim of removing current load posting.
05/20 - 07/20	**MERMENTAU BRIDGE REPAIRS | LADOTD Order No.10 H.014288.5 | Cameron, LA** Lead Structural Engineer. Mermentau Bridge main span is a swing steel low truss (Pony Truss) with a span length of 204 ft. Bridge is posted to 10-15 tons weight. Amir's responsibilities included development of a 3D finite element model using Midas Civil for the bridge. Configuring and design of the diagnostic testing procedure for the identified deficient members. Revising the rating analysis after consideration of the benefit from the test results. Design of appropriate strengthening systems for the legal deficient members with the objective of removing the posting weight.
11/19 - 12/20	**US-90 MACARTHUR INTERCHANGE PHASE II | LADOTD | Jefferson, LA** Lead Structural Engineer. Elevated section of this freeway extends from Westwood Drive to Crescent City Connection Bridge across the Mississippi River. Tasks included designing two access ramps to/from the service roads to the elevated viaduct. Ramps structures consisted of complex structural elements including precast- prestressed U-shaped girders and LG-girders, inverted-T piers, complex columns, and foundations. Amir's responsibilities included Supervising engineers on the final design of the ramp elements including deck, prestressed LU girders, inverted-T piers and foundation design for the 22 spans off-ramp and the 24 spans on-ramp.
01/19 - 09/19	**27 COMPLEX OFF-SYSTEM BRIDGES RATING AND EVALUATION | LADOTD H.009859.5 | Statewide, LA** Lead Structural Engineer. Project consisted of rating of 27 complex bridges in accordance with LADOTD Policies and Guidelines for Bridge Rating and Evaluation. Bridge types comprised prestressed concrete girders, steel plate-girders, truss bridges, truss and plate girder swing spans and steel trapezoidal girders. Amir's responsibilities included reviewing the as-built drawings of the bridges; determining the appropriate load rating method for complex bridges; performing load rating on selected complex bridges and supervising the team on other bridges; developing the load rating reports. Multiple steps of QC were performed to assure accuracy and consistency of the rating analysis.
02/19 - 10/20	**LA 182 OVER ATCHAFALAYA RIVER (BERWICK BAY) BRIDGE REHABILITATION | LADOTD H.011487 | Lafayette, LA** Lead Structural Engineer. Amir's responsibilities included supervising engineers on performing the load rating analysis for the complex truss spans and the Gusset plates using Bridge Rating software. Design of the instrumentation and the diagnostic load testing procedure for the reinforced concrete T-beam spans. Design of appropriate strengthening systems for the deficient truss members, gusset plates, bracing members and connections. Design of appropriate strengthening systems for the concrete pile bents, and the column bents using carbon fiber reinforced polymer sheets and supervising the preparation of the rehab plans of the bridge elements.
03/16 - 09/16	**US 80 RED RIVER TEXAS STREET BRIDGE: INSPECTION AND LOAD RATING | LADOTD H.011484 | Bossier, LA** Structural Engineer. The US-80 Texas Street Bridge, built in 1934, is a historic bridge which carries US-80 over the Red River at Shreveport, LA. The bridge consists of 45 spans with a total length of 2,895 ft. Amir's responsibilities included performing load rating analysis for the truss members and Gusset plates using Bridge Rating software, preparation of load rating report for the bridge with proposed repair recommendations for the deficient elements and development of a three-dimensional (3D) finite element model using Midas Civil Software for verification of the load effects on the truss.
04/16 - 03/17	**LOAD RATING OF 100 BRIDGES | LADOTD H.009859.5 | Statewide, LA** Structural Engineer. Project consisted of rating 100 bridges that are located on state-approved truck routes, with the goal of determining if posting was required. Inspection reports were provided by LADOTD. Bridges were various types and span lengths including precast concrete slab units, timber trestle with I-beam stringers, continuous curved steel plate girder bridges, and prestressed concrete girders bridges. Amir's responsibilities included developing the BrR analysis models and performing the rating models for the substructure for selected bridges beside preparation of load rating reports.

16. **Staff Experience:**

Firm employed by **Stantec Consulting Services Inc.**				
Name	**Michael Brodnax, EI**		Years of relevant experience with this employer	4
Title	Structural Engineer Intern		Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			BS | 2019 | Civil Engineering	
Active registration number / state / expiration date			EI No. 34127 | LA | 3/31/2024	
Year registered	2019	Discipline	Civil Engineering	
Contract role(s) / brief description of responsibilities			Michael has been involved in structural designs ranging from deck, prestressed box girder and concrete substructure. Michael has performed numerous inspections and load ratings on Mississippi and Alabama Bridges. Michael is familiar with several design and analysis software programs including RC-Pier, CONSPAN, and AASHTOWare Bridge Rating. **NBIS Certified Team Leader**	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
12/20 - 04/22	**TRUSS BRIDGE INSPECTIONS AND LOAD RATINGS | MDOT | Statewide, MS** Bridge Load Rater. Multiple steel trusses are inspected, and load rated by creating structural models of all primary members and connections. Michael develops structural models of steel trusses including fracture critical members and gusset plate connections using AASHTOware BrR.
07/19 - Ongoing	**MISSISSIPPI STATEWIDE COMPLEX BRIDGE INSPECTIONS & LOAD RATINGS | Mississippi Office of State Aid Road Construction | Statewide, MS** Bridge Inspector and Load Rater. This project consists of inspections and load ratings on timber, complex, and non-complex structures in accordance with AASHTO and FHWA NBI specifications. Michael inspects and load rates various bridge types ranging from steel trusses, steel rail cars, box culverts, timber stringers, prestressed concrete girders, and steel plate girders. Michael uses AASHTOware BrR, Bentley Concrete, and STAAD models to complete ratings as well as in house rating tools.
07/19 - Ongoing	**I-10/CANAL ROAD INTERCHANGE | MDOT | Gulfport, MS** Bridge Designer. Michael designs prestressed concrete girders, concrete substructures such as hammerhead piers, pile bents, and column bents. Michael load rates each bridge using AASHTOWare BrR software, CONSPAN, MDX steel design software, Microsoft office, bluebeam pdf editor.
08/19 - Ongoing	**I-10 / LOYOLA DESIGN-BUILD | LADOTD | New Orleans, LA** Bridge Designer. Michael designed concrete substructures such as hammerhead piers and pile cap footings. He designs prestressed concrete girders and concrete decks. He designs and develops plans for concrete noise barriers and their concrete foundations using Microsoft office, STAADpro models, Bentley Microstation, CONSPAN, RC Pier, and bluebeam pdf editor. I also reviewed and approved production shop drawings for construction.

05/20 - Ongoing	**SR27 BRIDGE REPLACEMENTS | MDOT | Hinds County, MS** Bridge Designer. This project consists of designing and preparing final bridge plans for a new prestressed concrete girder structure in Hinds County. Michael designs and rates the prestressed concrete girders using CONSPAN software.
08/22 - 11/22	**ALDOT LOAD RATING OF 12 COMPLEX BRIDGES | ALDOT | Statewide, AL** Bridge Load Rater. Project consisted of rating 12 complex bridges in accordance with ALDOT Policies and Guidelines for Bridge Rating and Evaluation using AASHTOWare BrR. The bridge types comprised of continuous cast-in-place concrete T-beams, post-tensioned channel beams, continuous stee plate girders, and concrete encased steel I-beams. Michael performed load ratings using as-built drawings / standard plans and developed load rating summary reports.

(Add rows as needed)

16. **Staff Experience:**

Firm employed by **Stantec Consulting Services Inc.**					
Name	**Brian Johnson, PE**		Years of relevant experience with this employer	18	
Title	Principal, Bridge Division Leader		Years of relevant experience with other employer(s)	5	
Degree(s) / Years / Specialization			MS | 2000 | Civil Engineering; BS | 1999 | Civil Engineering		
Active registration number / state / expiration date			PE No. 31273 | LA | 9/30/2024		
Year registered	2004	Discipline	Civil Engineering		

Contract role(s) / brief description of responsibilities

Brian brings over 23 years of engineering experience specifically related to structural projects and serves as the Structural Section Manager in the Baton Rouge office. His primary expertise lies in analysis, design, rating, inspection, and rehabilitation of bridges. Brian has managed bridge projects with a variety of structure types such as prestressed concrete girders, steel truss vertical lift bridges, long span steel trusses, horizontally curved steel plate girders, concrete box culverts, and retaining walls. He has overseen several NSBI bridge inspection projects and been involved in several hydraulic studies for bridge replacement projects in both Mississippi and Louisiana. **NBIS Certified Team Leader**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
01/17 - 10/18	**LOAD RATING AND POSTING OF 110 ON-SYSTEM BRIDGES | LADOTD | Statewide, LA** Project Manager. Brian was responsible for managing load rating activities, scheduling progress meetings, managing the status of each bridge, delivering progress submittals, and coordination with LADOTD. This project involved the load rating and posting of 110 on-system bridges for LADOTD. Bridges were located throughout the state and were load rated in accordance with current LADOTD and AASHTO specifications. AASHTOWare BrR, CSI Bridge, and RC-Pier were used to determine rating factors and posting requirements.
03/13 - 03/17	**LOAD RATING AND POSTING OF 630+ ON-SYSTEM BRIDGES | LADOTD | Statewide, LA** Project Manager. Brian was responsible for managing load rating activities, scheduling progress meetings, managing the status of each bridge, delivering progress submittals, and coordination with LADOTD. A monthly meeting was scheduled with the client to assist with addressing incomplete data needs and modeling approaches for more complicated structures. Over 630 bridges statewide were load rated in accordance with current LADOTD and AASHTO specifications. Models were developed in AASHTOWare BrR, CSI Bridge, STAAD and RC-Pier to determine rating factors and bridge posting requirements. Structure types included structural steel plate girders and rolled beams, prestressed concrete girders, concrete slab spans, hammerhead and multi-column concrete bents, and steel beam bents.
02/19 - 11/22	**ALDOT BRIDGE LOAD RATING | ALDOT | Statewide, AL** Project Manager. Brian managed three different task orders with ALDOT to perform load ratings on 84 bridges. Structure types included steel plate girders, prestressed concrete girders, concrete T-beams, voided concrete slabs, and post-tensioned channel beams. AASHTOWare BrR was used for modeling and analysis. Ratings were in accordance with the AASHTO LFR method and current ALDOT standards. Brian's responsibilities included performing quality assurance on load rating reports and transmitting deliverables to ALDOT.
10/17 - 01/19	**AASHTOWARE BRIDGE LOAD RATING | MDOT | Statewide, MS** Project Manager. Brian served as the project manager for the load rating of 120 bridges using AASHTOWare BrR. Structure types included steel plate girders, prestressed concrete girders, concrete T-beams, concrete slab spans, and integral reinforced concrete multi-cell box girders. Ratings were performed in accordance with current MBE standards. Brian was responsible for managing project activities, developing rating criteria, scheduling internal and external progress meetings, performing QC/QA, and delivering final reports.
08/10 - Ongoing	**MISSISSIPPI STATEWIDE COMPLEX BRIDGE INSPECTIONS & LOAD RATINGS | Mississippi Office of State Aid Road Construction | Statewide, MS** Project Manager. Brian manages all field and office work for inspecting and load rating over 200 bridges annually throughout the state. Inspections and load ratings are performed in accordance with current NBIS and procedures as outlined in the AASHTO MBE. Brian is responsible for managing project activities, inspection scheduling, and performing QC/QA on field inspections, load ratings, and inspection reports. Structure types include steel trusses, structural steel plate girders, steel railroad flat cars, reinforced concrete girders and slabs, reinforced concrete box culverts, and masonry arches.

10/09 - 06/11	**US 90 INTERCHANGE AT LA 85 DESIGN-BUILD | LADOTD | Iberia Parish, LA** Structural QA/QC. Brian managed QC review on the structural elements for this project to elevate the rural arterial to urban interstate standards. These included a cast-in- place concrete deck and rail, Type III and Type IV pre-stressed girders, multicolumn bents with pile footings, pile supported end bents, and bearing pads. All independent designs were in accordance with AASHTO LRFD Bridge Design Specifications and as-designed / as-built load ratings were in accordance with AASHTO MBE.
12/20 - 04/22	**TRUSS BRIDGE INSPECTIONS AND LOAD RATINGS | MDOT | Statewide, MS** Project Manager. This project consisted of inspecting and load rating four unique steel through trusses. Brian served as project manager and was responsible for coordinating inspection schedules, overseeing report development, reviewing load rating reports, and communications with MDOT. Detailed, arm's length, inspections were performed on the steel truss spans only. Load ratings were performed in accordance with the AASHTO LFR method and MDOT standards. Results from the analyses were used to determine fracture critical members that could not be determined from traditional structural mechanics. Final inspection reports will be used by MDOT to develop repair / rehabilitation plans
03/14 - 05/15	**LA 511 JIMMIE DAVIS BRIDGE REHABILITATION | LADOTD H.010662 | Bossier, LA** Project Manager. Total structure length is 2,823 linear ft., including three main steel truss simple spans crossing the Red River; 610 ft. approach spans at each side consisting of steel, two-girder systems with floor beams. Stantec provided design and plans for complete rehabilitation and repainting. Rehabilitation consisted on total deck replacement, over 200 structural repairs to truss span floor system, replacement of the link joint (hangers) of the approach spans, joint rehabilitation and barrier replacement. Load rating analyses were performed for each superstructure type and gusset plates on the as-rehabilitated bridge.
04/11 - 03/15	**I-210 COVE LANE INTERCHANGE| LADOTD H.010151 | Lake Charles, LA** Lead Structural Engineer. Brian managed the structural design of a single-span, 130-ft long, prestressed concrete girder bridge along I-210 over Cove Lane and twin concrete slab span bridges over Cline Canal. Bridge approaches consisted of an MSE wall system supported by a cast-in-place load transfer platform using over 8,000 timber and concrete piles. Brian provided construction support by reviewing shop drawings, addressing RFIs, and performing construction engineering. All design was performed in accordance with AASHTO LRFD Bridge Design Specifications.
08/19 - Ongoing	**I-10/LOYOLA INTERCHANGE DESIGN-BUILD | LADOTD Contract No. H.011670 | New Orleans, LA** Lead Structural Engineer. Brian leads the structural design efforts of two new flyover ramps (concrete slab spans, prestressed concrete girder spans, twin horizontally curved steel tub girder spans, and complex substructure units), one bridge widening (concrete slab spans), noise barriers, precast box culverts, roadway and pier protection barriers, and miscellaneous structural elements. During design Brian orchestrated a series of meetings with the contractor, fabricators, vendors, and suppliers to optimize and streamline the design. In addition, he oversees construction support which includes shop drawing reviews, addressing RFIs, and providing construction engineering services.
07/15 - 10/20	**I-10 BRIDGE REPAIRS | LADOTD | St. Martin & Iberville Parishes, LA** Project Manager. Brian managed the design and plan development efforts of repairs on 19 different bridges along the Atchafalaya Floodway Basin. The project included field verification of structure deficiencies, condition findings summary report, development of a traffic management plan, bridge design, and plan development. Repairs consisted of concrete patching, bearing replacements, girder strengthening, and bridge painting. During construction Brian led construction support efforts which included shop drawing reviews and addressing contractor RFIs.
12/15 - Ongoing	**NELSON ROAD EXTENSION AND BRIDGE | LADOTD Contract No. H.005967 | Lake Charles, LA** Lead Structural Engineer. Brian managed the bridge and structural design efforts from preliminary to final plans. He performed quality review of bridge design, plans and specifications for this bridge extension to the surrounding roadway network. Project tasks included design of bridge superstructure, substructure including foundations, median barrier design and as-designed load rating. Other design elements include navigational lighting bridge attachments, steel bracket light supports with concrete anchors to the bridge structure. Structural Design was performed in compliance with AASHTO LRFD Specifications. In addition, he led the inspection of an existing sign truss to ensure it could be reused for the current project.
05/16 - 12/16	**US 82 OVER MISSISSIPPI RIVER IN-DEPTH BRIDGE INSPECTION | MDOT | Greenville, MS** Project Manager. Brian was responsible for coordination between six Stantec offices and three sub-consultants, performing the deck surface inspection, and reviewing the inspection report. The inspection included an element level inspection, in-depth inspection of the cables, hydrographic survey of the river channel, and elevation survey of the cable stay spans deck surface.

16. **Staff Experience:**

Firm employed by **Stantec Consulting Services Inc.**					
Name	**John Krebs, PE**		Years of relevant experience with this employer		11
Title	Senior Structural Engineer		Years of relevant experience with other employer(s)		4
Degree(s) / Years / Specialization		MS | 2008 | Civil Engineering; BS | 2007 | Civil Engineering			
Active registration number / state / expiration date		PE No. 37259 | LA | 9/30/2024			
Year registered	2012	Discipline	Civil Engineering		

Contract role(s) / brief description of responsibilities

John has 15 years of engineering of experience providing engineering design and load ratings for bridges and interchanges for LADOTD, MDOT, and KYTC and currently serves as a project manager in the Structural Division at Baton Rouge. His primary expertise lies in the engineering analysis and design of a variety of structure types such as prestressed concrete girders, reinforced concrete substructure elements, and retaining walls. He has been heavily involved in the inspection and load rating of existing bridges in both Louisiana and Mississippi. John has an excellent working knowledge of AASHTO LRFD and the LADOTD Bridge Design Manual. He is proficient in several commercial software packages including AASHTOWare BrR, RC-Pier, CONSPAN, MDX, and STAAD. **NBIS Certified Team Leader**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
07/15 - 06/18	**US 90 INTERCHANGE AT LA 318 DESIGN-BUILD | LADOTD | St. Mary Parish, LA** Structural Engineer. This stretch of US 90 has been designated as the future I-49 corridor. The bridges consisted of LG-54 prestressed concrete girder spans with lengths up to 111-ft supported by multi-column concrete bents. John assisted in the proposal development by performing preliminary designs of the major structural elements, and, later, managed the construction support efforts.
04/11 - 03/15	**I-210: COVE LANE INTERCHANGE AND IMPROVEMENTS PROJECT| LADOTD H.010151 | Lake Charles, LA** Project Engineer. John was responsible for the design and plan development of three bridges and an MSE wall system load transfer platform. The bridge along I-210 consists of a single 130-ft long LG-54 prestressed concrete girder span founded on true abutments (spread footings). The remaining bridges consist of concrete slab spans founded on concrete pile bents. All design was performed in accordance with AASHTO LRFD Bridge Design. Project received the Highways/ Bridges: Award of Merit from the Engineering News Record for Texas and Louisiana in October 2016.
12/15 - Ongoing	**NELSON ROAD EXTENSION AND BRIDGE | LADOTD Contract No. H.005967 | Lake Charles, LA** Structural Engineer. John worked on the bridge and structural design efforts during preliminary plans. Project tasks included preliminary design of bridge superstructure, substructure including foundations, median barrier design and as-designed load rating. Other design elements include navigational lighting bridge attachments, steel bracket light supports with concrete anchors to the bridge structure. Structural Design was performed in compliance with AASHTO LRFD Specifications. In addition, he completed the vessel study report detailing the expected water-borne vessel traffic and establishing the need for pier protection structures.
03/20 - 10/22	**LA 121: CALCASIEU RIVER BRIDGES | LADOTD Contract No. H. 009498 | Hineston, LA** LADOTD Bridge Task Manager. John was responsible for the independent design and plan review of the three LA 121 bridges. Bridge design items included reinforced concrete deck, LG-36 prestressed concrete girders, steel reinforced elastomeric bearing pads, and reinforced concrete end bent and intermediate bent caps. John also managed plan changes as well as quantity input into the AASHTOWare Project database. In addition to design, John updated the internally-cured concrete special provision for colloidal nano silica. The three bridges consisted of a total of five three-span deck units, and a testing scheme was noted in the plans applying the updated provision.
08/20 - 06/22	**LA OVER I-20 | LADOTD Project No. H.001799 | Minden, LA**

	LADOTD Bridge Design Engineer. John was tasked with the independent design of the LG-36 prestressed, the intermediate multi-column bent, and the drilled shaft loads for both the end bent and the intermediate bent. John also determined the pier protection barrier rail and guard rail layout for the intermediate bent columns in the I-20 median. John was part of the QC effort on the plan details, quantities, elev.
10/17 - 01/19	**AASHTOWARE BRIDGE LOAD RATING | MDOT | Statewide, MS** Project Engineer. John served as a project engineer for the load rating of 120 bridges using AASHTOWare BrR. Structure types included steel plate girders, prestressed concrete girders, concrete T-beams, concrete slab spans, and integral reinforced concrete multi-cell box girders. Ratings were performed in accordance with the current MDOT and AASHTO standards. John was responsible for day-to-day support of the load rating engineers and performing QC/QA on finished load ratings.
03/13 - 03/17	**LADOTD LOAD RATING AND POSTING OF 630+ ON-SYSTEM BRIDGES | LADOTD | Statewide, LA** Project Engineer. John served as a project engineer for the load rating of over 630 on-system bridges. The bridges were load rated in accordance with current LADOTD and AASHTO specifications. Models were developed in AASHTOWare BrR, CSI Bridge, STAAD and RC-Pier to determine rating factors and bridge posting requirements. Structure types included structural steel plate girders and rolled beams, prestressed concrete girders, concrete slab spans, hammerhead and multi- column bents, and steel beam bents. John was responsible for QA/QC of rating analyses and the final rating reports.
08/10 - Ongoing	**MISSISSIPPI STATEWIDE COMPLEX BRIDGE INSPECTIONS & LOAD RATINGS | Mississippi Office of State Aid and Road Construction | Statewide, MS** Project Engineer and Inspection Team Leader. John serves as a project engineer and inspection team leader. As an inspection team leader, John is qualified to direct a team in the field to inspect and document bridge deficiencies according to the National Bridge Inventory standards. As a project engineer, John assists in load rating of bridge structures using AASHTOWare BrR and RC-Pier in accordance with the latest Manual for Bridge Evaluation (MBE) as well as QC/QA of bridge load rating calculations and reports. Structure types on this project include steel trusses, steel plate girders, prestressed concrete, concrete boxes, concrete channel beams, masonry arches, steel railroad flat cars, and box culverts.
08/10 - Ongoing	**MISSISSIPPI STATEWIDE TIMBER BRIDGE INSPECTIONS & LOAD RATINGS | Mississippi Office of State Aid and Road Construction | Statewide, MS** Project Engineer and Inspection Team Leader. John serves as a project engineer and inspection team leader. As an inspection team leader, John is qualified to direct a team in the field to inspect and document bridge deficiencies according to the National Bridge Inventory standards. As a project engineer, John assists in load rating of bridge structures using AASHTOWare BrR and RC-Pier in accordance with the latest Manual for Bridge Evaluation (MBE) as well as QC/QA of bridge load rating calculations and reports. The bridges for this project are located across 10 different Mississippi counties. Superstructure types include concrete channel beams, prestressed concrete girders, timber stringers, and steel girders. These bridges are predominantly supported by timber piles categorizing them as timber structures.
11/22 - Ongoing	**SR 16/SR 149 FLOODWAY CHANNEL YAZOO RIVER | MDOT | Yazoo City, MS** Project Engineer. John serves as a project engineer for the analysis, design, and plan development for 3 bridges crossing the floodway channel of the Yazoo River. Bridge No. 210.1 consists of 3 - 100-ft prestressed FIB 45 spans supported by reinforced concrete bent caps on steel pipe piles. Bridge 211.1 consists of a skewed, 928-ft, 3-span continuous steel plate I-girder unit supported by reinforced concrete caps on steel pipe piles for end bents and reinforced concrete caps on drilled shafts for intermediate bents. Bridge 211.8 consists of identical components to Bridge 210.1 and is also in a horizontal curve. As the senior project engineer, John is the technical lead, QC/QA for the design elements and plan development, and coordination with MDOT.
02/19 - 04/19	**ALDOT LOAD RATING OF 30 BRIDGES | ALDOT | Statewide, AL** Project Engineer. John served as a project engineer for the load rating of 30 bridges in AASHTOWare BrR. The bridges were load rated in accordance with current ALDOT and AASHTO specifications. Bridge types rated were steel plate girders, prestressed concrete girders, reinforced concrete T-beams, and precast prestressed concrete voided slabs. John served as QA/QC for the AASHTOWare ratings and final rating reports.

16. **Staff Experience:**

Firm employed by	**Stantec Consulting Services Inc.**				
Name	**Kunal Malpani, PE**		Years of relevant experience with this employer	10	
Title	Structural Engineer		Years of relevant experience with other employer(s)	0	
Degree(s) / Years / Specialization			MS | 2012 | Civil Engineering; BS | 2010 | Civil Engineering		
Active registration number / state / expiration date			PE No. 43016 | LA | 3/31/2025		
Year registered	2018	Discipline	Civil Engineering		

Contract role(s) / brief description of responsibilities

Kunal has 10 years of engineering experience with an emphasis on structural projects. His primary focus has been in the analysis, design, rating, and inspection of a variety of bridge types including prestressed concrete girders, structural steel plate girders, concrete slab spans, multi-column concrete bents, and pile bents. He is proficient in commercial software packages such as AASHTOWare BrDR, RC-Pier, CONSPAN, MDX, and STAAD. In addition to bridge design, Kunal has been involved in the design of highway sign structures and reviewing structural shop drawings. **NBIS Certified Team Leader**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/13 - 03/17	**LADOTD LOAD RATING AND POSTING OF 630+ ON-SYSTEM BRIDGES | LADOTD | Statewide, LA** Engineer Intern. Kunal was responsible for performing load ratings and developing summary reports on a variety of structures including prestressed concrete girders, concrete slab spans, structural steel spans, timber and steel pile bents, and concrete hammerhead piers. More than 630 bridges statewide were load rated in accordance with current LADOTD and AASHTO specifications. Models were developed in AASHTOWare BrR and RC-Pier to determine rating factors and bridge posting requirements.
09/13 - 11/17	**LADOTD RETAINER CONTRACT FOR BRIDGE LOAD RATING | LADOTD | Statewide, LA** Load Rating Engineer. Kunal was responsible for developing LFR rating procedure using AASHTOWare BrR and STAAD for superstructure as per AASHTO MBE. Highlights of the project include rating Long Span Steel Through Trusses, Short span Steel Pony Trusses, and Masonry Arch Bridges.
01/17 - 10/18	**LOAD RATING AND POSTING OF 110 ON-SYSTEM BRIDGES | LADOTD | Statewide, LA** Structural Engineer. Kunal's responsibilities included developing the LRFR rating procedure using the AASHTO Bridge Rating Software for superstructure and LEAP RC Pier for substructure as per AASHTO MBE and LADOTD rating guidelines. Project included load rating and posting of various bridge superstructure types including slab spans, prestressed concrete girders, rolled steel girders, and built-up steel plate girders. Bridges are located throughout the state and were load rated in accordance with LADOTD and AASHTO specifications. ASHTOWare BrR, CSI Bridge, and RC-Pier were used to determine rating factors and posting requirements. Highlight of the project was rating an 18,000 ft. long bridge with 268 spans on I-10 over New Orleans City Streets.
10/17 - 01/19	**AASHTOWARE BRIDGE LOAD RATING | MDOT | Statewide, MS** Load Rating Engineer. Project included load rating of 120 bridges in MS. Load ratings were performed in accordance with the AASHTO LRFR or LFR method and current MDOT Standards. Only superstructure elements were considered for the load rating analysis. Structure types included steel plate girders, prestressed concrete girders, reinforced concrete T-beams, concrete slabs, and reinforced concrete multi-cell box girders (integral and non-integral). Kunal was responsible for load ratings and performing QC/QA. Highlight of project was modeling the integral concrete box girders which took an extreme (up to 40 hours) to run in the software.
02/19 - 04/19	**ALDOT LOAD RATING OF 30 BRIDGES | ALDOT | Statewide, AL** Load Rating Engineer. The project included load rating of 30 bridges in Alabama. Load ratings were performed in accordance with the AASHTO LFR method and current ALDOT Standards. Only superstructure elements were considered for the load rating analysis. Structure types included steel plate girders, prestressed concrete girders, reinforced concrete T-beams, and concrete slabs. Comprehensive analysis referred to as Non-Standard Gage (NSG) or Distribution Factor-Line Girder Analysis was performed when Emergency Vehicle produced a rating factor less than 1.0. Kunal was responsible for load ratings and performing QC/QA.
06/16 - Ongoing	**MISSISSIPPI STATEWIDE COMPLEX BRIDGE INSPECTIONS & LOAD RATINGS | Mississippi Office of State Aid Road Construction | Statewide, MS**

	Load Rating Engineer and Inspection Team Leader. Project included inspection and load rating of over 100 off-system bridges in 17 different Mississippi Counties. Inspections and load ratings are performed in accordance with current NBIS and procedures as outlined in the AASHTO MBE. Structure types include steel trusses, structural steel plate girders, steel railroad flat cars, reinforced concrete girders and slabs, reinforced concrete box culverts, and masonry arches. Kunal is responsible for field inspections, load ratings, inspection reports, and QC/QA on load ratings.
08/19 - Ongoing	**MISSISSIPPI STATEWIDE TIMBER BRIDGE INSPECTIONS & LOAD RATINGS | Mississippi Office of State Aid Road Construction | Statewide, MS** Load Rating Engineer and Inspection Team Leader. Kunal is responsible for inspecting and load rating 120 bridges with timber elements in 10 different Mississippi Counties. Inspections are at arms-length and in accordance with NBIS. Load ratings are performed using AASHTOWare BrR, RC Pier, and in-house analysis tools for timber and in accordance with ASD and LFR guidelines. Predominately the bridges consist of timber piles; however, a large number are full timber structures.
07/15 - 06/18	**US 90 INTERCHANGE AT LA 318 DESIGN-BUILD | LADOTD | St. Mary Parish, LA** Structural Engineer for the twin bridges. Each bridge consists of LG-54 prestressed concrete girder spans on multi-column concrete bents and concrete wall piers. His responsibilities included performing design, performing the as designed load rating, and reviewing shop drawings.
09/15 - 07/16	**I-20 AND TARBUTTON ROAD INTERCHANGE | LADOTD | Ruston, LA** Structural Engineer. Project consists of replacing an existing concrete overpass structure over I-20 near Ruston, LA with a two-span structural steel plate girder structure. Substructure units are supported by drilled shafts to minimize the bridge footprint. Design was performed in accordance with AASHTO LRFD. Kunal assisted with quality control of the superstructure and substructure design and performed the as-designed load rating.
01/16 - 06/20	**SR145 BRIDGE REPLACEMENTS | Prentiss County, MS** Project Engineer. Kunal was responsible for the substructure design, calculating quantities, performing as-designed load ratings, and reviewing construction submittals. Stantec was responsible for designing and detailing the replacement of five structurally deficient bridges along MS SR 145 in Prentiss County. The bridges consist of AASHTO and Bulb-T PSC girder spans supported by steel pipe pile & concrete caps. The project's proximity to potential seismic activity warranted the consideration of seismic forces in the substructure designs.
07/18 - Ongoing	**SR 12 OVER SUNFLOWER RIVER | Humphreys, Washington County, MS** Project Engineer. Kunal was responsible for directing and checking the analysis, design, load rating, and detailing of the 910 ft. 3-span continuous steel plate girder bridge carrying SR 12 over sunflower river. The substructure consisted of multi-column bents supported on drilled shafts.
01/19 - Ongoing	**I-10 LOYOLA DESIGN-BUILD | LADOTD Contract No. H.011670 | New Orleans, LA** Structural Design Engineer. Kunal assisted signing engineer in design of flyover ramps, consisting of concrete slab spans, prestressed concrete LG and LU girder spans, and twin horizontally curved steel tub girder spans supported by different substructure types including hammerhead bents, wall bents and pile bents. Kunal is currently looking over the as-built load rating of all the structural components.
01/19 - 03/22	**NELSON ROAD EXTENSION BRIDGE | LADOTD Contract No. H.005967 | Baton Rouge, LA** Structural Engineer. Kunal assisted the design engineer with preparation of plans and specifications for this bridge extension to the surrounding roadway network. Design included design of bridge components, including substructure, footing and foundation, load bearing calculations, girders and barrier design. Other design elements include navigational lighting bridge attachments, steel bracket light supports with concrete anchors to the bridge structure.
02/19 - Ongoing	**LA 12 BRIDGE REPLACEMENTS | LADOTD | Calcasieu Parish, LA** Project Engineer. Kunal is responsible for overseeing all superstructure and substructure design elements, performing load ratings, and reviewing construction submittals. As part of value engineering, Stantec is responsible for designing and detailing the replacement of six structurally deficient bridges along LA State Route 12 in Calcasieu Parish. The project is being executed in two phases of construction, with the first phase of widening to one side in order to accommodate two lanes of traffic, and a second phase to complete the reconstruction. This would allow structure replacement without the requirement of temporary bridges. All bridges consist of LA Quad beam girder spans supported on pile bents. Kunal is currently looking over the as-built load rating of all the structural components.

16. **Staff Experience:**

Firm employed by **Stantec Consulting Services Inc.**				
Name	**Ryan Nataluk, PE***		Years of relevant experience with this employer	16
Title	Bridge Inspection Discipline Leader		Years of relevant experience with other employer(s)	9
Degree(s) / Years / Specialization		BS | 1997 | Civil Engineering		
Active registration number / state / expiration date		PE No. 37837 | CO* | 10/31/2023		
Year registered	2003	Discipline	Civil Engineering	

Contract role(s) / brief description of responsibilities

Ryan has 25 years of experience in structural inspection and highway per the National Bridge Inspection Standards (NBIS) using the National Bridge Inventory (NBI) and AASHTO Element Level NBE coding systems, as well as per AREMA standards. He has worked for a variety of DOTD's and private clients performing inspections on all types of concrete, steel, and timber bridges with main spans reaching 800 feet. Ryan has performed and managed staff for more than 25,000 routine, fracture critical, in-depth, damage, and initial bridge and overhead sign inspections in 16 states and Canada. He's skilled in load rating of steel, concrete. **NBIS Certified Team Leader; Sprat Level III**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
05/12 - 05/16	**LOAD RATING AND POSTING OF ON-SYSTEM BRIDGES | WVDOT | Statewide, LA** Project Manager, Senior Team Leader and SPRAT Climbing Supervisor for the 1,900 foot long fracture critical cantilever through truss: Silver Memorial Bridge under a six-year contract with the WVDOT. Careful maintenance of ropes and hand-held inspection equipment allowed our inspectors to complete the inspection without the use of mechanical equipment, traffic control, or traffic disruptions. The bridge, which carries US 35 across the Ohio River from West Virginia into Ohio, was completed in 1969 as a replacement and monument for an earlier structure, the Silver Bridge. The original Silver Bridge collapsed in a historic tragedy that led the United States Congress to establish NBI and NBIS Standards between 1968 and 1971.
03/14 - 05/15	**LA 511: JIMMIE DAVIS BRIDGE REHABILITATION | LADOTD H.010662 | Bossier, LA** Lead Inspector. Total structure length is 2,823 linear feet, including three main steel truss simple spans - 354 ft., 402.5 ft., and 354 ft. long respectively - crossing the Red River; 610 ft. approach spans at each side consisting of steel, two-girder systems with floor beams. Stantec provided design and plans for complete rehabilitation and repainting. Rehabilitation consisted on total deck replacement, over 200 structural repairs to truss span floor system, replacement of the link joint (hangers) of the approach spans, joint rehabilitation and barrier replacement.
05/17 - 08/17	**SR 609 OVER OLD FORT BAYOU IN-DEPTH BRIDGE INSPECTION | MDOT | Ocean Springs, MS** Field Team Leader. Ryan was a field team leader for the in-depth inspection of the 1760-ft long bridge that consists of a double leaf steel girder bascule span (176-ft) and 17 prestressed concrete girder approach spans. Inspection types included routine NBI, element level, in-depth and fracture critical which include full electrical, mechanical, and structural inspection of all components of the bascule span.
01/20 - Ongoing	**BRIDGE INSPECTION AND LOAD RATING FOR LOCAL PUBLIC AGENCY AND PRIVATELY OWNED BRIDGES | North Dakota DOT | ND** Principal. Ryan is leading all inspections using the National Bridge Elements and North Dakota's own Agency Developed Elements and Bridge Management Elements. The data is captured in Bridge Intelligence's inspectX platform with associated material defects, photographs, critical findings, and alert codes. In addition to maintenance and rehabilitation recommendations, our teams provide streambed profiles and vertical clearance information, owner and railroad coordination, and FAA clearances for unmanned aerial vehicle (UAV) flights. Our work captures critical findings within the system and sends alert code notifications to the bridge owners. Load ratings are completed using AASHTOWare Bridge Rating software or other software for unusual structures.
05/12 - 10/14	**COOS BAY BRIDGE INSPECTION | Oregon International Port of Coos Bay | Coos Bay, OR** Inspector. Ryan performed a deteriorated rivet count along fracture critical members to determine the number of replacement bolts needed to rehabilitate the members. He used conventional rock climbing and rappelling techniques to access the structure.
04/17 - 08/17	**SR 605 OVER THE INDUSTRIAL WATERWAY IN-DEPTH BRIDGE INSPECTION | MDOT | Gulfport, MS**

	Field Team Leader. Ryan was a field team leader for the in-depth inspection of the 1390-ft long bridge that consists of a double leaf steel girder bascule span (211- ft) and prestressed concrete girder approach spans. Inspection types included routine NBI, element level, in-depth and fracture critical which include full electrical, mechanical, and structural inspection of all components of the bascule span.
05/16 - 12/16	**US 82 CABLE STAY IN-DEPTH NBI INSPECTION | MDOT | Washington County, MS** Assistant Project Manager and Field Team Leader. Ryan was the assistant PM and field team leader for the in-depth, fracture critical and element level inspection of the US Route 82 over the Mississippi River. Scope included performing a routine element level inspection using the National Bridge Elements, a fracture critical inspection of the main river span floor systems including edge girders and floor beams, an in-depth hands-on SPRAT access inspection of all 112 stay cables.
08/07 - Ongoing	**ON + OFF-SYSTEM BRIDGE INSPECTIONS | Colorado DOT | Statewide, CO** Project Manager. Ryan leads bridge inspection, load rating, and scour analysis services for approximately 4,900 off-system bridges in 64 counties and over 100 cities across Colorado per the National Bridge Inspection Standards (NBIS). He's responsible for routine, fracture critical, and special damage inspections on bridges and culverts greater than 20 feet in clear span. Performed field inspections in accordance with all CDOT, FWHA, NBIS, SPRAT and OSHA guidelines and requirements. Confined space entry protocol and Non-Destructive Testing methods are commonly used during these field inspections. In 2014, he collected CoRE Element data for structure components via Pontis with transition to new National Bridge Elements (NBE) via AASHTOWare Bridge Management (BrM). Collects inventory and inspects newly constructed bridges performed at the request of CDOT. Load ratings are performed using the AASHTOWare Bridge Rating program and per the CDOT Bridge Rating Manual. All scour analyses are performed per the FHWA's HEC 18: Evaluating Scour at Bridges. Final bridge reports are submitted. In-depth elemental reporting includes recommendations for maintenance, replacement and/or repair, sketches, photographs, and streambed measurements.
09/12 - Ongoing	**BRIDGE INSPECTION AND ANALYSIS SERVICES | Nevada DOT | Statewide, NV** Project Manager/Sr. Team Leader. Responsible for routine and fracture critical inspections per NBIS. Through two consecutive four-year contracts, Stantec inspected nearly 1,000 bridges per year, including routine, fracture critical, access required, damage, and tunnel inspections per NBIS and NTIS. Additional services included non-destructive testing using magnetic particle, dye penetrant, ground penetrating radar, infrared, impact echo, and sounding. 30 load ratings were completed on as-needed basis. Approx. 150 require specialized access and/or confined space entry either by UBIV or SPRAT certified rope access. Collected inspection data electronically.
08/13 - 2020	**2ND LT. THEODORE R. WOO MEMORIAL BRIDGE | West Virginia DOT | Charleston to Dunbar, WV** Sr. Team Leader for first element-level inspection of the 2383' long bridge. Composed of 11 continuous steel multi-girder spans and three spans of continuous steel haunched girders with a floorbeam and stringer floor system. First annual in-depth periodic inspection was included an arm's length inspection of every member on structure. Bridge inspected utilizing rope access methods per the Society of Professional Rope Access Technicians (SPRAT) to avoid lane closures on a heavily traveled interstate. In addition to rope access methods, one innovative inspection technique included using parapet clamps to inspect the fascia girders of the bridge without the need for inspection access vehicles. Lead climbing techniques were also employed to inspect the deck girders and floor system.
01/13 - Ongoing	**NDOT MIKE O'CALLAGHAN – PAT TILLMAN MEMORIAL BRIDGE | Nevada DOT | Boulder City, NV** Program Manager. As part of the NDOT statewide inspection contract, Ryan served as the Program Manager and Lead Inspection Engineer, registered in both Arizona and Nevada, for this in-depth inspection project for the newest United States landmark bridge, the Hoover Dam Bypass. Responsibilities included SPRAT Level III oversight of the rope access inspection team, project requirements, planning of materials, schedule, logistics, rescue protocols and client coordination in preparation for Stantec's Rope Access inspection of this 1,866 foot open spandrel arch bridge that spans the Colorado River just downstream of the Hoover Dam. Tasks included detailed planning, daily safety tailgate meetings, scheduling, review of previous inspection reports, coordination of client responsibilities, traffic control, and task-level breakdowns with associated climbing equipment and inspection objectives.

16. **Staff Experience:**

Firm employed by **Stantec Consulting Services Inc.**					
Name	**Taylor Perkins, PhD, SE, PE**		Years of relevant experience with this employer	16	
Title	Senior Structural Engineer		Years of relevant experience with other employer(s)	0	
Degree(s) / Years / Specialization			PhD | 2017 | Structural Engineering; MS | 2008 | Civil Engineering; BS | 2007 | Civil Engineering		
Active registration number / state / expiration date			PE No. 47449 | LA | 9/30/2023		
Year registered	2023	Discipline	Structural Engineering		

Contract role(s) / brief description of responsibilities

Taylor has been involved in the plan preparation, design, load rating, and rehabilitation of complex highway and rail bridges of nearly every type. His experience includes concrete bridges, structural steel bridges, long span bridges, seismic evaluation and retrofit, and various types of foundation systems. Taylor has completed Sprat Level I rope access training and has assisted in a wide range of bridge inspections. **Certified Rope Access Level I**

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/15 - Ongoing	**US 60 Over Cumberland River Bridge Replacement (Smithland Design) | Kentucky Transportation Cabinet District 1| Smithland, Kentucky** Deputy Project Manager and Load Rating Engineer of Record. This $60M project replaces the existing structure, which carries US 60 over the Cumberland River in the town of Smithland, KY. As deputy Project Manager, Taylor has been involved with the project from the planning and environmental phase. During this phase 1, Taylor led the navigation simulation modeling, a span arrangement and structure type selection study, and performed USCG coordination. The replacement structure has a 40-ft roadway width with two 12-ft lanes and 8-ft shoulders. The 1909'-10" long structure consists of a 3-span 368' PPC I-beam south approach unit, a 700'-4" single truss span over the river, and a 6-span 841'-6" PPC I-beam north approach unit. The main navigation truss span is a modified warren through-truss that eliminates vertical members and utilizes rigid frame connections at the top and bottom chord to eliminate the need for sway bracing. The bridge is in a high seismic hazard zone, consequently a response spectrum analysis was performed using a site-specific response spectrum and the structure was designed and detailed to meet AASHTO LRFD criteria for Seismic Zone 3. As Co-Engineer of Record for the main truss span and the supporting piers, Taylor was responsible for all aspects of design and plan production. During the construction phase of the project, Taylor served as document controls manager, working closely with the KYTC Resident Engineer to coordinate construction submittals and address issues that arose. Taylor also served as the load rating engineer of record.
03/16 – 09/18	**STATEWIDE FRACTURE CRITICAL INSPECTION SERVICES - PACKAGE 2 - SIMON KENTON BRIDGE LOAD RATING| Kentucky Transportation Cabinet | Statewide, Kentucky** Load Rating Lead. Taylor was the load rating engineer of record for the Simon Kenton Bridge, a 1990-ft. long suspension bridge over the Ohio River in Maysville, KY. The structure consists of 465-foot side spans and a 1060-foot main span. The load rating includes 3-D finite element modeling of the full structure in CSi Bridge, with nonlinear effects included to account for large displacements and stress-stiffening of the cables. Components included in the load rating are stringers, floorbeams, stiffening trusses, including gussets, hanger cables with connections, main suspension cables, steel tower piers, and suspension cables anchorages. The rating is performed using LRFR methodology, the rating vehicles include HL-93, four state posting vehicles, four specialized hauling vehicles, and FHWA FAST act's emergency vehicles.
03/18 - 12/19	**TBTA BIENNIAL BRIDGE INSPECTION - ROBERT F. KENNEDY BRIDGE LOAD RATING | New York, NY** Technical Lead for the load rating of the 200+ ft spans of the Robert F. Kennedy Bridge over the East River and Bronx Kill in NYC. The rated portions include a suspension bridge unit with 1,380-ft main span and 672-ft side spans as well as several through-truss spans. Ratings were performed for both the LRFR and ASR methodologies and incorporated AASHTO specialized hauling vehicles and FHWA FAST act's emergency vehicles. For the suspended spans, a nonlinear finite element model was built in CSi Bridge analyze the large displacements and stress-stiffening effects of the suspension cables. Ratings included stringers, floorbeams, and stiffening trusses, including gussets. Ratings for the Bronx Kill truss spans included stringers, floorbeams, main truss members, and gusset plates. The project also includes ratings for the orthotropic steel decks, which were modeled in 3-D using Ansys.

09/18 - Ongoing	**STATEWIDE FRACTURE CRITICAL INSPECTION SERVICES (PACKAGE 2) SIMON KENTON BRIDGE LOAD RATING | Kentucky Transportation Cabinet | Maysville, KY** Load Rating Lead Engineer/EOR for the Simon Kenton Bridge, a 1990-ft long suspension bridge over the Ohio River. Structure consists of 465-ft side spans and a 1060-ft main span. The load rating includes 3-D finite element modeling of the full structure in CSi Bridge, with nonlinear effects included to account for large displacements and stress-stiffening of the cables. Components included in the load rating are stringers, floorbeams, stiffening trusses, including gussets, hanger cables with connections, main suspension cables, steel tower piers, and suspension cables anchorages. Rating is performed using LRFR methodology, the rating vehicles include HL-93, four state posting vehicles, four specialized hauling vehicles, and FHWA FAST act's emergency vehicles.
11/18 - Ongoing	**I-70 BRIDGES UPGRADE DESIGN & QAM SERVICES (WVDOH) | West Virginia Highways | Wheeling, WV** Structural Engineer. Project required rehabilitation to bring the inventory rating of the 70-year old bridge up to HL-93 standards. Taylor is responsible for technical oversight of the rehabilitation plan as well as QA/QC of the 3-D finite element Arch analysis model and capacity checks for the in-situ and rehabilitated structural elements of the bridge including, arch rib, tie chord, hangers, and floor system members. Evaluation of the arch included extensive global stability evaluations of arch rib buckling modes.
09/16 - 08/18	**STATEWIDE BRIDGE LOAD RATING - PACKAGE 1 - ARCH LOAD RATINGS | Kentucky Transportation Cabinet | Various, KY** Load Rating Engineer-of-Record for three arch bridges. Structures include: 535-ft twin tied arches that carry I-24 over the TN River, 186-ft open spandrel steel arch that carries Highland Ave. over I-471 in Campbell Co., and 100-ft concrete infill arches that carry KY 90 over the Cumberland River. The LRFR ratings incorporated all pertinent structural elements and included HL-93, four state posting vehicles, four specialized hauling vehicles, state superload vehicles, and FHWA FAST act's emergency vehicles.
06/09 - 08/15	**US 460 CONNECTOR DESIGN-BUILD | Virginia Department of Transportation | Buchanan County, VA** Structural Engineer. The 1,728-ft long six-span twin bridges feature two PPC I-beam approach spans and a four-span cast-in-place, post-tensioned segmental concrete box girder unit with box girder depths of 31 feet at the continuous piers. The substructures consist of unique H-column piers, integral with superstructure, with heights up to 230 ft. Taylor performed QC checking of the longitudinal and transverse load ratings of the as-built superstructure.
09/17- 04/21	**KY 676 LOAD RATING AND TESTING | Kentucky Transportation Cabinet | Frankfort, KY** Load Rating Engineer Lead for the twin 3-span post-tensioned segmental box bridge. LRFR ratings, completed under the 2015 Statewide Fracture Critical Bridge Inspection Package 3, were performed for HL-93 load, four state posting vehicles, four specialized hauling vehicles, state superload vehicles, and FHWA FAST act's emergency vehicles. Analysis for the structure included two independent models in CSi Bridge and BD2 to capture the stage construction effects of the balance cantilever erection. After the load ratings, Taylor supported a load testing of the bridge, which was performed by the Kentucky Transportation Center.
02/09 – 08/09	**US 60 BRIDGE OVER THE TENNESSEE RIVER | Kentucky Transportation Cabinet | McCracken and Livingston Counties, KY** Structural Engineer. The main river unit for the new Ledbetter Bridge is a 3-span parallel chord modified warren through-truss. The design eliminates vertical members and utilizes rigid frame connections at the top and bottom chords to eliminate the need for sway bracing. The truss is 73.5-ft wide and carriers two lanes of traffic and a combined shoulder/bike lane in each direction. The truss is supported on massive two-column piers founded on a combination of H-piles, large diameter pipe piles, and prestressed concrete piles. The bridge is in the New Madrid Region, a well-known high seismic hazard zone. As part of the final design Taylor performed design of the concrete deck, developed portions of the seismic analysis model used in the response spectrum analysis, designed portions of the lead-core isolation bearings, and performed seismic evaluation of the piers and foundations. Taylor also performed QC checking of portions of the final stringer and floor system design as well as checking of the stringer bearing design.
05/12 – 11/16	**COOS BAY RAIL BRIDGE ENGINEERING SUPPORT SERVICES | Oregon International Port of Coos Bay | Coos Bay, OR** Load Rating and Rehabilitation Lead. The Coos Bay Swing Span Bridge is a 2,168'-long steel truss comprised of nine 150' Warren Through Riveted Truss (TRT) spans, two 180' Pratt TRT spans, and one 458' Warren TRT swing span. The structure was constructed in 1915 and has undergone significant deterioration of steel members due to the harsh marine environment. Taylor was responsible for developing the 3-D finite element analysis models, member load rating, and designing rehabilitation/repair for the truss and swing span members, floorbeams, and stringers.
03/15 – 01/17	**SFRTA RAILROD BRIDGE ENGINEERING SUPPORT SERVICES FOR CONTRACTOR TRANSDEV RAIL | South Florida Regional Transportation Authority (SFRTA) | Miami, FL** Technical Advisor. Taylor served as technical advisor for the load rating of a bascule truss bridge, a thru plate girder span, and a movable thru plate girder span that are heavily used by railway traffic from multiple lines.

16. **Staff Experience:**

Firm employed by **Stantec Consulting Services Inc.**				
Name	**Jacob Tisdale, PE**		Years of relevant experience with this employer	4
Title	Structural Engineer		Years of relevant experience with other employer(s)	0
Degree(s) / Years / Specialization			BS | 2018 | Civil Engineering	
Active registration number / state / expiration date			PE No. 47913 | LA | 9/30/23	
Year registered	2023	Discipline	Civil Engineering	
Contract role(s) / brief description of responsibilities			Jacob is a structural engineer with over four years of experience. He has been involved in structural designs ranging from deck, prestressed box girder and concrete substructure. He has been involved in the load rating and inspections of numerous State Aid Complex and Timber Bridges. Jacob is familiar with several design and analysis software programs including RC-Pier, CONSPAN, and AASHTOWare Bridge Rating. **NBIS Certified Team Leader**	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
12/18 - Ongoing	**MISSISSIPPI STATEWIDE COMPLEX BRIDGE INSPECTIONS & LOAD RATINGS | Mississippi Office of State Aid Road Construction | Statewide, MS** Bridge Inspector and Load Rater. Stantec is responsible for inspecting and load rating over 400 bridges in 20 different Mississippi Counties. Inspections and load ratings are performed in accordance with current NBIS and procedures as outlined in the AASHTO MBE. Jacob is responsible for performing load rating analyses of inspected structures in accordance with current AASHTO requirements. Structures include prestressed concrete girders, structural steel girders, concrete box culverts, and precast prestressed channel beams.
12/18 - Ongoing	**MISSISSIPPI STATEWIDE TIMBER BRIDGE INSPECTIONS & LOAD RATINGS | Mississippi Office of State Aid Road Construction | Statewide, MS** Bridge Inspector and Load Rater. Stantec is responsible for inspecting and load rating over 100 bridges in 17 different Mississippi Counties. Inspections and load ratings are performed in accordance with current NBIS and procedures as outlined in the AASHTO MBE. Jacob is responsible for performing load rating analyses of inspected structures in accordance with current AASHTO requirements. Structures include prestressed concrete girders, structural steel girders, and precast prestressed channel beams with timber substructures.
12/18 - 01/19	**AASHTOWARE BRIDGE RATING | MDOT | Statewide, MS** Bridge Load Rater. The project included load rating of 120 bridges in Mississippi. Load ratings were performed in accordance with the AASHTO LRFR or LFR method and current MDOT Standards. Only superstructure elements were considered for the load rating analysis. Structure types included steel plate girders, prestressed concrete girders, reinforced concrete T-beams, concrete slabs, and reinforced concrete multi-cell box girders (integral and non-integral). Jacob assisted in performing load ratings and developing summary reports
02/19 - 04/19	**ALDOT LOAD RATING OF 30 BRIDGES | ALDOT | Statewide, AL** Bridge Load Rater. Jacob was responsible for performing load ratings and developing summary reports on this contract that included load rating of 30 bridges in Alabama. Load ratings were performed in accordance with AASHTO LFR method

	and current ALDOT standards. Only superstructure elements were considered for the load rating analysis. Structure types included steel plate girders, prestressed concrete girders, reinforced concrete T-beams, and concrete slabs. Comprehensive analysis referred to as Non-Standard Gage (NSG) or Distribution Factor-Line Girder Analysis was performed when Emergency Vehicle produced a rating factor less than 1.0.
08/19 - Ongoing	**I-10 LOYOLA DESIGN-BUILD INTERCHANGE | LADOTD Contract No. H.011670 | New Orleans, LA** Bridge Designer. Jacob serves as a design engineer on this multimillion-dollar design-build project that will improve access and traffic operations to and around the new Northfield Terminal at the New Orleans International Airport. The project consists of a DDI, in addition to flyover ramps leading to/from the Airport on the east side of the interchange. The flyover ramps consist of curved twin steel tub girders, prestressed concrete girders and slab spans being supported by a combination of hammerhead bents, wall bents and pile bents. The project is one of the first in the state to implement LU girders. Jacob's responsibilities include the design of slab spans, substructure elements, reviewing shop drawings, and performing as-designed load ratings on structural components.
08/22 - 11/22	**ALDOT LOAD RATING OF 12 COMPLEX BRIDGES | ALDOT | Statewide, AL** Bridge Load Rater. Project consisted of rating 12 complex bridges in accordance with ALDOT Policies and Guidelines for Bridge Rating and Evaluation using AASHTOWare BrR. The bridge types comprised of continuous cast-in-place concrete T-beam spans, post-tensioned channel beams, continuous steel plate-girders, and concrete encased steel I-beams. Jacob was responsible for performing load ratings and developing summary reports.
02/19 - Ongoing	**LA 12 BRIDGE REPLACEMENTS | LADOTD | Calcasieu Parish, LA** Bridge Load Rater. Jacob is responsible for performing load ratings on the as-design and as-built conditions. This project consists of replacing six structurally deficient bridges along LA State Route 12 in Calcasieu Parish using phase construction. All bridges consist of LA Quad beam girder spans supported on pile bents.

(Add rows as needed)

16. **Staff Experience:**

Firm employed by **Stantec Consulting Services Inc.**					
Name	**Stephen Torry, PE**		Years of relevant experience with this employer	3	
Title	Structural Engineer		Years of relevant experience with other employer(s)	1	
Degree(s) / Years / Specialization			MS | 2019 | Civil Engineering; BS | 2018 | Civil Engineering		
Active registration number / state / expiration date			PE No. 47545 | LA | 9/30/2025		
Year registered	2023	Discipline	Civil Engineering		
Contract role(s) / brief description of responsibilities			Stephen has previous experience in rating a variety of different bridge structures which include curved steel superstructures, cast in place concrete slab spans, precast concrete slab spans, prestressed concrete girders, steel plate girders, channel beams, timber floor beams, timber stringers, culverts, and reinforced concrete beams. Stephen has experience in rating reinforced concrete caps, timber caps, concrete piles, timber piles, and steel H piles. In addition to load rating, Stephen has experience in field inspection that he has utilized to improve his ability to spot critical failure locations when performing load rating analysis. Stephen has rating experience in AASHTOWare Bridge Rating, LEAP RC-PIER, LEAP CONSPAN, MIDAS Civil, and STAAD. **NBIS Certified Team Leader**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
01/20 - Ongoing	**MISSISSIPPI STATEWIDE COMPLEX BRIDGE INSPECTIONS & LOAD RATINGS | Mississippi Office of State Aid Road Construction | Statewide, MS** Bridge Inspector and Load Rater. This project consists of inspections and load ratings on timber, complex, and non-complex structures in accordance with AASHTO and FHWA NBI specifications. Stephen inspects and load rates various bridge types ranging from steel I girders, prestressed concrete beams, and steel rail cars (which have since been converted into small bridge spans) using AASHTOWARE Bridge Rating. Substructure types included reinforced concrete caps using LEAP RC-Pier.
01/22- Ongoing	**I-10 / LOYOLA INTERCHANGE IMPROVEMENT | LADOTD, Contract No. H.011670 | Jefferson Parish, LA.** As a structural P.E. Stephen performed the load rating of the bridge substructure and superstructure in accordance with LADOTD Policies and Guidelines for Bridge Design Load Rating. Superstructure spans included prestressed LG and LU girders and the substructure consisted of concrete pile bents as well as concrete hammer head piers.
08/22 - 11/22	**ALDOT LOAD RATING OF 12 COMPLEX BRIDGES | ALDOT | Statewide, AL** Bridge Load Rater. Project consisted of rating 12 complex bridges in accordance with ALDOT Policies and Guidelines for Bridge Rating and Evaluation. The bridge types comprised of continuous cast-in-place concrete T-beam spans, post-tensioned channel beams, continuous steel plate-girders, and concrete encased steel I-beams. Stephen performed load ratings using as-built drawings / standard plans and developed load rating summary reports.
02/21 - 03/21	**LOAD RATING OF MALL OF LOUISIANA BRIDGES | CITY OF BATON ROUGE | Baton Rouge, LA** Bridge Load Rater. Stephen performed load rating of three bridges in accordance with LADOTD Policies and Guidelines for Bridge Design Load Rating. Superstructure spans included skewed prestressed AASHTO girders that supported a curved deck,

	as well prestress quad beam spans. Superstructure was rated using AASHTOWARE Bridge Rating. Substructure ratings were of concrete pile bents using LEAP RC-Pier.
08/20 - 09/20	**NELSON ROAD EXTENSION BRIDGE | LADOTD Contract No. H.005967 | Lake Charles, LA** Bridge Design and Load Rater. Stephen performed load rating of various bridges in accordance with LADOTD Policies and Guidelines for Bridge Design Load Rating. Superstructure ratings included prestressed LG Girders and slab spans using AASHTOWARE Bridge Rating. Substructure ratings were of concrete pile bents using LEAP RC-Pier.
05/19 - 10/19	**LOAD RATING OF 396 OFF SYSTEM BRIDGES | LADOTD Contract No. H.012485.5| Statewide, LA** Bridge Load Rater. Stephen performed load rating of various bridges in accordance with LADOTD Policies and Guidelines for Bridge Evaluation. Bridge types included cast in place concrete slab spans, precast concrete slab spans, prestressed concrete girders, steel I plate girders, and RC box culverts. The substructures comprised various components including reinforced concrete caps, timber caps, timber piles and H piles
05/19 - 10/19	**27 COMPLEX OFF-SYSTEM BRIDGES RATING AND EVALUATION | LADOTD Contract No. H.009859.5 | Statewide, LA** Bridge Load Rater. Stephen performed load rating of various bridges in accordance with LADOTD Policies and Guidelines for Bridge Evaluation. Bridge types rated include steel plate-girders and prestressed concrete girders. Bridge superstructures involved complex irregular geometry for their on/off ramps which were not analyzed using AASHTO approximate methods and therefore those bridge/ramp junctions were analyzed using finite element models developed using MIDAS civil software.

(Add rows as needed)

16. **Staff Experience:**

Firm employed by **Stantec Consulting Services Inc.**				
Name	**Maggie Ye, PE**		Years of relevant experience with this employer	3
Title	Structural Engineer		Years of relevant experience with other employer(s)	4
Degree(s) / Years / Specialization			MS | 2016 | Civil Engineering; BS | 2013 | Civil Engineering	
Active registration number / state / expiration date			PE No. 44061 | LA | 3/31/2024	
Year registered	2019	Discipline	Civil Engineering	
Contract role(s) / brief description of responsibilities			Maggie assists the project manager with bridge designs, compiling bridge plans, and QC/QA of load rating models and reports. She also helps EIs in developing load rating models.	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/20 - Ongoing	**MISSISSIPPI STATEWIDE COMPLEX BRIDGE INSPECTIONS & LOAD RATINGS | Mississippi Office of State Aid Road Construction | Statewide, MS** Bridge Engineer. Maggie's main task is to QC and QA the load rating models and reports that are developed by the EIs. She uses Bridge Rating and RC-Pier load rating software to review different types of bridges, including timber bridges, box culvert bridges, slab spans, prestressed beams etc. She also reviews the hand calculation of LLDF for culvert box, dead load input for substructure, and timber piles' load rating factors.
10/21 - 04/22	**TRUSS BRIDGE INSPECTIONS AND LOAD RATING | MDOT | Statewide, MS** Bridge Load Rater. Maggie used the existing plans and site measurements to load rate the complex truss bridge. The load rating consisted of rating truss members, gusset plates, stringers and floor beams. She prepared the load rating reports including detailed truss rating results in accordance with client's requirement.
02/19 - 08/19	**LOAD TESTING OF BERWICK BAY BRIDGE AND LA-1 BRIDGE | LADOTD | Statewide, LA** Site Engineer. Maggie assisted the project engineer to installing sensors on the bottom of the bridge deck and connecting the sensors to computers. She guided the loaded truck on the bridge and analyzed the collected deflections from sensors. She gained on-site experience as well as knowledge that the load rating results were much more conservative than the load testing results.
02/19 - 08/19	**27 COMPLEX OFF-SYSTEM BRIDGES RATING AND EVALUATION | LADOTD H.009859.5 | Statewide, LA** Structural Engineer. This project consisted of load rating of 27 complex off-system bridges in accordance with LADOTD Policies and Guidelines for Bridge Rating and Evaluation. The bridge types comprised ferry-toll, pontoon, steel I-beam, plate girder swing spans, plate girder continuous spans, plate girder bascule spans, low truss swing spans, plate girder swing spans and steel box girder. Maggie's responsibilities included reviewing the as-built drawings of the bridges and determining the appropriate load rating method, developing the load rating models and preparing the load rating reports.
02/19 - 08/19	**LOAD RATING OF 396 OFF SYSTEM BRIDGES | LADOTD H.012485.5 | Statewide, LA** Bridge Load Rater. Load rating of 396 bridges in accordance with LADOTD Policies and Guidelines for Bridge Rating and Evaluation. Bridge types comprised cast in place concrete slab spans, precast concrete slab spans, prestressed concrete girders,

	steel plate-girders, in addition to RC box and arch culverts. Substructures comprised various components including reinforced concrete caps, timber caps, timber piles and steel H piles. Maggie participated in performing the load rating analysis for the bridges and preparation of the load rating reports.
11/19 - 04/20	**US-90 MACARTHUR INTERCHANGE PHASE II | LADOTD | Jefferson, LA** Bridge Designer. This project consisted of designing two access ramps to/from the service roads to the elevated viaduct. Ramps structures consisted of complex structural elements including precast- prestressed U-shaped girders and LG-girders, inverted-T piers, complex columns, and foundations. Maggie's responsibilities included performing the final design of the superstructure including the deck, prestressed LU girders and LG girders for the 22 spans off-ramp and the 24 spans on-ramp along with preparation of the plans.
08/19 - 01/20	**LOAD RATING OF 18 COMPLEX BRIDGES | LADOTD | Statewide, LA** Bridge Load Rater. Maggie conducted the load rating of several complex bridges including a steel bascule span bridge and irregular geometry steel plate girder bridge. The load rating involved engineering judgment and hand-calculation of the counterweight of the bascule span bridge. She also rated a curved steel plate girder span and a straight steel girder with curved deck span.
04/17 - 10/18	**US 80 RED RIVER TEXAS STREET BRIDGE: INSPECTION, LOAD RATING AND REHABILITATION | LADOTD H.011484 | Bossier, LA** Bridge Designer. The US-80 Texas Street Bridge, built in 1934, is a historic bridge which carries US-80 over the Red River at Shreveport, LA. Bridge consists of 45 spans with a total length of 2,895 ft. The approach spans consist of reinforced concrete T-beam girders, steel girders, and steel deck trusses. The main span consists of a three-span steel truss with a total length of 884 feet. Phase II of the project included rehabilitation of all deficient structural components of the truss spans and approach spans that were identified based on the load rating and evaluation completed in Phase I. Maggie participated in the design and detailing of the strengthening systems for the truss members, gusset plates and the column bents and preparation of the final plans for the bridge.

(Add rows as needed)

16. Staff Experience:

Firm employed by **Moffatt & Nichol**				
Name	**Herodotos Pentas, PhD, PE**		Years of relevant experience with this employer	1
Title	Senior Bridge Engineer		Years of relevant experience with other employer(s)	33
Degree(s) / Years / Specialization			PhD / 1990 / Civil Engineering MS / 1985 / Civil Engineering BS / 1984 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 24660 / Louisiana / 09/30/2024 FHWA-NHI-130092 Load and Resistance Factor Rating of Highway Bridges FHWA-NHI-130056 Safety Insp. of In-Service Bridges for Professional Engineers FHWA-NHI-135099 Bridge Inspection Non-Destructive Evaluation Showcase	
Year registered	1992	Discipline	Civil and Structural	
Contract role(s) / brief description of responsibilities			**Project Manager / Analysis & Load Rating/ MPR #4 & #5**	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
10/22 – 6/23	**IDIQ Master Contract, Bridge Inspection and Related Services, Statewide, Mississippi.** Project Manager & Lead Structural Engineer supervising load ratings of four bridges involving modeling within AASHTOWare's BrR software for superstructures and LEAP for substructures in accordance with LRFR and LFR. Supervised the team who identified bridge defects from inspection reports, developed a load rating report, and provided bridge posting recommendations. 222436.00
01/07 – 12/07	**West Drive & Lock #2 Road Bridges Inspection & Load Analysis, St. Tammany Parish, Louisiana.** PM for inspection, load analysis, and rating of timber bridge and concrete bridges by applying AASHTO and LADOTD Standards.
08/97 – 06/99	**LADOTD S.P. No. 737-99-0441 & 737-99-0158, Assessment of Bridge Damage by Watercraft, Divisions 2, 3, & 7, Louisiana.** Project Manager for baseline inspections of fender systems/substructures of 134 bridges to determine damages caused by marine vessels. Provided damage assessment, repair plan preparation, cost estimates, repair procedure, & report. Project received national attention due to its effectiveness & execution.
01/96 – 12/96	**LADOTD S.P. No. 700-99-0118, Structural Load Rating, 118 Bridge, Louisiana.** Project Manager for load rating of 118 bridges throughout the state. A majority of the bridges were prestressed concrete and steel plate girder design.
02/96 – 11/96	**LADOTD S.P. No. 700-99-0264, Bars Re-Rate, Louisiana.** Project Manager for conversion of all existing BARS load rating WSM and LFM files to VIRTIS database and running of converted BARS files to verify VIRTIS rating results for 493 structures. Analyzed with finite element method, three structures for three super-load permit vehicles and recommended distribution factor, influence line, permit load review procedure, and examples for typical complex members (truss span, steel & prestressed girder, steel and reinforced concrete cap beam.
10/93 – 10/95	**LADOTD S.P. No. 700-30-0002, Complex Structures Load Rating, 37 Bridges, Louisiana.** Project Manager who led analysis and rating of 37 complex steel and concrete bridges using both working stress and load factor methods. Structure types included simple and multi-span curved steel plate girders, simple and multi-span normal and skewed box girders, and curved box girders.

16. Staff Experience:

Firm employed by **Moffatt & Nichol**				
Name	**Chace Hulon, PE**		Years of relevant experience with this employer	9
Title	Chief Bridge Inspector		Years of relevant experience with other employer(s)	9
Degree(s) / Years / Specialization			BS / 2005 / Civil Engineering	
Active registration number / state / expiration date			Professional Engineer: 39701 / Louisiana / 09/30/2023 FHWA-NHI-130053 Bridge Inspection Refresher Training FHWA-NHI-130055 Safety Inspection of In-Service Bridges FHWA-NHI-130078 Fracture Critical Inspection Techniques for Steel Bridges FHWA-NHI-130091B Underwater Bridge Repair, Rehab. & Countermeasures FHWA-NHI-133113 Work Zone Traffic Control for Maintenance Operations FHWA-NHI-135047 Stream Stability & Scour at Highway Bridges for Brdg Insp FHWA-NHI-135086 Stream Stability Factors and Concepts FHWA-NHI-135087 Scour at Highway Bridges: Concepts and Definitions	
Year registered	2009	Discipline	Civil	
Contract role(s) / brief description of responsibilities			**Plan & Document Retrieval & Review / Site Visits**	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
10/22 – Present	**IDIQ Master Contract, Bridge Inspection and Related Services, Statewide, Mississippi.** Project Manager & Team Leader for this inspection task (Task 1) to perform repair design inspections on 8 bridges. Provided input to load rating task (Task Two) involving load ratings of 4 bridges which utilized AASHTOWare BrR and LEAP for load rating. Project done for MS Office of State Aid Road Construction (OSARC) 222436.00
11/19 – Present	**LADOTD IDIQ for In-Depth Inspection of Complex Bridges, Statewide, Louisiana.** As a subconsultant, M&N's PM & Team Leader to perform in-depth bridge inspections on complex, signature, long-span bridges. Inspected two cable-stayed bridges (Audubon & Luling) with rope access techniques to inspect 208 cables on the two bridges, their Gensui Dampers, and anchorages. Inspected I-10 Horace Wilkinson Bridge utilizing rope access techniques and rolling lane closures to greatly minimize traffic impacts. Performed a supplemental inspection of GNO Cantilever Truss Bridges in New Orleans utilizing rope access techniques. Performed a fracture critical inspection of Green Bridge, a steel tied arch in New Orleans utilizing rope access and UAS access techniques. Inspected the I-10 Bridge over the Calcasieu River in Lake Charles utilizing rope access on FCM's and UAS access techniques on columns. The Skydio drone with DroneDeploy and 3D Scan was used to capture an orthomosaic projection of the structure for digital twin models. Hands-on management/ implementation of QC review plan is vital to the continued success of this project. 10938.00
01/20 – Present	**LADOTD IDIQ for In-Depth Bridge Inspection of Complex Structures, Statewide, Louisiana.** As a subconsultant, M&N's PM/Team Leader for in-depth bridge inspections on complex, movable, long span, and precast segmental box girder bridges. Performed structural inspections of six (6) movable bridges utilizing detailed, nondestructive, & laboratory testing methods with hand sketches. Utilized NDE methods (laser & acoustic) to analyze rotational movement of an unstable pivot pier. Hands-on management/implementation of QC review plan is vital to continued success of this project. 10801.00

09/13 – Present	**LADOTD IDIQ for Underwater Bridge Inspection, Statewide, Louisiana.** Project Director/Team Leader for the third cycle of contracts under which M&N has performed 1,375 underwater NBIS bridge inspections statewide. In-depth UWI were performed on 75 signature bridges over large waterways with deep foundations and dynamic channel conditions. All diving inspections were augmented with NDE acoustic imaging technology to consistently monitor streambed changes and structural deficiencies over subsequent inspection cycles. Acoustic hydrographic surveying methods were performed using the HydroLite-TM, Kongsberg Mesotech MS 1000, and the Norbit Winghead i77 units deployed from a vessel. QINSy, Qimera, Applanix POSPac, MMS systems, and MatLab were used for accurate and repeatable post processing and evaluations. Assisted LADOTD with several emergency response requests ranging from hours to days, utilizing local team members. Served as Chief Editor of the LADOTD Bridge Inspection Manual released in 2020. 8346.00, 9840.00, 211288.00

16. Staff Experience:

Firm employed by **Moffatt & Nichol**				
Name	**Iris Leoncio, SE, PE**		Years of relevant experience with this employer	4
Title	Senior Structural Engineer		Years of relevant experience with other employer(s)	12
Degree(s) / Years / Specialization			MS / 2003 / Civil and Environmental Engineering BS / 2000 / Civil Engineering	
Active registration number / state / expiration date			47438 / Louisiana / 09/30/2023 FHWA-NHI-130053 Bridge Inspection Refresher Training FHWA-NHI-130055 Safety Inspection of In-Service Bridges FHWA-NHI-130078 Fracture Critical Inspection Techniques for Steel Bridges	
Year registered	2003	Discipline	Civil and Structural Engineer	
Contract role(s) / brief description of responsibilities			**Analysis & Load Rating / MPR #4, 5**	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
01/20 – present	**LADOTD IDIQ for In-Depth Bridge Inspection of Complex Structures, Statewide, Louisiana.** Team Leader, performed in-depth bridge inspections on complex, movable, long span, and precast segmental box girder bridges. Performed structural inspections of four (4) movable bridges utilizing detailed, nondestructive, and laboratory testing methods with hand sketches. Utilized NDT methods to analyze deficiencies are complex moveable bridges. Performed engineering review of the QC plan. 10801.00
05/16 - present	**VDOT Limited Services Term Agreement for NBIS Inspection of Highway Structures and Bridges, and Support Structures, Hampton Roads, Virginia.** PM &/or Structural Engineer for several tasks under this VDOT LSC including: • **Floorbeam Repairs, WBL Berkley Bridge (I-264) over the Eastern Branch of Elizabeth River.** PM/Structural Engineer for Stage II inspection and repair design of floor beams in the 178-ft-long double-leaf bascule span in order to improve its bridge load rating. Load rating studies were performed for as-designed and as-built conditions using AASHTOWare Bridge Rating (BrR). Design complexity was complicated by restrictions from the U.S. Coast Guard and VDOT Hampton Roads District on permissible lane and channel closures, limited work hours at night, and the likelihood of unscheduled bridge openings during construction. Required careful consideration of construction sequencing and design of temporary falsework and scaffolding. Provided Stage III construction phase services involving review & consultation. 201665.21, 10280.34 • **Route 17 over the James River Bridge Beam Strengthening.** PM/Structural Engineer for overseeing repairs to prestressed concrete beams to improve the load rating of the 4.4-mile-long bridge, which consists of 302 approach spans and a vertical lift span for both north/southbound directions. Carbon Fiber Reinforced Polymer (CFRP) was used to improve 29 beams with significant strand losses. Various anchoring methods were assessed to delay failure from fiber debonding that might compromise the full capacity of the repair system. Other post-tensioning repair techniques, including GRABB-IT cable splice assemblies, are also evaluated. Crucial aspects of design included use of recent research publications to manually calculate load ratings outside of VDOT's standard bridge rating software, avoiding lane closures on Route 17, maximizing efficient use of available construction funds, and adopting ACI guidelines. 212524.10, 10280.28 • **George P. Coleman Memorial Bridge (Route 17) over York River Bridge Load Rating.** Senior project engineer for the as-inspected load rating study of the truss spans of the 3750-ft-long bridge, which consists of steel girder approach spans, two fixed truss spans, two suspended truss spans and two swing bridges. A three-dimensional finite element model was created in LARSA 4D to generate load demands on truss members and the deck framing system. Gusset plates are checked using Whitmore sections in accordance with the AASHTO Manual for Bridge Evaluation. 9382.14

10/07 – 12/07	**Walk Bridge, Norwalk, Connecticut.** Project Engineer for condition evaluation and load rating of the 560-ft-long movable steel truss swing bridge over the Norwalk River, which carries railroad traffic.

16. Staff Experience:

Firm employed by **Moffatt & Nichol**				
Name	**Eric Vugteveen, PE**		Years of relevant experience with this employer	25
Title	Bridge Engineer		Years of relevant experience with other employer(s)	8
Degree(s) / Years / Specialization			BS / 1990 / Civil Engineering BS / 1990 / Architectural Engineering	
Active registration number / state / expiration date			Professional Engineer: 38667 / Louisiana / 09/30/24 FHWA-NHI-130055 Safety Inspection of In-Service Bridges FHWA-NHI-130053 Bridge Inspection Refresher Training FHWA-NHI-130078 Fracture Critical Inspection Techniques for Steel Bridges	
Year registered	1995	Discipline	Civil	
Contract role(s) / brief description of responsibilities			**Plan & Document Retrieval & Review / Site Visits / MPR #5**	

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
05/22 – 12/22	**Heavy Lift Transport Structural Analysis, Ukudu Power Station, Tamuning, Guam**. PM & lead structural engineer who led structural team performing pre-/post-transport special inspections and load ratings for nine bridges and culverts associated with an overweight permit application to move power generation equipment from the Port of Guam to the new Ukudu Power Station being constructed 12 miles north of the port. Twenty pieces of oversized/overweight equipment were moved using 16- or 22-axle self-propelled modular transport (SPMT) units with maximum vehicle loads up to 440 tons. BRASS CULVERT and BRASS GIRDER programs were used for load ratings of the larger structures. Structural analysis was also performed for 22 drainage structures/utility vaults the transports would cross.190962.00
07/18 – 12/23	**VDOT Statewide Limited Services Design Term Contract for Highway Structures and Bridges, Virginia.** PM, Asst. PM, or Sr. Structural Engineer for numerous tasks under this statewide, multi-year, on-call contract primarily for design of bridge replacements or maintenance & repair projects, but also including planning, load rating, construction services, and claim support. Mr. Vugteveen worked on two load rating tasks under this contract: • Load Rating & Additional Stage III Services, Route 644 over Meherrin River, Brunswick County. Lead structural eng. for as-built load rating of emergency repairs that utilized a temporary bent. Involved two major components: load rating of superstructure using AASHTOWare BrR program and load rating of temporary bent superstructure using hand/spreadsheet calculations. Repaired structure load rating completed in conformance with VDOT policies and Structure & Bridge Division Instructional and Information Memorandum for load rating. 10280.16 • Floorbeam Repairs, Berkley Bridge Westbound Lanes, Norfolk. Senior structural engineer for inspection & repair design of floorbeams in 178-ft-long, double-leaf bascule span in order to improve the bridge load rating. As-designed load rating study was performed using AASHTOWare Bridge Rating (BrR). Restrictions by U.S. Coast Guard and VDOT Hampton Roads District on permissible lane and channel closures, limited work hours at night, and likelihood of unscheduled bridge openings during construction added complexity to design. Careful consideration of construction sequencing and design of temporary falsework, scaffolding, containment structures, and other attachments to existing bascule leaves was required. Provided construction phase services involving review/consultation. 10280.34
03/12 – 03/15	**VDOT Limited Services Term Contracts for Providing Load Ratings of Existing Highway Structures Statewide, Virginia.** As a subconsultant, M&N provided load rating for structures in VDOT Region III using AASHTOWare's Bridge Rating program (formerly VIRTIS) in accordance with LRFR and LFR methodologies. As Senior Structural Engineer, Mr. Vugteveen provided guidance, technical input, and QC review of bridge load rating tasks under task 4. Superstructure types included RC slabs and tee beams, PS beams and voided

	slabs, steel beams with timber and concrete decks, steel plate girders, and steel floorbeam systems. Provided input to and QC review of load rating of 20 bridges which involved steel and concrete multi-girder or concrete slab bridges from Bristol, Salem, Richmond, Hampton Roads, Culpeper, and Staunton Districts. Rating performed in accordance with AASHTO Manual for Bridge Evaluation (2011) and VDOT Structure and Bridge Division Instructional and Information Memorandum. Utilized Load Resistance Factor Rating for 11 loads described in VDOT "Load Rating and Posting of Structures" using AASHTOWare's BrR. 7722.00-06
11/08 – 11/11	**VDOT Region III, Limited Services Term Contract for Load Rating of Existing Structures, Arlington, Albemarle, Augusta, Fairfax, Fauguier, Fluvanna, Louisa, Prince William, Rockbridge, Shenandoah, and Warren Counties, and Several Independent Cities, Virginia.** As a subconsultant, M&N provided load rating for 76 structures in VDOT Region III. Mr. Vugteveen was Asst. Project Manager/Sr. Structural Engineer for task orders to evaluate inspection reports & load rate bridges. Bridge types included steel, steel continuous, concrete, concrete continuous, & prestressed concrete. Spans ranged from two to eight spans. Utilized Load Resistance Factor Rating (LRFR) for 11 loads described in VDOT's "Load Rating and Posting of Structures" (2009) and AASHTO's VIRTIS program for analysis & load rating. 6821.02
02/06 – 07/11	**VDOT Region II On-Call Contact for Bridge Inspection and Design, VA.** Structural Engineer who assisted various task orders as needed to meet increased demand, schedule, and budget constraints, primarily for load rating tasks. Assisted with rating in Northern Virginia, Hampton Roads, and Culpeper Districts. Completed or provided QC review of load ratings for steel, concrete, and timber bridges ranging in complexity from short, simple spans to longer, multiple-span curved bridges, including concrete arches and prestressed and post-tensioned concrete bridges. Load rating utilized ASSHTO's VIRTIS computer program. Also served as Assistant Project Manager to help manage contract. 5881.01, 03, 05, 12
11/02 – 09/03	**VDOT Region II On-Call Contract for Bridge Inspection and Design, Culpeper, Fredericksburg, Hampton Roads, Northern Virginia, and Richmond, Districts, VA.** Structural engineer for various task orders under the contract involving bridge inspection, load rating, and noise abatement (2002-2004). Tasks included: • Bridge Load Ratings for Northern Virginia District. Provided analysis and load rating of 32 bridges for bridge load rating based on as-built plans and most recent bridge inspection reports. Bridges were reinforced concrete slab (4), reinforced concrete beam (4), prestressed concrete slab (3), prestressed concrete beam (4), and steel beam (17) structures. Utilized AASHTO's program for bridge analysis and load rating (BARS). 5101.02

16. Staff Experience:

<table>
<tr><td colspan="6">Firm employed by Moffatt & Nichol</td></tr>
<tr><td>Name</td><td colspan="2">David Wolfe, PE</td><td colspan="2">Years of relevant experience with this employer</td><td>24</td></tr>
<tr><td>Title</td><td colspan="2">Bridge Engineer</td><td colspan="2">Years of relevant experience with other employer(s)</td><td>2</td></tr>
<tr><td colspan="3">Degree(s) / Years / Specialization</td><td colspan="3">BS / 1993 / Structural Engineering</td></tr>
<tr><td colspan="3">Active registration number / state / expiration date</td><td colspan="3">Professional Engineer: 49072 / Virginia / 07/31/2025</td></tr>
<tr><td>Year registered</td><td>2001</td><td>Discipline</td><td colspan="3">Civil</td></tr>
<tr><td colspan="3">Contract role(s) / brief description of responsibilities</td><td colspan="3">Analysis & Load Rating / MPR #4, 5</td></tr>
<tr><td>Experience dates (mm/yy–mm/yy)</td><td colspan="5">Experience and qualifications relevant to the proposed contract; i.e., “designed drainage”, “designed girders”, “designed intersection”, etc. Experience dates should cover the years of experience specified in the applicable MPR(s).</td></tr>
<tr><td>10/22 – 6/23</td><td colspan="5">IDIQ Master Contract, Bridge Inspection and Related Services, Statewide, Mississippi. Structural Engineer who provided guidance, technical input, and QC review of load ratings and load rating report of four bridges involving modeling within AASHTOWare’s BrR software for superstructures and LEAP for substructures in accordance with LRFR and LFR. 222436.00</td></tr>
<tr><td>05/22 – 12/22</td><td colspan="5">Heavy Lift Transport Structural Analysis, Ukudu Power Station, Tamuning, Guam. Sr. structural eng. for pre-/post-transport load ratings of 9 bridges and several culverts associated with an overweight permit application to move power generation equipment from the Port of Guam to the new Ukudu Power Station being constructed 12 miles north of the port. Twenty pieces of oversized/overweight equipment were moved using 16- or 22-axle self-propelled modular transport (SPMT) units with maximum vehicle loads up to 440 tons. Provide load rating for one structure and QC review of 8 other bridges and culverts analyzed; BRASS CULVERT & BRASS GIRDER programs were used for load ratings of larger structures. Structural analysis was also performed for 22 drainage structures/utility vaults that the transports crossed. 190962.00</td></tr>
<tr><td>08/18 – 06/20</td><td colspan="5">HDOT General Structural Engineering Services, Oahu, Hawaii. Bridge engineer for two tasks involving load ratings of various bridges/viaducts. M&N provided load rating for a subset of HDOT’s bridge inventory, generally working on the more complex bridges that were outside of capabilities of HDOT’s typical load rating software, BRASS. Ratings completed in accordance with the 2nd Edition of the AASHTO Manual for Bridge Evaluation (MBE) with HDOT’s “Draft Modifications to the ‘Design Criteria for Bridges and Structures Dated August 8, 2014’. Each bridge was rated for its current condition based on the most recent inspection reports. LRFR reports were also provided for the two other condition factors to provide HDOT with rating information if the current condition of the bridge were to deteriorate or be repaired as conditions dictate. Tasks involved:
• Load Rating of 8 Segmental Concrete Bridges: provided load ratings for 8 segmental concrete bridges using finite element model LARSA 4D to account for time dependent effects of stresses associated with various construction stages.
• Load Rating of 13 Post-Tensioned Concrete Box Girders: M&N performed load ratings of 13 post-tensioned concrete box girder bridges for FAST Act EVs. Finite element modeling using CSI Bridge was performed to more accurately model load sharing across the girders. 10309.00</td></tr>
<tr><td>07/18 – 12/23</td><td colspan="5">VDOT Statewide Limited Services Design Term Contract for Highway Structures and Bridges, Virginia. Sr. Structural Engineer for numerous tasks under this statewide, multi-year, on-call contract primarily for design of bridge replacements or maintenance & repair projects, but also including planning, load rating, construction services, and claim support. Under this contract, Mr. Wolfe worked on one load rating task:
• Load Rating & Additional Stage III Services, Route 644 over Meherrin River, Brunswick County. Structural engineer who provided QC review of as-built load rating of emergency bridge repairs that utilized a temporary bent. Involved two major components: load rating of superstructure using AASHTOWare BrR program and load rating of temporary bent superstructure using hand/spreadsheet calculations. Repaired structure load rating completed in conformance with VDOT policies and Structure & Bridge Division Instructional and Information Memorandum for load rating. 10280.16</td></tr>
</table>

03/15 – 03/18	**VDOT Limited Services Term Contracts for Providing Load Ratings of Existing Highway Structures Statewide, Virginia.** As a subconsultant, M&N's PM/lead bridge engineer for load rating tasks using AASHTOWare's Bridge Rating program and STAAD.Pro finite element analysis software, in accordance with LRFR and LFR methodologies. Provided rating, checking, or QC review of load ratings of 60 bridges under 11 task orders involving superstructure types of cast-in-place and precast concrete arches and frames, RC slabs and tee beams, steel beams with timber and concrete decks, and curved steel plate girders. 8849.00
04/15 – 03/16	**HDOT General Structural Engineering Services (FY 2015), Oahu, Hawaii.** Bridge engineer for load ratings tasks for various bridges on Oahu in accordance with the AASHTO Manual for Bridge Evaluation as amended in the HDOT Design Criteria for Bridges and Structures. Load ratings were performed in accordance with LRFR methodology using the BRASS-GIRDER software program. 8780.01
03/12 – 03/15	**VDOT Limited Services Term Contracts for Providing Load Ratings of Existing Highway Structures Statewide, Virginia.** Bridge engineer for nine tasks and PM/bridge engineer for a 10th task for load ratings using AASHTOWare's Bridge Rating program (formerly VIRTIS) in accordance with LRFR and LFR methodologies. Completed rating or checking for load ratings of more than 100 bridges involving superstructure types consisting of RC slabs and tee beams, PS beams and voided slabs, steel beams with timber and concrete decks, steel plate girders, and steel floorbeam systems. M&N completed ratings for 205 bridges under the contract.7722.01-08, 10 & 12
11/08 – 11/11	**VDOT Region III, Limited Services Term Contract for Load Rating of Existing Structures, Arlington, Albemarle, Augusta, Fairfax, Fauguier, Fluvanna, Louisa, Prince William, Rockbridge, Shenandoah, and Warren Counties, and Several Independent Cities, Virginia.** As a subconsultant for this IDIQ contract, M&N provided load rating for 351 structures in VDOT Region III. As a Bridge Engineer, Mr. Wolfe evaluated inspection reports & provided bridge load rating. Bridge types included steel, steel continuous, concrete, concrete continuous, & prestressed concrete. Spans ranged from two to eight spans. Utilized Load Resistance Factor Rating (LRFR) for 11 loads described in VDOT's "Load Rating and Posting of Structures" (2009) and AASHTO's VIRTIS program for analysis & load rating. 6821.00
11/09 – 07/10	**VDOT Limited Services Term Contract for New Design Plans and Inspection Services of Highway Structures and Bridges, Culpeper District, Culpeper County, Virginia.** Under this LSC, Mr. Wolfe was bridge engineer for six task orders to rate bridges within the Culpeper District. Rated or checked for load ratings of 37 bridges, including steel beam with timber deck bridges (26 bridges), steel beam with concrete deck (3 bridges), pin connected steel truss (3 bridges), prestressed and reinforced concrete slabs (2 bridges), RC through-girder (1 bridge), and timber beams and stress laminated timber (2 bridges). In total, M&N rated 46 bridges under the 6 task orders. 6807.00

16. Staff Experience:

Firm employed by **Moffatt & Nichol**					
Name	**Stephanie Athanas**		Years of relevant experience with this employer	4	
Title	Civil Engineer EIT		Years of relevant experience with other employer(s)	4	
Degree(s) / Years / Specialization			Bachelor of Science / 2019 / Civil Engineering		
Active registration number / state / expiration date			N/A		
Year registered	N/A	Discipline	N/A		
Contract role(s) / brief description of responsibilities			**Analysis & Load Rating / MPR #5**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
10/22 – 6/23	**IDIQ Master Contract, Bridge Inspection and Related Services, Statewide, Mississippi.** Civil associate who performed load ratings on four bridges by creating models in AASHTOWare's Bridge Rating (BrR) for the superstructures and LEAP for the substructures in accordance with load and resistance factor rating (LRFR) and load factor rating (LFR). Team identified bridge defects from the inspection reports, developed load rating report, and provided bridge posting recommendations. 222436.00
11/19 – Present	**LADOTD IDIQ for In-Depth Inspection of Complex Bridges, Statewide, Louisiana.** M&N inspection team member to perform in-depth bridge inspections on complex, signature, long-span bridges throughout Louisiana in accordance with FHWA guidelines. (M&N was a subconsultant.) • John James Audubon Bridge on I-10, Ventress. Provided in-depth NBIS routine and fracture critical inspection and assisted with inspection report preparation. • Greater New Orleans Bridges on US 90, New Orleans. Performed a supplemental inspection of Greater New Orleans Cantilever Truss Bridges utilizing rope access techniques and assisted with inspection report preparation 10938.04 & 05 • Huey P. Long Bridge on US 190, Bridge City. Provided QC review of inspections reports. 212837.01
11/19 – Present	**Louisiana Department of Transportation & Development (LADOTD) Statewide Inventory and Inspection of Sign Trusses Statewide, Louisiana.** Assisted in completing overhead sign truss inspections. Ancillary inspections include steel and aluminum welds, high stress moment connections, and fracture critical elements in accordance with Federal Highway Administration (FHWA) guidelines. Team performed Level I, II, and III inspections on all assessed signs and completed inspections reports for each location. Level III inspection work included ultrasonic testing on bolted connections, mag particle testing on steel welded connections, and dye penetrant testing on aluminum-welded connections. 11168.01
01/22 – Present	**Louisiana Department of Transportation & Development (LADOTD) Underwater Bridge Inspections, Statewide, Louisiana.** Level I, II, and III inspections of submerged elements were performed in accordance with the FHWA, BIRM, AASHTO MBE, current NBIS requirements and LADOTD engineering and maintenance directives. Inspections completed using diving and underwater imaging. Imaging units used include Kongsberg Mesotech MS 1000 and Norbit Winghead i77. Bridge types included movable swing span bridges, bascule bridges, truss bridges, timber stringer bridges, cable-stayed bridges, single and multi-span bridges. Produced underwater acoustic images from data collected from the imaging units. Assisted with managing report scheduling and report writing. 211288.01, .02

16. Staff Experience:

Firm employed by **Moffatt & Nichol**					
Name	**Isabella Mejdrech, PE**		Years of relevant experience with this employer	4	
Title	Structural Engineer		Years of relevant experience with other employer(s)	4	
Degree(s) / Years / Specialization			MS / 2020 / Civil Engineering BS / 2019 / Civil Engineering		
Active registration number / state / expiration date			56189 / North Carolina / 12/31/2023		
Year registered	2023	Discipline	Civil Engineering		
Contract role(s) / brief description of responsibilities			**Analysis & Load Rating / MPR # 5**		

Experience dates (mm/yy–mm/yy)	Experience and qualifications relevant to the proposed contract; *i.e.*, "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
10/22 – 06/23	**IDIQ Master Contract, Bridge Inspection and Related Services, Statewide, Mississippi.** Structural Engineer for load ratings of super-/substructures of four bridges involving modeling within AASHTOWare's BrR software for superstructures and LEAP for substructures in accordance with LRFR and LFR. Analysis included incorporating findings from field work and inspection reports. In addition to the rating, a summary report was generated to provide findings/give recommendations for posting if necessary. 222436.00
03/22 – 03/23	**Bridge & Culvert Load Ratings, 85 Structures, Virginia Beach, Virginia.** Structural engineer who led and provided load rating of existing bridges (58) and culverts (27) using AASHTOWare BrR which were completed in 8 months to meet Fixing America's Surface Transportation (FAST) Act requirements. Structures were steel &/or concrete structures. Identified bridge defects from inspection reports. Created as-built and existing condition models. Prepared Load Rating Report & Load Rating Summary Form for submittal to the City. Provided bridge posting recommendations. 10814.13
03/21 – 06/21	**VDOT Limited Services Term Agreement for NBIS Inspection of Highway Structures and Bridges, and Support Structures, Hampton Roads, Virginia.** Structural Engineer for several tasks under this VDOT LSC including: · **Load Rating, Berkley Bridge (I-264) over Eastern Branch of Elizabeth River, Norfolk.** Provided load rating of approach & double bascule spans (eastbound/westbound lanes). Developed AASHTOWare BrR model for load rating. Identified bridge defects from inspection reports, prepared load rating report, and made bridge posting recommendations. 201665.09
09/20 - present	**Engineering Services – Bridge Design, Suffolk, Virginia.** Structural engineer for an engineering services contract with the City primarily for bridge repair &/or replacement tasks. Specific tasks included: · **Freeman Mill Road Bridge Replacement.** Assisted field investigation & bridge replacement design utilizing current AASHTO & VDOT specifications. Prepared construction drawings, load rating, & cost estimate following VDOT Cost Estimating Manual. Utilized AASHTOWare BrR software for load rating. Coordinated with roadway designer to verify compatibility between road & bridge design. Assess geotechnical report to design substructure elements. 10750.04 · **Longstreet Lane Bridge Replacement.** Assisted bridge replacement design utilizing current AASHTO & VDOT specifications. Included load rating & construction document preparation following VDOT Cost Estimating Manual. Utilized AASHTOWare BrR software for load rating. Coordinated with roadway designer to verify compatibility between road & bridge design. Assessed geotechnical report to design substructure elements. Currently providing construction support services (RFI responses, submittal review, and occasional site inspections). 10750.01
07/20 – 07/23	**IDIQ for Bridge Inspections & Engineering Services, City of Norfolk, VA.** Structural engineer for inspection and rehabilitation of bridges, culverts, and depressed roadways within the City. Services included inventory & operating load rating analyses per VDOT guidelines, in-depth inspection/reports, underwater inspection, construction documents for bridge repair, rehabilitation, or replacement, and construction administration services. Ms. Mejdrech worked on the following task:

	· **Hampton Boulevard Bridge (Northbound) Rehabilitation, Norfolk, VA.** Assisted preparation of construction documents, load rating, and cost estimate for rehabilitation of the Hampton Boulevard Bridge. 9895-24
07/18 - present	**Inspection of Bridges, Traffic Control Device Structures, & Review of Overweight Vehicle Permits, Suffolk, VA.** Structural engineer for this on-call contract to provide inspection of City bridges, culverts & traffic control devices as well as overweight vehicle permit reviews, bridge repair design, & construction document preparation. Bridge types were vehicle, railroad, & pedestrian and included underpasses. For several tasks, Ms. Mejdrech provided load rating of timber, concrete, and steel bridges and culverts which involved developing AASHTOWare BrR models. For those models, she identified bridge defects from inspection reports, developed load rating report, and provided bridge posting suggestions. Under three tasks, load rating was provided for 27 bridges & 22 culverts. 9963.09, 9963.16, 9963.17
07/18 – 12/23	**VDOT Statewide Limited Services Design Term Contract for Highway Structures and Bridges, Virginia.** Structural Engineer for numerous tasks under this statewide, multi-year, on-call contract primarily for design of bridge replacements or maintenance & repair projects, but also including planning, load rating, construction services, and claim support. Under this contract, Ms. Mejdrech worked on one load rating task: · S**uperstructure Replacement and Bridge Repairs on Rte 708 over North Fork Hardware River, Albemarle County**. Perform structural analysis/design of bridge components following AASHTO and VDOT specifications. Checked as-designed & as-built load ratings performed using AASHTOWare Bridge Rating (BrR). 10280.11
06/18 – 12/21	**Annual Bridge & Culvert Inspection Program, City of Newport News, VA.** Structural engineer for load rating of bridges and culverts for SHVs and FAST Act vehicles using AASHTOWare BrR. For those models, she identified bridge defects from inspection reports, developed load rating report, and provided bridge posting suggestions, if required. Bridge and culverts types were timber, concrete, and steel. 9508.15 & .18
06/18 – 07/20	**Bridge Load Rating Analysis, Newport News, Virginia.** Structural engineer who provided load rating of 20 bridges using AASHTOWare BrR. Created as-built and existing condition models. Created Load Rating Summary Form and Load Rating Report for submittal to City. Provided recommendations if posting is required. Tasks included: · **Load Rating, Route 17 Bridge over the James River.** Provided load rating of approach spans (NBL & SBL) of James River Bridge. Using AASHTO BrR, created load rating model. Identified bridge defects from inspection reports, developed load rating report, and made bridge posting recommendations. 9382.14

17. **Firm Experience:**

Firm name	**Modjeski and Masters, Inc.**		Past Performance Evaluation Discipline(s)**		Bridge
Project name	**Load Rating of 160 Bridges**			Firm responsibility (prime or sub?)	Prime
Project number	H.009859.5	Owner's name	LADOTD		
Project location	Statewide, Louisiana		Owner's Project Manager	Mr. William Metcalf, PE	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA (225) 379-1741, william.metcalf@la.gov				
Services commenced by this firm (mm/yy)	03/2023	Total consultant contract cost ($1,000's)		$5,906	
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm ($1,000's)		$3,679	

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

Modjeski and Masters, Inc. is performing plan and document retrieval, bridge inspection (as needed), analysis and load rating, sampling/instrumentation and non-destructive testing (as needed), and retrofit design plan production (as needed) for complex bridge structures of varying complexity and type. The bridge types include fixed structures as well as swing spans, bascule spans, truss spans and curved steel spans. For the analysis and load rating task, M&M is generating a system structural model and performing an analysis of each bridge to determine dead and live load forces in the members. For the bridge superstructures, AASHTOWare BrR software is being used. For the complex bridges, a three-dimensional structural model is needed. M&M is also developing influence lines and COMPSTIL2 input files for complex substructures including hammerheads and inverted-T pier caps. All load rating analysis will follow current AASHTO Manual for Bridge Evaluation, the LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications.

Personnel involved: Stacey P. Carr, PE, Jason W. Miles, PE, Josh Moore, PE, Lindsey Woolverton, PE, Hendri Koop, PE, Mott Holt, PE, Veronique Mucino-Sanchez, EI

17. **Firm Experience:**

Firm name	**Modjeski and Masters, Inc.**		Past Performance Evaluation Discipline(s)**		Bridge
Project name	**Load Rating of Fourteen Complex Bridges**			Firm responsibility (prime or sub?)	Prime
Project number	H.009859.5	Owner's name	LADOTD		
Project location	Statewide, Louisiana		Owner's Project Manager	Ms. Dana Feng	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA (225) 379-1060, dana.feng@la.gov				
Services commenced by this firm (mm/yy)	11/2019	Total consultant contract cost ($1,000's)		$1,827	
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm ($1,000's)		$1,827	

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

Modjeski and Masters, Inc. is performing plan and document retrieval, bridge inspection (as needed), analysis and load rating, sampling/instrumentation and non-destructive testing (as needed), and retrofit design plan production (as needed) for 14 complex bridges. The bridge types include swing spans, bascule spans, truss spans and curved steel spans. For the analysis and load rating task, M&M is generating a system structural model and performing an analysis of each bridge to determine dead and live load forces in the members. For the bridge superstructures, AASHTOWare BrR software is being used. For the complex bridges, a three-dimensional structural model is needed. M&M is also developing influence lines and COMPSTIL2 input files for complex substructures including hammerheads and inverted-T pier caps. All load rating analysis will follow current AASHTO Manual for Bridge Evaluation, the LADOTD Bridge Design and Evaluation Manual and AASHTO LRFD Bridge Design Specifications.

Personnel involved: Zolan Prucz, PhD, PE, Stacey P. Carr, PE, Jason W. Miles, PE, Josh Moore, PE, Lindsey Woolverton, PE, Hendri Koop, PE, Mott Holt, PE, Veronique Mucino-Sanchez, EI

17. **Firm Experience:**

Firm name	**Modjeski and Masters, Inc.**		Past Performance Evaluation Discipline(s)**	Bridge	
Project name	**Nineteen Complex Bridge Load Rating and Evaluation**		Firm responsibility (prime or sub?)	Prime	
Project number	H.009859.5	Owner's name	LADOTD		
Project location	Statewide, Louisiana		Owner's Project Manager	Ms. Dana Feng	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA (225) 379-1060, dana.feng@la.gov				
Services commenced by this firm (mm/yy)	12/2016	Total consultant contract cost ($1,000's)		$2,283	
Services completed by this firm (mm/yy)	12/2018	Cost of consultant services provided by this firm ($1,000's)		$2,283	

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

Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection for load rating purposes, analysis and load and resistance factor rating of nineteen complex bridge structures, mainly movable bridges. Gusset, truss, floorsystem and substructure components were rated. Bridge inspections focused on gusset plates and existing member conditions for rating. System structural modeling was performed to determine dead load and live load effects in the members. 3-D structural models were generated as needed for complex bridges. AASHTOWare BrR was used for the ratings, which follow current AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual. M&M performed QA/QC for structural load ratings per LADOTD requirements. M&M also developed repair schemes and strengthening plans to remove posting for four of the bridges and update rating reports.

Personnel involved: Stacey P. Carr, PE, Jason W. Miles, PE, Josh Moore, PE, Anthony Schoenecker, PE, Jim W.H. Costigan, PE, Mott Holt, PE

17. **Firm Experience:**

Firm name	**Modjeski and Masters, Inc.**		Past Performance Evaluation Discipline(s)**	Bridge	
Project name	**Ten Truss Bridges Load Rating and Evaluation**		Firm responsibility (prime or sub?)	Prime	
Project number	H.009859.5-2	Owner's name	LADOTD		
Project location	Statewide, Louisiana		Owner's Project Manager	Ms. Dana Feng, PE	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA (225) 379-1060, dana.feng@la.gov				
Services commenced by this firm (mm/yy)	02/2016	Total consultant contract cost ($1,000's)		2,698	
Services completed by this firm (mm/yy)	05/2021	Cost of consultant services provided by this firm ($1,000's)		1,557	

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

Modjeski and Masters, Inc. performed plan and document retrieval, bridge inspection for load rating purposes, and analysis and load and resistance factor rating of complex bridge structures, including large cantilever trusses, vertical lifts and swing spans. Gusset, truss, floorsystem and substructure components are being rated. Bridge inspections are focusing on gusset plates and existing member conditions for rating. AASHTOWare BrR was used for the ratings, which follow current AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual.

Personnel involved: Stacey P. Carr, PE, Jason W. Miles, PE, Josh Moore, PE, Anthony Schoenecker, PE, Jim W.H. Costigan, PE, Mott Holt, PE

17. **Firm Experience:**

Firm name	**Modjeski and Masters, Inc.**		Past Performance Evaluation Discipline(s)**	Bridge	
Project name	**Gramercy Bridge Load Rating and Evaluation**		Firm responsibility (prime or sub?)	Prime	
Project number	H.009859.5	Owner's name	LADOTD		
Project location	Gramercy, Louisiana		Owner's Project Manager	Ms. Dana Feng, PE	
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA (225) 379-1060, dana.feng@la.gov				
Services commenced by this firm (mm/yy)	02/2017	Total consultant contract cost ($1,000's)		$489	
Services completed by this firm (mm/yy)	11/2018	Cost of consultant services provided by this firm ($1,000's)		$489	

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

Modjeski and Masters, Inc. performed load rating and evaluation for the Gramercy Bridge, a steel, three-span cantilevered through truss composed of a 776'-1,460'-777' arrangement. An inspection of specific areas of the structure was performed including identifying section loss, deterioration, distortion and other issues for the main truss gusset plates and a cursory inspection of the other main bridge members. The trusses and floor system were modeled using AASHTOWare Bridge Rating BrR utilizing the Truss System Superstructure model type. All load rating analysis was in accordance with the AASHTO Manual for Bridge Evaluation, the LADOTD Policies and Guidelines for Bridge Rating and Evaluation, and LADOTD Bridge Design and Evaluation Manual.

Personnel involved: Stacey P. Carr, PE, Jason W. Miles, PE, Josh Moore, PE, Anthony Schoenecker, PE, Jim W.H. Costigan, PE, Mott Holt, PE

17. **Firm Experience:**

Firm name	**Stantec Consulting Services Inc.**		Past Performance Evaluation Discipline(s)*	Bridge	
Project name	**LADOTD Bridge Load Rating Retainer**		Firm responsibility (prime or sub?)	Prime	
Project number	N/A	Owner's name	Louisiana Department of Transportation and Development		
Project location	Statewide, Louisiana		Owner's Project Manager	Billy Metcalf	
Owner's address, phone, email	1201 Capital Access, Baton Rouge, LA 70808 | 225-379-1741 | William.metcalf@la.gov				
Services commenced by this firm (mm/yy)	03/13	Total consultant contract cost ($1,000's)		$2,993	
Services completed by this firm (mm/yy)	03/17	Cost of consultant services provided by this firm ($1,000's)		$2,110	

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

Project Relevance:

- Condition Verification
- Bridge Load Rating
- Existing Document Review
- Bridge Status Log

Stantec was responsible for managing and performing load ratings on 635 statewide on-system bridges using the Load and Resistance Factor Rating (LRFR) method.

The scope of services included plan and document review, condition verification, load rating analyses, and developing reports with posting recommendations. Structure types included concrete slab spans, prestressed concrete girder spans, structural steel girder units, voided concrete decks, steel trusses, pile bents (timber, concrete, and steel), and concrete hammerhead piers.

During the initial stage of the project, Stantec was responsible for gathering as-built plans, shop drawings, original design calculations (if available), documentation of repairs and rehabilitations, and previous inspection reports. These documents were reviewed to develop bridge models and determine deficiencies to be included.

Superstructure elements were analyzed using AASHTOWare Bridge Rating. Substructure units, such as pile bents and hammerhead piers, were analyzed using RC-Pier and/or STAAD. The models were used to load ratings based on the present condition, capacity, and loads (dead and live) of each bridge.

Over the course of the project, Stantec established several processes to assist with tracking data gathered and the status of each bridge to be load rated. The most effective process was the scheduling of monthly progress meetings with LADOTD representatives to discuss analysis procedures and establish ground rules on assumptions and modeling. Meeting minutes were used to document decisions made, identify action items to assist with data gathering, and adjust the design criteria regularly. In addition to meetings, a bridge database was developed, and updated weekly, to assist with tracking the status of bridge types (slab spans, medium spans, long spans, and complex) and tracking missing and needed information to complete the load rating for each bridge. To improve the checking process, an overall project Quality Management Plan (QMP) was developed that included a set of checklists to be included in the QA/QC documentation.

Team Members Involved: **B. Johnson, K. Malpani, J. Krebs, A. Botros*** *(*not w/Stantec at time)*

17. **Firm Experience:**

Firm name	**Stantec Consulting Services Inc.**		Past Performance Evaluation Discipline(s)*	Bridge	
Project name	**Truss Bridges Inspection and Load Rating**		Firm responsibility (prime or sub?)	Prime	
Project number	NBIS (140)/108451-101000	Owner's name	Mississippi Department of Transportation		
Project location	Itawamba, Leflore, Quitman and Stone Counties, Mississippi		Owner's Project Manager	Neal Terry	
Owner's address, phone, email	401 North West Street, Jackson, MS 39201 | 601-359-7200 | nterry@mdot.ms.gov				
Services commenced by this firm (mm/yy)	12/20	Total consultant contract cost ($1,000's)		$461	
Services completed by this firm (mm/yy)	04/22	Cost of consultant services provided by this firm ($1,000's)		$461	

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

Project Relevance:
- Bridge Design (New, Rehab, Repair)
- Bridge Inspections
- Bridge Load Rating
- Construction Support Services

Stantec performed detailed inspections and load ratings for four steel through trusses.
MDOT initiated this project to establish process and procedures to assist with future maintenance needs on other trusses. The project's goal was to develop an inspection report, including a load rating summary, that could be used to develop rehabilitation and/or repair plans without performing extensive field work.

MDOT originally selected six trusses; however, due to scope of work modifications two of the bridges were removed. Each of these trusses were constructed in the late 1940s and early 1950s with lengths varying from 120'-1" to 180'-1". A few have suffered damage due to vehicular impacts while in service.
An in-depth, hands-on inspection of every truss member, with the superstructure, was performed. Climbing techniques were implemented when required to access areas unreachable by ladder. Prior to the field work, available data for each bridge was reviewed and used to develop inspection field sketches in the field. Detailed measurements were required to confirm existing shop drawings to ensure the load rating model depicted accurate field conditions. Existing shop drawings, when available, were verified in the field. To supplement existing bridge files, additional CAD sketches were developed based inspection findings. A final inspection report, which included available data, field observations, and element quantities was delivered to MDOT for each structure.
Using the gathered data and field measurements, models were developed in AASHTOWare BrR to perform load ratings. Each truss member, including gusset plates, were analyzed in accordance with the Load Factor Rating (LFR) method for inventory, operating, MDOT legal, and emergency vehicle loads. Once the load rating was accepted by MDOT, the inspection reports were updated to account for any adjustments in the fracture critical member schematic.
Team Members Involved: **B. Johnson, R. Nataluk, A. Botros, M. Ye**

17. **Firm Experience:**

Firm name	**Stantec Consulting Services Inc.**		Past Performance Evaluation Discipline(s)*	Bridge	
Project name	**Mississippi Complex Bridge Inspection and Load Rating**		Firm responsibility (prime or sub?)	Prime	
Project number	N/A	Owner's name	Mississippi Office of State Aid Road Construction		
Project location	Statewide, Mississippi		Owner's Project Manager	David Barrett	
Owner's address, phone, email	412 Woodrow Wilson Ave., Jackson, MS 39215 | 601-359-7129 | dbarrett@osarc.state.ms.us				
Services commenced by this firm (mm/yy)	08/20	Total consultant contract cost ($1,000's)		$1,567	
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm ($1,000's)		$1,289	

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

The Mississippi Office of State Aid Road Construction implemented a bridge inspection program on bridges that have been identified by county engineers as complex bridges in 2010.
Stantec is responsible for performing bridge inspections and determining bridge load ratings for complex bridges located in 11 different counties in Mississippi. An arm's length inspection is required for each bridge component which requires us to use an underbridge access platform truck on some bridges and introduce truss climbing on others. Structure types range from concrete and steel to timber and masonry. Currently in our inventory are two steel truss bridges which require truss climbers to perform a detailed inspection. All Stantec team leaders are NBI certified.

Project Relevance:
- Bridge Load Rating
- Rope Access Techniques
- Bridge (NBIS), Element Level & Fracture Critical Inspections

During field operations, we are responsible for coordinating with local emergency responders and county engineers when traffic is impacted. When a lane or bridge closure is required to perform the inspection, we are responsible for providing the necessary equipment, supplies, and manpower to operate the closure. All closures are in accordance with current MUTCD requirements.

Bridge load ratings are performed in accordance with AASHTO Load Factor Rating (LFR) or Allowable Stress Design (ASD) requirements. Each structure's inspection and load rating results are documented using InspecTech for that particular year. Stantec has been awarded this project on a two-year term contract since 2011. Stantec's inventory on the most recent contract exceeded 151 different bridges.

Team Members Involved: **B. Johnson, J. Krebs, K. Malpani, A. Botros, M. Ye, M. Brodnax, J. Tisdale, S. Torry, R. Nataluk, T. Perkins**

17. Firm Experience:

Firm name	**Moffatt & Nichol**		Past Performance Evaluation Discipline(s)	**Bridge**	
Project name	**IDIQ Master Contract, Bridge Inspection and Related Services**		Firm responsibility (prime or sub?)	Sub	
Project number	NBIS (150)/107621 -106100 & -106000	Owner's name	Mississippi Office of State Aid Road Construction (OSARC)		
Project location	Mississippi		Owner's Project Manager	C. David Barrett (Program Manager)	
Owner's address, phone, email	412 E. Woodrow Wilson Avenue, Jackson, MS 39216 (601) 359-7129 dbarrett@osarc.ms.gov				
Services commenced by this firm (mm/yy)	10/22	Total consultant contract cost ($1,000's)		Unknown	
Services completed by this firm (mm/yy)	12/26	Cost of consultant services provided by this firm ($1,000's)		$ 115	

As a subconsultant, Moffatt & Nichol has provided engineering services involving bridge inspection, load rating, and other on-call services under OSARC's National Bridge Inspection Standards (NBIS) Bridge Inspection program for bridges owned/maintained by various counties, cities, or towns throughout Mississippi. Tasks included performance of NBIS compliant inspections, evaluations, and load ratings for various bridge types (routine & complex) involving routine, initial, in-depth, special, fracture critical, damage, supplemental, and/or repair inspections and load rating.

Under our second task order, M&N provided load rating analysis for 4 bridges using AASHTOWare BrR (v7.4.0) for primary superstructure members & LEAP Bridge Concrete (v20) model together with MicroSoft Excel. Services included downloading bridge information/inspection data from AssetWise, performing load ratings, & creating a load rating report in AssetWise. Load rating incorporated all deficiencies from the most recent inspection report. Ratings were provided for inventory loads, operating loads, & legal loads vehicles.

The four rated bridges and the results of those ratings were:

- Westside Avenue over Indian Bayou (SA67-068), Sunflower County - Controlling members were varied between a girder in the superstructure and a bent cap in the substructure. Depending on the vehicle analyzed, controlling ratings varied between the two members. Based on rating results, no posting was recommended.
- for the interior girders in the superstructure. Based upon the load rating results, posting was recommended for the EV3 vehicle.
- Preacher Powell Road over Catahoula Creek (SA23-006), Hancock County - Controlling ratings were for the interior girders in the superstructure. Based upon the load rating results, posting was recommended for the EV3 vehicle.
- D. Newman Road over Five Mile Creek (SA25-100), Hinds County – Controlling ratings were primarily for the exterior girders in the superstructure (one vehicle was controlled by bent cap). Based upon the load rating results, no posting was recommended.
- Hardy Billips Road over Magowah Branch (SA44-17), Lowndes County – Controlling ratings were primarily for the exterior girders in the superstructure and the as-built bent cap for the substructure. Depending on the particular vehicle analyzed, controlling ratings varied between the two members. Based upon the load rating results, no posting was recommended.

Under our initial task, M&N completed NBIS inspections for 8 bridges. Acquired general information, inventory photos, channel soundings, channel/ scour data, and deck/super/substructure condition. Provided reports (generated in AssetWise) covering inspection findings with summary noting structural deficiencies. Inspected bridges were 1, 2, or 3 span structures utilizing timber, steel, &/or concrete superstructures with timber, steel, &/or concrete substructures. Bridge decks included gravel, gravel/dirt, asphalt/gravel, or asphalt/dirt/gravel overlays.

Section 16 Team Members Involved: Herodotos Pentas, PhD, PE, Chace Hulon, PE, David Wolfe, PE, Isabella Mejdrech, PE, Stephanie Athanas, EI

17. Firm Experience:

Firm name	**Moffatt & Nichol**		Past Performance Evaluation Discipline(s)	**Bridge**	
Project name	**HDOT General Structural Engineering Services**		Firm responsibility (prime or sub?)	Prime	
Project number	Contract DOT-18-031	Owner's name	Hawaii Department of Transportation		
Project location	Hawaii		Owner's Project Manager	Dean Takiguchi	
Owner's address, phone, email	601 Kamokila Boulevard, Room 611, Kapolei, HI 96707 (808) 692-7614, dean.takiguchi@hawaii.gov				
Services commenced by this firm (mm/yy)	08/18	Total consultant contract cost ($1,000's)		$ 2.780	
Services completed by this firm (mm/yy)	05/21	Cost of consultant services provided by this firm ($1,000's)		$ 2,780	

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

Moffatt & Nichol was retained by the Hawaii DOT (HDOT) to conduct load ratings on the states' inventory of concrete bridges/viaducts. The work was divided into three Project Assignment Orders (PAO's) according to structure type; segmental concrete box girder viaducts, post-tensioned concrete box girder bridges, and cast-in-place reinforced concrete box girder bridges. M&N provided load rating for a subset of HDOT's bridge inventory, generally working on the more complex bridges that were outside of capabilities of HDOT's typical load rating software, BRASS.

As the prime consultant, M&N led the project and provided Load and Resistance Factor Rating (LRFR) and Load Factor Rating (LFR) reports for each bridge. Load ratings were performed in accordance with the 2nd Edition of the AASHTO *Manual for Bridge Evaluation* (MBE) with HDOT's "Draft Modifications to the '*Design Criteria for Bridges and Structures Dated August 8, 2014*'." Vehicles utilized for the load rating were the AASHTO design HL-93 or HS-20, AASHTO MBE legal vehicles, and HDOT criteria specific emergency and special permit vehicles.

Load rating reports were compiled in the client's format, using standard HDOT tables, and included descriptions of analytical models and detailed load rating calculations. Each bridge was rated for its current condition based on the most recent inspection reports. LRFR reports were also provided for the two other condition factors to provide HDOT with rating information if the current condition of the bridge were to deteriorate or be repaired as conditions dictate.

- **PAO-1: Load Rating of Eight Segmental Concrete Bridges**: M&N performed load ratings for 8 segmental concrete bridges. Finite element modeling using LARSA 4D was performed to account for time dependent effects of stresses associated with various stages of bridge construction.
- **PAO-2: Load Rating of 13 Post-Tensioned Concrete Box Girders**: M&N performed load ratings of 13 post-tensioned concrete box girder bridges for FAST Act EVs. Finite element modeling using CSI Bridge was performed to more accurately model load sharing across the girders.
- **PAO-3: Load Rating of 11 Multi-Cell Concrete Box Girders**: M&N completed load ratings of 11 multi-cell concrete box girder bridges with complex geometries. Load ratings were performed with a combination of BRASS Girder and finite element modeling using CSI Bridge to account for complex geometries that could not be accommodated in BRASS.

10309.00

Team Members Involved: Eric Vugteveen, PE, David Wolfe, PE

17. Firm Experience:

Firm name	**Moffatt & Nichol**		Past Performance Evaluation Discipline(s)	**Bridge**	
Project name	**Limited Services Term Contracts for Providing Load Ratings of Existing Highway Structures - Region III and Statewide**		Firm responsibility (prime or sub?)	Sub	
Project number		Owner's name	Virginia Department of Transportation		
Project location	Statewide, Virginia		Owner's Project Manager	Tony Barati, PE	
Owner's address, phone, email	1401 E. Broad Street, Richmond, VA 23219 (804) 786-5117 tony.barati@vdot.virginia.gov				
Services commenced by this firm (mm/yy)	11/08	Total consultant contract cost ($1,000's)		$18,000	
Services completed by this firm (mm/yy)	11/18	Cost of consultant services provided by this firm ($1,000's)		$ 3,061	

Moffatt & Nichol, as a subconsultant under three consecutive contracts (2008 to 2018), performed load ratings of various types of highway structures on a regional (Culpeper, Staunton, & Northern Virginia Districts) and statewide basis for the Virginia DOT (VDOT). To provide the highest quality for load ratings, the team developed QA/QC plans specifically for these contracts. Load ratings were performed in accordance with VDOT policies and procedures and the AASHTO *Manual for Bridge Evaluation*. Results were reported on VDOT's standard load rating summary form along with documentation of the load rater's assumptions. Superstructure load ratings were accomplished using AASHTOWare Bridge Rating (formerly VIRTIS) software in accordance with LRFR and LFR methodologies. Curved steel plate girder superstructures were load rated using Descus-I software. Cast-in-place and precast three-sided frames and arches were load rated using STAAD.Pro and LARSA 4D finite element software and spreadsheet calculations. The geometric and structure data was primarily taken from as-built plans and bridge inspection reports, with data sometimes obtained from District bridge files, site visits and obsolete bridge standards.

Over the course of these contracts, Moffatt & Nichol was tasked with load rating 653 bridge structures, including:

- 131 structures with rolled steel beams and concrete deck
- 86 structures with rolled steel beams and timber deck
- 1 structure with rolled steel beams and corrugated metal deck
- 98 structures with steel plate girders and concrete deck
- 18 structures with curved plate girders and concrete deck
- 54 structures with prestressed concrete beams and concrete deck
- 9 structures with prestressed concrete box beams with concrete decks and asphalt toppings
- 22 structures with prestressed voided slabs
- 48 structures with reinforced concrete tee beams
- 102 structures with reinforced concrete slab spans
- 24 structures with reinforced concrete voided slab spans
- 1 structure with reinforced concrete through-girders
- 5 structures with glued laminated timber (glulam) slab spans
- 54 structures with precast (Con/span, Bebo and Omega) and cast-in-place concrete frames and arches (including Luten arches)

Section 16 Team Members Involved: Eric Vugteveen, PE, David Wolfe, PE.

6821.00, 7722.00, 8849.00

18. <u>Approach and Methodology:</u>

Provide a description of how the work will be performed and provide the proposed project schedule. Include any additional information or description of unique resources that are planned to be used to produce the deliverables. Include any proprietary technologies, methods or approaches that will be used on this project to improve quality or efficiency. If the proposal is for an IDIQ contract, the consultant should review the scope of services in Attachment A to the advertisement to obtain a general understanding of what a typical task order would entail. Based upon that understanding, the consultant should provide a sample schedule that identifies the major milestones, deliverables, tasks, etc., to demonstrate sufficient understanding of a typical task order. The duration of the task order is not required. This section shall be limited to four pages. **If more than four pages are included, all pages after the fourth page will not be evaluated**.

If the consultant has information it believes is proprietary, label it accordingly.

Modjeski and Masters has extensive experience in LADOTD Bridge Load Rating projects and is well versed in the tasks required for contract management, design/load rating analysis and construction related engineering services. All task orders will be completed by the termination date of the IDIQ contract which is to be in effect for five years. A typical design and construction project schedule are shown in the tables below.

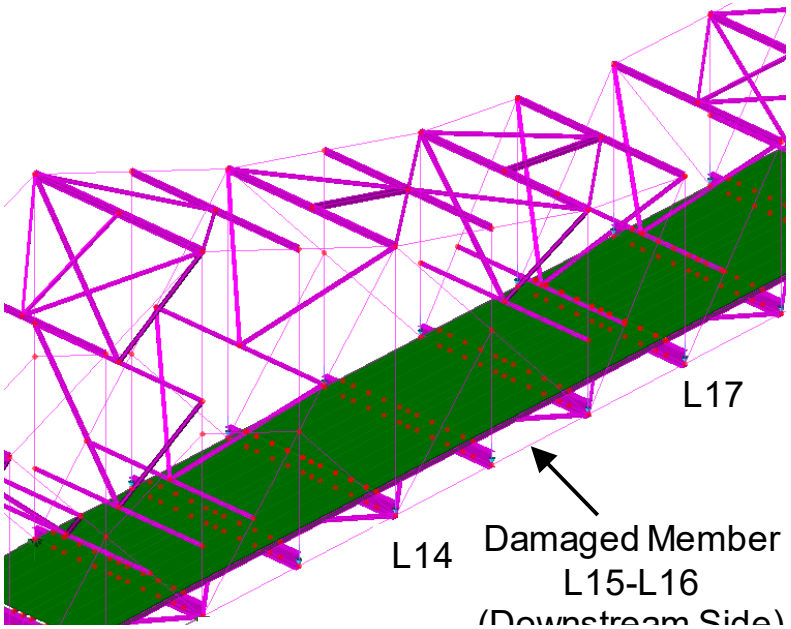
Contract Management Task List
• Contract Administration
• Task Order Development
• Sub-Consultant Coordination
• Other Consultant Coordination (if needed)
• Meeting Minutes
• Monthly Invoicing (using latest format)
• Written Monthly Reporting
• Budget Monitoring
• Contract Time Monitoring

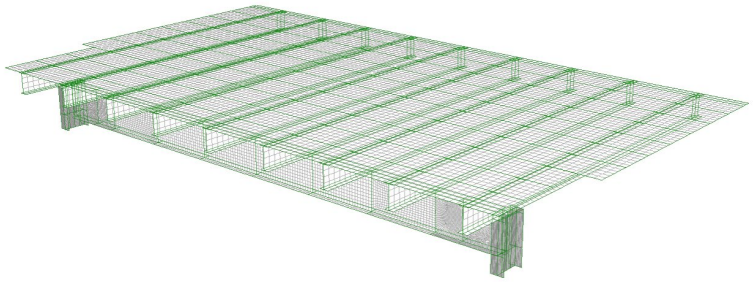
Load Rating Project Task List
• Notice To Proceed (NTP) Issued
• Design Kick Off Meeting
• Plan and Document Retrieval
• Site Visit/Bridge Inspection (if needed)
• Analysis and Load Rating
• Submit Load Rating Report
• Prepare rehab/repair plans (if needed)
• (30/60/95/98/100% Milestones)
• Bid Support
• Bid Analysis
• Project Closeout

Modjeski and Masters will respond to any initial requests from the LADOTD with a proposal within two weeks. The proposal will consist of a listing of bridges (with location, type, material, complexity, etc.) and a scope of work document for each bridge, as well as proposed hours to complete the tasks in the scope of work. A standard hours spreadsheet consisting of standard tasks has been used successfully on previous proposals and will continue to be used to develop hours. M&M has partnered with two firms to provide any additional bridge inspection and bridge load rating/analysis support required for each task order. If needed, subconsultants will be consulted during the proposal phase to obtain their requirements and hours and will be included in the overall proposal submitted by M&M.

A kickoff meeting will be initiated and led by Modjeski and Masters after the NTP has been received from the LADOTD Project Manager. Prior to scheduling any needed site visits and/or bridge inspection efforts, M&M will retrieve and download all current and previous reports, as-built drawings, as-designed plans, repair/rehab details and any other project related documents using its access to AssetWise, LADOTD Plan Rooms and ProjectWise. If no information is available through the asset management software, then M&M will contact General Files, FileNet Manager System, Inspection Documents Files Server, LADOTD Section 51 & 25 as well as LADOTD District Offices and local entities to collect and retrieve any documents that may exist for the listing of bridges in the task order. All retrieved information will be

delivered to the LADOTD through Project Wise or AssetWise. Using our experienced certified bridge inspectors, M&M and its Project Team will perform a bridge inspection when required for load rating purposes to gather field measurements and structure current conditions to assist with load rating and record recovery. M&M and its Project Team will provide a licensed engineer registered in Louisiana and all equipment needed for the inspection will be arranged by M&M and submitted for approval by the DOTD. Technical access will be utilized where possible in order to reduce or eliminate the need for traffic control devices and/or lane closures. Site Inspection Invitations will be sent to all stakeholders in the project which typically consist of LADOTD Headquarters and District personnel, representatives from the affected Parish/Local Government, utility company representatives, as well as any required subconsultants. Upon completion of field inspection and measurement activities, our inspectors will develop bridge inspection reports and field measurement forms that will contain an evaluation of the overall condition of the components supported by photographs, sketches and diagrams. This information will be electronically submitted in PDF format to the LADOTD through Projectwise or Assetwise.





For all analysis and load rating efforts, M&M will strictly follow the policies and procedures set forth in the LADOTD Bridge Design and Evaluation Manual, AASHTO Manual for Bridge Evaluation and BDTM.96, Publication of Load Rating, Posting and Strengthening Standard Operating Procedure (including the Flowchart and 16 Detailed Steps). For each bridge, M&M will build a system structural model using the LADOTD's preapproved list of software and will perform an analysis of the bridge to determine dead and live load effects in the members. For complex bridges, additional 3-D analysis may be performed in software such as LUSAS. The load rating will be based on present condition capacity and loading of the bridge and all bridges will be modeled using AASHTOWare Bridge Rating (BrR) software. For any bridges or structural elements that cannot be rated using BrR, M&M will generate influence lines for critical members, including substructures, and the COMPSTIL2 input file submitted. Should any AASHTOWare BrR rating result in a load posting, M&M will perform a refined analysis as part of further investigation. As part of all load rating efforts and refined analysis (if needed), M&M will perform the highest level of quality assurance and quality control of our work through strict adherence to the QA/QC requirements set forth in the LADOTD Bridge Design and Evaluation Manual as well as M&M's QA/QC document to be submitted if selected for this contract. M&M will review and update any and all existing BrR and related rating files provided by the LADOTD with current structure conditions. If any of the provided rating files present any problems or issues, M&M will draw upon its extensive knowledge of the software to troubleshoot these problem files and make necessary corrections, changes or overrides.

A Final Rating Report package will be submitted to the LADOTD Project Manager or Task Manager and will consist of the following:

- An electronic copy (PDF file format) of all the retrieved information used for the load rating
- When applicable, an inspection report for each bridge consisting of a summary of the current condition of primary load-carrying members, critical findings, photographs of defects that affect the load rating, and documentation of any field measurements taken.
- A Rating Report that includes documentation of the current condition of all deteriorated or rehabilitated structural members as well as photos and assumptions influencing the rating. Electronic copy of Final plans and existing plans will be submitted.
- An electronic copy of bridge models generated and all calculations (AASHTOWare BrR, LUSAS, spreadsheets, hand calculations, etc.) in editable form.
- QA/QC checklist document that shows the required steps were taken during the load rating process.

For any bridges where load posting is required after refined analysis is performed, M&M will evaluate options and provide schematic recommendations to improve/eliminate the load posting as part of the "Options Form" provided in BDTM.96. In close communication with the LADOTD Load Rating Task Manager, the "Options Form" will be developed and submitted to the Load Posting and Chief Engineer's Order (CEO) Notification Coordinators. The Options Form will summarize options for eliminating and/or improving the need for Load Posting (through Load Testing, Repair or rehabilitation, or replacement of partial or entire bridge structure). The appropriate LADOTD District Office will be notified of the intended posting and will be provided with the Options Form for review in order for the District to fill out the District Response Form and return the completed form within seven (7) days of the notification. At this point, the Chief Engineer's Order will proceed.

If requested, M&M will review and update existing bridge BrR files, Bridge Inspection Software rating files, and any other related rating files provided by the LADOTD in accordance with LADOTD and FHWA SNBI requirements. These files will be reviewed and updated with current structure conditions. M&M will troubleshoot any rating files that present problems and make necessary corrections/changes.

M&M is equipped to offer both virtual and in-person training options for AASHTOWare BrR . We can accommodate initial group training as well as individual employee training when needed. Options for virtual training include personal guided sessions in addition to packaged training videos with accompanying work-through examples that can be done at any time convenient for the trainee. M&M will provide constant support throughout the process. The training can cover general use of BrR, and also changes to the program when updated versions are released, as well as ways to incorporate LADOTD specific rating procedures either through typical BrR inputs or by using overrides within the program.

Training can include a baseline introduction to BrR for employees new to the program and extend through more complex analysis of movable and long span bridges. M&M has worked to incorporate many aspects of complex bridge rating into BrR, but for details of complex structures, movable bridges, and substructure analysis outside BrR's capabilities, M&M can provide analysis training for programs such as LUSAS and LEAP Bridge Concrete for load generation. These results are then used to produce ratings either through overrides in BrR or Excel.

Available Training for Elements Rated in BrR	**Available Training for Unique Refinements/Analysis**

• Prestressed Girders
• Steel Girders
• Steel Stringers
• Steel Floorbeams
• Slab Spans
• Precast Slab Panels
• Splices
  ○ Girder Splices
  ○ Truss Member Splices
• Truss Elements
  ○ Truss Members
  ○ Gussets
	• LTB Capacity Refinements
	  ○ C_b calculated outside BrR using AISC equations. New LTB capacity override entered in BrR.
	• EV Rating Refinement using Single EV with Adjacent Legals
	  ○ DL and Capacity pulled from BrR
	  ○ LL calculated outside BrR using two-way analysis
	• Analysis of Members with Unique Support Conditions for LL and DL
	  ○ Ex: Bascule Span Main Girders, Swing Span Main Girders, Lift Span End Floorbeams
	• Analysis of Members with Substantial Localized Section Loss
	  ○ Ex: Ted Hickey Steel Columns
	• 3D LUSAS/SAP Modeling of Complex Load Distributions
	  ○ Ex: Load Redistributions Caused by Broken/Missing Elements
	  ▪ Ex: Ted Hickey Floorbeam Truss (Broken Diagonal)
	  ○ Ex: Load Distributions Caused by Complex Stiffness Behavior
	  ▪ Ex: HPL Truss 4 Plane Truss Analysis

Available Training for Elements outside BrR	

• Steel Grid Deck
• Timber Bent Caps / Piles
• Concrete Bent Caps
• Steel Bent Caps / Piles
• Truss Elements
  ○ Pins
  ○ Link Bars
  ○ Pin Plates
• Complex Splices	

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) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE	Past Performance Evaluation Discipline(s) *	Contract Number and State Project Number	Project Name	Remaining Unpaid Balance**
		S.P. 700-66-0486 / 440000668	**Engineering Services for Bridge Preservation Retainer Statewide**	
M&M	Bridge	JN 3144	Expert witness services in bridge design, construction, repair and forensic analysis	$271,682
		Retainer Contract 4400002538	**Engineering Services for Bridge Preservation Statewide**	
M&M	Bridge	H.010882.5	LA 18: 4th Street Bridge Rehabilitation (Supplement No. 2) Construction Services Jefferson Parish	$0
M&M	Bridge	H.010882.6	4th Street Bridge Rehabilitation Paint (Supplement No. 3) Route LA 18	$2,516
		Retainer Contract 4400005395	**Construction Engineering and Inspection with Painting Statewide**	
M&M	CE&I/OV	H.011705.6	US 11 Lake Pontchartrain Bridge Rehabilitation - Ph2, Sup1	$130,885
M&M	CE&I/OV	H.011494.6	US 90 Atchafalaya River Bridge Rehabilitation	$0
M&M		**Retainer Contract 4400004921**	**Complex Bridge Rating (on-system trusses and other complex bridges) Statewide**	
M&M	Bridge	H.009859.5	Load Rating of 14 Complex Bridges	$257,324
		Retainer Contract 4400005774	**Bridge Preservation Statewide**	
M&M	Bridge	H.001234.5	Port Allen Canal Bridge	$64,231
M&M	Other (Roadway Lighting)	H.011137.5	I-12: LA 1077 to US 10 Roadway and Navigation Lighting	$35,452

		IDIQ Contract 4400012382	**Bridge Preservation Statewide**	
M&M	Bridge	H.011705.6	US 11: Lake Pontchartrain Bridge Rehab Phase 2 (HBI) Sup1	$0
M&M	Bridge	H.013193.6	US 61: Thompson Creek Bridge - Construction Svcs. Rehabilitation and Replacement	$804
M&M	Bridge	H.003144.6-2	Luling Bridge Cable Stay Replacement Project	$324,366
M&M	Other (Roadway Lighting)	H.004791	Subconsultant: Belle Chasse B7T Replacement P3 - Electrical and Structural	$20,737
		IDIQ Contract 4400017263	**Bridge Preservation Statewide**	
M&M	Bridge	H.010603.6	I-20 Mississippi River Bridge at Vicksburg - Monitoring	$0
M&M	Other (Roadway Lighting)	H.013866.6	I-12: LA 21 to US 190 Navigation Lighting & Roadway Lighting	$59,280
M&M	Other (Roadway Lighting)	H.003184.6	I-10: Texas State Line - E. of Coone Gully - CRES	$47,067
M&M	Bridge	H.011485.6	LA336-1: Bayou Teche Bridge Rehabilitation	$73,926
M&M	Other (Roadway Lighting)	H.012889.5	I-20 Rehabilitation - Roadway Lighting (Pines Road to I-220)	$103,432
M&M	Bridge	H.009859.5	Prien Lake Bridge Structural Rating	$18,259
M&M	Bridge	H.004420.5	Barataria Preliminary Fender Design	$2,120
M&M	Bridge	H.014280.5	Bayou Ramos Bridge Girder Study	$37,560
M&M	Bridge	H.014673.5	I-49 US 165 Debonded PPC Girder Rehab	$0
M&M	Bridge	H.014587	LA 302: Kerner Ferry Bridge Repairs PH 2 - Constr Support	$67,720
M&M	Bridge	H.013946.6	Sunshine Bridge Fender Construction - 2021	$26,311
M&M	Bridge	H.004420.5	Bayou Barataria Bridge at Jean Lafitte - Supp 1 and 2	$0
M&M	Bridge	H.014406.6	Houma Navigation Canal Swing Bridge - Electrical Repair CRED	$12,153
M&M	Bridge	H.014673.5-2	NSFRP Specification Review	$1,336
M&M	Bridge	H.014465.5	Perry Bridge Rehabilitation - Final Design	$0
M&M	Bridge	H.004647.6 (T.O. 1)	I-20 MS River Bridge at Vicksburg, - Monitoring	$69,640
M&M	Bridge	H.015028.6	Bayou Barataria Bridge MB Replacement - Phase I	$139,305
M&M	Bridge	H.001234.6	LA 1 Port Allen Bridge - Geotech Settlement Remediation	$129,587
M&M	Bridge	H.010882.6	LA18: 4th Street Bridge Rehabilitation Construction Support	$13,550
M&M	Bridge	H.009479.6	West Larose Lift Bridge Rehabilitation - Const Support	$31,218
M&M	Bridge	H.015217.5	I-10 Atchafalaya Basin Speed Enforcement PH2	$0
M&M	Bridge	H.011705.6	US 11 Lake Pontchartrain Bridge Rehabilitation - Ph2	$87,310
M&M	Other (Roadway Lighting)	H.012889.6	I-20 Rehab (Pines Road to I-220) Bossier City Lighting CRES	$126,086

M&M	Bridge	Contract 44-18646 H.004100	Subconsultant: LA 415 to Essen Lane on I-10 and I-12 CMAR RCP Plans	$309,269
M&M	Bridge	Contract 44-21128 H.001234.6	Subconsultant: LA 1: Port Allen Canal Bridge Replacement - Phase 1 CRES	$39,884
M&M	Bridge	Contract 44-21128 H.014258.6	Subconsultant: LA 1: Port Allen Canal Bridge Repl. - Phase 2 NB Design	$122,113
		IDIQ Contract 4400020063	**Electrical Services Statewide**	
M&M	Bridge	H.014212.6	I-10 Atchafalaya Bridge Navigational Lights Repl	$38,264
M&M	Other (Roadway Lighting)	H.014646	I-20: US 165 to Garrett Road Lighting	$118,631
M&M	Other (Roadway Lighting)	H.014555.5	I-10 at LA109 Interchange Lighting (Toomey)	$157,679
M&M	Other (Roadway Lighting)	H.015019.5	I-10 at LA3063 Interchange Lighting (Vinton)	$159,747
M&M	Bridge	Contract 44-20156 H.011965.6	Subconsultant: LA 47 IWGO Bridge Rehab CRES	$170,688
		IDIQ Contract 4400014317	**Painting Inspection and Environmental Monitoring with Construction Engineering and Inspection - Statewide**	
M&M	CEI/OV	H.011487.6	LA 182: Berwick Bay Bridge Rehabilitation	$2,670,955
		IDIQ Contract 4400024187	**Bridge Preservation Statewide**	
M&M	Other (Roadway Lighting)	H.015504.5	CCC Decorative Lighting	$47,328
M&M	CEI/OV	H.003144.6	MRB (Luling) CEI of Latent Defects	$392,699
M&M	Bridge	Contract 44-05673 H.011235.5	Subconsultant: I-49 South @ Verot School Road	$96,803
		IDIQ Contract 4400021593	**Bridge Load Rating Services Statewide**	
M&M	Bridge	H.009859.5	Bridge Load Rating (Task Order 1)	$2,672,094
M&M	Bridge	Contract 44-024187 H.001779 (TO 3)	Subconsultant: Jimmie Davis Bridge (LA 511) (HBI)	$50,000
Stantec Consulting Services Inc.	Bridge	S. P. No. 700-99-0430	Retainer Contract for Bridge Preservation [Statewide, Louisiana]	
			T.O. 701-65-1018 Bayou Tech Bridge	$1,053
Stantec Consulting Services Inc.		Contract No. 4400024629 S. P. No. H.005967.6	Nelson Road Ext. and Bridge [Calcasieu Parish]	
	CE&I/OV		CE&I and Construction Support	$483,575
	Road		Striping Pln. Changes	$4,610
	Other/Lighting		Roadway & Nav. Lighting	$44,598

Stantec Consulting Services Inc.		Contract No. 440004128 S. P. No. H.004273.5	Lafayette Regional Airport to I-10/I-49/US 167 Interchange [Lafayette Parish]	
	Planning		Prog. Mgmt.; Context Sensitive Design Process; Impl. Strategies	$1,117,329
	Traffic		Traffic Engineering	$95,570
	ITS		ITS	$16,585
	Road		Geometric Design/Analysis	$42,808
	Bridge		Structure & Bridge	$418,193
	ROW		ROW Acquisition	$73,509
	Survey		Survey	$22,731
	Other/PR; Ltg; Av.		Public Relations/Comm.; Lighting; Aviation	$80,419
Stantec Consulting Services Inc.		Contract No. 4400011353 S. P. No. H.014302.6	IDIQ Contract for Electrical Services (Sub to Buchart Horn, Inc.) [Statewide, LA]	
	Other/Lighting		H.014302.6 US 165 Roadway Lighting [Ouachita Parish]	$19,301
Stantec Consulting Services Inc.		S. P. No. H.011670	Loyola Dr./I-10 Interchange to New Airport Terminal Design Build (Sub to Gilchrist Co., LLC) [Jefferson Parish]	
	Road		Roadway	$0
	CE&I/OV		CE&I/OV	$0
	Bridge		Bridge	$0
	Other/Lighting		Aesthetic Lighting	$0
Stantec Consulting Services Inc.		Contract No. 4400020058	IDIQ Contract for Intelligent Transportation Systems (ITS) Design and Implementation Services [Statewide, LA]	
	Traffic/ITS		H.013710.6 I-10: US-61 to Laplace ITS Deployment [Ascension, St. James & St. John Parishes]	$8,315
	Traffic/ITS		H.002424.5 LA 70: Sunshine Bridge - LA 22 [St. James & Ascension Parishes]	$427
	Traffic/ITS		H.015136 Statewide ITS Architecture Update [Statewide]	$34,351
	Traffic/ITS		H.013261.6 I-110 ITS Deployment [EBR Parish]	$23,537
	Traffic/ITS		H.011152.6 I-12: US 190 to LA 59 [St. Tammany Parish]	$35,513
	Traffic/ITS		H.013866.6 I-12: LA 21 to US 190 [St. Tammany Parish]	$29,610
	Traffic/ITS		H.003047.6 I-10: Pecue Lane/I-10 Interchange Phase III [EBR Parish]	$32,541
	Traffic/ITS		H.002424.6 LA 70: Sunshine Bridge - LA 22 [St. James & Ascension Parishes]	$24,198
	Traffic/ITS		H.015137.1 Bonnet Carre ITS Upgrades [St. John the Baptist, St. Charles & Jefferson Parishes]	$120,244
	Traffic/ITS		T.O. 16 I-10 WBR Queue Warning System [Iberville & WBR Parishes]	$215,835
	Traffic/ITS		T.O. 17 New Orleans Regional Arch Updates [Orleans, St. Tammany & Tangipahoa Parishes]	$89,244
	Traffic/ITS		T.O. 18 Shreveport Phase 2b ITS SEA Updates [Caddo Parish]	$85,645

	Traffic/ITS		T.O. 19 Monroe Phase 3 SEA [Ouachita Parish]	$101,775
Stantec Consulting Services Inc.		Contract No. 4400020064	IDIQ Contract for Electrical Services [Statewide, LA]	
	Other (Lighting)		H.014286.5 I-10: LA 26 (Jennings) Interchange Lighting [Jefferson Davis Parish]	$297
	Other (Lighting)		H.014272.5 I-10: LA 97 (Jennings) Interchange Lighting [Jefferson Davis Parish]	$19,263
	Other (Lighting)		H.014287.5 I-10: LA 99 (Welsh) Interchange Lighting [Jefferson Davis Parish]	$54,095
	Other (Lighting)		H.014286.6 I-10: LA 26 (Jennings) Intchg Lighting [Jefferson Davis Parish]	$140,423
Stantec Consulting Services Inc.		Contract No. 4400024461 S. P. No. H.012685.5	LA 385: Ryan Street Intersection Improvements [Calcasieu Parish]	
	Traffic		Traffic Study; Signal Design	$136,229
	Road		Roadway Design	$224,828
Stantec Consulting Services Inc.		Contract No. 4400022901 S. P. Nos. H.011094.5	LA 3094: Hearne Ave. Bridge and US 80: KCS RR Overpass (HBI) [Caddo Parish]	
	Road		Roadway	$322,507
	Bridge		Bridge	$376,058
Stantec Consulting Services Inc.	Environmental	Contract No. 4400023972	IDIQ Contract for Cultural Resources	
			H.014197.5 Phase I Cultural Resources Survey [Tensas Parish]	$0
Stantec Consulting Services Inc.	Right-of-Way	Contract No. 1 S. P. No. H.011670	State of LA, DOTD versus 2845 Loyola Blvd., LLC ET AL [Jefferson Parish]	
			Right-of-Way Expert Witness	$6,050
Stantec Consulting Services Inc.	Other/C&AV	Contract No 44-17922	IDIQ Contract for Intelligent Transportation Systems (ITS) System Design, Integration and System Verification Services [Statewide, LA]	
			H.012845.1 Connected & Autonomous Vehicles - Team Support [Statewide]	$337,878
Stantec Consulting Services Inc.	Other/Lighting	Contract No. 44-04761	I-12 to Bush Corridor, LA 3241: I-12 to LA 36 (Sub to Evans-Graves Engineering, Inc.) [St. Tammany Parish]	
			H.004957.5 I-12/LA 434 Lighting Project	$217,517
Moffatt & Nichol	Bridge	44-13321 / H.009730.5	Greater New Orleans Bridges #1 & #2 over Mississippi River, New Orleans, LA (10938/05)	$259,711
Moffatt & Nichol	Bridge	44-13322 / H.009730.5	IDIQC for In-Depth Bridge Inspection, Task Order #5 (Vicksburg Bridge), Delta, LA (10801/05)	$15,514
Moffatt & Nichol	Bridge	44-19121 / H.009730.5	IDIQ Contract for Underwater Bridge Inspection – TO2, Statewide (211288/02)	$1,727,181
Moffatt & Nichol	Other (Inspection)	44-17089 / H.011331.1	IDIQ Inventory and Inspection of Sign Trusses, Statewide (11168/02)	$838,635

Moffatt & Nichol	Bridge	44-23512 / H.009730.5	Huey P Long (US-190) Bridge Inspection, Bridge City, LA (212837/01)	$123,695

(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 (please specify). 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. NOTE: ALL FIRMS MUST BE REPRESENTED IN THIS TABLE. LEAVING THE "REMAINING UNPAID BALANCE" COLUMN BLANK IS NOT ACCEPTABLE.

20. <u>Certifications/Licenses:</u>

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

21. <u>QA/QC Plan:</u>

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

22. Sub-consultant information:

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 (Name must match as registered with Louisiana's Secretary of State)	**Address**	**Point of Contact and email address**	**Phone Number**
Stantec Consulting Services Inc.	1200 Brickyard Lane, Suite 400 Baton Rouge, LA 70802	Brian Johnson, PE Brian.johnson2@stantec.com	225-215-5130
Moffatt & Nichol Inc.	301 Main Street, Suite 800 Baton Rouge, LA 70801	Jonathan Hird, PE jhird@moffattnichol.com	225-336-2075

(Add rows as needed)

23. Location:

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