

ENGINEERING AND RELATED SERVICES
May 1, 2009

STATE PROJECT NO. 700-99-0494
F.A.P. NO. BR-9908(579)
LOAD RATING OF SIX TRUSS BRIDGES
STATEWIDE

Under Authority granted by Title 48 of Louisiana Revised Statutes, the Louisiana Department of Transportation and Development (DOTD) hereby issues a Request for Qualification Statements (RFQ) on Standard Form 24-102 (SF 24-102), "Professional Engineering and Related Services", revised January 2003, from Consulting Firms (Consultant) to provide engineering and related services. **All requirements of Louisiana Professional Engineering and Land Surveying (LAPELS) Board must be met at the time of submittal.** One Prime-Consultant/Sub-Consultant(s) (Consultant/Team) will be selected for this Contract.

Project Manager – Ms. Dana Feng may be reached at (225) 379-1060.

PROJECT DESCRIPTION

This project consists of inspection and LRFR load rating for six (6) complex steel truss bridges. The specified bridges are as follows:

	Structure Number	Name	Route	Type	Length
1	03514240532701	Atchafalaya River	US 90	STCANT	1839
2	05334510900001	Mississippi River	I-20	STCANT	11052
3	61174500900001	Mississippi River/CTY STS	I-10	STCANT	4550
4	61474260200721	Mississippi River/LA 18/ LA 44	LA 70	STCANT	9102
5	03490080400002	Atchafalaya River @ K'Springs	US 190	STHITR	3435
6	07104509127691	Calcasieu River, RR, STS.	I-10	STCANT	6607

SCOPE OF SERVICES

In the recent FHWA Technical Advisory T5140.29, dated January 15, 2008, National Transportation Safety Board (NTSB) recommends that bridge owners conduct load capacity calculations for all non-load path-redundant steel truss bridges to verify that the stress levels in all structural elements, including gusset plates, remain within applicable requirements whenever planned modifications or operational changes may significantly increase stresses. NTSB also recommends that during future rating, the capacity of gusset plates be checked to reflect changes in condition or dead load, to make permit or posting decisions, or to account for structural modifications or other alterations that result in significant changes in stress levels.

This contract consists of inspection and LRFR load rating for six (6) complex steel truss bridges. The rating shall include the superstructure, (including gusset plates and deck), selected substructure elements and piers.

The specific bridges are as follows:

	Structure Number	Name	Route	Type	Length
1	03514240532701	Atchafalaya River	US 90	STCANT	1839
2	05334510900001	Mississippi River	I-20	STCANT	11052
3	61174500900001	Mississippi River/CTY STS	I-10	STCANT	4550
4	61474260200721	Mississippi River/LA 18/ LA 44	LA 70	STCANT	9102
5	03490080400002	Atchafalaya River @ K'Springs	US 190	STHITR	3435
6	07104509127691	Calcasieu River, RR, STS.	I-10	STCANT	6607

Tasks

Task 1: Plan and Document Review

- Search and review original as-built plans and shop drawings.
- Search and review original design calculations and compare design with as-built configurations.
- Establish a history of repairs, rehabilitations, or structural modifications for the bridge superstructure. Review bridge repair / rehabilitation plans.
- Search and review previous bridge inspection reports, bridge fracture critical reports, load rating reports, structural models, and other testing reports as available.

Task 2: Inspection Process

- Detailed field investigation are required, including the gusset plates
- Each member and gusset plates size shall be verified to match the shop drawings
- Field inspection of gusset plates need to focus on corrosion, distortion, and connections.
 - Check for distortion using a straight edge.
 - Check for individual broken or loose rivets or bolts. Inspect for slipped surfaces around the individual bolts and rivets and for any cracking in the gusset plate at bolt and rivet holes.
- Ultrasonic thickness gage and caliper may need for determining thickness of section loss.

Task 3: Analysis & Load Rating

Modeling & Analysis

Perform a detailed structural model and analysis of the bridge to determine dead load and live load forces in the truss members. Three-dimensional structural model of the truss bridges are required for complex bridges. LA DOTD pre-approval is required prior to analysis if only 2D models are provided.

- The dead load analysis to consider present condition of the bridge.
- Live load analysis should include design loads, legal loads, and routine overload permits.
 - Design Live loads: HL-93
 - LADOTD State Legal Loads
 - LADOTD Routine permit vehicles
- Use coincident live load forces in truss members for gusset plate evaluation.
- Secondary and temperature effects may need to be considered.

Load Rating

Rating is to be based on the present condition, capacity and loading of the bridge.

Rate the gusset plate and connection systems following the FHWA-IF-09-014 *Load Rating Guidance and Examples For Bolted and Riveted Gusset Plates In Truss Bridges* (dated February 2009) and the load rating provisions in the 2008 AASHTO *Manual for Bridge Evaluation*.

Load rate gusset plates for:

- Tension in gusset plates
- Flexural capacity of gusset plates
- Shear in gusset plates
- Block shear in gusset plates
- Edge buckling of gusset plates
- Check gusset plate buckling at end of diagonals
- Check bearing and shear of rivets and bolts
- Check splices within gusset
- Evaluated pines (if applicable to joint)

Task 4 Report and Recommendations

A preliminary report at 60%, 90% submittal and a final report are required. An initial meeting will take place presenting the understood scope, the schedule, inspections and rating plans. The meeting must take place within 45 days of the contract. Afterwards, bimonthly meetings shall be scheduled to present the progress of the project.

Reporting of results shall show the rating factors of each control members. Provide a summary sheet and a complete QA/QC check for each rating.

Provide conceptual details and cost estimates of recommended retrofits.

Task 5: Final Retrofit Design

This would be an add-on task if needed, by supplemental agreement for the approved retrofit strategy.

ITEMS TO BE PROVIDED BY DOTD

The following items will be provided by DOTD, but it will be the responsibility of the selected consultant to search, collect and review these items at the applicable DOTD District or Headquarters Office.

1. As-Built Drawings
2. Bridge Inspection Reports
3. Shop Drawings of the Existing Structures
4. Bridge Rating Reports

REFERENCES

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

1. AASHTO Standards, ASTM Standards or DOTD Test Procedures
2. DOTD Location and Survey Manual
3. DOTD Roadway Design Procedures and Details
4. DOTD Hydraulics Manual
5. DOTD Standard Specifications for Roads and Bridges
6. Manual of Uniform Traffic Control Devices
7. DOTD Traffic Signal Design Manual
8. National Environmental Policy Act (NEPA)
9. National Electric Safety Code
10. National Electric Code (NFPA 70)
11. DOTD Environmental Impact Procedures (Vols. I-III)
12. Policy on Geometric Design of Highways and Streets
13. Construction Contract Administration Manual
14. Materials Sampling Manual
15. DOTD Bridge Design Manual
16. Consultant Contract Services Manual
17. Geotechnical Engineering Services Document
18. Bridge Inspectors Reference Manual
19. DOTD Stage 1 Manual of Standard Practice

20. Code of Federal Regulations 29 CFR 1926 (OSHA)
21. AASHTO Manual for Bridge Evaluation
22. DOTD Guidelines for Bridge Rating and Evaluation
23. AASHTO LRFD Bridge Design Specifications
24. FHWA-IF-09-014 Load Rating Guidance and Examples for Bolted and Riveted Gusset Plates in Truss Bridges
25. FHWA Bridge Inspector's Reference Manual
26. Manual for Maintenance Inspection for Bridges

COMPENSATION

Compensation to the Consultant for services rendered in connection with this Contract will be a non-negotiated lump sum in the amount of **\$2,000,000**.

CONTRACT TIME

The Consultant shall proceed with the services specified herein after the execution of this Contract and upon written Notice-To-Proceed from the DOTD. The overall contract time to complete this project is estimated to be **365 calendar days**. The delivery schedule for all project deliverables shall be established by the Project Manager.

During the progress of the work, intermediate submissions will be made to the DOTD for review and comments at the 60% and 90% levels of completion. Comments received as a result of the submissions will be discussed with the DOTD and incorporated into the Final report as warranted.

30% Submittal	90 days after NTP
60% Submittal	150 days after NTP
90% Submittal	250 days after NTP
98% Submittal	300 days after NTP
100% Submittal	365 days after NTP

MINIMUM PERSONNEL REQUIREMENTS

The following requirements must be met by the Prime-Consultant at the time of submittal:

1. At least one Principal of the Prime-Consultant must be a Professional Engineer registered in the State of Louisiana.
2. At least one Principal or other Responsible Member of the Prime-Consultant must be a Professional Civil Engineer, registered in the State of Louisiana.
3. In addition to the above, the Prime-Consultant must employ on a full-time basis a minimum of four Professional Engineers, registered in the State of Louisiana, two with a minimum of five years experience in bridge structural design and analysis of steel truss bridges, and a corresponding support staff with experience in performing structural analysis and evaluation.

4. The Prime-Consultant must also employ on a full-time basis, or through the use of a Sub-Consultant(s):
 - a. A minimum of one Professional Engineers, registered in the State of Louisiana, with a minimum of five years experience in truss bridge inspection and evaluation.
 - b. And a minimum one certified bridge inspector with a minimum of five years experience in truss bridge inspection.

Certifications of Compliance must be submitted with and made part of the Consultants Standard Form 24-102 for all Personnel Requirements listed herein.

ELECTRONIC DELIVERABLES

The Final Rating Report package shall consist of the following:

- a) One electronic copy and one hard copy of the rating report. Report shall include documentation of final condition of all deteriorated or rehabilitated members as well as pictures and any assumptions influencing the rating.
- b) One electronic copy of the final plans and existing plans.
- c) One electronic copy of the model developed using the latest version of the following software: Virtis, Staad, or Lusas.

QUALITY CONTROL/QUALITY ASSURANCE

The DOTD requires the Consultant to develop a Quality Control/Quality Assurance program; in order to provide a mechanism by which all contracted services can be subject to a systematic and consistent review. Consultants must ensure quality and adhere to established design policies, procedures, standards, and guidelines in the preparation and review of all design products. The DOTD shall provide limited input and technical assistance to the Consultant.

EVALUATION CRITERIA

The general criteria to be used by DOTD (when applicable) in evaluating responses for the selection of a Consultant to perform these services are:

1. Consultant's firm experience on similar projects, weighting factor of 3;
2. Consultant's personnel experience on similar projects, weighting factor of 4;
3. Consultant's firm size as related to the estimated project cost, weighting factor of 3;
4. Consultant's past performance on similar DOTD projects, weighting factor of 6; *
5. Consultant's current work load with DOTD, weighting factor of 5;
6. Location where the work will be performed, weighting factor of 4;**

* The Bridge Inspection (BI) performance rating will be used for this project.

** All respondents will receive a 4 in this category

The complexity level for this project is **complex**.

Consultants will be evaluated as indicated in Items 1- 6. The evaluation will be by means of a point-based rating system. Each of the above criteria will receive a rating on a scale of 0-4. The rating will then be multiplied by the corresponding weighting factor. The firm's rating in each category will then be added to arrive at the Consultant's final rating.

If Sub-Consultants are used, each member of the Consultant/Team will be evaluated on their part of the contract, proportional to the amount of their work. The individual team member ratings will then be added to arrive at the Consultant/Team rating.

DOTD's Consultant Evaluation Committee will be responsible for performing the above described evaluation, and will present a short list of the three (if three are qualified) highest rated Consultants to the Secretary of the DOTD. The Secretary will make the final selection.

CONTRACT REQUIREMENTS

The selected Consultant will be required to execute the contract within 10 days after receipt of the contract.

INSURANCE - During the term of this contract, the Consultant will carry professional liability insurance in the amount of \$1,000,000. The Prime-Consultant may require the Sub-Consultant(s) to carry professional liability insurance. This insurance will be written on a "claims-made" basis. Prior to executing the contract, the Consultant will provide a Certificate of Insurance to DOTD showing evidence of such professional liability insurance.

AUDIT - The selected Consultant/Team will allow the DOTD Audit Section to perform an annual overhead audit of their books, or provide an *independent* Certified Public Accountant (CPA) audited overhead rate. This rate must be developed using Federal Acquisition Regulations (FAR) and guidelines provided by the DOTD Audit Section. In addition, the Consultant/Team will submit semi-annual labor rate information, when requested by DOTD.

The selected Consultant/Team will maintain an approved Project Cost System, and segregate direct from indirect cost in their General Ledger. Pre-award and post audits, as well as interim audits, may be required. For audit purposes, the selected Consultant/Team will maintain accounting records for a minimum of five years after final contract payment.

Any Consultant currently under contract with the DOTD and who has not met all the audit requirements documented in the manual and/or notices posted on the DOTD Consultant Contract Services Website (www.dotd.louisiana.gov), will not be considered for this project.

SUBMITTAL REQUIREMENTS

One original (**stamped original**) and four copies of the SF 24-102 must be submitted to DOTD. All submittals must be in accordance with the requirements of this advertisement and the Consultant Contract Services Manual. Any Consultant/Team failing to submit any of the information required on the SF 24-102, or providing inaccurate information on the SF 24-102, will be considered non-responsive.

Any Sub-Consultants to be used, including Disadvantaged Business Enterprises (DBE), in performance of this Contract, must also submit a SF 24-102, which is completely filled out and contains all information pertinent to the work to be performed.

The Sub-Consultant's SF 24-102 must be firmly bound to the Consultant's SF 24-102. In Section 9, the Consultant's SF 24-102 must describe the **work elements** to be performed by the Sub-Consultant(s), and state the approximate **percentage** of each work element to be subcontracted to each Sub-Consultant.

Name(s) of the Consultant/Team listed on the SF 24-102, must precisely match the name(s) filed with the Louisiana Secretary of State, Corporation Division, and the Louisiana State Board of Registration for Professional Engineers and Land Surveyors.

The SF 24-102 will be identified with State Project No. **700-99-0494**, and will be submitted **prior to 3:00 p.m. CST on Monday, May 18, 2009**, by hand delivery or mail, addressed to:

Department of Transportation and Development
Attn.: Mrs. Dawn G. Picard, P.E.
Consultant Contract Services Administrator
1201 Capitol Access Road, **Room 405-T**
Baton Rouge, LA 70802-4438 or
Post Office Box 94245
Baton Rouge, Louisiana 70804-9245
Telephone: (225) 379-1989

REVISIONS TO THE RFQ

DOTD reserves the right to revise any part of the RFQ by issuing an addendum to the RFQ at any time. Issuance of this RFQ in no way constitutes a commitment by DOTD to award a contract. DOTD reserves the right to accept or reject, in whole or part, all Qualification Statements submitted, and/or cancel this announcement if it is determined to be in DOTD's best interest. All materials submitted in response to this announcement become the property of DOTD, and selection or rejection of a submittal does not affect this right. DOTD also reserves the right, at its sole discretion, to waive administrative informalities contained in the RFQ.