



November 12, 2013

Kenny Voss, PE  
Local Program Administrator  
MoDOT Central Office  
105 West Capitol Avenue  
Jefferson City, MO 65102

Re: Missouri's Local Program On-call Professional Services  
Structures Work Category  
**Structures** Project No. P13-2673

Dear Mr. Voss,

We appreciate this opportunity to submit our qualifications to perform on-call professional services for Missouri's Local Program (LPA). **Structures, Inc.** is a structural engineering firm with professionals experienced in the design and construction management of bridges, buildings, and other miscellaneous structural projects. Our firm has professional engineers licensed in Missouri and a number of surrounding states. We would like to express our interest in providing services under the "Structures" work category. This letter is organized to specifically highlight our strengths relative to the selection scoring criteria you outlined in your Request for Qualifications (RFQ).

**Prequalification** – **Structures, Inc.** is currently on MoDOT's Approved Consultant Prequalification List for LPA projects. We are in the process of updating our financial prequalification information for the next renewal period.

**3 Company Reference Forms** – We have included Company Reference Forms from the City of Valley Park for our work on the Hanna Road bridge replacement project (federally funded) and two from the Jefferson County Department of Public Works - one for the Butcher Branch Road bridge replacement project (federally funded) and a second for an ongoing on-call structural contract with the Department.

**General Experience of Firm** – **Structures** has performed similar on-call services for a number of entities. Dating back to 2009, **Structures** provided on-call structural design services to Ozark Constructors, LLC (a Fred Weber, Inc. company) during the construction of the Ameren UE Taum Sauk Reservoir. This project included a variety of design assignments including temporary bridges for construction equipment and tower and foundation design for material conveyor systems. We are about to complete our fifth year of providing on-call structural services to Dynegy, Inc. for their power plant in Baldwin, Illinois. Meeting project deadlines is extremely critical at Dynegy, since plant modifications must be completed during scheduled plant shutdown times.

We are completing our second year of providing on-call structural design services for the Jefferson County Department of Public Works. Under the on-call contract, we have just recently completed construction

plans for the rehabilitation of a single span bridge on Fox Farm Road. The bridge is currently closed to traffic due to its advanced state of deterioration. This project provides for repairs to the substructure and total replacement of the superstructure with a cast-in-place concrete slab to permit the work to be performed by Jefferson County work crews. **Structures** delivered preliminary plans to the County within 3 weeks of receipt of the project survey. We worked closely with County representatives to complete the abutment rehabilitation sheets early to permit the County's work crews to begin work while the stream elevation in the creek remains low.

We will complete a second project under the on-call contract with Jefferson County before January 2014. The Meyer Road box culvert extension and bank stabilization project includes the widening of an existing box culvert to accommodate two 12-ft lanes across the structure and the construction of approximately 150 ft of reinforced concrete cantilevered retaining wall. Construction on this project is expected to begin in the Spring of 2014.

In addition to the on-call experience that we have outlined, **Structures** has extensive experience with the design of federally funded projects that are administered through MoDOT's Local Public Agency program. Construction was completed this year on the Hanna Road Bridge over Fish Pot Creek project in Valley Park, Missouri. **Structures** served as the structural sub-consultant on this project and was responsible for the bridge design and preparation of the bridge construction plans. This project is one of the featured projects in our company brochure that is attached.

We are in the process of completing the Butcher Branch Road bridge replacement project for the Jefferson County Department of Public Works. **Structures** served as the prime consultant on this federally funded project that included a study phase where three bridge alternatives were investigated to determine the optimal structure type for construction. This project is also featured in our company brochure.

**Structures** is also serving as the structural sub-consultant for a federally funded project that includes the enhancement of the McDonnell Boulevard Bridge over Interstate 270 in St. Louis County. This project is expected to include the construction of a dedicated pedestrian sidewalk across the bridge, ornamental railing, aesthetic traffic barriers, signage on the bridge and approaches, and retaining walls adjacent to the ramps at the interchange.

**Past Performance** – We understand the critical nature of on-call projects and, at times, their demanding schedules. We take pride in meeting the challenges of these types of projects and our ability to adjust work assignments to accelerate their completion. We also know that our client's budgets are limited. We work closely with our clients to understand their needs while maintaining project design and construction budgets. The true test of our past performance lies with our clients' evaluation of our service. We invite you to review the Company Reference Forms included in order to fully evaluate our past performance.

**Qualifications of Personnel** – I will serve as project manager for this project. I have nearly 30 years of experience designing bridges and other transportation structures. I have managed projects ranging from the design of small bridge repairs to major new bridge designs, including numerous interstate highway bridges and several of the MetroLink light rail bridges in the St. Louis region. I have extensive experience with federally funded bridge projects and am well-versed in the policies, procedures, and guidelines outlined in MoDOT's LPA Manual and Engineering Policy Guide. I have served as project manager and lead structural engineer on numerous federally funded bridge replacement projects, many of which can be found in my resume included with our company brochure. I have attended the LPA training class, sponsored by MoDOT and FHWA.

Assisting me with the design of on-call projects will be Mike Mahaney, PE. Like me, Mike is a former bridge engineer for St. Louis County and has over 30 years of bridge design, maintenance, and construction supervision experience.

Haley Coons, EI, will also be available to assist with the preparation of structural design calculations, reports, and construction plans. Haley has 8 years of structural engineering design experience including bridges, retaining walls, and miscellaneous highway and drainage structures. Haley and I worked together on the Hanna Road bridge project and recently completed the design and preparation of plans on the Fox Farm Road bridge project and Meyer Road culvert extension project.

We also have two additional structural engineers at **Structures**, Roy Jennings, PE, and Paul Hesse, PE, who are available to assist with on-call assignments if needed.

**Familiarity/Capability** – I have described some of our recent work on federal bridge projects and our familiarity with the policies and guidelines contained in the LPA Manual. Your attention is also directed to our company brochure that specifically lists many of the federal projects that I have played a key role in and describes our role in some of our most recent federally funded bridge projects.

**Accessibility** – Our ability to be responsive to our clients' needs is a key factor to our success. This is especially true when working with clients on on-call assignments. In fact, our approach to any project demands the following three key elements:

- Identify the project's needs;
- Have a complete understanding of our client's expectations; and
- Ensure that our work satisfies our client's customers, the end users of the project.

This approach, with its three key "ingredients", is our "recipe" for a successful partnership with our clients. I trust your review of our Company Reference Forms will demonstrate our record of accessibility and responsiveness.

You will find the additional information you requested in your RFQ attached to this letter. If you have any questions, feel free to contact me at (314) 638-6650 or [jig@stlsi.com](mailto:jig@stlsi.com). Thank you for considering Structures, Inc. for this assignment.

Sincerely,



John J. Gruendler, PE, SE  
President/Chief Structural Engineer

Attachments: Cover Sheet  
3 Company Reference Forms  
Company Brochure

*Our Mission at **Structures** is to provide a professional and personal level of service to our client that is second to none. Our design approach of simplicity and constructability promotes cost effective solutions.*

## **John Gruendler, PE, SE**

*Project Manager / Lead Structural Engineer*

### **Education**

University of Missouri, Rolla  
B.S., Civil Engineering

### **Professional Affiliations**

Engineers' Club of St. Louis  
AISC-American Institute of Steel  
Construction

### **Registrations**

Professional Engineer Registered  
in the Following States:

Arkansas	Missouri
Indiana	Pennsylvania
Iowa	Texas
Kansas	Wisconsin
Kentucky	

Structural Engineer Registered in  
the Following States:

Illinois	Nebraska
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### **Professional Summary**

John Gruendler has nearly 30 years of experience in bridge design, construction, inspection, evaluation, rehabilitation, and maintenance. John is experienced in highway engineering and the design of marine and other transportation-related structures. John's current responsibilities include structural design; preparation of plans, specifications, and cost estimates; project management and scheduling; and quality control.

Prior to joining Structures Inc., John was vice president, lead structural engineer, and senior manager of the bridge group in the St. Louis office of a prominent international transportation design firm. John also served as a bridge engineer for the St. Louis County Department of Highways and Traffic where he was responsible for the annual inspection of over 300 vehicular, railroad, and pedestrian bridges; project management for federally funded bridge projects; review of structural plans prepared by consultants; and design and preparation of plans for in-house bridge projects. John has authored and presented several papers on seismic design, prioritization, and retrofitting of bridge structures.

### **Select Project Experience**

- Fox Farm Road Bridge Rehabilitation
- Meyer Road Box Culvert Extension
- Stonebridge Bridge over BNSF Railroad
- Butcher Branch Road Bridge over Butcher Branch Creek\*
- Hanna Road Bridge over Fish Pot Creek\*
- Arsenal St. & Columbia Ave. Bridges over UP Railroad\*
- Route 39 Bridge over BNSF Railroad
- Baxter Road Double Box Culvert\*
- Shackelford Road Double Box Culvert\*
- West Florissant Avenue Bridge No. 153\* (Owners PM)
- Old Halls Ferry Road Bridge No. 130\* (Owners PM)
- Weidman Road Bridge over Glaize Creek\*
- Camp Creek Road Bridge over Camp Creek\*
- Arnold Tenbrook Road Bridge over Pomme Creek\*
- Hafner Place Bridge over River des Peres\*
- Pennsylvania Avenue Bridge over River des Peres\*
- Loesch Road Bridge over Moreau River\*
- Greenway Chase Drive Bridge over New Halls Ferry Creek\*
- Schluersburg Road Bridge over Femme Osage Creek\*

\*Indicates Federally Funded Project

## Michael Mahaney, PE

*Senior Structural Engineer*

### Education

University of Missouri, Rolla  
M.S., Civil Engineering  
St. Louis University Institute of  
Technology  
B.S., Civil Engineering

### Professional Affiliations

AISC-American Institute of Steel  
Construction

### Registrations

Professional Engineer Registered  
in Missouri

### Professional Summary

Mike Mahaney began his career as Assistant and, ultimately, as Chief Bridge Engineer for the St. Louis County Department of Highways and Traffic, responsible for over 400 existing road and railway bridges. His duties included overseeing highway maintenance, building rehabilitation, additions, and new construction. He has vast experience in design, rehabilitation, and demolition of major bridge structures, buildings, and industrial facilities. He has prepared Structural Inspection Reports and seismic rehabilitation designs for bridges, major industrial and commercial facilities including bridge cranes, industrial (utility) bridges and buildings, storage tanks, chemical plants, multi-family buildings, and other facilities.

Mike's approach to an assignment includes investigating the possibility of eliminating a problem rather than following the temptation of solving the problem. As a designer, Mike strives to offer simple, cost effective and innovative solutions to otherwise complicated and cumbersome problems. He has directed his own crews, including carpenters, plumbers, electricians, and other construction-related trades, in performing building and bridge inspections and maintenance for over 30 years.

## Haley Coons, EI

*Structural Engineer*

### Education

University of Missouri, Rolla  
B.S., Architectural Engineering

### Professional Affiliations

AISC-American Institute of Steel  
Construction  
AEI-Architectural Engineering  
Institute, Order of the Engineer  
ASHRAE-American Society of  
Heating, Refrigeration and Air-  
Conditioning Engineers

### Registrations

Missouri Engineer-In-Training

### Professional Summary

Haley Coons joined Structures Inc. in May 2003 as an intern. Upon completion of her Bachelors degree, Haley was hired full-time in January 2005. Haley's responsibilities include structural design, preparation of plans and specifications, and in-house IT support.

### Select Project Experience

- Fox Farm Road Bridge Rehabilitation
- Meyer Road Box Culvert Extension
- Stonebridge Bridge over BNSF Railroad
- Butcher Branch Road Bridge over Butcher Branch Creek
- Hanna Road Bridge over Fish Pot Creek

*Structures* has experience in a variety of similar projects. We have managed several federally funded bridge projects and have become quite adept at implementing the procedures contained in MoDOT's Local Public Agency Manual and at coordinating with the various permitting and review agencies including MoDOT, the Missouri Conservation Department, US Fish and Wildlife, the State Historic Preservation Office at the Missouri Department of Natural Resources, the Army Corps of Engineers, FEMA, and a variety of railroad companies. The following pages highlight just some of our experience with similar projects.

**HANNA ROAD BRIDGE REPLACEMENT PROJECT – VALLEY PARK, MO**

This project replaces a deteriorated bridge over Fish Pot Creek in Valley Park, Missouri. As the structural sub-consultant, *Structures, Inc.* provided the preliminary and final design for the new 75-ft single span precast, prestressed I-girder bridge. This project was federally funded and the construction phase was just recently completed.

The new bridge accommodates a 32-ft wide roadway with sidewalk on one side. The City of Valley Park felt strongly about making the structure something more than a typical highway bridge. They wanted the bridge to be identified with the City and welcoming to its residents and visitors. With the incorporation of concrete form liners, stains, and decorative features at the approaches to the bridge, a simple roadway stream crossing was transformed into something more aesthetically pleasing.



Looking North



Looking

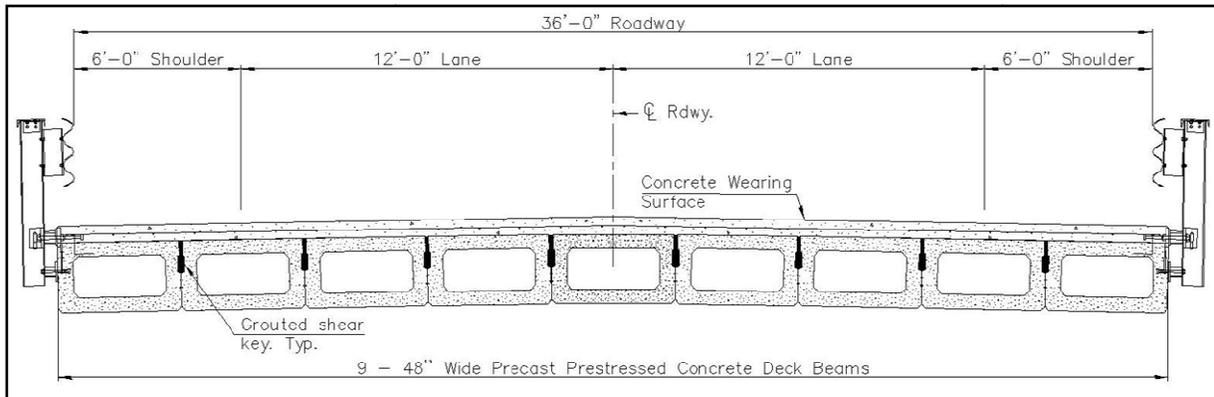
along sidewalk – note use of concrete form liners and stains



The photo at left shows the use of concrete form liners on the wingwalls of the bridge. Concrete stains were applied to all form-lined concrete surfaces and to the outside face of the exterior girders.

**BUTCHER BRANCH ROAD BRIDGE REPLACEMENT PROJECT – JEFFERSON COUNTY, MO**

Structures, Inc. was selected for the concept alternatives study, preliminary design, and final design for the replacement of Butcher Branch Road Bridge over Butcher Branch Creek. This federally funded project includes the design of a new bridge to replace the existing deteriorated and undersized double box culvert. Structures completed a study phase, where three alternatives were evaluated, and is completing the final design phase for the selected alternative. The new bridge is expected to consist of precast, prestressed deck beams. Structures is responsible for all coordination with MoDOT’s Local Roads group.



**BUTCHER BRANCH ROAD BRIDGE - TYPICAL DECK SECTION**

**STONEBRIDGE BRIDGE OVER BNSF RAILROAD – JEFFERSON COUNTY, MO**

This project provides for access to a new development in Jefferson County. Structures, Inc. worked with the site developer and civil engineering firm to produce concept plans, preliminary plans, final design, and construction documents for this 90-foot single span bridge. The bridge superstructure consists of precast, prestressed concrete I-girders composite with an 8½” reinforced concrete deck. The abutments consist of reinforced concrete cap beams supported on drilled shafts, socketed into bedrock. The final design provides for a 30-ft wide roadway with sidewalk along one side. Structures’ responsibilities also included the coordination of the bridge design with the BNSF Railroad.

**ARSENAL STREET & COLUMBIA AVENUE BRIDGES OVER UNION PACIFIC RAILROAD – ST. LOUIS, MO  
(John Gruendler personal experience)**

This federally funded project included the replacement of two bridges over the UP Railroad. John Gruendler served as the Project Manager from the study phase through the preliminary plans phase. The new single span structures utilized precast Hy-Span units for the superstructure with a combination of MSE walls and cast-in-place concrete walls for the abutments. The construction of the Arsenal Street Bridge is depicted in the photos below.

