



STRUCTURES, INC.

A STRUCTURAL ENGINEERING FIRM

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St. Louis, Missouri 63126
314-638-6650
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“Supporting the Past - Structuring the Future”

Firm Facts:

- **STRUCTURES, INC.** was founded in 2001.
- Firm’s Principals:
 - John J. Gruendler, PE, SE
 - Roy E. Jennings, PE, SE
- Our staff has designed, inspected, and rated well over 1,000 bridges and crossroad culverts.
- The firm is licensed in 10 states throughout the Midwest, including Missouri.

Located in south St. Louis County, **STRUCTURES, INC.** is a consulting engineering firm providing structural design and engineering services to the transportation, industrial, commercial, and institutional construction markets. As our tagline suggests, we provide engineering services for facility modifications and rehabilitation/strengthening projects for clients planning to preserve their existing infrastructure as well as for those clients building completely new improvements from the ground up. **STRUCTURES, INC.** is prequalified with MoDOT and listed in MoDOT’s Approved Consultant Prequalification List.

STRUCTURES, INC. is a leader in delivering innovative solutions when confronted with complex engineering challenges. Our success is centered on two key principles setting us apart from other engineering firms: a customer-based focus on *responsive engineering* and production of truly *constructible designs*.

Responsive Engineering

STRUCTURES, INC. understands that maintaining a project schedule and budget is critical to our client’s success. Being responsive means addressing a project from our client’s perspective. Being responsive means doing what is right for our clients and making certain we are providing technical knowledge, expertise, and consistency at a fair value.

Constructible Designs

With our field experience, **STRUCTURES, INC.** understands the importance of producing designs that are constructible. So often designs are developed and construction documents are produced that “work on paper” but are difficult, if not impossible, to construct. This typically results in unnecessary hardships for the construction contractor and costly overruns for the owner.

We are often called upon to provide the solution that allows “the square peg to fit into the round hole.” We have several on-call contracts with both private and public entities. These ongoing contracts are a testament to our outstanding client responsiveness and the exceptional quality of our work.

Structures Services:

- Bridge/Culvert/Retaining Wall Design
- Design of Temporary Earth Retention Structures
- Construction Document Preparation
- Structural Inspections
- Structure Retrofit/Rehabilitation
- Bridge Load Ratings
- Condition & Damage Assessments
- Feasibility Studies
- Peer Reviews



STRUCTURES

STRUCTURES, INC. was responsible for the design, preparation of construction documents, and periodic inspection for the following projects:

Project Name	Client	(Spans) Length
Allen Road Bridge*	Jefferson Co., MO	(1) 95 ft
Sycamore Lane Bridge*	Jefferson Co., MO	(1) 65 ft
New Ballwin Rd Bridge*	St. Louis Co., MO	(1) 60 ft
Hudson Drive Bridge*	St. Louis Co., MO	(1) 86 ft
Vorhof Drive Bridge*	St. Louis Co., MO	(1) 86 ft
McDonnell Blvd Bridge*	St. Louis Co., MO	(2) 132 ft
Lambert International Blvd Bridge Rehabilitation	City of St. Louis, MO	(3) 126 ft
Tesshire Drive Bridge*	St. Louis Co., MO	(2) 130 ft
Doc Sargent Rd Bridge*	Jefferson Co., MO	(1) 70 ft
Highland Baptist Church Rd Bridge	Jefferson Co., MO	(1) 27 ft
Three Culverts Project	St. Louis Co., MO	(2) 20 ft; (2) 16 ft & (1) 12 ft
Old Halls Ferry Rd Bridge*	St. Louis Co., MO	(1) 50 ft
13 th Street Bridge Widening	Jeff. Co./Developer	(3) 180 ft
Old Lemay Ferry Rd Bridge	Jefferson Co., MO	(1) 39 ft
Butcher Branch Rd Bridge*	Jefferson Co., MO	(1) 60 ft
Hanna Rd Bridge*	Valley Park, MO	(1) 75 ft
McDonnell Blvd Bridge Enhancements*	Hazelwood, MO	N.A.
Bella Fontaine Bridges	Great Rivers Greenway	(1) 130 ft; (1) 115 ft & (1) 100 ft

* Indicates Federally Funded LPA Project - Otherwise Project Funded with Local Funds

The following projects are examples of our experience with Local Public Agency bridge projects:

Tesshire Drive Bridge over Gravois Creek

Location: St. Louis County, MO



This project replaces a deteriorated three span bridge in St. Louis County with a new two span structure. **STRUCTURES** was the prime consultant and provided the preliminary and final design for the new prestressed concrete NU-girder bridge. This project was **federally funded** and designed in accordance with the **LPA Manual**.

Old Halls Ferry Rd over Halls Ferry Creek

Location: St. Louis County, MO



This project replaces a deteriorated single span, 85-yr old bridge in St. Louis County. **STRUCTURES** was the prime consultant and provided the preliminary and final design for the new 50-ft single span precast, prestressed spread box beam bridge. This project was **federally funded** and included improvements to the existing reinforced concrete U-channel maintained by the St. Louis MSD.

Doc Sargent Rd over LaBarque Creek

Location: Jefferson County, MO



This project replaces a deficient 2-span box beam bridge with a single span NU-girder bridge. **STRUCTURES** was the prime consultant and provided the preliminary and final design for the new structure. The bulk of the stream flow was concentrated in one of the two spans of the existing bridge, resulting in a hydraulically inefficient bridge opening. The design of the new bridge improved the hydraulics with a more efficient single span bridge. This project was **federally funded** and designed in accordance with the requirements of the **LPA** guidelines.

CONSTRUCTION INSPECTION

STRUCTURES, INC. provides Construction Services as needed by the client. These services may include full time inspection, inspection during critical construction operations, shop drawing review, project documentation, responding to requests for information from the Contractor, review of Contractor change order requests, and coordination with and support of the LPA staff. Our staff includes a former Resident Engineer for a local transportation agency as well as an engineer who formerly worked for a Construction Contractor. We understand the importance of promptly responding to inquiries during construction to prevent impacting the construction schedule and to avoid any potential delay claims by the Contractor.

Construction Inspection Services:

- LPA Project Inspection & Documentation
- Bid Reviews & Recommendations
- Shop Drawing Review
- Respond to Contractor's Requests for Information
- Support of LPA Staff
- Value Engineering (VE) Reviews
- Final Inspection & Punch List Preparation
- As-Built Drawing Preparation



STRUCTURES, INC. provided Construction Services for the following example projects:

- Sycamore Lane Bridge, Jefferson County
- Lambert International Blvd. Bridge, City of St. Louis
- New Ballwin Road Bridge, St. Louis County
- Allen Road Bridge, Jefferson County
- Hudson Drive Bridge, St. Louis County
- Vorhof Drive Bridge, St. Louis County
- Doc Sargent Road Bridge, Jefferson County



Contact: John J. Gruendler, PE, SE
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Thank you for the opportunity to express our interest in providing on-call professional engineering services for Missouri's Local Program (LPA). We are requesting your consideration for the "Construction Inspection" work category with this letter.

As requested, we have included a Cover Sheet and our 4-page Company Brochure with this letter. We have organized this letter to coincide with the scoring criteria you identified in your Request for Qualifications. As you evaluate our qualifications, please feel free to contact us if you have any questions about **Structures, Inc.**

1. GENERAL EXPERIENCE OF FIRM

Located in south St. Louis County, **Structures, Inc.** is owned and managed by John J. Gruendler, PE, SE and Roy E. Jennings, PE, SE. Our firm consists of seven full-time engineers, technicians, and administrative support staff. **Structures** has professional engineers licensed in Missouri and several surrounding states. Our experience is in the design, construction inspection, maintenance, and rehabilitation of bridges, tunnels, retaining walls, as well as commercial and industrial structures.

Since its inception in 2001, **Structures** has provided bridge design and construction services to regional transportation agencies for a variety of cities, counties, and municipalities. We have provided engineering services to local agencies for federally funded projects that are administered through MoDOT's Local Public Agency (LPA) program. **Structures** is prequalified with MoDOT and listed in MoDOT's Approved Consultant Prequalification List.

We currently hold several on-call contracts with a number of private and public entities. Dating back to 2011, we have been selected by Jefferson County for consecutive, 2-year, on-call structural engineering contracts. **Structures** has been called upon to design and furnish construction services for several bridge replacement and rehabilitation projects under these contracts.

2. PAST PERFORMANCE

The following project descriptions highlight some of **Structures'** recent, similar projects where our services were requested during the construction phase of these projects.

Sycamore Lane over Bear Creek

Location: Jefferson County, MO
Client/Owner: Jefferson County Department of Public Works
Owner's Representative: Mr. Jason Jonas, 636.797.5369
jonas@jeffcomo.org

Start Date: 2020 **Completion Date:** 2023 (Construction)



Construction Services Provided: Periodic Inspection, Shop Drawing & Contractor Submittal Reviews, Support of LPA Staff

Under an on-call contract with the Department of Public Works, **Structures** was selected to design the replacement bridge for the existing deteriorated steel beam structure. A precast, prestressed spread box beam structure was selected as the preferred alternate. Although this project was designed using local funds, the project was constructed using **federal funds**. Therefore, the design satisfied all federal and LPA requirements. This project was uniquely challenging during construction due to the contractor being from out-of-state and unfamiliar with MoDOT standard bridge details and specifications. Therefore, extensive effort was required during construction to support the LPA staff and respond to contractor requests for information.

Doc Sargent Rd over LaBarque Creek

Location: Jefferson County, MO
Client/Owner: Jefferson County Department of Public Works
Owner's Representative: Mr. Jason Jonas, 636.797.5369
jonas@jeffcomo.org

Start Date: 2018 **Completion Date:** 2021 (Construction)



Construction Services Provided: Periodic Inspection, Shop Drawing & Contractor Submittal Reviews, Support of LPA Staff

This project replaces a deficient 2-span box beam bridge with a single span NU-girder bridge. This project was **federally funded** and designed in accordance with the requirements of the LPA guidelines. **Structures** supported the LPA staff during construction with the services listed above, including a foundation redesign during construction due to unforeseen subsurface conditions.

Old Halls Ferry Rd over Halls Ferry Creek

Location: St. Louis County, MO
Client/Owner: St. Louis County Department of Transportation
Owner's Representative: Ms. Pamela Thebeau, 314.615.8579
PThebeau@stlouisco.com
Start Date: 2015 **Completion Date:** 2018 (Construction)



Construction Services Provided: Periodic Inspection, Shop Drawing & Contractor Submittal Reviews, Support of LPA Staff

This project replaces a deteriorated single span, 85-yr old bridge in St. Louis County. **Structures** was the prime consultant and provided the preliminary and final design for the new 50-ft single span precast, prestressed spread box beam bridge. This project was **federally funded** and included improvements to the existing reinforced concrete U-channel maintained by the St. Louis MSD. **Structures** supported the LPA staff during construction with the services listed above.

Lambert International Blvd over Coldwater Creek

Location: St. Louis County, MO
Client/Owner: City of St. Louis – Lambert Airport
Owner's Representative: Mr. Rick Hess, 314.551.5063
RPHess@flystl.com
Start Date: 2019 **Completion Date:** 2023 (Construction)



Construction Services Provided: Periodic Inspection, Shop Drawing & Contractor Submittal Reviews, Support of LPA Staff

This project included the rehabilitation of an existing 3-span precast, prestressed double T-beam bridge. The project also included the addition of a pedestrian bridge adjacent to the existing vehicular bridge. Local funds were used to finance this project. Due to some very specialized rehabilitation elements included in this project combined with an inexperienced local agency staff, **Structures** was called upon frequently to assist with the interpretation of contract documents, construction inspection, and the provision of direction for the contractor.

New Ballwin Rd over Spring Branch Creek

Location: St. Louis County, MO
Client/Owner: St. Louis County Department of Transportation
Owner's Representative: Ms. Pamela Thebeau, 314.615.8579
PThebeau@stlouisco.com
Start Date: 2020 **Completion Date:** 2023 (Construction)



Construction Services Provided: Shop Drawing & Contractor Submittal Reviews, Support of LPA Staff

This project replaces a deteriorated single span, 88-yr old bridge in St. Louis County. **Structures** was the prime consultant and provided the preliminary and final design for the new 60-ft single span precast, prestressed NU-girder bridge. This project was **federally funded** and constructed in stages since this structure provided the only access to a number of homes in the area. **Structures** was called upon to evaluate the bridge end bents during construction due to issues that occurred during the concrete pour and provide recommendations for corrective action.

3. QUALIFICATIONS OF PERSONNEL

John J. Gruendler, PE, SE

Project Manager/Lead Structural Engineer - John Gruendler has over 40 years of experience in bridge design, construction, inspection, evaluation, rehabilitation, and maintenance. Mr. Gruendler is experienced in highway engineering and in the design of marine and other transportation-related structures. Mr. Gruendler's current responsibilities include structural design; preparation of plans, specifications, and cost estimates; project management and scheduling; and quality control.

Prior to joining **Structures**, Mr. Gruendler 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. Mr. Gruendler also served as a bridge engineer for the St. Louis County Department of Transportation where his responsibilities included 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. Mr. Gruendler has authored and presented several papers on seismic design, prioritization, and retrofitting of bridge structures.

While with the Department of Transportation, part of Mr. Gruendler's time was spent as a Resident Engineer on federally

funded projects where he was responsible for overseeing the daily construction activities, full time inspection, completing the daily diaries, maintaining the pay item books, reviewing/approving contractor invoices, overseeing materials testing, and maintaining project materials records.

Select Project Experience

Mr. Gruendler served as the Project Manager and/or Lead Structural Engineer and provided construction services on the following similar bridge projects.

Project Name	Client	(Spans) Length
Allen Road Bridge*	Jefferson Co., MO	(1) 95 ft
Sycamore Lane Bridge*	Jefferson Co., MO	(1) 65 ft
New Ballwin Rd Bridge*	St. Louis Co., MO	(1) 60 ft
Hudson Drive Bridge*	St. Louis Co., MO	(1) 86 ft
Vorhof Drive Bridge*	St. Louis Co., MO	(1) 86 ft
McDonnell Blvd Bridge*	St. Louis Co., MO	(2) 132 ft
Lambert International Blvd Bridge	City of St. Louis, MO	(3) 126 ft
Ficken Rd Culvert	Jefferson Co., MO	(1) 18 ft
Tesshire Drive Bridge*	St. Louis Co., MO	(2) 130 ft
Doc Sargent Rd Bridge*	Jefferson Co., MO	(1) 70 ft
Highland Baptist Church Rd Bridge	Jefferson Co., MO	(1) 27 ft
Three Culverts Project	St. Louis Co., MO	(2) 20 ft; (2) 16 ft & (1) 12 ft
Old Halls Ferry Rd Bridge*	St. Louis Co., MO	(1) 50 ft
13 th Street Bridge Widening	Jeff. Co./Developer	(3) 180 ft
Old Lemay Ferry Rd Bridge	Jefferson Co., MO	(1) 39 ft
Butcher Branch Rd Bridge*	Jefferson Co., MO	(1) 60 ft
Hanna Rd Bridge*	Valley Park, MO	(1) 75 ft
McDonnell Blvd Bridge Enhancements*	Hazelwood, MO	N.A.
Fox Farm Rd Bridge Rehab	Jefferson Co., MO	(1) 20 ft

* Indicates Federally Funded Project, otherwise Local.

Roy E. Jennings, PE, SE

Senior Structural Engineer – Roy Jennings has over 35 years of experience in the construction industry. He began his career spending over a decade in the field as a carpenter. After obtaining his engineering degree, he worked for a contractor and was responsible for project development, preliminary design, bidding, and project management. In addition to his design responsibilities at **Structures**, Mr. Jennings spends much of his time in the field working with contractors as an owner’s representative.

Jacob C. Stobie, EI

Structural/Transportation Engineer – Since joining **Structures**, Jacob Stobie has designed a variety of structures using cast-in-place reinforced concrete, prestressed concrete, and structural steel. Mr. Stobie will assist with any needed day-to-day construction services for on-call projects.

Roy N. (Nathan) Jennings, EI

Structural/Transportation Engineer – Beginning in 2024, Nathan Jennings joined **Structures** as a full-time employee. He has design experience using a variety of materials including cast-in-place reinforced concrete, prestressed concrete, and structural steel. Mr. Jennings will also be available to assist with day-to-day construction services needed for on-call projects.

Ryan Notheis

Structural CAD Designer/Technician – Ryan Notheis has 10 years of experience at **Structures** and manages all facets of drawing development for the firm. With his recent work on LPA projects, Mr. Notheis regularly utilizes the Bridge Standard Drawings found on MoDOT’s website. Mr. Notheis has performed shop drawing reviews and assisted with construction inspection while at **Structures**.

4. FAMILIARITY/CAPABILITY

The **Past Performance** and **Qualifications of Personnel** sections of this letter demonstrate our extensive familiarity with federal projects. As part of our normal course of business, the **Structures**’ staff holds internal, weekly project management meetings to discuss project progress and resource needs to ensure we have the capability to deliver our services on time and within budget.

Due to his experience as a Resident Engineer, John Gruendler will oversee all Construction Services activities for LPA on-call projects.

5. ACCESSIBILITY

As discussed in our 4-page brochure, one of the two key principles setting **Structures** apart from other engineering firms is our customer-based focus on **responsive engineering**. Being responsive means addressing a project from our client’s perspective. It demands we do what is right for our clients in a timely manner and we provide technical knowledge, expertise, and consistency at a fair value. We understand the importance of promptly responding to inquiries during construction to prevent impacting the construction schedule and to avoid any potential delay claims by the contractor.

We invite you to contact any of the client contacts listed in the **Past Performance** section of this letter if you have any questions regarding our accessibility.