“Supporting the Past - Structuring the Future”

We provide engineering services for facility modifications, rehabilitation, and 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. produces cost-effective, constructible solutions in a timely manner to satisfy our client’s needs.

Our full range of structural engineering services include: Construction Document Preparation, Feasibility Studies, Structural Inspections, Condition/Damage Assessments, Peer Reviews, Value Engineering (VE), Construction Inspections, and Construction Management.

Structures, Inc. has extensive design and construction experience with industrial buildings, (low and mid-rise commercial, institutional, healthcare, retail, educational, and religious structures), parking garages, vehicular and pedestrian bridges, tunnels, retaining walls, culverts and other drainage structures, temporary and permanent earth shoring structures, and specialized foundation systems (micropiles, helical piles, and tiebacks).

Structures, Inc. is well-versed in engineering a wide variety of construction materials including steel, composite steel, cold-formed steel, cast-in-place/precast/post-tensioned concrete, wood, and masonry among others.

We have working knowledge of AASHTO and the ICC International Building Codes including the lateral load requirements of ASCE, FHWA, NEHRP, FEMA Guidelines for facilities subject to high seismic, wind, and hurricane loads.
**Representative Projects**

**Butcher Branch Rd over Butcher Branch Creek**
- **Location:** Jefferson County, MO
- **Client:** Jefferson County Department of Public Works

This project replaces a deteriorated and undersized double box culvert in Jefferson County, Missouri. *Structures* was the prime consultant and provided the preliminary and final design for the new 60-ft single span precast, prestressed box beam bridge. This project was *federally funded* and designed in accordance with the provisions of the LPA Manual. *Structures* was responsible for coordinating the project with local MoDOT representatives, as needed. The construction phase of this project was completed in the Summer of 2015.

**Meyer Rd Bank Stabilization Project**
- **Location:** Jefferson County, MO
- **Client:** Jefferson County Department of Public Works

Through an *on-call contract* with the Department of Public Works in Jefferson County, *Structures* was selected to design and prepare construction documents for the widening of the existing box culvert and construction of a new 150-ft long wall to control bank erosion. The box culvert was widened to accommodate a 27-ft roadway including shoulders. The final design included upgrades to the traffic safety features and approach roadway. The construction was performed by a Jefferson County bridge crew. Therefore, *Structures* worked with County personnel to adapt the design of the project to suit the preferences and capabilities of the County construction crew.

**Fox Farm Rd over Tributary to Joachim Creek**
- **Location:** Jefferson County, MO
- **Client:** Jefferson County Department of Public Works

Through an *on-call contract* with the Department of Public Works in Jefferson County, *Structures* was selected to design and prepare construction documents for the rehabilitation of an existing structurally deficient bridge that was closed to traffic due to its poor condition. The project included an inspection phase which identified structural elements in need of repair. The final design included the rehabilitation of the existing abutments, replacement of the existing superstructure with a new, reinforced concrete slab, and upgrades to the traffic safety features and approach roadway. *Structures* worked with County personnel to adapt the design of the project to suit the preferences and capabilities of the County construction crew, since the County forces performed the work.

**Dynegy, Inc. On-Call Structural Engineering Services**
- **Location:** Baldwin, IL
- **Client:** Dynegy, Inc.

For the past 7 years, *Structures* has held an *on-call contract* with Dynegy, Inc. for structural design work at the Baldwin, Illinois facility. Typical assignments at the plant include load rating and design of upgrades for trolley beams, design of additions and modifications to access platforms, and load capacity checks on existing steel framing for equipment moves. *Structures* worked closely with Dynegy’s outside contractors performing the work to ensure proper construction phasing and coordination with plant shutdown periods.

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**Project Performance Indicators**

<table>
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<tr>
<th>Project Performance Indicators</th>
<th><strong>Butcher Branch Rd over Butcher Branch Creek</strong></th>
<th><strong>Meyer Rd Bank Stabilization Project</strong></th>
<th><strong>Fox Farm Rd over Tributary to Joachim Creek</strong></th>
<th><strong>Dynegy, Inc. On-Call Structural Engineering Services</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Construction Cost</strong></td>
<td>Eng. Est.: $790 K Low Bid: $670 K Avg Bid: $699 K</td>
<td>Eng. Est.: NA&lt;sup&gt;1&lt;/sup&gt; Low Bid: NA&lt;sup&gt;1&lt;/sup&gt; Avg Bid: NA&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Eng. Est.: NA&lt;sup&gt;1&lt;/sup&gt; Low Bid: NA&lt;sup&gt;1&lt;/sup&gt; Avg Bid: NA&lt;sup&gt;1&lt;/sup&gt;</td>
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1. Project was constructed by County forces.
Professional Summary
John Gruendler has over 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
- Old Halls Ferry Road Bridge
- Highland Baptist Church Road Bridge
- Fox Farm Road Bridge Rehabilitation
- Meyer Road Box Culvert Extension
- Stonebridge Bridge over BNSF RR
- Butcher Branch Road Bridge over Butcher Branch Creek
- Hanna Road Bridge over Fish Pot Creek

Paul Hesse, PE
Senior Structural Engineer

Professional Summary
Paul Hesse has over 39 years of structural engineering experience. Paul has designed a variety of building structures including industrial commercial, and governmental facilities ranging in size from 1 to 40 plus stories. Paul’s current responsibilities include structural design; project management; quality control; and preparation of plans, specifications, and cost estimates. Some of Paul’s recent experience in bridge design is listed below.

Select Project Experience
- Meyer Road Box Culvert Extension
- GRG Bella Fontaine Bridges
- Miscellaneous Pedestrian Bridges
Roy Jennings, PE  
**Senior Structural Engineer**

**Professional Summary**
Roy Jennings has over 29 years of experience in the construction industry. Mr. Jennings has designed many new buildings and numerous retrofit projects for the industrial, commercial, and residential markets. His designs have included a variety of building materials including steel, masonry, wood, light gage steel, cast-in-place concrete, precast concrete, and tilt-up concrete. Many of these designs have been located in high seismic zones, hurricane zones, and heavy snow regions. He also has extensive experience with deep foundations and earth retention systems.

Mr. Jennings’ current responsibilities include structural design; preparation of plans and specifications; field inspections; cost estimating; and project management.

**Education**
Washington University in St. Louis  
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:  
Missouri  
Ohio  
Oklahoma

Matt Thompson, EIT  
**Structural Engineer**

**Professional Summary**
Matt Thompson has over 18 years of experience in the structural engineering field. Most recently, Matt was the Vice President of Design and Engineering with a prominent Architectural/Engineering firm in Chandler, Arizona where he was responsible for structural design and construction specification development. Since joining Structures, Matt has been an integral design team member on the projects listed below.

**Select Project Experience**
- Highland Baptist Church Road Bridge  
- Old Lemay Ferry Road Bridge  
- Old Halls Ferry Road Bridge  
- GRG Bella Fontaine Bridges

**Education**
Southern Illinois University, Edwardsville  
B.S., Civil Engineering/Structural

**Professional Affiliations**
ASCE-American Society of Civil Engineers  
AISC-American Institute of Steel Construction

**Registrations**
Engineer-in-Training in Missouri

Ryan Notheis  
**Structural CAD Technician**

**Professional Summary**
Ryan Notheis is a structural CADD Technician, proficient in AutoCAD and MicroStation. Ryan also has experience in civil/site drafting for bridge and power station projects. Since joining Structures, he has led the plan development efforts for the following projects.

**Select Project Experience**
- Highland Baptist Church Road Bridge  
- Old Lemay Ferry Road Bridge  
- Old Halls Ferry Road Bridge  
- GRG Bella Fontaine Bridges  
- Babler State Park Bridges

**Education**
Vatterott College, Sunset Hills  
Associates Degree in Computer-Aided Design and Drafting