



## KOEHLER ENGINEERING & LAND SURVEYING, INC.

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November 14, 2013

Missouri Department of Transportation  
Central Office – Local Program Administrator

**RE: Letter of Interest, Structures  
Local Public Agency Projects**

Program Administrator and Interested Parties:

This letter is to formally express our interest in providing design services for bridges, box culverts, and other structures to local public agencies (LPAs) acting in cooperation with the Missouri Department of Transportation.

Koehler Engineering and Land Surveying, Inc. has been serving a broad range of public and private clients for over 37 years. The company was originally founded as a land surveying firm by Mr. Wayne Koehler in 1976. Over the years, our firm has grown and our capabilities have expanded significantly. In 1990, we began to offer civil engineering services, and in 1999 we began to offer geotechnical services and established our own materials laboratory. We own and operate both truck mounted and all terrain vehicle (ATV) geotechnical drill rigs. In 2005, we began offering environmental services, including aquifer hydrology, Phase I and Phase II environmental site assessments, industrial hygiene, indoor air quality investigations, and oversight for environmental cleanup of UST, LUST, and similar sites.

Throughout our 37 plus years of service, we have developed a reputation for providing professional, high quality, and economical engineering designs and related services in a timely fashion for a broad range of projects in the public and private sector. We maintain our financial prequalification with the Missouri Department of Transportation for LPA projects, and have provided services on a broad variety of LPA projects, including many bridge and box culvert structures. Our professional engineering staff has designed over 38 BRO bridge projects, as well as many other private or municipal bridge and box culvert structures.

Our project managers have all been through the LPA “basic training”, and are all thoroughly familiar with the LPA manual and MoDOT engineering policy guide (EPG).

We have design experience with many different types of bridge structures including rolled steel members, plate girder members, reinforced concrete deck beams, pre-stressed concrete members, and cast in place reinforced concrete sections. We have deigned deep foundations bearing on end bearing H piles, thin walled, concrete filled metal shell piles, and foundations pinned directly to bedrock. We have designed single span and multi span structures, with simply supported and continuous multi-span structures.

Structures are frequently only a part of larger projects involving roadway design, hydrology and hydraulic analysis, utility relocations, right of way acquisitions, and



construction inspection. Our firm is a multi-discipline firm, capable of providing all services required for a typical structure project including initial survey, structure design, hydraulic analysis, obtaining National Environmental Policy Act (NEPA) clearances, plan and specification preparation, and bidding services. Once the project is under construction, we have certified project inspectors and a certified materials laboratory.

The only services we typically are not able to offer are lead and asbestos inspections, and archeological investigations. In the event that these services are required by a typical project, we have long standing relationships with qualified, responsive firms who can provide these services in a timely and economical manner.

For the design of structures under the current MoDOT LPA solicitation, we have a team of five engineers and several engineering technicians with experience in bridge design. The following team will have the primary responsibilities.

**Chris Koehler, PE, PLS**, is the senior company officer responsible for the design services in addition to administrative tasks within our firm. As an owner of the firm, he will be the point of contact for all contractual and business correspondence, and all management related issues. Mr. Koehler is a licensed professional engineer and land surveyor, and has been personally responsible for over one dozen bridge projects. He understands the bridge and project design process, and knows what it takes to ensure that project staff remain on task and attentive to required projects, cognizant of progress milestones and project deadlines.

**Richard Meyer, PE**, is a lead professional engineer within our firm responsible for design activities, submittals, and quality control for structure projects. Rich has a lengthy experience record in construction, having served as a field engineer for a large construction firm for over 20 years before switching to a design position with a consulting engineering firm. While working in the construction field, Rich was project superintendent on over two dozen bridge construction projects. His experience in the field construction bridges provides valuable insight during design, providing designs that are economically constructible. Since transitioning to a design role, he has spent over 25 years actively engaged in the design of infrastructure improvements, including over two dozen BRO structures. As a result of his combined field and design experience, he is very aware of typical construction conditions and procedures on highway and heavy construction projects, and is a valuable resource and trouble shooter to assist the field technicians.

I believe that the selection of Koehler Engineering and Land Surveying, Inc. by any Local Public Agency offers significant benefits beyond just our capabilities and expertise. We are able to respond rapidly to projects throughout the region, and to task experienced field and office personnel on very short notice. Many of our engineers and testing technicians are also very familiar with various MoDOT personnel at the state and district levels, which allows us to interact in a direct yet personal nature. This level of personal familiarity can serve to expedite resolution of problems before they even fully develop.

Another benefit derived from the utilization of our firm is the combination of services that we provide out of our office. Since we are a multi-discipline firm, we are able to view a situation from both a design and a construction perspective. This ability to think of a construction problem from both vantage points can frequently be invaluable in quick decision making and resolution of field developments. Field technicians can rely on



support from our office engineers, when necessary, to provide additional input and context.

If you select our firm to provide structure design services, you will be joining a long list of current clients including LPAs Cape Girardeau County, Perry County, Ste. Genevieve County, and the New Bourbon Regional Port Authority. You will be joining municipalities including the Cities of Cape Girardeau, Jackson, and Scott City, Missouri. You will be joining educational institutions including the Perry County School District, the Jackson R2 School District, the Cape Girardeau Public School District, the Fredericktown R-1 School District, and Southeast Missouri State University. Moreover, you will be joining major industries including Procter and Gamble Paper Products, Dupont, Unilever, Nestle Purina, Mondi International, SRG Global, American Railcar Industries, and many others. I believe the quality of our clientele speaks to our professionalism and capabilities better than any other information that I can provide.

I believe that our firm possesses structure design capabilities on par with or exceeding any other firm in our region. I am proud of our personnel and facilities, and I invite any LPA or MoDOT staff to visit our office, meet with our staff and view our facilities. I am certain that if you select our firm to provide services we will provide you with the consistent, professional services you both expect and deserve.

We are proud of the work that we have provided, and the personal and professional relationships we have developed with our clients. We would like the opportunity to develop relationships with many other Local Public Agencies to the mutual benefit of all parties.

I thank you and the Missouri Department of Transportation for your time and consideration in reviewing this information, and look forward to working with MoDOT Local Public Agencies on future projects. If, after reviewing this submittal you need any additional information or have any questions of any nature, please feel free to contact me at your convenience, at 573-335-3026.

Best Regards,

KOEHLER ENGINEERING &  
LAND SURVEYING, INC.

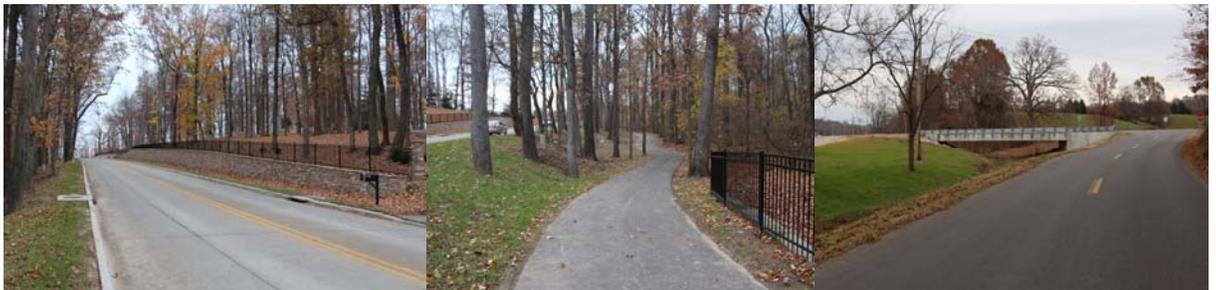
A handwritten signature in blue ink, appearing to read 'C. Koehler', written in a cursive style.

Christopher L. Koehler, PE, PLS  
Project Manager



**STATEMENT OF QUALIFICATIONS FOR  
PROFESSIONAL ENGINEERING &  
RELATED SERVICES**

PRESENTED TO:



STATEMENT OF QUALIFICATIONS FOR:

PROFESSIONAL ENGINEERING & RELATED SERVICES

- Bridge & Structure Engineering*
- \* Roadway Design \**
- Geotechnical Analysis*
- \* Sidewalk and Trail \**
- Land Surveying*
- Structural Engineering*
- \* Construction Materials Testing \**
- Project Inspection*
- \* Project Permitting \**
- Construction Administration*

FOR: MoDOT LPA "ON-CALL" Services

SUBMITTED: November 15, 2013



Providing Professional Services to the Region since 1977.

*Koehler Engineering – Dedication - Experience – Competence - Innovation*



## KOEHLER ENGINEERING AND LAND SURVEYING, INC. COMPANY DATA & STANDARD QUALIFICATIONS SUBMISSION

Koehler Engineering & Land Surveying, Inc. is a Missouri Registered General Business (subchapter S) Corporation. Their principal office is located at 194 Coker Lane, in Cape Girardeau, Missouri.

The contact at Koehler Engineering and Land Surveying, Inc. for additional information relevant to this submission is Chris Koehler, PE, PLS, the company president. He may be reached by phone at (573) 335 – 3026, by facsimile at (573) 335 – 3049, or by email at [ckoehler@koehlerengineering.com](mailto:ckoehler@koehlerengineering.com).

Koehler Engineering and Land Surveying, Inc. is a multi-discipline firm focused on civil engineering. We have a total employment of 24 persons (full time equivalent).

### Business Personnel by Discipline:

The key technical personnel of Koehler Engineering & Land Surveying, Inc. available to work on ongoing and new projects, broken down according to discipline, are as outlined below:

<b>Key Personnel Designation:</b>	<b># of Personnel</b>
<i>Licensed Professional Engineers:</i>	3
<i>Non - Licensed Engineers:</i>	3
<i>Environmental Professional</i>	1
<i>Licensed Professional Land Surveyors:</i>	3
<i>Non-Licensed Land Surveyors:</i>	2
<i>NICET Certified Laboratory Manager</i>	1
<i>Certified Construction Inspectors:</i>	9
<i>Junior Construction Inspectors:</i>	2
<i>Office Engineering Design Technical Staff:</i>	4

Several of the personnel indicated above, in particular the non-licensed surveyors, construction inspectors, and office engineering design technical staff are cross trained, and have dual roles within the firm, which are altered based upon need at a given time. Mr. Koehler is the only dual PLS / PE registrant within our firm.

Koehler Engineering and Land Surveying, Inc. has extensive capabilities covering a broad range of service sectors. Each of these capabilities are presented briefly on the following pages.

Koehler Engineering and Land Surveying, Inc., is Cape Girardeau County's oldest engineering and land surveying firm. Wayne Koehler originally founded the company in 1976 as Koehler Land Surveying, Inc. and the name of the company was changed in the early 1990's to reflect our expanding capabilities.

With our personnel, facilities, equipment, and technology, we offer a complete range of civil engineering, geotechnical engineering, site planning, land surveying, construction observation and materials testing services. We offer services in areas of municipal infrastructure planning and design, bridge engineering, transportation engineering including: roadways, traffic signals, roadway lighting, sidewalks and trails, geotechnical exploration, analysis and design, wastewater collection, treatment planning, analysis and facilities design, potable water distribution system design, hydrology and hydraulics study, monitoring and facility design, site analysis, design and development, and structural analysis design. We also provide construction inspection, materials testing, design review and construction management for facilities we design, as well as designs by others, in order to streamline the construction process for the client and general contractor. A partial listing of our services relevant to MoDOT Local Public Agencies and other infrastructure projects is summarized as follows:

Professional Engineering Services:

- ❑ We provide **Structural Design** of Bridges, Box Culverts, and other structures:
  - Design of single and multiple span bridges with steel plate girder superstructure, or pre-cast / pre-stressed concrete I-beam, bulb-T, or box beam superstructure.
  - Designs in accordance with AASHTO, Mo-Dot, and I-Dot specifications and requirements
  - Design of single and multiple story steel structures
  - Design of single and multiple story timber structures
  - Shallow and Deep foundation analysis and designs for structures designed in-house or pre-engineered facilities design by others.
- ❑ We provide **Transportation Engineering** services covering all of the following areas:
  - Roadway Planning and Design
  - Bridge and Culvert Design including structure, hydraulics, scour analysis, etc.
  - Multi-Use Trail and Sidewalk Planning and Design
  - Parking, Staging, and Recreational Spaces
  - Bridge analysis, rating, and design
  - Traffic Study (volume, performance, projection, speed, travel, etc.) and Analysis
  - Railroad Main line, Spur Line, Switch, and Related Facilities Design
  - Signal Warrant Analysis and Signalized Intersection Design
  - Traffic Capacity Analysis
  - Intersection Geometric Analysis and Improvement Design
- ❑ We provide **Geotechnical Exploration**, analysis, and design including:
  - Site drilling exploration, in situ sampling of native and imported materials, rock coring and examination.
  - Analysis of soil and rock properties
  - Preparation of geotechnical reports and foundation recommendations for buildings, bridges, pavements, and other structures.
- ❑ We provide **Hydrologic and Hydraulic** Study and facilities design in all of the following areas:
  - Hydrologic analysis of drainage basins to develop flood runoff quantities utilizing state of the art computer simulations
  - Hydraulic Modeling of streams and adjacent floodplains
  - No-Rise analysis for modifications to streams and floodplains
  - Floodplain mapping in accordance with FEMA standards
  - Certified floodplain modeling and mapping
- ❑ We provide **Storm Water Management** design services covering all of the following areas:
  - Design of Storm Water collection and conveyance facilities
  - Design of Storm Water detention facilities
  - Design of Storm Water filtration or settlement facilities to improve the quality of storm water discharge
  - Design of site erosion control facilities
- ❑ We provide **Waste water Collection & Treatment** services covering all of the following areas:
  - Sanitary Sewer Trunk Sizing and Design
  - Inflow and Infiltration (I & I) Studies and Remediation
  - Wastewater Treatment Facility Design including various treatment processes ranging from lagoon treatment (aerated or flow through) to mechanical plant design (extended aeration, contact media, recirculating media filters, etc.).
- ❑ We provide **Potable Water System** design services covering all of the following areas:
  - Design and Reporting for Public and Community Supply Wells
  - Design of Distribution System Piping
  - Design of Flow metering and pressure boosting facilities
  - Potable Water Storage and Treatment facilities
- ❑ We provide **Environmental Analysis and Engineering** services covering the following areas:
  - Phase I and II Environmental Assessments
  - Removal and Closure of Petroleum storage and dispensing facilities
  - Industrial Hygiene and Work Environment Study
  - Mold Investigation and Testing

Professional Surveying Services:

- ❑ We provide Topographic Surveying for project development and design.
- ❑ We provide Boundary Surveying in accordance with Missouri and ALTA/ACSM standards for private and public usage.
- ❑ We provide GPS and geodetic control surveys
- ❑ We provide Construction Layout and Staking for all of the following:
  - Bridge Construction
  - Water Line and System Construction
  - Road Construction
  - Building Construction
  - Site Grading and Construction
  - Sanitary Sewer Construction
  - Railroad Construction
  - Storm Sewer Construction
  - Any other type of project construction

Construction Materials Testing Services:

- ❑ We provide [Materials Sampling and Testing](#)\* of the following construction activities:
  - Soil moisture and compaction testing according to standard and modified proctors
  - Soil liquid, plastic, and shrinkage limit analysis
  - Relative density and compaction of aggregate fill
  - Temperature, air content, and slump of concrete
  - Cast, cure, and break concrete cylinder specimens
  - Inspect and test concrete reinforcement placement
  - Cast, cure, and break grout cubes and cylinders
  - Assemble, grout, cure, and break masonry prisms
  - Visual inspection and testing of structural welded connections
  - Inspect and test structural steel bolted connections
  - Perform dynamic penetrometer soil bearing capacity analysis and California Bearing Ratio determination
  - Test asphalt temperature, composition, placement, and compaction
  - Core concrete, masonry, and asphalt for thickness and strength test
  - Falling head hydraulic conductivity test
  - Sieve (gradation) analysis of aggregate materials
  - Non-destructive testing of concrete with Swiss hammer or Windsor probe
  - Primary and secondary drained / un-drained consolidation test
  - Tri-axial shear / friction test
  - Direct Shear / friction test
  - Marshall Mix Design for Asphaltic Pavement
  - Various other test methods not itemized above

In addition to the general capabilities described above, Koehler Engineering has extensive experience working with grant funded projects from various agencies, including grants from the Missouri Department of Natural Resources, the Missouri Department of Economic Development, the Environmental Protection Agency, the US Department of Agriculture and others.

Koehler Engineering also has extensive experience in facilitating project developments through the MoDOT Local Public Agency process, the National Environmental Policy Act (NEPA) process, and in preparing and obtaining paperwork filings for permits to the United States Army Corps of Engineers and the Missouri Department of Natural Resources. (SRF Funding, Potable Water Construction Permits, Forms E and G, Land Disturbance Permitting, Sanitary Sewer Construction Permits, Form B, Wastewater Treatment Facilities, Sanitary Water Construction Permits and Section 106, Cultural and Historical Resources review/permitting).