



November 15, 2013

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Ms. Mary Ann Jacobs
Local Programs Administrator
**MISSOURI DEPARTMENT
OF TRANSPORTATION (MoDOT)**
105 West Capitol Avenue
Jefferson City, Missouri 65102

**RE: Letter of Interest for Missouri's
Local Program (LPA) On-Call Services
Structures Work Category
CDG Qualifications No. Q13092.05**

Dear Ms. Jacobs:

In response to MoDOT's request for consulting firms to perform on-call professional services for an LPA pre-qualified list, CDG Engineers, Inc. ("CDG") submits this letter of interest. CDG is interested in being qualified for the following work categories: roadway design, trails and sidewalks, construction inspection and structures in all areas of the state. This letter of interest specifically concerns qualifications for Structures.

CDG is a 65-person A/E firm located in the City of St. Louis. Its main disciplines are civil and structural engineering, with in-house capabilities in electrical and mechanical engineering, architecture and construction administration/inspection.

Key personnel at CDG have a complete and thorough understanding of the performance requirements for engineering and design work subject to the design and documentation requirements of the Local Public Agency Manual (LPA). CDG has completed over twenty (20) LPA projects in the last five years for various entities in the State of Missouri. CDG has successfully performed work on projects subject to the LPA Manual without any incidences where the sponsoring community has been in danger of losing its funding due to missed deadlines or the inability to obtain MoDOT acceptance of design submissions. In fact, one of the first things CDG does at the start of an LPA project is to have a meeting with the sponsoring community representative(s) and the MoDOT representative to ensure that all parties are in agreement with project goals and budget, and to identify any new requirements and/or documentation requirements of the LPA. Several members of CDG have attended the LPA Basic Training Classes and are currently certified for LPA projects. Additionally, a member of our firm (Glenn Smith) was a member of the Statewide MoDOT LPA Committee 2012-2013.

Typical Approach to an LPA Structures Project:

Based on its successful history of multiple bridge design LPA projects that were conducted in a timely and cost efficient manner, CDG offers the following typical approach:

- Conduct a project kick-off meeting with the LPA to review project goals, schedule, and budgets (design and construction).
- Conduct a topographical survey. (CDG usually subs this portion of the project out [including DBEs], but can provide surveying services in-house for smaller projects).
 - Property owners will be notified of the dates when the survey crew is expected to be in the area.
 - Survey crewmembers will wear identification and carry copies of notification fliers previously distributed to residents.
- Conduct geotechnical investigations of the project site area. (CDG subs this portion of a project out. It regularly works with several geotechnical firms [including DBEs]).



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- Conceptual Engineering Design will commence after completion of the field survey. (Bridge type, size, location, T,S,&L).
- During concept design, CDG staff member will develop design alternatives for alignment options, substructures and superstructures, number of spans and lengths, decorative railings, etc.
- Perform detailed hydraulic analysis examining the 25, 50 and 100 year flood events to determine the proposed bridge type, number of spans and height above the waterbody (if over a stream/river).
- The concept design effort will be followed by review meetings with the LPA and possibly with utilities (water, electric, gas, etc.) representatives who will provide input.
- Multiple representatives from CDG can attend an open house format public meeting. At this meeting, boards of the concept plans are presented to allow public comments.
- Distribute plans to utilities within the area.
- Incorporate comments from the concept meeting with the LPA into the preliminary plans. Another meeting will be held with them to review the preliminary plans before the final design phase begins.
- Prepare temporary construction easements descriptions and right-of-way acquisition, if necessary.
- Incorporate comments from the LPA and utility companies into final design plans and specifications for bidding.
- A current working cost estimate will be made available to the LPA at every milestone submittal and at other submittals as necessary.
- Assist the LPA to bid the project, obtain a construction contract and assist in the construction phase, as necessary.

Possible Permits for a Bridge Project:

- Army Corps of Engineers 404 permit (or nationwide permit)
- MoDNR 401 Water Quality Certification
- MoDNR 106 Cultural Resources Review
- Categorical Exclusion Approval (CE2)
- MoDNR 402 Land Disturbance Permit
- County Land Disturbance Permit & SWPPP
- National Resources Conservation Services (NCRS) Form Ad-1006
- FEMA “No-Rise” Certificate
- FEMA Elevation Certificate
- Affected Utility Approvals
- Lead & Asbestos Inspection of Existing Bridge
- Missouri Dept. of Conservation Endangered Species Review

Key Personnel:

Glenn A. Smith, P.E. is a Senior Structural (Bridge) Engineer with 32 years of bridge engineering, analysis and design experience, as well as an extensive background in the performance of project management and the coordination of bridge improvement projects using Federal and local funds. Glenn has participated in more than 100 different bridge planning, design and construction projects in his engineering and design career. This work has been performed for municipalities, counties (Franklin, Jefferson, Cole, St. Louis and St. Charles Counties, etc.), MoDOT and IDOT. Surface transportation improvement projects for many St. Louis area municipal clients have included LPA funded roadway and bridge improvement projects subject to MoDOT technical reviews.



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Timothy R. Nugent, P.E. is a Structural (Bridge Specialist) Engineer with over 18 years of public works and infrastructure improvement experience, most on bridge replacements, culvert installations, and improvement projects for roadway reconstruction. Tim has experience on projects for the St. Louis County Department of Highways and Traffic, MoDOT, IDOT, the City of St. Louis and its Board of Public Service and others. Tim has experience and expertise in the replacement of stream crossing bridge structures, culvert installations (single cell, double cell and others), roadway approaches and realignments for bridge replacement work, retaining wall structures, raising roads out of floodplains, pedestrian and bikeway trails and other public works and infrastructure improvements.

Nathan W. Barger, P.E., LEED AP is a structural engineer with approximately 12 years of experience in the design of bridges, culverts and buildings. Nathan has completed preliminary and final design for numerous bridges for MoDOT. He has also performed design work for such municipalities as the Cities of Ferguson, Park Hills, Manchester, Chesterfield, St. Louis and O'Fallon, Missouri.

Matthew M. Voss, P.E., has over 5 years of roadway and hydraulic design experience including a position at MoDOT District 6. Matt's CDG experience includes road, bridge, storm sewer and site development projects. He has been the main hydraulics engineer on last several LPA funded bridge projects for CDG. He has also provided construction inspection services for several bridge projects.

Recent Structures Project Experience:

Enoch's Knob Road Bridge Replacement (LPA Project), Franklin County, MO – Engineering and design services to replace an existing bridge over Bush Creek, built in 1908, with a 380 foot long three span steel girder bridge.

New Hope Church Road Bridge Replacements (LPA Project), Franklin County, MO – Engineering and design services to replace two nearby bridges over Big and Little Indian Creeks with the accompanying roadway and site work.

Hillsboro-House Springs Road Bridge Replacement (LPA Project), Jefferson County, MO – Engineering and design services to replace a single span steel beam bridge with a one span pre-stressed concrete I-girder bridge over a tributary of Belews Creek.

Highland Avenue Bridge Replacement (LPA Project), City of Des Peres, MO – Engineering and design services to replace an existing bridge over Sugar Creek with a slightly longer one span bridge with a revised vertical alignment to reduce flooding in a residential area.

Whitecliff Park Service Road Bridge (LPA Project), City of Crestwood, MO – Engineering and design services to replace an existing bridge over Gravois Creek within Whitecliff Park.

CDG is very interested in providing structure design services on LPA projects across the State of Missouri. Please refer to our three (3) company reference forms and four page qualifications for more information (enclosed), as well as CDG's MoDOT Personal Bridge Experience Records.

Respectfully submitted,

CDG Engineers, Inc.

Handwritten signature of Michael A. Augustine in blue ink.

Michael A. Augustine
Manager, Project Development

Handwritten signature of Glenn A. Smith in blue ink.

Glenn A. Smith, P.E.
Project Manager

Enclosures

CDG Engineers, Inc.

Public Works and Infrastructure Services Overview St. Louis, Missouri

CDG Engineers, Inc. is a full service, multi-discipline professional services organization with more than 65 personnel. Technical services have included various engineering studies, design and construction coordination assignments. Specialized experience and technical expertise for the following:

- Roads/Bridges/Culverts/Retaining Wall Structures
 - Plans, Specifications, Construction Estimates, Construction Administration
- LPA Project Administration and Execution
 - Preparing Applications for Local Public Agency (LPA) funding assistance
 - Managing LPA funded projects and complying with all technical requirements
- Pedestrian and Bikeway Trails and Walkways
 - Recreational Park and Recreational Site Improvements and Amenities
 - Hiking and Biking Trails (locations studies, alternative alignments, design, etc.)
- Street and Streetscape Improvements and Other Transportation Enhancements
 - Site Planning and Landscaping Improvements
 - New Sidewalks, Curbs and Gutters
 - Street and Pedestrian Lighting
- Creek/Channel/Stream Restoration, including Erosion Control
- Flood Plain Protection Studies, including hydrological and hydraulic modeling
- Permitting Assistance, Permit Applications and Compliance
 - Flood Plain Development, Army Corps of Engineers, State Department of Natural Resources (or Environmental Protection Agency) and Water Quality Permits
- City Engineer Services
 - Performance of on-call task order assignments
 - Indefinite Delivery/Indefinite Quantity (IDIQ) contracts
- Area-wide Exterior, Security and Pedestrian Lighting
- Parking Lots, Equipment Storage Yards, Material Storage Facilities
- Parking Structures (New Construction and Repair/Restoration)
 - Studies, Inspections, Design and Construction Administration
- Sanitary Sewers and Storm Water Drainage and Control Systems
 - Sanitary Relief Sewers
 - Combined Sewer Relief Projects
 - Channel Restoration and Stream Bank Stabilization
 - Sewer Rehabilitation and/or Replacement
 - Pump Stations and Outfalls
- Administrative, Maintenance and Support Buildings Programming and Design, as well as Site Planning and Other Project and Construction Administration Services

CDG Engineers and its full-time 65-person technical staff routinely provide multi-discipline expertise for various municipalities and governmental entities.





Glenn A. Smith, P.E. (Civil and Structural Engineer/Project Manager) – Glenn’s career has spanned more than 30+ years and he has provided civil and structural engineering expertise for local, regional and national projects, including work for MoDOT, IDOT, the City of St. Louis, Jefferson County, Franklin County, St. Charles County and other local groups. In the area of surface transportation, he has provided specialized structural engineering and project management services for various types of bridge structure, culvert and highway improvement projects. In his career, has been responsible for the engineering and design of over 100 bridges and associated roadway improvements.

Timothy R. Nugent, P.E. (Civil and Structural Engineer) – Tim has approximately eighteen (18) years of public works and infrastructure experience, with most of that experience acquired for bridge replacements, culvert installations and surface transportation improvement projects for roadway reconstruction work. Tim has experience on projects for the St. Louis County Department of Highways and Traffic, the Missouri Department of Transportation, the Illinois Department of Transportation, the City of St. Louis and its Board of Public Service and various other surface transportation groups. Tim has experience and expertise in the replacement of stream crossing bridge structures, culvert installations (single cell, double cell and others), roadway approaches and realignments for bridge replacement work, retaining wall structures, pedestrian and bikeway trails and other public works and infrastructure improvements.



Nathan W. Barger, P.E., LEED AP (Civil and Structural Engineer) – Nathan has approximately 12 years of experience in the design of bridges, culverts and buildings. Nathan has completed preliminary and final design for numerous bridges for the Missouri Department of Transportation. He has also performed design work for such municipalities as the Cities of Ferguson, Park Hills, Manchester, Chesterfield, St. Louis and O’Fallon, Missouri. Nathan has also provided structural engineering for buildings for educational, commercial and residential buildings. In the last couple of years, he has worked on several segments of a 47 mile pedestrian and bikeway trail in Western Missouri, as well as several streetscape projects at

site throughout St. Louis County.

Sarah L. Bruehl, E.I. (Structural Engineer) – Sarah has over 5 years of experience in the design of bridges, culverts and building structures involving the preparation of construction plans and specifications including bridges and building structures. In a capital improvement program for the State of Missouri, assisted in the identification of repair and modification work for various bridge structures along a proposed pedestrian and bikeway trail (Missouri Department of Natural Resources).



Matthew M. Voss, P.E. (Civil Engineer) – Matt has over 5 years of experience. In that time, he has successfully completed civil engineering work on numerous public works and infrastructure projects in the St. Louis Metropolitan Area. He has also performed work for utility and commercial development companies, and he is a former staff member of the St. Louis Metro. District of MoDOT (Chesterfield Office). Matt has developed civil engineering plans for railroad spur and loop tracks, pedestrian trails along railroad rights-of-way (MoDNR Project in Western Missouri); and roadways and hydraulic analysis for bridge replacements.

The following listing of structure projects represent work administered under the LPA Program that is subject to review by the Missouri Department of Transportation (MoDOT) with coordination through the East-West Gateway Council of Governments (the Local MPO).



City of Arnold, Jefferson County, Missouri – CDG Engineers provided engineering and design services for the preparation of preliminary and final designs for the replacement of a very narrow two-lane bridge to carry Ozark Drive over Pomme Creek. Bridge site is located immediately upstream from a deep culvert located beneath Interstate I-55. Bridge design featured the use of an extremely economical bridge structure and the need to minimize the impact of the bridge on the stream hydraulics in the area around the new bridge crossing. The new bridge accommodates vehicular and pedestrian travel in a

residential area.

City of Crestwood, Crestwood, Missouri – Performed preliminary and final engineering for the design of a bridge replacement over a section of Gravois Creek in Whitecliff Park. The existing bridge had been closed for several years prior to replacement due to deficiencies. Also provided construction administration services.



City of Des Peres, Des Peres, Missouri – Provided preliminary and final engineering design for the Brookbend Drive bridge replacement over Two Mile Creek. Replaced an existing bridge with a one span bridge to reduce flooding in a residential area. CDG also provided construction administration services.

City of Des Peres, Des Peres, Missouri – CDG prepared a successful T.I.P. application for the Firethorn Drive bridge replacement project. Later provided preliminary and final engineering design for the bridge replacement over Two Mile Creek. Replaced an existing bridge with a one span bridge to reduce flooding in a residential area. Both Brookbend and Firethorn are located in the same neighborhood.



City of Des Peres, Des Peres, Missouri – CDG prepared a successful T.I.P. application for the City of Des Peres for the Highland Avenue bridge replacement project. Also provided preliminary and final engineering design services for the replacement of an existing bridge over Sugar Creek with a slightly longer one span bridge with a revised vertical alignment to reduce flooding in a residential area.

City of Fenton, Fenton, Missouri – Engineering, design and construction administration services for the replacement of an existing 52-foot bridge structure carrying Old Highway 141 over Fenton Creek. The old structure was a one-span steel bridge, and the new bridge was a concrete structure.

Franklin County (Highway Department), Union, Missouri – Preparation of the successful T.I.P. application for the New Hope Church Road bridge replacements project. Also, provided engineering and design services to

replace two nearby bridges over the Big and Little Indian Creeks with the accompanying roadway and site work. Also provided construction inspection. Project area was located in a rural area of the County.

Franklin County (Highway Department), Union, Missouri – Preparation of the successful T.I.P. application for the Enoch’s Knob Road bridge replacement project. Also provided engineering and design services for improvements to Enoch’s Knob Road located in a rural area of the County. Included replacement of an existing bridge built in 1908 over Bush Creek with a 3-span, 380’ long weathering steel PL girder bridge. Also provided construction inspection services.



Jefferson County (Public Works

Department), Hillsboro, Missouri – Engineering and design services for roadway improvements to a section of Mammoth Road located in southern Jefferson County. This project included a major re-alignment of the existing roadway, the relocation of some existing utilities (power poles, telephone line, etc.) and a replacement of a bridge structure over a stream that paralleled and crossed underneath this section of Mammoth Road.

Jefferson County (Public Works Department), Hillsboro, Missouri – Engineering and design services for roadway improvements to a section of Hillsboro House Springs located in Jefferson County. This project included realignment of the existing roadway, the relocation of some existing power poles, and replacement of a bridge structure over a stream that crosses underneath this section of Hillsboro House Springs Road.

City of Maryland Heights, Maryland Heights, Missouri – Engineering design services for surface transportation enhancements to the I-270 and Dorsett Road Interchange and portions of Progress Parkway in the City of Maryland Heights. Work included new crosswalks, pedestrian walks, pavers, lighting, decorative rails, medians, MSE walls, signage and landscaping. CDG had to present possible design ideas to the City Council on several occasions. Animations were created to convey the enhancement design. CDG Engineers prepared plans, specifications and construction cost estimates, as well as provided some construction administration services.



City of Wildwood, Wildwood, Missouri – Project management, engineering (civil and structural) design services for roadway improvements and the replacement of the Strecker Road Bridge over Caulks Creek. CDG Engineers also provided periodic construction administration and inspection services for the project. This project assignment also included coordination with a *Stream Restoration Committee*, and design of stream (channel) improvements.

City of Wildwood, Wildwood, Missouri – Project management, engineering (civil and structural) design services for the replacement of the Shepard Road Bridge (No. 3-104) over Caulks Creek. This assignment also included coordination with a *Stream Restoration Committee*, and design of channel improvements. This project was partially funded by TEA-21 monies provided through East-West Gateway Council of Governments and subject to review by MoDOT.