April 25

Firm Name: (Responsible Office)
Janssen & Spaans Engineering, Inc.
9120 Harrison Park Court
Indianapolis, IN 46216

Contact Person:
Phil Kuntz, P.E.
pkuntz@jsengr.com

Thank you for the opportunity to provide our Letter of Interest and Qualifications for this Bridge Replacement Project on SR 249 in Porter County in the LaPorte District.

Janssen & Spaans Engineering (JSE) is an ISO 9001:2008 certified firm comprised of veteran staff with significant INDOT experience in the many aspects of roadway design, bridge design, interchange modifications, intersection improvements, and project management. JSE’s main office is located in Indianapolis with a branch office in Columbus, Indiana. All of our staff members are local to Indiana which ensures that the engineers and technicians assigned to this project are familiar with INDOT design standards and procedures.
PROPOSED PROJECT TEAM MEMBERS

Building a strong team has been JSE’s main focus over the past few years. We know the importance of having experienced staff and training new and existing staff to accomplish our goal of satisfying the customer by delivering projects on-time and on budget.

Jeff Matern, P.E. will lead our team as our Project Manager for this project. He has over 33 years of experience in all aspects of transportation engineering and project management. JSE chose Jeff because of his ability to manage projects similar in size and complexity to this project in Porter County. He will be assisted by an experienced JSE team and sub-consultant team.

COMMUNICATION PLAN

JSE is committed to ongoing and frequent communication between our Project Manager (PM), the INDOT PM and any sub-consultants are critical to the success of any project. Bi-weekly/Monthly progress reports will be submitted to the INDOT PM to provide information related to tasks completed, schedules, scope changes, and budget and invoice summaries. All work will be reviewed by our QC/QA team to insure our JSE team and subs are following proper procedures and timely responsiveness.

The JSE PM will also regularly utilize e-mail or conference calls to keep the INDOT PM and sub-consultants informed to insure procedures and schedules are being met between our team. This type of communication will be done as frequently as necessary, at critical times in the schedule and if significant issues arise that require INDOT input. The INDOT PM will be notified immediately by email and followed up with a phone call should any issues come about. Issues are then recorded and made available to the parties involved.

JSE has observed, reviewed, and monitored the existing conditions and traffic movements on SR 249. Our observations and the supporting documents provided have given our engineers a better understanding of the purpose and need of the project and the information needed to prepare our Letter of Intent.
RELEVANT PROJECT EXPERIENCE

JSE has worked with the LaPorte District on many types of transportation projects over the years with a very high success rate. We have also worked with similar bridge projects to the scope of the SR 249 bridge project and are confident we can have the same success if we are selected.

SR 912 over Gary Ave, EJ, ERR, & IHB RR

Project Manager – Jeff Matern, P.E.
Jeff Matern was the project manager for the rehabilitation of these dual, eight span, 473-foot long bridges on SR 912 over Gary Avenue and EJ&E Railroad in Lake County, Indiana. The bridges consist of seven steel rolled beam spans and one reinforced concrete T-girder span. Services provided by JSE included a bridge rehabilitation scoping report, bridge design and contract document preparation. The rehabilitation design modifies the superstructure by replacing the deteriorating steel beam pin-hinge connections with new bolted splice plates to make the beams continuous and eliminate the deck expansion joints at these locations.

SR 9 over Flat Rock River

Project Manager – Jeff Matern, P.E.
Through an exhaustive inspection and analysis of the existing historic bridge, JSE determined that it was not cost-effective to rehabilitate the existing bridge. JSE analyzed the cost-benefit and impacts of several maintenance of traffic options including complete road closure, partial width bridge construction, temporary runaround and a new bridge constructed on either side of the existing bridge replacing the original through truss bridge. JSE provided engineering assessment, hydraulic analysis, road design, bridge design, bridge rehabilitation, maintenance of traffic, and traffic design services for this $3 million bridge replacement and road reconstruction project.

SR 25 over Eel River

Project Manager – Jeff Matern, P.E.
Project manager/designer for U.S. 41 bridge replacement over EJ&E RR in Schererville. Project included the design of a four-span, 410-foot long, 84-foot wide, replacement bridge; a six-foot raise in grade with mechanically stabilized earth walls; and development of a traffic maintenance scheme to allow building the structure one-half at a time under heavy traffic in a highly developed commercial corridor.
RELEVANT PROJECT EXPERIENCE

I-65 over Kankakee River

Project Manager – Jeff Matern, P.E.

Jeff was the project manager for the rehabilitation of the Northbound and Southbound I-65 bridges over the Kankakee River in the LaPorte District. The original scope of the project was to replace the steel I-girder superstructures due to the presence of fatigue cracks in numerous locations in the steel girders. Jeff worked closely with INDOT staff to establish structural retrofit details for the steel girders to address the fatigue cracking situation and eliminate the immediate need for the superstructure replacement.

SUB-CONSULTANTS

Franco Consulting Engineers (FCE) is a DBE and MBE certified consulting engineering firm qualified to provide professional services in Highway Design, Project Consulting, Project Management, Environmental Reports, Utility Coordination, Pavement Design, Geotechnical Investigations, Materials Testing, and Construction Inspection.

FCE provides testing services for construction materials including Aggregates, Asphalt, Concrete, and Soils. FCE has all equipment (DCP, LWD, Conc. Testing equipment, Sand Cone, etc.) to perform materials testing services on any given project.

Little River Consultants was founded in 2015, providing you a new option for Natural Resource Consulting. They may be a newly formed company, but they are built on experience. Their president and founder has over 20 years of experience in the industry, focused in Indiana and the greater Midwest. We are a Woman-Owned Small Business, located in the heart of Indiana.
Our entire 60 employee staff at JSE is devoted to providing engineering services to INDOT specializing in most transportation projects including the bridge replacement on SR 249 in Porter County. To date, our current INDOT workload is only 15% of our available contract capacity. Our team has the available capacity to meet LaPorte Districts needs. JSE is also nearing completion for the On Call Project Development Services with INDOT Central Region.
KEY MEMBERS

Project Manager

EXPERIENCE - Jeff Matern is a registered Professional Engineer in Indiana with over 33 years of experience in the transportation design industry. Jeff has served as Project Manager for over 70 bridge replacement and rehabilitation projects for both INDOT and local agencies with projects ranging in complexity from local road to major interstate interchange bridges.

LEADERSHIP – Jeff has been responsible for directing and overseeing the work of multiple bridge design teams which enables him to share his experience and knowledge while maintaining involvement in numerous concurrent projects. Jeff uses his expertise in bridge replacement and bridge rehabilitation to provide guidance and direction during the design process while also ensuring that the projects meet or exceed the quality, budget, and scheduling expectations of the client.

EDUCATION
BS, Civil Engineering, Purdue University

CURRENT RESPONSIBILITIES
Project Management and Bridge Design Services

EXPERIENCE
33 Years

REPRESENTATIVE PROJECT EXPERIENCE

I-65 over the Kankakee River – Bridge Project Manager (Project engineer for the design of a retaining wall along SR 56 consisting of drilled shafts with lagging panels spanning between them held back with rock anchor tie backs. The wall had over 300 drilled shafts placed over half of a mile of road to prevent it from continually experiencing down-slope failure resulting in roadway settlement.)

S.R. 9 Bridge over Flatrock River Replacement – Bridge Project Manager (Jeff oversaw and managed the bridge design for this $3 million bridge replacement project. The roadway alignment was complicated due to the bridge being located on a short tangent between two horizontal curves. This project included the removal of the existing historic through truss bridge.

US 41 Bridge Replacement over EJ&E Railroad – Bridge Project Manager (Project manager/designer for U.S. 41 bridge replacement over EJ&E RR in Schererville. Project included the design of a four-span, 410-foot long, 84-foot wide, replacement bridge; a six-foot raise in grade with mechanically stabilized earth walls; and development of a traffic maintenance scheme to allow building the structure one-half at a time under heavy traffic in a highly developed commercial corridor.)

As a project manager, Jeff has the experience and expertise that meet or exceed what INDOT needs for this project.
KEY MEMBERS

Patricia Conner  
Environmental Manager

Certifications: FHWA/INDOT NEPA
Education: BS, Anthropology, Depauw University

› 25 years of experience working in the transportation field
› Will report to PM Jeff Matern and will coordinate closely with Sub-Consultants
› Responsible for environmental management for JSE and oversees the work and scheduling of JSE sub-consultants that may be required for Section 106 or environmental field surveys
› FHWA/INDOT NEPA certification and has attended INDOT Cultural Resource training

Josh Foster, P.S.  
Survey Manager

PS Registration: Indiana
Education: BS, Land Surveying, Purdue University

› Registered professional surveyor in the state of Indiana
› Managed survey operations on road and bridge projects statewide on numerous sites and for many federally-funded mapping projects
› Responsible for all areas of surveying at JSE including: aerial control, topographic survey, boundary and right-of-way surveys, right-of-way plats, and right-of-way engineering

Christina Lu, P.E.  
Bridge Design Manager

PE Registration: Indiana
Education: BS, Civil Engineering, University of Kentucky

› Registered Professional Engineer in Indiana
› Has over 18 years of experience in transportation engineering
› Experienced in preparing and reviewing structural design calculations for steel prestressed concrete & post-tensioned concrete bridges, developing construction plans, reviewing drawings, consultant review for INDOT projects
› Supervises drafting personnel in the development of CAD and reviews shop drawings

Paul Myers, P.E.  
Road Design Manager/QC

PE Registration: Indiana
Education: BS, Civil Engineering, Purdue University

› Registered Professional Engineer in Indiana
› 31 years of experience including road design, bridge design, hydraulic design, and project management
› Seven years of experience working at INDOT
› Designed and managed many large and small road improvement projects ranging from the $51.9 million to $250 thousand small structure replacements
KEY MEMBERS

Firooz Zandi, P.E.
Geotechnical Services

PE Registration: Indiana
Education: MS, Civil Engineering, University of Louisville

› Registered Professional Engineer in Indiana
› Has over 30 years of experience in geotechnical engineering operations
› Experienced in preparing geotechnical reports for piles, spread footings, mat foundations, drilled shafts, and MSE walls
› Has developed and maintained policies, procedures, and standards of the activities and functions of geotechnical operations

Rachele Baker, PWS, CPESC
Environmental Services

Certifications: FHWA/INDOT NEPA
Education: BS, Natural Resources & Environmental Science/ Purdue University

› Project Manager and Environmental Scientist with over 20 years of experience in environmental projects
› Experience includes stream and wetland mitigation design and monitoring, NEPA environmental assessments and categorical exclusions, permitting and compliance
› NEPA documents addressed air quality, noise levels, water quality, wetlands, endangered species, karst, archaeological features, historic structures
PROJECT UNDERSTANDING & APPROACH

JSE understands that the key to successful management and completion of any project is to quickly identify issues that are critical to the schedule and budget and provide solutions while maintaining close and continual coordination with INDOT’s district staff. Our ultimate goal and focus is to ensure that our INDOT project assignments incorporate practical design features and stay on budget and on schedule.

Understanding

The project site is located at SR 249/G Nelson Drive approximately 2.0 miles north of I-94 in Porter County. JSE reviewed the advertised mini scope, the current Bridge Inspection Reports and the existing plans on file in the INDOT Research and Documents Library.

The existing structure is a 10-span structure with 1 @ 86.61’, 3 @ 98.43’, 1 @ 114.83’, 4 @ 101.71’ and 1 @86.61’ continuous precast prestressed concrete (PPC) bulb tee beams which carries SR 249 over US 12, NICTD railroads, CONRAIL railroads, South Boundary Road and multiple utility lines. The structure was built in 2000. The bridge superstructure shows multiple signs of structural deficiencies including wearing surface cracking, minor underside rusting and corrosion in localized area. In addition, the superstructure beams are rated as poor condition with a rating of 4. The PPC bulb tee beams #1, #2 and #4 at span showing signs of cracking into the top flanges due to delayed ettringite formation (DEF) in the construction process of the concrete beams. The Inventory Rating of the structure is 40 tons and the Inventory Rating (H) is 22 tons.

The bridge is crossing several railroad tracks that are critical to the operations of the Port of Indiana at Burns Harbor (Port). Implicit coordination with the Port Authority and the Railroad Authorities is extremely important to maintain the project’s schedule.
Approach

The purpose of this project is to provide a long term resolution for this bridge that is subject to structural deficiency due to excessive amount of DEF in the PPC Beams. If this condition is not repaired, the beams will continue to deteriorate and eventually lead to a structural bridge failure.

Based on our understanding, the intention of this project is to replace the bridge with a new bridge that carries the traffic of SR 249 in a functional, safe and cost effective manner. For the first phase of the project, JSE will provide Bridge Assessment Development Services to collect and review various information to better define the scope of work. The Engineering Assessment/Engineer’s Report will emphasize constructability concerns, maintenance of traffic issues and summarize various design considerations to meet the project needs. This report will include an economic analysis to determine the best design alternates and include investigations of:

- Constructing a temporary bridge instead of new bridge to carry Port traffic during construction
- Possibilities of phase construction to allow one lane of traffic during construction requiring extensive coordination with Port and Railroad Authorities for the MOT schemes
- Analyze the needs of full/partial superstructure beams replacement by conducting concrete testing for all the beams to identify and replace only the beams with DEF issue
- Analyze the needs of full/partial deck replacement by conducting concrete deck coring to eliminate full deck replacement. Improve the wearing surface rating by LMC overlay and rehabilitate the bridge deck with full/partial depth deck patching
- After the scope of the work is defined, JSE anticipates providing bridge, road, environmental, topographic, survey, geotechnical, right-of-way, utility coordination and plan development services for the construction contract documents
Why you should select Janssen & Spaans Engineering, Inc.

Diversified Experience – We have the skills and technical expertise to tackle any project type or size need in the LaPorte District.

Available Capacity – JSE’s current active INDOT project assignments are much less than in years past. We have and are currently preparing tracings submittals for a number of our INDOT projects.

Committed to Saving INDOT Money – JSE has applied INDOT’s Open Roads Policy on over 40 INDOT projects resulting in over $15 million in cost savings to INDOT.

JSE offers an absolute commitment to the success of each assignment by providing the highest quality transportation design and project management services.

Thank You