November 15, 2013

Mr. Kenny Voss, P.E.
Local Programs Administrator
Missouri Department of Transportation
PO Box 270
Jefferson City, MO 65102

RE: Missouri's Local Program
On-Call Services (Trail and Sidewalk)

Dear Mr. Voss,

HDR would like to thank you for the opportunity to submit this letter of interest to provide on-call trail and sidewalk design services to Local Public Agencies (LPAs). HDR has a proven history of providing a high level of client service and developing practical solutions to a wide range of design challenges. HDR employee-owners work hard to build trust and rapport; this dedication has led to HDR being regarded as a trusted advisor by many of our clients.

HDR's "Client First" focus is highlighted by an overall strategic project approach and is founded on three key elements:

1. Maintaining continuous communication between the LPA staff and the project team. This is the primary objective of the Project Manager. This is beneficial to the team and provides the LPA with a constant check on progress. Any issues, critical decision points, and practical design solutions will be brought to their attention immediately. This approach keeps the LPA involved in the design development, eliminates inefficient use of time, and helps meet tight schedule demands.
2. Applying Context Sensitive and Sustainable Solutions to the design process to address long-term environmental, social, and economic challenges. HDR utilizes multi-disciplinary project team to cost effectively deliver projects that preserves scenic, aesthetic, historic and environmental resources while improving safety and mobility.
3. Utilizing experienced local staff to provide excellent service and meet your schedule. HDR has eight offices throughout Missouri, which allows our engineers to be in close proximity to projects across the state. This facilitates communication and allows our engineers to attend regular project meetings and to be on site quickly to address any construction related issues.

HDR's Contract Manager for the "Trail and Sidewalk" design category is Mike Ecker. Mike is a highly qualified consultant with nearly 18 years of design experience, including over 10 years in the design of federally funded LPA projects, including numerous trail and roadway projects throughout Missouri. Mike ensures that HDR's Project Managers are engaged and responsive to LPA project needs and meet regularly throughout the design process to ensure that proper procedures and schedules are being followed, and that the project goals are being met.

Trail and Sidewalk Design

As part of the LPA design process, HDR typically performs a conceptual design layout and report to determine the most cost-effective solution for a particular project. HDR design engineers have worked on the full range of trail and sidewalk design projects from intersection improvements, sidewalk replacements, shared use path design, safe route to school projects, development of citywide bike plans, multi-use trail design, and streamwalks that meander through old-growth forests. Our design engineers regularly work closely with other disciplines to provide holistic design solutions to challenging projects. HDR has the expertise to deliver context sensitive and sustainable solutions that benefit the environment and the community. This includes collaborating on methods to provide an ADA-compliant facility and the most cost effective drainage solutions. Throughout all phases of the design, HDR takes great pride in updating and refining the cost estimates and schedule to assist LPAs in making educated decisions in terms of the best solution to their project.

Project Approach

HDR has a sound understanding of the LPA process. The following tasks are required to implement the typical trail and sidewalk project.

- *Field Surveys and Data Collection:* HDR regularly teams with well-respected surveying and geotechnical firms to provide these services. These firms have typically worked with HDR on previous trail projects throughout Missouri.

  HDR does have internal surveying capability if it is felt that local firms need additional support or the work is more challenging than your typical project.

- *Environmental Cultural & Historical Clearances:* The LPA process provides sound guidelines and a structured process for obtaining the required permits and necessary

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environmental clearances. This ensures projects have a positive effect not only on the LPA, but also on the surrounding environment and affected property owners. HDR has internal environmental and resource management staff to assist in completing the required documentation and in communicating with the appropriate regulating agencies. This guidance helps to ensure that the environmental and cultural submittals are clear and contain all of the pertinent information, thus speeding the approval process and eliminating the possibility of costly and time-consuming resubmittals.

- *Design Phase:* HDR regularly manages the preparation and submittal of preliminary and final design plans.

  HDR begins by reviewing existing studies and reports pertinent to the project area to look for practical solutions to limit impacts and reduce costs. Revisions to the conceptual trail horizontal alignment and vertical profile will be made where appropriate. A General Plan and Elevation of proposed crossings will be submitted to the LPA, MoDOT, railroads, and other relevant agencies for review and acceptance prior to starting the final design.

  HDR works with LPAs, utilities and adjacent property owners on a regular basis to develop right-of-way (R/W) plans and descriptions that minimize the extent of permanent R/W takings and/ or Temporary Construction Easement (TCE) required for the project.

  The design team will contact and coordinate the final plans with all affected utilities throughout the final design process.

- *Bid and Construction Phase Services*: HDR works with the LPA in getting the contract documents to prospective bidders, addressing questions related to the contract plans, and in selecting a qualified contractor. HDR can also provide a wide range of additional technical services including shop drawing review, administrative services (project diaries, invoices, change orders), construction inspection and material testing to help the LPA proceed smoothly throughout the construction process.

HDR has successfully followed these guidelines on several recent LPA projects.

Project Team

HDR understands the importance of utilizing local engineering resources where appropriate on LPA projects. This allows HDR to gain local knowledge, support the local community and develop a project team with highest probability of producing a practical and cost-effective design. HDR has worked as both a prime and subconsultant to local firms on bridge replacement projects. HDR's role is often dependent upon the complexity of the project. Often these team members include DBE qualified firms.

HDR has the Missouri staff with the knowledge and capabilities to meet your trail design needs anywhere in the state. The following is list of our key design staff.

Mike Ecker P.E., Contract Manager & Task Order Manager – Mike has nearly 18 years of engineering and project management experience including locally and federally funded LPA projects. He has successfully delivered a wide range of transportation projects for LPAs throughout Missouri. This experience includes pedestrian facilities in many different types of projects including parking lot designs, roundabouts, intersection improvements, community parks, pedestrian bridges, community parks, shared use paths, and recreational nature trails. Mr. Ecker is familiar with all aspects of the LPA process including funding, permitting design, R/W acquisition, as well as bidding and construction services. Mike works closely with structural designers, local officials, and property owners to address concerns early in a project, thus helping to ensure that the outcome is a win-win solution for all involved.

Tim Rogaczewski, P.E., Contract Manager & Task Order Manager – Tim has more than 25 years of experience in the field of transportation regarding the design and management of bridge and roadway projects. Projects have included design and detailing of pedestrian facilities, trails, greenways, and streetscape enhancements. Duties have included client contact, supervision of engineering staff, and budget tracking. Tim will make sure that your needs are met on each and every task order and that experienced personnel are made available to work on your projects.

Simon Sun P.E., Project Manager – Simon has over 16 years of experience in the design and plan production of municipal and state highway construction projects. Design experience includes geometric and intersection design, storm sewer/culvert design, construction sequencing, traffic control, signing & pavement marking, lighting, R/W acquisition, railroad coordination, utility coordination, and erosion control.

Kyle Schomaker, P.E., Project Manager – Kyle has over 11 years of highway design experience. His primary project experience has been in design and plan production for municipal and state highway construction projects. These projects required Break-in-Access approval, public meetings, major drainage studies, and coordination for levee crossings.

Ching Tee, P.E., Project Manager – Ching has more than 11 years of experience in roadway design for numerous state and local agencies. He has worked on a variety of past LPA projects, from multiuse trails to local transportation projects. Work tasks included roadway design and detail checking, plan review, cost estimating and specification review.

Total Trail Design Staff in Missouri: 6 P.E.s and & 3 E.I.s

Past Performance

HDR prides itself in the accuracy of our cost estimates, the quality of our construction documents, and in meeting project schedules. An example of several recent projects showing our planning estimate versus the actual cost and schedule is shown in the table below.

Project Name	Estimated Budget	Actual Budget	Estimated Schedule	Actual Schedule
Route 367 Improvements PMC, MoDOT, St. Louis County, MO	$45M	$44.9M	88 mos	88 mos
Route 763, MoDOT, Columbia, MO	$15M	$13.9M	40 mos	40 mos
Missouri River Bridge, Route 240, MoDOT, Glasgow, MO	$15M	$14.4M	27 mos	27 mos
Tucker Boulevard, City of St. Louis, MO	$20.2M	$22.0M	49 mos	51 mos
Non-Motorized Intersection Improvements, Columbia, MO	$1.4M	$1.4M	61 mos	61 mos
Whiskey Creek Bridge, Franklin County, MO	$288,582	$229,877	120 days	120 days
Sapsucker Road Bridge, Franklin County, MO	$249,257	$189,780	120 days	120 days
Interstate Drive Corridor Preservation/Design, Wentzville, MO	$3.4M	$2.29M	48 mos	48 mos
Mid Rivers Mall Drive Extension, St. Peters, MO	$2.9M	$2.2M	12 mos	12 mos
Heartland Road, Heartland Regional Hospital, St. Joseph, MO	$2.0M	$1.9M	24 mos	25 mos
West Gate Access Road, USACE, Fort Leonard Wood, MO	$24.1M	$24.0M	17 mos	12 mos
Chambers Road, MoDOT, St. Louis, MO	$2.1M	$2.2M	48 mos	48 mos
Hollybrook Tributary, Maryland Heights, MO	$308,000	$308,000	10 mos	16 mos

HDR Relevant Project Experience

HDR has successfully completed designs for numerous trail and sidewalk improvement projects. The following list highlights a range of recent projects completed for LPAs.

Project Name	Client
3-Trails Pedestrian Bridge and Trail	3-Trails Village CID
Central Park Bridge/ Amphitheatre	Chesterfield, MO
Business Loop 70 Intersection Improvements	Columbia, MO
North Providence Pedway	Columbia, MO
US 56 Intersection Improvements	Gardner, KS
72nd/Waukomis Extension/Realignment	Kansas City, MO
Bike KC	Kansas City, MO
Brush Creek/Blue River Confluence Trail	Kansas City, MO
Katy Trail Bridge Replacements	MO Office Admin.
Safe Routes to School	Parsons, KS
Deer Creek Extension	St. Charles County, MO
Grand Avenue Viaduct Replacement	St. Louis BPS
Tucker Blvd Reconstruction	St. Louis BPS
Wellington Avenue Trail	Great Rivers Greenway
Pedestrian Bridge Phases 1 & 2	Warrenton, MO
Rock Hollow Trail	Wildwood, MO

These projects are located throughout the state and encompass a broad range of trail and sidewalk design elements.

The list illustrates how HDR has completed multiple projects for a client. This is a testament to HDR's past performance. In fact, 80% of HDR's business is for repeat clients. The reference letters included with this submittal highlight some reasons why HDR has such a high percentage of repeat clients.

Familiarity/Capability

HDR is a large, national firm with offices across the United States and abroad. HDR has nearly 8,000 employees worldwide. These staff can be made available to meet peak manpower loading requirements as needed, enabling us to respond flexibly and promptly to project requirements and schedule needs.

The capacity to accomplish the work in the required time requires strong leadership. Our project team personnel have been selected based on past success, demonstrated leadership capabilities, experience with the anticipated contracts, and the ability to manage resources for a successful project. HDR has demonstrated time and again the capability to successfully complete assignments.

Accessibility

HDR has over 140 employees in the state of Missouri, with offices in Kansas City, St. Louis, Springfield, Columbia, Lee's Summit, St. Charles, Forsyth, and Osage Beach. Although our Missouri transportation staff is focused primarily in Kansas City and St. Louis, we have worked on transportation projects in all MoDOT districts and have proven our responsiveness and availability to MoDOT numerous times over our long shared history. HDR has a fully functional video teleconferencing system that has been utilized on several recent projects to video conference with staff in Kansas City, St. Louis, MoDOT District Offices and Central Office without complications. This technology allows HDR to mobilize staff from around the country when necessary to deliver projects and participate in meetings with our clients without excessive expense to them and their projects.

HDR values our client relationships and appreciates the opportunity to submit our Letter of Interest on this Missouri Local Program - On-Call Trail and Sidewalk Services request. HDR has the expertise and availability to complete projects within the prescribed budget and schedule. We look forward to discussing your projects in more detail with you and your staff and getting started as soon as possible.

Sincerely,
HDR ENGINEERING, Inc.

Michael A. Ecker, P.E.
Contract Manager

KANSAS CITY | ST. LOUIS | LEE'S SUMMIT | COLUMBIA | ST. CHARLES | OSAGE BEACH | FORSYTH | SPRINGFIELD

BRIEF OVERVIEW OF
LPA SERVICE CAPABILITIES

HDR first opened for business in 1917 under the name of Henningson, Durham, and Richardson. Since those early beginnings, we have grown in to one of the largest and most respected architectural-engineering companies with nearly 8,000 employees worldwide.

HDR has been providing engineering, planning, architectural, and environmental services in Missouri since 1993 when our first office opened in Kansas City. Subsequently, offices opened in Overland Park, Kansas, in 1994 and St. Louis, Missouri, in 1999. In 2008, HDR acquired Archers Engineers, resulting in a base of over 200 employees statewide and additional offices in Springfield, Osage Beach, Lee's Summit, St. Charles, and Forsyth. In March of 2013 we added another office in Columbia. The employee-owners of HDR are proud to be partners with all of the transportation professionals throughout the state of Missouri and we look forward to providing solutions to future transportation challenges.

WORK CATEGORIES

A. Roadway Design
B. Trails & Sidewalks
C. Construction Inspection
D. Traffic Engineering & TEAP
E. Structures

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KCMO 72ND & WAUKOMIS, KANSAS CITY, MO

The Line Creek Valley area of Kansas City, Missouri, has a rich and storied history with untouched natural resources. Real estate speculators discovered the area in the early 1900s and created the town of Miltonwood in 1922.

The NW 72nd Street extension followed the "Barry to Parkville Road," which as its name mentions, connected the Barry settlement at the County Line to the river settlement in Parkville.

The City of Kansas City desired to improve the safety of the road and reduce traffic congestion resulting from continued development. The design team led by HDR provided the design which included nearly two miles of arterial street improvement, a sustainable roundabout, a mile of 36-inch water transmission main serving KCI Airport, and a detailed construction phasing plan to minimize construction cost overruns and traveler heartburn. This project won the Kansas City, Missouri 2013 American Public Works Association Project of the Year Award. **[01]** **A, D**

TUCKER BOULEVARD, ST. LOUIS, MO

Tucker Boulevard was planned as one of the "Image Streets" for downtown St. Louis, Missouri, defining the western edge of the central business district. HDR was hired to transform this important, yet dilapidated, roadway into a pedestrian-oriented streetscape. Plans call for installing curb bumpouts, decorative paving, sidewalks, rain gardens, tree planting, gateway monuments, medians, street and pedestrian lighting, and traffic signalization. The resulting streetscape is a pleasant and safe environment for pedestrians. Aesthetic and effective stormwater management was a key part of this project. Roadway bumpouts include micro rain gardens filled with native plants that clean and infiltrate the "first flush" of stormwater events. Larger rain gardens at the northern end of the project provide more capacity for larger rain events. The project involved the elimination of an existing subway tunnel and rehabilitation of a 72-inch-diameter brick, horseshoe-shaped sanitary sewer.
The rehabilitation involved grouting the corners of the horseshoe conduit and installing a round 72-inch-diameter CIPP liner. **[02]** **A, B, C, D, E**

GRAND AVENUE VIADUCT REPLACEMENT, ST. LOUIS, MO

HDR served as the lead designer for the detailed analysis of an existing 1,200-foot-long Grand Avenue Viaduct over Mill Creek Valley to determine the most cost-effective solution to rehabilitate or replace and seismically upgrade existing bridge components to meet current design criteria. Full replacement was warranted to meet current design standards and the post-seismic event level of service desired by the City. The current viaduct was split into two single-span pre-stressed concrete I-girder bridges (63') and a three-span (175'-220'-175') variable depth steel plate girder bridge supported on cast-in-place concrete substructure units founded on both steel H-piling and large diameter drilled shafts. The proposed structure accommodates separate bus turnout lanes, bike lanes, increased sidewalk widths, decorative fencing, lighting, landscaped barriers and medians, and decorative towers and pedestrian overlooks. The bridge approaches are constructed of standard MSE walls utilizing geopier foundation improvement techniques and lightweight EPS geofoam protected by precast fascia panels to limit excessive settlements. **[03]** **A, B, C, D, E**

CHESTERFIELD CENTRAL PARK, CHESTERFIELD, MO

Central Park is a 38-acre passive park site surrounded by an existing YMCA, County Library and a mixture of proposed office/residential developments. HDR was hired to create a $16 million park that physically connects various land uses, provides recreational opportunities to diverse user groups and demonstrates how stormwater management can be developed as a functional amenity. A proposed roadway with streetscape elements was designed to interface with the adjacent office/retail development, providing a formal edge to the park. A lawn area adjacent to the streetscape creates space for informal play and relaxation.

HDR worked with the adjacent property owner to encourage the development of retail and residential space that will interact with the park. Additional amenities include a sculpture garden, gazebo bridge, picnic pavilions, and a 2,000-seat amphitheater that overlooks a flood-control lake. Shared-use of adjacent parking decks will serve the amphitheater, preserving valuable open space. The park includes a variety of trails, including a stream walk which meanders between two re-circulating water channels through an old-growth forest with native understory planting. **[04]** **A, B, C, E**

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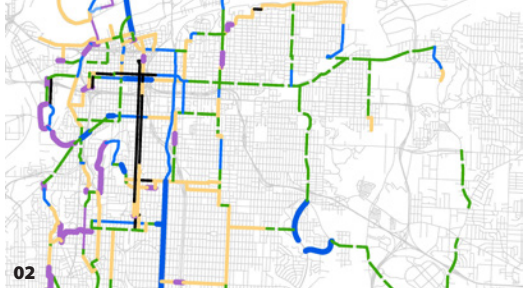
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03

04

NORTH PROVIDENCE PEDWAY, COLUMBIA, MO

HDR provided engineering services for the preliminary plans, and final design for the Providence Pedway project in Columbia, Missouri, from Business Loop 70 to Vandiver Drive along Providence Road. This project consisted of new pedway/sidewalk improvements, traffic signal modifications, retaining walls, intersection geometry improvements, traffic control plans, and pavement widening. HDR modified an existing sidewalk from 4 feet to 8 feet within existing right-of-way along Providence Road. Pedestrian crossings were improved for mobility and sight distance by providing a better angle of crossing and enhancing the pavement marking and signing. **[01]** **B, D, E**

BIKE KC PLAN, KANSAS CITY, MO

HDR provided technical support to KCMO staff in the creation of the Bike KC plan. HDR conducted engineering analyses, developed an automated facility type selection process, developed facility recommendation maps, and created typical section drawings. HDR's products included a memo summarizing the current state of the practice regarding bicycle facility types – features, pros/cons, experimental status, selection/implementation criteria, etc. – and recommending the facility types to be considered moving forward. HDR identified gaps in the City's existing databases – items such as paved width, median presence, parking presence, curb presence, and traffic counts – and developed a data-collection plan to fill those gaps. HDR worked with the City to determine level of service (LOS) standards by facility type, and developed a unique selection flowchart underlying an Excel/GIS-based facility selection process. The final product is a decision-support tool that allows the City to identify and prioritize facilities going forward, including scenario testing. **[02]** **B, D**

WESTPORT TRAFFIC STUDY, KANSAS CITY, MO

HDR analyzed potential improvements to the intersection complex at Westport Road, Southwest Trafficway, and 43rd Street. This intersection complex serves multiple functions: a major north-south commute route to downtown, a western gateway to the historic Westport area and its merchants, and access to St. Luke's Hospital, among other things. The study took a larger-picture view of traffic circulation and needs in the surrounding historical Westport area that is an important part of the City. The intersection has been studied before, and HDR developed and implemented a thorough stakeholder involvement program to build on the work that has been done. This program included numerous personal meetings with local business owners, neighborhood representatives, hospital staff, school staff, emergency services personnel, and other community leaders. These meetings allowed a very refined view of the multitude of issues in the immediate area, including walkability/bikeability, parking, safety, congestion, the need for a gateway, the desire to preserve green space but also private right-of-way, historical considerations, and many others. HDR built a complex multi-modal simulation model of the intersections to analyze operations and also to present alternatives visually to stakeholders. Alternatives developed included roundabouts, traffic circles, grade-separations, and several unconventional layouts (including an at-grade layout based on DDI principles). **[03]** **D**

ROCK HOLLOW TRAIL, WILDWOOD, MO

HDR designed two parallel trails for the City of Wildwood. One of the alignments is a multi-use asphalt paved trail and the other is designed for equestrian and mountain biking use.

Since the basic alignment of the trails had previously been established, HDR identified key issues within the project limits that would be crucial to the overall construction plan development, including ensuring provisions for opportunities of river viewing and/or access, providing opportunities to enhance or encourage wetland, historical, interpretive, or viewing areas, locating logical trailheads that combine existing and/or future uses, recognizing opportunities for aesthetic features of proposed pedestrian bridge crossings to complement the surroundings, working within the context of the overall Meramec Greenway Trail System.

The design process included an initial data collection phase, gathering of stakeholder input, development of construction plan documents including plans, specifications and engineer's opinion of probable construction cost, and an overall project manual. HDR coordinated with a number of stakeholders, including The Great Rivers Greenway District, MoDNR, St. Louis County's Municipal Park Grant Commission and the U.S. Army Corps of Engineers. HDR also assisted the City of Wildwood during the letting and construction phases. These services included facilitating pre-bid, pre-construction and contractor progress meetings, reviewing and responding to shop drawings, monitoring the contractor's schedule, coordinating material testing services, reviewing contractor's applications for payment, conducting field observation during construction and maintaining associated field reports. **[04]** **B, C, E**

HDR

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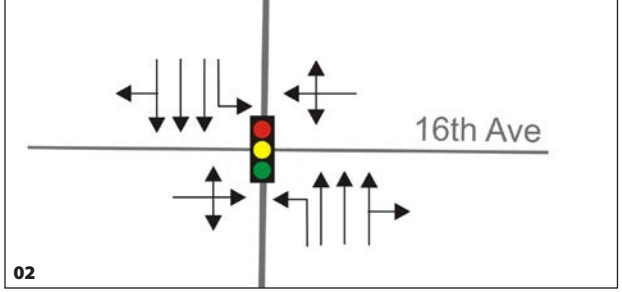

02

WHISKEY CREEK AND SAPSUCKER BRIDGES,
FRANKLIN COUNTY, MO

This project involved the demolition and replacement of the existing deficient Whiskey Creek Road Bridge over Whiskey Creek as well as the replacement of the Sapsucker Road Bridge over a branch of Boone Creek. The existing multi-cell box culvert and single span bridge were each replaced with single 20-foot span, three-sided precast concrete structures. The precast units are founded on cast-in-place concrete spread footings and flanked on each corner by concrete cantilevered retaining walls. LiDAR was utilized to complete the topographic survey which provided very detailed ground profile information at an expedited schedule. The project also included minimal roadway work to tie the new structure into the existing roadway alignment and involved construction oversight. Project included the full complement of construction inspection and administration services. The projects were federally funded and designed per MoDOT LPA guidelines. **[01]** **A, C, E**

BURLINGTON CORRIDOR STUDY,
KANSAS CITY, MO

HDR provided transportation analysis for the Burlington Corridor (MO Route 9) from the Heart of America Bridge to North Oak Trafficway, including assistance with concept development, multimodal and parking analysis, and consideration of land-use alternatives. The project included a long-term look at the potential for redevelopment to transform the corridor, which serves a dual function as a major commute route and a gateway to North Kansas City. The melding of transportation and land-use considerations was at the heart of the project. **[02]** **D**

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We practice increased use of sustainable materials and reduction of material use.

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