

INTRODUCED BY: COUNCIL MEMBER(s) Boyer

1           **AN ORDINANCE TO AUTHORIZE THE COUNTY EXECUTIVE TO**  
2           **AWARD THE ENGINEERING SERVICES CONTRACT AND TO EXECUTE**  
3           **THE AGREEMENT BETWEEN THE COUNTY OF JEFFERSON AND HR**  
4           **GREEN, INC. FOR OLD STATE ROUTE 21 AT EAST/WEST FOUR RIDGE**  
5           **ROAD INTERSECTION IMPROVEMENTS DESIGNATED AS PROJECT STP-**  
6           **5462 (608) IN COUNCIL DISTRICTS 2 & 7.**

7           **WHEREAS**, The County of Jefferson Missouri issued a Request for  
8           Qualifications for design, right of way and construction services for the intersection  
9           improvements at Old State Route 21 at East/West Four Ridge Road designated as project  
10          STP-5462 (608); and

11          **WHEREAS**, The County of Jefferson Missouri in response to a certain Request  
12          for Qualifications issued by the County, received proposals for design, right of way and  
13          construction services for the intersection improvements at Old State Route 21 at  
14          East/West Four Ridge Road designated as project STP-5462 (608); and

15          **WHEREAS**, after reviewing the proposals, the County selected three qualified  
16          engineering firms to interview for the intersection improvements at Old State Route 21 at  
17          Lions Den Road Project. Those firms were HR Green, Inc., Jacobs and Horner & Shifrin,  
18          Inc.; and

**FILED**

1           **WHEREAS**, after interviewing the three qualified engineering firms, the County  
2 has determined that a certain engineering firm, HR Green, Inc. represents the best  
3 qualified proposal for the project and meets the Request for Qualifications by the County;  
4 and

5           **WHEREAS**, the County of Jefferson finds it now necessary and in the best  
6 interest of the County to award the intersection improvements at Old State Route 21 at  
7 East/West Four Ridge Road Intersection Improvements Project to HR Green, Inc. as the  
8 best qualified firm and to execute an agreement for the design, right of way and  
9 construction services contract not to exceed one hundred seventeen thousand nine  
10 hundred eighty-one dollars and thirty-eight cents (**\$117,981.38**), conditional on the  
11 concurrence of the Missouri Department of Transportation and the Federal Highway  
12 Administration. A copy of said agreement is attached hereto as Exhibit A.

13           **BE IT ENACTED BY THE JEFFERSON COUNTY, MISSOURI,**  
14 **COUNCIL, AS FOLLOWS:**

15           Section 1. The County awards the design, right of way and construction services  
16 contract for the Old State Route 21 at East/West Four Ridge Road Intersection  
17 Improvements Road Project to the best qualified firm for the project, being HR Green,  
18 Inc. in the amount of one hundred seventeen thousand nine hundred eighty-one dollars  
19 and thirty-eight cents (**\$117,981.38**).

20           Section 2. The County Council authorizes the County Executive to execute any  
21 agreement or document necessary to effectuate the award of the contract set forth in the

1      Ordinance. A copy of said agreement is attached hereto as Exhibit A and incorporated by  
2      reference.

3      Section 3. Copies of all Request for Qualifications, responses thereto, any contract  
4      agreements and change orders shall be maintained by the Department of the County  
5      Clerk consistent with the rules and procedures for the maintenance and retention of  
6      records as promulgated by the Secretary of State.

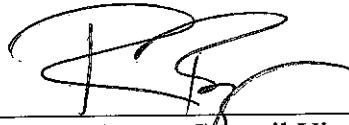
7      Section 4. This Ordinance shall be in full force and effect from and after its date  
8      of approval. If any part of this Ordinance is invalid for any reason, such invalidity shall  
9      not affect the remainder of this Ordinance.

**THIS BILL BEING DULY INTRODUCED, THE MEMBERS OF THE  
JEFFERSON COUNTY, MISSOURI, COUNCIL VOTED AS FOLLOWS:**

Council Member District 1, Don Bickowski	<u>Yes</u>
Council Member District 2, Renee Reuter	<u>Absent</u>
Council Member District 3, Robert Boyer	<u>Yes</u>
Council Member District 4, George Engelbach	<u>Absent</u>
Council Member District 5, Oscar J. "Jim" Kasten	<u>Yes</u>
Council Member District 6, Cliff Lane	<u>Yes</u>
Council Member District 7, James Terry	<u>Yes</u>

THE ABOVE BILL ON THIS 8th DAY OF August, 2016:

PASSED  FAILED



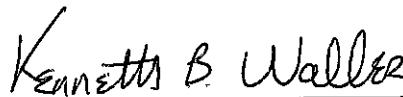
Bob Boyer, County Council Vice Chair



Pat Schlette, Council Administrative Assistant

THIS BILL WAS  APPROVED BY THE JEFFERSON COUNTY EXECUTIVE AND ENACTED AS AN ORDINANCE OF JEFFERSON COUNTY, MISSOURI, THIS 10<sup>th</sup> DAY OF AUGUST, 2016.

THIS BILL WAS  VETOED AND RETURNED TO THE JEFFERSON COUNTY, MISSOURI, COUNCIL WITH WRITTEN OBJECTIONS BY THE JEFFERSON COUNTY EXECUTIVE, THIS  DAY OF , 2016.

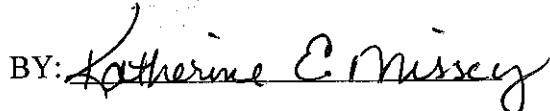


Kenneth B. Waller, Jefferson County, Missouri, Executive

ATTEST:



Wes Wagner, County Clerk

BY: 

Reading Date: 08-08-2016

**JEFFERSON COUNTY  
FEDERAL PROJECT NO. STP-5462(608)  
OLD STATE ROUTE 21 AT EAST/WEST FOUR RIDGE ROAD  
INTERSECTION IMPROVEMENTS**

**ENGINEERING SERVICES CONTRACT**

*THIS CONTRACT* is between the **County of Jefferson**, Missouri, hereinafter referred to as the "Local Agency", and **HR Green Inc.** with offices located at 16020 Swingley Ridge Road, Suite 205, Chesterfield, MO. 63017, hereinafter referred to as the "Engineer".

*INASMUCH* as funds have been made available by the Federal Highway Administration through its STP program, coordinated through the Missouri Department of Transportation, the Local Agency intends to improve safety and sight distance by realigning/reconstructing East and West Four Ridge Road at its intersection with Old State Route 21, and requires professional engineering services. The Engineer will provide the Local Agency with professional services hereinafter detailed for the planning, surveying, professional and construction engineering design of the desired improvements and the Local Agency will pay the Engineer as provided in this contract. It is mutually agreed as follows:

**ARTICLE I – SCOPE OF SERVICES**

See Attachment A.

**ARTICLE II - DISADVANTAGED BUSINESS ENTERPRISE (DBE) REQUIREMENTS:**

- A. DBE Goal: The following DBE goal has been established for this Agreement. The dollar value of services and related equipment, supplies, and materials used in furtherance thereof which is credited toward this goal will be based on the amount actually paid to DBE firms. The goal for the percentage of services to be awarded to DBE firms is 6% of the total Agreement dollar value.
- B. DBE Participation Obtained by Engineer: The Engineer has obtained DBE participation, and agrees to use DBE firms to complete, 15% of the total services to be performed under this Agreement, by dollar value. The DBE firms which the Engineer shall use, and the type and dollar value of the services each DBE will perform, is as follows:

DBE Firm Name, Street and complete mailing address	Type of DBE Service	Total \$ Value of the DBE Subcontract	Contract \$ Amount to Apply to Total DBE Goal	Percentage of Subcontract dollar value applicable to total goal
EFK Moen, LLC 13523 Barrett Parkway Dr., Suite 250 St. Louis, MO 63021	Surveying, Staking	\$23,720.46	\$17,790.35	75%

## **ARTICLE III-ADDITIONAL SERVICES**

The Local Agency reserves the right to request additional work, and changed or unforeseen conditions may require changes and work beyond the scope of this contract. In this event, a supplement to this agreement shall be executed and submitted for the approval of MoDOT prior to performing the additional or changed work or incurring any additional cost thereof. Any change in compensation will be covered in the supplement.

## **ARTICLE IV - RESPONSIBILITIES OF LOCAL AGENCY**

The Local Agency will cooperate fully with the Engineer in the development of the project, including the following:

- A. make available all information pertaining to the project which may be in the possession of the Local Agency;
- B. provide the Engineer with the Local Agency's requirements for the project;
- C. make provisions for the Engineer to enter upon property at the project site for the performance of his duties;
- D. examine all studies and layouts developed by the Engineer, obtain reviews by MoDOT, and render decisions thereon in a prompt manner so as not to delay the Engineer;
- E. designate a Local Agency's employee to act as Local Agency's Person in Responsible Charge under this contract, such person shall have authority to transmit instructions, interpret the Local Agency's policies and render decisions with respect to matters covered by this agreement (see EPG 136.3);
- F. perform appraisals and appraisal review, negotiate with property owners and otherwise provide all services in connection with acquiring all right-of-way needed to construct this project.
- G. All right-of-way services beyond approval of right-of-way plans.
- H. Furnish an inspector to observe the contractor's day-to-day operations.
- I. Local Agency agrees to comply with the "Hazard Communication Standard" of the Occupational Safety and Health Administration.
- J. If Local Agency provides a budget for the Project, it shall include contingencies for bidding, changes in the work during construction and other costs which are the responsibility of the Local Agency. Local Agency shall, at the request of (Engineer), provide a statement of funds available for the Project and their source.

- K. Local Agency shall furnish to (Engineer) as required for performance of (Engineer's) services (except to the extent provided otherwise in the Scope of Work), data prepared by or services of others, including, without limitation, soil borings, probings and subsurface explorations, hydrographic surveys, laboratory tests and inspections of samples, materials and equipment; appropriate professional interpretation of all the foregoing; environmental assessment and impact statements; property, boundary, easement, right-of-way topographic and utility surveys; property descriptions; zoning, deed and other land use restriction; and other special data or consultation; all of which (Engineer) may use and rely upon in performing its services.
- L. Local Agency shall furnish its cost approvals and permits from all governmental authorities having jurisdiction over the Project and such approvals and consents from others as may be necessary for completion of the Project.

## **ARTICLE V - PERIOD OF SERVICE**

The Engineer will commence work within two weeks after receiving notice to proceed from the Local Agency. The general phases of work will be completed in accordance with the following schedule:

- A. Survey Acquisition – Within 49 calendar days after receiving notice to proceed.
- B. Preliminary Design Phase – Within 42 calendar days after receipt of completed survey.
- C. Right of Way Phase – Within 60 calendar days after receipt of final approval of preliminary plans by MoDOT.
- D. Final Design Phase – Within 180 calendar days after completion of review of preliminary plans by Local Agency and MoDOT.
- E. PS&E Approval by MODOT shall be completed on or before 07/15/2018
- F. Construction Engineering Phase – As required in Article I – Scope of Services, Attachment A.

The Local Agency will grant time extensions for delays due to unforeseeable causes beyond the control of and without fault or negligence of the Engineer. Requests for extensions of time shall be made in writing by the Engineer, before that phase of work is scheduled to be completed, stating fully the events giving rise to the request and justification for the time extension requested.

## **ARTICLE VI – STANDARDS**

The Engineer shall be responsible for working with the Local Agency in determining the appropriate design parameters and construction specifications for the project using good engineering judgment based on the specific site conditions, Local Agency needs, and guidance provided in the most current version of EPG 136 LPA Policy. If the project is on the state highway system or is a bridge project, then the latest version of MoDOT's Engineering Policy Guide (EPG) and Missouri Standard Specifications for Highway Construction shall be used (see EPG 136.7). The project plans must also be in compliance with the latest ADA (Americans with Disabilities Act) Regulations.

## ARTICLE VII - COMPENSATION

For services provided under this contract, the Local Agency will compensate the Engineer as follows:

- A. For design services, including work through the construction contract award stage, the Local Agency will pay the Engineer the actual costs incurred plus a predetermined fixed fee of **\$7,803.34**, with a ceiling established for said design services in the amount of **\$114,908.62** which amount shall not be exceeded.
- B. For construction engineering services, the Local Agency will pay the Engineer the actual costs incurred plus a predetermined fixed fee of **\$318.51**, with a ceiling established for said design services in the amount of **\$3,072.76**, which amount shall not be exceeded.
- C. The compensation outlined above has been derived from estimates of cost which are detailed in Attachment B. Any major changes in work, extra work, exceeding of the contract ceiling, or change in the predetermined fixed fee will require a supplement to this contract, as covered in Article III - ADDITIONAL SERVICES.
- D. Actual costs in Sections A and B above are defined as:
  - 1. Actual payroll salaries paid to employees for time that they are productively engaged in work covered by this contract, plus
  - 2. An amount estimated at 44.23% of actual salaries in Item 1 above for payroll additives, including payroll taxes, holiday and vacation pay, sick leave pay, insurance benefits, retirement and incentive pay, plus
  - 3. An amount estimated at 120.93% of actual salaries in Item 1 above for general administrative overhead, based on the Engineer's system for allocating indirect costs in accordance with sound accounting principles and business practice, plus
  - 4. Other costs directly attributable to the project but not included in the above overhead, such as vehicle mileage, meals and lodging, printing, surveying expendables, and computer time, plus
  - 5. Project costs incurred by others on a subcontract basis, said costs to be passed through the Engineer on the basis of reasonable and actual cost as invoiced by the subcontractors.
- E. The rates shown for additives and overhead in Sections VII. D.2 and VII. D.3 above are the established Engineer's overhead rate accepted at the time of contract execution and shall be utilized throughout the life of this contract for billing purposes.
- F. The payment of costs under this contract will be limited to costs which are allowable under 23 CFR 172 and 48 CFR 31.

G. **METHOD OF PAYMENT** - Partial payments for work satisfactorily completed will be made to the Engineer upon receipt of itemized invoices by the Local Agency. Invoices will be submitted monthly. A pro-rated portion of the fixed fee will be paid with each invoice. Upon receipt of the invoice and progress report, the Local Agency will, as soon as practical, pay the Engineer for the services rendered, including the proportion of the fixed fee earned as reflected by the estimate of the portion of the services completed as shown by the progress report, less partial payments previously made. The Local Agency will not be liable for the late payment charge on any invoice which requests payment for costs which exceed the proportion of the maximum amount payable earned as reflected by the estimate of the portion of the services completed, as shown by the progress report. The payment, other than the fixed fee, will be subject to final audit of actual expenses during the period of the Agreement.

H. **PAYMENT MILESTONES** - The following are the maximum percentage limits for the engineering service contract compensation that will be paid for the stated phase of work performed:

- |   |                  |
|---|------------------|
| 1. Survey Completed                       | = maximum of 25% |
| 2. Preliminary Plans Submitted to MoDOT   | = maximum of 40% |
| 3. Preliminary Plans Approved by MoDOT    | = maximum of 45% |
| 4. Right of Way Plans Submitted to MoDOT  | = maximum of 60% |
| 5. Right of Way Plans Approved by MoDOT   | = maximum of 65% |
| 6. PS&E Submitted to MoDOT                | = maximum of 90% |
| 7. PS&E Approved by MoDOT                 | = maximum of 95% |
| 8. Completion of Construction Engineering | = 100%           |

I. **PROPERTY ACCOUNTABILITY** - If it becomes necessary to acquire any specialized equipment for the performance of this contract, appropriate credit will be given for any residual value of said equipment after completion of usage of the equipment.

## **ARTICLE VIII - COVENANT AGAINST CONTINGENT FEES**

The Engineer warrants that he has not employed or retained any company or person, other than a bona fide employee working for the Engineer, to solicit or secure this agreement, and that he has not paid or agreed to pay any company or person, other than a bona fide employee, any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this contract. For breach or violation of this warranty, the Local Agency shall have the right to annul this agreement without liability, or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee, plus reasonable attorney's fees.

## **ARTICLE IX - SUBLetting, ASSIGNMENT OR TRANSFER**

No portion of the work covered by this contract, except as provided herein, shall be sublet or transferred without the written consent of the Local Agency. The subletting of the work shall in no way relieve the Engineer of his primary responsibility for the quality and performance of the work. It is the intention of the Engineer to engage subcontractors for the purposes of:

<u>Sub-Consultant Name</u>	<u>Address</u>	<u>Services</u>
EFK Moen, LLC	13523 Barrett Parkway Dr. Suite 250 St. Louis, MO 63021	Surveying, Staking
Geotechnology, Inc.	11816 Lackland Road Suite 150 St. Louis, MO 63146	Geotechnical Engineering

## **ARTICLE X - PROFESSIONAL ENDORSEMENT**

All plans, specifications and other documents shall be endorsed by the Engineer and shall reflect the name and seal of the Professional Engineer endorsing the work. By signing and sealing the PS&E submittals the Engineer of Record will be representing to MoDOT that the design is meeting the intent of the federal aid programs.

## **ARTICLE XI - RETENTION OF RECORDS**

The Engineer shall maintain all records, survey notes, design documents, cost and accounting records, construction records and other records pertaining to this contract and to the project covered by this contract, for a period of not less than three years following final payment by FHWA. Said records shall be made available for inspection by authorized representatives of the Local Agency, MoDOT or the federal government during regular working hours at the Engineer's place of business.

## **ARTICLE XII - OWNERSHIP OF DOCUMENTS**

Plans, tracings, maps and specifications prepared under this contract shall be delivered to and become the property of the Local Agency upon termination or completion of work. Basic survey notes, design computations and other data prepared under this contract shall be made available to the Local Agency upon request. All such information produced under this contract shall be available for use by the Local Agency without restriction or limitation on its use. If the Local Agency incorporates any portion of the work into a project other than that for which it was performed, the Local Agency shall save the Engineer harmless from any claims and liabilities resulting from such use.

## **ARTICLE XIII – SUSPENSION OR TERMINATION OF AGREEMENT**

- A. The Local Agency may, without being in breach hereof, suspend or terminate the Engineer's services under this Agreement, or any part of them, for cause or for the convenience of the Local Agency, upon giving to the Engineer at least fifteen (15) days' prior written notice of the effective date thereof. The Engineer shall not accelerate performance of services during the fifteen (15) day period without the express written request of the Local Agency.
- B. Should the Agreement be suspended or terminated for the convenience of the Local Agency, the Local Agency will pay to the Engineer its costs as set forth in Attachment B including actual hours expended prior to such suspension or termination and direct costs as defined in

this Agreement for services performed by the Engineer, a proportional amount of the fixed fee based upon an estimated percentage of Agreement completion, plus reasonable costs incurred by the Engineer in suspending or terminating the services. The payment will make no other allowances for damages or anticipated fees or profits. In the event of a suspension of the services, the Engineer's compensation and schedule for performance of services hereunder shall be equitably adjusted upon resumption of performance of the services.

- C. The Engineer shall remain liable to the Local Agency for any claims or damages occasioned by any failure, default, or negligent errors and/or omission in carrying out the provisions of this Agreement during its life, including those giving rise to a termination for non-performance or breach by Engineer. This liability shall survive and shall not be waived, or estopped by final payment under this Agreement.
- D. The Engineer shall not be liable for any errors or omissions contained in deliverables which are incomplete as a result of a suspension or termination where the Engineer is deprived of the opportunity to complete the Engineer's services.
- E. Upon the occurrence of any of the following events, the Engineer may suspend performance hereunder by giving the Local Agency 30 days advance written notice and may continue such suspension until the condition is satisfactorily remedied by the Local Agency. In the event the condition is not remedied within 120 days of the Engineer's original notice, the Engineer may terminate this agreement.
  - 1. Receipt of written notice from the Local Agency that funds are no longer available to continue performance.
  - 2. The Local Agency's persistent failure to make payment to the Engineer in a timely manner.
  - 3. Any material contract breach by the Local Agency.

#### **ARTICLE XIV - DECISIONS UNDER THIS CONTRACT**

The Local Agency will determine the acceptability of work performed under this contract, and will decide all questions which may arise concerning the project. The Local Agency's decision shall be final and conclusive.

#### **ARTICLE XV - SUCCESSORS AND ASSIGNS**

The Local Agency and the Engineer agree that this contract and all contracts entered into under the provisions of this contract shall be binding upon the parties hereto and their successors and assigns.

#### **ARTICLE XVI - COMPLIANCE WITH LAWS**

The Engineer shall comply with all federal, state, and local laws, ordinances, and regulations applicable to the work, including but not limited to Title VI and Title VII of the Civil Rights Act of

1964, as amended (42 U.S.C. 2000d, 2000e), as well as with any applicable titles of the Americans with Disabilities Act (42 U.S.C. 12101, et seq.) and non-discrimination clauses incorporated herein, and shall procure all licenses and permits necessary for the fulfillment of obligations under this contract.

## **ARTICLE XVII - RESPONSIBILITY FOR CLAIMS AND LIABILITY**

The Engineer agrees to save harmless the Local Agency, MoDOT and FHWA from all claims and liability due to his negligent acts or the negligent acts of his employees, agents or subcontractors.

## **ARTICLE XVIII - NONDISCRIMINATION**

The Engineer, with regard to the work performed by it after award and prior to completion of the contract work, will not discriminate on the ground of race, color or national origin in the selection and retention of subcontractors. The Engineer will comply with state and federal related to nondiscrimination, including but not limited to Title VI and Title VII of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d, 2000e), as well as with any applicable titles of the Americans with Disabilities Act (42 U.S.C. 12101, et seq.). More specifically, the Engineer will comply with the regulations of the Department of Transportation relative to nondiscrimination in federally assisted programs of the Department of Transportation, as contained in 49 CFR 21 through Appendix H and 23 CFR 710.405 which are herein incorporated by reference and made a part of this contract. In all solicitations either by competitive bidding or negotiation made by the Engineer for work to be performed under a subcontract, including procurements of materials or equipment, each potential subcontractor or supplier shall be notified by the Engineer's obligations under this contract and the regulations relative to non-discrimination on the ground of color, race or national origin.

## **ARTICLE XIX – LOBBY CERTIFICATION**

**CERTIFICATION ON LOBBYING:** Since federal funds are being used for this agreement, the Engineer's signature on this agreement constitutes the execution of all certifications on lobbying which are required by 49 C.F.R. Part 20 including Appendix A and B to Part 20. Engineer agrees to abide by all certification or disclosure requirements in 49 C.F.R. Part 20 which are incorporated herein by reference.

## **ARTICLE XX – INSURANCE**

- A. The Engineer shall maintain commercial general liability, automobile liability, and worker's compensation and employer's liability insurance in full force and effect to protect the Engineer from claims under Worker's Compensation Acts, claims for damages for personal injury or death, and for damages to property arising from the negligent acts, errors, or omissions of the Engineer and its employees, agents, and Subconsultants in the performance of the services covered by this Agreement, including, without limitation, risks insured against in commercial general liability policies.
- B. The Engineer shall also maintain professional liability insurance to protect the Engineer against the negligent acts, errors, or omissions of the Engineer and those for whom it is

legally responsible, arising out of the performance of professional services under this Agreement.

- C. The Engineer's insurance coverage shall be for not less than the following limits of liability:
  - 1. Commercial General Liability: \$500,000 per person up to \$3,000,000 per occurrence;
  - 2. Automobile Liability: \$500,000 per person up to \$3,000,000 per occurrence;
  - 3. Worker's Compensation in accordance with the statutory limits; and Employer's Liability: \$1,000,000; and
  - 4. Professional ("Errors and Omissions") Liability: \$1,000,000, each claim and in the annual aggregate.
- D. The Engineer shall, upon request at any time, provide the Local Agency with certificates of insurance evidencing the Engineer's commercial general or professional liability ("Errors and Omissions") policies and evidencing that they and all other required insurance are in effect as to the services under this Agreement.
- E. Any insurance policy required as specified in (ARTICLE XX) shall be written by a company which is incorporated in the United States of America or is based in the United States of America. Each insurance policy must be issued by a company authorized to issue such insurance in the State of Missouri.

## **ARTICLE XXI - ATTACHMENTS**

The following exhibits are attached hereto and are hereby made part of this contract:

Attachment A – Scope of Services

Attachment B - Estimate of Cost

Attachment C - Breakdown of Overhead Rates

Attachment D - Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions.

Attachment E - Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Lower Tier Covered Transactions.

Attachment F – DBE Contract Provisions

Attachment G – Fig. 136.4.15 Conflict of Interest Disclosure Form

Executed by the Engineer this 26<sup>th</sup> day of July, 2016.

Executed by the County this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

**FOR: JEFFERSON COUNTY, MISSOURI**

BY:

Kenneth B. Waller

COUNTY EXECUTIVE

ATTEST:

Wex Wagner

County Clerk

Katherine P. Missey

Deputy Clerk

**FOR: HR GREEN, INC.**

BY:

Dave F. Maxwell

Dave F. Maxwell, PE / Operations Director - Transportation

ATTEST:

R.D. Shumate

I hereby certify under Section 50.660 RSMo there is either: (1) a balance of funds, otherwise unencumbered, to the credit of the appropriation to which the obligation contained herein is chargeable, and a cash balance otherwise unencumbered, in the Treasury, to the credit of the fund from which payment is to be made, each sufficient to meet the obligation contained herein; or (2) bonds or taxes have been authorized by vote of the people and there is a sufficient unencumbered amount of the bonds yet to be sold or of the taxes levied and yet to be collected to meet the obligation in case there is not a sufficient unencumbered cash balance in the treasury.

R.D. Shumate  
COUNTY AUDITOR

APPROVED AS TO FORM

J. A. D.  
COUNTY COUNSELOR

**ATTACHMENT A**

**Scope of Services**

## **ATTACHMENT A**

### **Old State Route 21 at East/West Four Ridge Road Engineering Services Contract Scope of Services**

#### **I. Programming Phase**

- A. Provide information and complete an LPA Request for Environmental Review (RER) through the new Environmental Services webpage linked in the MoDOT EPG.
- B. Additional Forms and information that may be required to be submitted include the following:
  - 1. Complete the required Section 106 Project Information Form to the State Historic Preservation Officer assuming a new alignment and a construction cost over \$150,000.00.
  - 2. Complete "Form AD-1006" to be submitted to the Soil Conservation Services. A sketch showing the location of the project on a USGS map shall be included. A letter shall be completed with the form to address the requirements of the Farmland Protection Policy Act.

#### **II. Field Surveys and Data Collection Phase**

- A. The consultant shall complete a general field check of the project to evaluate existing topographic conditions.
- B. Existing right-of-way and property lines shall be located.
- C. A survey baseline (and/or construction centerline) shall be established and be tied to the nearest section corner. The land surveyor shall provide a centerline description for the proposed alignment.
- D. Topography survey covering area sufficient for this roadway realignment and reconstruction project.
- E. Roadway cross-section shall be obtained at 50 foot intervals, a sufficient distance beyond the construction limits shall be used to determine drainage patterns and any other necessary cross-section.
- F. Existing utilities shall be located.
- G. Vertical Control: a project bench mark shall be established and tied to nearest USGS bench mark. Project elevations shall be issued on this newly established bench mark.
- H. Horizontal Control: at least three horizontal control points shall be established.

- I. Discuss geometric alignment and other project element options with the County before proceeding with Preliminary Design Phase. For this project, discussions will include the use of Australian Right intersection versus the intersection proposed by the County initially in the funding application. Other discussions will center around the use of appropriate standards to determine acceleration and deceleration lengths, curve information, and drainage design. The Consultant shall prepare a high-level conceptual drawing for each proposed intersection geometric configuration, limited to two options.

### **III. Preliminary Design Phase**

- A. After all field survey data has been obtained and platted; the Engineer shall provide drawings to the County on 22" x 34" plan sheets or electronic delivery either by way of PDF or CD-ROM. Delivery method shall be at the discretion of the County.
- B. Typical structure section and roadway section showing the roadway width and side slopes.
- C. Preliminary plan and profile at a scale that shows the plan clearly and that are approximately 30% complete. Said plan to include the following:
  1. Cover sheet with legend, sheet index, location map and abbreviations.
  2. Proposed typical sections.
  3. Reference tie sheet depicting adopted and set control for the project. Each reference point shall be three-point tied to existing features located outside proposed construction limits.
  4. Split plan and profile sheets drawn to a scale of 1" equals 20' horizontally and 1" equals 5' vertically. Design of horizontal and vertical alignment shall be sufficient to provide construction limits and cross sections.
  5. Field Survey Data.
  6. Topographic information of the existing roadway and adjacent conditions.
  7. Existing property lines and easements (based on existing documents and field surveys).
  8. Approximate construction limits and easement. New right of way lines will be shown on the plan/profile sheets and will be based on the approximate construction limits.
  9. The location of all utilities, and book and page if the easement is on private property, based on available information, including any known wells and individual waste systems.

10. Side road profiles for each of the abutting roadways, drawn to a scale of 1" equals to 20' horizontally and 1" equals 5' vertically will be shown on separate profile sheets.
  11. Cross sections for mainline and side roads will be shown at fifty-foot intervals along the proposed centerlines of the alignment, drawn at a scale of 1" equals 5' both horizontally and vertically. For the preliminary cross sections, only proposed pavement and sidewalks will be shown to generate construction limits. Driveway sections will also be shown at the preliminary plan stage.
  12. Prepare Engineer's Estimate of Probable Cost (EEOPC) – The Consultant will, based on the preliminary plans, complete a preliminary engineer's estimate of probable cost utilizing MoDOT's Estimate program, as well as other sources of published unit bid prices for construction.
  13. Proposed improvements.
- D. In addition to the above tasks, included in the preliminary plan preparations is;
1. Utility Coordination - The Consultant will provide a preliminary phase plan submittal to utility providers. This will include a full set of half-size size plans (which will include title sheet, typical section sheets, plan sheets, and cross section sheets). A PDF copy of this plan set will be made as well for forwarding to the utility companies. Upon request, AutoCAD copies of the plans can be made available to the utilities for their use.
  2. One (1) Open House/Public Meeting to present the preliminary plans to the affected stakeholders, elected County officials, and other interested parties; up to three (3) Consultant employees shall be on hand at the public meeting to assist with presentations and answer stakeholder questions.
    - a. For the public meetings, the Consultant will provide two (2) copies of the strip map of the proposed design, showing the existing topography, proposed infrastructure limited to pavement limits, curb and gutter locations, sidewalks, property information, construction limits, proposed right of way takings, and hatching. The strip maps will be mounted on display boards and will be on a high gloss paper. One (1) sample copy of the strip map will be provided one week prior to the meeting for County comments and questions. Consultant will work with the County to provide the quick fact sheet and a questionnaire/comment form for those in attendance at the public meeting.
  3. A maximum of three (3) design progress review meetings, one of which will

be a plan-in-hand type of site visit that will field verify that all existing topographic features are correctly represented on the plan set.

4. Copy of 11x17 preliminary plan for each stakeholder to take home, as well as a quick fact sheet for the project, limited to fifty (50) copies of each.
  5. **Drainage Design** - In order for an accurate and complete picture of the right of way needs for the project, the drainage design will be expedited. The drainage design will include:
    - a. Assessment of the existing and proposed watershed and drainage areas.
    - b. Assessment of the existing storm sewer drainage network (condition, location, capacity, etc.) to determine the extent it can be reused.
    - c. Type, size, and location of the necessary drainage features for the project, including enclosed drainage features (inlets and pipes).
    - d. Culvert (pipe) profile sheets drawn at a scale of 1" equals to 20' horizontally and 1" equals 5' vertically.
    - e. Technical memorandum summarizing the results of the findings will be submitted.
- E. Apply to MoDOT for any required design variances.
- F. Submit preliminary drawings to Jefferson County and MoDOT for review and comment.
- G. Geotechnical investigation as required to determine foundation/footing requirements.
- H. Discuss the right of way needs and requirements of the County before proceeding with the Right of Way plan development phase.

#### **IV. Right-of-way and TCE Acquisition**

- A. **RIGHT OF WAY PHASE** -After review of the preliminary plan comments, both from the results of the questionnaire and comments from the public meeting, the Consultant will modify the plans to correspond to any Client driven changes and proceed towards final design of the project. At this point, the Consultant will begin the preparation of right of way and easement documents, separating the current plans into Construction Plans and Right of Way Plans. All property takings and easement acquisition will be completed by the County using the Right of Way Plans and Legal Descriptions prepared by the Consultant, as follows:
1. Each easement or right of way acquisition will be shown on the right of way plans only. Each right of way taking will be separated between taking from a prescriptive easement, and that taken from private property.

2. Preparation of right of way or easement documents for this project is limited to the preparation of Right of Way Plans. No individual exhibits (by parcel) will be prepared for this project. Should individual exhibits be desired for any parcel, a contract amendment will be required to complete the work.
  3. Metes and bounds descriptions meeting Missouri Minimum Standards for all new right of way, permanent easements, and temporary easements will be provided for each parcel. One (1) Microsoft Word document containing all the required easements or takings will be provided for each parcel.
- B. In addition to the aforementioned requirements, the following items and assumptions are also included in this phase of work:
1. It is assumed that revisions to the submitted legal descriptions will be required based on the results of negotiations and design changes. The number of revised legal descriptions shall be limited to two (2) legal descriptions. Any legal descriptions requiring revision over this limit will require a contract amendment. The revisions resulting from negotiations will also be incorporated into the Construction Plans and Documents at this time.
  2. It is understood that the County will provide all right of way and easement negotiation services for this project, including the preparation of individual property drawings or sketches to aid in the negotiations. Individual exhibits by parcel will not be provided.
  3. Any work required for condemnation, should it be required for any parcels, is specifically excluded from this scope.
  4. All work under this phase will be completed under the direction and control of a Missouri Licensed Professional Land Surveyor.
  5. A maximum of two (2) meetings will be included for this phase of the project. These meetings will include time required to coordinate design and legal descriptions to the specific needs of the right of way appraiser/negotiator, as well as site visits to investigate additional design scenarios to aid in right of way negotiations.
  6. Right of Way Plans will be separate drawings from those used for design and construction details. The Right of Way (ROW) Plans will show alignment, geometric design, removal of improvements, drainage facilities, property lines and ownership, other land survey information, street lines and existing right of way and existing easements. The ROW Plans will also include any plan details, which will require additional right of way or easements during the construction phase of the project such as temporary pavement, temporary erosion control, etc. Right of Way Plans include title sheet, typical sections, split plan and profile sheets, and cross sections of the

roadway, entrances, and side roads. Areas of new right of way, permanent easements and/or temporary easements required from each individual property owner may be shown in tabular form on the respective sheets. Property lines, ownership, street lines existing right of way and existing easements and other land survey information will be shown.

7. Right of Way Plans shall conform to the Missouri Department of Transportation's Right of Way Checklist found in the Engineering Policy Guide, Section 236.13.
- C. Right-of-way plans shall be completed and submitted after approval of preliminary plans. They shall include all items required per the "Local Public Agency Right-of-Way Manual". This shall include obtaining approval from the MoDOT to proceed with right-of-way activities. Right-of-way acquisition may involve Federal Funds.
- D. Prepare all permanent and temporary easements and new right-of-way plats, as required, for each parcel, complete with legal descriptions for each and a legal description for the centerline of the road. Acquisitions documents shall be prepared in accordance with Jefferson County standards and shall be suitable for recording with the Jefferson County Recorder of Deeds. Right of Way plats shall be handled as Warranty Deeds.
- E. Stake right-of-way, permanent, and temporary easements (one time only).

## **V. Final Design Phase**

After receipt of approval of the preliminary plans from Jefferson County and MoDOT, the Consultant shall prepare the final design in accordance with the expectations of the County Project Manager or County Engineer in terms of constructability and material preference. The final design shall include the following information.

- A. Final Field Check – Consultant will complete a final field check of the project to review the proposed design against the existing conditions.
- B. Cover sheet with location map, sheet index, and legend of symbols, and abbreviations.
- C. Tabulation of Quantities – Quantity sheets (Summery Sheet will be provided, and subsequent quantity breakdown sheets with per item/per sheet quantities will be provided)
- D. Proposed typical sections
- E. Reference tie sheet depicting adopted and set control for the project. Each reference point shall be three-point tied to existing features located outside proposed construction limits. Reference points should be located approximately five hundred

- feet (500') apart.
- F. Split plan and profile sheets drawn to a scale of 1" equals 20' horizontally and 1" equals 5' vertically showing existing topography, the proposed improvements including roadway reconnection, all existing and proposed easements, existing utilities and relocations, if required, creek channel modifications, construction limits, profile grade and creek flow line, and incorporate all review comments from Jefferson County, Army Corps of Engineers, and Missouri Department of Transportation.
  - G. Side road profiles, drawn to a scale of 1" equal to 20' horizontally and 1" equals 5' vertically will be shown on separate profile sheets.
  - H. Intersection geometries and warping details will be provided for each intersection.
  - I. Proposed storm sewer design, calculations, and storm sewer profiles. Profiles for storm sewer pipe to be drawn at a scale of 1" equals to 20' horizontally and 1" equals 5' vertically.
  - J. Striping and Signage plans will be shown on a split plan/plan sheet drawn at a scale of 1" equal to 50' horizontally.
  - K. Erosion control plans will be provided on a split plan/plan sheet drawn at a scale of 1" equal to 20' horizontally.
  - L. Construction Phasing and Staging shown on split plan sheets drawn to a scale of 1" equals 50'. Construction Phasing and Staging Plans will show required road closures, detours, and required signage
  - M. General construction detail sheet(s)
  - N. Cross sections for the mainline and side roads shall be provided at fifty-foot intervals along the proposed centerline of the alignment. Cross sections will be drawn at a scale of 1" equals 5' both horizontally and vertically. Driveway sections will be included in addition to the 50-foot interval cross sections. Driveway sections will be shown as they numerically appear and sufficient survey will be provided to design the driveway from the new roadway grade to the controlling house grade (for minimum impact conditions). For each cross section, right of way, easement, and utility information will be graphically shown.
  - O. Prepare Engineer's Estimate of Probable Cost (EEOPC) - The Consultant will, based on the Final Plans, will complete an engineer's estimate of probable cost utilizing MoDOT's Estimate program, as well as other sources of published unit bid prices for construction. The Estimate will be signed and sealed by a Professional Engineer.

In addition to the specific plan requirements of the Construction Plans, the following items and assumptions are also included in this phase of work:

- P. Utility Coordination- The Consultant will make a Final PS&E (paper copy) submittal to each utility company with facilities within the project corridor. A PDF copy of this plan set will be made as well for forwarding to the utility companies. Upon request, AutoCAD copies of the plans can be made available to the utilities for their use.
- Q. The County will be responsible for the preparation, negotiation and execution of all utility agreements as may be required to adjust existing utilities as a result of this project.
- R. This scope allows for the Consultant's attendance at two (2) Utility Coordination Meetings in conjunction with the project. The meetings will coincide generally be several weeks after the two plans submittals made to the utility companies (after the Preliminary Plans and Final PS&E submittals).
- S. The Missouri Department of Transportation's Missouri Standard Specifications Book for Highway Construction (2011 or Current Edition) will be adopted for the specifications of this project and appended as needed in the Job Special Provisions. The Consultant will provide the Technical Specifications and Job Special Provisions as required. The County will provide the front-end documents. The Consultant will meet with the County prior to generating the specifications and JSP's to discuss project specific issues to be addressed in the project manual. The JSP's will be signed and sealed by a Professional Engineer.
- T. Design approvals will be acquired by the Consultant. This includes:
  1. MoDOT approvals for Federal Reimbursement including Preliminary Plans, Right of Way Plans, and Final Plans, Specification and Estimate (PS&E) Submittals
  2. Missouri Department of Natural Resources Cultural Resource Clearance - Section 106 Permit
  3. Stormwater discharge permit application will be required

"Approval" does not infer that the Consultant is responsible for the fees associated with these approvals. The County shall be responsible for all fees associated with acquiring the permits, but the Consultant will be responsible for forms, submittals, and meetings to complete the submittal.

- U. A maximum of four (4) design progress review meetings -one of which will be a plan-in-hand type of site visit that will field verify the final design plan set against existing conditions.

## **VI. Bidding Phase - The Bidding Phase for this project will include:**

- A. The County will assemble the bidding packages for the project, including the plan sets and bound project manual. The Consultant will provide one (1) reproducible plan set as specified in the Deliverables Section so the County can assemble the bidding packages.

- B. Answering verbal Requests for Information (RFI) during the bidding phase
- C. Issuing written clarifications in response to RFI's (in the form of addenda to the advertisement for bids)
- D. Attendance at the pre-construction meeting
- E. Answer contractor questions during construction and make periodic site visits when requested by the Client, for special issues regarding plan conformance or plan interpretation, which will be limited to sixteen (16) hours.

## **VII. Deliverables**

- A. The deliverables required for this project will include the following (whenever a submittal is made to MoDOT, it is understood that a PDF set will accompany the hard copy of the submittal): The services of all professionals and technical personnel required for the performance of the services described under the Scope of Services above.
- B. Three (3) half-size sets of Initial Preliminary Plans printed on 11"x17" bond paper for review by the County.
- C. Five (5) half-size sets of Preliminary Plans to the County (3 sets) and MoDOT (2 sets), and three (3) half-size sets to the utility companies.
- D. Three (3) half-size sets of Preliminary Right of Way Plans for review by the County.
- E. Two (2) paper copies of each legal description to the County for their use.
- F. Five (5) half-size sets of Final Right of Way Plans to the County (3 sets) and MoDOT (2 sets), plus two (2) full size sets to the County for appraiser/negotiator use.
- G. Five (5) half-size sets of Construction Plans for preliminary review by the County (3 sets) and MoDOT (2 sets), and three (3) half-size sets to the utilities for review. In addition, one (1) electronic set of Job Special Provisions will be submitted to the County and MoDOT for preliminary review.
- H. Five (5) half-size sets of Construction Plans for final review by the County and MoDOT, and one (1) electronic set of Job Special Provisions will be submitted to the County and MoDOT for final review.
- I. One full size, unbound set of Construction Plans, five (5) half-size sets of Final Construction Plans, and one (1) set of original Job Special Provisions to the County. The County will be responsible for replicating the plans for bidding.
- J. One (1) Compact Disk (CD) containing an electronic copy of the Plans in Microstation format and including one (1) copy of the Job Special Provisions in Microsoft Word format. The design will be completed in Microstation (using Geopak as the design

software) and converted to AutoCAD for submittal to the utilities requesting electronic files.

## **VIII. Construction Engineering Phase**

- A. Stake new right of way corners, and set iron pins after construction.
- B. Review shop drawings when submitted for compliance with the drawings and specifications. Review material certifications submitted by the contractor.
- C. Make revisions (if any) to the drawings shown on markups provided by the Contractor. Submit reproducibles and a copy of the record drawings to Jefferson County.

## **IX. Project Management**

In order to provide client service and meet the needs of this project, Project Management activities will include the following:

- A. Internal Team Meetings – Internal team meetings will be held as needed to ensure each team member (prime and subconsultant team members alike) are operating under the same directions and following the same guidance for the project. This task will also include management of the subconsultants, informing them of project-related decisions and directions affecting their work.
- B. Invoicing – Invoices and progress reports will be prepared monthly for the duration of the project (assume 18 months). The invoices will be prepared by the Engineer in accordance with the standard MoDOT Consultant Invoice as referenced and found in the Engineering Policy Guide (EPG). Subconsultants will prepare monthly invoices for their work and submit the invoices to HR Green, who will summarize all the monthly labor costs, expenses and fixed fees into one comprehensive invoice.
- C. Quality Control – The Engineer will establish review and checking procedures for the project deliverables. Quality Assurance (or the process of executing the established Quality Control procedures) will be included in each individual task items and will be completed at appropriate points in time for that specific task. However, for major deliverables that require assembling data from many different tasks or delivery teams, an additional review will be completed by the Project Manager or his assigned Quality representative. It is anticipated that these reviews will be completed prior to submittal of the following deliverables:
  1. Preliminary Plans
  2. Right of Way Plans
  3. Final PS&E

**(Subconsultant Proposals / Scope of Work Follow)**

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**To:** Chris Ferrante, PLS  
EFK Moen, LLC

**From:** Jason Dohrmann, PE  
HR Green, Inc.

**Date:** June 28, 2016

**RE:** Old State Route 21 and East/West Four Ridge Road Intersection  
Surveying Scope of Services

---

HR Green is negotiating with Jefferson County Public Works (County) to complete infrastructure improvements within the limits defined in the exhibit. More specifically, the following better describe the areas labeled on the exhibit:

- HR Green will design improvements to the aforementioned intersection including new horizontal and vertical alignments of the sideroad to provide a safer intersection. The proposed changes will require significant cuts of the existing ground to provide added sight distance and increase decision time for drivers. The existing mainline roadway will be widened to accommodate potential acceleration lanes, and shoulder reconstruction, and an overlay.

Please provide a cost plus fixed fee estimate required for your firm to complete scope of work listed below, which is a detailed explanation of the items provided in the scope of services negotiated with the County (included).

## 1.0 Project:

For this intersection, topo collection shall occur generally following the clouded area shown on the attached exhibit. The data collected should be sufficient to properly identify drainage patterns, roadway and adjacent ground line grades and other identifying features. The survey should be dense enough to produce cross sections at a 25-foot interval. The following intersections are included in this work:

## 2.0 Survey Requirements:

### A. General:

- a. The approximate area of coverage for each project is as described in the above section and shown on the attached exhibit.
- b. Previous surveys performed in this area should not be used or combined with the new topographic survey w/o prior approval from HR Green.
- c. The Surveyor of record shall be a Registered Land Surveyor registered in the State of Missouri.
- d. Drawing / Survey specifics:
  - i. Horizontal and vertical control shall be Missouri State Plane Coordinate System of 1983, East Zone. It is the intention to use 2015 East West Gateway aerials as a backdrop of the topographic survey for reference. EFK Moen, as a part of this scope, will be tasked with verification that the aerials and topographic survey are in the same coordinate system and aligned.

- e. The Surveyor shall perform all field work necessary to accurately determine the property line and existing physical conditions of the areas, set monument markers, establish benchmarks and ascertain and record on a "topo" map and boundary survey drawing the information and data as specified in this document.
- f. Under the Missouri Underground Facility Safety and Damage Prevention statute (RSMO Chapter 319), the surveyor shall make contact with and submit tickets to Missouri One Call to locate underground utilities in the area requested for survey. Copies of the tickets shall be provided to HR Green upon delivery of the completed survey work. It is expected that the surveyor also contact each utility company separately in the attempt to obtain basemaps, and then verify the field survey information represents what is documented as best as possible.

**B. Right of Way / Boundary Survey:**

- a. Property research for each parcel along the alignment, including property owner name, assessor's map number, deed book and page, and size of parcel (in square feet and acres) obtained from the Jefferson County courthouse (or GIS system online).
- b. Show and locate all existing easements of record for the property either from the record plat or recited in the landowner's conveyance deed. Surveyor will not be responsible for providing a title search for all affected properties; only easements showing up on subdivision plat will be shown on properties. If additional right of way is required for a parcel, the subsequent title insurance / report and the labor required to append the property stripmap will be completed by others or by supplemental agreement.
- c. Locate all existing property corners with frontage to each of the intersections surveyed. This means for each intersection, properties at each corner shall be identified and surveyed in case right of way or easement acquisition is necessary for curb ramp relocation.
- d. All right of way or property lines shown shall have a bearing (to the nearest second) and a length (to the nearest hundredth of a foot) given and the parcel shall close within acceptable tolerances governed by the State of Missouri. Any parcel bordering the proposed alignment will need bearings and distances on each line of that property as required by Jefferson County for exhibit preparation.

**C. Topographic Survey:**

- a. Trees: Indicate the location, size and species of trees over 3 in. in trunk diameter and wooded areas where trees of smaller diameter are in profusion. Locate perimeter only of thickly wooded areas or scrub brush. Landscaping shall also be included (shrubs, bushes, mulched planting beds).
- b. Provide benchmarks used (Benchmark to be adopted) or control points set, and any reference datum required for the project in an electronic file suitable for use in the plans. Control points shall be three-point tied to existing monuments outside of the proposed construction limits of the project and spaced no more than five hundred (500') feet apart. Also provided in the electronic file shall be a description of the coordinate system / zone used, geographic reference station used, coordinate values held for azimuth and direction, the grid factor, and the origin point for scaling. If possible, benchmarks from projects currently in design or construction within the yellow corridor shall be referenced and adopted.
- c. Streets, Alleys and Parking Lots: The following data shall be indicated on the Survey. Drawings for all roads or lots adjacent to the site:
  - i. Name and /or route number.
  - ii. Direction of traffic.
  - iii. Distance between curbs.

**Memorandum***(Cont'd)*

- iv. Type, dimension and condition of paving, where no paving exists, so note.
  - v. Location and dimension of existing paving striping, if any.
  - vi. Elevations along center lines at twenty-five foot (25') intervals and intersections for a distance of 50-feet past the radius return of each side street.
  - vii. Edge of pavement and type of pavement.
  - viii. Spot elevation on paved parking lots at a grid interval of  $25' \pm$  and at any obvious ridge points, low points and parking lot depressions.
  - ix. Driveway pavement, type and jointing (private driveways only).
  - x. Raised islands (and type).
  - xi. Street signs.
  - xii. Mailboxes.
  - xiii. Traffic signal bases, posts, push button locations, and pull boxes.
  - xiv. Subdivision monuments.
  - xv. Right of way markers.
- d. Sidewalks, Curbs and Gutters: The following data shall be indicated for all sidewalks, curbs, and gutters on or adjacent to the site (where no sidewalks, or curbs or gutters exist, the fact shall be noted):
- i. Whether it is curb only, or curb and gutter.
  - ii. Elevations of sidewalks along the edge nearest to the site at twenty-five foot (25') intervals, at corners, at points of curvature and points of slope change.
  - iii. Elevations of tops of curbs and flow lines of gutters at twenty-five foot (25') intervals, at corners, at points of curvature and points off slope change.
  - iv. Edges of sidewalk and sidewalk type.
  - v. Sidewalk widths and elevations.
  - vi. Curb ramps including truncated domes and landing areas at top of ramps.
  - vii. Crosswalk markings and tinted / patterned pavement treatment at crosswalks.
- e. Utilities: The following information pertaining to utilities at the site shall be shown and noted on the Survey Drawing:
- i. Electric & Telephone: Location of available electric and telephone service. Location of electric and telephone lines, poles and manholes. Location of street lights, traffic signal equipment and utility boxes.
  - ii. Water: Location of water mains, hydrants, valves and manholes. Indicate size of water mains.
  - iii. Gas: Location and size of gas mains including type, pressure, and source of gas supply.
  - iv. Sewers: Location, size, direction of flow, rate of fall, and type of material of sanitary, storm or combined sewer mains. Indicate whether public or private and whether the use is exclusively for sanitary waste or storm drainage. Indicate elevations of structure top, flow line, location of manholes and elevations of all "in" and "out" inverts (within the intersection only). Indicate dimensions of existing storm drain out fall protection (riprap).
  - v. Irrigation Systems: Location or sprinkler heads, control boxes and backflow preventers.
- f. Elevations and Contour Lines: All data collected for the site shall be taken on a grid suitable to the topography and size of the site.
- i. Contour lines shall be drawn at intervals that accurately reflect the existing topography of the site but in no case more than one foot (1') intervals unless otherwise approved by HR Green.

- ii. Spot elevations shall be provided specifically in areas to clearly define the site topography (e.g. at swales, ridges, valleys, etc.). Spot elevations shall be to the nearest .01 foot.
- iii. Elevations shall be marked on contour lines at regular intervals.
- iv. Where concrete or grass ditches exist, spot elevations shall be provided at 50 feet intervals. At a minimum, the low point and approximate top of slope of the swale shall be included at each interval.
- v. All ridges or valleys or any other breaklines necessary for an accurate Digital Terrain Model (DTM) of the project, and all other pertinent existing features which may affect the proposed design

## 3.0 Additional Services:

Per the Scope of Services negotiated with the County, the following are also requested as a part of this proposal:

- A. One-time stakeout of right of way and permanent/temporary easements
- B. Stake out of new right of way corners after construction (setting iron pins)

## 4.0 Deliverables:

- A. The Survey Drawing(s) shall contain a signed certification by the surveyor that the survey of the described property was made under its supervision and that the data shown thereon is true and correct.
- B. The following electronic files on a CD (or by email):
  - a. Separate files containing the topographic survey, right of way survey and digital terrain model information for the project in Microstation format.
  - b. The digital terrain model file shall contain the information (e.g. 3D elements, tags, breaklines, random points, etc.) necessary to generate a digital terrain model (DTM). The file shall also contain the surface triangles used by the surveyor to produce the contours shown on the drawings. This DTM data shall be provided on separate layers in the Microstation file.
    - i. Electronic file containing reference ties, benchmarks, control points, etc. as described above.
    - ii. ASCII file containing points for project.
- C. Paper copies of all deeds and maps obtained for use for the project.
- D. Copies of the pages in the field book pertaining to the job (benchmark/level loop calculations, reference tie drawings, etc.).

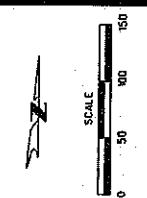
## 5.0 Schedule

- A. The Survey shall commence as soon as Notice to Proceed is given by the Prime Consultant to the subconsultant, and the field work shall be completed within three (3) weeks of Notice to Proceed.
- B. Final electronic copies of the survey (topographic and right of way survey) shall be delivered to the Prime Consultant no later than six (6) weeks from Notice to Proceed.

(Exhibit Follows)

End of Document

**OLD STATE ROUTE 21 AT  
EAST/WEST FOUR RIDGE ROAD  
INTERSECTION IMPROVEMENTS**



**OLD STATE ROUTE 21 AT  
EAST/WEST FOUR RIDGE ROAD  
INTERSECTION IMPROVEMENTS**

EFK Moen, L.L.C.  
Old Route 21 at East-West Four Ridge Road Intersection  
July 1, 2016

	Hours	Cost
Surveys	280	\$7,241.20
<b>Total Hours</b>	<b>280</b>	<b>\$7,241.20</b>
	Overhead	182.53%
		<b>\$13,217.36</b>
	<b>Subtotal</b>	<b>\$20,458.56</b>
	Fixed Fee	13.50%
		\$2,761.90
	<b>Subtotal</b>	<b>\$23,220.46</b>

### **Other Direct Costs**

Research:	Utility Maps, Deeds, Plats	\$500.00
		<b>Subtotal</b>
		<b>\$500.00</b>

EFK Moen, L.L.C.  
 Old Route 21 at East-West Four Ridge Road Intersection  
 July 1, 2016

Task Description	Survey Manager/PLS	Survey Technician	Hours	Senior Crew Chief	Instrument Operator	Total Hours	Total Cost
<b>Survey</b>	<b>\$ 59.21</b>	<b>\$ 24.61</b>	<b>\$ 24.34</b>	<b>\$ 20.61</b>			
Establish Project Control (NAD83/NAVD88)			8	8	16	\$	359.60
Perform Topographic Survey			40	40	80	\$	1,798.00
Search for and Locate Boundary Control			32	32	64	\$	1,438.40
Utility Research		4			4	\$	98.44
Property Research		8			8	\$	196.88
Resolve Property Lines and Right of Way Lines	16	32			48	\$	1,734.88
Mapping and Drafting		56			56	\$	1,378.16
QA/QC	4				4	\$	236.84
<b>Total Hours</b>	<b>20</b>	<b>100</b>	<b>80</b>	<b>80</b>	<b>280</b>		
<b>Total Cost</b>	<b>\$ 1,184.20</b>	<b>\$ 2,461.00</b>	<b>\$ 1,947.20</b>	<b>\$ 1,648.80</b>			<b>\$7,241.20</b>



Via email: [jdohrmann@hrgreen.com](mailto:jdohrmann@hrgreen.com)

July 12, 2016

P027907.01

Mr. Jason Dohrmann, P.E.  
HR Green, Inc.  
16020 Swingley Ridge Road, Suite 205  
Chesterfield, Missouri 63017

Re: Proposal for Subsurface Exploration  
Old State Route 21 at East/West Four Ridge Road Intersection Improvements  
Jefferson County, Missouri

Dear Mr. Dohrmann,

In response to your request, Geotechnology, Inc. is pleased to submit this proposal to perform a subsurface exploration for the referenced project. The purpose of our services will be to explore the subsurface conditions and provide recommendations for design of the proposed intersection as given in the scope of services. We have prepared this proposal following our email correspondence.

#### **PROJECT INFORMATION**

The project includes improvements to the intersection of Old Route 21 and East/West Four Ridge Road in Jefferson County, Missouri. The proposed improvements include new horizontal and vertical alignments which will require relocating part of the roadway, up to 25-foot cuts, and roadway widening. The proposed cuts could be within rock or supported using mechanically stabilized earth (MSE) walls. It is our understanding that retaining wall design, including global stability, will be the responsibility of the contractor. We assume that Jefferson County will provide traffic control and will coordinate/obtain private property access to the boring locations. We also assume that the boring locations will be located in easily accessible areas (i.e., clearing and/or grading is not included in our scope of services). Based on a site observation, drilling will require the use of both a truck-mounted and all-terrain drill rigs.

#### **SCOPE OF SERVICES**

- Drill one boring in West Four Ridge Road and East Four Ridge Road (i.e., two borings) to a depth of 10 feet. Drill two additional borings on private property in proposed cut areas to approximately 10 feet below the proposed bottom of retaining wall, which is estimated at approximately 35 feet. Soil samples will be collected at 2.5-foot centers. Soil samples will be collected using Standard penetration test (SPT) and Shelby tube

sampling methods. If shallow rock is encountered, the borings will be extended into rock using NQ2-rock coring techniques to the predetermined termination depths. Upon completion of the drilling activities, the borings will be backfilled and the pavements patched, where appropriate.

- Drill rig access to borings could disturb the grass or soil. To reduce ground disturbance, either plywood or rubber mats will be used to access private property in sensitive areas. In addition, Geotechnology will not access private property without favorable ground conditions (i.e., dry).
- Public utilities will be notified via the Missouri One-Call system (i.e., DIGRITE).
- The borings will be located by measuring distances from on-site features. A stake will be left at the boring locations for the project surveyor to survey at a later date. Surveying of the boring locations is not included.
- An engineer or geologist from Geotechnology will accompany the drill rig and provide direction during exploration, prepare logs of the material encountered, and transport samples to our laboratory for testing.
- Laboratory tests will be performed on selected soil samples to characterize engineering and index properties. Laboratory tests are expected to include natural moisture content, Atterberg limits, dry unit weights, and unconsolidated undrained triaxial compression tests. Photographs of the recovered rock core and pavement cores will also be included.
- Geotechnology will summarize the results of the subsurface exploration in a report. The report will include the following:
  - A description of the subsurface conditions at the boring locations including the presence of shallow rock/groundwater and its effect on construction,
  - Site excavation, placement of fill/backfill, and the effects of previously placed fill, if encountered
  - Pavement subgrade considerations including remediation of high plasticity clay, if present
  - Slope recommendations using MoDOT's Table 321.1 for routine design
  - Shallow foundation recommendations including anticipated settlement

#### SCHEDULE AND FEE

Public utility notification as required by law will take at least two days to complete. The field work will take an additional three days and our report will be submitted within three to four weeks following completion of the fieldwork. Our findings and recommendations can be provided throughout the course of the project as test results and analyses are completed. As requested, our services will be provided on a cost plus fixed fee basis. A fee estimate is attached to this proposal.

HR Green, Inc.  
July 12, 2016  
Page 3

P027907.01

This proposal and fee estimate have been prepared using Geotechnology's standard fee schedule. Geotechnology reserves the right to revise this proposal and fee estimate, at any time, if any flow down and/or contract provisions are required by Client or Owner to conform with any local, state or federal wage act requirements, including but not limited to the Davis-Bacon Act, as Amended, the McNamara-O'Hara Service Contract Act, etc., the required use of union labor, or for any required safety, security, vehicle, drug and alcohol testing, or any third party payment fees, or other requirements not specified in the Client's request for proposal or not defined in Geotechnology's scope of services.

\* \* \* \* \*

Please call the undersigned if you have any questions or comments. We appreciate the opportunity to submit this proposal and look forward to hearing from you soon.

Very truly yours,

**GEOTECHNOLOGY, INC.**



Craig K Kaibel, P.E.  
Geotechnical Manager

CKK/JAW:ckk/ccg

Enclosures: "Important Information About This Geotechnical Engineering Proposal"  
Subsurface Exploration Fee Estimate

# Important Information about This Geotechnical Engineering Proposal

*Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.*

*While you cannot eliminate all such risks, you can manage them. The following information is provided to help.*

## **Participate in Development of the Subsurface Exploration Plan**

Geotechnical engineering begins with the creation of an effective subsurface exploration plan. This proposal starts the process by presenting an initial plan. While that plan may consider the unique physical attributes of the site and the improvements you have in mind, it probably does not consider your unique goals, objectives, and risk management preferences. Subsurface exploration plans that are finalized without considering such factors presuppose that clients' needs are unimportant, or that all clients have the same needs. *Avoid the problems that can stem from such assumptions* by finalizing the plan and other scope elements directly with the geotechnical engineer you feel is best qualified for the project, along with the other project professionals whose plans are affected by the geotechnical engineer's findings and recommendations. If you have been told that this step is unnecessary, that client preferences do not influence the scope of geotechnical engineering service or that someone else can articulate your needs as well as you, you have been told wrong. No one else can discuss your geotechnical options better than an experienced geotechnical engineer, and no one else can provide the input you can. Thus, while you certainly are at liberty to accept a proposed scope "as is," recognize that it could be a unilateral scope developed without direct client/engineer discussion; that authorizing a unilateral scope will force the geotechnical engineer to accept all assumptions it contains; that assumptions create risk. *Manage your risk. Get involved.*

## **Expect the Unexpected**

The nature of geotechnical engineering is such that planning needs to *anticipate the unexpected*. During the design phase of a project, more or deeper borings may be required, additional tests may become necessary, or someone associated with your organization may request a service that was not included in the final scope. During the construction phase, additional services may be needed to respond quickly to unanticipated conditions. In the past, geotechnical engineers commonly did

whatever was required to oblige their clients' representatives and safeguard their clients' interests, taking it on faith that their clients wanted them to do so. But some, evidently, did not, and refused to pay for legitimate extras on the ground that the engineer proceeded without proper authorization, or failed to submit notice in a timely manner, or failed to provide proper documentation. *What are your preferences? Who is permitted to authorize additional geotechnical services on your project? What type of documentation do you require? To whom should it be sent? When? How?* By addressing these and similar issues sooner rather than later, you and your geotechnical engineer will be prepared for the unexpected, to help prevent molehills from growing into mountains.

## **Have Realistic Expectations; Apply Appropriate Preventives**

The recommendations included in a geotechnical engineering report are *not final*, because they are based on opinions that can be verified only during construction. For that reason, most geotechnical engineering proposals offer the construction observation services that permit the geotechnical engineer of record to confirm that subsurface conditions are what they were expected to be, or to modify recommendations when actual conditions were not anticipated. *An offer to provide construction observation is an offer to better manage your risk.* Clients who do not take advantage of such an offer; clients who retain a second firm to observe construction, can create a high-risk "Catch-22" situation for themselves. *The geotechnical engineer of record cannot assume responsibility or liability for a report's recommendations when another firm performs the services needed to evaluate the recommendations' adequacy.* The second firm is also likely to disavow liability for the recommendations, because of the substantial and possibly uninsurable risk of assuming responsibility for services it did not perform. Recognize, too, that no firm other than the geotechnical engineer of record can possibly have as intimate an understanding of your project's geotechnical issues. As such, reliance on a second firm to perform construction observation can elevate risk still more, because its personnel may not

have the wherewithal to recognize subtle, but sometimes critically important unanticipated conditions, or to respond to them in a manner consistent with your goals, objectives, and risk management preferences.

### **Realize That Geoenvironmental Issues Have Not Been Covered**

The equipment, techniques, and personnel used to perform a geoenvironmental study differ significantly from those used to perform a geotechnical study. *Geoenvironmental services are not being offered in this proposal. The report that results will not relate any geoenvironmental findings, conclusions, or recommendations.* Unanticipated environmental problems have led to numerous project failures. If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

### **Obtain Professional Assistance To Deal with Mold**

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the express purpose of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may be addressed as part of the geotechnical engineering study described in this proposal, the geotechnical engineer who would lead this project *is not a mold prevention consultant; none of the services being offered have been designed or proposed for the purpose of mold prevention.*

### **Have the Geotechnical Engineer Work with Other Design Professionals and Constructors**

Other design team members' misinterpretation of a geotechnical engineering report has resulted in costly problems. Manage that risk by hav-

ing your geotechnical engineer confer with appropriate members of the design team before finalizing the scope of geotechnical service (as suggested above), and, again, after submitting the report. *Also retain your geotechnical engineer to review pertinent elements of the design team members' plans and specifications.*

Reduce the risk of unanticipated conditions claims that can occur when constructors misinterpret or misunderstand the purposes of a geotechnical engineering report. Use appropriate language in your contract documents. Retain your geotechnical engineer to participate in prebid and preconstruction conferences, and to perform construction observation.

### **Read Responsibility Provisions Closely**

Clients, design professionals, and constructors who do not recognize that geotechnical engineering is far less exact than other engineering disciplines can develop unrealistic expectations. Unrealistic expectations can lead to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their proposals. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks, thus to encourage more effective scopes of service. *Read this proposal's provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

### **Rely on Your ASFE-Member Geotechnical Engineer for Additional Assistance**

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit to everyone involved with a construction project. Confer with an ASFE member geotechnical engineer for more information. Confirm a firm's membership in ASFE by contacting ASFE directly or at its website.



8811 Colesville Road/Suite G106, Silver Spring, MD 20910

Telephone: 301/565-2733 Facsimile: 301/589-2017

e-mail: [info@asfe.org](mailto:info@asfe.org) [www.asfe.org](http://www.asfe.org)

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**SUBSURFACE EXPLORATION FEE ESTIMATE**  
**OLD STATE ROUTE 21 AT EAST/WEST FOUR RIDGE ROAD INTERSECTION IMPROVEMENTS**  
**JEFFERSON COUNTY, MISSOURI**

<u>FEE:</u>	<u>ITEM</u>	<u>UNIT</u>	<u>QUANTITY</u>	<u>COST</u>	<u>EXTENSION</u>	<u>TOTAL</u>
<b><u>Fieldwork</u></b>						
<b><u>I. Premobilization Activities</u></b>						
Vehicle	Mile	125		\$0.80	\$100.00	
					<b>Subtotal:</b>	<b>\$100.00</b>
<b><u>II. Drilling Services</u></b>						
Drill Rig Mob/Demob	Each	2		\$500.00	\$1,000.00	
Drill Rig and Crew	Hour	25		\$170.00	\$4,250.00	
Support Vehicles - Water	Day	3		\$60.00	\$180.00	
Support Vehicles - Field Engineer/Logger	Day	3		\$60.00	\$180.00	
All Terrain Rig Daily Surcharge	Day	2		\$150.00	\$300.00	
Daily Fuel Surcharge	Day	3		\$50.00	\$150.00	
Shelby Tubes	Each	6		\$35.00	\$210.00	
Pavement Patching	Each	2		\$20.00	\$40.00	
Site Restoration Crew (2-man)	Hour	0		\$110.00	\$0.00	
Site Restoration Material Allowance	Direct	0		\$500.00	\$0.00	
Site Resoration Vehicle	Day	0		\$60.00	\$0.00	
Traffic Control - Lane Closure	Day	0		\$1,500.00	\$0.00	
					<b>Subtotal:</b>	<b>\$6,310.00</b>
<b><u>III. Laboratory Testing</u></b>						
Water Content (Soil)	Each	20		\$6.00	\$120.00	
Density	Each	0		\$30.00	\$0.00	
Atterberg Limit	Each	6		\$60.00	\$360.00	
Sieve analysis plus hydrometer	Each	0		\$135.00	\$0.00	
#200 Sieve	Each	0		\$55.00	\$0.00	
Unconsolidated Undrained Triaxial (soil)	Each	6		\$95.00	\$570.00	
Consolidated Undrained Triaxial (soil)	Point	0		\$300.00	\$0.00	
Unconfined Compression (rock)	Each	0		\$85.00	\$0.00	
Rock Core Preparation	Each	0		\$55.00	\$0.00	
Consolidation with Burmeister Loop	Each	0		\$450.00	\$0.00	
Swell Pressure	Each	0		\$260.00	\$0.00	
Standard Proctor	Each	0		\$200.00	\$0.00	
California Bearing Ratio (CBR)	Each	0		\$200.00	\$0.00	
Corrosivity Series	Each	0		\$350.00	\$0.00	
Boring Log	Sheet	4		\$25.00	\$100.00	
Pavement Core Photos	Each	2		\$20.00	\$40.00	
Rock Core Photos	Each	4		\$25.00	\$100.00	
					<b>Subtotal:</b>	<b>\$1,290.00</b>
<b><u>Labor:</u></b>						
<b><u>I. Premobilization/Drilling Activities</u></b>						
Site Recon and Utility Notification	Hour	6		\$35.00	\$210.00	
<b><u>II. Engineering, Analyses &amp; Report</u></b>						
Principal	Hour	2		\$60.00	\$120.00	
Drilling Manager	Hour	4		\$50.00	\$200.00	
Senior Project Manager	Hour	8		\$50.00	\$400.00	
Senior Project Engineer	Hour	20		\$45.00	\$900.00	
Engineer/Staff Geologist (log)	Hour	25		\$30.00	\$750.00	
Engineer/Staff Geologist Overtime (log)	Hour	0		\$37.50	\$0.00	
Project Engineer/Geologist (support)	Hour	0		\$25.00	\$0.00	
CADD Specialist	Hour	4		\$20.00	\$80.00	
Wordprocessor	Hour	4		\$18.00	\$72.00	
					<b>Subtotal</b>	<b>\$2,732.00</b>
					<b>Payroll Additives (66.26%)</b>	<b>\$1,810.22</b>
					<b>G&amp;A Overhead (130.02%)</b>	<b>\$3,552.15</b>
					<b>Facilities Capital Costs (0.85%)</b>	<b>\$23.22</b>
					<b>Labor Cost</b>	<b>\$8,117.59</b>
					<b>Fixed Fee (12%)</b>	<b>\$974.11</b>
					<b>Total labor</b>	<b>\$9,091.70</b>
					<b>TOTAL SUM</b>	<b>\$16,791.70</b>

**ATTACHMENT B**

**ATTACHMENT B**  
**ESTIMATE OF COST**

<b><u>TASK 1 - PROGRAMMING PHASE</u></b>	<b><u>Rate</u></b>	<b><u>Hours</u></b>	<b><u>Cost</u></b>
Professional	\$63.00	2	\$126.00
Senior Professional	\$57.00	0	\$0.00
Junior Professional	\$32.00	4	\$128.00
Senior Technician	\$29.00	8	\$232.00
Administrative Assistant	\$20.00	0	\$0.00
<b><u>TASK 2 - FIELD SURVEYS AND DATA COLLECTION PHASE</u></b>			
Professional	\$63.00	10	\$630.00
Senior Professional	\$57.00	0	\$0.00
Junior Professional	\$32.00	13	\$416.00
Senior Technician	\$29.00	12	\$348.00
Administrative Assistant	\$20.00	0	\$0.00
<b><u>TASK 3 - PRELIMINARY DESIGN PHASE</u></b>			
Professional	\$63.00	22	\$1,386.00
Senior Professional	\$57.00	7	\$399.00
Junior Professional	\$32.00	65	\$2,080.00
Senior Technician	\$29.00	99	\$2,871.00
Administrative Assistant	\$20.00	6	\$120.00
<b><u>TASK 4 - RIGHT OF WAY AND TCE ACQUISITION PHASE</u></b>			
Professional	\$63.00	5	\$315.00
Senior Professional	\$57.00	0	\$0.00
Junior Professional	\$32.00	25	\$800.00
Senior Technician	\$29.00	24	\$696.00
Administrative Assistant	\$20.00	1	\$20.00
<b><u>TASK 5 - FINAL DESIGN PHASE</u></b>			
Professional	\$63.00	21	\$1,323.00
Senior Professional	\$57.00	20	\$1,140.00
Junior Professional	\$32.00	103	\$3,296.00
Senior Technician	\$29.00	165	\$4,785.00
Administrative Assistant	\$20.00	3	\$60.00
<b><u>TASK 6 - BIDDING PHASE</u></b>			
Professional	\$63.00	12	\$756.00
Senior Professional	\$57.00	0	\$0.00
Junior Professional	\$32.00	15	\$480.00
Senior Technician	\$29.00	0	\$0.00
Administrative Assistant	\$20.00	0	\$0.00
<b><u>TASK 7 - DELIVERABLES</u></b>			
No HR Green Labor hours			
<b><u>TASK 9 - PROJECT MANAGEMENT</u></b>			
Professional	\$63.00	27	\$1,701.00
Senior Professional	\$57.00	2	\$114.00
Junior Professional	\$32.00	2	\$64.00
Senior Technician	\$29.00	2	\$58.00
Administrative Assistant	\$20.00	9	\$180.00
<b>HR Green LABOR SUBTOTAL</b>	<b>684 hrs</b>	<b>\$24,524.00</b>	
<i>HR Green Payroll Overhead</i>	(Est. at 44.23% X Subtotal)	\$10,846.97	
<i>HR Green General and Admin Overhead</i>	(Est. at 120.93% X Subtotal)	\$29,656.87	
Total Labor and Overhead		\$63,027.84	
<i>HR Green Fixed Fee</i>	(12% xTotal Labor& Overhead)	\$7,803.34	
<b>HR Green TOTAL LABOR, OVERHEAD, &amp; FIXED FEE</b>		<b>\$72,831.18</b>	
<i>Other Direct Costs</i>			
Mileage		\$665.28	
Copies		500.00	
Printing		400.00	
Subcontractors: EFK Moen, LLC (DBE) (DBE ** percentage)	20.6%	23,720.46	
Geotechnology, Inc.		16,791.70	
<b>DIRECT COST AND SUBCONSULTANT SUBTOTAL</b>		<b>\$42,077.44</b>	
<b>ENGINEERING TOTAL</b>		<b>\$114,908.62</b>	

**ATTACHMENT B**  
**ESTIMATE OF COST**

<b><u>TASK 8 - CONSTRUCTION ENGINEERING PHASE</u></b>	<b><u>Rate</u></b>	<b><u>Hours</u></b>	<b><u>Cost</u></b>
Professional	\$63.00	3	\$189.00
Senior Professional	\$57.00	4	\$228.00
Junior Professional	\$32.00	11	\$352.00
Senior Technician	\$29.00	8	\$232.00
Administrative Assistant	\$20.00	0	\$0.00
 <b>HR Green LABOR SUBTOTAL</b>		<b>26</b>	<b>hrs</b>
<i>HR Green Payroll Overhead</i>	(Est. at 44.23% X Subtotal)		\$442.74
<i>HR Green General and Admin Overhead</i>	(Est. at 120.93% X Subtotal)		\$1,210.51
<b>Total Labor and Overhead</b>			<b>\$2,654.25</b>
<i>HR Green Fixed Fee</i>	(12% xTotal Labor& Overhead)		\$318.51
 <b>HR Green TOTAL LABOR, OVERHEAD, &amp; FIXED FEE</b>			<b>\$2,972.76</b>
 <b>Other Direct Costs</b>			
Mileage			\$0.00
Copies			100.00
Printing			-
Subcontractors: EFK Moen, LLC (DBE)	(DBE ** percentage)	0.0%	-
Geotechnology, Inc.			-
 <b>DIRECT COST AND SUBCONSULTANT SUBTOTAL</b>			<b>\$100.00</b>
 <b>CONSTRUCITON TOTAL</b>			<b>\$3,072.76</b>

ATTACHMENT B - ESTIMATE OF COST

PROJECT: Old State Route 21 and East/West Four Ridge Road  
Intersection Improvements ST#5422668  
CLIENT: Jefferson County, MO  
CLIENT P.M.: Jason Jones, PE - Director of Public Works  
CONSULTANT P.M.: Jason Dohmann, PE

## ATTACHMENT B - ESTIMATE OF COST

Task	DESCRIPTION OF TASK	Direct Labor Plus Overhead	Direct Labor Plus Overhead	Total Fuls Overhead	Task Total Expenses	PROF. PROF. (PM)	SENIOR PROF. (PM)	JR. PROF / SR. TECH	Mileage Auto	Copies	Printing Meals, etc.	Subs Direct	Notes
TASKS	FINAL DESIGN PHASE												
A	Final Field Check	380.00	1,007.61	1,198.52	2,646	1,154.98	4	4		49	26.48		
B	Cover Sheet	90.00	238.64	267.28	297.28		1	2					
C	Tabulation of Quantities	989.00	2,569.40	2,877.73	2,877.73	1		12	18				
D	Typical Section Sheets (1 Sheet)	122.00	323.50	365.21	362.31		2	2					
E	Reference Tie / Project Control Sheet	29.00	76.90	85.12	86.12			1					
F	Playtronic Sheets	780.00	2,068.25	2,316.44	2,316.44	2	2	6	12				
G	Side Road Profile Sheets	122.00	323.50	365.21	362.31		2	2					
H	Intersection Geometric / Warping Sheets	783.00	2,076.20	2,325.35	2,325.35	1		2					
I	Storm Sewer Culvert Sheets	706.00	1,872.03	2,056.67	2,056.67	2	2	8	16				
J	Stringer and Signage Sheets	549.00	1,370.98	1,921.40	1,921.40		1	4	16				
K	Excavation Control Sheets	649.00	1,720.89	1,927.40	1,927.40	1	4	16					
L	Construction Phasing and Sequencing Sheets	1,176.00	3,118.28	3,492.48	3,492.48	8	8	16					
M	General Construction Detail Sheets	720.00	1,909.75	2,138.25	2,138.25		8	16					
N	Cross Section Sheets	360.00	954.58	1,059.13	1,059.13	1	4	8					
O	Engineer's Estimate of Probable Cost	179.00	474.64	531.59	531.59	1	4						
P	Utility Coordination	446.00	1,102.61	1,524.53	1,524.53	2	10	148	79.92				
Q	Provide Job Specific Provisions only	484.00	1,283.37	1,437.38	1,437.38	4	8						
T1	Prepare and Obtain Stormwater Discharge Permit	346.00	917.45	1,027.55	1,027.55	2		8					
T2	Submit 95% Draft SSES/BD Package	110.00	251.66	326.68	326.68	1	2	1					
T3	Complete Final Revisions	634.00	1,681.11	1,862.85	1,862.85	2	8	1					
T4	Submit Revised PSSE to MoDOT	110.00	291.60	326.68	326.68	1	2	1					
U	Attend Client Meetings - four (4) indicated	761.00	2,251.22	2,416.98	2,416.98	8	8	296	159.84				

## ATTACHMENT B - ESTIMATE OF COST

**ATTACHMENT C**



800 Lincoln Way, Ames, Iowa 50010

(515) 239-1631  
FAX: (515) 239-1874

**Independent Auditor's Report on Schedule of Indirect Costs**

Michelle Byard, Chief Financial Officer  
HR Green, Inc.  
8710 Earhart Lane SW  
Cedar Rapids, IA 52404

We have audited the Schedule of Indirect Costs for the fiscal year ended December 31, 2015. This statement is the responsibility of the Company's management. Our responsibility is to express an opinion on this statement based on our audit.

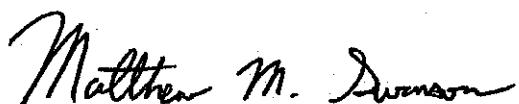
The management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting and for preparing an indirect cost rate schedule that is accurate and compliant with applicable sections of Part 31 of the Federal Acquisition Regulation (FAR) and related regulations, laws and guidance. In fulfilling this responsibility, estimates and judgments by management are required to assess the expected benefits and related costs of internal controls over financial reporting. The objectives of internal control over financial reporting are to provide management with reasonable, but not absolute, assurance that assets are safeguarded against loss from unauthorized use or disposition, and that transactions are executed in accordance with FAR Part 31. Because of inherent limitations in any internal control structure, errors or irregularities may nevertheless occur and may not be detected. Also, projection of any evaluation of the structure to future period is subject to the risk that procedures may become inadequate because of changes in conditions or that the effectiveness of the design and operations of policies and procedures may deteriorate.

Our responsibility is to express an opinion on the indirect cost rate schedule, after first designing and performing auditing procedures to consider the Company's internal control over cash disbursements and payroll and performing tests of the Company's compliance with FAR Part 31 and related laws, regulations and contract terms. We designed our audit to focus on items that could have a direct and material effect on the determination of the amounts reported on the indirect cost rate schedule.

Our audit procedures were designed to determine whether the indirect costs claimed on the Company's indirect cost schedule were substantiated by adequate supporting documentation and were otherwise allowable in accordance with FAR Part 31, related laws and regulations, and contract requirements. In designing our testing we applied the techniques and procedures recommended in the 2012 Edition of the *AASHTO Uniform Audit & Accounting Guide* (the AASHTO Audit Guide). Accordingly, we reviewed indirect cost accounts with a high potential risk for misstatement, reviewed the Company's cost allocation methodologies through an examination of the project accounting and general accounting systems, and performed timesheet and payroll testing. This allowed us to evaluate the processes, procedures, and internal controls within the Company's accounting system as well as controls over employee timesheet preparation, approvals, and corrections.

In our opinion, the Schedule of Indirect Costs, referred to above, presents fairly, in all material respects, the direct labor, fringe benefits and general overhead of the Company for the year ended December 31, 2015, on the basis of accounting described in Note 2.

This report is intended solely for the use and information of the Company and Government Agencies or other customers related to contracts employing the cost principles of the Federal Acquisition Regulation and should not be used for any other purpose.



Matthew M. Swanson, Auditor  
Office of Finance - External Audits

June 30, 2016

**HR GREEN, INC.**  
**Schedule of Indirect Costs**  
**Fiscal Year End December 31, 2015**

**HR GREEN, INC.**  
**Schedule of Indirect Costs**  
**Fiscal Year End December 31, 2015**

		2015 Actual	Unallowable Items	Auditor Adjustment	2015 Actual	CA Allocation 11.30%	LD Allocation 3.69%	Overhead on Direct Labor	General And Administrative Overhead	Notes to Schedule
762.07	Proj Dev - Other									
762.5	Proj Dev - Unallowable Costs									
762.51	Proj Dev - M & E - Unallowable Costs	140,028.00	(140,028.00)							
762.52	Proj Dev - Travel - Unallowable Costs	165,853.00	(165,853.00)							
762.53	Proj Dev - Adv. - Unallowable Costs	170,418.00	(170,418.00)							
762.54	Proj Dev - Printing - Unallowable Costs	69,715.00	(69,715.00)							
762.55	Proj Dev - Convention- Unallowable Costs	123,844.00	(123,844.00)							
762.56	Proj Dev - Photo. - Unallowable Costs	20,863.00	(20,863.00)							
762.57	Proj Dev - Other - Unallowable Costs	31,169.00	(31,169.00)							
	<b>Total Project Development Expense</b>	<b>751,958.00</b>	<b>(721,890.00)</b>		<b>30,068.00</b>					<b>30,068.00</b>
	<b>New Business Expense</b>									
764	New Business									
764.01	New Business - Meals & Entertain									
764.02	New Business - Travcl									
764.03	New Business - Misc.									
	<b>Total New Business Expenses</b>									
	<b>Professional Meetings/Seminar Exp</b>									
763	Training/Mtg/Seminar									
763.01	Training/Mtg/Seminar-Meals	32,248.00	(31.00)		32,217.00					32,217.00 (11)
763.02	Training/Mtg/Seminar-Travel Exp	86,858.00			86,858.00					86,858.00
763.03	Training/Mtg/Seminar-Fees	105,178.00	(40.00)		105,138.00					105,138.00 (11)
763.5	Learning and Development - Corporate	68,570.00			68,570.00					68,570.00
763.6	Learning and Development - Corp - Travel									
763.7	Learning and Development - Corp - Meals									
	<b>Total Professional Meetings/Semin</b>	<b>292,854.00</b>	<b>(71.00)</b>		<b>292,783.00</b>					<b>292,783.00</b>
	<b>Non-Employee Insurance</b>									
757	Professional Liability Insurance	222,536.00	(770.00)		221,766.00					221,766.00 (11)
757.01	Commercial Insurance	370,492.00			370,492.00					370,492.00
757.02	Other Insurance									
	<b>Total Non-Employee Insurance</b>	<b>593,028.00</b>	<b>(770.00)</b>		<b>592,258.00</b>					<b>592,258.00</b>
	<b>Professional Services</b>									
751	Legal Expenses	33,664.00			33,664.00					33,664.00
752	Accounting/Audit Expense	120,821.00	(13.00)		120,808.00					102,700.00 (9)(11)
753	Consulting Expense/Outside Services	179,648.00	(1,260.00)	(75,893.00)	102,495.00					89,023.00 (9)(11)(13)
755	Bank Charges	141,021.00			141,021.00					141,021.00
737	Cross Sector Charges - Transfer In									
737.01	Cross Sector Charges - Transfer Out									
756	Collection Agency Charges									
	<b>Total Professional Services</b>	<b>475,154.00</b>	<b>(1,273.00)</b>	<b>(75,893.00)</b>	<b>397,988.00</b>	<b>(23,814.00)</b>	<b>(7,766.00)</b>			<b>366,408.00</b>
	<b>Communications Expense</b>									
747	Telephone Expense									
747.01	Local/long Distance	112,457.00			112,457.00					105,556.00 (9)
747.02	Wireless Communications	187,429.00			187,429.00					184,394.00 (9)
747.03	Data Communication	497,375.00			497,375.00					458,590.00 (9)
747.04	Communication System Lease									
747.05	Communications Maint Agreements									
747.08	Communication System Changes									
748	Postage/Ups	69,796.00	(33.00)		69,763.00					69,763.00 (11)
	<b>Total Communications Expense</b>	<b>867,057.00</b>	<b>(33.00)</b>		<b>867,024.00</b>	<b>(36,659.00)</b>	<b>(12,062.00)</b>			<b>818,303.00</b>
	<b>Professional Activities Expense</b>									
749.00	Memberships & Dues	121,577.00	(1,205.00)		120,372.00					120,372.00 (11)
749.01	Memberships & Dues - Unallowable	67,398.00	(67,398.00)							(11)
750.00	Subscriptions & Publications	53,815.00	(1,424.00)		52,391.00					52,391.00 (11)
	<b>Total Professional Activities Exp</b>	<b>242,790.00</b>	<b>(70,027.00)</b>		<b>172,763.00</b>					<b>172,763.00</b>
	<b>Auto&amp;Truck Expense</b>									
761.00	Vehicle Related									
761.01	Vehicle Expenses	598,313.00			598,313.00					598,313.00
761.02	Vehicle Repair	10,421.00			10,421.00					10,421.00
	<b>Total Auto &amp; Truck Expense</b>	<b>608,734.00</b>			<b>608,734.00</b>					<b>608,734.00</b>
	<b>Depreciation &amp; Amortization</b>									
771.00	Depreciation	942,454.00			942,454.00					875,667.00 (9)
772.00	Amortization	183,892.00	(183,892.00)							(11)
	<b>Total Depreciation &amp; Amortization</b>	<b>1,126,346.00</b>	<b>(183,892.00)</b>		<b>942,454.00</b>	<b>(50,364.00)</b>	<b>(16,423.00)</b>			<b>875,667.00</b>
	<b>Health And Safety Costs</b>									
765.00	H & S Supplies	924.00			924.00					924.00
765.01	H & S Exans	3,165.00			3,165.00					3,165.00
765.02	H & S Other	45.00			45.00					45.00
	<b>Total Health and Safety Costs</b>	<b>4,134.00</b>			<b>4,134.00</b>					<b>4,134.00</b>
	<b>Other</b>									
770.00	Donations	10,533.00	(10,533.00)							(11)
766.00	Employee Activities	27,568.00			27,568.00					27,568.00
766.50	Employee Activities - Unallowable Costs	82,772.00	(82,772.00)							(11)
767.00	Employee Training									
768.01	Tuition Reimbursement	42,270.00	(21,841.00)		20,429.00					20,429.00
768.02	Interview Expense	735.00			735.00					735.00
768.03	Recruitment Advertising	50,146.00			50,146.00					42,630.00 (9)(11)
768.04	Other Recruiting Expense	151,543.00			151,543.00					117,443.00 (9)
768.05	Relocation Costs	155,651.00			155,651.00					155,651.00
768.06	Sign on Bonus	54,009.00			54,009.00					54,009.00
768.07	College Relations Program	15,189.00			15,189.00					15,189.00
769.00	Other Travel Expenses	232,398.00	(631.00)		231,767.00					221,564.00 (9)(11)
769.01	Other Meals	46,753.00	(87.00)		46,666.00					44,566.00 (9)(11)
769.50	Other Travel Exp. - Unallowable Costs	25,891.00	(25,891.00)							(11)
769.51	Other M&E-Unallowable Costs									
754.00	Director Fees	170,000.00			170,000.00					144,521.00 (9)
773.00	Other Miscellaneous Expenses	(367.00)			(367.00)					(367.00)
758.00	Life Insurance Premiums	(6,758.00)	6,758.00							(11)
900.00	Interest Income	(27,609.00)			27,609.00					
901.00	(Gain)Loss On Sale Of Equipment	(10,655.00)			(10,655.00)					(10,655.00)
902.00	Miscellaneous Income	(1,169.00)	1,169.00							

**HR GREEN, INC.**  
**Schedule of Indirect Costs**  
**Fiscal Year End December 31, 2015**

		2015 Actual	Unallowable Items	Auditor Adjustment	2015 Actual	CA Allocation 11.30%	LD Allocation 3.69%	Overhead on Direct Labor	General And Administrative Overhead	Notes to Schedule
903.00	Life Insurance Proceeds									
904.00	Rental Income		(89,988.00)						(89,988.00)	
905.00	Non Service Income									
908.00	Service Income									
951.00	Error Suspense									
810.01	Provision For Collection Losses	268,774.00	(268,774.00)							(11)
820.02	Provision For Unbilled Accounts									
820.22	Unbilled Write Off - Relimbursable^									
830.00	Provision For Liability Claims									
600.00	Federal Income Taxes	544,537.00	(544,537.00)							(11)
801.00	State Income Taxes	70,268.00			70,268.00				70,268.00	
840.00	Interest Expense	287,258.00	(287,258.00)							(11)
850.00	Income Tax Penalties									
880.00	Other Expenses	1,422.00	(1,422.00)							(11)
881.00	Non Deductible	46,004.00	(46,004.00)							(11)
870.00	Site Overhead Allocation									
660.00	OH allocation - DL transfer to CA office									
	Total Other	2,147,166.00	(1,281,823.00)	27,609.00	892,952.00	(68,260.00)	(11,138.00)		813,554.00	
	Total Expenses	48,436,422.00	(4,215,509.00)	(160,128.00)	44,060,783.00	(971,297.00)	(245,132.00)	7,147,115.00	19,539,479.00	

Overhead Rate - W/O Cost of Capital

Payroll Related Costs

General & Administrative

Total

Direct Labor

7,147,115.00	44.23%
19,539,479.00	120.93%
<u>26,686,594.00</u>	<u>165.16%</u>

16,157,742.00

**HR Green, Inc.**

**Notes for the Schedule of Indirect Cost**  
**FYE December 31, 2015**

**(1) Principle Business Activity:**

HR Green, Inc. is a corporation that provides consulting engineering and architectural design services for government and private industry. HR Green's home office is located at 8710 Earhart Lane SW in Cedar Rapids, Iowa, with offices located in: Colorado, Illinois, Minnesota, Missouri, South Dakota, Pennsylvania, California and Texas.

**(2) Basis of Accounting:**

The indirect cost schedule follows accounting practices prescribed in Part 31 of the Federal Acquisition Regulations (FAR). Accordingly, the schedule of indirect costs is not intended to present the results of the operation of the Company in conformity with generally accepted accounting principles. The Company utilizes an accrual based accounting system that recognizes revenue and expenses as earned or incurred.

**(3) Distribution of Labor Costs:**

The Company maintains an integrated job cost system that accumulates direct and indirect labor which is posted to the General Ledger (G/L). Time sheets are prepared on a weekly basis and entered into the accounting system once for project reporting, payroll and financial reporting. The Payroll Register is prepared and paid on a biweekly basis.

Hourly employees are paid overtime for hours in excess of forty hours per week. The premium portion of overtime (PPOT) is accumulated to both direct and indirect labor based on labor activity. PPOT, when associated with direct labor, is accumulated to the direct labor base but is not applied overhead costs. Direct and indirect labor for salaried employees is accumulated at a standard hourly rate for each employee, based upon 2,080 hours. Direct and indirect overtime hours for salaried employees are accumulated. However, if no dollar amounts are paid, the overhead pool is offset by "Labor Variance On Salaried Employee".

**(4) Job Costs:**

Each project is assigned a unique job number in which project costs are to be accumulated. All employees, including the principals and clerical charge time to projects. The system accumulates all project hours per employee at actual labor rates with salaried employees accumulated using the 2,080 hour standard. Premium portion of overtime paid to hourly employees is accumulated to both direct and indirect labor.

Company estimates are prepared by department heads and are based on historical data. Fee proposals are prepared in a manner consistent with the accumulation and reporting of the job-order system.

**HR Green, Inc.**  
**Notes for the Schedule of Indirect Cost**  
**FYE December 31, 2015**

**(5) Direct Costs:**

The Company's general practice is to direct cost all non-salary direct expenses identifiable with a direct project without regard to contract type or size. Expenses are accumulated to indirect accounts and are credited using "Overhead Applied" accounts as direct expenses are charged to projects. The following are acceptable as direct costs on proposed contracts with the Department:

Subcontracts	Support for the direct charge is the vendor's invoice.
Outside Printing	Support for the direct charge is the vendor's invoice.
Meals	Actual - Employee time sheets
Lodging	Actual - Based on time sheets or invoices
Mileage	At IRS allowable mileage rate vehicles and \$.85 for survey trucks
Field Expenses	Survey materials at cost

**(6) Compensation**

HR Green performed evaluation of executive compensation in relation to the published National Compensation Matrix and Bipartisan Budget Act of 2013 that limited reimbursement to the Benchmark of \$487,000.

**(7) Related Party Transactions:**

Through supplied information and inquiries of the Consultant there is no evidence of related party transactions.

**(8) Rental Income:**

The Company leases certain property from a third party. During the year a portion of the property was unused by the Company and was subleased to an outside renter. The original cost of the lease remained in the overhead pool but Consultant has relieved for the amount reimbursed by the outside party.

**(9) Labor and Expense Transfers:**

During the year, Midwest employees of HR Green, Inc. worked for a separate division of the Company based in California and a Land Development division. Both divisions have a separate pool of costs not related to the overhead cost pool in this schedule. Direct labor, attributed to these employees, has been removed from the direct labor base on this schedule. Certain other indirect associated costs have also been removed from the overhead pool and appropriately placed in the cost pool associated with these divisions.

**(10) Significant Changes:**

No significant changes have been made to accounting system during this time period.

**HR Green, Inc.**  
**Notes for the Schedule of Indirect Cost**  
**FYE December 31, 2015**

**(11) Unallowable Costs:**

Certain costs are considered unallowable by Federal Acquisition Regulations and have been eliminated on that basis. Unallowables include but are not limited to the following:

<u>Costs/Accounts</u>	<u>FAR References</u>
Insurance - Shareholders	FAR 31.205-19
Donations	FAR 31.205-8
Interest & Bank Charges	FAR 31.205-20
Bad Debts	FAR 31.205-3
Advertising/Promotion	FAR 31.205-1
Alcohol	FAR 31.205-51

**(12) Premium Portion of Overtime**

Premium Portion of Overtime when associated with direct labor is accumulated to the direct labor base but is not applied overhead costs when requesting reimbursement. The direct labor base was reduced for the amount incurred and accumulated to be consistent with the company's labor and overhead/billing practices.

**(13) Minor Calculation Error**

During verification and testing of expenses, a math error was detected and as such has appropriately be adjusted.

## ATTACHMENT D

### CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS - PRIMARY COVERED TRANSACTIONS

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#### INSTRUCTIONS FOR CERTIFICATION

1. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.
3. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
4. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if at any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," "proposal" and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.
6. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
7. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transaction" provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded

from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to check the Nonprocurement List at the Excluded Parties List System.

<https://www.epls.gov/epls/search.do?page=A&status=current&agency=69#A>.

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
10. Except for transactions authorized under paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

**Certification Regarding Debarment, Suspension, and Other Responsibility Matters -Primary Covered Transactions**

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
  - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
  - b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
  - d. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

## ATTACHMENT E

### CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION--LOWER TIER COVERED TRANSACTIONS

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#### INSTRUCTIONS FOR CERTIFICATION

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List at the Excluded Parties List System.  
<https://www.epls.gov/epls/search.do?page=A&status=current&agency=69#A>.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

**Attachment F**  
**Disadvantage Business Enterprise Contract Provisions**

1. Policy: It is the policy of the U.S. Department of Transportation and the Local Agency that businesses owned by socially and economically disadvantaged individuals (DBE's) as defined in 49 C.F.R. Part 26 have the maximum opportunity to participate in the performance of contracts financed in whole or in part with federal funds. Thus, the requirements of 49 C.F.R. Part 26 and Section 1101(b) of the Transportation Equity Act for the 21st Century (TEA-21) apply to this Agreement.

2. Obligation of the Engineer to DBE's: The Engineer agrees to assure that DBEs have the maximum opportunity to participate in the performance of this Agreement and any subconsultant agreement financed in whole or in part with federal funds. In this regard the Engineer shall take all necessary and reasonable steps to assure that DBEs have the maximum opportunity to compete for and perform services. The Engineer shall not discriminate on the basis of race, color, religion, creed, disability, sex, age, or national origin in the performance of this Agreement or in the award of any subsequent subconsultant agreement.

3. Geographic Area for Solicitation of DBEs: The Engineer shall seek DBEs in the same geographic area in which the solicitation for other subconsultants is made. If the Engineer cannot meet the DBE goal using DBEs from that geographic area, the Engineer shall, as a part of the effort to meet the goal, expand the search to a reasonably wider geographic area.

4. Determination of Participation Toward Meeting the DBE Goal: DBE participation shall be counted toward meeting the goal as follows:

A. Once a firm is determined to be a certified DBE, the total dollar value of the subconsultant agreement awarded to that DBE is counted toward the DBE goal set forth above.

B. The Engineer may count toward the DBE goal a portion of the total dollar value of a subconsultant agreement with a joint venture eligible under the DBE standards, equal to the percentage of the ownership and control of the DBE partner in the joint venture.

C. The Engineer may count toward the DBE goal expenditures to DBEs who perform a commercially useful function in the completion of services required in this Agreement. A DBE is considered to perform a commercially useful function when the DBE is responsible for the execution of a distinct element of the services specified in the Agreement and the carrying out of those responsibilities by actually performing, managing and supervising the services involved and providing the desired product.

D. A Engineer may count toward the DBE goal its expenditures to DBE firms consisting of fees or commissions charged for providing a bona fide service, such as professional, technical, consultant, or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials or supplies required for the performance of this Agreement, provided that the fee or commission is determined by MoDOT's External Civil Rights Division to be reasonable and not excessive as compared with fees customarily allowed for similar services.

E. The Engineer is encouraged to use the services of banks owned and controlled by socially and economically disadvantaged individuals.

5. Replacement of DBE Subconsultants: The Engineer shall make good faith efforts to replace a DBE Subconsultant, who is unable to perform satisfactorily, with another DBE Subconsultant. Replacement firms must be approved by MoDOT's External Civil Rights Division.

6. Verification of DBE Participation: Prior to final payment by the Local Agency, the Engineer shall file a list with the Local Agency showing the DBEs used and the services performed. The list shall show the actual dollar amount paid to each DBE that is applicable to the percentage participation established in this Agreement. Failure on the part of the Engineer to achieve the DBE participation specified in this Agreement may result in sanctions being imposed on the Commission for noncompliance with 49 C.F.R. Part 26 and/or Section 1101(b) of TEA-21. If the total DBE participation is less than the goal amount stated by the MoDOT's External Civil Rights Division, liquidated damages may be assessed to the Engineer.

Therefore, in order to liquidate such damages, the monetary difference between the amount of the DBE goal dollar amount and the amount actually paid to the DBEs for performing a commercially useful function will be deducted from the Engineer's payments as liquidated damages. If this Agreement is awarded with less than the goal amount stated above by MoDOT's External Civil Rights Division, that lesser amount shall become the goal amount and shall be used to determine liquidated damages. No such deduction will be made when, for reasons beyond the control of the Engineer, the DBE goal amount is not met.

7. Documentation of Good Faith Efforts to Meet the DBE Goal: The Agreement goal established by MoDOT's External Civil Rights Division. The Engineer must document the good faith efforts it made to achieve that DBE goal, if the agreed percentage specified is less than the percentage stated. Good faith efforts to meet this DBE goal amount may include such items as, but are not limited to, the following:

- A. Attended a meeting scheduled by the Department to inform DBEs of contracting or consulting opportunities.
- B. Advertised in general circulation trade association and socially and economically disadvantaged business directed media concerning DBE subcontracting opportunities.
- C. Provided written notices to a reasonable number of specific DBEs that their interest in a subconsultant agreement is solicited in sufficient time to allow the DBEs to participate effectively.
- D. Followed up on initial solicitations of interest by contacting DBEs to determine with certainty whether the DBEs were interested in subconsulting work for this Agreement.
- E. Selected portions of the services to be performed by DBEs in order to increase the likelihood of meeting the DBE goal (including, where appropriate, breaking down subconsultant agreements into economically feasible units to facilitate DBE participation).
- F. Provided interested DBEs with adequate information about plans, specifications and requirements of this Agreement.
- G. Negotiated in good faith with interested DBEs, and not rejecting DBEs as unqualified without sound reasons, based on a thorough investigation of their capabilities.
- H. Made efforts to assist interested DBEs in obtaining any bonding, lines of credit or insurance required by the Commission or by the Engineer.
- I. Made effective use of the services of available disadvantaged business organizations, minority contractors' groups, disadvantaged business assistance offices, and other

organizations that provide assistance in the recruitment and placement of DBE firms.

8. Good Faith Efforts to Obtain DBE Participation: If the Engineer's agreed DBE goal amount as specified is less than the established DBE goal given, then the Engineer certifies that the following good faith efforts were taken by Engineer in an attempt to obtain the level of DBE participation set by MoDOT's External Civil Rights.

**Attachment G – Fig. 136.4.15**  
**Conflict of Interest Disclosure Form for LPA/Consultants**  
Local Federal-aid Transportation Projects

**Firm Name (Consultant): HR Green, Inc.**

**Project Owner (LPA): Jefferson County**

**Project Name: Old State Route 21 at East/West Four Ridge Road**

**Project Number: STP-5462(608)**

As the LPA and/or consultant for the above local federal-aid transportation project, I have:

1. Reviewed the conflict of interest information found in Missouri's Local Public Agency Manual (EPG 136.4)
2. Reviewed the Conflict of Interest laws, including 23 CFR § 1.33, 49 CFR 18.36.

And, to the best of my knowledge, determined that, for myself, any owner, partner or employee, with my firm or any of my sub-consulting firms providing services for this project, including family members and personal interests of the above persons, there are:

No real or potential conflicts of interest

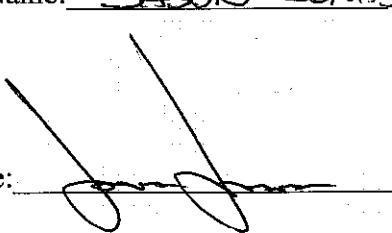
If no conflicts have been identified, complete and sign this form and submit to LPA

Real conflicts of interest or the potential for conflicts of interest

If a real or potential conflict has been identified, describe on an attached sheet the nature of the conflict, and provide a detailed description of Consultant's proposed mitigation measures (if possible). Complete and sign this form and send it, along with all attachments, to the appropriate MoDOT District Representative, along with the executed engineering services contract.

LPA

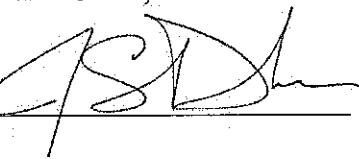
Printed Name: Jason Sornas

Signature: 

Date: 8/10/2016

Consultant

Printed Name: Jason S. Dohrmann, PE  
Regional Director  
HR Green, Inc.

Signature: 

Date: July 18, 2016