

FILED

APR 25 2024

JEANNIE GOFF
COUNTY CLERK, JEFFERSON COUNTY, MO

BILL NO.: 24-0416

ORDINANCE NO.: 24-0193

INTRODUCED BY: COUNCIL MEMBER(s) Groetke

1 **AN ORDINANCE TO AUTHORIZE THE COUNTY EXECUTIVE TO**
2 **AWARD THE ENGINEERING SERVICES CONTRACT AND TO EXECUTE**
3 **THE AGREEMENT BETWEEN JEFFERSON COUNTY, MISSOURI AND**
4 **CRAWFORD, MURPHY, AND TILLY, INC. FOR THE ROAD SAFETY**
5 **IMPROVEMENTS PROGRAM FOR KONERT ROAD AND ROMAINE CREEK**
6 **ROAD DESIGNATED AS PROJECTS STBG-5445 (601) AND STP-3100 (530) IN**
7 **COUNCIL DISTRICT 2.**

8 **WHEREAS**, Jefferson County, Missouri issued a Request for Qualifications for
9 design and construction engineering services for the Konert Road (from Konert Valley
10 Road to Breezy Oak Lane) and Romaine Creek Road (from Saline to Caleb Crossing)
11 Safety Improvements program designated as Projects STBG-5445 (601) and STP-3100
12 (530); and

13 **WHEREAS**, Jefferson County, Missouri in response to a certain Request for
14 Qualifications issued by the County, received proposals for design and construction
15 engineering services for the Konert Road and Romaine Creek Road Safety Improvements
16 program designated as projects STBG-5445 (601) and STP-3100 (530); and

17 **WHEREAS**, after reviewing the proposals, Jefferson County determined that a
18 certain engineering firm, Crawford, Murphy, and Tilly, Inc. represents the best qualified

1 proposal for the Konert Road and Romaine Creek Road Safety Improvements program,
2 and meets the Request for Qualifications by the County; and

3 **WHEREAS**, Jefferson County, Missouri finds it now necessary and in the best
4 interest of the County to award the Konert Road and Romaine Creek Road Safety
5 Improvements projects, to Crawford, Murphy, and Tilly, Inc. as the best qualified firm and
6 to execute an agreement for the design and construction engineering services contract not
7 to exceed five hundred eighty-nine thousand, six hundred sixty dollars and zero cents
8 **(\$589,660.00)**, subject to budgetary limitations. A copy of said agreement is attached
9 hereto as Exhibit A.

10 **BE IT ENACTED BY THE JEFFERSON COUNTY, MISSOURI, COUNCIL,**
11 **AS FOLLOWS:**

12 Section 1. Jefferson County awards the design and construction engineering
13 services contract to the best qualified firm, Crawford, Murphy, and Tilly, Inc. in an amount
14 not to exceed five hundred eighty-nine thousand, six hundred sixty dollars and zero cents
15 **(\$589,660.00)**, subject to budgetary limitations.

16 Section 2. The Jefferson County, Missouri, Council authorizes the County
17 Executive to execute any agreement or document necessary to effectuate the award of the
18 contract set forth in the Ordinance. A copy of said agreement is attached hereto as Exhibit
19 A and incorporated by reference.

20 Section 3. Copies of all Request for Qualifications, responses thereto, any contract
21 agreements and change orders shall be maintained by the Department of the County Clerk

1 consistent with the rules and procedures for the maintenance and retention of records as
2 promulgated by the Secretary of State.

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

[THIS SPACE LEFT INTENTIONALLY BLANK]

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

Council Member District 1, Brian Haskins	<u>yes</u>
Council Member District 2, Gene Barbagallo	<u>yes</u>
Council Member District 3, Lori Arons	<u>yes</u>
Council Member District 4, Charles Groeteke	<u>yes</u>
Council Member District 5, Scott Seek	<u>yes</u>
Council Member District 6, Daniel Stallman	<u>yes</u>
Council Member District 7, Bob Tullock	<u>yes</u>

THE ABOVE BILL ON THIS 22 DAY OF April, 2024:

PASSED

FAILED

Charles Groeteke
Charles Groeteke, County Council Chair

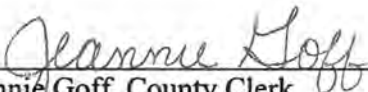
Cherlynn Boyer
Cherlynn Boyer, Council Executive Assistant

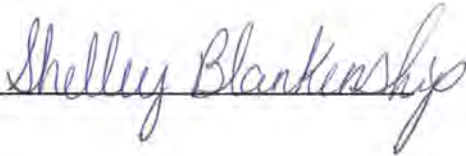
THIS BILL WAS APPROVED BY THE JEFFERSON COUNTY EXECUTIVE AND ENACTED AS AN ORDINANCE OF JEFFERSON COUNTY, MISSOURI, THIS 24 DAY OF April, 2024.

THIS BILL WAS VETOED AND RETURNED TO THE JEFFERSON COUNTY, MISSOURI, COUNCIL WITH WRITTEN OBJECTIONS BY THE JEFFERSON COUNTY EXECUTIVE, THIS _____ DAY OF _____, 2024.


Dennis Gannon, County Executive

ATTEST:


Jeannie Goff, County Clerk

BY: 

Reading Date: 04-22-2024



ORDINANCE NO.
24-0193

SPONSER: JEFFERSON COUNTY, MISSOURI

LOCATION: Romaine Creek Road and Konert Road Safety Projects

PROJECT: STBG-3100(530) and STP-5444(601)

THIS CONTRACT is between the Jefferson County, Missouri, hereinafter referred to as the "Local Agency", and Crawford, Murphy & Tilly, Inc.; hereinafter referred to as the "Engineer".

INASMUCH as funds have been made available by the Federal Highway Administration through its Surface Transportation Program (STP), coordinated through the Missouri Department of Transportation, the Local Agency intends to improve the safety of these two roads, and requires professional engineering services. The Engineer will provide the Local Agency with professional services hereinafter detailed for the design and construction engineering services 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

Refer to Attachment A for the Scope of Services for the project.

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 0.0% 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, 0% 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
Archaeological Research Center of St. Louis, Inc. 6049 Hampton Ave. St. Louis, MO 63109	Environmental Studies	\$10,750.00	\$10,750.00	100%

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.

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 180 calendar days after receiving notice to proceed (Estimated at 5/1/2024 from County)
- B. Preliminary Design Phase – Within 90 calendar days after receipt of completed survey.
- C. Right of Way Phase – Within 180 calendar days after receipt of final approval of preliminary plans by MoDOT.
- D. Final Design Phase – Within 270 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 3/31/2025 for Construction.

F. Construction Engineering Phase – As required in Article I – Scope of Services, Attachment A.

G. Construction Phase shall be completed 90 days after construction final completion schedule.

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 \$66,913.96, with a ceiling established for said design services in the amount of \$589,660.00, which amount shall not be exceeded.
- B. 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.
- C. 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 57.73% 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 113.03% 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.
- D. 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.
- E. The payment of costs under this contract will be limited to costs which are allowable under 23 CFR 172 and 48 CFR 31.
- F. **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 no more frequently than once every two weeks and must be submitted monthly for invoices greater than \$10,000. 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, but not later than 45 days from receipt, 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. A late payment charge of one and one half percent (1.5%) per month shall be assessed for those invoiced amount not paid, through no fault of the Engineer, within 45 days after the Local Agency's receipt of the Engineer's invoice. 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.
- G. **PAYMENT MILESTONES** - The following are the maximum percentage limits (as a % of the Design Services Fee, unless noted otherwise**) 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 50%
 3. Preliminary Plans Approved by MoDOT = maximum of 55%
 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 95%
 7. PS&E Approved by MoDOT = maximum of 100%
 8. Completion of Construction Engineering = 100% (** of the TOTAL contract fee)
- H. **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:

Sub-Consultant Name	Address	Services
Archaeological Research Center of St. Louis, Inc.	6049 Hampton Ave. St. Louis, MO 63109	Environmental Studies
Geotechnology, LLC, DBA UES	11816 Lackland Road, Suite 150 St. Louis, Missouri 63146	Geotechnical Exploration

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 Title VII of the Civil Rights Act of 1964, as amended (42 U.S.C. 200d, 200e) 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 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 Service

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.

Executed by the Engineer this 19th day of April, 2024

Executed by the County this 24 day of April, 2024

FOR: JEFFERSON COUNTY, MISSOURI

BY: *Lennox J. Gammon*
COUNTY EXECUTIVE

ATTEST: *Jeannette Goff* County Clerk *Shelley Blankenship* Deputy Clerk

FOR: CRAWFORD, MURPHY, & TILLY, INC.

BY: *Ty Sander*
Ty Sander, Sr. Vice President

ATTEST: *Brian Eads*
Brian Eads, Project Manager

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.

APPROVED AS TO FORM

Kristin W. Appell
COUNTY AUDITOR

[Signature]
COUNTY COUNSELOR

ATTACHMENT A

SCOPE OF SERVICES

Konert Road & Romaine Creek Road Safety Projects
 JEFFERSON COUNTY, MISSOURI

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Scope of Services

Konert Road & Romaine Creek Road Safety Projects JEFFERSON COUNTY, MISSOURI

GENERAL INFORMATION

The project includes the design of two roadway projects Konert Road and Romaine Creek Road with the following characteristics.

Konert Road

Limits = From Konert Valley Road to Breezy Oak Lane (0.75 miles)

Anticipated scope of work:

- adding 4', Type A3 shoulders to both sides of the roadway,
- center and edge line rumble strips,
- properly graded ditches,
- addition of guardrail on the outside of the curve at Breezy Oak Lane,
- clearing of vegetation to improve sight distances, and
- new enhanced warning signs in locations deemed necessary.

Romaine Creek Road

Limits = From Saline Road to Caleb Crossing (0.90 miles)

Anticipated scope of work:

- adding 4', Type A3 shoulders to both sides of the roadway,
- improving drainage along the corridor by ditching, maintaining roadside slopes, and replacing culverts underneath the street and driveways, and
- new enhanced warning signs in locations deemed necessary.

TASK 1 DATA COLLECTION

Summary: Before developing plans, acquire and review available data pertaining to the project:

1. Review project information from TIP Applications
2. Obtain and review record plans / drawings
3. Obtain and review GIS data provided by County
4. Obtain and incorporate available aerial mapping for purposes of supplementing design and accompanying public involvement exhibits
5. Walk the site and develop a photograph log and summary, including existing signs and their sizes.
6. Identify and review County and MoDOT design criteria guidelines and standards
7. Collect, collate and scan all data assembled and provide sub consultants with an electronic copy of the information to be utilized in preparation and completion of each of their respective design tasks

Task 1 Deliverables:

- Photo Log Summary

Owner-Provided Items:

- Record plans / drawings
- GIS data
- Studies and reports in project area
- Future development plans, if applicable

Scope of Services

Konert Road & Romaine Creek Road Safety Projects JEFFERSON COUNTY, MISSOURI

- Aerial Photography and parcel data obtained through GIS database

TASK 2 TOPOGRAPHIC AND RIGHT-OF-WAY SURVEYS

Summary: Field survey activities will be required for the limits included in the General Project Information. Below is a summary of the subtasks that will be included in Task 2.

Refer to SURVEY LIMITS EXHIBIT provided for coverage area.

TOPOGRAPHIC SURVEY ITEMS

1. Establish horizontal and vertical control points, as required. Vertical datum will be based on NAVD88 utilizing GPS methods. A Reference Tie Drawing shall be included with three-point ties.
2. Topographic survey shall consist of all pertinent topographic features including, but not limited to, existing drainage and sanitary structures (all pipes, types, flowlines, sizes), all identifiable utility locations and equipment, trees over 4 inches in diameter, mailboxes, retaining walls, buildings, crown of pavements, edge of pavements, types of pavement, face of curbs, back of curbs, gutter lines, thorough driveway pavements and profiles, pavement markings, drainage ditches, and miscellaneous property features inside survey limits.
3. Cross sections shall be provided at every fifty feet (minimum), in addition to low points, high points, driveways, beginning/ending locations of existing walls, nonstandard sections and other critical locations determined in the survey walkthrough meeting.
4. Establish accurate existing pavement and sidewalk grades. In particular, at each intersection, over-emphasis the number of survey shots in order to design for curb ramps and ADA crosswalks.
5. Coordinate with utility engineer on underground utility one-call locates.
6. Utility survey shall include aerial power & communication line layout.
7. Include shots on all existing sign posts.
8. Survey drainage structures one reach upstream from the survey limits.
9. Provide two additional "punch list" surveys after initial deliverables are provided.
10. During design, pick up horizontal and vertical locations of any utility exploration (potholed or exposed utility lines).
11. Locate utilities around new proposed signs and other features

RIGHT-OF-WAY / PROPERTY SURVEY ITEMS

1. Locate existing right of way, property lines and pertinent section lines. If field conditions are substantially different from our record research and/or deficient monumentation is found in the field, additional effort may be required to meet project requirements.
2. Clearly identify all linework in drawing with text (i.e. property lines (PL), section lines, quarter-quarter section lines, existing r/w, existing easements, etc.
3. Research for each property within the project limits shall include property owner name, assessor's map number, deed book and page, and existing size of parcel in square feet.
4. All property lines shall have a bearing (to the nearest second) and a length (to the nearest hundredth of a foot) shown and the parcel closed within acceptable tolerances governed by the State of Missouri.

Scope of Services

Konert Road & Romaine Creek Road Safety Projects JEFFERSON COUNTY, MISSOURI

5. Order and obtain as-needed title work. Assume 50 parcels requiring plats and descriptions.
6. Incorporate all easements and identified information from the as-needed title work into a second submittal of the existing right-of-way drawing.
7. Provide approximately 50 plats and descriptions for right of way takings and easements (utility, permanent and temporary).
8. Provide spot staking for proposed right of way lines, proposed easements and miscellaneous items during negotiations. Assume 4 site visits (half-day each) to complete.

Assumptions:

- Winter work with vegetation off
- Only individual trees at residences
- All other vegetated areas will be collected as an area with tree/brush lines delineated.
- Assume 50' cross sections.
- No leveling to be completed.
- All elevations will be GPS derived (+/- .10')

Task 2 Deliverables:

- Existing topographic drawing in 3D format
- Existing right-of-way/property drawing in 2D format
- Existing utility drawing in 2D format
- Existing points drawing in 3D format
- Existing contours drawing in 3D format (major – 5 foot, minor – 1 foot)
- Existing digital terrain model in .TIN format
- Point file in ASCII format
- Approximately 50 plats and descriptions

Owner-Provided Items:

- Contact property owners with notification before CMT begins survey work.
- Address listing of property owners

Meetings:

- Survey Walkthrough Meeting before beginning survey
- One additional meeting to be determined

TASK 3 CONCEPTUAL PLANS

Summary: Analyze design alternatives to best achieve the project goals.

1. Develop conceptual design based on initial discussions with County.
2. Alternatives shall include typical section, and plan view.
3. Alternatives shall include tentative right of way takings.
4. Alternatives shall include conceptual utility plans of adjustment ideas.
5. Alternatives shall include initial thoughts on construction staging.
6. Alternatives shall include evaluating property impacts and identifying retaining wall locations.
7. Alternatives shall include conceptual cost estimates, including construction costs and utility costs.

Scope of Services

Konert Road & Romaine Creek Road Safety Projects JEFFERSON COUNTY, MISSOURI

8. Conceptual cost estimates shall be separated between the two STP projects.

Task 3 Deliverables:

- Alternative Plan Exhibits and Sheets
- Alternative cost estimates (conceptual)

Owner-Provided Items:

- Right-of-way costs
- Lead coordination with MoDOT Local Roads
- Lead coordination with Stakeholders

TASK 4 PRELIMINARY PLANS (45%)

Summary: Prepare preliminary engineering plans based upon the preferred alternative. Preliminary plans shall include horizontal alignment, vertical alignment, basic roadway geometrics, pavement structure quantities, pavement marking plan, driveway design, roadside elements, working cross sections, drainage design, traffic control plan, removal of improvement callouts, right of way takings, construction cost estimates, job special provisions and required environmental work.

1. Prepare Design Criteria Memorandum
2. Preliminary plan view, profile view and geometrics
3. Preliminary pavement structures
4. Advanced preliminary drainage design (in order to develop an early confidence level in utility plans of adjustment).
5. Separate STP projects on plans and show separate cost estimates
6. Title Sheet
7. Typical Sections
8. Plan Sheets (20 scale)
9. Profile Sheets (20/5 scale)
10. Existing Utility Sheets (20 scale)
11. Preliminary Traffic Control Plan (40 scale)
12. Preliminary Pavement Marking (40 scale)
13. Working Cross Sections at 25 foot intervals, including driveways and side streets
14. Two preliminary cost estimates (one for each STP project)
15. Cost estimates shall include construction and utility costs only. County shall supply right of way costs.
16. Environmental work (see Task 11)
17. Follow County and MoDOT Local Roads checklist for preliminary plans

Task 4 Deliverables:

- Preliminary Plans and Cost Estimates
- Public Hearing Exhibits
- Project fact sheet flyer (PDF only for CMT to print)
- Hard copies as requested

Owner-Provided Items:

- Right-of-way costs
- Lead coordination with MoDOT Local Roads
- Lead coordination with Stakeholders

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Meetings:

- Preliminary Plan Field Check Meeting (after plans are reviewed by City and MoDOT)
- Open House Meeting (follows MoDOT LPA guidelines for public information meeting)

TASK 5 RIGHT-OF-WAY PLANS (65%)

Summary: Prepare right-of-way plans and the necessary legal documents for the County to obtain required right-of-way and easements needed to construct the project. Following preliminary plan approval, CMT will incorporate County comments into the right-of-way design. CMT will submit right-of-way documents to the County for approval.

1. Revise preliminary plans based upon preliminary plan comments.
2. Incorporate Open House Meeting comments
3. Incorporate utility plans of adjustments needed to establish final utility easements and right-of-way lines.
4. Work with utility coordination tasks required to complete right-of-way plans.
5. Separate plan sheets into right-of-way sheets and utility sheets for readability.
6. Adjust preliminary cost estimates.
7. Receive tentative approval of right-of-way plans before developing plats and descriptions.
8. Coordinate development of plats and descriptions (assume 40 each).
9. Revise right-of-way plans (5 times) due to negotiations.
10. Follow County and MoDOT Local Roads checklists for right-of-way plans.

Task 5 Deliverables:

- Right-of-Way Plans (Konert Road and Romaine Creek Road)
- Updated Cost Estimates
- Plats and Descriptions of Affected Parcels
- Temporary Access Agreements/Easements for Utilities
- Negotiation Changes
- Hard copies as requested

Owner-Provided Items:

- Right-of-way costs
- Lead coordination with MoDOT Local Roads
- Lead coordination with Stakeholders
- Negotiations with property owners

Meetings:

- Property Owner Meetings (assume 4 meetings)
- Right-of-Way Field Check Meeting

TASK 6 DRAFT FINAL PLANS (95%)

Summary: Prepare draft final plans and contract documents for bidding. Following completion of the right-of-way negotiations, CMT will incorporate County comments into the draft final design. Draft final plans shall include:

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1. Incorporate remaining right-of-way negotiation changes.
2. Incorporate remaining public and stakeholder comments.
3. Title Sheet
4. Typical Sections
5. Quantity Sheets
6. Plan Sheets (20 scale)
7. Profile Sheets (20/5 scale)
8. Reference Point Sheets
9. Coordinate Point Sheets
10. Right-of-Way Sheets (20 scale)
11. Utility Sheets (20 scale)
12. Special Sheets – Intersection Staking, Curb Ramp Details, Drainage Details
13. Traffic Control Plan (40 scale)
14. Storm Water Prevention Pollution Plan (40 scale)
15. Pavement Marking Plan (40 scale)
16. Signing Plan (40 scale)
17. Culvert Section Sheets
18. Retaining Walls & miscellaneous structure design
19. Cross Section Sheets
20. Draft Final Cost Estimates (one for each STP project)
21. Draft Final Job Special Provisions
22. Draft Final Workday Study
23. Draft Final Project Specifications Boilerplate
24. Land Disturbance Permit
25. Separate Bid Packages
26. Follow County and MoDOT Local Roads checklists for final plans

Task 6 Deliverables:

- Draft Final Plans
- Draft Final Construction Cost Estimates (one for each STP project)
- Draft Final Job Special Provisions
- Draft Final Workday Study
- Draft Final Project Specifications Boilerplate
- Land Disturbance Permit
- Hard copies as requested

Owner-Provided Items:

- Completed MoDOT Local Roads PS&E Submittal Checklist
- Right-of-way costs
- Lead coordination with MoDOT Local Roads
- Lead coordination with Stakeholders

Meetings:

- Stakeholder Meeting
- Final Field Check Meeting

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Konert Road & Romaine Creek Road Safety Projects JEFFERSON COUNTY, MISSOURI

TASK 7 FINAL PLANS AND BIDDING PHASE

Summary: Prepare bidding package upon construction authorization. CMT will incorporate draft final comments into the final plan package. Final plans shall include:

1. Revise draft final plan package based upon draft final comments.
2. Incorporate comments from Stakeholder Meeting.
3. Submit 100% Sealed Bid Package.
4. Assist in answering Contractor questions before the construction letting.

Task 7 Deliverables:

- Sealed Final Plans
- Final Construction Cost Estimates (one for each STP project)
- Sealed Final Job Special Provisions
- Final Workday Study
- Final Project Specifications Boilerplate
- Hard copies as requested

Owner-Provided Items:

- Updated MoDOT Local Roads PS&E Submittal Checklist
- Right-of-way costs
- Lead coordination with MoDOT Local Roads
- Lead coordination with Stakeholders

Meetings:

- Pre-Bid Meeting

TASK 8 UTILITY COORDINATION

Summary: Lead the utility coordination effort for the two STP projects. Tasks include:

1. Develop a list of utility contacts for the project area.
2. Conduct a thorough records research for the existing utilities in the project limits.
3. Call the utility contacts and establish awareness for the project.
4. Call Missouri One-Call to obtain One-Call tickets and work with the utility contacts to ensure that the underground facilities are well-marked before the survey begins.
5. Coordinate with surveyor to complete the utilities' surveys.
6. Facilitate and lead the coordination effort to provide utility meetings
7. Work with utility companies to determine utility easements needs.
8. Provide plan submittals to utility companies at the concept, preliminary and draft final plan stages in order to facilitate utility plans of adjustment.
9. Coordinate, obtain and communicate the plans of adjustments and cost estimates to the roadway design team.
10. Provide support on power supply requests
11. Provide a completed utility job special provision to the roadway design team.
12. Provide initial assistance and answer utility related questions during the construction phase.
13. Provide Letter of Certification for Utilities Status for construction authorization

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14. Assist in answering Contractor questions before the construction letting.

Task 8 Deliverables:

- Preliminary Utility Plan of Adjustment
- Preliminary Utility Cost Estimate
- Proposed Utility Easement Lines
- Draft Final Utility Plan of Adjustment (before right-of-way plans)
- Draft Final Utility Cost Estimate
- Draft Final Job Special Provision for Utilities
- Update Final Deliverables as needed
- Letter of Certification – Utilities Status

Owner-Provided Items:

- Establish a utility cost budget in conceptual planning stage
- Lead the effort in developing and obtaining utility agreements
- Lead construction observation for the utilities

Meetings:

- Utility Meetings – assume 4
- Attend Pre-Bid Meeting
- Attend Pre-Construction Meeting

TASK 9 PUBLIC AND COMMUNITY INVOLVEMENT

Summary: Engage the public and community in the project. Tasks include:

1. Establish and lead the communication effort in maintaining a Stakeholder List
2. Facilitate and attend two stakeholder meetings
3. Provide two stakeholder meeting reports/summaries
4. Develop project post cards for one open house meetings
5. Facilitate and attend the Open House Meeting (follow MoDOT guidelines after preliminary plans are approved)
6. Create comment summary reports from the open houses.

Task 9 Deliverables:

- Welcome sheets for meeting
- Comment forms for meeting
- Stakeholder meeting reports/summaries
- Open House meeting comment report/summary

Owner-Provided Items:

- Assistance in stakeholder meeting locations
- Providing and coordinating open house locations
- Changeable Message Signs for Open House meetings
- Distribution of postcards and flyers

Meetings:

- Attend CMT Kickoff Meeting

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- Open House Meeting (after preliminary plan approval from MoDOT – this is also the official public information meeting following MoDOT LPA guidelines)
- Stakeholder #1 Meeting (review concept plans after Open House)
- Stakeholder #2 Meeting (review draft final plans before submitting the sealed bid package)

TASK 10 GEOTECHNICAL WORK

Summary: Provide geotechnical services. Tasks include:

The purpose of our service is to explore the subsurface conditions and provide geotechnical recommendations for the design and construction of the project. Geotechnology proposes the following scope of services for the geotechnical exploration:

- Eighteen borings will be drilled near the locations shown on the attached sketches to predetermined depths of 15 feet or auger refusal, whichever is shallower. Soil samples will be collected as the borings are advanced at 2.5-foot centers for the first 10 feet and 5-foot centers thereafter using standard penetration test (SPT) and Shelby tube sampling methods. This proposal is based on anticipating 270 lineal feet of auger drilling. If auger refusal is encountered within 5 feet of the surface, selected borings will be extended into the refusal material using NQ2 wireline rock core techniques. Boreholes will be backfilled with dry sack concrete, and the pavement will be patched with cold mix asphalt.
- Near each boring, the exposed slope will be profiled by our engineer or geologist. Representative soil grab samples will be collected from near-surface materials. The slope profiles will be transverse to the roadway direction, up the hillsides. The profiles will extent up the slopes to a height that is safely accessible from the road. The profiles will generally depict the type of material encountered, their condition, and soil/weathered rock/rock interface, if observed. We will also note the presence, if determined, of groundwater seepage or discontinuities that are outcropping at the surface along the cut slopes. Visual inspections and hand tools such as a shovel and/or pick will be used to delineate cut slope profiles and obtain grab samples.
- The borings and cut slope soil/rock profile delineations and sampling locations will be located in the field by referencing site features.
- We understand Jefferson County Highway Department will provide traffic control for our field crew. Our proposal is based on being able to work full 8-hour shifts during the day.
- Public utilities will be notified via the Missouri One-Call system (i.e., DIGRITE). We request private utilities be marked by others. Geotechnology will not be liable to damage private utilities not marked or improperly marked by others.
- An engineer or geologist from Geotechnology will accompany the drill rig and provide direction during the exploration, prepare logs of the materials encountered, perform profiling of the slopes, and transport samples to our laboratory for testing. We propose to provide two engineer/geologist loggers for performing the slope profiling concurrently with geotechnical borings such that traffic control and drill crew time is optimized.

Scope of Services

Konert Road & Romaine Creek Road Safety Projects JEFFERSON COUNTY, MISSOURI

- Laboratory tests will be performed on selected soil samples to assess engineering and index properties. Laboratory tests are expected to include natural moisture content, Atterberg limits, dry unit weight, and triaxial compression.
- 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
 - A description of the subsurface conditions at the profiling and sampling locations
 - Considerations for site excavation and placement of fill, including an evaluation of the suitability for reuse of the on-site soils
 - Pavement subgrade considerations and pavement thicknesses
 - Global slope stability analysis at up to five selected locations, to assess the stability of roadway improvements.

Task 10 Deliverables:

- Geotechnical Reports

TASK 11 ENVIRONMENTAL WORK

Summary: Provide remaining environmental services during the design process. Tasks include:

1. Request for Environmental Review (RER) Submittals & Coordination
Two separate RER submittals (one for each STP project) will be prepared and updated for the various project development process stages. The initial RER will include the preparation of secondary source mapping and the inclusion of the environmental overview items.
2. Endangered Species Assessment
As part of the NEPA, MoDOT will be the lead federal agency and will conduct any necessary coordination with the US Fish and Wildlife Service under the Endangered Species Act. To provide MoDOT with the required documentation, the site will be evaluated for suitable habitat for the federally listed species known to occur in the county during an on-site investigation and through published resource mapping and information. This will include the evaluation of trees on the property as suitable bat roosting habitat. Trees determined to be suitable for roosting will be documented and located using GPS with sub-foot accuracy and photographs of each suitable roost tree will be collected. A memo, mapping and photolog will be prepared and uploaded to the RER for each of the two STP projects for coordination.
3. Wetlands and Waters of the United States Investigation
An on-site investigation for the presence of wetlands and other waters of the US will be conducted for both projects (combined with the site visit for the endangered species assessment). If wetlands are encountered, they will be delineated according to the procedures in the US Army Corps of Engineers Wetland Delineation Manual Midwest Supplement. The soils, hydrology and dominant vegetation will be determined and documented on the routine wetland delineation forms. A qualitative assessment of the wetlands will be completed using the floristic quality assessment (FQA) and the floristic quality index (FQI) will be calculated. Streams will be evaluated according to the criteria and definition of waters of the US. The flow regime and ordinary high water mark (OHWM) will be

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Konert Road & Romaine Creek Road Safety Projects JEFFERSON COUNTY, MISSOURI

determined. The boundaries of the streams and wetlands will be located and mapped using GPS.

4. Section 106/Cultural Resources

A Section 106 request will be prepared for each project and submitted to MoDOT's cultural resource specialist for review and approval and will then be submitted to the State Historic Preservation Office (SHPO). We have assumed a cultural resource survey will be required by MoDOT and SHPO. See attached proposal from ARC for the cultural resource survey.

Assumptions

In preparing this scope of services, we have made the following assumptions:

- Less than 5 acres of temporary and permanent right of way will be required for each STP project
- No hazardous materials review technical memo will be necessary
- MoDOT will confirm that a PCE is the correct level of environmental documentation
- A detailed habitat assessment and assessment of impacts for endangered species will meet the requirements of the USFWS consultation process and no species-specific surveys (such as bat mist net surveys) will be required

Task 11 Deliverables:

- RER Submittals
- Section 106 Submittal (including cultural resource survey if necessary)
- T&E Submittal
- Wetland/Stream Screening Technical Memo

Owner-Provided Items:

- Coordination of approvals with MoDOT Local Roads

TASK 12 CONSTRUCTION PHASE

Summary: Provide services to the Owner during construction of the project. Tasks include:

1. Clarification of plans
2. Shop drawing review

Task 12 Deliverables:

- Revisions (as needed)

Owner-Provided Items:

- Administration of the construction contract
- Construction observation and documentation
- As-builts

Meetings:

- Pre-Construction Conference

Scope of Services

Konert Road & Romaine Creek Road Safety Projects JEFFERSON COUNTY, MISSOURI

TASK 13 PROJECT MANAGEMENT / ADMINISTRATION

Summary: Internal project management and administration includes:

1. Develop project manual for team
2. Develop quality assurance plan
3. Quality assurance and constructability reviews
4. Personnel planning and scheduling control
5. Coordination with Subconsultants
6. Coordination with County
7. Prepare for and attend stakeholder meetings and open house meeting
8. Coordination with MoDOT Local Roads
9. Coordination with Stakeholders
10. Monthly progress reports
11. Correspondence (emails, letters, meeting minutes, phone calls)

Task 13 Deliverables:

- Monthly progress reports
- Emails
- Letters
- Meeting minutes
- Phone calls

Owner-Provided Items:

- None

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Konert Road & Romaine Creek Road Safety Projects JEFFERSON COUNTY, MISSOURI

EXCLUSIONS TO THE SCOPE OF SERVICES INCLUDE:

- Alta surveys
- Pavement repair identification
- Subsurface Utility Engineering
- Bridges
- Cast-in-place retaining walls
- Lighting
- Signals
- ITS
- Sanitary sewer and water main design
- As-built plans
- Permit fees
- Pedestrian and bicycle pathways
- Right-of-way and easement negotiation services
- Pavement design
- Construction observation services
- Project web site
- Community Advisory Committee
- 404/401 permits
- Phase 2 environment site assessment
- Noise studies
- Traffic studies

SCHEDULE

The following schedule from each project's STP application will be utilized for this project:

	Konert Road	Romaine Creek
Submit Prelim Plan	1/2025	1/2026
Submit ROW Plans	7/2025	7/2026
Final PS&E	3/2026	6/2027
ROW Funds	FY 2025	FY 2026
Construction Funds	FY 2026	FY 2027

ATTACHMENT B

**Jefferson County, MO
Romaine Creek and Konert Road Safety Projects**

Task I.D. #	Task Description	Hours														Total Hours
		Principal	Proj Eng II	Proj Manager I	Proj Engineer I	Sr. Engineer I	GIS Specialist	Engineer I	Land Surveyor	Sr. Technician I	Sr. Technician II	Technician I	Proj Admin Asst			
	2024 AVG. DIRECT LABOR RATES	\$ 102.31	\$ 83.72	\$ 62.59	\$ 65.99	\$ 48.05	\$ 45.13	\$ 36.75	\$ 53.60	\$ 46.88	\$ 55.58	\$ 30.94	\$ 30.24			
1	DATA COLLECTION															
1.1	Review project information - TIP applications			1				2						3		
1.2	Obtain/review record plans and dwgs							2						2		
1.3	Obtain/review GIS data from County			1			2							3		
1.4	Obtain/incorporate aerial mapping							2				4		6		
1.5	Walk site with County, photo log and sign summary			6				6					4	16		
1.6	Identify County and MoDOT design guidelines							2						2		
1.7	Collect, collate, scan all available data for subs							2						6		
	SUBTOTAL	0	0	8	0	0	2	16	0	0	0	4	10	40		
2	TOPOGRAPHIC AND RIGHT-OF-WAY SURVEYS															
2.01	Horizontal control surveys with cross ties							16				16		32		
2.02	Vertical control surveys with Benchmarks													0		
2.03	Utility coordination with On-Call & survey locations								5					5		
2.04	Traffic control for road surveys - Safety							7				7		14		
2.05	Topographic survey of Romaine Creek Rd							56				56		112		
2.06	Topographic survey of Konert Rd							56				56		112		
2.07	Topographic survey for retaining walls							16				16		32		
2.08	Structure information, depths, inverts, pipe sizes, etc.							16				16		32		
2.09	Process design surveys & DGN drawing creation (MoDOT Workspace)											60		60		
2.10	Survey project management & coordination/communication								10					10		
2.11	QA/QC of survey deliverables								10					10		
2.12	Mobilization							47				47		94		
2.13	Boundary Reconnaissance Surveys in Field (locate existing boundary corners, fences, structures and lines of possession)							120				120		240		
2.14	Records & Ownership Research & External ROW Search with governmental agencies											20		20		
2.15	PLS Boundary rectifications and calculations, existing subdivision, deeds and easement plotting and cogo checks								120					120		
2.16	Boundary drawing preparation for design											20		20		
2.17	Title Work See Direct Costs Below - (Assume 82 parcels, 80% permanent at \$400 each)													0		
2.18	Title analysis and plotting of encumbrances								100					100		
2.19	Parcel Plats Preparation & Drafting - (3 hours each - includes temporary easements)											246		246		
2.20	Legal description preparation & review - (1 hour each preparation & review)								50					50		
2.21	Parcel Plats & Legal Descriptions - Review & Approval & Revisions (1 hour each)								50					50		
2.22	Negotiation Staking - (Assume 4 site visits (whole day each) to complete)							32				32		64		
2.23	Set Proposed ROW Monuments - (Assume 10 parcels @ 1/2 day per parcel)							40				40		80		
	SUBTOTAL	0	0	0	0	0	0	406	345	0	0	752	0	1503		

Jefferson County, MO
Romaine Creek and Konert Road Safety Projects

Task I.D. #	Task Description	Hours													Total Hours	
		Principal	Proj Eng II	Proj Manager I	Proj Engineer I	Sr Engineer I	CIS Specialist	Engineer I	Land Surveyor	Sr. Technician I	Sr. Technician II	Technician I	Proj Admin Assist			
3	CONCEPTUAL PLANS															
3.01	Develop Conceptual Design		2	4	8			24								38
3.02	Typical section, plan view, cross sections			2	4			24				8				38
3.03	Tentative R/W takings				2			6				4				12
3.04	Conceptual Utility Plans of Adjustment Design			2				8								10
3.05	Conceptual construction staging			2				8				8				18
3.06	Evaluation property impacts/retaining walls			2	4			8								14
3.07	Cost estimate, including utilities			2				8								10
3.08	Separate cost estimates by STP project			2				6								8
	SUBTOTAL	0	2	16	18	0	0	92	0	0	0	20	0			148
4	PRELIMINARY PLANS															
4.01	Design Criteria Memorandum					4										4
4.02	Preliminary plan, profile and geometrics			8				32				4				44
4.03	Preliminary pavement structure			2				4								6
4.04	Advanced preliminary drainage design			8			16	30				8				62
4.05	Separate STP projects along with costs					12		12								24
4.06	Title sheet							2				2				4
4.07	Typical sections			2		4		12								18
4.08	Plan sheets			4		8		32				32				76
4.09	Profile sheets				4			8				8				20
4.10	Utility sheets			2		6		10								18
4.11	Preliminary traffic control plan			8				24								32
4.12	Preliminary pavement marking					2		8								10
4.13	Working cross sections at 25' (driveways and streets)			2	6	16		40				16				80
4.14	Cost estimates (2 - one for each STP)			2				16								18
4.15	Cost estimates include utility				2			4								6
4.16	Environmental work (See Task 11)															0
4.17	County/MoDOT checklist for preliminary plans			2				4								6
	SUBTOTAL	0	0	40	12	68	0	238	0	0	0	70	0			428
5	RIGHT OF WAY PLANS															
5.01	Revise Preliminary Plans based on review comments			6	2	16		32								56
5.02	Incorporate Open House meeting 1 comments			2		4		4								10
5.03	Incorporate utility coordination results into drainage design			2		8		16								26
5.04	Incorporate Utility POA and draw PUE, as related to RW			2				12								14
5.05	Separate plan sheets into RW and utility sheets			2		6		12								20
5.06	Adjust preliminary cost estimate			2		4		8								14
5.07	County approval of RW (prior to plat work)			2												2
5.08	Coordinate plats and descriptions			6				4								10
5.09	Revise RW due to negotiations (assume 8 times)			4		12		30								46
5.10	Follow County/MoDOT checklists			2				2								4
	SUBTOTAL	0	0	30	2	50	0	120	0	0	0	0	0			202

**Jefferson County, MO
Romaine Creek and Konert Road Safety Projects**

Task I.D. #	Task Description	Hours													Total Hours	
		Principal	Proj Eng II	Proj Manager I	Proj Engineer I	Sr Engineer I	GIS Specialist	Engineer I	Land Surveyor	Sr Technician I	Sr Technician II	Technician I	Proj Admin Assist			
13	PROJECT MANAGEMENT / ADMINISTRATION															
13.01	Develop project manual for team			2											4	6
13.02	Develop quality assurance plan		2	4											4	10
13.03	Quality assurance and constructability reviews		8	8												16
13.04	Personnel planning and schedule control			12												12
13.05	Coordination with sub consultants			12		4		4								20
13.06	Coordination with County			24		6		6								36
13.07	Attend stakeholder and open house meetings			20		10		10								40
13.08	Coordination with MoDOT Local Roads			8												8
13.09	Coordination with stakeholders			8												8
13.10	Monthly progress reports			24												24
13.11	Correspondence (emails, letters, minutes, memos)			32		8										40
	SUBTOTAL	0	10	154	0	28	0	20	0	0	0	0	0	8		220
	TOTAL HOURS	0	12	388	107	493	8	1316	345	78	6	1030	48	0		3831
	AVG. DIRECT LABOR RATES (ESCALATED)	\$ 104.98	\$ 85.91	\$ 64.22	\$ 67.71	\$ 49.30	\$ 46.31	\$ 37.71	\$ 55.00	\$ 48.10	\$ 57.03	\$ 31.75	\$ 31.03			
	TOTAL COST	\$ -	\$ 1,030.86	\$ 24,918.77	\$ 7,245.23	\$ 24,306.94	\$ 370.46	\$ 49,625.31	\$ 18,974.66	\$ 3,752.08	\$ 342.18	\$ 32,699.98	\$ 1,489.41			\$ 164,755.89

Annual Labor Escalation %	5.8%	
Labor Rate Escalation Factor	Effort by year	
	2024	60.00%
	2025	35.00%
	2026	5.00%
	2027	0.00%
Total	100.00%	
Labor Escalation Factor =	1.0261	

Labor		\$164,755.89
Overhead	170.76%	\$281,337.16
	Subtotal	\$446,093.05
Fixed Fee	15.00%	\$66,913.98
	Subtotal	\$513,007.00
Direct Costs		
Services By Others		\$51,762.00
Mileage		\$4,751.00
Titles / Recording		\$20,140.00
Misc.		\$0.00
Project Total		\$589,660.00
CMT FEE		\$589,660.00

**Jefferson County, MO
Romaine Creek and Konert Road Safety Projects**

Task I.D. #	Task Description	Hours													Total Hours
		Principal	Proj Eng II	Proj Manager I	Proj Engineer I	Sr. Engineer I	GIS Specialist	Engineer I	Land Surveyor	Est. Technician I	Sr. Technician II	Technician I	Proj Admin. Asst.		
GMT FEE SUMMARY - TOTAL PROJECT															
Task	Labor Costs	Overhead	Fixed Fee	Direct Costs	Total Cost	Services By Others	Mileage	Titles / Recording	Misc.	Total					
		170.76%	15.00%												
1	DATA COLLECTION	\$ 1,647.04	\$2,812.48	\$686.93	\$34.00	\$5,162.44	\$0.00	\$34.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$34.00	
2	TOPOGRAPHIC AND RIGHT-OF-WAY SURVEYS	\$ 68,158.76	\$99,311.89	\$23,920.00	\$22,280.00	\$204,381.24	\$0.00	\$3,160.00	\$20,140.00	\$0.00	\$0.00	\$0.00	\$0.00	\$23,290.00	
3	CONCEPTUAL PLANS	\$ 6,522.41	\$11,137.87	\$2,640.01	\$0.00	\$20,300.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
4	PRELIMINARY PLANS	\$ 17,931.30	\$30,619.48	\$7,262.62	\$0.00	\$56,833.39	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
5	RIGHT OF WAY PLANS	\$ 9,052.45	\$15,457.95	\$3,670.50	\$0.00	\$28,186.90	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
6	PRELIMINARY PLANS	\$ 24,633.74	\$42,084.56	\$10,004.75	\$0.00	\$78,703.08	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
7	FINAL PLANS AND BIDDING PHASE	\$ 3,701.90	\$6,321.37	\$1,503.49	\$0.00	\$11,526.77	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
8	UTILITY COORDINATION	\$ 12,477.09	\$21,305.82	\$5,067.49	\$503.00	\$39,353.31	\$0.00	\$588.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$503.00	
9	PUBLIC AND COMMUNITY INVOLVEMENT	\$ 6,640.35	\$11,338.00	\$2,896.91	\$31,174.00	\$51,850.32	\$30,772.00	\$402.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$31,174.00	
10	GEOTECHNICAL WORK	\$ -	\$0.00	\$0.00	\$20,900.00	\$20,900.00	\$20,900.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$20,900.00	
11	DESIGN BUILD PROCUREMENT	\$ 6,684.51	\$11,414.47	\$2,714.65	\$280.00	\$21,073.64	\$0.00	\$280.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$280.00	
12	CONCEPT DESIGN	\$ 4,173.95	\$7,127.44	\$1,895.21	\$0.00	\$12,900.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
13	PROJECT MANAGEMENT / ADMINISTRATION	\$ 13,132.43	\$22,424.03	\$5,333.60	\$402.00	\$41,292.00	\$0.00	\$402.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$402.00	
	TOTAL	\$164,755.86	\$281,337.18	\$66,213.98	\$78,653.00	\$589,960.00	\$51,762.00	\$4,751.00	\$20,140.00	\$0.00					



Via email and mail: beads@cmtengr.com

December 22, 2023

Mr. Brian Eads, P.E., PTOE
Crawford, Murphy & Tilly, Inc.
One Memorial Drive, Suite 500
St. Louis, Missouri 63102

Re: Proposal for Geotechnical Exploration
Jefferson County Safety Projects
Romaine Creek and Konert Roads
Jefferson County, Missouri
Geotechnology Proposal No. P044887.01

Dear Mr. Eads:

In response to your request, Geotechnology is pleased to submit this proposal to perform a geotechnical exploration for the referenced project. We have prepared this proposal based on our review of the geotechnical scope of work discussed during our conference call on November 28, 2023, prior email correspondence, a review of existing site geotechnical data, and our experience.

1.0 PROJECT INFORMATION

The project consists of the design and construction of safety improvements to Romaine Creek and Konert Roads in Jefferson County, Missouri. These improvements include widening of shoulders on both sides of the roadway for the two segments of roadway. Due to the nature of the terrain, excavations and fills will be required for the project. We understand that two retaining wall segments, both approximately 5 feet high, are proposed along Romaine Creek into cut slopes. Sections of proposed slopes are anticipated to be inclined at 2H:1V (i.e., 2 horizontal to 1 vertical) and 1.5H:1V along Konert Road. We understand that these slopes will require excavation into existing slopes uphill of the road. Fill sections on the downhill slope will be required for widening of both segments of roadway.

The site is approximately 1 mile west of the intersection of State Routes 141 and 21. The section of Romaine Creek improvements extends from near its intersection with Konert Road eastward to Calebs Crossing. The section of Konert Road extends from near its intersection with Old Highway 21 northward to approximately 300 feet north of the intersection with Breezy Oak Lane.



2.0 SCOPE OF SERVICE

The purpose of our service is to explore the subsurface conditions and provide geotechnical recommendations for the design and construction of the project. Geotechnology proposes the following scope of services for the geotechnical exploration:

- Eighteen borings will be drilled near the locations shown on the attached sketches to predetermined depths of 15 feet or auger refusal, whichever is shallower. Soil samples will be collected as the borings are advanced at 2.5-foot centers for the first 10 feet and 5-foot centers thereafter using standard penetration test (SPT) and Shelby tube sampling methods. This proposal is based on anticipating 270 lineal feet of auger drilling. If auger refusal is encountered within 5 feet of the surface, selected borings will be extended into the refusal material using NQ2 wireline rock core techniques. Boreholes will be backfilled with dry sack concrete, and the pavement will be patched with cold mix asphalt.
- Near each boring, the exposed slope will be profiled by our engineer or geologist. Representative soil grab samples will be collected from near-surface materials. The slope profiles will be transverse to the roadway direction, up the hillsides. The profiles will extent up the slopes to a height that is safely accessible from the road. The profiles will generally depict the type of material encountered, their condition, and soil/weathered rock/rock interface, if observed. We will also note the presence, if determined, of groundwater seepage or discontinuities that are outcropping at the surface along the cut slopes. Visual inspections and hand tools such as a shovel and/or pick will be used to delineate cut slope profiles and obtain grab samples.
- The borings and cut slope soil/rock profile delineations and sampling locations will be located in the field by referencing site features.
- We understand Jefferson County Highway Department will provide traffic control for our field crew. Our proposal is based on being able to work full 8-hour shifts during the day.
- Public utilities will be notified via the Missouri One-Call system (i.e., DIGRITE). We request private utilities be marked by others. Geotechnology will not be liable to damage private utilities not marked or improperly marked by others.
- An engineer or geologist from Geotechnology will accompany the drill rig and provide direction during the exploration, prepare logs of the materials encountered, perform profiling of the slopes, and transport samples to our laboratory for testing. We propose to provide two engineer/geologist loggers for performing the slope profiling concurrently with geotechnical borings such that traffic control and drill crew time is optimized.
- Laboratory tests will be performed on selected soil samples to assess engineering and index properties. Laboratory tests are expected to include natural moisture content, Atterberg limits, dry unit weight, and triaxial compression.
- 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
 - A description of the subsurface conditions at the profiling and sampling locations



- Considerations for site excavation and placement of fill, including an evaluation of the suitability for reuse of the on-site soils
- Pavement subgrade considerations and pavement thicknesses
- Global slope stability analysis at up to five selected locations, to assess the stability of roadway improvements.

Our scope of services does not include any environmental assessment, investigation, or study for the presence or absence of wetlands or hazardous or toxic materials in the soil, bedrock, surface water, groundwater, or air, on or below or around the site. However, we can provide environmental services if needed for this project. Please advise if you prefer that we either revise this proposal or prepare a separate proposal to include environmental services.

A copy of "Important Information about This Geotechnical Engineering Proposal" that is published by the Geoprofessional Business Association (GBA) is enclosed for your review.

3.0 SCHEDULE AND FEE

Public utility notification as required by law will take at least three days to complete. Field activities will take four to six days, weather dependent. Laboratory testing will be completed in approximately two to three weeks after drilling. Our report will be submitted within three to four weeks following the completion of the fieldwork. Our findings and recommendations can be provided throughout the course of the project as test results and analyses are completed.

We will invoice for our services on a time and materials basis using our standard fee schedule. An estimated fee is provided as an attachment. The estimate includes four days of drilling and sampling, professional logging, slope profiling, laboratory testing, preparing boring logs, engineering analyses, soil/rock cut slope profiling and sampling, and preparing a report.

The portion of the fee for profiling the slopes is based on this service being performed while vegetation is dormant. Additional fees could apply for clearing vegetation after winter.

This proposal and fee estimate have been prepared using Geotechnology's standard fee schedule and with the assumption that Geotechnology's Terms will be used as the contract mechanism. Geotechnology reserves the right to revise this proposal and increase our fee estimate, at any time, if our Terms are not used or 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.



4.0 ACCEPTANCE


If this proposal, including the contractual terms, is acceptable, we understand Crawford, Murphy & Tilly, Inc. will issue a subconsultant agreement to authorize our services.

* * * * *

We appreciate the opportunity to submit this proposal for the referenced project and look forward to hearing from you soon. If you have any questions or comments concerning this proposal, or if we may be of any other service to you, please do not hesitate to contact us.

Very truly yours,

GEOTECHNOLOGY, LLC


Jonathan W. Urton, EIT
Geotechnical Engineer


Anthony W. Roth, P.E.
Geotechnical Manager

JWU/AWR/CKK:jwu/jlf

Enclosures: GBA's Important Information about This Geotechnical Engineering Proposal
Proposed Boring Location Sketches
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 having 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 Geotechnical Engineer for Additional Assistance

Membership in the Geoprofessional Business Association (GBA) 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 a GBA-member geotechnical engineer for more information. Confirm a firm's membership in GBA by contacting GBA 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@geoprofessional.org www.geoprofessional.org

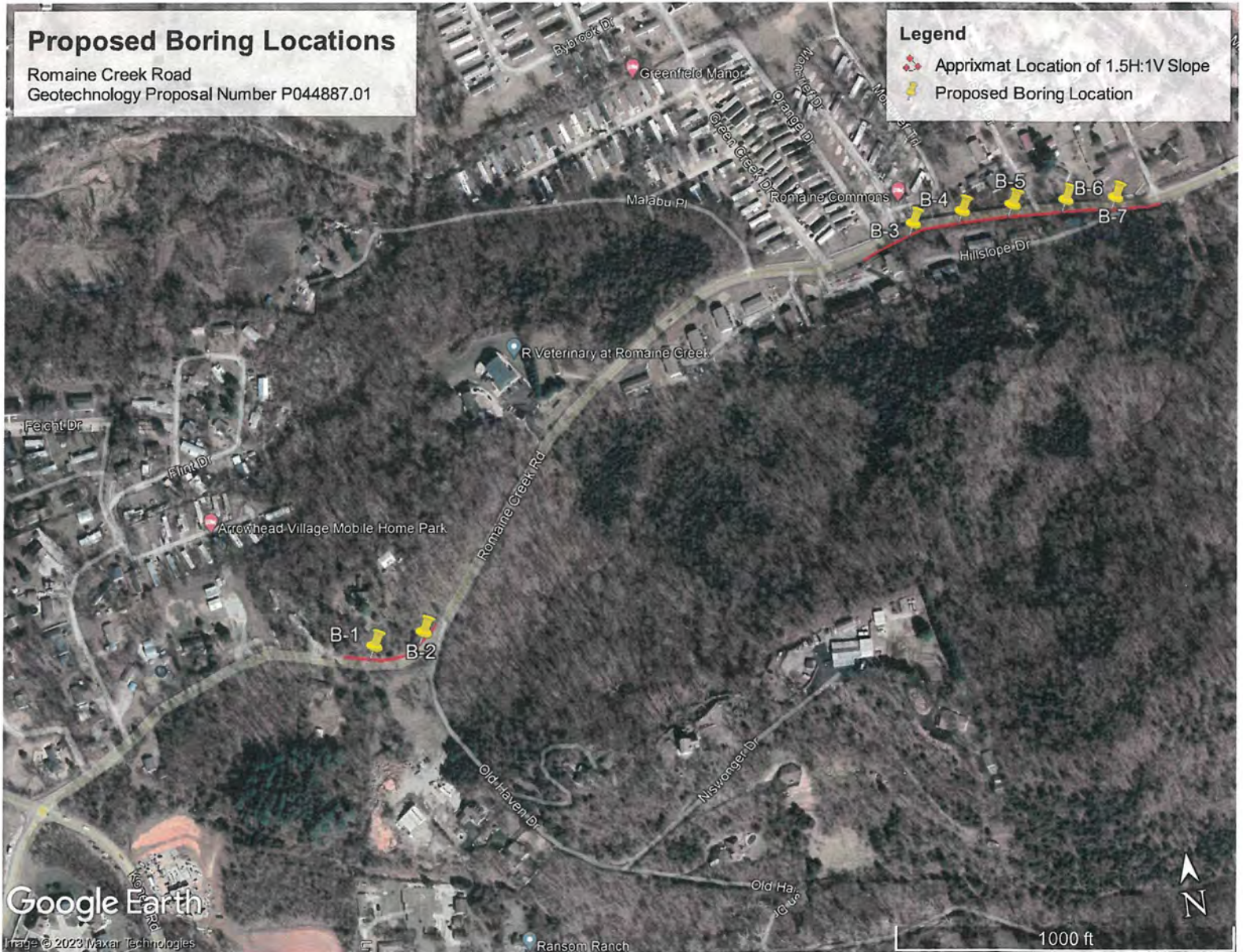
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Proposed Boring Locations

Romaine Creek Road
Geotechnology Proposal Number P044887.01

Legend



- 📍 Apprximat Location of 1.5H:1V Slope
- 📍 Proposed Boring Location



Proposed Boring Locations

Konert Road
Geotechnology Proposal Number P044887.01

Legend

-  Approximate Location of 1.5H:1V Slope
-  Proposed Boring Location





Subsurface Exploration Fee Estimate
Jefferson County Safety Projects - Romaine Creek and Konert Roads
Jefferson County, Missouri

<u>FEE ITEM</u>	<u>UNIT</u>	<u>QUANTITY</u>	<u>FEE</u>	<u>EXTENSION</u>	<u>TOTAL</u>
<u>Drilling & Sampling</u>					
Utility Locates, JHA, Field / Project Coordin	Hour	4	\$125.00	\$500.00	
Drilling Project Management	Hour	4	\$165.00	\$660.00	
Mobilization/Demobilization	Lump Sum	1	\$1,000.00	\$1,000.00	
Drill Rig and Crew	Day	4	\$2,500.00	\$10,000.00	
Borehole Backfill and Patch	Each	18	\$60.00	\$1,080.00	
Daily Fuel Surcharge	Day	4	\$115.00	\$460.00	
Drilling Support Vehicle	Day	4	\$100.00	\$400.00	
			Subtotal		\$14,100.00
<u>Laboratory Testing</u>					
Moisture Content Soil/Rock ASTM D2216	Each	90	\$8.00	\$720.00	
Atterberg Limits, 1-Pt Method ASTM D4311	Each	15	\$69.00	\$1,035.00	
Triaxial Compression, UU ASTM D2850	Each	8	\$122.00	\$976.00	
Boring Log	Each	15	\$38.00	\$570.00	
Rock Core Photo	Each	9	\$33.00	\$297.00	
			Subtotal		\$3,598.00
<u>Engineering, Analyses & Report</u>					
Boring Layout	Hour	6	\$100.00	\$600.00	
Logger (Borings)	Hour	32	\$100.00	\$3,200.00	
Logger (Slope Profiling)	Hour	32	\$100.00	\$3,200.00	
Vehicle Charge	Day	9	\$76.00	\$684.00	
Principal	Hour	2	\$200.00	\$400.00	
Project Manager	Hour	4	\$175.00	\$700.00	
Senior Engineer (Report)	Hour	12	\$150.00	\$1,800.00	
Senior Engineer (Slope Stability)	Hour	12	\$150.00	\$1,800.00	
Drafter	Hour	6	\$95.00	\$570.00	
Word Processor	Hour	2	\$60.00	\$120.00	
			Subtotal		\$13,074.00
TOTAL GOETECHNICAL FEE					\$30,772.00



6049 Hampton Ave.
St. Louis, MO 63114
Telephone: 314-349-1531
Email: arc@arcstl.com
Web Site: arcstl.com

Archaeological Research Center
of St. Louis, Inc.

January 16, 2024

Ms. Heather Lacey
Crawford, Murphy & Tilly

Dear Ms. Lacey,

We can perform a cultural resource survey of the proposed improvements to Romaine Creek Road within Jefferson County, Missouri, for **\$10,750.00**. The cultural resource survey will be conducted according to the Missouri State Historic Preservation Office (SHPO), Missouri Department of Transportation (MoDOT), and current federal and state guidelines for these investigations, consisting of the following steps:

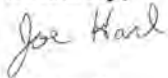
- 1.) An archival search will be performed to identify previously recorded cultural resources (Precontact or historical archaeological sites, historic architecture or bridges, and cemeteries) within the proposed road improvements and one mile around it. The research will include a brief review of the local Precontact cultural sequence and local history, with more detailed site specific information. Information will be obtained from SHPO and at other local historical archives or libraries, as needed.
- 2.) An archaeological survey of the area impacted by the proposed road improvements will be conducted to determine the present condition of any previously recorded sites and identify any new cultural resources. Shovel tests will be placed at 15-meter intervals. Each test will measure 35 x 35 cm and be excavated into the B-horizon soils. The excavated soil will be examined for cultural materials and replaced. However, no shovel test can be excavated in areas covered with concrete, excavated ditches, slopes greater than 20%, or buried utility lines. In these areas, bare patches in the vegetation will be examined for cultural remains, also the base of trees, fences, concrete pads, and surface utilities will be examined for any evidence of subsurface remains. If an archaeological site is identified, its boundaries will be marked using GPS units and incorporated into an ArcGIS 10.8.1 map. Artifacts found will not be collected but photographed with a scale and replaced into the shovel test.
- 3.) An architectural survey will be conducted of existing architectural resources within an Area of Potential Effects (APE) of 100 feet on either side of the proposed construction footprint. Crawford, Murphy & Tilly will provide polygon shape files of the parcels that touch the APE. They also will provide the parcel

number, street address, owners or business name, date of all buildings within that APE, and any other building information available from the county assessor's office. Buildings under 45 years old will not be photographed but will be mapped. Buildings 45 years or older (dating before 1981) will be photographed from public access locations. At least two oblique photographs will be taken when possible. If a property has one building within the APE, all buildings on the property will be photographed regardless of age, if possible. Notes on the architecture of the buildings will be taken.

- 4.) The present condition of the cultural resources will be determined and their potential significance. Cultural resources are **only** considered significant if they are associated with an important person or event in our history, are of architectural importance, or provide unique information on past human behavior. Marked and unmarked human remains also are protected according to state statutes and federal NAGPRA legislation.
- 5.) A report will be prepared detailing our findings and recommendations according to the Missouri SHPO and MoDOT guidelines. Copies of the report will be submitted to Crawford, Murphy & Tilly for approval. They will send the report to MoDOT for their review. Once passed by them, MoDOT will send reports to Missouri SHPO and any other appropriate agencies for review.

We appreciate the opportunity to bid on this project and look forward to working with you again. If you have any questions, please do not hesitate to contact us by phone at 314-349-1531 or by email at arc@arcstl.com.

Sincerely,



Joe Harl



6049 Hampton Ave.
St. Louis, MO 63114
Telephone: 314-349-1531
Email: arc@arcstl.com
Web Site: arcstl.com

Archaeological Research Center
of St. Louis, Inc.

January 16, 2024

Ms. Heather Lacey
Crawford, Murphy & Tilly

Dear Ms. Lacey,

We can perform a cultural resource survey of the proposed improvements to Konert Road within Jefferson County, Missouri, for **\$10,750.00**. The cultural resource survey will be conducted according to the Missouri State Historic Preservation Office (SHPO), Missouri Department of Transportation (MoDOT), and current federal and state guidelines for these investigations, consisting of the following steps:

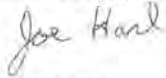
- 1.) An archival search will be performed to identify previously recorded cultural resources (Precontact or historical archaeological sites, historic architecture or bridges, and cemeteries) within the proposed road improvements and one mile around it. The research will include a brief review of the local Precontact cultural sequence and local history, with more detailed site specific information. Information will be obtained from SHPO and at other local historical archives or libraries, as needed.
- 2.) An archaeological survey of the area impacted by the proposed road improvements will be conducted to determine the present condition of any previously recorded sites and identify any new cultural resources. Shovel tests will be placed at 15-meter intervals. Each test will measure 35 x 35 cm and be excavated into the B-horizon soils. The excavated soil will be examined for cultural materials and replaced. However, no shovel test can be excavated in areas covered with concrete, excavated ditches, slopes greater than 20%, or buried utility lines. In these areas, bare patches in the vegetation will be examined for cultural remains, also the base of trees, fences, concrete pads, and surface utilities will be examined for any evidence of subsurface remains. If an archaeological site is identified, its boundaries will be marked using GPS units and incorporated into an ArcGIS 10.8.1 map. Artifacts found will not be collected but photographed with a scale and replaced into the shovel test.
- 3.) An architectural survey will be conducted of existing architectural resources within an Area of Potential Effects (APE) of 100 feet on either side of the proposed construction footprint. Crawford, Murphy & Tilly will provide polygon shape files of the parcels that touch the APE. They also will provide the parcel

number, street address, owners or business name, date of all buildings within that APE, and any other building information available from the county assessor's office. Buildings under 45 years old will not be photographed but will be mapped. Buildings 45 years or older (dating before 1981) will be photographed from public access locations. At least two oblique photographs will be taken when possible. If a property has one building within the APE, all buildings on the property will be photographed regardless of age, if possible. Notes on the architecture of the buildings will be taken.

- 4.) The present condition of the cultural resources will be determined and their potential significance. Cultural resources are **only** considered significant if they are associated with an important person or event in our history, are of architectural importance, or provide unique information on past human behavior. Marked and unmarked human remains also are protected according to state statutes and federal NAGPRA legislation.
- 5.) A report will be prepared detailing our findings and recommendations according to the Missouri SHPO and MoDOT guidelines. Copies of the report will be submitted to Crawford, Murphy & Tilly for approval. They will send the report to MoDOT for their review. Once passed by them, MoDOT will send reports to Missouri SHPO and any other appropriate agencies for review.

We appreciate the opportunity to bid on this project and look forward to working with you again. If you have any questions, please do not hesitate to contact us by phone at 314-349-1531 or by email at arc@arcstl.com.

Sincerely,



Joe Harl

ATTACHMENT C

July 11, 2023

David Burkum
Crawford, Murphy & Tilly, Inc.
2750 West Washington Street
Springfield, IL 62702

Dear Mr. Burkum:

Thank you for submitting your company's annual financial pre-qualification documents. MoDOT's Audits and Investigations Division has completed the review. Crawford, Murphy & Tilly, Inc. will be added to the Consultant Pre-qualification List. To view this list, go to www.modot.gov scroll down to Doing Business With MoDOT– select Consultant Services – select Consultant Prequalification List under Explore This Topic.

The rate(s) shown in the following table represents the rate(s) as presented in the financial pre-qualification documents for the year ended December 31, 2022. The acceptance of this rate(s) is for MoDOT only and is not intended to imply cognizant approval.

Home Office Rate	170.43%
Facilities Capital Cost of Money Rate	.33%

All companies must submit the required pre-qualification information annually using the most current forms found on the Consultant Pre-qualification Requirements webpage. Failure to comply may result in loss of MoDOT pre-qualification. Financial information should reflect the most recent complete fiscal year and must be submitted no later than six months after the close of that fiscal year. Please remember to review the expiration dates to ensure your company remains in approved status.

If you have any questions, please call (573) 751-7446.

Respectfully,



Kelly R. Niekamp
Audit Manager
Audits and Investigations

cc: Keith Jennings-de



CRAWFORD, MURPHY & TILLY, INC.
SUMMARY OF INDIRECT OVERHEAD COST
AUDITED CALENDAR YEAR 2022
AND PROVISIONAL 2022/2023

CMT ACCOUNT NUMBER	ACCOUNT NAME	% OF DIRECT LABOR COSTS
<u>PAYROLL BURDEN AND FRINGE BENEFITS</u>		
6151	FICA Tax	12.19%
6102, 6103, 6170	Paid Time Off (Vacation, Holidays and Sick Leave)	17.60%
6154, 6156, 6158	Group Medical, Life, Workers Comp, Disability and Unemployment Insurance	18.02%
6159, 6160	Employee Retirement Plan Contributions	9.92%
		<u>57.73%</u>
<u>GENERAL & ADMINISTRATIVE OVERHEAD EXPENSE</u>		
6104-6120	Indirect Salaries - Not Allocable to Projects	68.30%
6222, 6264	Miscellaneous Taxes	1.02%
6231	Professional Fees	2.98%
6251	Rent	10.30%
6252	Utilities	0.74%
6271	Telephone & Data	1.75%
6253-6254	Maintenance, Repairs & Supplies	1.62%
6261-6265	Office Supplies, Shipping & Reproduction	0.81%
6281, 6284	Seminars, Registration & Education	1.72%
6291,92,95,6321-23	Travel & Vehicle Expense	2.93%
6331, 6332	Business Insurance	3.13%
6351,52,61,62,69	Equipment Expense, Repairs & Maintenance	1.35%
6366, 6367, 6368	Computer Expense & Supplies	12.14%
6371,6372,6381,6382	Maps, Reference Books, Engineering & Survey Supplies	0.56%
6401+COFC	Depreciation & Cost of Facilities Capital (0.33%)	3.68%
		<u>113.03%</u>
TOTAL OVERHEAD		<u><u>170.76%</u></u>

ATTACHMENT D

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

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/eplsearch.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

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/eplsearch.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.