

Exhibit B

Scope of Services (E Heidelberg Rd Culvert)

PROJECT BACKGROUND

This engineering design project includes the necessary design development, plan production, and job specifications to construct a new, replacement structure carrying E Heidelberg Rd over Unnamed Stream, as well as associated minor roadway modifications impacted by the new structure, referred to as the “Project”. Benesch will be engaging two (2) subconsultants who will provide the following engineering services:

- BHC– Field surveying services including collection of necessary topographic information, and alignment/elevation data along both E Heidelberg Rd and Unnamed Stream. If necessary, right-of-way services will include ordering owner and encumbrance reports (O&E’s) for each impacted property, providing tract maps, colorized right-of-way plans and legal descriptions, and staking property right-of-way and easements.
- Geotechnology, LLC – Field geotechnical exploration and supporting office services. They will acquire the necessary geotechnical information for subsurface capacity design and scour analysis associated with the proposed structure replacement.

This document is intended to provide clarification and details of the project scope and hours provided in Exhibit A. Alfred Benesch & Company (Benesch/Consultant) shall furnish and perform, for the City of Independence (City), the aforementioned professional duties and services required for the design and construction of the Project in accordance with all tasks listed in the current City Ordinances.

SCHEDULE

The project duration is assumed to consist of four distinct phases – (1) Project Kick-Off and Hydraulics; (2) Preliminary Design; (3) Final Design; and (4) Engineering Services during Construction. Engineering tasks are anticipated to begin in Summer 2023. Field survey will begin immediately once Notice-to-Proceed (NTP) is received in writing from the City. Intermediate and final project milestone dates (subsequently discussed) are scheduled from NTP, subsequent milestones, and City approvals. The Consultant shall make submittals in accordance with the schedule described below:

- **Project Kick-Off and Hydraulics** | The Consultant will initiate and coordinate subconsultant services and internal project team responsibilities, perform a hydrologic and hydraulic analysis of the existing structure, size a reinforced concrete box culvert (RCB) replacement structure, perform a scour analysis of the proposed structure, and submit required floodplain permitting, completed 90 calendar days from receipt of NTP.
- **Preliminary Plan Information and Cost Estimate** | The Consultant will utilize Missouri Department of Transportation (MoDOT) standard RCB designs and standards as the proposed structure type that meets project constraints. The Consultant shall develop preliminary plans including structural and roadway details, and an engineering cost estimate, to be submitted to the City within 180 calendar days of NTP.
- **Final Design Plans for Review** | Unsigned and unsealed structural and roadway plans for review by the City shall be submitted within 30 calendar days after City review/approval of the Preliminary Plans. An updated engineering cost estimate and draft of applicable Project Manual (Specifications) will be included with this submittal. City comments regarding all project submittal documents are anticipated to be provided to the Consultant within 30 days after submittal.
- **Sealed Final Plans** | Final signed and sealed bridge and roadway plans, a final engineering construction cost estimate, and final Project Manual shall be submitted to the City within 30 calendar days after City review/approval of Final Plans is received by the Consultant.
- **Engineering Support during Construction** | The Consultant shall provide services (as shown and limited to the hours in Exhibit A) to facilitate the advertising, bidding, contractor evaluation, and ultimate letting of this design project. Limited support (as quantified in Exhibit A) regarding RFIs, shop drawing support, and attendance at construction meetings will be provided by the Consultant.

The City shall grant time extensions for unavoidable delays beyond the control of the Consultant. Requests for extensions of time shall be in writing by the Consultant, before plans or applicable project documents are due, stating fully the reasons for the request.

DESIGN TASKS

Field Data Collection | Project survey services to be provided by sub-consulting partner, BHC. Project geotechnical services to be provided by sub-consulting partner, Geotechnology LLC. The sub-consulting contract documents for both sub-consulting partners are included with this scoping document and are considered part of the master contract document between the City of Independence (City) and Benesch (Consultant). Scoping details, and exclusions, mentioned in sub-consulting documents are considered to apply to Consultant as a whole.

1. Survey Services | Provided by sub-consulting partner, BHC.
 - a. The Consultant shall conduct necessary field investigations and survey required to complete the project design as outlined in the sub-consulting scoping document.
 - b. Additional details regarding the survey services provided by BHC are described in the attached sub-consulting contract documents.
 - c. The costs associated with survey work shall be paid by the Consultant to their sub-consulting survey firm, BHC. This cost shall be included in the total compensation fee as outlined in the Benesch contract document “Exhibit A – Man-Hour Fee Proposal”.
2. Geotechnical Investigation | Provided by sub-consulting partner, Geotechnology LLC.
 - a. The Consultant shall provide sub-surface investigations and foundation recommendations.
 - b. One (1) total boring is planned for this project and will be located at the planned structure replacement location. Geotechnical information will be used for design purposes but will NOT be shown in the plans, made available to the City, or provided to bidders based on recent events that have resulted in contractor claims.
 - c. Additional details regarding the geotechnical services provided by Geotechnology LLC are described in the attached sub-consulting contract documents.
 - d. The costs associated with work, including flagging the boring location and elevation, shall be paid by the Consultant to their sub-consulting geotechnical firm, Geotechnology LLC. This cost shall be included in the total compensation fee as outlined in the Benesch contract document “Exhibit A – Man-Hour Fee Proposal”.
3. Design Standards for the Project | Prepare design memorandum in accordance with the following:
 - a. Latest APWA Specifications and Design Criteria, including the latest standards, specifications, and drawings, as adopted and revised by replacement and additive supplements incorporated by the City.
 - b. MoDOT State Standards.
 - c. AASHTO Standards.

Task 1 – Project Kick-Off and Hydraulics | The project will begin with field data collection and hydraulic analysis to determine proper sizing for the replacement structure.

1. Project Kick-Off Meeting
2. Survey Coordination, Import & Conversion
3. Develop the Design Criteria Memorandum
4. Review Geotechnical Report
5. Perform Hydrology & Hydraulic Modeling & Analysis using HEC-RAS including modeling existing structure and channel, evaluating RCB sizes/cell configurations to pass the 25-year event, perform a scour potential analysis on the proposed layout, and compile results data for Hydraulic Data table in plans.
6. Prepare and submit Army Corps of Engineers Nationwide 404 permit.

Task 2 – Preliminary Design | The preliminary design tasks are subsequently described (with additional details shown in attached Benesch contract document “Exhibit A – Man-Hour Fee Proposal”).

1. Preliminary Design (Roadway)

- a. Preliminary plans will be developed at a scale of 1’=50” showing contours at 2’ intervals, property lines, utilities, and existing topographic features including:
 - i. Project Title Sheet
 - ii. Typical Sections
 - iii. Survey Control Sheet
 - iv. Horizontal and vertical alignments
 - v. Design drainage ditches
 - vi. Develop grading for bridge
 - vii. Develop guardrail layout and grading (if required)
 - viii. Set right-of-way and easement areas (if required)
 - ix. Identify utility conflicts and contact owners for proposed relocations
 - b. Prepare preliminary submittal, including plans, quantities and estimate, and QC/QA of submittal.
 - c. Attend field visit (1), review meetings (3)
2. Preliminary Design (Structure)
 - a. Referencing culvert sizing performed in Task 1, developed structure plans showing type, size, and location or proposed structure consisting of:
 - i. Culvert Standard Layout, General Notes & Quantities
 - ii. Culvert Bill of Reinforcing Steel
 - b. Prepare preliminary submittal, including plans, quantities and estimate, and QC/QA of submittal.
 - i. Attend field visit (1), review meetings (3)

Task 3 – Final Design | The final design tasks are subsequently described (with additional details shown in attached Benesch contract document “Exhibit A – Man-Hour Fee Proposal”).

1. Final Plans (Roadway)
 - a. Final plans shall consist of the information in the preliminary plans, with comments from the City addressed, plus the following:
 - i. Finalize Title Sheet with update Index of Sheets
 - ii. Finalize Typical Sections
 - iii. Prepare Summary of Quantity Sheets
 - iv. Finalize Plan and Profile Sheets
 - v. Finalize Erosion Control Plans
 - vi. Provide Job Special Provisions (if required)
 - vii. Finalize Survey Control Sheet
 - viii. Finalize Engineer’s Opinion of Probable Cost
 - ix. Assemble Final Plans and provide QC/QA
 - x. Finalize utility relocations with utility owners
 - xi. Project meetings (2)
2. Final Plans (Structure)
 - a. Final plans shall consist of the information in the preliminary plans, with comments from the City addressed, plus the following:
 - i. Finalize quantities and Engineer’s Opinion of Probable Cost
 - ii. Project Manual technical sections, specifications, and job special provisions; City will provide any City-standard front-end sections of the Project Manual.
 - iii. Assemble Final Plans and provide QC/QA
 - iv. Project meetings (2)
3. Final Sealed Plans (Roadway and Structure)
 - a. Sealed and signed plans shall consist of the information in the final plans, with comments from the City addressed, plus the following:
 - i. Final Engineer’s Opinion of Probable Cost.
 - ii. Estimated time required to complete construction.

Task 4 – Engineering Support during Construction | Consultant shall provide the following tasks to assist with bidding and construction:

1. Bidding phase support, including answering contractor questions and attending one (1) Pre-Construction Meeting. Assumes City will organize and run meeting.
2. Review bids as requested by City
3. Address RFIs during construction
4. Provide review of shop drawings (if required)
5. Attending Construction Progress meetings (maximum 3)
6. Prepare Record Drawings from Contractor/City Redlines

ASSUMPTIONS/EXCLUSIONS

1. Standard MoDOT RCB detailing and design will be utilized for the replacement structure. It is assumed that no special design or modifications from the standard plans will be required.
2. Unless otherwise noted in the task description, all project-related meetings are assumed to be virtual.



May 5, 2023

Jarrod Russell

JRussell@benesch.com

Alfred Benesch & Company

One Main Plaza, 4435 Main St, Ste. 1150
Kansas City, MO 64111

RE: Surveying Services – Topographic Survey – East Heidelberger Rd, Independence, MO (Benesch Job No. P2213266)

Dear Mr. Russell,

Brungardt Honomichl & Company, P.A. (BHC) is pleased to submit the following proposal for surveying services for the above-referenced project.

Scope of Services

BHC proposes to provide the following services:

- Topo of the site as outlined in the “Exhibit A – Survey List – E Heidelberger Rd” City of Independence, MO document provided to BHC by Benesch on 5/2/2023.
- Horizontal and vertical control for the site as outlined in “Exhibit A”.
- Valley sections and flowline for the channel as outlined in “Exhibit A”.
- CAD Basemap as outlined in “Exhibit A”.
- Preparing Right of Way and/or Easement Exhibits for the project (\$650 per exhibit prepared by BHC. Expected to be 4 exhibits.)
- O&E reports of 2 properties (\$500 per property which is included in the proposal amount and will be a pass thru charge that will be invoiced to the client when it is invoiced to BHC)

Additional Services

Services not defined in the scope of services are considered supplementary. Any added services will be performed at an hourly rate or a lump sum amount as agreed to before initiating the additional service.

Provided by Client

The client will provide:

- Access to the site.
- Current Title Report for the needed parcels
- Any existing building plans, plats, and surveys for the subject premises.

Contract

This proposal and the attached "Terms & Conditions" will serve as the contract agreement for services provided by BHC.

Fees

The estimated cost of the services of this proposal is \$15,350.00. Payment will be due at completion of said surveying services. Any unpaid balance after 30 days will be subject to a late



913.371.5300



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712 State Avenue
Kansas City, KS 66101

fee as described in the terms and conditions portion of this proposal.

Schedule

BHC proposes to commence work upon your acceptance of this proposal, written authorization to proceed and requested documents. BHC will perform these services with reasonable diligence and expediency consistent with sound professional practices.

We anticipate completion promptly from receipt of said authorization and requested documents, subject to inclement weather or discovery of any hazardous substances or differing site conditions.

Thank you for the opportunity to make this proposal. We look forward to providing you these services.

If you have any questions concerning this proposal, please contact me at your convenience.

Sincerely,



Matthew B. Schepmann, PS

Project Manager I

BHC

Cell: 913 898 2832

Office: 913 371 5300

Proposal Accepted By: _____

Type/Print Name: _____

Date: _____

Attachments:

Exhibit A - Terms & Conditions

Exhibit B - Brungardt Honomichl and Company, P.A. 2023 Rate Schedule



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ibhc.com



712 State Avenue
Kansas City, KS 66101

BHC is a Trademark of Brungardt Honomichl & Company, P.A.



Via email: jrussell@benesch.com

April 24, 2023

Mr. Jarrod Russell, P.E.
Bensesh
11010 Haskell Avenue, Suite 200
Kansas City, Kansas 66109

Re: Proposal for Geotechnical Services
Heidelberg Road Box Culvert Replacement
Independence, Missouri
Geotechnology Proposal No. P043476.01

Dear Mr. Russell:

Geotechnology, LLC is pleased to submit this proposal to provide geotechnical services for the referenced project. We have prepared this proposal based on review of your April 20, 2023 email, the telephone conversation between you and the undersigned on April 21, 2023, and a site visit.

1.0 Project Information

The project includes the replacement of a single-span, single-lane, box culvert along Heidelberg Road in Independence, Missouri. Structural loads were not provided; however, we understand that a soil-bearing, concrete box culvert is planned. Final grades near existing grades are anticipated. Based on a contour map generated by the Missouri Department of Natural Resources, rock is estimated at a depth of 25 to 50 feet. The existing structure includes a timber deck with an asphalt overlay.

2.0 Scope of services

Geotechnology's proposed scope of services includes drilling one geotechnical boring, laboratory testing, engineering and preparation of a report. Further discussion of our scope of service follows.

- Geotechnology will complete the required City of Independence right-of-way permit and acquire the City of Independence business license. Permitting and bonding fees, however, are not budgeted.
- The road is currently closed. Consequently, traffic control is not required nor budgeted.
- The boring will be sampled to the top of rock or 25 feet, whichever is shallower. Rock coring is not planned nor budgeted.
- Soil sampling will be performed at 2.5-foot intervals to 10 feet followed by 5-foot intervals thereafter. Soil sampling will be performed using split-spoon and Shelby tube sampling techniques in general accordance with the procedures outlined by ASTM D1586 and ASTM D1587, respectively.



- Standard Penetration Tests (SPTs) using a split-spoon sampler will be performed to obtain the N-value of the sampled material. SPTs will be performed using an automatic hammer with measured efficiency.
- A full-time geologist or engineer will be on site during drilling to coordinate access with property owner(s), oversee and manage the sample collection and soil/bedrock classification process, provide direction during exploration, prepare boring logs of the material encountered, and transport samples to our laboratory for further testing.
- The boring will be located in the field by measuring distances from site features. Measurement of the boring by a professional surveyor is recommended.
- Geotechnology will contact Missouri One Call for member companies to locate public utilities in proximity to the borings prior to drilling. Private utilities, if present, must be located by others prior to drilling.
- The boring will be backfilled with dry mix concrete and topped with quickset cement. Excess auger cuttings will be wasted on site.

2.1 Laboratory Testing

Laboratory testing will include the following:

- Moisture content
- Atterberg limits
- Grain size distribution
- Unconfined compressive strength and/or unconsolidated-undrained triaxial compression test and dry unit weight of Shelby tubes

2.2 Reporting

A report will be prepared under the supervision of a professional engineer registered in the State of Missouri. Geotechnology will provide one digital copy (in PDF format) of the final report that includes the following:

- A discussion of our understanding of the project,
- A boring location plan,
- Results of the boring logs will be provided in gINT format (Bentley software), and will include the following:
 - Soil type and designation in general accordance with the Unified Soil Classification System (USCS) and, when applicable, consistency, plasticity, relative density, and grain size
 - Depth to rock, if encountered
 - Depth to water, if encountered
 - N-value of the sampled material
 - Drill rig model
 - Automatic hammer efficiency
- Lateral earth pressures and drainage considerations for design of box culvert walls and wingwalls,



- Shallow foundation recommendations, including allowable bearing pressure and estimated settlement. Settlement analyses will be based on the boring data and correlations of soil index properties to consolidation parameters. Consolidation tests are not planned, and
- Seismic site class per AASHTO. Seismic site class will be evaluated using N-values and undrained shear strengths in accordance with Chapter 20 of ASCE 7-10; site-specific and dynamic response analysis is not planned.

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

Coordination of the boring locations and utility notifications required by law will take four days to complete. Drilling will take one day. The geotechnical exploration report will be issued approximately two weeks following completion of the fieldwork. Results of the exploration can be discussed throughout the course of the project as tests and analyses are completed.

The cost of our services will be a lump sum fee of Six Thousand Dollars (\$6,000.00). This fee includes permitting; drill rig mobilization; drilling one boring; logging by a field geologist/engineer; borehole backfilling with concrete; boring log preparation; laboratory testing; engineering analyses, and reporting. Fees for permitting and bonding are not included.

This proposal and fee estimate have been prepared using Geotechnology's standard fee schedule. 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 is acceptable, we understand that Benesch will issue a mutually acceptable agreement authorizing our services.

* * * * *

We appreciate the opportunity to submit this proposal for the referenced project and look forward to hearing from you soon.

Very truly yours,

GEOTECHNOLOGY, LLC

Matt McQuality, P.E.

Office Lead

MHM/SDG:mhm

Enclosures: GBA's Important Information about This Geotechnical Engineering Proposal