



**REQUEST FOR QUALIFICATIONS (RFQ)
FOR
PROFESSIONAL ENGINEERING SERVICES**

Project Name: Beaver City – Flood Control, Flood Mitigation, and Storm Drainage

Related Project(s) - Request for Qualifications

Proposal Due Date: December 21, 2022

Proposal Page Limit: 10 Pages

Introduction/Background:

Beaver City is soliciting statements of qualifications from qualified civil engineering firm(s) for planning, design, and construction management services for flood control, flood mitigation, and storm drainage related projects. In 2021, the City applied for a grant through the Federal Emergency Management Agency (FEMA) Building Resilient Infrastructure and Communities (BRIC) program to complete a Project Scoping Study. The intent of the study is to identify and evaluate the feasibility of projects that would result in a reduction of flood risk with the goal of positioning the City to apply for additional funding for final design and construction. The study will inform Beaver City of general flood risks and develop a long-term strategy on how to mitigate flooding and manage development.

Beaver City seeks Statements of Qualifications for engineering services to help them with the Project Scoping Study and any future flood control and mitigation related work such as additional funding applications, final design, and construction oversight, or NRCS-EWP program work. The City intends to retain the selected engineering firm through these future phases of work but retains the right to release the project through a RFQ process at their discretion. The following details outline the expectations for the initial Project Scoping Study

Study Area:

The project area is the general area of Beaver City. This includes North Creek, South Creek, and other drainages in and around the City, as well as the areas prone to flooding along these drainages.

Budget:

Beaver City has been awarded \$135,000 to complete the Project Scoping Study.

Schedule:

The following schedule is a general outline of expectations based on the assumption that a Notice to Proceed will be issued in January of 2023. The general desire is to complete the study by the end of 2023 to prepare for additional funding applications in 2024.

1. Base Level Engineering (BLE) Model – Complete by May
2. Alternative Formulation and Preliminary Evaluation – June
3. Alternatives Comparison and Detailed Evaluation – September
4. Cost Estimate and Preliminary BCA Analysis - October
5. Final Report, Exhibits, and Documentation – December

Description of Tasks:

1. Preliminary Data Collection – Gather existing survey and GIS data and process for BLE modeling. Identify areas where additional data is necessary and gather additional data in the field. This task will require coordination with the City and UDOT as UDOT has offered to help clean and video key culverts to determine culvert conditions and remaining lifespan.
2. BLE Modeling – A hydrology analysis will be completed on upstream watersheds to estimate flows for the hydraulic flood model. A hydraulic flood model will be developed based on the most recent LiDAR data available. The model will be used to evaluate existing conditions and proposed improvements that would reduce flood risk. This model will be used to assess flood risk and areas where improvements could be made to reduce flooding throughout Beaver City. This includes the area downstream of North and South Creek as well as throughout the city limits.
3. Alternative Formulation and Preliminary Evaluation – Large-scale flood reduction measures will be evaluated that provide global solutions to reducing flood risk will be evaluated. These could include installing new or improving existing debris basins, channel work/cleaning, culverts, bridges, levees, etc. A “do nothing” alternative will also be evaluated for comparison.
4. Alternatives Comparison and Detail Evaluation – Alternatives will be compared based on reduction in flood risk, cost-benefit, and practicality. Preliminary sizing and layout of proposed improvements will be developed. Conceptual cost estimates will be prepared. Project descriptions and exhibits will also be prepared. A decision matrix will be prepared to help weigh and make decisions on preferred alternatives.
5. Cost Estimate and Preliminary Benefit-Cost Analysis (BCA) – A conceptual level cost estimate and BCA will be performed on the preferred alternatives, to confirm feasibility and cost benefits. The BCA will need to conform to FEMA BCA requirements. The hydraulic model will be used to investigate flood reduction benefits and preliminary economic analysis will be performed to compare existing versus proposed scenarios.
6. Final Report, Exhibits, and Documentation – A final report will be prepared to document

the analysis and recommended improvements. GIS mapping will be prepared to show modeling results, proposed alternatives, and other pertinent information. The documentation will be prepared to help position Beaver City to submit a funding application for final design and construction.

Engineering Services Selection Process:

Selection of a contractor to complete the Project Scoping Study and future phases of work as mentioned previously will be in accordance with State of Utah Procurement Code. Beaver City will review and score all Qualification Statements received before the deadline.

1. Describe your experience with the FEMA BRIC and NRCS-EWP funding programs specifically. List projects completed and explain how they relate or are similar to the conditions of Beaver City.
2. Provide a list of projects your company has participated in that include hydrology and hydraulic modeling that would be consistent with FEMA guidelines for BLE modeling. This includes specific experience with HEC-HMS and HEC-RAS modeling utilizing publicly available LiDAR and other data as needed. Describe your approach in applying your experience to benefit this project.
3. Describe your experience with FEMA floodplain mapping in general, including the technical analysis associated with hydrology and hydraulic studies, as well as dealing with compliance issues, and assisting in floodplain management activities at the community level. List relevant projects and discuss how this experience will help with this project.
4. Describe your experience with funding agencies that participate in flood protection studies and projects, including FEMA, NRCS, and others. Discuss possible funding options/scenarios that may be recommended pending the results of the Project Scoping Study. List projects that are similar to Beaver City conditions.
5. Outline your proposed process for evaluating alternatives and making comparisons based on reduction in flood risk, cost-benefit, and practicality. Discuss how you propose to complete a high-level/preliminary screening level Benefit-Cost Analysis. Provide project examples and describe how lessons learned will be applied to Beaver City. Show how you propose approach will meet the needs of the project while staying within the funding restraint.
6. Demonstrate your experience working in Beaver County and Beaver City specifically. List relevant projects and describe how that experience will benefit the current project.
7. Outline your project team and describe their role on the project. Relate previous experience and qualifications discussed in other parts of the proposal to their role on the team.

Project Scoring:

Question/Criteria	Points
FEMA BRIC and NRCS Funding	20
FEMA Hydrology and Hydraulic Analysis	10
FEMA General Experience	10
Funding Agency Experience	10
Project Approach	10
Local Experience	20
Project Team	20
Total	100