

Request for Proposal (RFP)

Development Accommodation: Realignment Study

Project ID: CEEEn-2016CPST-001

1. Introduction (Background Information)

The City of Riverton, Utah has embarked on a project to realign 2500ft of a natural stream to support future development as part of an agreement with landowners. Riverton City, founded in 1865, has experienced a substantial increase in population during the past few decades. As part of this growth, the city has also transitioned from an agricultural community to a more densely populated area with over 40,000 people. For the past decade, the city has worked hard on finding ways to develop its land. Last year, the city council approved a large-scale development that includes the construction of an 85-acre shopping center and the development of residential and commercial areas around it. The church of Jesus Christ of Latter-day Saint (LDS Church) owns the area for this project. As part of an agreement between the LDS Church and Riverton City, the latter has agreed to develop the areas surrounding the future shopping center. One of these areas, also owned by the LDS Church, requires the relocation of a natural stream before development. The stream needs to be accommodated to allow space for new development, and to better resemble the physical characteristics of a natural stream. In the state of Utah, the alteration of any natural stream requires prior written authorization by the state engineer. Additionally, other levels of authorization may be required depending on the type of alteration. Riverton City is requesting an outline of the procedures necessary to proceed with the stream realignment. This outline includes the permitting required by the US Army Corps of Engineers, the state of Utah, and Salt Lake county; as well as an analysis to determine the ideal route and design for the realignment and other construction considerations.

2. Project Description and Scope of Services

Rose Creek is a fairly straight and highly channelized stream. Approximately 2500ft of the stream need to be realigned. This section runs through a farmland property of the LDS Church, and needs to be moved about 400ft south of its current location. It is a fairly straight reach with no vegetation buffer, and tall, erodible banks. Rose Creek is dry most of the year, serving mostly as a natural drain during rains. The realignment of Rose Creek will be used as an opportunity to enhance the overall condition of the stream.

Permitting is one of the main aspects to be covered in this project. The state of Utah requires different levels of authorization to alter a natural stream. The requirements to

obtain authorization vary depending on the type of alteration. The entities responsible of authorizing the realignment of Rose Creek are the US Army Corps of Engineers, The State of Utah, and the Salt Lake County. A detailed outline of the requirements to get authorization from these entities needs to be provided.

A suggested path for the realigned stream based on sound science is also required. The suggested path must include a detailed explanation of the criteria used. A recommended cross-section based on a hydraulic analysis is also expected. Finally, additional features (i.e. trails, spans, riparian vegetation, etc.), design alternatives, and other construction/environmental consideration are also expected on a conceptual level.

The tasks for this project should be divided in the following way.

- Initial research: team members should be familiar with legislation, and stream alteration procedures in the state of Utah, as well as common terminology and techniques in stream alteration.
- Data gathering: This part includes contacting the entities and finding out the individual requirements of each one of them.
- Permitting outline: A report of the steps necessary to obtain authorization from each pertinent entity.
- Conceptual analysis: Determine possible paths and cross sections and discuss with Riverton City, and other interested parties (i.e. Salt Lake County).
- Final analysis: A revised version of the conceptual analysis. Additional information supporting suggested analysis, and numerical design for cross sections will be provided at this point.
- Additional considerations: Provide a report covering best practices and optional features including the economic aspects in terms of implementation and maintenance necessary to keep these features operational.

The permitting outline and the final analysis are key milestones for this project. If necessary, changes in any of the other tasks will be discussed with Riverton City. A kickoff meeting is expected upon contract agreement. The team is expected to present preliminary results before proceeding with the final analysis. A final presentation is also required. Other meetings will be scheduled as needed.

Riverton City will provide available data necessary for the project. A recent topographic survey of the area will be provided, as well as contact information for some of the pertinent entities that Riverton City has already contacted. The team is expected to gather and/or produce any other relevant data (i.e. historical areal photos,

model results, additional surveys). Site visits will be requested to Riverton City as needed.

The final product for this project must meet or exceed the criteria described above.

3. Outcome and Performance Standards

The selected team will represent the BYU Civil & Environmental Engineering Department. As such, students will be expected to interact among their peers and Riverton City in a professional manner and with courtesy and respect at all times.

Teamwork is crucial for the success of this (and any) project. It is vital that team members foster teamwork, mutual respect, patience, and innovative ideas.

4. Deliverables

A final report will be produced with the detailed outline for permitting requirements, a longitudinal and cross-sectional analysis, and other considerations as described on section 1 of this document. Any other intermediate data (e.g. model results, excel tables, surveys) will be provided to Riverton City. There will be no length requirement for the final report other than that it is written and presented in a concise and organized manner.

Additional monthly status reports documenting challenges, solutions & progress will be provided. This monthly report will include the following points.

- Challenges encountered
- Actions taken to overcome challenges (expand on solution)
- Summarize the current status of the project

More detailed monthly reports will be produced for the key milestones of the project.

Finally, a poster reflecting a summary of the project will be produced. This poster is to be presented by the team to Riverton City and other interested parties in one or separated meetings as necessary.

5. Contractual Terms and Conditions

No monetary compensation will be provided for this project. Project results will be evaluated on a “best effort” basis. Team members are to spend 8 hours/week/student with at least 3 hours/week working together. Class time or time spent on class assignments will count toward these hours.

The project team should consist of

- A project manager/mentor: A graduate student who does not perform technical work on the project. He/she guides, facilitates and directs the team toward successful completion of the project by achieving customer objectives, adhering to schedule/time/cost, and promoting team unity.
- A project team lead: An undergraduate student team member who serves as the team's spokesperson and liaison among the team, its project manager, sponsor, faculty advisor and Capstone Committee advisors
- Two project team members/task leads that may be assigned to take lead on certain aspects of the project in addition to the project team lead. All team members, including project team lead, are to assist one another on each member's specific task assignments

6. Payments, Incentives and Penalties

The project manager will be responsible for enforcing the project schedule and grading the team on the capstone part of this project. Riverton City and the capstone committee will also provide input on team evaluation.

- Grading criteria
 - Team work and unity
 - Project proposal
 - Project Management Plan (PMP)
 - Monthly status report
 - Final report, poster, and presentation
 - Customer satisfaction

7. Submittal Requirements for the Proposal

The deadline for the proposal is Monday, October 31, 2016 at 4:00 pm MT. Submit three copies of the proposal in accordance with guidelines & formats specified in the proposal template.

Minimum requirements:

- Cover page
- Letter of submittal / introduction
- Executive summary (one page or less)
- Work plan

- Proposed approach, including innovative ideas, to complete the project
- Weekly project work schedule for individual team members
- Weekly team work/meeting schedule
- Section identifying necessary tools, data, equipment, etc. with brief explanations
- Project schedule including important milestones
- Engineering budget: Estimated hours for each phase/element of the proposed work plan
- Outcome and Performance Standards
- List of outside consultants (faculty, Capstone Committee member etc.) necessary for this project
- Statement of qualifications
 - Background, experience, education and organizational structure of the team
 - Team member assignments
 - Team member collaboration plan: (How will team work together seamlessly)
- Appendices
 - Appendix A: 1 page resume for each team member
 - Appendix B, C, etc. as necessary

The review committee reserves the right to reject any proposal or presentation that is not submitted in a timely fashion or in accordance with instructions and requirements in this RFP.

8. Contacts

Project Manager:

- Michael Souffront - masouffront@gmail.com - (435) 232-8469

Team Members:

- Brad Mason - braadfordd@yahoo.com - (703) 967-9321
- Tavin Griffeth - tavintgriff@yahoo.com - (210) 788-8812
- Kevin Woolf - kpwoolf@gmail.com - (480) 599-7256



9. Proposal Evaluation Criteria

The proposal will be evaluated by the project manager in accordance with the following rubric and with inputs from Riverton City, the capstone committee, and potentially a faculty advisor.

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| Timeliness - 1 pt off per full hour late, up to 5. | 5 |
| Grammar/Spelling - 1 pt off per blatant error, up to 5. | 5 |
| Cover Page - Title, Data, Sponsor, Team Name, Team Members, Department of Civil & Environmental Engineering, Ira A. Fulton College of Engineering and Technology, Brigham Young University - 1 pt per piece of information included. | 6 |
| Cover Letter - brief letter of introduction that 1) states your intent to propose and 2) how you may be contacted. | 6 |
| Executive Summary 3/4 to 1 page that summarizes the contents of your proposal | 12 |
| Team Abilities Summary as a team of 1) relevant courses and experience, 2) abilities to complete the work on time and in a professional manner, 3) including use of specific engineering tools/software. Include résumés. | 12 |
| Key Personnel - 1) Identify which individuals will focus on which pieces of your potential tasks, and 2) some kind of organizational chart or visual describing how you will work together as a team. | 12 |
| Project Understanding - 1) Did they address specific items mentioned in the RFP? 2) Do they repeat basic background in somewhat new terms to <i>demonstrate their understanding</i> of the project? 3) Do they mention key deliverables they may need to provide? 4) Did they articulate a <i>specific</i> approach for developing design alternatives and deliverables? 6 pts max per piece. | 24 |
| Formatting - Does it look professional? Consistent? | 6 |
| Concise vs. Wordy , Meaningful vs. Fluffy, repetitive wording. 6 pts means concise, and accurate, and specific. 1 pt means often confusing, wordy, or vague. | 6 |
| Clear and professional flow of writing and style. 6 pts means that you would feel comfortable handing this in if it were your own; it is easy to read and understand; feels professional; 1 pt means it feels like it was cut-pasted, rushed, and done with little thought; hard to read; feels like a high school essay. | 6 |
| Total | 100 |