Russell Irion
CE En 681

RFP

Introduction/Background Information

Riverton is a growing city on the south end of Salt Lake County. The public works director, Trace Robinson, oversees the city utilities. The citizens in Draper require adequate & safe water and other amenities. Any issues in the public utilities must be planned and engineered to be most beneficial to the community.

Trace and others will be able to provide any information or supplies needed.

Project Description and Scope of Services

The existing water system in Draper has become inadequate for the growing population. Some areas are supplied with open-ended water lines, instead of a closed-loop system. This wasn't an issue when there was such a low demand in those areas. With the population growth, the existing system is inadequate.

Inherent in this open-ended water system is the issue of clearing out sediment and other particulates that may be in the line. Until this point, the city of Draper has simply "blown out" a large volume of the water at the end of these lines to clear out the system. The dirty water then drains through to the sewers. This practice is no longer allowed, and a solution must be implemented that will safely and efficiently remove the particulates and solids from the end of the water system.

Solving this problem may require the use of things such as settling tanks, portable frac-tanks, or simply big filters set in tandem or parallel. Collaboration with the public works director and other experts will be required in order to decide exactly what method will be implemented. Once that has been decided, the city of Draper is requesting that a mini-scale model be built to test the feasibility of said method.

The scope of work includes things such as data retrieval and analysis along with the construction of a mini-scale model and other product testing. It will require a group of people who are able to evaluate financial, environmental and social costs. Proficiency in fluid dynamics, environmental engineering and other engineering will be required. Negative impacts on neighborhoods, such as road-closures and excessive noise must be considered. The result should show a measurable, positive impact on the environment when compared with the status quo.

The data analysis should show that the container/filter that will be implemented could withstand the estimated pressures & volume that it will experience. It should also show the decrease in particulate matter if some sort of settling-tank or filter is used.

A proper solution would include:

1. A plan for gathering necessary data (i.e. current blow-out pressure, suspended solids concentration).
2. Extensive research on possible equipment that will be implemented (i.e. settling tanks, frac-tanks, filters).
3. A plan for modeling the equipment (materials required, estimated cost for materials/fabrication).
4. A report clearly displaying that the chosen solution will meet demands.

The project engineers may be required to measure the data themselves. That would require some sort of site visit up to Draper. It is possible, however that these values have already been measured.

Outcome and Performance Standards

Teams will provide the work "as is" meaning that there is no engineering stamp certifying the work.

Aside: The ability to continue receiving support from outside sponsors is somewhat contingent on the good work you and the undergraduate students do. You represent the BYU Civil & Environmental Engineering Department. The expectation is that you will interact in a professional manner at all times with your mentor and project sponsor, treating them with the utmost respect and consideration of their busy schedules. While successful completion of the design project is fundamental to the outcome of the work, it is expected that you will also learn important team dynamics and leadership principles. This means that in the process of completing the project you are also seeking to help each member of your design team to grow and develop confidence in his/her engineering abilities.

Deliverables

The deliverables are:

A final report with design alternatives for the project that include economic and environmental considerations.

A poster reflecting a summary of your design project.

A presentation summarizing your design project.

All deliverables are due Friday April 1.

During the week of April 4th both a presentation to sponsors and poster session for students, faculty and other interested people will be organized.

Term of Contract

Undergraduate students are to work during winter semester, eight hours/week/student with at least 3 hours working together. Any class time or time spent on class assignments counts towards the eight hours.

Payments, Incentives, and Penalties

Much of the capstone work is graded by graduate student mentors, that include evaluations of the following components:

Team process (how well you work together to accomplish the goals)

Project proposal

Project Management Plan (PMP)

50% complete status report

Final report, poster, and presentation

Overall satisfaction of the client in meeting specific deliverables

Contractual Terms and Conditions

There will be no monetary compensation with respect to the work completed, and all work is completed and delivered on a "best effort" basis.

Aside: Each member of the undergraduate team will be asked to sign a non-disclosure agreement that simply states the work you do belongs to the project sponsor.

Evaluation and Award Process

3 different graduate students will evaluate proposals blindly, and the average of their scores will be the grade you are given on the proposal and used for granting awards where there is competition. They will be evaluating you from the exact rubric listed below.

Russell Irion
CE En 681

Timeliness - 1 pt off per full hour late, up to 5.	5
Grammar/Spelling - 1 pt off per blatant error, up to 10.	10
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.	8
Cover Letter - brief letter of introduction that 1) states your intent to propose and 2) how you may be contact - 4 pts per piece completed.	8
Executive Summary (3/4 to 1 page that summarizes the contents of your proposal) - 7 points for completion, helpfulness - 3 pts max.	10
Team Abilities (Adjust the SOQ to make it relevant to the project) - Summary AS A TEAM of 1) relevant courses and experience, and 3) abilities to complete the work on time and in a professional manner, 4) including use of specific engineering tools/software. Include résumés. 2 pts for including résumés, 6 more points max, 2 per piece completed.	8
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. 5pts max per piece.	10
Project Understanding - 1) Did they address specific items mentioned in the RFP? 2) Do they repeat basic background in somewhat new terms to *demonstrate their understanding* of the project? 3) Do they mention key deliverables they may need to provide? 4) Did they articulate a *specific* approach for developing design alternatives and deliverables? 4 pts max per piece.	16
Formatting - Does it look professional? Consistent? Yes or no, 5 pts each.	10
Concise vs. Wordy, Meaningful vs. Fluffy, repetitive wording. 8 pts means concise, and accurate, and specific. 1 pt means often confusing, wordy, or vague.	8
Clear and professional flow of writing and style. 7 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.	7
Video Interview - Message is clear and consistent with proposal, each member participates, professional but catches your attention. Leniency on video/audio quality will be given with a focus on the content and overall organization.	20
Total	120

Process Schedule

October 21, 4:00 pm - Request for Proposals will be available online: http://cecapstone.groups.et.byu.net/content/winter-2015-projects

October 27, 4:50 pm - Question and Answer period with respect to the proposal and submission procedures. The period where you can register your intent to propose on a project will begin. Each team will need to identify the primary target of their proposal and three other alternatives (no proposal necessary). Public knowledge of an intent to propose should help distribute proposals more evenly.

*November 17, 4:00 pm - Three copies of the proposal must be submitted at the beginning of class. Team video interviews should be made available online or on disc and referenced in the proposal.

December 1 - Award notification.

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

Contacts

Include a complete list of persons with name, title, responsibilities, and the different ways to contact them for information on the RFP itself, or any question.

For this class under this heading your (graduate student) information

Russell Irion – Graduate Mentor

Contact with any issues regarding your project

E-mail: rti1989@gmail.com Phone: (801) 879-7888

Submittal Requirements for the proposal

Turn in three copies of the proposal that should include

Cover letter

Russell Irion
CE En 681

Executive summary, 1 page or less (by itself)

Work plan that outlines the approach to solving the problem, how the team will work together (including weekly work schedule that shows the hours each team member will work and the time block the team will be together, this is a necessary requirement).

Necessary tools, data, equipment, etc. A couple of paragraphs or a bullet list with one sentence explanation for each item.

Schedule indicating important milestones.

Engineering Design Budget. This is an estimate of the design phase cost.

Outcome and Performance Standards. Teams will provide the work "as is" meaning that there is no engineering stamp certifying the work.

Statement of qualifications that outlines the background, experience, education, and organizational structure of the team. Include some discussion of how you plan to become a "high functioning" team in the course of completing the project.

Outside consultants (professors or others) that are necessary to “make this work.”

Appendices:

Appendix A: 1 page resume for each member of the team

Appendix B: (if necessary)