

Request for Proposal (RFP)

City of Lindon Culinary Tank Analysis

Project ID: CEEEn-2016CPST-006

1. Introduction (Background Information)

- City of Lindon Culinary Tank Analysis
- Sponsor: J-U-B Engineers Inc.
 - J-U-B Engineers Inc. is a civil engineering firm that specializes in transportation, water resources, site development, and special services. Lindon City does not employ a full-time engineer, and often contracts with J-U-B to manage the water resources within the city. J-U-B can provide a variety of planning and design with respect to: water mains, treatment systems, pump stations, spring systems, wells, and pressure zones.
- The City of Lindon currently operates four culinary tanks and four wells in various pressure zones. The purpose of this project is to evaluate alternatives to increase the storage capacity in the Lindon Culinary Water System by 1,000,000 gallons, whether by replacing an existing tank with a larger one, or by constructing a tank at a new site.

2. Project Description and Scope of Services

- Evaluate alternatives for adding 1,000,000 gallons of storage capacity to the city's culinary water system
 - Replace an existing 500,000 gallon tank with a 1,500,000 gallon tank
 - Add an additional tank with a capacity of 1,000,000 gallons
 - New tank will require the following:
 - An elevation to provide correct pressure in town
 - A dedicated line to its service area
 - Possible modification to current pressure zone boundaries
- Description of requirements
 - General & specific requirements to complete the project
 - Technical: Codes & Component sizing
 - Resulting constraints:
 - Maximum static pressure of about 130 psi
 - Minimum static pressure of 50 psi
 - Meet established Lindon City Level of Service Criteria

- Preserve operational building fire suppression system operation in buildings at the top of a changed pressure zone boundary
 - Water model of the area needs to be created
 - Increase flow into tanks (add another well or resize an existing well)
 - Elevation and contour map to determine suitable locations for tanks
 - Pumping requirements for determined tank location
 - Utah State regulations
 - Ability to meet storage demands during construction with existing 500,000 gallon tank out of service
- Non-technical:
 - Economics
 - Environmental impact
- Tasks & expectations
 - Complete the following tasks:
 - Elevation and contour map
 - Evaluate alternatives using provided water model
 - Determine required flow into tanks
 - Opinion of probable costs of alternatives
 - Identify and evaluate alternatives, including the following considerations:
 - Availability of land at tank location
 - Impacts of location on pressure boundaries
 - Piping needs from tank to service area
 - City intends to install a new well in the next 10-20 years. Does this impact where the tank or well should/will be installed?
 - Dimensions of tank
 - Impacts on existing building fire suppression system functionality
 - Changes in pressure at specific locations that would result
 - Operational benefits (i.e. reduced power costs, reduction in number of PRVs, storage redundancy, matching storage capacity with service area demands, means of supplying water to tank)
 - Costs
 - Environmental impacts
 - Prepare and provide monthly status reports

- Prepare materials for discussion of preliminary evaluation and meet with J-U-B for feedback
- Prepare materials for critical review when evaluation is complete and meet with J-U-B for feedback
- Recommend an alternative, with reasoning for recommendation
- Prepare written report, presentation and poster
- Key milestones
 - Completion of project: April 10, 2017
 - Presentation and deliverables to J-U-B by April 10, 2017
 - Presentation to Capstone Committee by April 10, 2017
- Expected meetings & presentations
 - Kick-off meeting: October 5, 2016 (completed)
 - Final presentation, interim presentation (as necessary)
 - Preliminary evaluation review at completion of initial evaluation or plan of attack (POA)
 - Critical review when initial evaluation or POA is “frozen” with no more changes
 - Final review at point of completion of POA and project tasks
 - Other presentations and meetings as requested by Sponsor
- J-U-B Engineers Inc. will provide data not publicly available for the completion of the project
 - Team will request data in meetings or email
- Site visits as required by Sponsor
- Final product (including deliverables) must meet or exceed expectations listed above

3. Outcome and Performance Standards

- Student team will include the following statement in this section of the proposal
 - Our student team will provide the work for this Capstone project “as is”. Our results cannot be construed as work provided by licensed professionals and cannot be used as “stamped deliverables” without first being reviewed, approved and stamped by a qualified license professional engineer.
- Student teams represent the BYU Civil & Environmental Engineering Department
 - Capstone students are expected to interact among their peers and customers/sponsors in a professional manner and with courtesy and respect

at all times. Support for future Capstone projects can be affected by our actions

- Team work is crucial for the success of current Capstone project as well as all future projects in the field as a professional. It is vital that each team foster team work, mutual respect, patience, and innovative ideas
- Monthly status reports are highly visible as they will be bundled and sent to all sponsors, Capstone committee members, faculty and potential employers who are interested in receiving Capstone status reports.
 - Team diligence, dynamics and challenge resolutions can be a noticeable positive addition to future employers – more so than resume alone. Taking ownership of the project ensures success.
- Best effort is to be put forth at all times

4. Deliverables

- Deliverable specifications
 - Status reports
 - Length requirements: One page
 - Frequency: Monthly
 - Formats: Word documents
 - Answer 4 questions:
 - What challenges have your team encountered in your Capstone project?
 - What actions did your team decided to do to overcome these challenges?
 - Any progress in overcoming these challenges?
 - Summarize the current status of your Capstone Project
 - Did challenges negatively impact the progress of your project?
 - Presentation for Capstone Class
 - Length requirements: Ten minutes
 - Formats: Powerpoint
 - A poster reflecting a summary of your project to be presented
 - A final report with design alternatives for the project that include economic and environmental considerations
 - No length requirement
 - Format: Word document or PDF
 - A presentation summarizing your project to be presented to your sponsor

- Before the end of winter semester both a presentation to sponsors and poster session for students, faculty and other interested people will be organized.
- All deliverables are tentatively due Monday April 10th.

5. Contractual Terms and Conditions

- Contract type: Non-monetary compensation with all project work on a “best effort” basis
- Term: 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 counts toward these hours
- Each project team consists 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 who 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
 - One can take lead on analysis or data gathering, another on design/drawings, data interpretations etc.
- Customer/sponsor may require team members to sign a [non-disclosure agreement](#) that simply states the work you do belongs to the project sponsor

6. Payments, Incentives and Penalties

- Grades will be determined based on the quality and timeliness of deliverables
- Project work to be graded by graduate student mentors/project managers with potential additional inputs from sponsors, Capstone Committee members and faculty advisors
- Grading criteria

- Team work and unity
- Project proposal
- Project Management Plan (PMP)
- Monthly status report
- Final report, poster, and presentation
- Customer satisfaction in satisfying project objectives and required deliverables

7. Submittal Requirements for the Proposal

- RFP availability: Monday October 24, 2016
- Proposal deadline: Monday, November 7, 2016 at 4:00 pm MDT
 - Three copies of proposals in accordance with guidelines & formats specified in the proposal template to be available by Monday 10/17/2016
- Minimum requirements for the proposal (each section must start on a new page. Details and formats will be provided in the standardize proposal template)
 - 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
- 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 Mentor Contact Information:
 - McKell Sanderson, Environmental Manager, BYU
 - Email: mckell_sanderson@byu.edu
 - Phone: 801-422-6452
 - Cell: 801-310-1037
- Sponsor Contact Information:
 - Mark L. Christensen, P.E. J-U-B Engineers Inc.
 - Email: mlc@J-U-B.com
 - Phone: 801-226-0393
 - Cell: 801-319-0730
 - Michael Clark, P.E. GISP, J-U-B Engineers Inc.
 - Email: mclark@J-U-B.com

9. Proposal Evaluation Criteria

- Proposal will be evaluated by graduate student mentor/project manager in accordance with the following rubric, with inputs from project sponsor, Capstone Committee member and potentially faculty advisor.

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