

Wallsburg Church Camp, Utah

Statement of Purpose

Wallsburg Church Camp is owned by The Church of Jesus Christ of Latter Day Saints (LDS Church) and is located near Wallsburg, Utah. There is a need for a new water storage tank to be designed and fitted for the camp. A component of the design process will include the design of a new pump to be used in conjunction with an existing well. The pumped water will be transported to the new tank through a pipe network. The pipe network will be part of the new pump design. In conclusion, the objective of the project is to design the necessary components in order to supply a new water storage tank with water from an existing well.

Background Information

The Church of Jesus Christ of Latter Day Saints is an organization comprised of over 14 million members worldwide. The LDS Church owns many facilities ranging from chapels to campgrounds. The Wallsburg Camp water storage tank project is headed up by the Water Resources Division of the LDS Church. The Water Resources Division has in-house professional engineers and water resources specialists. This is one of many projects relating to water resources that the division is currently working on.

Scope of Work

The camp at Wallsburg is used for various types of church sponsored activities. A constant water supply is essential for the activities of the camp. For example, the water supply is used in cooking, cleaning, showering and for the restrooms. With large numbers of people at these activities, the well is not capable of providing continuous volume to meet the demands of the camp. A new water storage tank would be of great benefit to the camp by supplying the needed increase of volume of water to meet these demands. It would allow for a large volume of water to be stored, ready for when there is a rise in the demand.

The camp has been surveyed by professional surveyors and their data will be available for the selected team. This data will consist of elevations and coordinates of the camps facilities including the existing structures and the well. This data will be useful in the site selection process for the new water tank and pipe system.

With the provided survey data, the team will estimate the capacity that the new storage tank will need to be in order to meet the future demands of the camp. Part of this process will be to examine various types of tanks that are available and select the optimum tank for the location. The team will then need to select a location for the tank to be installed. It is noted that the tank must be able to supply the facility with water under gravitation flow only. Other than the pump located inside the well, no additional pumps should be included in the design. Also the water tank must be within close proximity to the camp to facilitate maintenance.

Using the selected location as a reference, the team will be responsible for the design of the pump and piping system. Upon selection, the winning team will be provided with the capacities of the well. The final design will consist of a selected pump and configuration of the pipe network. The system should provide an optimum inflow for the water tank.

The aforementioned design parameters are all technical in nature. Non-technical design parameters should also be considered. Some of these include but are not limited to: environmental impacts, aesthetics of the water storage tank and pipeline, economics, and maintainability. The final report should address these parameters and explain in detail how the final design satisfies each of them.

Significant aspects of the project or milestones will be used to assist the team as it progresses towards a final solution. When the team completes each of the milestones, a progress report must be completed describing the progress in the design. These progress reports will inform the project director on the status of the project and allow him to give feedback during the early stages in the design. The critical milestones have been determined to be:

- Site selection of the new water storage tank
- Design of water storage tank
- Pump and pipe system configuration

Requirements for Proposal Preparation

Turn in three copies of the proposal that should include:

- Cover letter
- 1 page or less executive summary
- Statement of Qualifications

No more than 2 pages statement of qualifications that outlines the background, experience, education, and organizational structure of the team. This section should include some discussion of how you plan to become a "high functioning" team in the course of completing the project. Any outside consultants (professors or others) that will help should also be included.

- Work Plan

No more than 2 pages work plan that outlines their approach to solving the problem, how their team will work together (including weekly work schedule that shows the hours each will work and the time block the team will be together).

- Tools Needed

No more than 1 page (probably just a few lines) indicating necessary tools, data, equipment.

- Schedule

No more than 1 page schedule indicating important milestones.

- Budget

No more than 1 page Engineering Design Budget that would be primarily their time and effort.

- Resumes

In the appendix include a 1 page resume for each member of the team

Outcome and Performance Standards

You will provide this work "as is" meaning that there is no engineering stamp certifying the work. However, our ability to continue receiving help from outside sponsors will be contingent on the good work that you do. You represent the BYU Civil & Environmental Engineering Department and it is expected 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 team grow and develop confidence in his/her engineering abilities.

Deliverables

- 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 will be 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

Winter semester, six hours/week/student with at least 3 hours working together, project deadline.

Payments, Incentives, and Penalties

For your effort on the performance of this project you will receive a grade that is awarded according to the following breakdown:

- 10% Time Card (putting in the requisite time)
- 10% Project Notebook (demonstrating productivity in the hours spent)
- 20% Milestones met (each project will outline the expectations for milestones)
- 35% Final report
- 10% Poster/Presentation
- 10% Teamwork Portfolio and Peer evaluation
- 5% Cooperation

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.

Each member of your 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

Your team's proposal will be evaluated by a panel of three graduate students.

- Firm Resources/Ability/Experience- 20
- Key Project Personnel -20
- Work Plan and Understanding of the Project -40
- Technical Proposal and Presentation -20

Process Schedule

October 31 4:00 pm - Request for Proposals will be available online at <http://cecapstone.groups.et.byu.net/Winter2012.htm>

November 7 4:50 pm - Question and Answer period with respect to the proposal and submission procedures.

*November 21 4:00 pm - Three copies of the proposal must be submitted at the beginning of class

*November 21 4:00-5:30 pm - 5 minute interview (presentation) by your team of the proposal

November 30 - 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

- Roy McDaniel --- Roy is the point of contact for the LDS Church. He is an engineer assigned to oversee this project.

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- J. James Peterson - - - James is a Civil Engineering graduate student at Brigham Young University. He is available to assist the team in any logistics and coordination with the project sponsor.

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Brigham Young University – Civil Engineering

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