

Student Experimental Farm Project and Activities Proposal Form

This document serves as a proposal for those who wish to do activities at the student experimental farm, and seeks to clarify proposed activity details. Before implementation can take place, projects must be approved, first, by identified SEF Faculty Facilitator (presently Dr. Pete Schwartz), and then by HCS Department Head (presently Dr. Scott Steinmaus), and Cal Poly Environmental Health and Safety.

SEF Mission Statement

Bringing the "old organic farm" back to life, we envision an interdisciplinary learning community dedicated to teaching, learning, practicing sustainability.

Project Title: >> Aquaponics Solar Ice Maker <<

Statement of Project: >>To combine the use of natural ventilation with an aquaponics pond to cool solar panels on a facility in order to produce ice. The facility will include a fish pond, about 5' x 7' and 4' deep.<<

Project Type: Please put an "X" in all appropriate boxes

Senior Project Class Project Independent Project Event Other (specify)

List name of advisors with contact information: >> Greg Schwartz, BRAE, gschwa01@calpoly.edu ; Sandy Stannard , ARCH, stannard@calpoly.edu; Pete Schwartz, PHYS, pschwart@calpoly.edu; Nathan Heston, PHYS, nheston@calpoly.edu.

List Participants with Cal Poly affiliation (i.e., student, staff, none): >> Miranda Mills,

Project Location

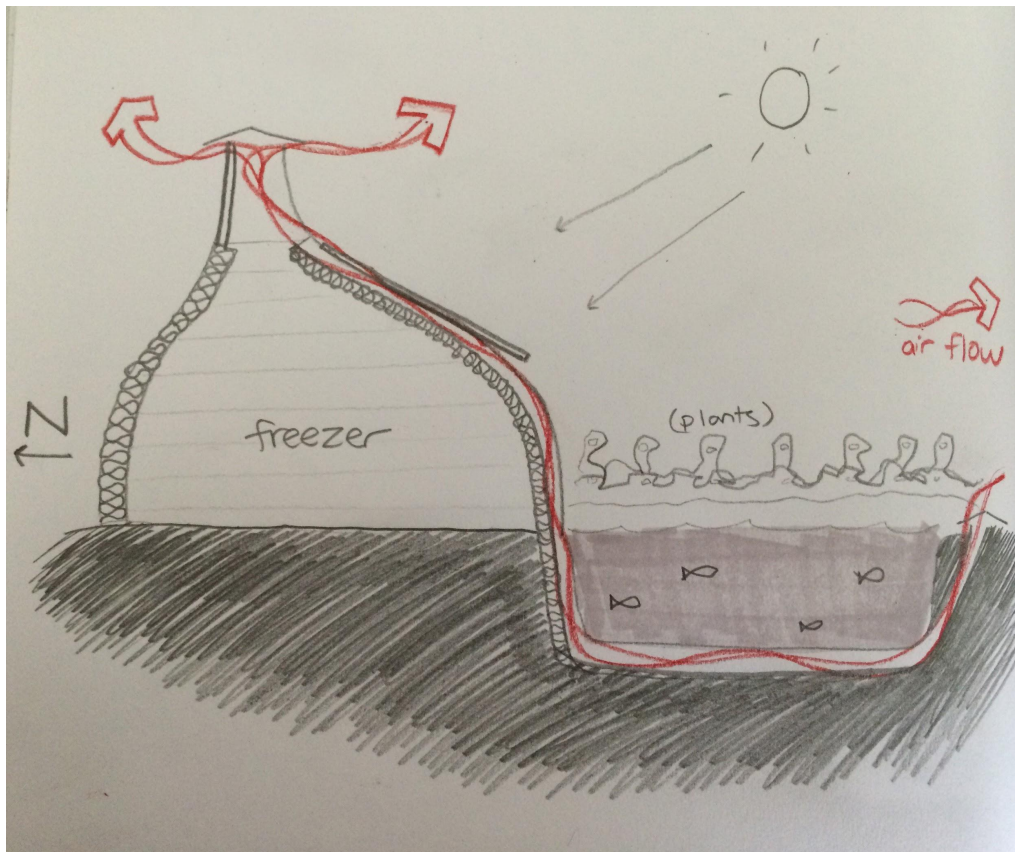
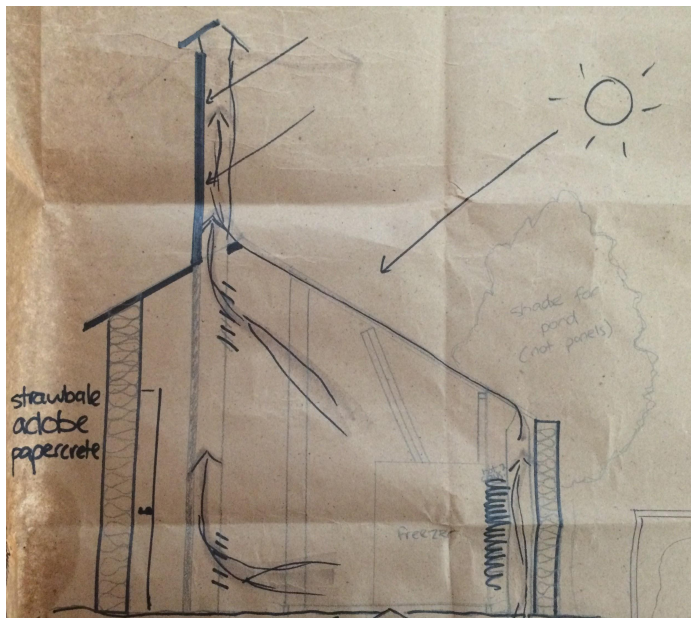
On the map below, please find a red circle that you can change in size and location. Please adjust this circle so that it fully describes the areas you will plan to use. If you require more than one location, please make multiple copies of the circle.



Please specify location details: >>North of the agroecology garden, in front of the eucalyptus trees that back the mushroom beds. <<

Deliverables

What is the project or activity meant to achieve, create, or deliver? >> Building an aquaponics pond with an accompanying row garden, an enclosed solar powered ice-producing facility, and a natural ventilation system that will connect the two.<<



below are two conceptual iterations: the first is just a schematic concept of the facility, the second is a concept of a dome-like structural concept behind the aquaponics pond.

Project Details and Logistics

Please list all reasonably possible activities that will take place and refer to the Cal Poly Risk Management website and the guidelines listed in the Program Development Document to determine whether training, precautions, or supervision is required for any activities listed.

>> Digging, water maintenance, gardening, foundation layout and pouring, materials testing, small-scale construction. For the body of water, fencing or blockades will be provided to prevent accidental injury.

Potential Hazards

Describe anything you can foresee that might threaten safety or property and what might be done to mitigate risk. >> Using power tools in the construction process. Having an open 4` deep hole in the ground. We will start each workday with a safety discussion. We will have signs and barriers to prevent someone from inadvertently stepping into the hole.<<

Timing and Permanence

Over what period of time will the project or activity take place? *Projects are limited to two years. If your project extends beyond this time period, you can extend it with another application.*

Starting date: >> 09/16<<

Ending Date: >> 09/17 <<

Can project be easily disassembled? If so, how and when will it be disassembled? What condition will the project be left in when project is finished? *No project can use cement, concrete, or plaster without specific request and permission.* >> The project will not be easy to disassemble, but it can be disassembled. There will likely be some concrete to secure supports because this facility needs to be an appropriate prototype for Engineers Without Borders. However, this will be small enough to remove and break down or reuse elsewhere. <<

Funding

How is this project going to be funded? How is the work and cost of the project going to be supported? Please list funding sources and chances of success from each source.

>> Costs are small. We have funding from Engineers without Borders and The Research Scholarly Creative Activities grant from the California State University <<

Strategic Context

How does the project relate to SEF's and Cal Poly's missions?

>> The project combines the theories of modern sustainable construction with aquaponics applications in an interdisciplinary way seen nowhere else on the farm. We hope to learn about sustainable integration of aquaponics into an ice-producing facility, and theorize about the potential other applications of what we learn by building. Additionally, the enclosure of the roots of plants will reduce water lost into the ground, a subject presently of great importance in California, and many other places.<<

Contract

By signing below, I >> Miranda Mills << hereby request consideration, acceptance, and approval of the above project/activity proposal. I am committed to complete the project/activity as outlined in the Guidelines for Projects and Activities of the SEF Development Document. I understand that if activity is not completed by end time as specified in this document I will need to resubmit this proposal. It is further understood that a revised activity project proposal may be necessary before approval.

>> _____ <<

Signature

This project is approved for implementation upon approval, first by identified SEF Faculty Facilitator and then by HCS Department Head, (presently Pete Schwartz and Scott Steinmaus respectively) and then Cal Poly Risk Management

By signing below, I hereby approve this project for implementation.

Pete Schwartz, SEF Faculty Facilitator

Scott Steinmaus, HCS Department Head

Cal Poly Risk Management Representative