OFFICE OF SUSTAINABILITY
CAMPUS SUSTAINABILITY FUND

Epsilon Eta Eco Garden - Progress Report

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Project Manager Name
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Requested Metrics

Student Volunteers
86

Volunteer Events (3hrs each)
1) Earthworks Workday(02/28)
Digging basins and building berms

2) Rock Planting Workday (03/28)
Building rock overflows and finishing basins

3) Planting Workday (04/04)
Putting in trees and planting shrubs

4) Rock Mulching Workday(05/02)
Spreading pea gravel and placing decorative boulders

54 Native bushes and shrubs from Spadefoot Nursery
5 Trees

20 commissioned hours with TCB

Project Accomplishments

Our goal with this project was to create a fully rainwater dependent garden to bring more native plants and wildlife to campus. Utilizing the runoff water from surrounding buildings, we hoped to channel the water down our garden and help it infiltrate the soil. We were able to successfully accomplish this goal after 4 volunteer workdays, and lots of help from Tucson Clean and Beautiful and Facilities Management. Our garden put over 50 new native plants in, including 5 new trees which hopefully attract pollinators and other wildlife. Currently, the plants are on irrigation lines, but the hope is to shut those lines off once the plants are well established. We hope the garden will make the space more inviting for students and be an example for how rainwater harvesting can both be more sustainable and beautiful than normal landscaping.

There were a lot of things that went into building the garden, including curb cuts on the sidewalk,

pipe instillation in those cuts to let water flow through, building basins out of rock, building a special zuni bowl for slowing down water runoff, adding irrigation lines to the plants and sediment traps for overflow, and adding pea gravel to reduce runoff and dust. Collaborating with Tucson Clean and Beautiful took a lot of the design strain off the project, and it was a great starting point for visualizing how we wanted our basins to look. Making sure we understood and analyzed how the water flowed was super important to our design and was the primary focus when building our basins. The impact is hopefully a slowed flow of water through the space that can allow water to sink into the ground and infiltrate back into the groundwater supply. From this, plants will flourish and the space will become a spot for people to hangout and learn more about rainwater harvesting.

Next Steps

Fortunately, the garden is designed to not need a whole lot of maintenance so there aren't a lot of follow up steps for this project.
Because we were able to install irrigation to each plant, there is no need to manually water any of the plants. They run on a timer for the orange trees at the end of the plot, and because they are native species, this is plenty to keep them healthy.
We also put in pea gravel and mulch, which should suppress any weeds while still allowing water to infiltrate. Occasionally Epsilon Eta may go back to re-rake the rocks and make sure the berms are still in good shape after monsoon season, but we aren't expecting any routine maintenance for the garden.
After the summer, we are expecting to have to replace some plants that maybe didn’t pull through the heat. The money from the college of engineering will go towards replenishing the plants that may have died. It will also go towards the signage we wanted to install. Specifically, we want a sign that links to the Epsilon Eta website that can give more information about the plants, the significance of them, and the significance of the rainwater garden. We could use this platform to educate students on rainwater harvesting and the importance of green infrastructure. Another sign giving a blurb on the grant or on green infrastructure would also be good to include.
Lastly, adding some painted rocks, or bird feeders to this area would help increase engagement with the space. This would be done through Epsilon Eta next semester.

Challenges Faced

If we were to redo this project, I think it would be important for us to take more time in the design stage to layout a timeline for what we wanted things to look like. We ran out of time on a couple of projects so figuring out our resources through the university and other grants from the getgo would be helpful. Also, once you get in touch with those groups, it’s important to follow up and give deadlines so you can keep things moving.
Another thing we learned from collaborating with TCB and other groups on this was that it's important to set a clear goal and expectation of roles because having too many "cooks in the kitchen" can cause delays on a project.
For volunteers, we learned how important it is to let them know why they are doing what they are doing. When people understood why the rocks were oriented a certain way it was a lot easier to collaborate and build it correctly the first time through. I think having flyers and social media connections is also super helpful for getting numbers. Also bagels.
Lastly, lots of our plants also shriveled so I think budgeting for larger ones- especially on campus- would be helpful.

Media/Links

Recommendations

Expanding the plot north by taking out the underground pipe and turning it into more basins. The runoff from the road and computer engineering building would be harvested and could even flow into the current garden through the curb cut. There is also runoff water from the Fab Lab in Computer Engineering that could be channeled or piped to this area, further irrigating the plants.