

USU Moab's Rain Gardens

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As the season turns, the landscape changes around us. In Moab, plants and animals prepare for winter's onset, moving into dormancy or shifting their routines to suit new conditions. A season's patterns emerge: the brown-gray winter coats of deer; the clear, snowmelt flow of a creek; the blankets of frost on fallow fields before first sun. With the leaves nearly all fallen from their branches, the cottonwoods are seen as from a new perspective: not for their summer fruit or autumnal foliage, but for the twisting forms they have taken over another year reaching for the sun.

Though we may sit and stare from the same vantage point as summer, we see as from a new angle. This is the privilege of perspective: we are granted a fuller image of our familiar, everyday world. If the first three seasons of the year are defined by perpetual change and motion, then winter is a time for perspective in observation. And observation is the key to design.

Looking out a window at USU Moab, a new and special garden – the work of a community – gleams the short arm of light afforded by the late November sun. Each detail – from the young fruit trees to the curving, rock-lined swale – brings to mind an aspect of the design process as it developed and unfolded over the course of a year. What differentiates USU Moab's Rain Gardens from so much of the landscaping we see around us is not merely the aesthetics of the space itself nor how precisely it is designed to function with the local ecology, but how the design process was conceived and carried out. Throughout its inception and implementation, the rain gardens have been a community-designed project.

Observation was integral to the process. In our case, it was the shared observation of an invested community.



This is the heart of our design, and it shares its essence with the science of permaculture. Also known as ecological design, permaculture is a multidisciplinary process for designing systems which states that, in nature, nothing serves a single function. Therefore, the systems we design, in all of their aspects, ought to serve multiple, useful functions, interacting and exchanging resources across material and conceptual borders and edges throughout.

With an informed look, each element in USU Moab's Rain Gardens is nuanced, interconnected and clear:

- The long, sloping swale – or depression – lined with river cobble curving through the garden is designed to slow, capture and infiltrate water from the roofs of nearby buildings. Working both with the natural ecology of the drylands environment as well as the human ecology of urban infrastructure, downspouts feed roof runoff into the swale designed to function like a creek or wash, transporting water via a meandering course through an oft-neglected leg of the water cycle feeding thriving plants along the way, all while addressing issues of erosion, stormwater pollution and aquifer restoration;
- All of the materials used – sourced locally – are engaged in a recycling process. For example, the mulched wood of invasive Russian Olive trees holds moisture in the soil while itself breaking down into a hearty tilth. As well, the composting manures of local mules provide nutrients for young plant growth. Soils are amended, increasing the health of life in the soil while minimizing hidden fossil fuel inputs and energy expenditures;
- The plants themselves – trees, shrubs and herbaceous species, most of which were grown from locally harvested seed – are planted in patterns which mimic the canopies of forest ecologies, creating microclimates to support and invite unique air, surface and soil life while serving functions which support one another, including: nutrient accumulation, nitrogen fixation, and shade provision. In addition, the plants themselves were chosen for their suitability to our unique climate, for their

ability to amend soils, provide food and habitat for pollinators, as well as food and education for people.

Maybe most important of all is that the design for the garden, as well as its installation, was determined in part through community participation in a series of public workshops. This is where permaculture design transcends the garden to enter into social dynamics. Many of the ideas proposed in these workshops have become realities in the garden. The perspectives offered up – both from minds new to permaculture as well as from practiced gardeners and landscape designers – have proven an invaluable resource. Through these workshops, we were able to stack the functions of teaching, learning and designing – all before a single plant went into the ground!

This presses the point: permaculture design is about more than growing gardens. It is about growing people and communities through an increased interaction with and knowledge of local ecology. In other words, it is about teaching people to teach themselves how the world works around them. In doing so, we build the foundation for shared education and understanding which seeks to work with - not against, nor in neglect of - our environment.



As USU Moab's Rain Gardens grow up – as the intention of design and function become more apparent with age - they will serve as an educational learning space for students and the community, focusing not only on the benefits of practicing water-wise habits, growing food sustainably, and supporting local pollinator populations, but as well on the social dynamics of thoughtful design and the positive, community-wide effects this affords. The hope with our garden is to encourage others, through education as a community resource, to 'bee inspired' to pursue their own projects with an ecological mindset ; whether they are growing gardens, managing urban drylands infrastructure, working with sustainable building, providing childrens' education – anything.

Through education, we can establish the corridors and links which encourage positive exchange, be it a garden built into its local ecology, or a teacher in front of a class of her students. A strong education will spread, settle and

sprout like windblown seeds across a healthy landscape. This is the landscape I see through the window.

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