Harvest the rain with a garden

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Nate Downey/For The New Mexican | **0 comments**

At the top of a precipitous driveway in a pristine native landscape, a sharp-roofed house pops up proudly behind a splash of Russian sage. With genuine smiles still concealing trepidation, my new clients lead me through the living room, past a large dinner table, and out some glass doors to the edge of a vast crater. “What would you do with that?” they asked, pointing to a hole the size and shape of an overturned school bus.

The current owners' headache started when the previous ones built a plastic-lined pond on their high-desert land. In the floor of a steep-walled arroyo just outside the back door, they dug, and they dug deep. Relatively clean roofwater from the house and garage had been piped down to the same lagoon, but the majority of its water was scheduled to arrive via two culverts.

The culverts are responsible for dumping a sizable quantity of muddy runoff from a large and steep section of the Santa Fe National Forest. A pump and filtration system had been designed, installed, and carefully hidden behind stone walls, but the systems seemed to have been abandoned for some time because, generally speaking, you can't make a pond out of mud.

My big fear, though, was that the walls of the man-made section of the hole looked as if they might be seriously undermined with one significant precipitation event. As I continued to absorb the situation, I realized my client's question was still lingering. "Ever heard of a rain garden?" I replied.

In a rain garden, runoff is harvested in the nearby soil at the root zones of plant material. Unlike the water that is often stored in low-elevation ponds and underground cisterns, pumps are never needed for a rain garden. Instead, you let gravity work to your advantage.

As always, we started as high up as possible in the contributing watershed, which included three short sections of arroyos that all hit the property line at the national forest. Using native seed and one-rock dams, we did what we could to prevent sediment from getting to the culverts.

Underneath the outflow point of the culverts, we dissipated stormwater in a large hole filled with rocks, rubble, and a deeply buried section of porous rock. Scoria, pumice, and other materials can be used in this step. I like a product called Growstone, which is made in Albuquerque using recycled glass. When runoff

seeps out of this dissipater, it connects with a layer of deep, fluffy, imported soil. The soil is retained by a large check-dam 40 feet from the culvert outlets. Bellow this main, terrace-creating structure, we installed several more check dams to stabilize the arroyo downstream.

In large rain events, water fills the dissipater and overflows into a meandering, rock-lined dry-creek bed. This bed harvests runoff and ultimately flows out via the spillway on the main check-dam. The roofwater is also harvested in a porous-stone wick that loosely parallels the dry creek bed. Finally, swaths of native plants and trees weave through the site.

Fortunately, the new owners understood having a mud pond was a bad idea and owning an ugly and dangerous hole was an arguably worse one. Creating a magical oasis made perfect sense, though, and so it happened.

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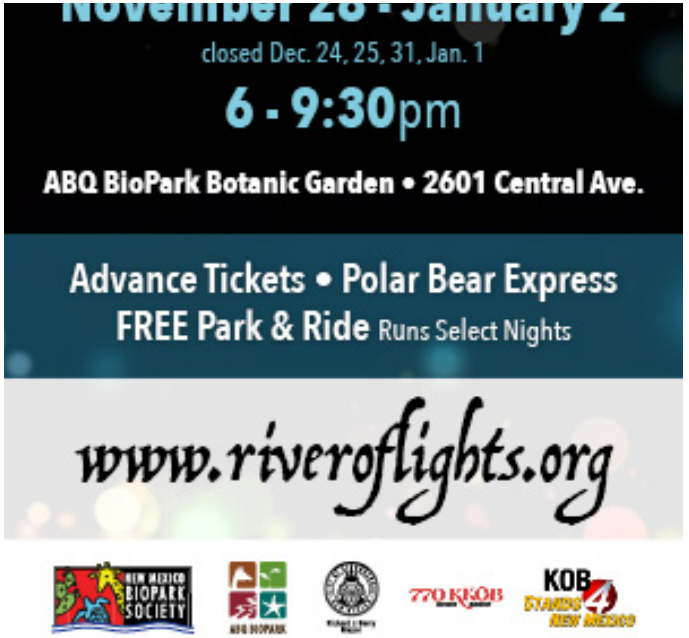

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