

# Permaculture in Practice

## *Roof-Reliant Landscaping:*

***Roof-Reliant Landscaping: Rainwater Harvesting with Cisterns in New Mexico***, the first of my two water-oriented books, is now available for free at the Web site of the New Mexico Office of the State Engineer ([www.ose.state.nm.us](http://www.ose.state.nm.us)) and at my new Web site ([www.harvesttherain.com](http://www.harvesttherain.com)). Designed both for homeowners and building-industry professionals, the manual can be pithily described as “cisterns meet xeriscapes.”

Tagged as the book’s “principal author,” I should say that I was only a cog in a team effort led by chief John Longworth at the OSE’s Water-Use and Conservation Bureau. Longworth insisted we focus on the creation of landscapes that only use water from the cistern system, independent of supplemental water from an auxiliary system, such as a utility company or well. “The last thing we want is people thinking that their cistern system provides a license to plant water-needy landscapes,” he told me at the outset of the project, “and one of the first things we *do* want is for people to understand that efficient rooftop water-harvesting systems require pretty significant commitments of money and time.”

In order to accomplish this, we needed sections on appropriate landscape design, careful cost estimating, conservative water budgeting, and step-by-step information about the collection, conveyance, storage, and safe and efficient redistribution of precipitation. I think we succeeded. Please feel free to let me know what you think.

One of the blessings and drawbacks of a government-written book is that you can’t promote any one company or product. Rightfully, public information is best kept out of debates surrounding competing technology. Fortunately, this column has fewer rules.

For over a decade, the Grundfos MQ3-45 has been the most-favored pump for cistern systems that distribute water via drip irrigation. Known in common circles simply as “the MQ,” it’s got a patented pressure tank built right into it, eliminating the need for a separate pressure tank. MQs cost a couple of hundred dollars more than the mass-produced, single-horsepower pumps found locally, but you avoid the extra labor of installing a small pressure tank.



“The biggest problem I come across with these pumps is that the intake pipe from the tank to the pump inlet will have a slight downward slope somewhere in the piping. This causes an airlock,” cautions professional pump-master Loren Allen of Allen Environmental, a wastewater-treatment and rainwater-collection company based in Santa Fe. “The intake piping must be horizontal, or on a constant upward slope. Many times, when a pump is new, it will be able to produce enough suction to overcome this airlock, but after about a year it can no longer pull enough suction and ends up ruining the shaft seals.”

With deep concern, Allen continued as his deep voice reverberated over a cup of hot coffee one late-winter morning: “Generally the contractor installs the pump, starts it up, and walks away. The next year, when it’s not functioning properly, it ends up being the homeowner’s responsibility to have it replaced.”

Stay tuned for more on pumps in a future column.

BTW, in addition to getting *Roof-Reliant Landscaping* at my new site, you can also sign up for my more fun and far-reaching book, *Harvest the Rain*, which I’m told is turning out splendidly. If you’re into just the free stuff these days, please look for my new blog by cherry season at the farmers’ market.

*.Nate Downey (424-4444, [www.santafepermaculture.com](http://www.santafepermaculture.com)) is president of Santa Fe Permaculture, a locally owned landscape-design firm. His first book, Harvest the Rain, is scheduled to be published this year by Sunstone Press.*