



P.O. Box 44205
Tucson, AZ 85733
www.watershedmg.org

WMG Technical Training in Advanced Cistern Design May 16 – May 18, 2012

Course Announcement

Watershed Management Group is accepting applications for its *WMG Watershed Technical Training in Advanced Cistern Design, Construction, and Hydraulics* to be held Wednesday, May 16, through Friday, May 18, 2012. Applications will be accepted on a rolling basis, with an early registration discount given to those who apply on or before April 6, 2012.

This course is a part of WMG's Watershed Technical Trainings (WTT) program, which provides advanced trainings in green infrastructure, water harvesting, eco-sanitation, and watershed restoration. For program updates and new courses, visit <http://watershedmg.org/tech-trainings>.

Course Description - Technical Training in Advanced Cistern Design

WMG's Technical Training in Advanced Cistern Design is a hands-on training in site assessment, design, implementation, and maintenance of a variety of cistern types and systems, including underground tanks, cistern pump and irrigation systems, systems for use with indoor plumbing, and designs for potable use.

This training builds on techniques introduced in WMG's Water Harvesting Certification course, which is recommended as a pre-requisite for all WTT courses; equivalent professional, academic, or other training experience will be considered as a pre-requisite on a case-by-case basis. WMG's goal is to transfer this advanced technical knowledge to professionals, educators, and community activists who will integrate these practices into their work and teach others. The course will cover:

- **Codes and Policy**
- **Review of design calculations (runoff and demand)**
- **Safety and risks**
- **Gutter & downspout sizing, pipe friction loss calculations**
- **Plumbing best practices**
- **Pump setup, sizing and hydraulics**
- **Maintenance and troubleshooting**

- **Water quality and sanitation**
- **Alternative storage and distribution systems**

Course Texts

Students will be provided with a course manual detailing the information given in the course sessions. Prior review of the following course text books is recommended:

- Art Ludwig's, Water Storage (optional)
- Texas AgriLife Handbook, Rainwater Harvesting: System Planning

Course Fees

Course fees include tuition, course manual, lunch and snacks, and a Certificate of Completion for full course attendance.

Early Registration: Applications must be postmarked by April 6, 2012 to be eligible for the \$450 course fee

Regular Registration: \$500 course fee

Alumni Discount: Alumni of past Technical Trainings and the Water Harvesting Certification Course are entitled to an additional \$50 discount off the course fee.

Reimbursement Policy: Course registrants will be reimbursed (minus a \$50 admin / processing fee) on cancelation up to 30 days before the course start date. No reimbursement will be paid within 30 days of the start date of the course. All payments **MUST** be paid prior to the start of the course.

Scholarships: WMG offers a limited number of scholarships of \$50 to \$200 to help defray the cost of the course. To be considered for a scholarship, please include an explanation of your financial need in your application.

Payment Plans: Generally full payment must be made within 2 weeks of acceptance to the course to secure your place in the course. Payment plans can be arranged on request.

Course Instructor: Mark Ragel, owner, Water Harvesting International. Following in his father's footsteps, Mark started in the pool and spa business. In 2008 Mark travelled to Africa where he used his expertise in the pool industry to install lifesaving rain water collection cisterns. The experience changed Mark's life and business focus, and he went on to found Water Harvesting International. Water Harvesting International installs above and below ground cisterns of all types including FDA approved drinking water storage systems. They also specialize in conversion of existing swimming pools into water storage cisterns. Mark was praised by students on last year's course as a "patient yet energetic and engaging teacher".

Course Contact Person: If you have questions about the Advanced Cistern Design course or other Technical Trainings, please contact Rhiwena Slack at rslack@watershedmg.org or call 520-396-3266. You can learn more about WMG by visiting our website at

<http://watershedmg.org/> or about the Technical Trainings program at <http://watershedmg.org/tech-trainings>.