

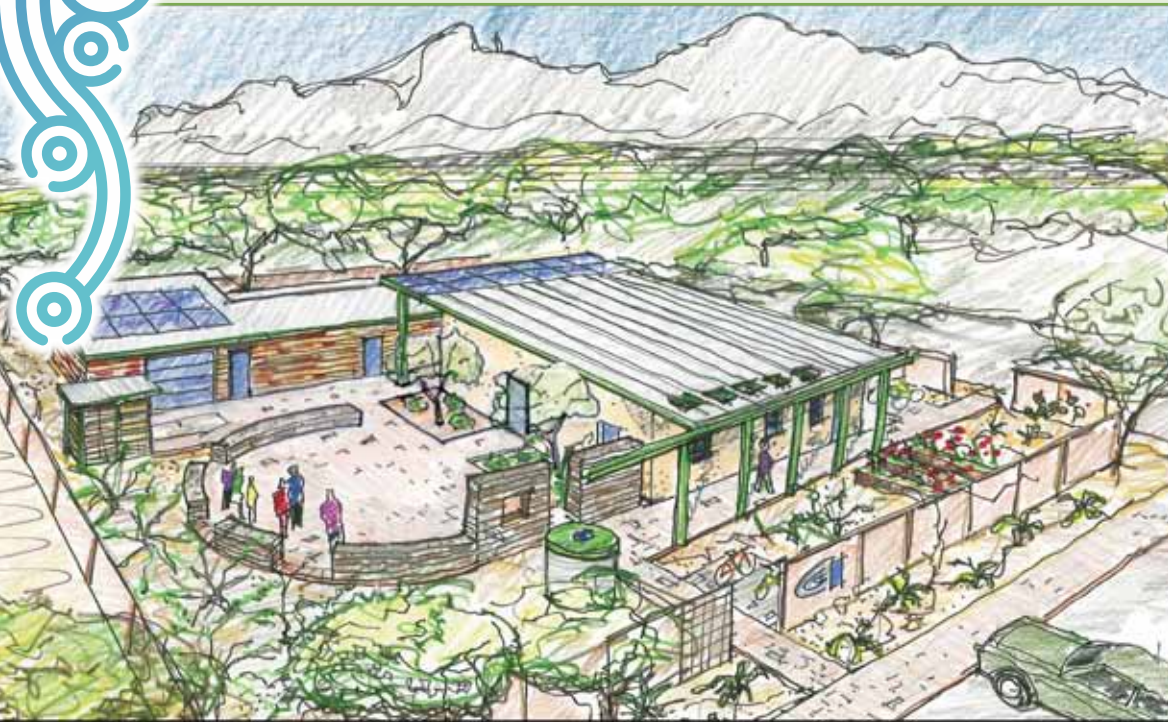
FALL 2013

A WATERSHED MOMENT

A Newsletter of Watershed Management Group



watershedmg.org



Conceptual vision of WMG's Living Lab and Learning Center

DAVID E. SHAMBACH, ARCHITECT, INC.

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You Can Help!

WMG Living Lab and Learning Center Campaign Launch!

Over the last year, WMG has raised close to \$500,000 toward the \$1 million needed to renovate and develop our campus in central Tucson, which we're calling the *Living Lab and Learning Center*. Now, we are launching a campaign to raise the rest of the funds to transform our property into a community resource and expand our impact – and we need your help to do it.

What is a Living Lab?

It's a demonstration site where people come to learn how to build a relationship with their environment that creates mutual prosperity. The lab will feature working and adaptive rainwater harvesting features, composting toilets, greywater demonstrations, solar energy, food cultivation, natural building, and alternative transportation.



YEARS
of BUILDING
PROSPERITY
WITH YOU

(continued on p. 8)

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Newsletter Credits:

Lisa Shipek, Tory Syracuse,
Catlow Shipek, Trevor Hare,
Jared Buono



Dear Readers,

WMG's ten year anniversary has been a great time to celebrate all we've accomplished with your help. This newsletter will offer you a glimpse of WMG's direction for the next decade.

WMG is bringing our can-do attitude and unique expertise to work on policy and urban planning with municipalities. We are developing new programs with ambitious watershed restoration goals on a 50-year timeline. WMG's Living Lab and Learning Center will be an adaptive model of urban living that reshapes the way we think and creates, rather than uses, resources like water, energy, fertile soil, and food.

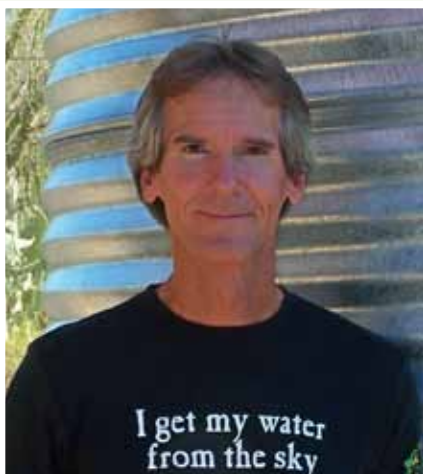
Through these innovative programs, we are working towards the long-term prosperity of people and the environment.

Wouldn't it be great if we could reach that goal tomorrow? While we can make changes today for a better tomorrow, long-term change and prosperity takes vision, commitment, adaptation, and investment in education. Please join us for the next decade, and we promise you results we can all be proud of.

Sincerely,

A handwritten signature in blue ink that reads "Lisa Shipek".

Lisa Shipek
Executive Director



Get to Know...

David Stevenson, Board Member

WMG Involvement: Co-op Member and Water Harvesting Certification graduate. He has hosted three workshops at his home and was featured on WMG's Home-scape tour.

Profession: Data Monitoring Coordinator, Technicians for Sustainability

Why He's Involved: "I'm passionate about WMG because they conserve water through teaching. People learn water harvesting methods that they can do right now - at their home, at their neighbor's home, and in their community."

Our 50 Year Program

What project have you started recently that you knew would take 50 years to achieve? Maybe 100 years? Most of the time, we are consumed with our immediate needs. However, some projects are so massive they cannot be accomplished today, this year, or in this decade.

WMG is embarking on one such long-term project – and that is to restore Tucson's heritage of year-round, free flowing rivers.

Some people will dismiss this goal as impossible. But we believe the goal is attainable, the know-how exists to make it happen, and the first step is to mobilize the community around this cause. We're here to provide the leadership, vision, and steadfast dedication to work towards restoring our flowing rivers.

Did you know that: more rain falls on Tucson in one year than the amount of water the entire city uses from the tap? Tucson had free flowing rivers just 60 years ago? There are areas of shallow groundwater that still support river habitat? (where groundwater is less than 50 feet down)

WMG – with the help of our partners and you – has been building the foundation for this program through our residential water harvesting projects, neighborhood green infrastructure projects, and municipal policy work. Now we want to connect the work at our homes, businesses, and neighborhoods to our larger watershed. The Conserve to Enhance Program is one step towards that goal. The development of our Shallow Groundwater Restoration Program is the next (see page 4.) And the Community Water Coalition is dedicated to working on these issues.

This journey will be long and challenging, but we believe that restored, flowing rivers in Tucson is a vision worthy of our patience, persistence, and leadership. **With your support, we know we can get there.**

TREVOR HARE

Restoring our Desert River Habitats

Trevor Hare joined WMG as staff this year and is building a new program to protect and enhance areas of shallow groundwater in Tucson. He is also sharing his expertise leading Co-op workshops and watershed restoration projects in southern Arizona. Trevor shared some thoughts about his work with WMG.

Q: What is the Shallow Groundwater Restoration Program?

Trevor: WMG's Shallow Groundwater Area Restoration Program will establish scientifically-sound best management practices to protect and restore shallow groundwater areas in the Tucson basin. The few remaining shallow groundwater areas (groundwater < 50 feet) are the remnants of an extensive system of perennial, intermittent and ephemeral desert washes and wetlands in the Tucson basin which have been lost due to development and extensive groundwater pumping.

Q: Why is this program important? Why now?

Trevor: This program is not only important, but critical, as there is still water supporting lush riparian vegetation and providing habitat for an amazing abundance of critters. But threats are mounting - land development is on the rise along with increased well pumping at both industrial and residential scales, invasive species are on the march and the climate is changing in highly variable ways. We must act now to protect areas like Cienega Creek Natural Preserve and Rincon and Agua Verde Creeks.

Q: What is WMG's long-term vision for this program?

Trevor: Because of the great efforts by Pima County and Pima Association of Governments and intense interest in the community, the groundwork for a robust collaborative effort has been laid. We envision this program will provide support to private well owners, small water companies, communities and jurisdictions, and just plain folks in the implementation of adaptation strategies to cope with drought and future climate variability while preserving valued riparian and water resources.

Q: What unique skills do you bring to WMG?

Trevor: I specialize in the assessment, planning, design and implementation of both large and small scale riparian restoration treatments.

Q: Why are you passionate about working for WMG?

Trevor: I am passionate about understanding watersheds in this region, and using that knowledge to engage with people to conserve and restore important areas.



Co-op members celebrate after finishing rainwater harvesting project led by Trevor Hare (top left)

GREEN INFRASTRUCTURE HELPS PROTECT & RESTORE ARIZONA RIVERS

After

WMG has created 62 public green infrastructure demonstration sites in Arizona

50 in Tucson, 3 in Phoenix, 2 in Sierra Vista, and 7 in 7 other AZ cities!

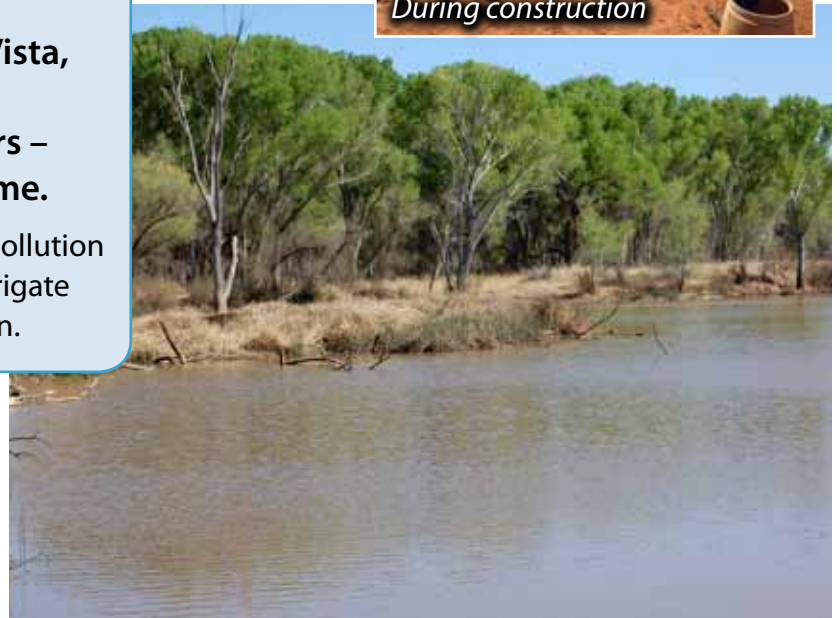
All sites were installed with volunteers – with over 3,000 hours of volunteer time.

These demonstration sites reduce flooding and pollution by infiltrating water where it is generated to irrigate streetside trees and other native vegetation.

WMG is helping cities transform their traditional grey infrastructure into green infrastructure by using living, natural systems to treat stormwater. Green infrastructure can also play a big part in protecting and enhancing our cities' rivers.

We are partnering with the city of Sierra Vista in Southern Arizona to implement green infrastructure with the primary motivation of protecting and enhancing the San Pedro River – one of the last free-flowing rivers in Arizona. We are rebuilding the natural processes of the watershed one street and parking lot at a time, with the vision that this model will be implemented city-wide.

Along with reducing harmful pollutants entering water bodies, the stormwater irrigates city landscaping, reducing the need to pump groundwater for this purpose. This provides higher quality water to feed our rivers.



Top: WMG green infrastructure project at McFadden Park in Sierra Vista; Bottom: San Pedro River



WMG PARTNER PROFILE

City of Tucson Mayor's Office

Over the past year, WMG has partnered with the City of Tucson Mayor's Office to develop and pass Tucson's new Green Streets policy. Throughout the process, Mayor Rothschild was our strongest advocate on the City Council, dedicating tremendous staff resources to the development of the policy, which he notes "will let us have healthy trees and shade in front of our homes and businesses, without the cost of pumping groundwater for irrigation."



*Tucson Mayor
Jonathan Rothschild*

A unique collaboration between WMG and the Mayor's Office made the development of the policy possible. According to James MacAdam, policy advisor to the mayor and co-author of the policy along with WMG's Tory Syracuse, the partnership "was effective because WMG provided the credible demand and support from the community for the City to develop the policy. WMG brought the project to the table with the resources to make it happen; Mayor and Council provided the policy direction to City staff to work on it."

WMG convened a stakeholder group to develop the policy and moved the process along, while at City Hall, MacAdam was able to find the right city staff members to bring into the conversation. As MacAdam says, "Our working group provided the framework for the policy, and Tory and I did the writing together. It was a great collaboration; a successful process that we are now trying to replicate [in other areas of city policy]."

The work done through the Green Streets policy is already starting to trickle out into other discussions at the Mayor's Office. This fall, the mayor will kick off his 10,000 Trees campaign, and one important aspect of the campaign will be water harvesting: "We want more Tucsonans to get used to the idea of planting trees in basins," he says, "using gravity to help bring rainwater to roots."

APPROVED UNANIMOUSLY

WMG Spearheads Groundbreaking Green Streets Policy

Creating and sustaining urban forests in arid cities requires innovative policy and design. Thanks to your support, WMG is leading the way in crafting these approaches to ensure that our cities become cooler and greener without increasing demand on drinking water resources. **In May of this year, Tucson's Mayor and Council unanimously approved WMG's Green Streets policy,** which will require that all new roadway development and redevelopment be designed to capture stormwater runoff to grow street trees and other vegetation. Our streets are a tremendous source of water that is normally lost, but now we know that new projects will capture that water to grow our urban forest.

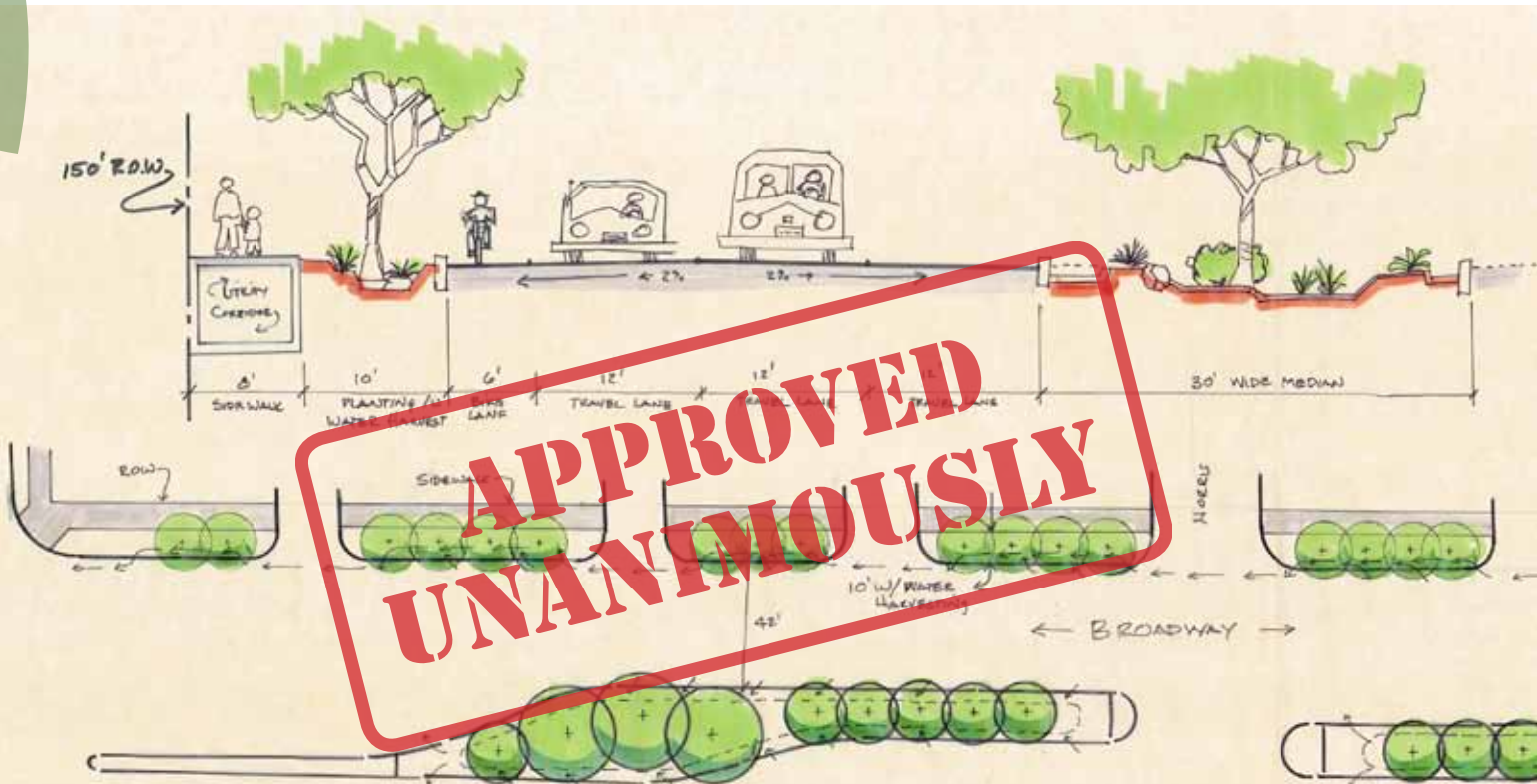
The Green Streets policy is a critical first step in ensuring that Tucson can be re-forested in a sustainable way. One of the only policies of its kind in the nation, it requires that the first ½ inch of street runoff be captured and utilized to irrigate streets trees. It also requires 25% tree canopy cover and 25% grass and shrub cover along roadways.

How did we do it? We worked closely with the City of Tucson and other stakeholders in a collaborative process funded by the Arizona State Forestry Department. But really, this policy was the outcome of the groundswell of grassroots support for green infrastructure that has been building in Tucson for years, as people like you have advocated in your own neighborhoods and implemented features along your own streets.

In the coming year, we'll continue to work at the municipal level by developing design standards for other Arizona cities, training professionals, and working to develop funding mechanisms for enhancing abundant urban forests in Southwest cities.



Tory Syracuse, WMG's Associate Director, presented the Green Streets Policy to Mayor and Council



caption?



Steel cistern captures roof runoff to water landscape

About the Learning Center

The new WMG campus will be a center for innovative environmental education, featuring courses in water harvesting, urban stream restoration, green infrastructure, eco-sanitation, and soil building, among others. The campus will be open to the public for tours and hands-on workshops and for advocacy and policy meetings. Educational materials will be designed for both adults and children and for an international audience, including Spanish language materials. We will continually discover and develop new innovations to enrich these robust educational programs.

Imagine a hub of activity where –

- People come together from across the U.S. – architects, landscapers, engineers, educators, and neighbors – to learn about water harvesting, green construction, and urban habitat restoration.
- University students study the site, monitor the impact, and share their research.
- Visiting conservationists from abroad take part in a residency to exchange information about sanitation and soil stewardship.
- Homeowners attend a workshop and take home a kit to build a compost toilet, rain tank, or greywater system.
- Schoolchildren take a break from a gardening class to discover what handwashing is like in rural India at the tippy tap demonstration.
- The Chef-in-Residence harvests native foods from the Heritage Garden to cook an organic meal for workshop participants.
- Local government representatives visit to learn how these practices can be applied community-wide through innovative urban planning.



The office compost toilet is part of our Soil Stewards pilot program

and Learning Center Campaign Launch!

You're Invited to WMG's *Garden Brunch & Planting Pachanga*

Saturday, November 2nd • 10am – 12pm
1137 N. Dodge Boulevard,
Tucson, AZ 85716

RSVP and learn more at watershedmg.org/garden-brunch
or contact Lisa Shipek at 520-396-3266

Enjoy a local foods brunch, tours with WMG board and staff,
and participate in a planting dedication.

With your help, we can make this vision a reality.

In March 2012, WMG received a generous estate gift from donor Marguerite Fisher that included a 1,500-square-foot adobe home in midtown Tucson with grounds suitable for demonstration gardens.

Thanks to Marguerite's groundwork with the owner of the property next door, WMG was able to negotiate purchasing the adjacent property, providing an additional structure with 1,650 square feet. With both properties, WMG has the perfect hub for a growing organization, with ample space for offices, an education center, indoor and outdoor classrooms, and demonstration grounds.

In order to make this vision a reality, we are raising money through a capital campaign, where all donations support the development of the Living Lab and Learning Center.

Come see the vision! **Schedule a Private Tour**

Call Executive Director Lisa Shipek to schedule a tour, 520-396-3266, or join us for the public launch event in November.



WMG's property demonstrating stormwater capture to grow shade trees



WMG DONOR PROFILE

Mark and Leanne Ragel

Mark and Leanne Ragel have been WMG donors for three years and recently joined WMG as Stewardship Circle donors. Mark shared with us his perspective on being a WMG donor.

Q: How did you get involved with WMG?

A: After attending a national water harvesting program in the fall of 2009, I wanted to learn more about local water harvesting efforts and contacted Tucson Water; I got WMG's name and reviewed their website. I then attended WMG's Water Harvesting Certification course in July of 2010 and was very impressed with the teachers, program and detailed curriculum.

Q: Why are you passionate about WMG?

The Educational Team!!! Most people do not realize Tucson has several internationally known water harvesting experts living right here in the city and on the WMG staff.

Q: How has WMG impacted you personally?

A: In addition to many projects I have completed at my home, I am able to integrate what WMG teaches with their extensive curriculum with several international partners I work with through my church and their international outreach programs on sustainability.

Q: Why do you give money to support WMG's mission?

A: I was born and raised in Tucson and have participated in water saving programs since the 1970's. No other group has such a comprehensive and effective program to educate our citizens on water stewardship as WMG.

Q: Would you encourage others to donate to WMG? Why?

A: Yes!! We live in a desert, we are in a drought cycle again, and we must plan for the future. This is our community and we all must work together to ensure an abundant water future for generations to come. WMG is making impact and needs community support.



Mark and Leanne Ragel



YOUR PROJECT LIST JUST GOT EASIER WITH



ON-SITE CONSULTATIONS ONLY \$150 COMPLETE MASTER PLANS FOR \$450

A WMG consultation is just what you need to:

- Get on-site advice
- Develop a master plan
- Fix troublesome problems
- Be proactive and transform your yard
- Have a plan you can implement
- Live your values at home

Our Expertise Includes:

- Cisterns and irrigation
- Greywater systems
- Passive solar
- Flooding and erosion control
- Rain, food and habitat gardens
- Streetside stormwater harvesting
- Composting toilets

When you hire WMG, you hire a non-profit business that gives back to your community and your environment.

WHAT ARE YOU WAITING FOR?

Visit <http://watershedmg.org/consultation> to learn more or schedule a consultation.

Tucson Region: contact Catlow Shipek at 520-396-3266 or catlow@watershedmg.org

Phoenix Region: contact Ryan Wood at 602-618-6650 or rwood@watershedmg.org

THE URBAN FOREST NEEDS CARE – and That Means Jobs

First plant the rain, then the trees. This is WMG's philosophy when it comes to growing urban forests. We plant the rain through green infrastructure features. But after implementation, green infrastructure needs maintenance to work. That's where Primavera Works steps in.

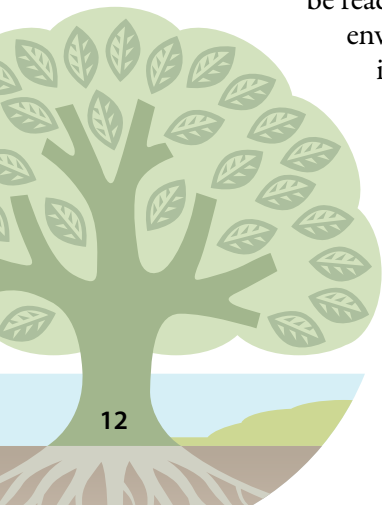
Primavera Works is a program of the non-profit Primavera Foundation in Tucson. The program provides ethical day-labor opportunities by offering above-minimum wage, temporary employment options for people who are homeless and unemployed or under-employed. Recently, with funding from a generous individual donor, WMG partnered with Primavera Works to train crew leaders in the maintenance of green infrastructure features so that homeowners, neighborhoods, businesses, and even the City of Tucson can hire a reliable, well-trained crew familiar with the unique needs of these sites.

Maintenance can have a huge impact on both the beauty and functionality of a site; indeed, lack of maintenance can often prevent stormwater from flowing into the site at all (when inlets are choked with weeds, for example). Many maintenance practices are particular to green infrastructure, such as the addition of mulch (chipped tree prunings that would otherwise be hauled to the dump as "green waste") to basins to enhance soil, retain moisture, and reduce weed growth.

As our desert cities install more and more green infrastructure, there will be increased demand for the expertise to maintain these sites, and thanks to their training with WMG, Primavera Works will be ready. It's all part of how doing what's right for the environment can also build prosperity for people – in this case, jobs for those who need them most.



WMG trains crew leaders in the maintenance of green infrastructure



WMG LEADS EXPANSION OF RURAL SPRING PROTECTION PROGRAM

Watershed Management Group has been leading an effort to promote spring protection as a means to help water-starved villages in rural Maharashtra. Over the last three years, we've trained hundreds of farmers in groundwater and springshed management and construction and maintenance of drinking water systems with our India partner Grampari.

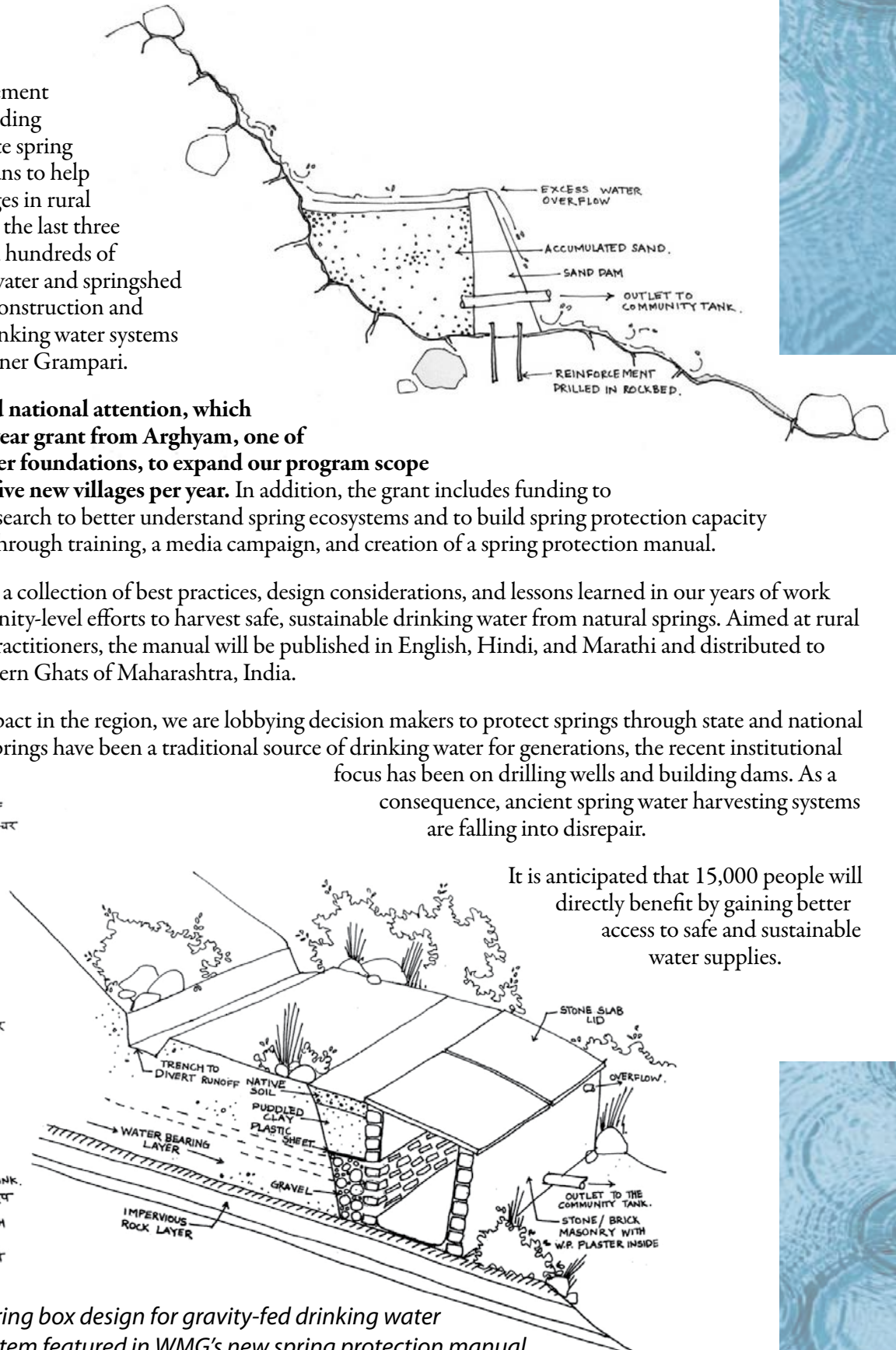
Our work received national attention, which attracted a three-year grant from Arghyam, one of India's largest water foundations, to expand our program scope and partner with five new villages per year. In addition, the grant includes funding to conduct applied research to better understand spring ecosystems and to build spring protection capacity within the region through training, a media campaign, and creation of a spring protection manual.

The manual will be a collection of best practices, design considerations, and lessons learned in our years of work promoting community-level efforts to harvest safe, sustainable drinking water from natural springs. Aimed at rural farmers and field practitioners, the manual will be published in English, Hindi, and Marathi and distributed to villages in the Western Ghats of Maharashtra, India.

To increase our impact in the region, we are lobbying decision makers to protect springs through state and national policy. Although springs have been a traditional source of drinking water for generations, the recent institutional focus has been on drilling wells and building dams. As a consequence, ancient spring water harvesting systems are falling into disrepair.

It is anticipated that 15,000 people will directly benefit by gaining better access to safe and sustainable water supplies.

TRENCH TO DIVERT RUNOFF
ऊतारचे पाणी अडवण्यासाठी-चर
NATIVE SOIL
आजुबाजुची माती
PUDDLED CLAY
मळलेली चिकणमाती
PLASTIC SHEET
पॉलिथिनचा कागड
GRAVEL
खडी
WATER BEARING LAYER.
पाणी असलेला जमिनीचा थर
IMPERVIOUS ROCK LAYER.
अचिद्र खडकाचा थर.
STONE SLAB LID.
डाकणासाठी फरती
OVERFLOW
ओव्हरफ्लो
OUTLET TO THE COMMUNITY TANK.
गावाच्या टांकीकडे जाणारा पाहिय
STONE/ BRICK MASONRY WITH
W.P. PLASTER.
आतील बाजूस चोटाई केलेले
नाड/ ब्रिटेचे बांधकाम.
SPRING BOX.
स्प्रिंग बॉक्स



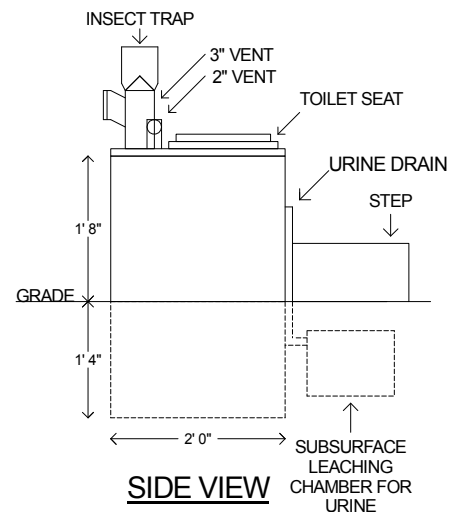
Spring box design for gravity-fed drinking water system featured in WMG's new spring protection manual

THE SCOOP

WMG Program Updates

Arizona's Full of Crap – But We Can Compost It!

Our video on building a barrel compost toilet has been viewed 33,000 times in its first year since posting! The finished compost of the pilot toilets were recently tested by a University of Arizona lab and came back with positive results: all are safe to use for backyard gardening! These successes and other details are being shared through our online educational resources. Check it out here: watershedmg.org/soil-stewards. Now we are working with the state of Arizona to offer permits for our site-built compost toilet designs – making inexpensive compost toilets and good compost available to many more people.



Santa Barbara Demonstration Sites

WMG is excited to be partnering with the Santa Barbara Association of Realtors, Wilson Environmental Contracting, and the Santa Barbara City College to create water harvesting demonstration sites. WMG is continuing to offer educational classes and subsidies for Santa Barbara residents. Learn more at: <http://watershedmg.org/santa-barbara-program>

C2E Awards Grants for Neighborhood Projects

The Conserve to Enhance (C2E) program funded three green infrastructure wash restoration projects in Tucson neighborhoods in 2013. Tucsonans directly fund the program by conserving water and donating their dollars saved to C2E online or through the checkbox on their water bill. C2E will be making funds available annually through a grant process run by a community advisory board. The next grant round will be announced this fall – please contact WMG if your neighborhood, school, or community group would like to partner on a project. Learn more at: watershedmg.org/c2e



WMG Helps Revamp City's Gray Water Requirements

Tucson's Gray Water Ordinance was under threat of being dismantled due to ineffective implementation. Instead of scrapping the ordinance, WMG led the way through stakeholder meetings to revise it to fulfill its original purpose. Catlow Shipek and Brad Lancaster drafted and negotiated revisions to make the required installation of gray water system stubouts easier by ensuring above-ground access to greywater plumbing. With above-ground stubouts, inexpensive gravity-fed systems can be used instead of requiring expensive tank and pump distribution systems (which were required by the original ordinance).

PRESENTATIONS AND TRAININGS FOR YOU:

WMG offers a variety of training opportunities for professionals, educators, and community advocates. Our training is adult education at its best – with meaningful field experiences, engaging instructors, and problem-solving skill building. Small class sizes ranging from 10 to 20 students ensure lots of one-on-one attention.

- **Urban Stream Restoration**

Featuring Van Clothier
Jan 16 - 18, 2014, Tucson

- **Green Infrastructure / LID Urban Retrofits**

Featuring James DeRoussel
Jan 31 - Feb 1, 2014 Tucson
& Oct 24 - 25, 2014, Phoenix

- **Water Harvesting Certification**

Featuring Catlow Shipek, Brad Lancaster,
and James DeRoussel
March 17 - 23, 2014 Tucson
Summer 2014, Albuquerque
Nov 17 - 23, 2014 Tucson

Learn more and register at:
watershedmg.org/tech-trainings



Van Clothier teaches students how to build a check dam to slow and sink water

WMG's Simple Solutions for Sustainable Living *Presentation Series*

This fall, WMG is teaming up with the Jewish Community Center in Tucson to offer a free evening presentation series. Our goal is to reach a diverse audience and new people – so please pass on the word or come and bring a friend. Register to attend here: watershedmg.org/2013-presentation-series

10/17/13: Harvest the Sun (and Shade!) For Multiple Uses

Presenter: Brad Lancaster
*Includes book signing after the presentation.

10/24/13: Shady Neighborhoods: Thinking Outside the Planter Box

Presenter: James DeRoussel

11/7/13: Responsible Home Ownership in the Desert

Presenter: Tory Syracuse

11/14/13: Guiding Local Leadership Toward a Water Secure Future for Tucson

Presenter: Karilyn Roach

11/21/13: Learn to Build Healthy Desert Soils for Productive Landscapes

Presenter: Catlow Shipek



1137 N Dodge
Tucson, AZ 85716



YEARS
of BUILDING
PROSPERITY
WITH YOU



MISSION:

Watershed Management Group develops and implements community-based solutions to ensure the long-term prosperity of people and health of the environment. We provide people with the knowledge, skills, and resources for sustainable livelihoods.