

## Kolb Detention Basin Retrofit

### A. Project Specifications

#### 1. **Project Summary**

- a. **Location:** Julian Wash, east of Kolb Rd
- b. **Client:** Pima County and Granite Construction
- c. **Design Firm:** Novak Environmental in cooperation with Landscape Architecture Student Matthew Bossler.
- d. **Project Contact:** Karen Cesare (Novak); Marisa Rice (RFCD); Bob Linsell (Granite)
- e. **Project Description (what was built):** An existing regional detention basin was modified to create improved riparian habitat and remove native and non-native invasive species (Desert Broom, Buffleggrass, African Love Grass).

#### 2. **Project Type (e.g. consider ADEQ list of project types, New or Retrofit):** Flood control project – Retrofit.

- a. Design Features (BMPs, Site Design considerations etc): A low flow depressed planting area was built and a mid-slope bench water harvesting basin was constructed to minimize erosion and encourage growth of vegetation on the slope.

#### 3. **What are project goals – stakeholder preferences and/or regulatory goals?**

- a. **This project was designed to meet the following regulatory requirements or mandates:**

This site was selected for 18 acres as riparian mitigation for land disturbed by Granite Construction at another site. Because it was a mitigation site within an area of existing habitat, native plant preservation and riparian habitat needed to be considered.

- b. **This project was designed to meet the following stakeholder preferences:**

The Flood Control District is the owner and primary stakeholder. The District wanted to minimize long-term operations and maintenance commitment by implementing a plan that conserved water, and preserved the existing natural corridor while also enhancing natural areas while limiting the spread of invasive species.

## B. Cost & Jobs Analysis

1. Estimated cost: \$118,150
  - Design (Granite paid)
    - \$7,480 Mathew Bossler
    - \$4,200 Supervision of Mathew Bossler
    - \$17,170 Plans and Services (Novak)
    - \$6,000 Additional design and services from changes
    - \$34,850
  - Construction (Granite)
    - \$64,600 Installation
  - Maintenance (Pima County)
    - \$18,700 Maintenance years 1-5
2. Actual cost
  - Job hours devoted to project:
    - Planning & Design: Conceptual design was done by MS Student, and finalized by Novak Environmental.
    - Construction
    - Annual Maintenance
3. LID/GI Costs Compared to Conventional?  
No

## C. Performance Measures

The project was completed in early January, 2012, so it is too soon to determine long term success. The mid-slope bench water harvesting basin is perhaps the most innovative aspect of the project, so the fact that it was constructed with no difficulty is encouraging. The Regional Flood Control District is responsible for on-going maintenance.

## D. Project Recognition

No specific project recognition and no LEED points sought.

## E. Lessons Learned:

1. What aspects of the project are you proud of?
  - a. This was a cooperative effort between government and private industry that also included a thesis project for an MS Student at the University of Arizona. Through this effort RFCD got
    - i. Draft design guidelines for riparian mitigation in detention/retention facilities.
    - ii. A plant list for plants that can take varying amounts of inundation.
2. What would you do differently?
  - a. Install the (temporary) irrigation lines deeper, because animals have chewed up the tubing.
  - b. There is ponding behind the berms and it is unclear whether this will be a long-term problem.
3. Any other noteworthy aspects of the project? The design was progressive in that we used tall pots from the Native Plant Nursery. There were some difficulties in

getting the contractors to install the tall pots correctly. This shows the need for oversight.

## F. Additional Information

### 1. Images



Mid-slope bench water harvesting basin on contour for slope bottom vegetated area.



Overview showing depressed basin.



Overview showing depressed basin and mid-slope bench water harvesting basin.

## 2. Project List