# Arizona Water Protection Fund
# FY 2009 Grant Application Review

**Application #** WPF0383 **Applicant:** BLACK CANYON CITY COMMUNITY ASSOCIATION

**Title of Project:** BLACK CANYON RIPARIAN RESTORATION PROJECT

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**Additional materials were submitted with this application that could not be reproduced and distributed for review. These materials may be reviewed in person at the Arizona Water Protection Fund offices at (3550 N. Central Avenue, 4th Floor, Phoenix). The additional materials available are the following:**

_____ **Maps**
_____ **Photographs**
__✓__ **Disk** APPLICATION
_____ **Other**

**BLACK CANYON CITY**
**COMMUNITY ASSOCIATION**
**PO Box 33, Black Canyon City, Az 85324**

June 11, 2008

Rodney Held, Executive Director
Arizona Water Protection Fund
Arizona Department of Water Resources
3550 North Central Avenue
Phoenix, Arizona 85012

**RE: Black Canyon Riparian Restoration Project**

Dear Mr. Held:

I am pleased to submit this application to initiate this important habitat restoration on the Agua Fria River in Black Canyon City. This project will initiate riparian, wetland and open water restoration on a new section of river within Arizona for the Arizona Water Protection Fund.

This important project will restore and enhance 22 acres of native riparian, wetland, open water and upland habitat adjacent to Black Canyon City. This restoration will provide beneficial habitat for wildlife and provide new wildlife viewing opportunities for local and visiting nature enthusiasts.

Forming this partnership with the Arizona Water Protection Fund will enable us to leverage funds to potentially seek additional funding for future restoration projects. We look forward to hearing your response.

Sincerely,

Robert Cothern
President

COPY

# Arizona Water Protection Fund
## Application Cover Page
## FY 2009

WPF0383

**Title of Project:** Black Canyon Riparian Restoration Project

**Type of Project:**
- ☒ Capital or Other
- ☐ Water Conservation
- ☐ Research

**Stream Type:**
- ☐ Perennial
- ☒ Intermittent
- ☐ Ephemeral

**Your level of commitment to maintenance of project benefits and capital improvements:**
☐ < 5 years ☐ 5-10 years ☐ 11-15 years ☒ 16-20 years

**Applicant Information:**

| | |
|---|---|
| Name/Organization: | Black Canyon City Community Association |
| Address 1: | P.O. Box 33 |
| Address 2: | 19055 E. K-Mine Rd |
| City: | Black Canyon City |
| State: | AZ |
| ZIP Code: | 85324 |
| Phone: | 623-374-5234 |
| Fax: | 623-374-5554 |
| Tax ID No.: | 86-0219468 |

**Inside an AMA:** Yes ☐ No ☒

**If yes, which AMA:**
- ☐ Phoenix
- ☐ Tucson
- ☐ Prescott
- ☐ Pinal
- ☐ Santa Cruz

**Type of Application:**
- ☒ New
- ☐ Continuation

**Contact Person:**

| | |
|---|---|
| Name: | Robert Cothern |
| Title: | President |
| Phone: | 623-374-5553 |
| Fax: | 623-374-5554 |
| e-mail: | bcothern04@msn.com |

**Any Previous AWPF Grants:**
☐Yes ☒No

**If yes, please provide Grant #(s):**

**Arizona Water Protection Fund Grant Amount Requested:**

$281,288.00

If the application is funded, will the Grantee intend to request an advance:
☒**Yes** ☐**No**

**Matching Funds Obtained and Secured:**

| Applicant/Agency/Organization: | Amount ($): |
|---|---|
| 1. Applicant | $68,929.00 |
| 2. | |
| 3. | |

**Total:** $68,929.00

Has your legal counsel or contracting authority reviewed and accepted the Grant Award Contract General Provisions?
☒Yes ☐No ☐N/A

**Signature of the undersigned certifies understanding and compliance with all terms, conditions and specifications in the attached application. Additionally, signature certifies that all information provided by the applicant is true and accurate. The undersigned acknowledges that intentional presentation of any false or fraudulent information, or knowingly concealing a material fact regarding this application is subject to criminal penalties as provided in A.R.S. Title 13. The Arizona Water Protection Fund Commission may approve Grant Awards with modifications to scope items, methodology, schedule, final products and/or budget.**

| Robert Cothern | President, 623-374-5553 |
|---|---|
| **Typed Name of Applicant or Applicant's Authorized Representative** | **Title and Telephone Number** |
| Robert Cothern | 6/10/08 |
| **Signature** | **Date Signed** |

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JUN
ARIZONA WATER PROTECTION FUND

# Executive Summary

This project proposes to enhance and restore a total of 22 acres within the Agua Fria River Corridor located in Black Canyon City, Arizona. Exotic species will be removed from the entire 22 acres and habitat restoration will occur in 1.5 acres of open water aquatic habitat, 0.25 acres of native marsh, 8.65 acres of cottonwood and willow forest habitat and 2.5 acres of mesquite habitat. The remaining 9.1 acres interspersed throughout the project area will be cleared, but no vegetation will be planted in order to allow for native plant recolonization. The aquatic habitat created will be used for native fish habitat including the Gila chub and speckled dace, and the restored wetland and riparian habitats will provide beneficial habitat for many neo-tropical migrant birds and waterfowl, including the southwestern willow flycatcher. The Black Canyon City Community Association (BCCCA), a non-profit organization, received a 27-acre parcel of land with 153 acre feet of water rights as a donation from the Albins Family. The Black Canyon Riparian Restoration Project (BCRRP) area is a 22 acre area within the donated portion that includes 14.1 acres of channel area and 7.9 acres of upper terrace flood plain within the Agua Fria River Corridor. The BCCCA is in the process of designating these 22 acres as a permanent conservation easement. In partnership with the National Park Service, the BCCCA has already taken steps to restore this stretch of river corridor including a one-acre pilot restoration project. This pilot project included Revegetation of 0.5 acres of willow habitat and 0.5 acres of mesquite revegetation on the upper floodplain terrace. This was the first restoration to occur in the Black Canyon City area on this stretch of the Agua Fria River.

The aquatic, wetland, and riparian ecosystems of the 120 mile long Agua Fria Watershed have been negatively affected and reduced by increased run off, grazing, water diversions, deforestation, agriculture and development, fire and non-native species invasion. This degraded condition has promoted the establishment of aggressive non-native species, such as tamarisk, arrundo donax and castor bean. As a result, habitat quality has declined and many wildlife species have become threatened or endangered due to the loss of habitat. Although the Agua Fria River is an intermittent flowing river it still floods periodically and provides conditions that produce quality riparian habitat including marsh, cottonwood, willow and mesquite habitat. This infrequent flooding and shallow ground water has maintained valuable patches of native vegetation, however the continuing invasion of native plants and a wildfire in 2005 have threatened the ecological integrity.

If funded, this project would also be a part of a larger, regional effort by the Black Canyon Historical Society, Friends of the Agua Fria River, North Country Conservancy, Yavapai County, Bureau of Land Management, AZ Game and Fish and the US Fish and Wildlife to remove exotic species from the Agua Fria Corridor and restore riparian habitat for a variety of wildlife species. More specifically these agencies have been working together the last 4 years in developing a plan for this 27-acre area owned by the BCCCA. The initial plan includes the establishment and restoration of a 22-acre conservation easement and the development of the adjacent 5 acres into a community park with a focus on environmental education and low impact recreation such as birding and hiking.

Habitat restoration for this project will follow proven similar techniques utilized to restore and enhance the successful projects in the region including the Yuma East Wetlands, Ahakhav Tribal Preserve and Hubbell Trading Post restoration projects funded by the AWPF. These techniques include excavation of existing and proposed open water ponds, bioengineering and containerized stock planting of native species. Much of the site burned in 2005, therefore some but minimal invasive species clearing will have to be conducted.

In order to accomplish this 22 acre riparian and wetland restoration, the following objectives have been proposed:

1. Restore approximately 22 acres of native cottonwood/willow/mesquite, open water, and marsh habitat within the Black Canyon Community Park Conservation Easement.
2. Obtain valuable data to apply to future restoration activities within the Agua Fria River Corridor.

This will be accomplished by completing the following tasks:

1. Clear invasive plant species.
2. Evaluate the site characteristics of the 22-acre site to formulate an optimum restoration design.
3. Enhance and Restore 22 acres of open water, riparian and wetland habitats.
4. Maintain the restored area to ensure successful establishment of the habitat.
5. Monitor the success of the techniques used.

# Introduction

**Background:**

Riparian ecosystems are renowned for their high levels of biodiversity, productivity, and dynamism (Noss and Cooperrider 1994). In the arid southwest, these ecosystems comprise of the smallest habitat areas, but support a disproportionately higher species diversity and density than any other habitat type in the overall landscape. However, particularly in Arizona, these ecosystems are increasingly imperiled due to extensive modification and exotic species invasion. The Agua Fria River has been extensively modified by flood-control, grazing, fire and agricultural activities, which have affected the native vegetation and wildlife that depend on them. Despite this extensive modification, this reach has retained some natural features, including pockets of native riparian species. The 120 mile long Agua Fria River Corridor stretches through multiple ecological zones, initiating in the chaparral forest near Prescott and flowing down to the desert in Phoenix. It supports areas of high riparian habitat quality throughout its 120 mile course including the Agua Fria National Monument and the Black Canyon City area. These pockets of native species are becoming threatened.

In order to increase the ecological integrity along the Agua Fria River Corridor, this project proposes to enhance and restore a total of 22 acres within the Agua Fria River Corridor located in Black Canyon City, Arizona (Figure 1). Exotic species will be removed from the entire 22 acres and habitat restoration will occur in 1.5 acres of open water aquatic habitat, 0.25 acres of native marsh, 8.65 acres of cottonwood and willow forest habitat and 2.5 acres of mesquite habitat (Figure 2). The remaining 9.1 acres interspersed throughout the project area will be cleared, but no vegetation will be planted in order to allow for native plant recolonization. Approximately 14.1 acres of the 22 acre project area is in the Agua Fria Riverbed and have been degraded by past grazing, wildfire and the invasion of non-native plants. The remaining 7.9 acres have all been disturbed by other activities. The restoration techniques that will be employed to conduct this restoration will follow those utilized in the successful riparian and wetland restoration projects in the region including the Yuma East Wetlands and Ahakhav Tribal Projects. These techniques include: excavation of the existing and proposed channels and open water areas, using groundwater to control water levels, bioengineering and containerized stock planting of native wetland and riparian species, and maintenance and monitoring activities to insure project success.

Historically, the project area once supported a host of wildlife species, including Gila chub, a species of concern, and speckled dace. The area located outside the riverbed was farmed from the early 1900s, and some of it until 2007, so it has been plowed and planted annually. Current land ownership is shown in Figure 1. In 2005, the proposed project area (which contained valuable native riparian habitat) was destroyed by fire, decimating much of the useable habitat for neo-tropical migrating and resident bird species. Figure 3 displays photographs of the current conditions at the BCRRP project area and the completed 1-acre pilot Revegetation project. Under the Existing Plans/Reports/Information shows the overall concept plan for the entire 27-acre parcel and the design of the 1-acre pilot Revegetation project.

If funded, this 22 acre project would be an important restoration effort, which would restore habitat in a new location for Arizona Water Protection Fund. The archeological surveys have been conducted. NEPA compliance and the 404 Permit necessary for this project will be submitted if/when this AWPF grant is awarded. This project would be part of a multiple agency regional effort to remove exotic species and create native habitat within the Agua Fria River Corridor. The Agua Fria River below the project site will also benefit from this restoration.

Goal(s):

1. Establish 8.65 acres of cottonwood and willow riparian habitat to recover native wildlife communities.
2. Establish 2.5 acres of native mesquite bosque to provide increased wildlife habitat, especially for the invertebrate food base.
3. Establish 1.5 acres of open water habitat to provide habitat for winter migrants, resident water birds and native fish.
4. Establish 0.25 acres of native marsh habitat for marsh bird species of concern.
5. Monitor the project success of the 22 acre riparian, wetland, and open water revegetation project through plant monitoring.

Objective(s):

1. Restore approximately 22 acres of native cottonwood/willow/mesquite, open water, and marsh habitat within the Agua Fria River Corridor.
2. Obtain valuable data to apply to future restoration activities within the Agua Fria River Corridor.

Statement of problem(s):

- Damaged/Degrading riparian and wetland habitat.
- Increased invasion of non-native species due to grazing, agriculture and wildfire.
- Excessive reproduction of exotic plant species.
- Insufficient reproduction of native plant species.
- Lack of critical habitat for neo-tropical migrant birds, waterfowl and native fish including the southwestern willow flycatcher and Gila Chub.

Statement of cause(s) of the problem(s):

- Grazing and agriculture
- Increased runoff
- Wildfire
- Introduction of highly flammable, quickly-regenerating, exotic tamarisk and castor bean
- Human encroachment /development

Statement of project-related remedies or solutions:

1. Clear and mulch all non-native plant species in the project area.
2. Investigate the existing site conditions to develop an optimum revegetation design.
3. Plant native species in the cleared areas and irrigate these areas to establish the native trees, shrubs and grasses into the water table.
4. Implement two years of weeding and irrigation maintenance to establish trees.
5. Monitor the revegetation project to measure the success of the methods used and compare with project goals set forth.

Statement of project years of benefit:

The 5 acre cottonwood and willow portion restoration project planted in the main Agua Fria River Corridor will be planted within 1-5 feet of the permanent water table, and the remaining 7.9 acres of cottonwood/willow, mesquite, aquatic and wetland habitat in the upper terrace will be planted within 6-12 feet of the water table and restored with the permanent commitment of the 50

acre feet of water owned by the BCCCA and needed to maintain the health of these riparian habitats. The BCCCA will work to monitor the success of this project, will use the information to plan and, where feasible, implement control programs in the foreseeable future. Follow-up maintenance required at this site will consist of maintaining water pumps to insure appropriate irrigation, limited fire control, weed eradication, and tree stand evaluation. The projected years of benefit for this project should exceed 50 years.

# Project Location & Environmental Contaminant Information
# FY 2009

**Project Location Information**

| 1. County: Yavapai | 2. Section: 09N | 3. Township: 02E | 4. Range: 34 |
|---|---|---|---|

5. Watershed: Lower Gila River
6. Name of USGS Topographic Map where project area is located: Black Canyon City
7. State Legislative District: 4

   (Information available at http://156.42.40.10/mapping/default2.asp?tname=Interim.2004.Legislative.Map)
8. Land ownership of project area: Black Canyon City Community Association
9. Current land use of project area: In process of limited riparian area/wildlife habitat restoration
10. Size of project area (in acres): 27
11. Stream Name: Agua Fria River
12. Length of stream through project area: 0.5 mile
13. Miles of stream benefited: 0.5 miles
14. Acres of riparian habitat: 22 acres will be:

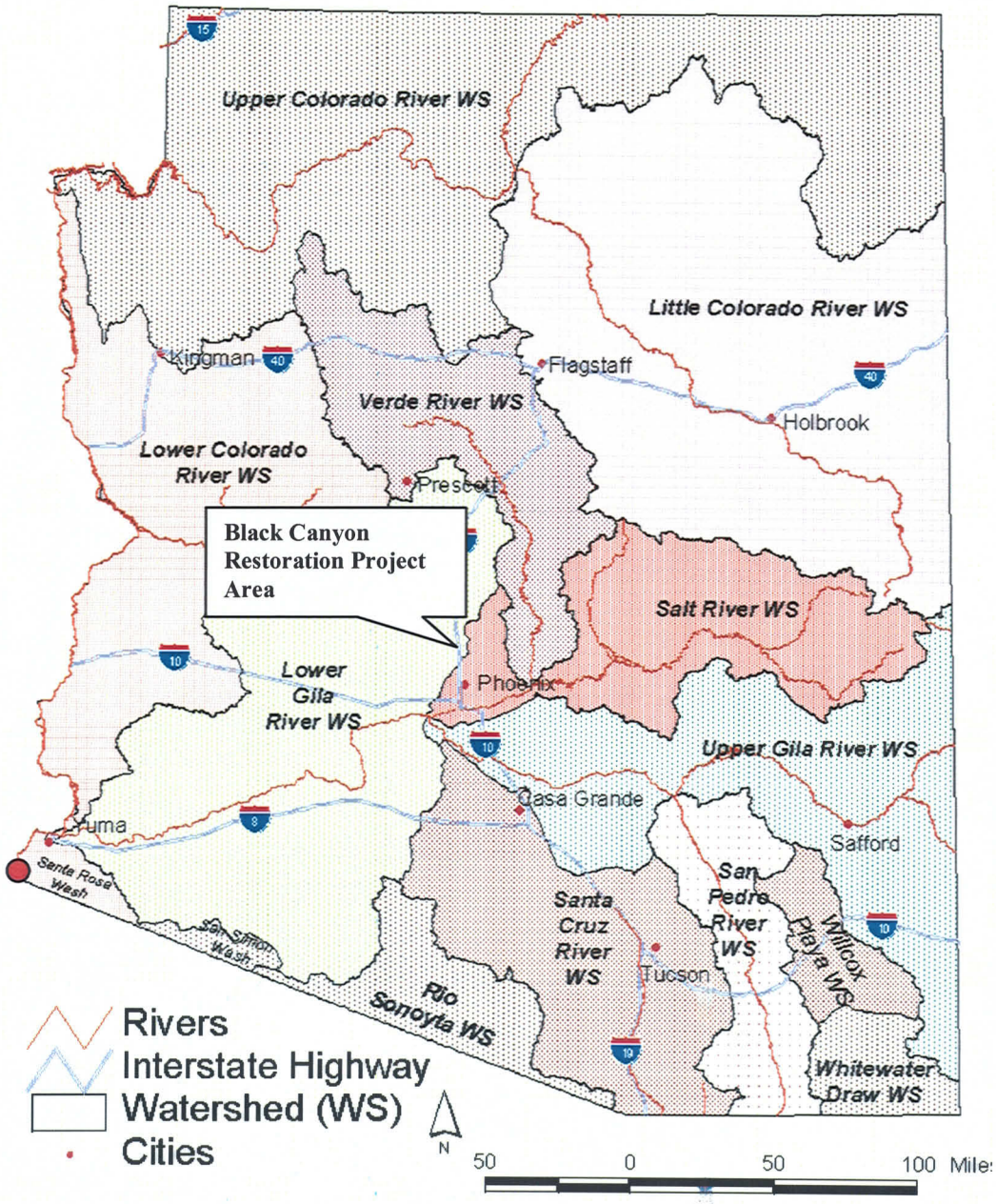
- ☐ Enhanced
- ☐ Maintained
- ☒ Restored
- ☐ Created

15. Provide directions to the project site from the nearest city or town. List any special access requirements:
    33955 S Old Black Canyon Highway, Black Canyon City, AZ. The property is located in the center of town on the north bank of the Agua Fria River.

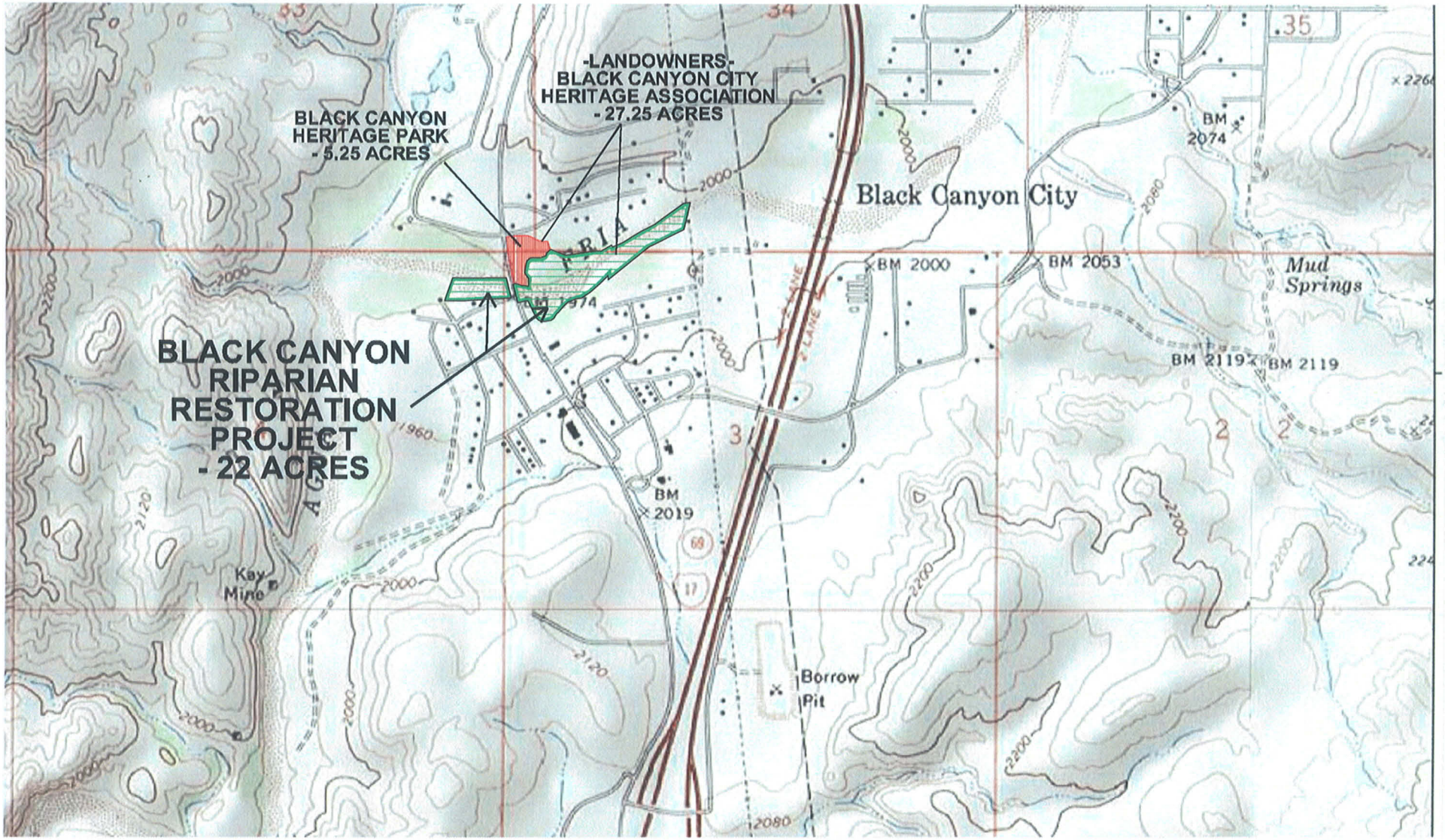
**Environmental Contaminant Location Information**

1. Does your project site contain known environmental contaminants? ☐**YES** ☒**NO** If yes, please identify the contaminant(s) and enclose data about the location and levels of contaminants:
   - 
2. Are there known environmental contaminants in the project vicinity? ☐**YES** ☒**NO** If yes, please identify the contaminant(s) and enclose data about the location and levels of contaminants:
   - 
3. Are you asking for Arizona Water Protection Fund monies to identify whether or not environmental contaminants are present? ☐**YES** ☒**NO**

# Arizona Watershed Map
# FY 2009




**Title of Project:** Black Canyon Riparian Restoration Project




Fred Phillips Consulting, LLC
401 SOUTH LEROUX STREET
FLAGSTAFF, AZ
86001
TEL 928 773 1530
FAX 928 774 4166
Ecosystem Restoration Land Planning

| REV. | COMMENT | DATE |
|---|---|---|
| | | |
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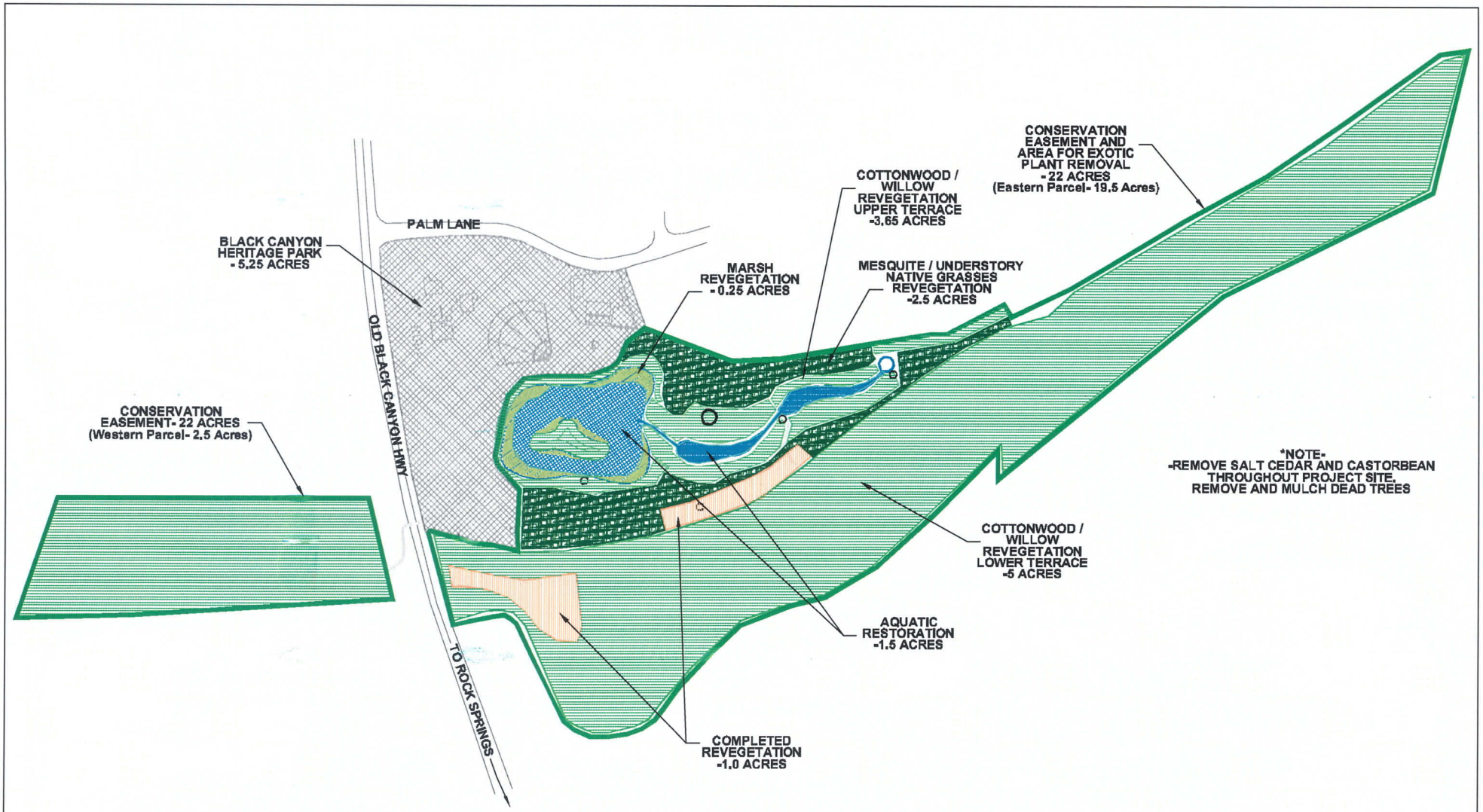
| | | |
| | | |

**BLACK CANYON HERITAGE PARK**
BLACK CANYON RIPARIAN
RESTORATION PROJECT
AWPF GRANT
BLACK CANYON CITY, ARIZONA

OWNERSHIP / LOCATION MAP
0 300 600 1200ft NORTH

DATE: JUNE 11, 2008
JOB NO.: BCHP DESIGN
DRAWN BY: AH
DESIGNED BY: AH
CHECKED BY: FOP
DRAWING TITLE: DRAFT CONCEPT SHEET NO.:

Figure 1

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401 SOUTH LEROUX STREET
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TEL 928 773 1530
FAX 928 774 4166
Ecosystem Restoration Land Planning

| REV. | COMMENT | DATE |
|---|---|---|
| | | |
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# BLACK CANYON HERITAGE PARK

## BLACK CANYON RIPARIAN RESTORATION PROJECT AWPF GRANT

BLACK CANYON CITY, ARIZONA

CONCEPT MAP

0 40 80 160H NORTH

DATE: JUNE 11, 2008
JOB NO.: BCHP DESIGN
DRAWN BY: AH
DESIGNED BY: AH
CHECKED BY: FOP
DRAWING TITLE: DRAFT CONCEPT SHEET NO.:

Figure 2

# Scope of Work: Task Descriptions

**Task #1: Permits, Authorizations, Clearances and Agreements**

**Task Description:** The Grantee shall obtain all permits, authorizations, clearances and agreements necessary to conduct the work described in this Scope of Work, including but not limited to cultural resource clearance (SHPO), USACOE 404 Permit and necessary access agreements and resolutions in support of the project.

**Task Purpose:** To comply with all local, state and federal permit requirements, environmental compliance such as NEPA and obtain legal access to project area.

**Deliverable Description:** Copy of SHPO clearance, USACOE 404 Permit, USFWS Section 7 Consultation, NEPA compliance documentation.
**Deliverable Due Date:** Prior to any ground disturbing activities
**AWPF Reimbursable Cost:** $4,938.00

**Task #2: Prepare and Submit Plans**

**Task Description:** The Grantee shall prepare and submit all plans necessary to conduct the Scope of Work described below. The project work plans shall consist of the following:

- Site Clearing and Herbicide Spraying Plan
  The Site Clearing Plan will describe all the clearing activities and methodologies for invasive species removal for the 22 acre site. The site was burned in 2005. Re-sprouting invasive vegetation will be removed from the site by using herbicide application and the dead wood as well as the existing burned dead wood will be mulched. This plan will contain a map that delineates the areas that will require herbicide application to clear invasive vegetation and the areas that contain existing dead wood that will be burned/mulched.

- Excavation, Grading and Water Structure Schematic Design for CMAR Contract
  Once site clearing is completed, the project design team and contractors will complete the final excavation, grading and CMAR design for the completion of the following by the Grantee:

  1. Excavation of open water areas, wetlands and revegetation within the 7.9 acres of the upper terrace. These open water and wetland areas will be connected to the well pumped water. This area will be revegetated after the 12.9 acre (including the 7.9 acres of open water and wetland) revegetation plan is completed.

- Revegetation Planting Design/Construction Documents for 12.9 Acre Revegetation Site
  Based on the data collected in the Depth to Water and Soil Salinity Analyses the Grantee will develop a Revegetation Plan. While 22 acres will be cleared of invasive vegetation, 12.9 acres will be suitable for restoration due to water availability. The Revegetation Plan will include the following details:

  1. A detailed planting design for the revegetation of the 5 acres of cottonwood/willow habitat in the river corridor and 7.9 acres of wetland, cottonwood/willow and mesquite habitat in the upper terrace. The plan will include plant species type, plant spacing and planting methods.

The Revegetation Plan will also include a discussion of the irrigation schedule, invasive species control, and all maintenance activities and schedules.

- Monitoring Plan
  The Monitoring Plan shall be designed to evaluate the success of the revegetation efforts and survival of the species planted. Monitoring activities shall consist of, but not be limited to photo points and measurement of vegetation growth and vigor. The Monitoring Plan shall also describe routine monitoring for damage to the revegetation due to wildlife or human activities. The Monitoring Plan shall include, at a minimum:

  - Map(s), to scale, of the Project Area showing the proposed monitoring sites
  - Attributes to be measured
  - Rationale for the number and location of monitoring points
  - Procedures used to measure attributes
  - Equipment list
  - Discussion of quality assurance/quality control
  - Sample data sheets and photo point record sheets

**Task Purpose:** To develop detailed plans for clearing, excavating, revegetation and monitoring 22 acres of riparian, wetland and aquatic habitat at Black Canyon.

**Deliverable Description:**

1. Site Clearing and Herbicide Spraying Plan
2. Excavation, Grading and Water Structure Schematic Design for CMAR Contract
3. Revegetation Planting Design/Construction Documents for 12.9 Acre Revegetation Site
4. Monitoring Plan

**Deliverable Due Date:** Site Clearing Plan will be submitted one month after Contract Execution and completion of the remaining plans will be after appropriate work needed for completion of plan.
**AWPF Reimbursable Cost:** $24,277.00

**Task #3: Implement Site Clearing and Herbicide Spraying Plan**

**Task Description:** During 2005, a wildfire occurred on the 22 acre site, burning all of the existing non-native vegetation. Therefore, minimal site clearing will need to be conducted. This will include herbicide treatments on the re-colonizing invasive tamarisk and castor bean. The standing deadwood will be cleared by hand and the material will be mulched. The created mulch will be dispersed through out the site. Details for clearing activities will be listed in the site clearing plan.

**Task Purpose:** To clear invasive vegetation from the site and enable native plant restoration.

**Deliverable Description:** A report with photo/written documentation of the cleared 22 acre area and a site map.
**Deliverable Due Date:** 3 months after final contract execution.
**AWPF Reimbursable cost:** $15,918.00

**Task #4: Site and Soil Analysis**

**Task Description:** Site analysis will occur on the 22 acre site. This will include examining the soil texture, depth to water table and soil salinity across the entire restoration area. Maps of these parameters will be developed and used for the completion of the Revegetation plan.

**Task Purpose:** To gather information necessary to develop effective and successful grading, excavation and Revegetation plans for the project site.

**Deliverable Description:** A report including discussion of the data collected and maps delineating depth to water table, soil texture, and soil salinity.
**Deliverable Due Date:** 3 months after final contract execution.
**AWPF Reimbursable cost:** $7,309.00

**Task #5: Excavation, Grading and Water Structure Schematic Design for CMAR Contract**

**Task Description:** Excavation and grading of the 7.9 acre upper terrace site will be performed to create open water, wetland and riparian areas. This will be conducted using an excavator, low-track and bulldozers and land grading equipment. Excavation will occur on a minimum of 1.5 acre open water area and a minimum of 0.25 acre wetland area. Grading will occur on a minimum of 6.15 acre riparian area. The open water pond areas will be an average depth of 10-12 feet. The pond banks will be contoured to accommodate wetland vegetation. The marsh and riparian habitat adjacent to the open water and channel areas will be graded to fulfill the appropriate habitat conditions.

Valuable existing native habitat (cottonwood/willow) will be avoided during excavation. The established ground water pumps will supply water to fill the channels and be used to maintain optimum water levels for the establishment of habitat.

More detailed plans for this task are outlined in the revegetation and monitoring plans section at the end of this grant.

**Task Purpose:** The primary purpose is to create 1.5 acres of open water habitat that will be used as habitat for native fish, 0.25 acres of lowered wetland habitat, and 6.15 acres of cottonwood/willow/mesquite habitat. This new topographic configuration will diversify habitats for terrestrial and wetland wildlife.

**Deliverable Description:** A report including photos and written documentation showing the completion of the open water and wetland and riparian habitat grading. The report will also include an as built drawing of the completed work and any problems encountered during this phase of the project.
**Deliverable due dates:** 6 months after final contract execution
**AWPF Reimbursable cost:** $107,947.00

**Task #6: Revegetate 12.9 Acres of Native Habitat**

**Task Description:** A total of 12.9 acres of wetland, riparian and upland area will be re-vegetated with the appropriate vegetation that matches the site conditions based on the results of the site and soil analyses completed in Task #4. The pond bankline will be planted with wetland vegetation. Native seed will be dispersed throughout the bankline plantings to inhibit exotic weed regeneration.

The graded and leveled 0.25 acre wetland area will primarily be planted with threesquare bulrush. The 5 acre cottonwood and willow habitat within the river corridor will be planted using bioengineering techniques. This area will have a shallow depth to water and poles will be planted directly into the water table. The ground will also be planted with native riparian seed species (alkali sacaton, inland saltgrass and other native species) to prevent the regeneration of invasive species. Prior to planting, native plant propagules, poles, and plugs will be prepared for planting. Cottonwood, willow, and mesquite in the remaining 6.15 acres of the upper terrace will be revegetated and irrigated using drip irrigation.

The site will be maintained during the first two growing seasons. This will include irrigation system operation and maintenance, site weeding and replanting of dead trees. More detailed plans on this task are outlined in the revegetation and monitoring plans section at the end of this grant.

**Task Purpose:** The purpose of this task is to restore 12.9 acres of native wetland, riparian and upland habitat to the lower Agua Fria River Corridor and to ensure successful establishment of plantings.

**Deliverable Description:**
1. Annual/bi-annual reports including planting and irrigation plans, photos, and project revegetation activities to date.
2. A final year report describing all revegetation construction activities for the 22-acre project.
**Deliverable due dates:** 12, 18, 24, 36 Months after Contract Execution
**AWPF Reimbursable cost:** $98,903.00

**Task #7: Post Revegetation Monitoring Surveys**

**Task Description:** Following revegetation efforts, the monitoring activities outlined in the Monitoring Plan will be conducted. Monitoring will consist of three monitoring sessions during the first growing season (May-October) and twice during the second growing season of at least 3% of revegetation that is completed to date in the 12.9 acre portion of the revegetation project. The variables that will be monitored will include native tree and shrub height measurements, survivorship, condition, and factors affecting growth; rate of exotic weed recolonization; and success of native herbaceous ground cover growth. Monitoring will help determine success of the project by documenting native wetland and riparian vegetation establishment and survivorship and control of exotic species re-growth. Additionally, this monitoring effort will help guide future revegetation efforts within BCRRP of the lower Aqua Fria Corridor.

**Deliverable Description:** Annual and final monitoring reports on the revegetation activities and growth success for the 12.9 acre project. The reports will include a detailed description of all monitoring activities and results and will include photos, growth data and cover analyses, project activities to date.

**Deliverable due dates:** 12 and 24 months after contract execution.
**AWPF Reimbursable cost:** $6,691.00

**Task #8: Overall Project Coordination**

**Task Description:** For every project of this scale there must be a coordinator that is intimately familiar with the grant contract, the deliverables involved and the standard procedures of the AWPF program. The Black Canyon City Community Association, National Park Service and the project consultant will execute the project coordination. Project Coordination will include negotiating contracts with outside services involved with the project to make sure: 1. All

deliverables are being fulfilled as stated in the contract. 2. All reporting information and budgetary forms are submitted to the AWPF in a timely matter in accordance with the grant contract. 3. That any problems or difficulties that arise during the grant project are addressed and satisfactorily resolved. The Project coordination will also include gathering deliverables from the involved parties and packaging the quarterly, annual and final reports necessary for project completion.

**Task Purpose:** To update AWPF on all project activities and ensure that all project activities are properly coordinated and progressing in a timely manner.

**Deliverable description:** Semi-annual progress reports with a narrative of all project activities that relate to the deliverables in Tasks #1- 7, including photographs and all data collected in tabular or graphical format.

**Deliverable due date:** As needed and stated with the other deliverables described in this grant application.
**AWPF Reimbursable Cost:** $7,140.00

**Task #9: Final Report**

**Task Description:** The Grantee shall prepare and submit a comprehensive final report in accordance with the Arizona Water Protection Fund Final Report Guidelines. The final report shall include a summary of all methodologies used, outcomes of all tasks, analyses of all Project data, suggestions for any changes or future actions, and an evaluation of the success of meeting Project objectives. The Grantee shall provide all data generated under this Contract, unless otherwise specified in the Special Provisions.

**Task Purpose:** To provide a comprehensive final report for public distribution that gives a detailed description of the project and showcases its benefits to the State of Arizona.

**Deliverable description:** Final report
**Deliverable due date:** 36 months after contract execution
**AWPF Fixed Cost:** $8,162.00

# DETAILED BUDGET BREAKDOWN
## Requested Grant Monies
### Black Canyon Riparian Restoration Project

| Item | | | | | |
|---|---|---|---|---|---|
| **Task #1 Permits, Authorizations, Clearances and Agreements** | | | | | |
| Outside Services: | | | | | |
| Principal | 20 | Hours | $ | 85.00 | $ 1,700.00 |
| Ecologist II | 30 | Hours | $ | 65.00 | $ 1,950.00 |
| Principal Biologist | 10 | Hours | $ | 70.00 | $ 700.00 |
| Editor | 6 | Hours | $ | 50.00 | $ 300.00 |
| Other Direct Costs: | | | | | |
| Printing Materials Postage (4 copies of final report) | | | | | |
| Fed EX | 1 | each | $ | 20.00 | $ 20.00 |
| Color Copies 11x17" | 10 | each | $ | 2.00 | $ 20.00 |
| Color Copies 8.5X11" | 10 | each | $ | 1.00 | $ 10.00 |
| B&W Copies 8.5"X11" | 30 | each | $ | 0.10 | $ 3.00 |
| Coil Binding | 0 | each | $ | 5.25 | $ - |
| 24"x36" Color Plots | 0 | square feet | $ | 5.00 | $ - |
| Subtotal | | | | | $ 4,703.00 |
| Administration: (5%) | | | | | $ 235.00 |
| **Total for Task #1** | | | | | **$ 4,938.00** |

| | | | | | |
|---|---|---|---|---|---|
| **Task #2 Prepare and Submit Plans** | | | | | |
| **Site Clearing and Herbicide Spraying Plan** | | | | | |
| Outside Services: | | | | | |
| Principle | 8 | Hours | $ | 85.00 | $ 680.00 |
| Wildlife Biologist, MS | 16 | Hours | $ | 70.00 | $ 1,120.00 |
| Autocadd/Arcview Operator | 10 | Hours | $ | 65.00 | $ 650.00 |
| Other direct costs: | | | | | |
| Printing | Color Copies | 20 | $ | 1.00 | $ 20.00 |
| | B & W Copies | 150 | $ | 0.10 | $ 15.00 |
| **Excavation, Grading and Water Structure Schematic Design for CMAR Contract** | | | | | |
| Outside Services | | | | | |
| Principle | 40 | Hours | $ | 85.00 | $ 3,400.00 |
| Architect, AIA | 30 | Hours | $ | 85.00 | $ 2,550.00 |
| Civil Engineer, PE | 30 | Hours | $ | 130.00 | $ 3,900.00 |
| AutoCAD/Arc view Operator | 30 | Hours | $ | 70.00 | $ 2,100.00 |
| CMAR Contractor | 25 | hours | $ | 65.00 | $ 1,625.00 |
| Other Direct Costs: | | | | | |
| Travel | 8 | Days | $ | 96.00 | $ 768.00 |
| Mileage | 1600 | Miles | $ | 0.57 | $ 912.00 |
| **Revegetation Planting Design/Construction Documents for 12.9 Acre Revegetation Site** | | | | | |
| Outside Services: | | | | | |
| Principal | 12 | Hours | $ | 85.00 | $ 1,020.00 |
| Ecologist II | 20 | Hours | $ | 65.00 | $ 1,300.00 |
| Arc View/Cadd Operator | 30 | Hours | $ | 65.00 | $ 1,950.00 |
| Other Direct Costs: | | | | | |
| Printing /Materials | | | | | |
| | Color Copies | | | | |
| Color Copies 11x17" | 30 | each | $ | 2.00 | $ 60.00 |
| Color Copies 8.5X11" | 15 | each | $ | 1.00 | $ 15.00 |
| B&W Copies 8.5"X11" | 60 | each | $ | 0.10 | $ 6.00 |
| Coil Binding | 0 | each | $ | 5.25 | $ - |
| 24"x36" Color Plots | 38 | square feet | $ | 5.00 | $ 190.00 |
| Travel Estimated | 4 | Days | $ | 96.00 | $ 384.00 |
| Mileage | 800 | Miles | $ | 0.57 | $ 456.00 |
| Subtotal | | | | | $ 23,121.00 |
| Administration: (5%) | | | | | $ 1,156.00 |
| **Total for Task #2** | | | | | **$ 24,277.00** |

| Task #3 Implement Site Clearing and Herbicide Spraying Plan | | | | |
|---|---|---|---|---|
| Outside Services: | | | | |
| Heavy Duty Chipper | **6** | **days** | **$ 600.00** | $ 3,600.00 |
| Bobcat with Hydro Axe Mulcher | 3 | Days | $ 500.00 | $ 1,500.00 |
| tractor With Box Scaper | 16 | HR | $ 165.00 | $ 2,640.00 |
| Cutting/Srapying Labor | 1 | LS | $ 8,000.00 | $ 8,000.00 |
| (5 people X 80 hrs x $20/hr) | | | | |
| Construction Oversight (consultant) | 12 | HR | $ 85.00 | $ 1,020.00 |
| Other Direct Costs | | | | |
| Garlon 4 Herbicide | 6 | gallons | $ 225.00 | $ 1,350.00 |
| Dump Fees: | 10 | Loads | $ 65.00 | $ 650.00 |
| Subtotal | | | | $ 15,160.00 |
| Administration: (5%) | | | | $ 758.00 |
| **Total for Task #3** | | | | **$ 15,918.00** |

| Task #4 Site and Soil Analysis | | | | |
|---|---|---|---|---|
| Outside Services | | | | |
| Principal | 6 | hr | 85 | $ 510.00 |
| Ecologist | 24 | hr | 65 | $ 1,560.00 |
| Field Technician | 24 | hr | 45 | $ 1,080.00 |
| Autocadd Operator | 30 | hr | 65 | $ 1,950.00 |
| Other Direct Costs | | | | |
| Backhoe | 1 | days | 400 | $ 400.00 |
| Per Diem | 6 | | 90 | $ 540.00 |
| Mileage | 500 | | 0.55 | $ 275.00 |
| USU Analytical Labs- Approx 52 Samples | 52 | each | 7 | $ 364.00 |
| Shipping Soil Samples- Fed Ex | 1 | 100 | 100 | $ 100.00 |
| Color Copies 11x17" | 30 | each | $ 2.00 | $ 60.00 |
| Color Copies 8.5X11" | 15 | each | $ 1.00 | $ 15.00 |
| B&W Copies 8.5"X11" | 70 | each | $ 0.10 | $ 7.00 |
| Coil Binding | 0 | each | $ 5.25 | $ - |
| 24"x36" Color Plots | 10 | square feet | $ 10.00 | $ 100.00 |
| Subtotal | | | | $ 6,961.00 |
| Administration: (5%) | | | | $ 348.00 |
| **Total for Task #4** | | | | **$ 7,309.00** |

| Task #5: Excavation, Grading and Water Structure Schematic Design for CMAR Contract | | | | |
|---|---|---|---|---|
| Outside Services: | | | | |
| **Pond/site Excavation on upper Terrace 7.9 acres** | | | | |
| 350 L Excavator | 90 | HR | $ 190.00 | $ 17,100.00 |
| 2- A25 C Trucks | 90 | HR | $ 250.00 | $ 22,500.00 |
| Grade Checker | 80 | HR | $ 45.00 | $ 3,600.00 |
| 1165 Case Angle Dozer | 80 | HR | $ 135.00 | $ 10,800.00 |
| 1/2 Blade | 80 | HR | $ 62.50 | $ 5,000.00 |
| **Earthwork and Laser Leveling on the upper terrace 7.9 acres** | | | | |
| D6 H LGP Dozer | 30 | HR | $ 165.00 | $ 4,950.00 |
| 350 L Excavator | 30 | HR | $ 190.00 | $ 5,700.00 |
| 2- A25 C Trucks | 30 | HR | $ 250.00 | $1,800.00 |
| Blade | 40 | HR | $ 140.00 | $ 5,600.00 |
| Grade Checker | 40 | HR | $ 45.00 | $ 1,800.00 |
| Laser Equipment | 40 | HR | $ 15.00 | $ 600.00 |
| 623 Scraper | 40 | HR | $ 190.00 | $ 7,600.00 |
| Dust Control | 40 | HR | $ 135.00 | $ 5,400.00 |
| Equipment Service | 40 | HR | $ 45.00 | $ 1,800.00 |
| Contract Foreman | 40 | hours | $ 75.00 | $ 3,000.00 |
| Construction oversight of channel construction Principal | 40 | Hours | $ 85.00 | $ 3,400.00 |
| Other Direct Costs: | | | | |
| Travel | 10 | Days | $ 96.00 | $ 960.00 |
| Mileage | 2100 | Miles | $ 0.57 | $ 1,197.00 |
| Subtotal | | | | $ 102,807.00 |
| Administration: (5%) | | | | $ 5,140.00 |
| **Total for Task #5** | | | | **$ 107,947.00** |

| | | | | |
|---|---|---|---|---|
| **Task #6: Revegetate 12.9 Acres of Native Habitat (Consultant/Contractor)** | | | | |
| **Construction Oversight2 Acre Revegetation (Consultant)** | | | | |
| Outside Services: | | | | |
| Principal | 40 | Hours | $ 85.00 | $ 3,400.00 |
| Ecologist II | 16 | Hours | $ 65.00 | $ 1,040.00 |
| Other Direct Costs: | | | | |
| Travel Estimated | 8 | Days | $ 96.00 | $ 768.00 |
| Mileage | 2100 | Miles | $ 0.57 | $ 1,197.00 |
| **Willow and Cottonwood Plantings in River Corridor (5 acres)** | | | | |
| Outside Services: | | | | |
| Planting Labor | Lump | | $ 4,000.00 | $ 4,000.00 |
| (5 peoplex40 Hoursx$20/hr) | | | | |
| Capital Outlay: | | | | |
| 6 Foot sandbar willow/cottonwood poles for Bankline Pole Planting and vertical bundles | 2000 | Poles | $ 1.50 | $ 3,000.00 |
| 8 Foot gooding willow poles for Bankline Pole Planting and vertical bundles | 100 | poles | $ 2.00 | $ 200.00 |
| Seed Mix | 12 | pds | $ 50.00 | $ 600.00 |
| Glue, Gloves and Shovels | 1 | | $ 100.00 | $ 100.00 |
| Other Direct Costs: | | | | |
| hand held gasoline auger | 5 | Days | $ 70.00 | $ 350.00 |
| Truck Rental | 1 | Weeks | $ 300.00 | $ 300.00 |
| **Riparian Revegetation of upper terrace and wetlands 7.9 Acres (contractor)** | | | | |
| Outside Services: | | | | |
| Planting and irrigation system Labor | Lump | | $ 14,700.00 | $ 14,700.00 |
| Cost includes(5 laborersx3 wksx40hrs/wkx$20/hr) (Foreman 1.5 wksx40hrs/wkx$45/hr) | | | | |
| Capital Outlay: | | | | |
| One Gallon (Cottonwood/Mesquite/Willow/Baccharis/wolfberry) | 2000 | 1 gallon | $ 3.00 | $ 6,000.00 |
| Inland Salt Grass/Alkalai Sacaton/Native Grass Plugs | 3000 | 3" plugs | $ 1.00 | $ 3,000.00 |
| Three Square/Bullrush Plugs #" | 600 | Plugs | $ 1.00 | $ 600.00 |
| Seed Mix | 20 | pds | $ 50.00 | $ 1,000.00 |
| Drip Irrigation System (PVC/Valves/emitters/controller/stakes etc) | 5.6 | acres | $ 1,000.00 | $ 5,600.00 |
| Electricity for Pump for Water Delivery (Two Years) | 300.0 | month | $ 20.00 | $ 6,000.00 |
| Water for pond/wetland and drip irrigation areas | | | | |
| Other Direct Costs: | | | | |
| Bobcat Rental (to augeplanting holes in upper terrace for 1 gallon pots and willow clusters) | 5 | days | $ 500.00 | $ 2,500.00 |
| Truck Rental (1 trucks x $300/wk) | 3 | Weeks | $ 600.00 | $ 1,800.00 |
| Travel Estimated | 8 | Days | $ 96.00 | $ 768.00 |
| travel mileage | 1000 | Miles | $ 0.57 | $ 570.00 |
| Two Year Site Weed Maintanance/Discing/Irrigation/Month | 20.0 | Months | $ 1,835.00 | $ 36,700.00 |
| One month includes one maintenance person 20 hrs wkx4 wks/$20/hr | | | | |
| (Foreman 3 hrs/month @ $45/hr) | | | | |
| (garlon herbicide 1 gal/$100 gal/month ($100/month grant) | | | | |
| Subtotal | | | | $ 94,193.00 |
| Administration: (5%) | | | | $ 4,710.00 |
| **Total for Task #6** | | | | **$ 98,903.00** |

| | | | | |
|---|---|---|---|---|
| **Task #7: Post Revegetation Monitoring Surveys (consultant)** | | | | |
| **Year One Plant Monitoring (tri-monthly 2 sessions 1.5 days session)** | | | | |
| Outside Services: | | | | |
| Ecologist II | 20.0 | Hours | $ 65.00 | $ 1,300.00 |
| Plant Monitoring Report, FPC Ecologist II | 20.0 | Hours | $ 65.00 | $ 1,300.00 |
| **Year Two Plant Monitoring (2 sessions in May and October)** | | | | |
| Outside Services: | | | | |
| Ecologist II | 20.0 | Hours | $ 65.00 | $ 1,300.00 |
| Plant Monitoring Report, FPC Ecologist II | 30.0 | Hours | $ 65.00 | $ 1,950.00 |
| Other Direct Costs: | | | | |
| **Printing and Photomonitoring (for both years of reporting year one and two 10 copies of report each year)** | Lump | | | |
| Fence Posts and Orange Fencing for Transects and Photo Points | 8 | each | $ 5.00 | $ 40.00 |
| Fed EX | 6 | each | $ 20.00 | $ 120.00 |
| Color Copies 11x17" | 50 | each | $ 2.00 | $ 100.00 |
| Color Copies 8.5X11" | 100 | each | $ 1.00 | $ 100.00 |
| B&W Copies 8.5"X11" | 100 | each | $ 0.10 | $ 10.00 |
| Coil Binding | 10 | each | $ 5.50 | $ 55.00 |
| 24"x36" Color Plots | 20 | square feet | $ 5.00 | $ 100.00 |
| Subtotal | | | | $ 6,375.00 |
| Administration: (5%) | | | | $ 319.00 |
| **Total for Task #7** | | | | **$ 6,694.00** |

| | | | | |
|---|---|---|---|---|
| **Task #8 Overall Project Coordination (Consultant)** | | | | |
| Outside Services: | | | | |
| Principal | 80 | Hours | $ 85.00 | $ 6,800.00 |
| Subtotal | | | | $ 6,800.00 |
| Administration: (5%) | | | | $ 340.00 |
| **Total for Task #8** | | | | **$ 7,140.00** |

| **Task #9 Final Report (Consultant)** | | | | |
|---|---|---|---|---|
| Outside Services: | | | | |
| Principal | 25 | Hours | $ 85.00 | $ 2,125.00 |
| Ecologist II | 25 | Hours | $ 65.00 | $ 1,625.00 |
| Principal Biologist | 40 | Hours | $ 70.00 | $ 2,800.00 |
| Editor | 20 | Hours | $ 50.00 | $ 1,000.00 |
| Other Direct Costs: | | | | |
| Printing Materials Postage (4 copies of final report) | | | | |
| Fed EX | 2 | each | $ 20.00 | $ 40.00 |
| Color Copies 11x17" | 25 | each | $ 2.00 | $ 50.00 |
| Color Copies 8.5X11" | 40 | each | $ 1.00 | $ 40.00 |
| B&W Copies 8.5"X11" | 120 | each | $ 0.10 | $ 12.00 |
| Coil Binding | 4 | each | $ 5.25 | $ 21.00 |
| 24"x36" Color Plots | 12 | square feet | $ 5.00 | $ 60.00 |
| Subtotal | | | | $ 7,773.00 |
| Administration: (5%) | | | | $ 389.00 |
| **Total for Task #9** | | | | **$ 8,162.00** |
| | | | | |
| **Total Grant Request** | | | | **$ 281,288.00** |

# DETAILED BUDGET BREAKDOWN

## Match Donation

### Black Canyon Riparian Restoration Project

| Item | ß | Unit | Rate | Total |
|---|---|---|---|---|
| **Donated Water Rights for Project** | | | | |
| Outside Services: | | | | |
| Water Donation(50 acre feet/year in perpituity) | 50 | acre feet | $ 1,118.72 | $ 55,936.00 |
| **Total Land and Water Donatio** | | | | **$ 55,936.00** |
| | | | | |
| **Task #1 Permits, Authorizations, Clearances and Agreements** | | | | |
| BCCA Director | 20 | Hours | $ 40.00 | $ 800.00 |
| NPS Landscape Architect | 20 | Hours | $ 65.00 | $ 1,300.00 |
| BCHSS Director | 10 | Hours | $ 30.00 | $ 300.00 |
| **Total for Task #1** | | | | **$ 2,400.00** |
| | | | | |
| **Task #2 Prepare and Submit Plans** | | | | |
| BCCA Director | 5 | Hours | $ 40.00 | $ 200.00 |
| NPS Landscape Architect | 5 | Hours | $ 65.00 | $ 325.00 |
| BCHSS Director | 5 | Hours | $ 30.00 | $ 150.00 |
| **Total for Task #2** | | | | **$ 675.00** |
| | | | | |
| **Task #3 Implement Site Clearing and Herbicide Spraying** | | | | |
| Volunteer Labor | | | | |
| (20 people x 2 days x 2 hours/day) | 80 | hours | $ 10.00 | $ 800.00 |
| BCCA Director | 5 | Hours | $ 40.00 | $ 200.00 |
| NPS Landscape Architect | 5 | Hours | $ 65.00 | $ 325.00 |
| BCHSS Director | 5 | Hours | $ 30.00 | $ 150.00 |
| Other Direct Costs | | | | |
| Tractor Use | 3 | days | $ 225.00 | $ 675.00 |
| **Total for Task #3** | | | | $ 2,150.00 |
| | | | | |
| **Task #4 Site and Soil Analysis** | | | | |
| BCCA Director | 5 | Hours | $ 40.00 | $ 200.00 |
| NPS Landscape Architect | 5 | Hours | $ 65.00 | $ 325.00 |
| BCHSS Director | 5 | Hours | $ 30.00 | $ 150.00 |
| **Total for Task #4** | | | | **$ 675.00** |
| | | | | |
| **Task #5: Implement Site Land Leveling and Excavation** | | | | |
| BCCA Director | 5 | Hours | $ 40.00 | $ 200.00 |
| NPS Landscape Architect | 5 | Hours | $ 65.00 | $ 325.00 |
| BCHSS Director | 5 | Hours | $ 30.00 | $ 150.00 |
| **Total for Task #5** | | | | **$ 675.00** |
| | | | | |
| **Task #6: Revegetate 24.5 Acres of Native Habitat** | | | | |
| **Construction Oversight of 24.5 Acre Revegetation** | | | | |
| BCCA Director | 5 | Hours | $ 40.00 | $ 200.00 |
| NPS Landscape Architect | 5 | Hours | $ 65.00 | $ 325.00 |
| BCHSS Director | 5 | Hours | $ 30.00 | $ 150.00 |
| Travel Estimated | 8 | Days | $ 96.00 | $ 768.00 |
| **Total for Task #6** | | | | **$ 1,443.00** |
| | | | | |
| **Task #7: Two-Year Post Revegetation Monitoring** | | | | |
| BCCA Director | 5 | Hours | $ 40.00 | $ 200.00 |
| NPS Landscape Architect | 5 | Hours | $ 65.00 | $ 325.00 |
| BCHSS Director | 5 | Hours | $ 30.00 | $ 150.00 |
| **Total for Task #7** | | | | **$ 675.00** |
| | | | | |
| **Task #8 Overall Project Coordination** | | | | |
| Outside Services: | | | | |
| NPS Landscape Architect | 50 | Hours | $ 65.00 | $ 3,250.00 |
| **Total for Task #8** | | | | **$ 3,250.00** |
| | | | | |
| **Task #9 Final Report** | | | | |
| BCCA Director | 10 | Hours | $ 40.00 | $ 400.00 |
| NPS Landscape Architect | 10 | Hours | $ 65.00 | $ 650.00 |
| **Total for Task #9** | | | | **$ 1,050.00** |
| | | | | |
| **Total Grant Match** | | | | **$ 68,929.00** |

# STATE HISTORIC PRESERVATION OFFICE
## Review Form

In accordance with the State Historic Preservation Act (SHPO), A.R.S. 41-861 *et seq*, effective July 24, 1982, each State agency must consider the potential of activities or projects to impact significant cultural resources. Also, each State agency is required to consult with the State Historic Preservation Officer with regard to those activities or projects that may impact cultural resources. Therefore, it is understood that **recipients of state funds are required to comply with this law** throughout the project period. All projects that affect the ground-surface that are funded by AWPF require SHPO clearance, **including those on private and federal lands.**

The State Historic Preservation Office (SHPO) must review each grant application recommended for funding in order to determine the effect, if any, a proposed project may have on archaeological or cultural resources. To assist the SHPO in this review, the following information MUST be submitted with each application for funding assistance:

- A completed copy of this form, and
- A United States Geological Survey (USGS) 7.5 minute map
- A copy of the cultural resources survey report if a survey of the property has been conducted, and
- A copy of any comments of the land managing agency/landowner (i.e., state, federal, county, municipal) on potential impacts of the project on historic properties.
  NOTE: If a federal agency is involved, the agency must consult with SHPO pursuant to the National Historic Preservation Act (NHPA); a state agency must consult with SHPO pursuant to the State Historic Preservation Act (SHPA),
  **OR**
- A copy of SHPO comments if the survey report has already been reviewed by SHPO.

**Please answer the following questions:**

1. Grant Program: Arizona Water Protection Fund

2. Project Title: Black Canyon Riparian Restoration Project

3. Applicant Name and Address: Black Canyon City Community Association, P.O. Box 33, Black Canyon City, AZ 85324

4. Current Land Owner/Manager(s): Black Canyon City Community Association

5. Project Location, including Township, Range, Section: 33955 S. Old Black Canyon Highway, Black Canyon City, AZ, T09N-R02E-34

6. Total Project Area in Acres (or total miles if trail): 27

7. Does the proposed project have the potential to disturb the surface and/or subsurface of the ground? ☒ YES ☐ NO

8. Please provide a brief description of the proposed project and specifically identify any surface or subsurface impacts that are expected: Clearing of non native habitat, and the excavation and grading of areas to create aquatic and wetland habitat

9. Describe the condition of the current ground surface within the entire project boundary area (for example, is the ground in a natural undisturbed condition, or has it been bladed, paved, graded, etc.). Estimate horizontal and vertical extent of existing disturbance.

Also, attach photographs of project area to document condition: Approximately 18 acres are in the Agua Fria Riverbed. The remaining 9 acres have all been disturbed at one time or another. All of the area not in the riverbed was farmed from the early 1900s, some of it until 2007, so it has been plowed and planted annually. Part of the 9 acres (3 to 4 acres) was a gravel pit many years ago and thus was possibly disturbed to a depth of ten to twenty feet. It is not known exactly how deep the excavation was. In that area are two depressions six to eight feet deep, one serving as a pond until being drained in 2007. Another depression is two to five feet deep and the rest of that area is about two feet deep.

10. Are there any known prehistoric and/or historic archaeological sites in or near the project area? ☐ YES ☒ NO

11. Has the project area been previously surveyed for cultural resources by a qualified archaeologist? ☒ YES ☐ NO ☐ UNKOWN

    **If YES, submit a copy of the survey report. Please attach any comments on the survey report made by the managing agency and/or SHPO. This letter is included following this form**

12. Are there any buildings or structures (including mines, bridges, dams, canals, etc.), which are 50-years or older in or adjacent to the project area? ☐ YES ☒ NO

    **If YES, complete an Arizona Historic Property Inventory Form for each building or structure, attach it to this form and submit it with your application.**

13. Is your project area within or near a historic district? ☐YES ☒ NO

    **If YES, name of the district:**

**Please sign on the line below certifying all information provided for this application is accurate to the best of your knowledge.**

Robert Cothern / 6/10/08 — ROBERT COTHERN

Applicant Signature /Date — Applicant Printed Name

| **FOR SHPO USE ONLY** |
|---|
| SHPO Finding:<br>☐ Funding this project will not affect historic properties.<br>☐ Survey necessary – further GRANTS/SHPO consultation required (*grant funds will not be released until consultation has been completed*)<br>☐ Cultural resources present – further GRANTS/SHPO consultation required (*grant funds will not be released until consultation has been completed*) |
| SHPO Comments |
| For State Historic Preservation Office: Date: |

# United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Phoenix District
Hassayampa Field Office
21605 North 7th Avenue
Phoenix, Arizona 85027
www.blm.gov/az/

TAKE PRIDE IN AMERICA

July 19, 2007

In Reply Refer To:
8100 (AZ-210)

Mr. Robert Cothern
Black Canyon City Community Association
P.O. Box 33
Black Canyon City, Arizona 85324

Dear Mr. Cothern:

We offer congratulations to the Black Canyon City Community Association on its recent acquisition of a 27-acre parcel of land along the Agua Fria River in Black Canyon City. The Association plans to develop this area as the Black Canyon Heritage Park and has established partnerships with the Bureau of Land Management and other organizations in support of conservation and public education.

We understand that the Association is preparing a grant application to obtain funding from the Wildlife Conservation Fund to develop the pond area into a native fish habitat and conservation area. This project would be accomplished with the assistance of the Arizona Game and Fish Department. The grant application will be reviewed by the State Historic Preservation Office. The application must provide documentation that the project area has undergone a cultural resources survey by a qualified archaeologist, and that the project would not adversely affect cultural resources. This letter provides documentation that this is the case.

In support of the community partnership, Dr. Connie Stone from the Hassayampa Field Office completed a cultural resources survey of the entire 27-acre parcel on January 23, 2007. Dr. Stone inspected the entire area, including developed zones and riverbed areas, by walking over it in 10-meter transects. She found no cultural resources in the Black Canyon Heritage Park. She also inspected the existing buildings in the parcel and concluded that they are recent and do not have any qualities that would make them eligible for the National Register of Historic Places. We conclude that the proposed development of the Black Canyon Heritage Park will not affect cultural resources.

We support the development of the Black Canyon Heritage Park and look forward to working with the Association on cooperative efforts in conservation and interpretation of natural and cultural resources in the greater Black Canyon City area. Please contact Dr. Connie Stone at 623-580-5661 if you have any questions or need additional information.

Sincerely,

Clay Templin
Field Manager

# Key Personnel

The following pages include the resumes of the team that will perform a majority of the work specified in this grant application. The project team has over 50 years combined experience in riparian revegetation, land grading and large scale excavation, grant and construction project management and ecological monitoring on southwest rivers. Currently this same project team is implementing, maintaining and managing over 500 acres of restoration on the Lower Colorado River.

**PROJECT DESIGN AND CONSTRUCTION CONSULTANTS**

**Fred Phillips Consulting, LLC**

Fred Phillips Consulting, LLC (FPC) is a Landscape Architecture/Ecosystem Restoration based small business in Flagstaff, Arizona. Fred Phillips established Phillips Consulting in 1998, and now has over 14 years experience in landscape architecture, ecosystem restoration, natural resources planning, restoration ecology, GIS Mapping, site analysis and soil surveying. Our projects include multidisciplinary wetland/aquatic/riparian restoration, commercial and residential landscape design, natural resource planning, and fundraising/eco-business development projects for Native American Tribes, non-profit organizations, federal and state agencies, and private individuals. We strive to accomplish the wise planning, restoration and development of the natural landscapes and ecosystems of the western United States and beyond. FPC also teams with a diverse group of highly qualified engineers and other specialists giving us the ability to implement any type of project.

**Project Experience**

**WETLAND RESTORATION & NATIVE PLANT REVEGETATION**

**Yuma East Wetlands Restoration Project**
*Quechan Indian Tribe & City of Yuma, AZ*

- Developed restoration plan for 1,400 acre Yuma East Wetlands riparian and wetland restoration, habitat enhancement and agricultural conversion, including restoration detail designs.
- Conducted design, site analysis, engineering, biological monitoring and construction management of over 250 acres of restoration projects.
- Conducted wetland delineation, endangered species surveys, and project construction management; applied for and obtained environmental compliance permits.
- Conducted design, site analysis, engineering, biological monitoring and construction management of over 250 acres of restoration projects.
- Excavated a mile long backwater channel and restored topography of native wetlands.

**'Ahakhav Tribal Preserve**
*Aqua Fria Corridor Indian Tribes, Parker, AZ*

- Designed and implemented 5 acres of park facilities, 300 acres of native riparian plant restoration, 500 acres of aquatic/ wetland restoration and protection, ecological monitoring, 3.5 mile trail system and an environmental education program.
- Administrated all construction and restoration operations, personnel management and an annual budget of over $1.5 million for 5 years.

- Designed, obtained funding for, and established 'Ahakhav native plant nursery that currently grows and sells over 40,000 native plants annually.

**Yuma West Wetlands Revegetation Project**
*City of Yuma, AZ*

- Contracted to perform site analysis, design, construction management and monitoring of 50 acre native riparian revegetation project along the Aqua Fria Corridor.
- Fabricated and implemented mitigation plans and compliance for USCOE violations on riverfront project.

**Las Vegas Wash Master Revegetation Project**
*City of Las Vegas/Clark County/Southern Nevada Water Authority*

- Developed 200 acre 'Revegetation Master Plan for Las Vegas Wash'.
- Developed revegetation construction documents for three riparian and wetland restoration projects, including over 90 acres of the Las Vegas Wash Revegetation Project.

**Glen Canyon Riparian Restoration Project**
*Glen Canyon National Recreation Area, AZ*

- Completed revegetation design, implemented construction and biological monitoring for a 16-acre riparian restoration project at Lees Ferry, AZ in partnership with Grand Canyon Wildlands Council.
- Developed a revegetation master plan for the entire Aqua Fria Corridor corridor within the Glen Canyon National Recreation Area, a 15-mile reach from Glen Canyon Dam to Lees Ferry, in coordination with Grand Canyon Wildlands Council.

**The Limitrophe Restoration Plan**
*Environmental Defense*

- Developed restoration master plan for 25 miles of Aqua Fria Corridor corridor in the Limitrophe District, including existing data research, stakeholder consensus building, and grant writing for the pilot project

**Multi-Species Conservation Plan Conservation Opportunity Area Plans**
*Bureau of Reclamation*

- Served as Tribal liaison between federal agencies and other stakeholders in relation to the Multi-Species Conservation Plan.
- Developed riparian restoration plans for the Quechan, Hualapai, Cocopah, Chemehuevi, Quechan and Ft Mojave Indian Tribes.

# P G & E, LLC

**P.O. Box 11360**
**Prescott, Arizona 86304**
**Phone: (623) 561-6094 Fax: (623) 561-2968**
**E-mail: pgellc@msn.com**


Statement of Qualification

**General information about PG&E, LLC:**
The principals of this family-owned heavy civil construction business relocated to Prescott in 1980 from southern California. The original focus of this business was contract mining and mine site reclamation. One of the first reclamation projects was for Phelps Dodge Mining Co. in Copper Basin near Skull Valley. We have enjoyed a 25 year relationship with Phelps Dodge on various sites in Arizona including the rebuilding and chip seal surfacing of Sycamore Canyon Road in the Verde Valley, reclamation of the Iron King mine site and pump system, development of the Jordan Field and roadway system, and various reclamation projects related to aquifer protection and tailings cover for the United Verde branch at Jerome, AZ.

Federal projects include various contracts for the U.S. Bureau of Reclamation including rehabilitation of Senator Wash Dam on the Aqua Fria Corridor system and a three year IDIQ (indefinite quantity supply) project for riprap, ballast, and gravel supply and deliver project. This project required us to operate, on demand, over 11 quarry sites from Laughlin, NV to Yuma, AZ. We were required to blast, crush, screen, load, haul and deliver gravel and rock products on 275 miles of river system. Our haul routes were, at times, up to 40 miles and included shaping, building and maintenance of the gravel access roads.

In December 2005, we completed Phase 1 of the East Wetlands Restoration for the City of Yuma, Arizona and a pond rehabilitation project at Copperstone Mine for CH2M Hill, Inc. and Phelps Dodge Corporation.

In 2006, we completed work on a 640-acre mass clearing and rehabilitation project to facilitate new reservoir construction at Brock Research Center in Imperial County, California for the U.S. Bureau of Reclamation.

Most recently, we completed Phase 2 of the East Wetlands Restoration. Phase 2 required additional site clearing, recontouring and channel excavation with slope grading and inlet culverts.

**Licenses held by PG&E, LLC:**

| License No. | Class | Qualifying Party |
|---|---|---|
| 165628 | A – Commercial General Engineering | Dave Pauletto |
| 162636 | A-05 – Commercial Excavating, Grading | Peggy Pauletto |
| 177516 | B-04 – General Residential Engineering | Dave Pauletto |
| 00013323 | City of Yuma Contractors Business License | Andria Kovach |

**Experience and qualifications of PG&E, LLC:**

| | | |
|---|---|---|
| Owner: U.S. Bureau of Reclamation<br>Yuma Area Office<br>7301 Calle Agua Salada<br>Yuma, AZ 85364<br>Contract No.: 01-PG-34-0203<br>Contacts: Myra Cordero / Mike Igoe<br>928-343-8134 / 928-343-8272 | Performance Dates:<br><br>6/2/03 – 12/31/03 | Original Contract Amount:<br>$1,037,200.00<br>Final Contract Amount:<br>$1,050,503.85 |
| Description of Job:<br>Stockpiling Rip Rap and Gravel -- Delivery Order #01A4340203 – Agnes Wilson Quarry | | |
| Role of PG&E, LLC:<br>To provide flood potential protection material for the Lower Aqua Fria Corridor system. Provided and installed levee upgrades and water control measures including quarry operations and management. | | |

| | | |
|---|---|---|
| Owner: U.S. Bureau of Reclamation<br>Yuma Area Office<br>7301 Calle Agua Salada<br>Yuma, AZ 85364<br>Contract No.: 01-PG-34-0203<br>Contacts: Myra Cordero / Mike Igoe<br>928-343-8134 / 928-343-8272 | Performance Dates:<br><br>10/27/03 – 11/8/03 | Original Contract Amount:<br>$54,600.00<br>Final Contract Amount:<br>$54,600.00 |
| Description of Job:<br>Stockpiling Rip Rap and Gravel -- Delivery Order #01A5340203 – Hills Ranch Stockpile | | |
| Role of PG&E, LLC:<br>Relocation of existing rip rap and gravel stockpiles to respond to environmental concerns on the Aqua Fria Corridor Indian Tribe lands. | | |

| | | |
|---|---|---|
| Owner: U.S. Bureau of Reclamation<br>Yuma Area Office<br>7301 Calle Agua Salada<br>Yuma, AZ 85364<br>Contract No.: 01-PG-34-0203<br>Contact: Myra Cordero / Mike Igoe<br>928-343-8134 / 928-343-8272 | Performance Dates:<br><br>4/5/04 – 6/25/04 | Original Contract Amount:<br>$752,564.70<br><br>Final Contract Amount:<br>$777,364.52 |
| Description of Job:<br>Stockpiling Rip Rap and Gravel -- Delivery Order #01A6340203 – Laguna East Quarry | | |
| Role of PG&E, LLC:<br>To provide flood potential protection material for the Lower Aqua Fria Corridor system. Provided and installed levee upgrades and water control measures including quarry operations and management. | | |

| | | |
|---|---|---|
| Owner: U.S. Bureau of Reclamation<br>Yuma Area Office<br>7301 Calle Agua Salada<br>Yuma, AZ 85364<br>General: Au Authum Ki, Inc.<br>665 E. Morelos, Ste. 101<br>Chandler, AZ 85225<br>Contact: Mark Bender, AAK / Myra Cordero, USBR<br>928-210-2163 / 928-343-8134 | Performance Dates:<br><br>9/20/04 – 10/8/04 | Original Contract Amount:<br>$655,650.00<br><br>Final Contract Amount:<br>$614,691.00 |
| Description of Job:<br>Senator Wash Dam: Filter Blanket Extension, Yuma, AZ | | |
| Role of PG&E, LLC:<br>Provided and installed filter gravel and drain rock to extend dam foot drain water control structure. We were required to provide construction manpower and equipment on a 20-hour, two shift per day basis for emergency repairs to the dam. | | |

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|---|---|---|
| Owner: Phelps Dodge Corporation<br>1 North Central Avenue<br>Phoenix, AZ 85004<br>Contact: Stacy Driveness<br>928-634-2622<br>Ann Williamson<br>602-366-8270 | Performance Dates:<br><br>2002 - 2004 | Original Contract Amount:<br>$100,000.00<br><br>Final Contract Amount:<br>$112,429.41 |
| Description of Job:<br>Miscellaneous projects during this timeframe: Mine Reclamation, Sullivan & Jordan Diversion Dam at Verde River, Iron King Adit, Pecks Lake Security Berm, Iron King Pump Station, 400 Level Pump Station | | |
| Role of PG&E, LLC:<br>Design and build wetland features and water control and diversion facilities to utilize and protect historic water rights on the Verde River system. | | |

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|---|---|---|---|
| Owner: | El Paso Natural Gas Company<br>Topock, AZ 86436 | Performance Dates: | Original Contract Amount:<br>$160,738.00 |
| General: | ERM Enviroclean – Rocky Mountain<br>5950 S. Willow Drive, Ste. 200<br>Greenwood Village, CO 80111 | 11/22/04 – 2/14/05 | Final Contract Amount:<br>$180,111.00 |
| Contact: | Andrew Bachman or Mike Taylor<br>303-741-5050 | | |
| Description of Job:<br>Install Evaporation Pond at Topock Compressor Station, Topock, AZ: earthwork and discharge piping – water control structures | | | |
| Role of PG&E, LLC:<br>Build evaporation ponds and water distribution system to eliminate process plant water from entering the Lower Aqua Fria Corridor system. | | | |

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|---|---|---|---|
| Owner: | City of Yuma<br>Dept of Admin – Riverfront Dvlpmnt.<br>155 W. 14th Street<br>Yuma, AZ 85364 | Performance Dates:<br>10/10/05 – 4/30/06 | Original Contract Amount:<br>$759,381.79 |
| General: | Au Authum Ki, Inc.<br>665 E. Morelos, Ste. 101<br>Chandler, AZ 85225 | | Final Contract Amount:<br>$782,490.29 |
| Contact: | Mark Bender, AAK / Kevin Eatherly, City<br>928-210-2163 / 928-373-5195 | | |
| Description of Job:<br>East Wetlands Restoration – Phase 1 South Channel Lower Aqua Fria Corridor | | | |
| Role of PG&E, LLC:<br>Construction management and construction of 1½ miles of inland channel and lake development for the first phase of the Yuma East Wetlands. Work included approximately 36 acres of invasive species clearing and water control structures. | | | |

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|---|---|---|---|
| Owner: | U.S. Bureau of Reclamation<br>Yuma Area Office<br>7301 Calle Agua Salada<br>Yuma, AZ 85364 | Performance Dates:<br>6/5/06 – 10/31/06 | Original Contract Amount:<br>$1,252,014.48 |
| General: | Au Authum Ki, Inc.<br>665 E. Morelos, Ste. 101<br>Chandler, AZ 85225 | | Final Contract Amount:<br>$1,252,014.48 |
| Contact: | Mark Bender / Myra Cordero, USBR<br>928-210-2163 / 928-343-8134 | | |
| Description of Job:<br>Brock Ranch Land Rehabilitation Project | | | |
| Role of PG&E, LLC:<br>640-acre historic site rehabilitation to prepare for future reservoir construction for the Lower Aqua Fria Corridor system. Work included building and structure demo, tree clearing and mulching, 6½ mile concrete canal demo and custom crushing operations, and mass earthwork.<br>Services provided during design phase included cost estimating and value engineering. | | | |

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|---|---|---|
| Owner: Chamberlin & Myers Development<br>3603 Crossings Drive<br>Prescott, AZ 86305<br>General: Santa Fe Building Company, Inc.<br>P.O. Box 12127<br>Prescott, AZ 86304-2127<br>Contact: Ty Myers or Anessa<br>928-776-1076 | Performance Dates:<br><br><br>10/31/06 – 2/9/07 | Original Contract Amount:<br>$302,500.00<br><br>Final Contract Amount:<br>$303,708.00 |
| Description of Job:<br>The Crossings Phase II Drainage Improvements, Prescott, Arizona | | |
| Role of PG&E, LLC:<br>Project management and construction of drainage facilities within dedicated easement. Four parallel 48" pipe barrels with inlet & outlet concrete structures. Pyramat erosion control fabric installation. Channel excavation and backfill. | | |

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|---|---|---|
| Sponsor: Yuma Crossing National Heritage Area<br>180 W. 1st Avenue, Suite E<br>Yuma, AZ 85364<br>Design: Fred Phillips Consulting, LLC<br>9730 North Rosewood Drive<br>Flagstaff, AZ 85364<br>Contact: Charles Flynn / Fred Phillips<br>928-373-5192 / 928-773-1530 | Performance Dates:<br><br><br>3/8/07 – 4/30/07 | Original Contract Amount:<br>$273,294.00<br><br>Final Contract Amount:<br>$273,294.00 |
| Description of Job:<br>East Wetlands Restoration – Phase II South Channel Lower Aqua Fria Corridor | | |
| Role of PG&E, LLC:<br>Project management and site clearing, recontouring and channel excavation with slope grading and inlet culverts. | | |

# Robert L. Cothern

Brief Biography

**Education:**

- Natural Science degree
- Extensive education, training and work experience in;
  - Mechanical Engineering
  - Manufacturing Engineering
  - Tool Engineering
  - Material and Process Engineering
  - Quality Engineering

**Current Positions (all volunteer):**

- President, Black Canyon City Community Association, Inc. a 501(c)(3)
- Vice Chairman, Yavapai County Board of Adjustments and Appeals
- Secretary, Black Canyon Trail Coalition, Inc. a 501(c)(3)
- Secretary/Treasurer, Black Canyon Messenger, Inc. a 501(c)(3)

**Work Experience:**

- 11/20/1967 to 4/30/2000, Lockheed Martin Missile & Space Co.
  - 1985 – 2000, Material and Process Engineering
    - Developed and proofed process methods, tooling and documentation for aerospace prototype and production hardware
    - Coordinated activities of engineers and manufacturing personnel
    - Performed problem investigation, resolution and corrective action
    - Performed detailed process audits in-plant, at suppliers and customers
  - 1980 – 1985, Quality Engineering
    - Developed and integrated quality control methods
    - Performed problem investigation, resolution and corrective action
    - Coordinated activities of engineers and manufacturing personnel
  - 1973 – 1980, Process Development Specialist
    - Lead person in prototype development laboratory
    - Developed prototype hardware and models from advanced aerospace materials
  - 1967 – 1973, Machinist
    - Operated machine tools for limited production of high-precision aerospace hardware

- 8/1965 – 10/1967, Airmotive Enterprises
  - Overhauled and tested large reciprocating aircraft engines

- 8/1962 – 8/1965, U.S. Army

Denver Service Center, TEA, Design Branch, 1984 – 1987
Lakewood, CO

- Provided landscape architectural services for a wide range of park projects through out the United States.

## EDUCATION & LICENSES

Bachelor of Landscape Architecture, -1985
University of Arizona
Tucson, AZ

Registered Landscape Architect, Registration #24746

# Black Canyon Riparian Restoration Project

*Aerial Photo of most of the Revegetation Site*

**Figure Three BCRRP Site Photos**

# Black Canyon Riparian Restoration Project

*Picture of area adjacent lake to be graded and revegetated*

*River Corridor to be Improved and Revegetated*

*Areas adjacent existing lake to be excavated and restored as wetlands*

**Figure Three BCRRP Site Photos**

# Black Canyon Riparian Restoration Project

*River Corridor Pole Plantings, Site Planted April 14, 2008*

*Upper Terrace Revegetation, Site Planted April 14, 2008*

*Picture of Lake/Wetland to be Improved and Restored*

*Photos of Pilot Revegetation Site Planted April 14, 2008*

**Figure Three BCRRP Site Photos**

# Revegetation and Monitoring Plans

The following are the draft plans for the BCRRP pond/wetland excavation, grading and revegetation project.

## EXOTIC SPECIES CLEARING

Since the site burned in 2005, clearing will consist of herbicide spraying re-colonizing invasive vegetation and mulching the standing deadwood. Re-colonizing invasive tamarisk and castor bean will be sprayed with Garlon 4 using a backpack sprayer. Care will be taken to prevent over-spraying into other areas and will not be sprayed on windy days. The entire 22 acre site will be treated with this technique. The remaining standing deadwood on the 22 acre site will be cleared and mulched. All mulched material will be left on site.

## SITE EXCAVATION AND LAND LEVELING

After the site is cleared of invasive vegetation, the pond and surrounding areas on the 7.9 acre upper terrace will be excavated using an excavator, low-track bulldozers and land-grading equipment. The pond will be excavated to achieve a minimum of 1.5 acres of aquatic habitat suitable for native fish, 0.25 acres of wetland habitat and 6.15 acres of cottonwood/willow/mesquite habitat. The water level in the channel will be dictated by the amount of water provided by the ground water well, which will be determined based on necessity. The 0.25 acre wetland area will be graded and leveled to just above the normal water table of the pond and the 6.15 acre cottonwood and willow riparian area will be graded so that the plantings will be able to tap into the water provided by the pond and pumps. These areas will be flood and drip irrigated. Valuable existing native habitat (cattail/bulrush, cottonwood/willow, and mesquite) will be avoided during excavation. This new topographic configuration will diversify habitats for terrestrial and aquatic wildlife.

The contractor selected for the channel excavation work will be provided a schematic design of the excavated pond and lowered wetland and riparian areas by the grantee. The contractor will work with the grantee to finalize a "not to exceed cost" for the excavation of channels and grading of wetland habitats as described in the grant. During construction the contractor will work with the grantee to make design revisions as needed in the field, any changes in design will be submitted to the AWPF for comment and approval. When construction is completed the grantee will provide the AWPF with an as built map of the completed excavation and grading project.

### Spoils Placement

The excavated spoils will be placed in areas with low wildlife habitat value, using methods that minimize disturbance to the few existing cottonwood trees. Excavated material can be successfully revegetated if soil type, depth to groundwater levels, and soil salinity are suitable. The numbers and species of plants used for revegetation will be determined after dredging operations have been completed.

SITE AND SOIL ANALYSES

Depth to water and soil salinity analyses will be completed on the 22 acre BCRRP site using the following equipment:

- A Trimble Geo XT survey unit
- A hand or mechanical auger to collect samples

Soil samples will be collected at 22 data points. At each point soil samples will collected at the surface and 5-foot depths. At each sampling point, the Trimble survey unit will identify the location and elevation. Soil samples will be sent to Utah State (a licensed soil lab) for analysis. The depth to water will be measured at 11 sampling points that coincide with the soil sample sites. Maps displaying the depth-to-water and soil salinity at the surface and 5

foot depth will prepared and will be used for the revegetation planting design. These maps will specify the percent of area suitable for the various riparian species (cottonwood, willow, and mesquite).

These analyses will be used to complete the planting, irrigation, and monitoring designs for the site. The planting design will specify the species to be planted, along with planting locations, monitoring transects, and a detailed irrigation design.

## IRRIGATION DESIGN AND SET-UP

Vegetation planted along the pond and open water bank line will not be irrigated since the propagules will be planted directly into the water table or saturated soil along the site. The created 0.25 acre wetland habitat will be flood irrigated by raising the water level in the channel by pumping water from the well into the pond. The 6.15 acres of cottonwood/willow/mesquite habitat on the upper terrace will be watered with drip irrigation provided from the site groundwater pumps. The 6.15 acre area will be drip irrigated 5 days a week for 6 months (April-Sept) and 3 days a week (Oct-March) until the end of the first growing season. The second growing season the trees will be irrigated at the same application rates unless it is determined that less frequent irrigation is possible. The 5 acres revegetated in the Agua Fria Corridor will be planted directly into the exiting water table and will not require supplemental irrigation.

## 12.9 ACRE REVEGETATION PROJECT PLAN

The restored area will feature native riparian species, open water aquatic habitat, wetland and upland habitats—a much greater diversity of habitat than currently exists at this site. The result will be wetlands and riparian habitats that will be more functional and attractive to birds and wildlife.

### Revegetation Construction Activities

This project will involve a total of 12.9 acres of native plant revegetation and open water habitat enhancement, including 0.25 acre created wetland habitat; 8.65 acres of cottonwood and willow riparian habitat; and 2.5 acres of mesquite bosque upland habitat. The wetland habitat will be planted with poles, plugs, and seeds of native wetland species, and will be irrigated using flood irrigation from the channel. The riparian/upland habitat will be planted with propagules of native riparian species, including cottonwood, willow, and mesquite and will be drip irrigated using pumps drawing water from the channel. The final revegetation design will be completed based on the excavation and the results from the soil and depth to water analyses.

### Planting

The following native plant species will be used in the revegetation project

- Fremont cottonwood (*Populus fremontii*)
- Goodding willow (*Salix gooddingii*)
- Sandbar willow (*Salix exigua*)
- Honey mesquite (*Prosopis glandulosa*)
- Velvet mesquite (*Prosopis spp.*)
- Quailbush (*Atriplex lentiformis )*
- Alkali bulrush (*Schoenoplectus maritimus*)
- Olney three-square bulrush (*Schoenoplectus americanus*)
- Hardstem bulrush (*Schoenoplectus acutus*)
- Inland saltgrass (*Distichulus Spicata*)
- Alkali sacaton (*Sporobolus airoides*)
- Yerba mansa (*Anemopsis californica*)
- Western sea purslane (*Sesuvium verrucosum*)

- Wild heliotrope (*Heliotropium curassavicum*)
- Other suitable native riparian and wetland species

The final planting design will determine the density and location of these species within the site, which will be based on the results of the soil and depth-to-water analyses and other site conditions. Wetland species will primarily be planted by seed and plugs from local native stock and purchased from a nursery local to the region. The planting density of the wetland species will be determined in the final planting design. In the riparian areas and in the Agua Fria Corridor, approximately 150-300 trees (cottonwood, Goodding willow, and sandbar willow) per acre will be planted at 5-15 ft. spacing, depending on site suitability. A 3-foot hog-wire fence will be installed around each 1 gallon cottonwood and Goodding willow propogules in the upper terrace area to prevent browsing by beaver or other herbivores, the poles, plugs and seeds will not be fenced. The area will be hand-weeded during native vegetation establishment to limit the encroachment of tamarisk and giant cane, thereby enhancing the natural recruitment of native grasses and forbs. Planting activities also include hand-broadcasting seeds of alkali sacaton (*Sporabolus airoides*), salt heliotrope (*Heliotropium curassavicum*), yerba mansa (*Anemopsis californica*), and other native under-story species to promote under-story development in the revegetation area.

### Weeding

When planting is complete the grantee will conduct regular maintenance of the revegetation site for two years. Maintenance activities will be conducted during the growing season and will include: maintaining the irrigation system, removing exotic weeds, and re-planting vegetation in the case of mortality. By the end of the first growing season, the plantings should be well established for long-term self-sustainability.

## MONITORING STRATEGY AND SUCCESS CRITERIA

In addition to providing information about the success of this project, this monitoring plan will help test the methods proposed for the remaining actions.

### Vegetation Monitoring

The primary purpose of monitoring vegetation is to determine if vegetation is establishing and thriving, if conditions are suitable for the vegetation planted, document the success of the project, and help guide future revegetation efforts. Vegetation sampling will target about 3 percent of the population. Monitoring will be conducted three times throughout the first growing season and twice during the second growing season (May through October). Both quantitative and qualitative techniques will be used to monitor vegetation growth at the site. Transects will be established at the site to measure quantitative growth parameters for tree, shrub, and herbaceous vegetation species. Transects will include all tree/shrub species that are present on the site and will be selected randomly using the following method:

1. A computer will be used to generate one random number within each acre of the 12.9 acre Revegetation site. The random number will correspond to a planting hole on the overall planting design for the area.
2. Vegetation transects will be assigned to random planting holes. These transects will include the randomly selected planting hole plus the consecutive holes that correspond to each plant species until all species planted on site are accounted for.

For tree and shrub species, including cottonwood, willow, and mesquite, the following parameters will be measured:

- Tree height (ft) – From base of the trunk to the top of the tallest up-stretched leaf.
- Tree condition – Dead- healthy
- Factors affecting growth (i.e. insect/mammal browsing, high salinities, etc.)

- Percent survival rate – Dead verses alive.

Qualitative data-collection methods for vegetation will include photo point monitoring. The Design Team will establish four such locations on the BCRRP site. Photo monitoring will be conducted using AWPF methods and guidelines.

## Success Criteria

Productive native habitat development is the primary criterion that measures project success. The following table specifies success criteria for vegetation, criteria that the Design Team will use to assess the success of this revegetation project in relation to pre-treatment conditions.

Success Criteria for Native Vegetation Species in the Revegetation Project

| | 5-year goal | | 10-year Goal | |
|---|---|---|---|---|
| **Species** | **Percent Survival** | **Height (inches)** | **Percent Survival** | **Height (inches)** |
| Fremont Cottonwood | 80-100 | 200-300 | 60-90 | 240-360 |
| Gooding Willow | 80-100 | 200-265 | 60-75 | 220-300 |
| Sandbar Willow | 75-80 | 135-265 | 60-80 | 140-280 |
| Mesquite (Velvet, Honey) | 75-80 | 135-265 | 60-80 | 140-280 |
| Four-Wing Saltbush | 60-80 | 24-60 | 50-80 | 24-72 |

Certain site features may influence vegetation health, including: insect damage, browsing, soil erosion and drift, and "edge effects," including vandalism. These conditions will be noted through the monitoring period. Baseline conditions for vegetation at BCRRP will documented in the BCRRP biological evaluation from the results of preliminary site analysis. This data provides information that is required to assess whether the project objectives are being met. The Design Team can use it to compare survival and growth rates to soil salinity, depth-to-water, and plant health. Plant health is a function of growth rate, survival, extent of insect damage or browsing, weed encroachment, and regeneration.

## Existing Plans/Reports/Information

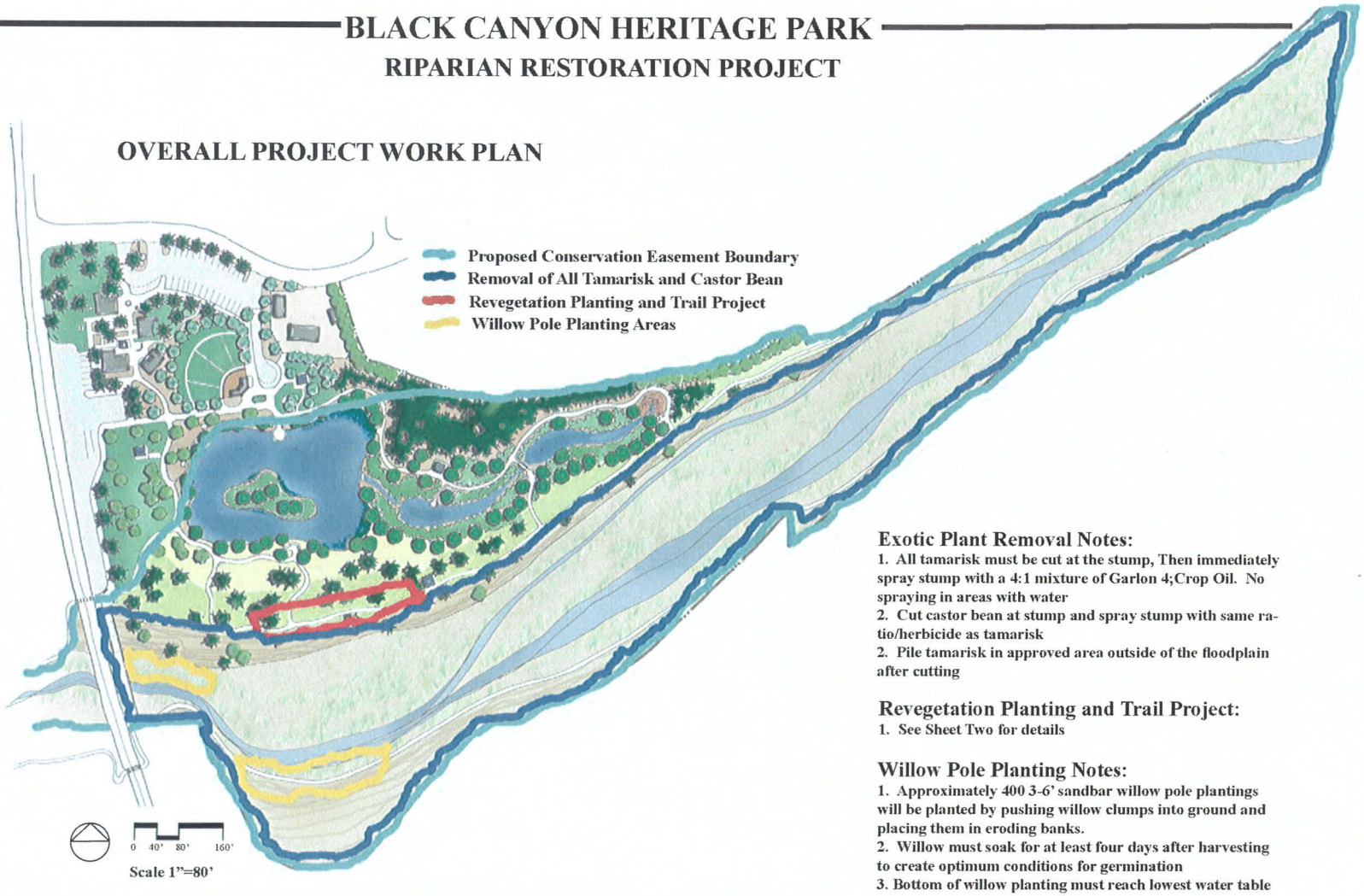
The Black Canyon City Community Association (BCCA), Black Canyon Historical Society, National Park Service, Sierra Club, Arizona Game and Fish, US Fish and Wildlife and Bureau of Land Management have been working together the last 4 years in developing a plan for this area owned by the BCCA. The initial plan includes the establishment and restoration of a 22 acre conservation easement and the development of the adjacent 5 acres into a community park with a focus on environmental education and low impact recreation such as birding and hiking. The following plans are currently completed in order to initiate this important effort, they are provided in Figure 4 of this document:

a. BCRRP Concept Plan

b. Black one acre Pilot Revegetation Project

# BLACK CANYON HERITAGE PARK
## RIPARIAN RESTORATION PROJECT

### OVERALL PROJECT WORK PLAN




**Exotic Plant Removal Notes:**

1. All tamarisk must be cut at the stump, Then immediately spray stump with a 4:1 mixture of Garlon 4;Crop Oil. No spraying in areas with water
2. Cut castor bean at stump and spray stump with same ratio/herbicide as tamarisk
2. Pile tamarisk in approved area outside of the floodplain after cutting

**Revegetation Planting and Trail Project:**

1. See Sheet Two for details

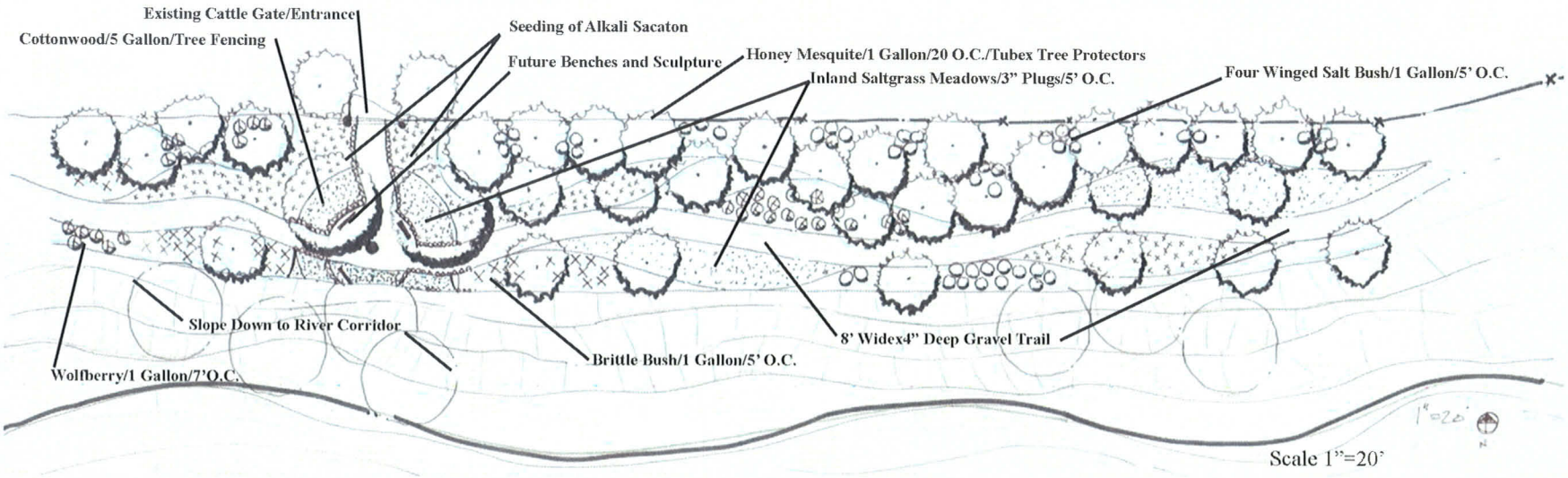
**Willow Pole Planting Notes:**

1. Approximately 400 3-6' sandbar willow pole plantings will be planted by pushing willow clumps into ground and placing them in eroding banks.
2. Willow must soak for at least four days after harvesting to create optimum conditions for germination
3. Bottom of willow planting must reach lowest water table of the year for long term health of the plant


Prepared By:
Fred Phillips Consulting, LLC
928-773-1530


Prepared For:
Black Canyon Historical Society and National Park Service
Riparian Restoration Project

# REVEGETATION PLANTING DESIGN




## Planting Schedule

| Scientific Name | Common Name | Size | Spacing | # | Supplier |
|---|---|---|---|---|---|
| Salix goodingii | Goodding Willow | 6 foot posts 2-8" Dia | 12' O.C. | 20 | Cuttings |
| Salix exidua | Sandbar Willow | 3' Bare Poles | Cluster every 5' | 380 | Cuttings |
| | | | | | |
| Populus fremontii | Freemont Cottonwood | 5 Gallons | 20' O.C. | 2 | MS |
| Prosopis glandulosa | Honey Mesquite | 1 gallon | 10-17' O.C. | 37 | MS |
| Encelia Farinosa | Brittle Bush | 1 gallon | 5' O.C. | 40 | MS |
| Atriplex canescens | Four Winged Saltbush | 1 gallon | 5' O.C. | 47 | MS |
| Lycium Andersonii | Wolfberry | 1 gallon | 7' O.C. | 40 | MS |
| Distichulus spicata | Inland Saltgrass | 3" Plugs | 5' O.C. | 150 | FOP |
| Sporobulous airoides Seed | Alkalai sacaton | Pounds | NA | 4 Lbs | GS |
| Native Flower Seed Mix (see mix below) | | pounds | NA | 3 Lbs | GS |
| Total One Gallon Plant | | | | 166 | |
| Total 3" Plugs | | | | 150 | |
| Total lbs Sacaton Seed | | | | 4 | |
| Total lbs Flower Seed Mix | | | | 3 | |
| | | | | | |
| Native Seed Mix | | Percent per Pound | | | |
| Sphaeralcea ambigua | Globe Mallow | 33% | | | |
| Oenothera deltoides | Dune Evening Primrose | 33% | | | |
| Sesuvium verrucosum | Sea Purslane | 17% | | | |
| Heliotropium Curassavicum | Salt Heliotrope | 17% | | | |

## Planting Legend

- Freemont Cottonwood
- Honey Mesquite
- Brittlebush
- Wolfberry
- 4 Winged Saltbush
- Alkalai Sacaton Seeded
- Inland Saltgrass

**Notes:**

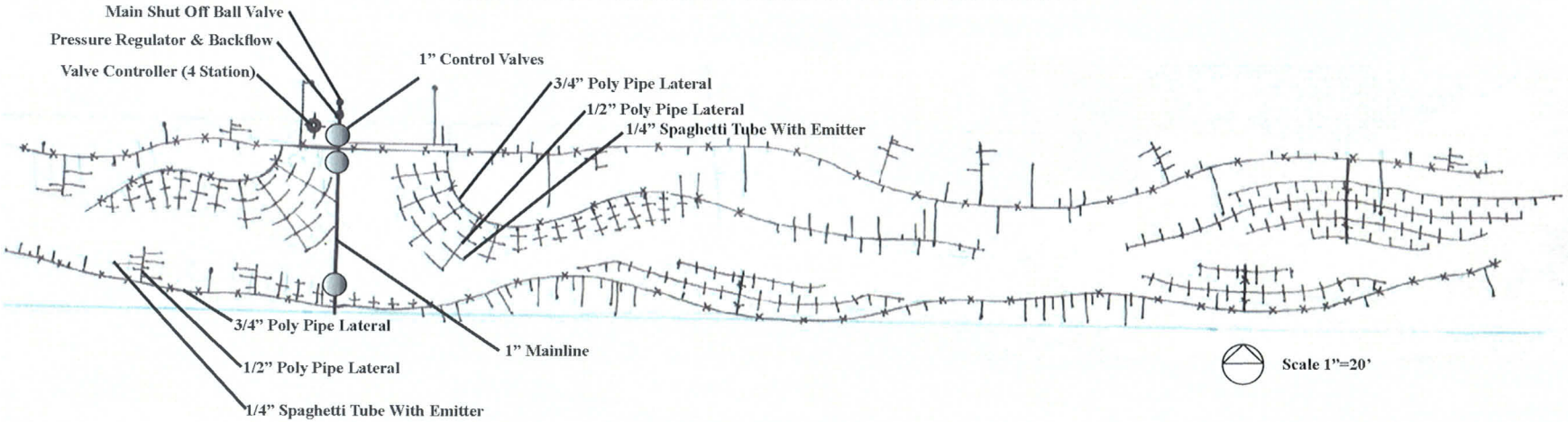
1. **Benches and Sculpture to be for future budgets**
2. **Cattle Grazing needs to be controlled in planting area or extensive damage will be caused**
3. **The site must be graded before irrigation, trail and planting construction (berm removal)**
4. **Trail material to be placed 8' Wide, 4" Deep and Compacted**


Prepared By:
Fred Phillips Consulting, LLC
928-773-1530


Prepared For:
Black Canyon Historical Society and National Park Service
Riparian Restoration Project

Riparian Restoration Planting Design
March 2008

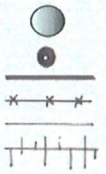
# REVEGETATION IRRIGATION DESIGN




## Irrigation Schedule

| Description | Size | Quantity |
|---|---|---|
| Isolation valve | 1" | 3 |
| Controller Pedestal | 1 | 1 |
| Solar Powered Controller (4 station) | 1 | 1 |
| 14 Gauge Coated Wire- Three Colors + White | LF | 20'/20'/50'/100' |
| Shut Off Ball valves | 1" | 1 |
| Pressure Regulator | 1" | 1 |
| Valve Boxes (valves/shutoff/pressure regulator) | Each | 5 |
| Mainline | 1" | 100' |
| Lateral poly pipe | 3/4" | 1135' |
| Lateral poly pipe | 1/2" | 1260' |
| Poly Tubing | 1/4" | 1500' |
| Emitters | 4GPH | 420 |
| Emitters | 8 gph | 40 |
| Reducing Couplers | 1" x 3/4" | 5 |
| Tees | 1" | 3 |
| Reducing Tees | 3/4" x 1/2" | 90 |
| Tees | 3/4" | 20 |
| Tubing End Caps | 1/2" | 80 |
| Tubing End Caps | 3/4" | 12 |
| End Caps | 1" | 2 |
| PVC Glue and Primer for Mainline | 1 | 2 |
| 3/4" Tubing Stakes | 1 | 50 |
| 1/2" Tubing Stakes | 1 | 50 |
| Tubex /zip tie/stake | 1 | 50 |

## Irrigation Legend



1" Controller Valves

Valve Controller

1" Mainline

3/4" Poly Tube

1/2" Poly Tube

1/4" Poly Tube with Emitters off 1/2" Poly Tube

**Notes:**

1. 1" Mainline will be buried 6" and 3/4" laterals buried 3"
2. Cattle must be kept off site to prevent plant and irrigation system damage
3. Final irrigation layout subject to field modifications
4. System designed assuming that 40PSI is existing pressure in mainline
5. 1" Mainline crossing trail to be buried in 2" sleeve


Prepared By:
Fred Phillips Consulting, LLC
928-773-1530


Prepared For:
Black Canyon Historical Society and National Park Service
Riparian Restoration Project

Riparian Restoration Irrigation Design
March 2008

# Community Support

The following pages are resolutions and letters of support for the Black Canyon Riparian Restoration Project.

# United States Department of the Interior

**NATIONAL PARK SERVICE**
**INTERMOUNTAIN REGION**
**Rivers, Trails and Conservation Assistance Program**
255 N. Commerce Park Loop
Tucson, AZ 85745


June 9, 2008

Arizona Water Protection Fund
Attn: Department of Water Resources
3550 North Central Avenue
Phoenix, Arizona 85012

Re: Arizona Water Protection Fund/Black Canyon Riparian Restoration Project

Dear Fund Administrator:

The Rivers, Trails and Conservation Assistance Program - Arizona Field Office (RTCA) supports the Arizona Water Protection Fund (AWPF) Grant Proposal submitted for the Black Canyon Riparian Restoration Project. RTCA will continue to provide technical assistance as requested to the Black Canyon Heritage Park Project and its partners consisting of the Black Canyon City Community Association, Black Canyon Historical Society, North Country Conservancy, Friends of the Agua Fria National Monument, Yavapai County, Arizona Game & Fish Department and the Bureau of Land Management.

RTCA assists community-based conservation projects and since October 2006 has obtained $40,000 in grants towards the Black Canyon Heritage Park Project. These funds made possible the production and distribution of three newsletters, development of a park site plan, the acquisition of various tools and equipment for park operations and maintenance, preparation of a riparian restoration plan, the removal of exotic plants from 11 acres of the site, and replanting approximately two acres with native trees and shrubs. The professional services provided by RTCA for this project are equivalent to approximately $24,000 each year.

The Black Canyon Riparian Restoration Project will increase critically needed riparian habitat in the State of Arizona and will provide an excellent venue for public education, it will improve water quality, support biodiversity and provide close to home recreation experiences through the development of trails and wildlife viewing areas. Riparian habitats have diminished significantly and RTCA believes that the Black Canyon Riparian Restoration Project will be beneficial in beginning to recover riparian areas as well as provide the functions

and values associated with healthy functioning riparian systems in the State of Arizona. The project enjoys strong local support which is so vital to long term success.

Please feel free to contact me if you have any questions about the RTCA Program and our support to the Black Canyon Riparian Restoration Project.

Sincerely,

Joseph C. Winfield, Landscape Architect
Rivers, Trails and Conservation Assistance Program
(520) 791-6471 or joe_winfield@nps.gov

Black Canyon City
Chamber of Commerce

P O Box 1919
Black Canyon City, AZ 85324

June 10, 2008

Arizona Water Protection Fund
c/o Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

RE: AWPF Black Canyon Riparian Restoration Project

Dear Arizona Water Protection Fund,

The Black Canyon Chamber of Commerce wholeheartedly supports the Arizona Water Protection Fund (AWPF) Black Canyon Riparian Restoration Project. We, as members of the chamber, believe this project will develop and implement measures to protect water of sufficient quality and quantity to maintain, enhance, and restore the riparian habitat of the Black Canyon Heritage Park (BCHP).

This wonderful project will enhance the riparian area through improvement of the vegetation and wildlife habitat in the BCHP's portion of the Aqua Fria River corridor. It will also enhance the visit/experience to our beautiful community for our tourists by providing an educational opportunity of our local area, thus giving them more reasons to stay in our community. One thing we pride ourselves on in Beautiful Black Canyon City is our natural resources, and improving our riparian area will be a benefit not only to our tourists, but to our citizens as well.

We believe this project meets and exceeds all the criteria for the Arizona Water Protection Fund.

On behalf of the Black Canyon City Chamber of Commerce,

Sincerely,

Lori Foleno
President, Black Canyon City Chamber of Commerce

NORTH COUNTRY CONSERVANCY
THE DAISY MOUNTAIN PRESERVATION EFFORT
515 E. Carefree Highway. #638
Phoenix, AZ 85085-8839
Website: www.daisymountain.org
Email: info@daisymountain.org



May 24, 2008

Arizona Water Protection Fund
c/o Department of Water Resources
3550 N. Central Avenue
Phoenix, AZ 85012

RE: AWPF Black Canyon Riparian Restoration Project

Dear Fund Administrator,

The North Country Conservancy, a Maricopa County land trust supports the Arizona Water Protection Fund (AWPF) Black Canyon Riparian Restoration Project. We believe this project will develop and implement measures to protect water of sufficient quality and quantity to maintain, enhance, and restore the riparian habitat of the Black Canyon Heritage Park (BCHP).

This project will enhance the riparian area through improvement of the vegetation and wildlife habitat in the BCHP's portion of the Aqua Fria River corridor. This Project will also benefit the community in other ways. It will provide educational opportunities to learn about the area's environment. Considering the huge numbers of visitors that will come to enjoy and learn from the project, it will also bring economic benefits to the area.

The coming together of various regional non profit organizations in support of this project has been a positive experience for many citizens in Maricopa and Yavapai Counties, who share an interest in protecting and improving our riparian areas. The co-operative spirit of the diverse groups has created a sharing of projects and interests, which will have positive long-range effects for the communities locally and for the Public at large.

We believe that the project meets and exceeds all the criteria for AWPF.

On behalf of the North Country Conservancy,

Sincerely,

Ann Hutchinson
Executive Director, North Country Conservancy, Inc.
623-742-6514

*North Country Conservancy (NCC) is a land trust (non-profit public charity) dedicated to the preservation of natural resources, wildlife habitat, open space, historic, and geologic features primarily (but not limited to) located in Arizona for the enjoyment of current and future generations.*

# Black Canyon Historical Society


Operators of the Old Cañon School Museum
P.O. Box 502 - 18800 School House Road
Black Canyon City, Arizona 85324

www.geocities.com/hsofbcc
hsofbcc@yahoo.com




June 2, 2008

Arizona Water Protection Fund
c/o Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

RE: AWPF Black Canyon Riparian Restoration Project

Dear Fund Administrator,

The Black Canyon Historical Society enthusiastically supports the Arizona Water Protection Fund (AWPF) Black Canyon Riparian Restoration Project. We feel this project will develop and implement measures to protect water of sufficient quality and quantity to maintain, enhance and restore the riparian habitat of the Black Canyon Heritage Park, and the entire Black Canyon area.

The Historical Society was formed in 2005 to collect, advance and disseminate knowledge of the history of Black Canyon and its region. However, this is not limited to the history of man and his endeavors and pursuits, but also to the plants, fish, foul and animals, as well as Native Americans. One of the major lifelines of the area has been the Agua Fria River. To return it to its native habitat would be a blessing to all who live near or visit our community. This project will enhance the riparian area through improvement of the vegetation and wildlife habitat in the Black Canyon Heritage Park corridor of the Agua Fria River.

This project will also serve as an educational tool for young and old alike. And residents of the Black Canyon area consider their community to be the "gateway" to Yavapai County and the Agua Fria Monument.

We believe this project meets and exceeds all the criteria for the Arizona Water Protection Fund.

Sincerely,
Black Canyon Historical Society

Robert A Nilles

Robert A. Nilles
President

Mesa Office, Region VI, 7200 E. University, Mesa, Arizona 85207 (480) 981-9400

May 29, 2008

Arizona Water Protection Fund
Attn: Department of Water Resources
3550 North Central Avenue
Phoenix, Arizona 85012

Re: Arizona Water Protection Fund/Black Canyon Riparian Restoration Project

Dear Fund Administrator:

The Arizona Game and Fish Department (Department) supports the Arizona Water Protection Fund (AWPF) Grant Proposal submitted for the Black Canyon Riparian Restoration Project. The Department will continue its partnership with the Black Canyon City Historical Society, Black Canyon City Community Association, North Country Conservancy, Bureau of Land Management, Yavapai County and the Friends of the Agua Fria National Monument in regards to the Black Canyon City Heritage Park (BCCHP), and the fish, wildlife and habitat enhancement opportunities that exist. The Department may provide professional services and technical assistance to facilitate permits, environmental clearances and re-vegetation plans for the BCCHP. The Department may also assist with the monitoring and evaluation of the riparian restoration work upon its completion.

Riparian habitats are critical in the State of Arizona for enhancing water quality, biodiversity and recreation. Riparian habitats have been disappearing at an alarming rate and the Department believes that the Black Canyon Riparian Restoration Project will be beneficial in beginning to recover riparian areas as well as provide the functions and values that are associated with healthy functioning riparian systems in the State of Arizona. The project will also increase and enhance community outreach opportunities through environmental education programs, provide economic benefits to the community through an increase in visitor days at the BCCHP as well as provide in increase in outdoor recreation in the form of wildlife viewing and hiking.

If you have any questions regarding this letter of support for the 'Black Canyon Riparian Restoration Project' at the Black Canyon City Heritage Park, please contact Habitat Specialist Dana Warnecke at 480-324-3547 or dwarnecke@azgfd.gov

Sincerely,

Rod Lucas, Region VI Supervisor

Cc: Mike Senn, Field Operations Assistant Director
Josh Avey, Habitat Branch Chief
Russ Haughey, Habitat Program Manager
Pat Crouch, Wildlife Manager III
Josh Hurst, Law Enforcement Investigator

# YAVAPAI COUNTY BOARD OF SUPERVISORS

**CAROL SPRINGER – Chairman**
**District 1**
web.bos.district1@co.yavapai.az.us

**THOMAS THURMAN – Vice-Chairman**
**District 2**
web.bos.district2@co.yavapai.az.us

**A.G. "CHIP" DAVIS – Member**
**District 3**
web.bos.district3@co.yavapai.az.us

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**FAX: (928) 771-3257**
**TDD: (928) 771-3530**
www.co.yavapai.az.us

**JULIE AYERS**
**County Administrator/**
**Clerk of the Board**
julie.ayers@co.yavapai.az.us

**DAVID S. HUNT**
**Board Counsel**
dave.hunt@co.yavapai.az.us

June 4, 2008

Arizona Water Protection Fund
Attn: Department of Water Resources
3550 North Central Avenue
Phoenix, AZ 85012

Re: Arizona Water Protection Fund/Black Canyon Riparian Restoration Project

Dear Fund Administrator:

This letter is in support of the Arizona Water Protection Fund Grant Proposal submitted for the Black Canyon Riparian Restoration Project.

Though this project has numerous government agencies behind it as well as a couple of community organizations it is the community's volunteer efforts for the project that truly shows Black Canyon City residents enthusiasm and dedication to this project

As, Supervisor for District 2, which Black Canyon City is in I am pleased to submit this letter. If you should have any questions regarding the County's backing of this project I can be contacted at (928) 771-3393.

Sincerely,

Thomas Thurman, District 2 Supervisor

TT/vg

# Evidence of Control and Tenure of Land

The applicant must have legal and physical access and authority to manage the area where grant tasks are to be performed and the area to be benefited by the grant. Cooperative agreements with all parties having such access and authority, or letters of support with a plan to obtain cooperative agreements prior to grant award shall meet this requirement.

- **If you do not own or manage the land on which the proposed project is located**, attach documentation verifying ownership (as noted above) and attach a copy of the permit, agreement or letter of intent that allows you access to the site. (See Following Letter and Land Deed)

**BLACK CANYON CITY**
**COMMUNITY ASSOCIATION**
**PO Box 33, Black Canyon City, Az 85324**

# Black Canyon Riparian Restoration Project

## Land Ownership

The Black Canyon Riparian Restoration Project will take place in the Black Canyon Heritage Park, located in the heart of Black Canyon City, Arizona. The park is approximately 27 acres and includes a ½ mile section of the Agua Fria River. The park is owned by the Black Canyon City Community Association (BCCCA), a non-profit, tax-exempt charitable organization. A copy of the recorded deed and legal description is attached.

## Riparian Restoration Project Area

The riparian restoration project area will encompass approximately 22 acres of the park and will be set aside as a conservation easement. The value of the land within the conservation easement is $393,000 as calculated from the professional appraisal performed prior to the transfer of the property to the BCCCA.

## Water Rights and Well Data

The property has rights to 153.44 acre feet of water per year (valued at $170,000). Please see attached water rights statement of claimant form. Approximately 50 acre feet per year (valued at $55,396) will be needed to support the riparian restoration project area. Groundwater will be pumped from two existing wells with registration numbers 55-593904 and 55-640895.

| | 55-593904 | 55-640895 |
|---|---|---|
| Well depth | 220' | 48' |
| Borehole diameter | 9" | 6" |
| Depth of casing perforations | 160' | N/A |
| Well drilling method | Air rotary | N/A |
| Pump capacity | 90 gpm | 25 gpm |
| Use of water | Irrigation<br>Revegetation<br>Wildlife | Domestic<br>Irrigation |

Sincerely,

Robert Cothern, President
Black Canyon City Community Association

BLACK CANYON Legal Description

**EXHIBIT "A"**

**LEGAL DESCRIPTION:**

**Beginning at the Southeast corner of Section 33, Township 9 North, Range 2 East, Gila and Salt River Base and Meridian, Yavapai County, Arizona; Thence North 89°56'20" West 272.47 feet to the TRUE POINT OF BEGINNING; Thence along a curve to the right D=1°25'50", R=3769.72 feet, L=94.13 feet, chord bearing North 09°34'45" West, chord length 94.13 feet; Thence North 81°08'10" East, 225.00 feet; Thence along a curve to the right D=1°01'04", R=3544.72 feet, L=62.97 feet, chord bearing North 8°21'18" West, chord length 62.97 feet; Thence South 82°09'14" West 225.00 feet; Thence along a curve to the right D=4°22'41", R=3769.72 feet, L=288.05 feet, chord bearing North 5°39'25" West chord length 287.98 feet; Thence North 86°31'55" East 225.00 feet; Thence along a curve to the right D=39°34'05", R=143.09 feet, chord bearing South 73°41'02" East, chord length 96.87 feet; Thence South 53°54'00" East 60.58 feet; Thence along a curve to the left D=53°36'22", R=173.85 feet, L=162.65 feet, chord bearing South 80°43'14" East, chord length 156.96 feet; Thence South 17°23'00" East 135.00 feet; Thence South 67°23'00" East 195.81 feet; Thence North 88°44'00" East 116.40 feet; Thence North 81°45'00" East, 384.50 feet; Thence North 64°35'43" East 132.80 feet; Thence South 14°50'34" East 34.64 feet; Thence South 60°23'42" West 205.14 feet; Thence South 53°20'55" West 413.12 feet; Thence South 65°26'16" West 225.01 feet; Thence South 77°34'06" West 367.90 feet; Thence North 75°18'19" West 153.93 feet; Thence North 60°59'28" West 55.04 feet; Thence along a curve to the right D=3°12'51", R=3769.72 feet, L=211.48 feet, chord bearing North 11°54'06" West, chord length 211.45 feet to the TRUE POINT OF BEGINNING.**

YAVAPAI County Assessors

PARCEL #

502-07-006A

502-07-007A

502-07-008A

502-07-009

502-07-015M

502-08-039 now Q part of

502-08-039B now 29C

502-08-039C now 29D

502-08-034

502-08-045J

501-12-003K part of

## Evidence of Physical and Legal Availability of Water

If water will be used in the project the water must be physically and legally available to the applicant for the proposed purpose. Provide a projection of the total number of acre-feet per year necessary for the project.

The BCCA also currently supports this proposed project and is providing 50 acre feet of their water allocation to irrigate and restore this project (see Following Letter and Water Rights Documentation). Approximately, 50 acre feet of water from their 153.44 acre feet water right will be allocated to this restoration project.

WPF0383

THE STATE OF ARIZONA
**GAME AND FISH DEPARTMENT**
5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV
REGION VI, 7200 E. UNIVERSITY DRIVE, MESA, AZ 85207



Mesa Office, Region VI, 7200 E. University, Mesa, Arizona 85207 (480) 981-9400

May 29, 2008

Arizona Water Protection Fund
Attn: Department of Water Resources
3550 North Central Avenue
Phoenix, Arizona 85012

Re: Arizona Water Protection Fund/Black Canyon Riparian Restoration Project

Dear Fund Administrator:

The Arizona Game and Fish Department (Department) supports the Arizona Water Protection Fund (AWPF) Grant Proposal submitted for the Black Canyon Riparian Restoration Project. The Department will continue its partnership with the Black Canyon City Historical Society, Black Canyon City Community Association, North Country Conservancy, Bureau of Land Management, Yavapai County and the Friends of the Agua Fria National Monument in regards to the Black Canyon City Heritage Park (BCCHP), and the fish, wildlife and habitat enhancement opportunities that exist. The Department may provide professional services and technical assistance to facilitate permits, environmental clearances and re-vegetation plans for the BCCHP. The Department may also assist with the monitoring and evaluation of the riparian restoration work upon its completion.

Riparian habitats are critical in the State of Arizona for enhancing water quality, biodiversity and recreation. Riparian habitats have been disappearing at an alarming rate and the Department believes that the Black Canyon Riparian Restoration Project will be beneficial in beginning to recover riparian areas as well as provide the functions and values that are associated with healthy functioning riparian systems in the State of Arizona. The project will also increase and enhance community outreach opportunities through environmental education programs, provide economic benefits to the community through an increase in visitor days at the BCCHP as well as provide in increase in outdoor recreation in the form of wildlife viewing and hiking.

If you have any questions regarding this letter of support for the 'Black Canyon Riparian Restoration Project' at the Black Canyon City Heritage Park, please contact Habitat Specialist Dana Warnecke at 480-324-3547 or dwarnecke@azgfd.gov

WPF0383

# Cañon Elementary School District # 50

*Home of the Cougars*

Vicki Elkins, Superintendent
Phone: 623-374-5588 X: 502
Fax: 623-374-5046

P.O. Box 89
Black Canyon City, AZ 85324
E-mail: velkins@canon50.com

June 4, 2008

Arizona Water Protection Fund
c/o Department of Water Resources
3550 N. Central Avenue
Phoenix, Arizona 85012

Re: AWPF Black Canyon Riparian Restoration Project

Dear Fund Administrator:

Cañon Elementary School District supports the Arizona Water Protections Fund (AWPF) Grant Proposal submitted for the Black Canyon Riparian Restoration Project. We believe that this project will enhance and restore the riparian habitat of the Black Canyon Heritage Park and benefit the citizens of Black Canyon City.

Cañon Elementary School was established in 1898 to educate the children in our area. We teach our children about the flora and fauna of this area, but we could only talk about the fish and wildlife associated with the riparian. This project will enhance the educational opportunities, not only to our children, but all of Black Canyon City citizens and anyone who visits our community.

We feel that this project is an excellent opportunity for restoring our riparian areas of Arizona. The school is a collaborator and supports the Community Association in the Arizona Water Protection Fund (AWPF) Grant Proposal. The long-range effects for the children and the community would be to provide increase outdoor recreation in the form of wildlife viewing and hiking.

We believe this project to be worthwhile and educationally sound.

Respectfully,

Vicki Elkins

Vicki Elkins, Superintendent
Cañon School Board

WPF 0383

# YAVAPAI COUNTY BOARD OF SUPERVISORS


**CAROL SPRINGER – Member**
**District 1**
carol.springer@co.yavapai.az.us

**THOMAS THURMAN – Chairman**
**District 2**
thomas.thurman@co.yavapai.az.us

**A.G. "CHIP" DAVIS – Vice-Chairman**
**District 3**
chip.davis@co.yavapai.az.us

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**PRESCOTT, ARIZONA 86305**
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**JAMES M. HOLST**
**County Administrator**
jim.holst@co.yavapai.az.us

**DAVID S. HUNT**
**Board Counsel**
dave.hunt@co.yavapai.az.us

**BEV STADDON**
**Clerk of the Board**
**Special Districts Coordinator**
bev.staddon@co.yavapai.az.us


June 4, 2008

Arizona Water Protection Fund
Attn: Department of Water Resources
3550 North Central Avenue
Phoenix, AZ 85012

Re: Arizona Water Protection Fund/Black Canyon Riparian Restoration Project

Dear Fund Administrator:

This letter is in support of the Arizona Water Protection Fund Grant Proposal submitted for the Black Canyon Riparian Restoration Project.

Though this project has numerous government agencies behind it as well as a couple of community organizations it is the community's volunteer efforts for the project that truly shows Black Canyon City residents enthusiasm and dedication to this project

As, Supervisor for District 2, which Black Canyon City is in I am pleased to submit this letter. If you should have any questions regarding the County's backing of this project I can be contacted at (928) 771-3393.

Sincerely,

Thomas Thurman, District 2 Supervisor

TT/vg