



Reset Form

Final Application

Arizona Department of Environmental Quality
 Water Quality Improvement Grant Program
 Grant Application Form

Additional instructions for this application can be found in the ADEQ WQIG Request for Grant Applications (RFGA) located on the ADEQ website at: www.azdeq.gov/environ/water/watershed/improvement.html. Please read the RFGA in its entirety before completing your application.

Project Title	Erosion Control, Sediment Retention and Riparian Restoration in the Babocomari River Watershed		
Project Description	See project description on last page. Text box too small.		
Authorizing Agency-			
Name	Borderland		
Address	PO Box 1191 river.		
City	Patagonia	State AZ	Zip Code 85624
Authorized Agency Contact- Person who will accept responsibility for the terms and conditions of the Grant Agreement. This person must sign the signature page			
Last Name	Hare	First Name	Trevor
		Initial	A
Title	Restoration Contractor	Phone Number	+1 (520) 906-9854
		Fax Number	
E-mail			
Project Manager- Person who will have the day-to-day knowledge of the projects and should be contacted if clarification is required.			
Last Name	Hare	First Name	Trevor
		Initial	A
Title	Restoration Contractor	Phone Number	+1 (520) 906-9854
		Fax Number	
E-mail	hare.trevor@gmail.com		
Project Period	<input type="radio"/> 0-1 year <input checked="" type="radio"/> 2 years		
It is ADEQ's preference to award WIP implementation projects that will be prepared to initiate implementation activities shortly after awards are made and which will not take greater than one year to complete. If more than 1 year is needed, please provide justification.			
We are proposing multiple sites in multiple drainages, the majority of those sites have their CWA 404 Permits and AZDEQ CWA 401 Certifications, however we will need to obtain permits/certifications for work on O'Donnell Cienega and the Research Ranch and any other sites identified, i.e. Canelo Cienega (The Nature Conservancy) and O'Donnell Creek on the Canelo Project's land.			

Are you or your organization currently debarred, suspended or otherwise lawfully prohibited from any public procurement activity?

Yes No

Project Costs

Total Project Cost *Maximum possible values*

Funds Requested (max 60% of total project cost) *\$117,436.20*

Matching Funds (min. 40% of total project cost) *\$78,290.80*

Final Application Content

I. Desired Outcomes

Describe the desired outcomes of this project

Protecting sheet-flow and reducing the velocity of storm water as it crosses the landscape and enters drainages. Protecting streambanks and healing erosion, and again slowing the water as it travels through tributary drainages of the Babocomari River. Increasing soil moisture retention and mountain front recharge into the San Pedro River aquifer. Promoting riparian and upland vegetation, wildlife habitat and forage.

The reductions in sediment yield and runoff will assist in the retention of fecal material in the uplands and reduce loads in the stream channels. Given the high levels of impairment for E. coli during the monsoon season decreasing the responsiveness of the watershed should decrease overall E. coli loads.

II. Pollutant(s) of Concern

a. Select the pollutant(s) of concern that this project will address.

Primary Pollutant Secondary Pollutant *if any*

Other

b. Will this project be able to provide load reduction data?

Yes No

c. Provide estimated load reductions for projects.

III. Location and Land Ownership

City/Town County

Land Ownership

Provide Latitude and Longitude for the main location of the project

Latitude Longitude

IV. Background Information

Provide some background information about the project, including what is already known about the nonpoint source issues in the watershed, and what past work the project is building on. Reference previous projects (WQIG and other), data, monitoring, or planning that has been done to address the nonpoint source issue of concern.

Over the course of two years, July 2013-July 2015, Borderlands Restoration (BR) in cooperation with the Brophy family and the USGS, and with funding from the Walton Family Foundation have worked in six sites on the Babocomari Ranch to halt erosion, restore habitat, and increase infiltration along the Babocomari River and its major tributaries, -Lyle, O'Donnell and Vaughn Canyons, and at two spring sites, Pacheco (erosion control) and T4 (exclusion fence). Sites were selected based on hydrological and geological modeling of the watershed by the USGS to determine where we can expect the greatest impacts. In addition we are supporting continued brush control on the ranch. The entirety of the identified drainages in this proposal have had continuous cattle grazing for almost 100 years. No other projects to our knowledge have had

V. Scope and Scale of Watershed

- a. Define the scope and scale of the watershed that your project will be addressing. Include a map that clearly shows the boundaries of the watershed of concern, and its location in relation to known water quality impairments as well as the greater watershed.

To continue this work and expand to other areas of the watershed we propose riparian restoration assessment work with at least three adjacent landowners, and carrying out 2-3 projects on their lands. We will also finish work in lower Vaughn and Lyle Canyons, and at Pacheco Spring on the Babocomari Ranch. We have identified the Appleton-Whittel Research Ranch and at least three other sites on private lands with owners we have worked with before. To support this work the Walton Family Foundation has provided some funding for on the ground work in Vaughn Canyon on two damaged gabions, and to continue research by BR and USGS on the hydrology of the Babocomari Watershed and the impacts of our low-tech approaches to watershed restoration. See attached map.

- b. Provide the HUC associated with the project area. Projects should ideally focus on 10 or 12 digit HUCs, although slightly larger or smaller drainages may be feasible dependent upon the project.

1505020205

- c. What water body is being impacted by this nonpoint source issue?

San Pedro River

- d. Is this water body identified as impaired based on *ADEQ's 2010 Status of Ambient Surface Water Quality in Arizona - Arizona's Integrated 305(b) Assessment and 303(d) Listing Report*? Both reports can be found at www.azdeq.gov/environ/water/assessment/assess.html

Yes No

VI Scope of Work

- a. Briefly describe the overall approach that will be taken to complete this project.

We propose riparian restoration assessment work with at least three adjacent landowners, and carrying out 2-3 projects on their lands. We will also finish work in lower Vaughn and Lyle Canyons, and at Pacheco Spring on the Babocomari Ranch. We have identified the Appleton-Whittel Research Ranch and at least three other sites on private lands with owners we have worked with before. To support this work the Walton Family Foundation has provided some funding for on the ground work in Vaughn Canyon on two damaged gabions, and to continue research by BR and USGS on the hydrology of the Babocomari Watershed and the impacts of our low-tech approaches to watershed restoration. To halt erosion and promote water retention we propose to install erosion control structures such as One-Rock Dams and Zuni Bowls in eroding channels, and Media Lunas in the uplands. These structures are designed to slow the flow of water, retain sediment and seeds, increase soil moisture, and act as grade-control.

Protecting sheet-flow and reducing the velocity of storm water as it crosses the landscape and enters drainages. Protecting streambanks and healing erosion, and again slowing the water as it travels through tributary drainages of the Babocomari River. Increasing soil moisture retention and mountain front recharge into the San Pedro River aquifer. Promoting riparian and upland vegetation, wildlife habitat and forage.

The reductions in sediment yield and runoff will assist in the retention of fecal material in the uplands and reduce loads in the stream channels. Given the high levels of impairment for E. coli during the monsoon season decreasing the responsiveness of the watershed should decrease overall E. coli loads.

- b. What permits, if any, will need to be obtained in order to complete this project? Consider the need for Army Corps of Engineers 404 Permits and 401 Clearances for in-stream activities, Construction General Permit coverage for projects impacting an area greater than one acre, etc. All projects are subject to State Historical Preservation Office clearance.

We will need 404 permits and 401 certifications for work on O'Donnell Cienega, on the Audubon Research Ranch and any other sites above the Babocomari Ranch. Permits are in place for the continued work in Vaughn and O'Donnell Canyons and at Pacheco Springs.

VII. Methods

- a. Does this project propose activities that are specifically recommended by a WIP? If so, please identify the plan and recommendations. Be sure to include page numbers where applicable.

To halt erosion and promote water retention we propose to install erosion control structures such as One-Rock Dams and Zuni Bowls in eroding channels, and Media Lunas in the uplands. These structures are designed to slow the flow of water, retain sediment and seeds, increase soil moisture, and act as grade-control.

One-rock dams are small grade control and flow slowing structures that are only one rock high. The dams should be built with several rows of rock across from the up-stream to the downstream edge. They should not be taller than 1/3 bankfull depth of the channel. Stones are selected, sized, and placed so that the completed structure ends up relatively level from bank to bank and flat from the upstream edge to the downstream edge. This is accomplished by placing larger rocks in the deepest part of the channel and as a footer row, and then smaller ones to either side. Rocks are not stacked on top of one another as they may be swept away by flood flows. Placing greatly oversized rocks in the structure will generate turbulence that could undermine it. Flood flows will pack smaller-sized bedload particles between the rocks, gradually strengthening the structure over time as new vegetation begins to develop at the site.

Media Luna structures are used to manage sheet flow and prevent erosion. These "sheet flow spreaders" are used on relatively flat ground to disperse erosive channelized flow and reestablish sheet flow where it once occurred. They are made appropriately sized rocks, generally 4-10", and are one rock tall with the bottom row acting as a footer, dug in, and subsequent rows offsetting the previous row to get good a good locking structure that will capture sediment and provide germination sites for native plants.

Zuni bowls are a headcut control structure composed of rock lined step falls and plunge pools that prevents headcuts from continuing to migrate upstream. Zuni Bowls stabilize actively eroding headcuts by dissipating the energy of falling water at the headcut pour over and the bed of the channel. The structure converts the single cascade of an eroding headcut into a series of smaller step falls. Zuni Bowls also serve to maintain soil moisture on the face of the headcut, encouraging the establishment of protective vegetation.

- b. If your location is not directly identified in a watershed plan, describe the methods that will be used to survey the watershed to determine critical sites for implementation. Include methods for:

- Preliminary field modeling
- Actual physical surveys
- Social/educational needs surveys
- Pre- and post-implementation monitoring
- Data analysis

Assessment work includes gathering available information and expert/local knowledge, and mapping various characteristics including sub-watershed size, precipitation records, soils, land cover, geology, hydrology, specialized wildlife locations (i.e. frogs, fish, riparian birds etc.). Then walking the areas with the landowner, manager and/or local expert looking for issues, opportunities for and constraints to restoration. Once problem areas have been identified collecting detailed information on the site including geomorphology, bedload characteristics, bedrock, bankfull capacity, access to floodplain, upland issues that may be contributing, and flow histories. This information will then be used to develop approaches to restoring the sites along with potential funding opportunities identified.

- c. What BMPs are likely to be used in the implementation portion of the project, and what criteria will be used to determine their locations and design specifications? What evidence supports the use of these BMPs?

Streambank Protection and Stream Channel Stabilization -Check Dams (grade control and retention of soil moisture); Zuni Bowls (headcut and nick point repair)

Vegetated Swales -Media Lunas (flow spreaders, rill protection and retention of soil moisture)

Natural Channel Restoration -Low Profile Baffles, Vanes and Weirs (restore sinuosity, channel size and grade)

These methods have proven effective in reducing sediment transport in this watershed and many others across the arid southwest.

d. Life Expectancy of BMPs: Identify the life expectancy of any BMPs implementd.

As low-tech low-profile structures these methods have a very low failure rate and we expect a long lifespan.

e. Grant Reporting BMPs: select the BMPs that best describe your project

BMP 1	Streambank & Shoreline Protection	
BMP 2	Vegetated Swales	
BMP 3	Natural Channel Restoration	
Additional BMPs	Stream Channel Stabilization	

f. Long-term Maintenance: Identify the maintenance required for your project. Identify groups or individuals responsible for the long-term maintenance of projects. Provide letters of support if possible.

Long-term maintenance will be the responsibility of individual landowners and is being addressed in a Ten-Year Watershed Protection 

VIII. Education and Outreach

Describe the education and outreach component of this project. How will the public be educated about nonpoint source pollution? What are the desired outcomes and behavioral changes associated with education and outreach? How will this component of the project be measured for effectiveness?

Outreach and education are key components to our approaches to watershed restoration. We have and will continue to engage with and provide information and educational opportunities for local residents, landowners, managers, contractors, youth, agencies and NGOs. Important outreach has been successful with the Santa Cruz, Hereford and San Pedro NRCDs, Ft. Huachuca, Arizona State Forestry, Arizona Game and Fish, Cienega Watershed Partnership, and Friends of the San Pedro River.

IX. Community Involvement

How will the community be involved in each of the major aspects of the project? Who makes up the community (who are the landowners/managers and other stakeholders)? Explain how they will be brought into the process and how they will participate in each of the methods identified in Part IV above.

We have and will continue to involve

X. Key Personnel & Partnerships

Describe the organization that is requesting funds as well as the key personnel and their expertise. Identify all partners including watershed groups, agencies, tribes, etc. and the duties they will be performing. Be sure to include personnel handling the following project aspects at a minimum:

- a. Project manager (*Responsible for making sure that the project is progressing in accordance with the approved scope of work and milestones, submitting quarterly and final reporting as well as budget and reimbursement request documents to ADEQ, providing additional load reduction and project information upon request, and serving as the day-to-day contact person regarding the project*)

Borderlands Restoration L3C is a limited profit company whose social objective is to facilitate habitat restoration in the borderlands region (a 20,000 square mile area extending 50 miles north into Arizona and New Mexico and 50 miles south into the Mexican States of Sonora and Chihuahua). The goals of the Company, as stated in our Business Plan are:

- 1. To facilitate habitat restoration projects in the borderlands region that will achieve positive, measurable impacts on stream

flow, erosion control, vegetation recovery, pollination services, and wildlife populations; and

2. To empower local citizens, through training and volunteer activities, to restore degraded ecosystems to benefit their own communities; and

3. To serve its investors and the community at large by establishing sustainable business activities that will employ both qualified local residents and recruited experts, all of whom will be engaged in the Company's ecological restoration related business activities.

BR is a partner in a larger collaborative group the Sky Island Restoration Cooperative along with the USGS, Arizona Department of Environmental Quality, Arizona Game and Fish Department, Arizona Geological Survey, Bat Conservation International, Cuenca Los Ojos, Hummingbird Monitoring Network, Natural Resources Conservation Service, Sky Island Alliance, US Bureau of Land Management, US Bureau of Reclamation, US Fish and Wildlife Service, Coronado National Forest, US National Park Service, Gila Watershed Partnership, Institute for Applied Ecology, and the Tucson Audubon Society. In addition we have worked in the area with American Conservation Experience, Arizona Conservation Corps, Brophy Family Foundation, Ciénega Watershed Partnership, Desert Botanical Garden, Desert Landscape Conservation Cooperative, DOI Resilient Landscapes Program, Friends of Brown Canyon Ranch, Society for Ecological Restoration, Southwest Chapter, Southern Arizona Buffelgrass Coordination Center, Monarch Watch, National Fish and Wildlife Foundation, The Nature Conservancy, USFWS Partners for Fish and Wildlife, Patagonia Regional Community Foundation, Pima County, Springs Stewardship Institute, Southwest Monarch Study, University of Arizona, and Watershed Management Group.

b. Technical expertise (*Responsibilities may include BMP design and site evaluation, BMP implementation, volunteer coordination, monitoring, ...*)

Project Manager Trevor Hare is conservation biologist and landscape restoration practitioner with over 20 years' professional experience in the arid Southwest. As the River Restoration Biologist, Mr. Hare has been responsible for the design and construction of multiple large scale creek restoration projects, and the design and construction of numerous small scale erosion control and habitat enhancement projects. Mr. Hare's knowledge of assessment, design and construction means and methods, and familiarity with local codes and ordinances, and state and federal permitting requirements and the barriers they often present to context-based solutions for erosion control, habitat enhancement, and geomorphological creek and wetland restoration will serve as an asset to the project team in its effort to develop sustainable design solutions to watershed management. Mr. Hare has developed and implemented a robust methodology for the identification, funding, assessment, planning and design, and implementation of both large-scale and small-scale riparian and upland restoration projects, which has resulted in over \$1,500,000 of restoration work in the region.

c. Qualifications

If individuals have not yet been identified to fill these positions, what qualifications will be used to determine who will fulfill these duties?

XI. Conflict of Interest

What steps will be taken to ensure that hiring/personnel selection practices are carried out without the existence or appearance of bias? Provide a statement of policy for hiring if possible.

Borderlands Restoration hiring and personnel selection practices are carried out with no existence or appearance of bias of any sort.

XII. Smart Growth Scorecard

Is there a completed Smart Growth Scorecard for the municipality in which the project will take place? If so, please identify the community and Scorecard score below. If multiple completed Scorecards apply, the applicant may select the Scorecard with the highest score. The Smart Growth Scorecard information can be obtained at:

www.azdot.gov/Scorecard/PublicScoreCard.aspx

XIII. Work Plan Steps and Milestones

Develop a work plan with a series of steps and associated dates that are necessary to complete the plans. Each step must have a milestone that provides a description of what will be accomplished. A form is provided below. Pre-defined work plan steps identified in the form are mandatory and must be addressed.

	Work Plan Step	Milestone	Date to Complete	Grant Funds	Match Funds	Total
	Design Work in permitted areas of Vaughn and Lyle Canyons, and Pacheco Spring	Design finalized	Jul 29, 2016	3,240	6,382	9,622
	Implement work in Vaughn and Lyle Canyons, and Pacheco Spring	Work finished on Babocomari Ranch	Feb 24, 2017	34,740	7,222	41,962
	Design work on O'Donnell Cienega	Design finalized	Feb 24, 2017	120	6,382	6,502
	Permitting for O'Donnell Cienega	404 Permit/401 Certification finalized	Feb 24, 2017	360	2,222	2,582
	Implement work on O'Donnell Cienega	Work finished on O'Donnell Cienega	Feb 24, 2017	10,800	5,000	15,800
	Assessment, planning and design work on the Research Ranch	Design(s) finalized	Aug 31, 2017	15,600	6,382	21,982
	Permitting for any work identified on the Research Ranch	404 Permits/401 Certifications finalized	Aug 31, 2017	960	2,222	3,182
	Implement work on Research Ranch	Identified work finished on Research Ranch	Nov 30, 2017	7,150	7,222	14,372
	Outreach to other landowners in the area	Additional sites identified, surrounding landowners are engaged	May 31, 2018	2,400	8,604	11,004
	Assessment, planning and design work on 2-3 additional sites	Design(s) finalized	Feb 28, 2018	15,600	6,382	21,982
	Permitting for any work identified on the 2-3 additional sites	404 Permits/401 Certifications finalized	Feb 28, 2018	960	2,222	3,182
	Implementation of work on the 2-3 additional sites	Identified work finished on the 2-3 additional sites	May 31, 2018	7,150	7,222	14,372
	Long-term monitoring and maintenance plan development	Plan developed with input from landowners and other partners	May 31, 2018	6,000	8,604	14,604
	Reporting	All reporting requirements completed	May 31, 2018	1,680	2,222	3,902

XIV. Budget Narrative

Identify how costs were determined, including comparative quotes used to determine costs or worth where applicable as well as sources of all project match (funding and in-kind). Adequate justification should be provided to show that the cost of implementing the project is reasonable for the benefits anticipated toward improving water quality.

Costs were determined based on current market rates for employees in the region, effort was determined based on twenty years of experience in the region and efforts expended in the watershed over the last two years. Materials, equipment and supply costs were determined from recent work. Match is from the Walton Family Foundation for work on the Babocomari Ranch and was received in January 2015 and January 2016.

Effort was allocated as follows:

Project manager -Design on permitted sites is 50 hours and implementation is 166 hours. Design on O'Donnell Ciénega is 16 hours and implementation is 40 hours. Assessment, design, planning and permitting on the Audubon Research Ranch and the additional 2-3 sites is 760 hours; this will break down differently based on landowners input and other constraints and opportunities as they arise. Implementation is allocated at 280 hours.

Assistant - Assessment, design, planning and permitting on the Audubon Research Ranch and the additional 2-3 sites is 320

hours; this will break down differently based on landowners input and other constraints and opportunities as they arise. Implementation is allocated at 280 hours.

Crew of five -Implementation at permitted sites is 200 hours, and is 80 hours at the Audubon Research Ranch and the additional 2-3 sites.

XV. Budget Form

Develop a budget based on the anticipated costs for completing the project within the proposed time schedule. The budget form can be downloaded at: www.azdeq.gov/environ/water/watershed/download/budget.xls. **Be sure to attach your budget form to your final application submission.**

Initials

XVI. SHPO Form

Any ADEQ action, including grant projects paid in-part with ADEQ funds, on state, federal, or private lands that may impact historic properties (i.e., any prehistoric or historic-period district, site, building, structure, or object included in, or eligible for inclusion in the State Register of Historic Places) require consultation with the State Historic Preservation Office (SHPO) pursuant to the State Historic Preservation Act (ARS 41-861 to 864).

In order to make informed decisions and facilitate consultation with SHPO, ADEQ requires applicants to provide the project related information requested in the SHPO form. Please complete the information requested in the SHPO form and submit with your final application. The SHPO form can be downloaded from the ADEQ website at: www.azdeq.gov/environ/water/watershed/improvement.html

Initials

XVII. Abbreviated Monitoring Plan

If water quality data are to be collected and interpreted to determine effectiveness, a "sample analysis and quality assurance plan" (SAP/QAP) must be developed in accordance with state guidelines. Additional information for developing the abbreviated monitoring plan can be found in the Water Quality Improvement Grant Manual for Cycle 15.

Initials

Authority Signature Page

The undersigned hereby offers and agrees to perform in compliance with all terms, conditions, specifications, and scope in this grant application. Signature certifies understanding and compliance with the application attached hereto. ADEQ may approve the grant application and modifications to scope, methodology, and schedule, final projects, and/or budget.

Authorized Signature: _____ Date: _____

Printed Name: _____

Project Description

The goals of this project are to reduce erosion and sediment transport, increase channel stability and water retention, and promote vegetation and wildlife habitat in tributary drainages of the Babocomari River. In addition, this will reduce E. coli concentrations in nearby surface waters, i.e. Canelo Ciénega, Babocomari and San Pedro Rivers. This will be accomplished through proven low-tech restoration techniques using native materials (rock and juniper posts) installed in strategic locations determined by expert opinion and scientific research. This project builds on and supports continuing work on the Babocomari Ranch by Borderlands Restoration L3C and the USGS, and expands our collaborative approach to watershed management onto adjacent private lands in important tributary drainages to the river.

Task Number	Task Description/Deliverables	Completion Date	Percent Complete
1	Design for Vaughn and Lyle Canyons, and Pacheco Spring	29 July 2016	
2	Implement in Vaughn and Lyle Canyons, and Pacheco Spring	24 February 2017	
3	Design O'Donnell Ciénega work	24 February 2017	
4	Permitting O'Donnell Ciénega work	24 February 2017	
5	Implement O'Donnell Ciénega work	24 February 2017	
6	Assessment, Planning & Design on Research Ranch	31 August 2017	
7	Permitting Research Ranch work	31 August 2017	
8	Implement Research Ranch work	30 November 2017	
9	Outreach	All 24 months	
10	Assessment, Planning & Design on additional sites	28 February 2018	
11	Permitting on add	28 February 2018	
12	Implement additional work	31 May 2018	
13	Long Term Plan	31 May 2018	
14	Reporting	31 May 2018	



Babocomari River Watershed identifying major drainages, the Audubon Research Ranch and O'Donnell Cienega

ADEQ Project Budget

	ADEQ Grant Award #		Project Title:	Erosion Control, Sediment Retention and Riparian Restoration in the Babocomari River Watershed		
	Time Period	From:	To:	6/1/16 5/31/18		
Line Item #	Grant Expenditures	Original Budget	Prior Expenditures	Current Expenditures	Cumulative Expenditures	Budget Remaining
Admin. Costs (10% Max)						
01-XXX						
	10%	\$10,676.00			\$0.00	\$10,676.00
Personnel						
02-XXX	Salaries					
	Project Manager @ 30	\$41,760.00			\$0.00	\$41,760.00
	Assessment Asst @ 20	\$12,000.00			\$0.00	\$12,000.00
	Crew Supervisor @ 25	\$8,000.00			\$0.00	\$8,000.00
	Crew of Four @ 15 = 60	\$19,200.00			\$0.00	\$19,200.00
Direct Costs						
03-XXX	Equipment					
	Backhoe Rental	\$3,000.00			\$0.00	\$3,000.00
	Fuel/Lube	\$300.00			\$0.00	\$300.00
04-XXX	Supplies					
	Rock	\$21,000.00			\$0.00	\$21,000.00
	Juniper Posts	\$1,000.00			\$0.00	\$1,000.00
	Crew Supplies	\$500.00			\$0.00	\$500.00
05-XXX	Other					
					\$0.00	\$0.00
					\$0.00	\$0.00
					\$0.00	\$0.00
					\$0.00	\$0.00
					\$0.00	\$0.00
	Sub-Total Grants	\$117,436.00	\$0.00	\$0.00	\$0.00	\$117,436.00
Verify Totals (This number should be the same as the Sub-Total Grants Budget Remaining cell above)						\$117,436.00
	Totals	Original Budget	Prior Expenditures	Current Expenditures	Cumulative Expenditures	Budget Remaining
	Sub-Total Match	\$78,291.00	\$0.00	\$0.00	\$0.00	\$0.00
	Grand Total	\$195,727.00	\$0.00	\$0.00	\$0.00	\$117,436.00

Appendix D. State Historic Preservation Office (SHPO) Form

Any ADEQ action, including grant projects paid in-part with ADEQ funds, on state, federal, or private lands that may impact historic properties (i.e., any prehistoric or historic-period district, site, building, structure, or object included in, or eligible for inclusion in the State Register of Historic Places) require consultation with the State Historic Preservation Office (SHPO) pursuant to the State Historic Preservation Act (ARS 41-861 to 864). ADEQ is legally responsible for making determinations and findings.

In order to make informed decisions and facilitate consultation with SHPO, ADEQ requires applicants to provide the project related information requested below. By working together, we can seek out ways that “the historical and cultural foundations of this state can be preserved as a living part of our community life and development” (State Historic Preservation Act).

For Each On-the-ground Project Site

Please prepare and answer the following questions pertaining to historic properties and preservation. Use multiple forms as needed. Add map(s), drawings and pictures where appropriate. When complete, copy and paste this information into your grant application in the requested area.

1. Project Location

Indicate the location of the project sites, including:

- County,
- Township, range and section
- Nearest Town or City

Describe the conditions of the land in the project area. Attach a copy a USGS topographic map with the project area clearly marked. On the map, please specify the area(s) where impacts will occur.

The project will occur in both Cochise and Santa Cruz Counties with Sierra Vista and Elgin as the nearest towns. The land is desert grassland and oak savanna.

2. Project Description:

Describe the buildings or structures within project area and their age. Describe any ground-disturbing activities. Indicate whether the proposed project could impact historical properties, should they be present.

We propose riparian restoration assessment work with at least three new landowners in the watershed, and carrying out 2-3 projects on their lands. We will also finish work in lower Vaughn and Lyle Canyons, and at Pacheco Spring on the Babocomari Ranch. We have identified the Appleton-Whittel Research Ranch and at least three other sites on private lands with owners we have worked with before. To support this work the Walton Family Foundation has provided some funding for on the ground work in Vaughn Canyon on two damaged gabions, and to continue research by BR and USGS on the hydrology of the Babocomari Watershed and the impacts of our low-tech approaches to watershed restoration. To halt erosion and promote water retention we propose to install erosion control structures such as One-Rock Dams and Zuni Bowls in eroding channels, and Media Lunas in the uplands. These structures are designed to slow the flow of water, retain sediment and seeds, increase soil moisture, and act as grade-control.

3. Steps Taken to Identify Historic Properties

- Indicate whether the project area has been previously surveyed to determine the presence or absence of historic properties? If it has, attach a report.
- Are buildings, structures, or objects 50 years old or older present in the project area? If yes, include description.
- Are any prehistoric or historic-period archaeological sites present? If yes, please list and briefly describe.

- What does the state or federal land manager, if any, say about historic properties present in the project area? Attach letter, if applicable.
- What efforts, if any, would be reasonable to determine the presence or absence of historic properties?

An archaeological clearance was performed in Vaughn, O'Donnell and Lyle Canyons and in the Pacheco Springs area, only a few sites were identified and avoided.

4. Potential for Historic impacts

In the applicant's opinion, which determination listed below is appropriate for this project based on the information presented above:

- No impacts/ historic properties not present
- No impacts/ historic properties present. Describe how historic properties will be avoided or protected.
- Negative impacts to historic properties. Suggest treatment measures.
- Positive impacts to historic properties. Describe any positive impacts to historic properties that could be attributed to the proposed project.

No ground disturbing activities will take place on historic properties.

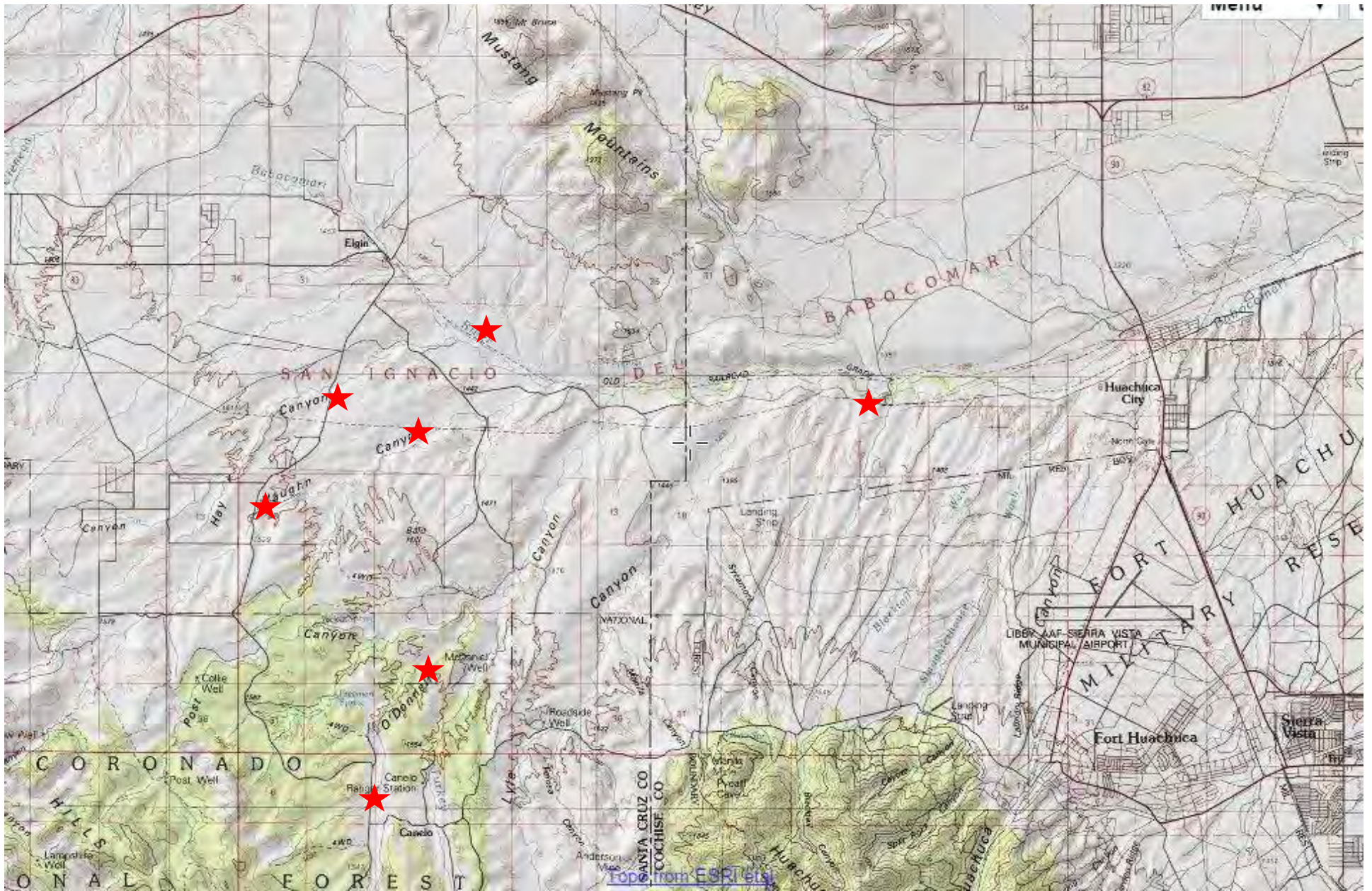
For SHPO Use Only - Record of Consultation

SHPO advises ADEQ on the completeness of identification effort, determination of effect, and any proposed treatment measures.

- ___ Concur with determination
- ___ Do not concur with determination
- ___ Request More Information
- ___ Recommend that the project area be surveyed to determine the presence or absence of historic properties by a qualified professional
- ___ Additional comments attached

Signed: _____

Date: _____



Erosion Control, Sediment Retention and Riparian Restoration in the Babocomari River Watershed

★ Indicates work sites