

WPF 0214



Cover Page: Application Information

1. Title of Project: Watershed Enhancement on the Antelope Allotment

2. Type of Project: Water Acquisition
 Capital Project or other
 Water Conservation
 Research

3. Stream type: Perennial
 Intermittent
 Ephemeral

4. Date submitted: August 17, 1998

5a. Attended AWPf Workshop: N/A
5b. Date of AWPf Consultation: Aug. 4, 1998
6. Applicant Name: Foremaster Revocable Trust (Foremaster Ranches)

7. Applicant address (city, county, zip code)
c/o Lin Foremaster
St George UT

8. Inside AMA
 Phoenix
 Tucson
 Prescott
 Pinal
 Santa Cruz

Outside
AMA X

9. Contact person/title: Lin Foremaster, Project Manager
Phone number: PII
Fax number: 435-674-7893 (c/o Steamroller Copiers)

10. Type of application:
New (X) Continuation ()

11. Project start date: February 15, 1999
End date: February 14, 2002

12. Other monies obtained and secured:

Grant type	Amount
Total	

13. Estimated funding:

a. AWPf: \$ 135,807
b. Applicant: \$ 48,050
c. Other: 18,800 *BLM Volunteers*
d. Total: 202,657

14. Tax ID number: PII

15. The undersigned hereby offers and agrees to perform in compliance with all terms, conditions, specifications and scope in the application. Signature certifies understanding and compliance with the attached application. Signature certifies that all information provided by the applicant within this application is true and accurate. The Arizona Water Protection Fund Commission may approve grant award agreements with modifications to scope items, methodology, schedule, final products, and/or budget.

Lin Foremaster
Typed Name of Authorized Representative

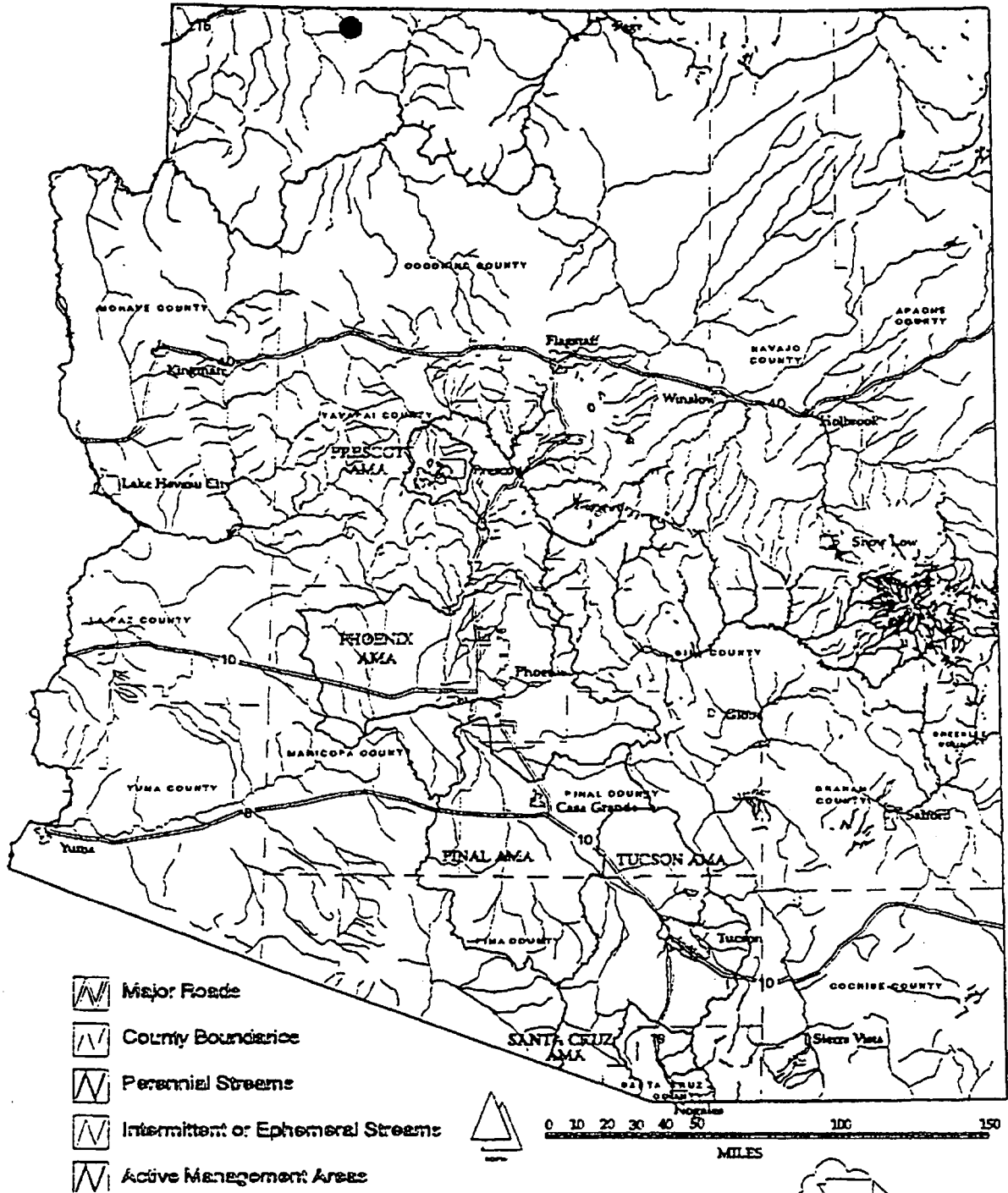
Lin Foremaster
Signature

Project Manager PII
Title and Telephone No.

8-12-98
Date Signed

Arizona Map Instructions

Indicate on the map the approximate location of your project. Ensure that your markings are clearly visible on all five copies submitted.



PROJECT NAME: **WATERSHED ENHANCEMENT
ON THE ANTELOPE ALLOTMENT**



Summary Page

Project Title: *Watershed Enhancement on the Antelope Allotment*

The Antelope Allotment on the Arizona Strip is operated as a cow-calf operation by Foremaster Revocable Trust. LaVar and Lin Foremaster, father and son, provide the management and labor for the ranch. The ranch is approximately 17,655 acres, comprised of privately-owned land (40 acres) and lands administered by the Bureau of Land Management (16,325 acres) and the State Land Department (1,300 acres). Two wells (with windmills) and three springs on the allotment are existing water sources for livestock and wildlife.

Purpose: Strategic range improvements and management practices on the Antelope Allotment are proposed to enhance watershed function; which will ultimately improve water quality and quantity discharged from *Clayhole Wash*, a predominantly ephemeral tributary to the Virgin River. Clayhole Wash runs through the ranch and splits it approximately in half. The wash has incised and streambank erosion is active. Gully and rill erosion is severe. Presently, access to the wash by livestock is mostly unlimited. Revegetation and bank stability will naturally occur when livestock are deterred by new fencing and are attracted to better distributed water sources.

Objective: The Foremasters, with participating resource agencies, desire to correct the identified resource concerns by installing the necessary range improvements to improve livestock distribution and implement a grazing system. (The grazing system is dependent on the proposed range improvements.)

Methods: The Conservation Plan for the Antelope Allotment identifies six elements: 1) Fence, 2) Pipeline, 3) Prescribed Grazing, 4) Troughs, 5) Tank, and 6) Wildlife Upland Habitat Management.

- ♦ Fencing will be installed to allow control of livestock grazing as part of a Planned Grazing System.
- ♦ A submersible pump and power source will be installed at Antelope Springs Well. Buried pipelines will convey water from the well to drinking stations throughout the allotment.
- ♦ Grazing will be managed according to a schedule that meets the needs of the soil, water, air, plant and animal resources and the objectives of the resource manager.
- ♦ Water drinking facilities will be installed at strategic locations to provide water for livestock and wildlife.
- ♦ An 80,000 gallon storage tank will be installed to provide dependable water for livestock and wildlife.
- ♦ Habitat will be retained, enhanced or created and maintained to provide food and cover for upland wildlife.

Installation of all range improvements will be a joint effort by the Foremasters and BLM. Follow-up management, maintenance, and monitoring will be provided by the rancher with technical assistance provided by BLM and NRCS.

Significance of Project: The combination of improved distribution of water sources and planned grazing system will provide more even grazing across the rangeland. Areas which historically received too much grazing will receive less grazing and areas which have received little to no grazing will receive light to moderate grazing. Both areas will benefit from this change. The regular deferment from grazing during the growing season will improve the health and vigor of range plants. It is anticipated that plant diversity and range productivity will increase as result of this project. Both factors contribute to an enhancement in watershed function.

***This project is entirely on land owned or leased by the Foremaster family. All water development will utilize existing water rights held by the Foremasters. With technical assistance provided by the NRCS, this project was originally submitted for funding under the USDA Environmental Quality Incentives Program (EQIP) in FY98. Due to the limited funding, only a few proposals from Arizona were accepted.*

Project Schematic Drawing

Range improvements and resource management proposed in this project are depicted on **Map #1**, a mosaic of four USGS 7-1/2" quads (*Lost Spring Mountain West, White Pockets, Gyp Pockets, and Rock Canyon*) and on a simplified hand drawn map (also Map #1).

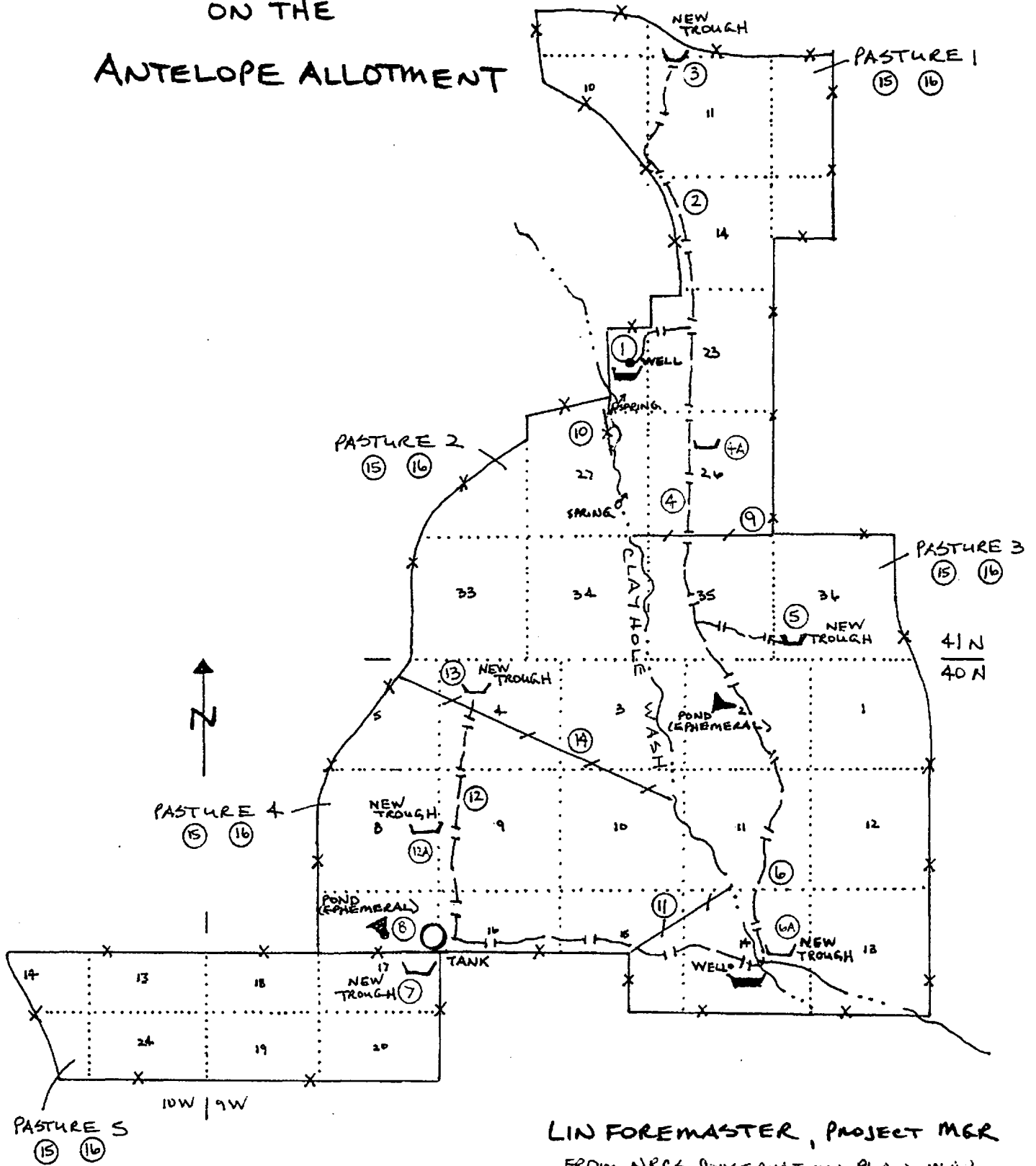
Only one large Map #1 is being submitted. Proposed range improvements are highlighted with the following colors: dark green depicts the segment of the main pipeline which has already been surveyed by a BLM archaeologist; yellow-green depicts proposed alignments of pipeline segments which have not yet been surveyed; orange depicts new drinking troughs; and red depicts new fences to create pastures. Because of scale, proposed "gap" fences are not shown.

The following elements are depicted on both maps:

- 1 **Pump, generator, generator house and propane tank** (energy source) to deliver water from Antelope Well to drinking stations and storage tank as shown.
- 2 2" / 1-1/4" **pipeline** to convey water from Antelope well to trough (#3)
- 3 **Trough** (10' ring) to provide off-channel water in northern portion of Pasture 1
- 4 2" main **pipeline** from Antelope well to new drinking stations
- 4A **Trough** (10' ring) to provide off-channel water in southern portion of Pasture 1
- 5 **Trough** (10' ring) in northern portion of Pasture 3
- 6 Extension of 2" main **pipeline** to tank and new drinking stations Pastures 3 and 5
- 6A **Trough** (10' ring) to provide dependable water in southern portion of Pasture 3
- 7 **Trough** (10' ring) to provide dependable water in Pasture 5
- 8 80,000-gallon storage **tank**
- 9 **Fence** - to establish pasture (cattle guard at roadway)
- 10 **Gap Fence** - to compliment natural barrier & deter cattle from Clayhole Wash (Pasture 2)
- 11 **Fence** - to establish pasture
- 12 1-1/4" **pipeline** from storage tank to new drinking stations in Pastures 4 & 2
- 12A **Trough** (10' ring) to provide dependable water at central location in Pasture 4
- 13 **Trough** (10' ring) to provide dependable water in southern portion of Pasture 2
- 14 **Fence** - to establish pasture (cattle guard at roadway)
- 15 Prescribed Grazing
- 16 Wildlife Upland Habitat Management

Conventional Mapping Symbols for Conservation Plan Maps, a key, is included as Appendix I.

WATERSHED ENHANCEMENT ON THE ANTELOPE ALLOTMENT



LIN FOREMASTER, PROJECT MGR
FROM NRCS CONSERVATION PLAN MAP
(DRAWN BY CB, 7/98)

Project Site Photographs

35 color photographs of the project area are included with Application #1. Due to expense, only B/W copies are in the back of duplicates. All photos are by Lin Foremaster, taken in July and August, 1998.

- #1 Antelope Spring Well - looking west.
- #2 Antelope Spring Well - looking west.
- #3 Looking west to Antelope Spring
- #4 Wash near Antelope Spring - looking west.
- #5 Antelope Spring. (This is where the spring starts to run.)
- #6 Antelope Spring - looking back east.
- #7 Antelope Spring - looking back to the east.
- #8 On the hill looking down on Antelope Spring - looking back to the east.
- #9 Same [vantage point] as Photo #8 - looking a little more east
- #10 Same [vantage point] as Photos #8 & #9 - looking west
- #11 Finger wash at Upper Antelope Spring.
- #12 Upper Antelope Spring - looking east.
- #13 Upper Antelope Spring - looking west.
- #14 View from Antelope Cave / power line crossing - looking to the north.
- #15 From same [vantage] point as Photo #14 - looking to the south.
- #16 Same point as #14 / #15 - looking west out the trail toward Antelope Cave.
- #17 Antelope Well South.
- #18 The wash at Antelope Well South - looking to the west.
- #19 The wash at Antelope Well south - looking to the east.
- #20 Cattle trail. View from top of bank looking down to the wash.
- #21 Same cattle trail as #20. View from the wash looking up at steep, narrow trail.
- #22 View upstream from same point. Sheer bank is natural barrier until the next trail about a mile away.
- #23 View downstream from same point.
- #24 Different cattle trail. At this site, a horseshoe-shaped, 50' long, 4-wire, "gap" fence will be installed.
- #25 Same cattle trail as #24. View looking up to show size of area and how access will be blocked.
- #26 View upstream from same point. Again, showing sheer bank to be a natural barrier.
- #27 View downstream from same point.
- #28 Different cattle trail. Location for "gap" fence. View to riparian area supported by Clayhole Wash.
- #29 Same cattle trail as #28. View from the wash upward.
- #30 View upstream from same point.
- #31 View downstream from same point.
- #32 Upper Antelope Spring. (This is the second longest "gap" on the wash.)
- #33 View from Upper Antelope Spring upward.
- #34 View upstream at Upper Antelope Spring. This part of Clayhole Wash is almost 40' deep.
- #35 View downstream from same point.

Project Location

Title: *Watershed Enhancement on the Antelope Allotment*

1. County: MOHAVE
2. Section: various 3. Township: 40 North & 41 North 4. Range: 9 West & 10 West
5. Legislative District: 3
6. Stream Name: *Clayhole Wash*
7. Landownership of project area: Private, State Trust and Federal (BLM) See map #2.
8. Current land uses: ranching, wildlife habitat, recreation (hunting, off-road vehicles, etc.)
9. Length of stream through project area: approximately 8 miles
10. Size of project area (in acres): Antelope Allotment is 17,655 acres.
11. Area Benefited by Project Implementation: 17,655 acres

Miles of *Clayhole Wash* Directly Benefited 8 miles. Downstream benefits were not estimated.

Acres of Riparian Habitat Enhanced, Maintained, Restored, Created: approx. 100 acres

12. Provide directions to the project site from the nearest town. List any special access requirements.

Traveling south out of Colorado City, from the Utah/Arizona border on State Route 389: Drive 4.4 miles. Turn right at Mt. Trumbell Road and drive 7.2 miles to Sand Ridge Road. Turn right and drive 11.7 miles to Antelope Trail Road. Turn right and drive 5 miles to Antelope Spring on left side of road.

Environmental Contaminant Location Information

For purposes of this manual, environmental contaminants are substances which pose risk of harm to human health or the environment and include hazardous substances, hazardous wastes, petroleum products or Environmental Protection Agency priority toxic pollutants (defined by CERCLA 42 USC §9601, RCRA 42 USC §6903 and the Environmental Protection Agency). Environmental contaminants do not include wastewater from a wastewater facility permitted by a local, state, or federal authority having jurisdiction over wastewater.

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.

Evidence of Control and Tenure

1. If you own the land on which the project is located, attach a copy of the appropriate legal document showing title in the name of the Applicant, and including a legal description of the property.

If you manage the land on which the project is located, attach a copy of the lease, special use permit, intergovernmental agreement or other appropriate official instrument.

If you do not own or manage the land on which the 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.

State Grazing Lease: No. 05-451 - Antelope (A)

Federal Grazing Lease: Operator No. 1516, Allotment No. 5206

2. If your project, including the benefits claimed for the Fund, involves surface water flows or use of groundwater withdrawals, demonstrate ownership and tenure by attaching the appropriate documentation .

If you do not own or manage the water that the project uses or that benefits the Fund, attach documentation verifying ownership (as noted above) and attach a copy of the permit, agreement or letter of intent that allows you use of the water.

There are two wells on the Antelope Allotment. There are windmills on both wells.

***Antelope Spring Well* (Registration No. 644285) is on private land. Water to be used in this project will only be withdrawn from the *Antelope Spring Well*. Current depth to water is 21'; the windmill pump sits at 31'.**

***Antelope Well South* (Registration No. 647942) is on land leased from the BLM. It is because of the low yield from *Antelope Well South* (only 1.5 to 3 gallons per minute) that water will be piped throughout the allotment from the other well.**

There are three springs on the Antelope Allotment:

***Antelope Spring* (Reg. No. 36-2260) is on private land, just SE of the Antelope Sprint Well**

***Upper Antelope Spring* (Reg. No. 36-20098) is on land leased from the BLM**

***Rock Canyon Spring* (Reg. No. 36-19922) is on land leased from the BLM.**

Introduction

Project Title: *Watershed Enhancement on the Antelope Allotment*

BACKGROUND

■ The Antelope Allotment on the Arizona Strip is operated as a cow-calf operation by Foremaster Revocable Trust. LaVar and Lin Foremaster, father and son, provide the management and labor for the ranch. The ranch is approximately 17,655 acres, comprised of privately-owned land (40 acres) and lands administered by the Bureau of Land Management (16,325 acres) and the State Land Department (1,300 acres).

■ The majority of the ranch is located within major land resource unit (MLRU) D35-4, Colorado Plateau Cold Desert Grassland. The extreme western edge of the ranch is within MLRU D35-3, Colorado Plateau Sagebrush-Grassland.

■ In the last seven years, the Foremasters have run below the permitted carrying capacity; voluntarily cutting their herd 30 percent. The ranch is currently permitted by the BLM to run 1012 animal unit months (AUMs) or 116 cows year-long. Based on an inventory completed by the Natural Resources Conservation Service (NRCS) in June 1997, the carrying capacity of the is 1,572 AUMs or 131 animal units year-long. (This assumes that all range is useable.)

■ Most of the soils on the ranch are shallow and/or gypsiferous. Gypsiferous soils are saline and highly erosive if not adequately protected. Predominant range (ecological) sites are gypsum hills, gypsum upland, and shallow loamy. Other sites occurring in smaller amounts, but important as forage sources for both livestock and wildlife, are the silty upland and loamy upland ecological sites.

Statement of Problem(s)

Reliable water is the limiting factor to reach optimum range utilization on the Antelope Allotment. If range conditions were improved, watershed function would be enhanced.

■ The NRCS range inventory showed soil erosion, range condition, and forage production to be the predominant concerns. Also identified as resource concerns are inadequately distributed livestock / wildlife waters, potential water pollution due to erosion of salt-laden soils, and overuse of areas due to inadequate water distribution.

■ Erratic precipitation and inadequate water distribution for livestock / wildlife restricts sustainable animal numbers. Two wells and three undeveloped springs are the only reliable water sources. Of the two wells, the Antelope Spring Well has consistently had a better yield.

■ Clayhole Wash, a predominantly ephemeral tributary in the Virgin River watershed, nearly bisects the Allotment. The wash is incised 10 to 20 feet and bank erosion ranges from bad to severe. Side gullies resulting from the lowered Clayhole Wash channel are actively eroding, increasing in both size and length with each storm event. Sheet and rill erosion in what was once the floodplain of Clayhole Wash is also evident. Livestock and wildlife cannot access the wash in most reaches due to steep banks. Areas where the animals *can* access are heavily impacted.

■ Antelope frequent the allotment and are probably limited in number by the lack of water sources. Quail are attracted to the rice grass, but the number of quail is still small. The Foremasters would like to encourage their return.

Statement of Project-Related Remedies or Solutions

Range improvements, prescribed grazing, and wildlife upland habitat management described by the NRCS will facilitate better distribution of livestock and wildlife. It's recognized that restoration of Clayhole Wash will take considerable time.

■ The Foremasters (with the BLM & NRCS) desire to correct the identified resource concerns by installing the necessary range improvements to improve livestock distribution and implement a grazing system. These improvements include water development and fencing. Installation of the improvements will be a joint effort of the rancher and BLM. Maintenance of all range improvements will be the responsibility of the rancher. Follow-up management and monitoring will be provided by the rancher with assistance from BLM and NRCS.

Off-Channel Water Development The proposed water development is central to the watershed enhancement project. The Foremasters are looking to the Water Protection Fund for assistance with materials and rental of heavy equipment (trencher and backhoe); the rancher will contribute labor as a match. Antelope Spring Well, an existing well on private land, will be the source of all water to be distributed throughout the allotment. Components of the system include a submersible pump, a generator, a propane energy source, a generator house, about 9.6 miles of 2" pipeline, 4.75 miles of 1-1/4" pipeline, 7 troughs, and an 80,000 gallon storage tank.

Fencing With the creation of five pastures with dependable water, a prescribed grazing program can be followed. "Gap" fencing, strategically placed at existing cattle trails on eroding banks, will be used to deter cattle from entering Clayhole Wash. The cattle using this allotment are gentle and responsive. A total of 4.8 miles of fence is proposed for the second and third years of the project. Fences will be built to BLM specifications. 3-wire fence will be used except within 1/4-mile of water where 4-wire fence will be used. All fences will be wildlife-friendly (*i.e.*, the bottom wire is smooth and will be set at 18" from the surface. Water Protection Fund monies are NOT requested for this portion of the project. BLM is contributing ALL fence materials (including two cattle guards) and the Foremasters are contributing ALL labor as a match. Heavy equipment will not be used.

Prescribed Grazing NRCS has assisted in preparing a deferred grazing program that will be initiated upon completion of range improvements. (Information regarding the deferred grazing system is included as Appendix II.)

■ The combination of improved distribution of drinking water and a planned grazing system will provide more even grazing across the rangeland. Areas which historically received too much grazing will receive less grazing and areas which have received little to no grazing will receive light to moderate grazing. Both areas will benefit from this change. The regular deferment from grazing during the growing season will improve the health and vigor of these plants. It is anticipated that plant diversity and range productivity will increase as a result.

NRCS personnel anticipate that soil erosion will be reduced to tolerable levels (T) or below, range condition will improve to good or better, and forage production will increase to at least 75% of expected. NRCS's Conservation Effects Worksheet, addressing all of these factors, is included with this application as Appendix III.

Statement of Cause(s) of the Problem(s)

Existing watershed conditions are the result of natural conditions (physical setting, geology, climate, soils, etc.), historic land uses and current land uses.

■ Cultural artifacts indicate that the area had been used for many centuries. However, it is speculated that the cause of changes in the local landscape is more regional in nature (e.g., climatic change).

■ Effects of intense use by livestock are most visible near limited water. Cows have a maximum distance they will stray from reliable water.

Statement of Years of Benefit

As previously mentioned, it's acknowledged that enhancement of the watershed and restoration of Clayhole Wash will take some time. The long-term benefits associated with improvement of watershed function are certainly greater than 20 years.

Assuming the ranch will be passed on to the next generation of Foremasters, the commitment to maintaining the improvements will be greater than 20 years.

Scope of Work: Objectives

Each of the following objectives contribute to the overall objective of enhancing watershed function and providing a model for other Arizona Strip operators.

Objective #1:

To facilitate natural healing of heavily impacted areas and stabilization of riparian areas by reducing livestock access to Clayhole Wash.

Objective #2:

To optimize range utilization by distributing dependable drinking water for livestock and wildlife.

Objective #3:

To encourage diversity and vigor of range plants by implementing a deferred grazing system.

Objective #4:

To monitor immediate and long-term results of project implementation.

Scope of Work: Task Descriptions

Task #1 Description: Finalize design and engineering; obtain necessary clearances and construction permits from resource agencies for new water distribution system and new fencing.

Deliverable description: Copies of archaeology clearance, BLM & SLD permits.

Deliverable due date: March 15, 1999

AWPF task cost: \$ 0

Task #2 Description: With NRCS, BLM and SLD technical support, finalize and submit plans for revegetation, sampling, monitoring, and photo monitoring.

Deliverable description: Sampling, revegetation, monitoring and photo monitoring plans.

Deliverable due date: July 31, 1999

AWPF task cost: \$ 0

Task #3A Description: Complete first year components of water distribution system. Pipeline segments are: 3,000 feet of 2" pipe & 13,000 feet of 1-1/4" pipe [2]; 16,400 feet of 2" pipe [4]; 31,200 feet of 2" pipe [6]; and 12,000 feet of 1-1/4" pipe [12]. *Materials and heavy equipment will be purchased or leased, respectively, in accordance with "Budget Details" on page 20 of this application.*

Deliverable description: Task summary, original receipts & photos in Second Quarter-1999, Report.

Deliverable due date: July 31, 1999

AWPF task cost: \$ 71,857

Task #3B Description: Complete second year component of water distribution system. An 80,000 gallon water storage tank [8] will be installed in the southwest quadrant of the allotment.

Deliverable description: Task summary, original receipts & photos in Second Quarter-1999 Report.

Deliverable due date:

AWPF task cost: \$ 30,000

Task #3C Description: Complete third year components of water distribution system -- the installation of the pump, generator and generator house [1] and seven troughs [3, 4A, 5, 6A, 7, 12A & 13].

Deliverable description: Task summary, original receipts & photos in Second Quarter-2000 Report.

Deliverable due date: July 31, 2001

AWPF task cost: \$ 31,150

Task Descriptions (continued)

Task #4A Description: Construct 3 segments of 3-wire fence to define pastures and/or eliminate access to Clayhole Wash: 4,200' [9], 2,500' [10], and 6,000' [11]. Cattle guard to be installed at roadway.

Deliverable description: Task summary & photos in Second Quarter-2000 Report.

Deliverable due date: July 31, 2000

AWPF task cost: \$ 950

Task #4B Description: Construct 12,800' of 3-wire fence to define pasture [14]. Cattle guard to be installed at roadway.

Deliverable description: Task summary & photos in Second Quarter-2001 Report.

Deliverable due date: July 31, 2001

AWPF task cost: \$ 950

Task #5 Description: Project will be managed to comply with grant award agreement. Manager will prepare *Quarterly Reports* and requests for reimbursement. (Monies budgeted with this task @ \$100/yr are for film, photo development, office supplies, copies, and misc. expenses for project management.)

Deliverable description: Each Quarter Report will include a summary of activities, original receipts, photos, and requests for reimbursement.

Deliverable due date:	First Quarter	April 30	1999, 2000, and 2001
	Second Quarter	July 31	1999, 2000, and 2001
	Third Quarter	October 31	1999, 2000, and 2001
	Fourth Quarter	January 31	2000, and 2001

AWPF task cost: \$ 300

Task #6 Description: Initiate prescribed grazing as designed by NRCS [15] and dependent on completion of water distribution system and fencing.

Deliverable description: Task summary in Third Quarter-2001 Report and Final Report.

Deliverable due date: October 31, 2001 and January 31, 2002

AWPF task cost: N/C

Task Descriptions (continued)

Task #7 Description: Manage uplands to improve wildlife habitat [16].

Deliverable description: Task summary in Third Quarter-2001 Report and Final Report.

Deliverable due date: October 31, 2001 and January 31, 2002

AWPF task cost: N/C

Task #8 Description: Present summary of project or prepare poster or other display for Water Protection Fund information transfer meeting -- yet to be scheduled.

Deliverable description: Task summary; photograph of poster or copy of paper; reimbursement request for travel and related expenses with original receipts. (Included in Second Quarter-2001 Report.)

Deliverable due date: July 31, 2001

AWPF task cost: \$500

Task # 9 Description: Prepare and submit a Final Report which: describes methodologies; summarizes outcome of all tasks; summarizes/analyzes any project data; suggests changes needed in the project; describes plans for long-term monitoring; and discusses preliminary success measured against objectives.

Deliverable description: Final Report

Deliverable due date: January 31, 2002

AWPF task cost: \$ 100

Scope of Work: Sampling, Revegetation and Monitoring Plans

RE: SAMPLING / MONITORING

To determine the results and impacts of the project, two components of monitoring are proposed.

- To determine effects on upland rangeland, two *existing* trend monitoring transects established by BLM and two *new* transects will be monitored. These transects will provide information on changes in ecological condition, biomass/forage production and ground cover.
- To determine effects on Clayhole Wash, the monitoring approach will involve establishment of three permanent monitoring sites on the wash.

Data to be collected for comparison will include:

- ♦ stream background data
- ♦ photographs (photo point and aerial photography)
- ♦ morphological description
- ♦ channel stability evaluation
- ♦ bank erodibility hazard
- ♦ riparian vegetation data

Supplemental information regarding the monitoring approach, as proposed by the NRCS Resource Support Team (Flagstaff), is included as Appendix IV. The Monitoring Plan will be finalized in Task 2, as presented in Scope of Work: Task Descriptions on page 11 of this grant application.

RE: REVEGETATION

A revegetation scheme has not been addressed to date. Once the cattle are deterred from accessing the wash, it is anticipated that riparian vegetation will recover without additional human assistance. It is also anticipated that range grasses will improve in both vigor and diversity without additional human involvement. That's not to say that field personnel from cooperating agencies may suggest a revegetation strategy, based on monitoring results, at some time in the future.

Task - Timetable

Start Date: February 15, 1999 Years of Benefit: 20+ years End Date: February 14, 2002 Duration: three years			Project Name: <i>Watershed Enhancement on the Antelope Allotment</i>											
Project Categories and Tasks			Months Since Project Initiated (Year 1)											
Task No.	Task Cost	Task Description	1 Feb	2 Mar	3 Apr	4 May	5 June	6 July	7 Aug	8 Sept	9 Oct	10 Nov	11 Dec	12 Jan
1	6,600	Final design & engineering; secure clearances & permits	XX	XX										
2	750	Revegetation, sampling, and monitoring plans		XX	XX	XX	XX							
3A	96,357	Install all pipeline			XX	XX	XX							
3B	30,000	Install storage tank												
3C	35,950	Install pump, generator, generator house, and seven drinking troughs												
4A	11,550	Construct fences / cattle guard												
4B	10,950	Construct fence / cattle guard												
5	9,660	Project Mgmt / Quarterly Report	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
6	0	Prescribed Grazing												
7	0	Wildlife Habitat Management												
8	500	Information Transfer Meeting												
9	340	Final Report												
	202,657	PROJECT TOTAL												

Task- Timetable (continued)

Project Categories and Tasks			Project Name: <i>Watershed Enhancement on the Antelope Allotment</i>											
			Months Since Project Initiated (Year 2)											
Task No.	Task Cost	Task Description	13 Feb	14 Mar	15 Apr	16 May	17 June	18 July	19 Aug	20 Sept	21 Oct	22 Nov	23 Dec	24 Jan
1	6,600	Final design & engineering; clearances & permits												
2		Revegetation, sampling, and monitoring plans												
3A	96,357	Install all pipeline												
3B	30,000	Install storage tank		XX	XX									
3C	35,950	Install pump, generator, generator house, and seven drinking troughs												
4A	11,550	Construct fence / cattle guard	XX	XX	XX	XX	XX							
4B	10,950	Construct fence / cattle guard												
5	9,660	Project Mgmt / Quarterly Report	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
6	0	Prescribed Grazing												
7	0	Wildlife Habitat Management												
8	500	Information Transfer Meeting												
9	340	Final Report												

Task-Timetable (continued)

Project Categories and Tasks			Project Name: <i>Watershed Enhancement on the Antelope Allotment</i>											
			Months Since Project Initiated (Year 3)											
Task No.	Task Cost	Task Description	25 Feb	26 Mar	27 Apr	28 May	29 June	30 July	31 Aug	32 Sept	33 Oct	34 Nov	35 Dec	36 Jan
1	6,600	Final design & engineering; clearances & permits												
2		Revegetation, sampling, and monitoring plans												
3A	96,357	Install all pipeline												
3B	30,000	Install storage tank												
3C	35,950	Install pump, generator, generator house, and seven drinking troughs	XX	XX	XX	XX	XX							
4A	11,550	Construct fence / cattle guard												
4B	10,950	Construct fence / cattle guard	XX	XX	XX	XX	XX							
5	9,660	Project Mgmt / Quarterly Report	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
6	0	Prescribed Grazing						XX	XX	XX	XX	XX	XX	XX
7	0	Wildlife Habitat Management						XX	XX	XX	XX	XX	XX	XX
8	500	Information Transfer Meeting			?	?								
9	340	Final Report											XX	XX

Project Budget Forms

<i>Watershed Enhancement on the Antelope Allotment</i>	AWPF FUNDING REQUESTED					
TASK: Number and short description	ADMIN COSTS ¹	DIRECT LABOR COSTS ²	OTHER DIRECT COSTS	OUTSIDE SERVICES	CAPITAL OUTLAY ³	TOTAL
1 Final Engineering / Clearances						
2 Reveg./Sampling/Mon. Plans						
3A Water Distribution Pipeline			71,857			71,857
3B Water Storage Tank				30,000		30,000
3C Pump/House/Power/Troughs			31,150			31,150
4A Fencing & Cattle Guard			950			950
4B Fencing & Cattle Guard			950			950
5 Project Mgmt. / Qtr. Report	300					300
6 Grazing Management						
7 Wildlife Habitat Management						
8 Information Transfer Meeting			500			500
9 Final Report	100					100

Total: \$ 135,807

- ¹ Administration costs are limited to 5% of the total dollars requested for a project.
- ² Include wages, salaries, and fringe benefits.
- ³ Attach list of capital equipment expenditures over \$1,000.00, Water (CAP/Effluent), etc.

Budget Forms (continued)

<i>Watershed Enhancement on the Antelope Allotment</i>	OTHER FUNDING (MATCHING)⁴					TOTAL
	ADMIN COSTS¹	DIRECT LABOR COSTS²	OTHER DIRECT COSTS	OUTSIDE SERVICES	CAPITAL OUTLAY³	
1 Final Engineering / Clearances		VOLUNTEERS 3,600	BLM 3,000			6,600
2 Reveg./Sampling/Mon. Plans		750	BLM/NRCS/SLD			750
3A Water Distribution Pipeline		24,500				24,500
3B Water Storage Tank						
3C Pump/House/Power/Troughs		4,800				4,800
4A Fencing & Cattle Guard		4,350	BLM 6,250			10,600
4B Fencing & Cattle Guard		4,050	BLM 5,950			10,000
5 Project Mgmt. / Qtr. Report	4,680	4,680				9,360
6 Grazing Management						
7 Wildlife Habitat Management						
8 Information Transfer Meeting						
9 Final Report		240				240

Total: \$ 66,850

Note: Unless specified, in-kind / match contributed by applicant.

¹ Administration costs are limited to 5% of the total dollars requested for a project.

² Include wages, salaries, and fringe benefits.

³ Attach list of capital equipment expenditures over \$1,000.00, Water (CAP/Effluent), etc.

⁴ Use the value of volunteer labor based on current minimum wage; technical volunteer labor can be based on an hourly fee comparable to a consultant's fee.

Budget Details

Water System Materials / Vendor: Scholtzen Products, Hurricane, Utah

Distribution	16,500' of 2" schedule 80 pipe @ \$.66/ft	\$ 10,900
	36,500' of 2" schedule 40 pipe @ \$.47/ft	\$ 17,155
	27,000' of 1-1/4" schedule 80 pipe @ \$.29/ft	\$ 7,830
	825 2" schedule 80 couplings @ \$ 3.07	\$ 2,533
	27 high pressure vents @ \$ 180	\$ 4,860
	16 high pressure valves @ \$ 117	\$ 1,872
	1 1.25" pressure reducer valve @ \$ 100	\$ 100
	1 2" check valve @ \$ 125	\$ 125
	7 float boxes with fittings	\$ 2,500
	7 valves for float boxes	\$ 300
	7 low pressure air vents	\$ 225
	7 3/4" .75 pressure regulators @ \$ 85	\$ 595
	250' PVC for air vents and valves @ \$2.25/ft	\$ 562
	50 10" PVC caps for air vents and valves @ \$ 10	\$ 500
	2 3' X 5' galvanized culverts for valve boxes @ \$ 100	\$ 200
	assorted fittings	\$ 500
	glue and primer	\$ 800
	Total cost for materials related to Task 3A	\$ 51,557

Supply	1 3hp submersible pump	\$ 1,500
	1 8' x 8' cinderblock pump house	\$ 8,000
Energy Source	1 1,000 gallon propane gas tank set up	\$ 1,000
	Propane fill-up	\$ 1,000
	1 15 KW generator	\$ 9,500
Points of use	7 10' (1000 gallon) steel stock tanks	\$ 6,400
	Total cost for materials related to Task 3C	\$ 27,400

Storage	Materials and installation of 80,000 gallon storage tank (Subcontractor: West Fabrication, St. George, Utah)	\$ 30,000
	Total fee to complete Task 3B	\$ 30,000

Heavy Equipment & Fuel / Vendors: Ahearn Rental & Tri-Valley Distributing, St. George, Utah

Water system Year 1	trencher and backhoe rental (22 weeks @ \$ 850/wk)	\$ 18,700
	diesel fuel	\$ 1,600
	Total cost for equipment needed to complete Task 3A	\$ 20,300

Water system Year 2	backhoe for pump house (1 week @ \$ 850/wk)	\$ 850
	backhoe for 7 water troughs (3 weeks @ \$850/wk)	\$ 2,550
	diesel fuel	\$ 350
	Total cost for equipment needed to complete Task 3C	\$ 3,750

Cattle guard Year 2	backhoe rental (1 week @ \$ 850/wk)	\$ 850
	diesel fuel	\$ 100
	Total cost for equipment needed to complete Task 4A	\$ 950

Cattle guard Year 3	backhoe rental (1 week @ \$ 850/wk)	\$ 850
	diesel fuel	\$ 100
	Total cost for equipment needed to complete Task 4B	\$ 950

Matching Information

The Foremasters will contribute **project management** and **labor** (for the installation of the pipeline, pump & pump house, troughs, fencing and cattle guards) as an in-kind match to the WPF grant.

Monitoring	50 hrs @ \$15/hr	\$ 750
	Total labor contributed for Task 2	\$ 750
Approx 80,000' water line	Manual labor (3-4 men). 900 hours @ \$10/hr	9,000
	Trencher operation. 535 hours @ \$20/hr	10,700
	Backhoe operation. 240 hours @ \$20/hr	4,800
	Total labor contributed for Task 3A	\$ 24,500
Pump & generator setup:	Manual labor. 40 hours @ \$10/hr	400
Pumphouse setup:	Backhoe operation. 40 hours @ \$20/hr	800
7 troughs setup:	Manual labor. 120 hours @ \$10/hr	1,200
	Backhoe operation. 120 hours @ \$20/hr	2,400
	Total labor contributed for Task 3C	\$ 4,800
Fencing	Manual labor. 2.5 miles @ \$ 1,500/ mile	\$ 3,750
Cattle guard	Manual labor. 20 hours @ \$10/hr	200
	Backhoe operation. 20 hours @ \$20/hr	400
	Total labor contributed for Task 4A	\$ 4,350
Fencing	Manual labor. 2.3 miles @ \$ 1,200/ mile	\$ 3,450
Cattle guard	Manual labor. 20 hours @ \$10/hr	200
	Backhoe operation. 20 hours @ \$ 20/hr	400
	Total labor contributed for Task 4B	\$ 4,050
Project Management	4 hrs/wk @ \$15/hr (3 yrs) 50% admin / 50% labor	9,360
	Total labor contributed for Task 5	\$ 9,360
Final Report	16 hrs @ \$15/hr	\$ 240
	Total labor contributed for Task 9	\$ 240

As a match to the WPF grant, BLM will provide materials for the construction of approximately 4.8 miles of fence and two cattle guards during the second and third years of the project. In the August 5, 1998, correspondence from BLM to the WPF Commission, the following is stated:

♦ FY00 Commitment:	2.5 miles of fence @ \$1,500/mile	3,750
	one cattle guard @ \$2,500	2,500
	Task 4A	6,250
♦ FY01 Commitment:	2.3 miles of fence @ \$1,500 per mile	3,450
	one cattle guard @ \$2,500	2,500
	Task 4B	5,950
	Total match by BLM for Tasks 4A & 4B	\$12,200.

In addition, BLM estimated the cost to complete remaining archaeological -related work. Volunteer labor and direct costs are \$ 3,600 and \$ 3,000, respectively. No additional costs were estimated for project planning, coordination and monitoring.

Total contribution by BLM and volunteers for Task 1 \$ 6,600.

Existing Plans

Both the Allotment Management Plan, prepared by BLM - Arizona Strip Field Office, and the Conservation Plan, written by NRCS - Fredonia Field Office, are being developed concurrently for Lin Foremaster on the Antelope Grazing Allotment. The underlying purpose of this joint planning effort is to improve vegetative cover and overall watershed condition as well as facilitate restoration of Clayhole Wash which traverses the allotment.

Community Support

	Participation	Letter of Support
Bureau of Land Management - Arizona Strip District	X	X
Natural Resource Conservation Service	X	X
Arizona State Land Department	X	X

Community Support

Fredonia NRCD		X
Neighboring Ranchers:		
Donald Esplin		X
Stan Esplin		X
Lewis Beatty		X
Howard Foremaster		X
Mohave County		*
Water Conservancy District		*
Arizona Game & Fish Department		*
Downstream water users		*

* Project supported but letter not included. Commission should receive letter during *Public Comment Period*.

Project Personnel

Foremaster Revocable Trust / Foremaster Ranches

LaVar Foremaster, 3RD Generation Rancher, Owner

Born & raised in St. George, Utah. Worked with his father until taking ownership of the ranch 15 years ago.

Skills: fence-builder, well setter, equipment operator, and love of the land.

Lin Foremaster, ~~Project Manager~~, 4TH Generation Rancher, Ranch Manager

Born & raised in St. George, Utah. Worked with his grandfather and father as a youth, then went into the construction field. Spent five years in the building trades and 10 years operating heavy equipment. Has been managing the ranch for six years now. Skills: fence builder, well setter, carpenter, concrete finisher, roofer, plumber, electrician, and mechanic. Proficient with: backhoe, trencher, front-end loader, bulldozer and road grader. An all-around ranch hand.

BUREAU OF LAND MANAGEMENT

Arizona Strip District

Phillip Seegmiller, Rangeland Management Specialist

Raised on a dairy in St. George, Utah. B.S. Utah State University. 22 years in public service, 10 years at AZ Strip Field Office. Focus has been range management and wild horse program.

Bob Sandburg, Rangeland Management Specialist Team Leader

Raised in Washington, Utah. Background in Agriculture. B.S. Southern Utah University. 20+ years with AZ Strip Field Office. 15 years supervisory experience.

Diana Hawks, Cultural Resource Specialist (Archaeologist)

From Wichita Falls, Texas. B.S. Brigham Young University, M.A. University of Utah. 9+ years in public service, 7 years with AZ Strip Field Office.

ARIZONA STATE LAND DEPARTMENT

Gary Hase, Area Resource Manager

Range conservationist assigned to this region. Will coordinate construction of range improvements and grazing planning with applicant and partner agencies.

NATURAL RESOURCES CONSERVATION SERVICE

Fredonia Field Office

Steve Cassady, District Conservationist

Originally from northern California. B.S. University of California, Davis. 22 years in public service -- working with ranchers and farmers. 14 years with the Fredonia Field Office.

Art Meen, Soil Conservationist

Farming / cattle background; practical knowledge of range/pasture management principles. Experience in soils analysis, croplands, irrigation design, water management, hydraulics. 10 years with NRCS.

Technical Support Team, Flagstaff

Stephanie Yard, Engineer

Ken Hyde, Wildlife Biologist

SHPO Certification
(must be submitted)

This certification is required by regulations implementing the State Preservation Act (A.R.S. 41-861 through 41-864), effective July 24, 1982. It is understood that **recipients of state funds are required to comply with this law** throughout the project period. The State Historic Preservation Act mandates that all State agencies consider the potential of activities or projects to impact significant cultural resources. 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. All projects that affect the ground-surface that are funded by AWPf require SHPO clearance **including those on private lands.**

PROJECT TITLE: Watershed Enhancement on the Antelope Allotment

1. Does the project have the potential to disturb the surface and/or subsurface of the ground?

YES: NO: **Proposed range improvements include a new water system and fencing.**

2. Are there any buildings or structures (including mines, bridges, dams, canals, etc.) which are 50 years or older within the project area that have the potential to be disturbed by the proposed activity?

YES: NO: **However, a historic trail follows the northwest alignment of the allotment.**

3. Are there any known prehistoric and/or historic archaeological sites within the project area?

YES: NO: **Antelope Cave is on the Register of Historic Places.**

4. Are you aware of any archeological investigations that have been performed within one (1) mile of the project area?

YES: NO: **In conjunction with a change in status for the primary access road in the allotment, BLM conducted an archaeological investigation. Most of the trunk line for this project's water system follows this road alignment.**

Please refer to correspondence from Roger Taylor, Field Manager, of the Bureau of Land Management.

If you have answered "NO" to all of the above questions, please sign on the line below certifying that the activity or project is in compliance (and will remain in compliance throughout the project period) with the State Historic Preservation Act. **YOU MUST SUBMIT THIS FORM WITH YOUR COMPLETED APPLICATION.**

Authorized Signature

Date

If you have answered "YES" to any of the questions above, please answer the following questions.

SHPO Certification

If you answered yes to question #1, specifically identify any surface or subsurface impacts that are expected. Attach extra sheets if more space is needed.

The proposed project includes installation of a dependable water distribution system and construction of fences to facilitate optimum range utilization.

- ♦ **Heavy equipment will be used to trench for water lines. (Pipe will be installed at a depth of 30 inches to minimize damages from freezing weather.)**
- ♦ **Fencing, however, will be installed by hand. No clearing or machinery will be used.**

If you answered yes to question #1, describe the current ground surface condition within the entire project area boundary (i.e., is the ground in a natural undisturbed condition, or has it been bladed, paved, graded, used for agriculture, etc.). Attach extra sheets if more space is needed.

Much of the ground in the Antelope Allotment is in a natural undisturbed condition. The predominant land use during the past 100 years has been livestock grazing. As previously mentioned, the trunk line for the water system will follow the alignment of the existing public, graded roadway. The roadway has been heavily impacted by public use.

If you answered yes to question #2, list the sites, their names, and provide a brief description of the site.

N/A

Has the project area been previously surveyed for cultural resources by a qualified Archaeologist?

YES: NO:

Please refer to BLM's correspondence. Segments of the proposed pipeline alignment that have not yet been surveyed will be completed prior to any land disturbing activities.

DON'T KNOW:

If yes, submit a copy of the Archaeologist's report with your application.

YOU MUST SUBMIT THIS FORM WITH YOUR COMPLETED APPLICATION



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Arizona Strip Field Office
345 E. Riverside Drive
St. George, Utah 84790
Phone (435)688-3200 • Fax (435)688-3258
<http://www.az.blm.gov/~aafo/azstrip.htm>

IN REPLY REFER TO:
7220 (010)

Ms. Catherine Balzano
Water Protection Fund Commission
Department of Water Resources
500 North 3rd Street
Phoenix, AZ 85004

RE: Watershed Enhancement on the Antelope Allotment

Dear Ms. Balzano:

The Foremaster's wish to construct fences, pipelines, tanks and troughs to ultimately improve the water quality and quantity on the Clayhole Wash through better management of cattle grazing.

Near Clayhole Wash is Antelope Cave (Site #AZ A:3:1(ASM)), a large cave listed on the National Register of Historic Places for the information it can contribute toward understanding the prehistory of the area (Criterion D). It is the only site actually listed on the National Register of Historic Places on the Arizona Strip. Preliminary plans for the watershed enhancement project considered potential impacts to this cave and portions of the project were rerouted to avoid the cave. No impacts will occur to this cave as a result of this project.

In addition several recently recorded archaeological (mostly lithic and quarry) sites have been recorded adjacent to the Temple Trail Road. Portions of the Temple Trail Wagon Road parallel the existing dirt road today. Some of the pipelines for this project are routed along this dirt road. Once plans are finalized for all construction associated with this project, an archaeological inventory will occur to identify other possible sites that might be impacted. At that time any known archaeological sites or newly discovered sites will be avoided by any construction associated with this project. This is the most timely and cost effective way of protecting any values these sites might currently have which might make them eligible for the National Register of Historic Places. The Temple Trail Wagon Road has qualities to make it eligible for the National Register but no nomination of this site to the National Register has yet taken place. All intact portions of this trail will not be impacted by this project.

During late fall and early winter of 1998/1999 the Arizona Strip BLM archaeologist will have the time available to complete an inventory for all project facilities. At that time all avoidance options will be considered and implemented. If it is not possible to avoid all sites, then appropriate mitigation procedures will be recommended and applied prior to construction.

Estimated time involved for the BLM archaeologist is 3 work weeks at a direct cost to the BLM of approximately \$3,000. In addition, the work will be accomplished with the assistance of 2-3 trained volunteer avocational archaeologists. The value of this contribution to the project is estimated at \$3,600 (3 individuals times 120 hours times \$10/hour).

If you have any questions about this project or the proposed archaeological inventory and mitigation, please contact Diana Hawks at (435) 688-3266 or dhawks@az.blm.gov.

Sincerely,



Foy Roger Taylor
Field Manager

Letters of Support

WATERSHED ENHANCEMENT ON THE ANTELOPE ALLOTMENT



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Arizona Strip Field Office
345 E. Riverside Drive
St. George, Utah 84790
Phone (435)688-3200 • Fax (435)688-3258

IN REPLY REFER TO:
4120/7000 (010)

August 5, 1998

Water Protection Fund Commission
Department of Water Resources
500 N. 3rd Street
Phoenix, AZ 85004

Re: Watershed Enhancement on the Antelope Grazing Allotment:

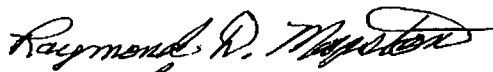
Dear Commission Members:

This letter is to reconfirm the Bureau of Land Management's (BLM) commitment, concerning the development and implementation of a Conservation Plan and Allotment Management Plan (AMP) for "watershed enhancement on the Antelope Grazing Allotment." Both the Conservation Plan (written by the National Resource Conservation Service [NRCS]), and the AMP (by the BLM) are being developed concurrently for Lin Foremaster on the Antelope Grazing Allotment located within the Arizona Strip Field Office boundaries.

The underlying purpose of this planning effort is to improve the vegetative and watershed condition on the Allotment and that part of the Clayhole Wash that traverses the Allotment. To meet this commitment the BLM is developing an Allotment Management Plan (AMP) for the Antelope Grazing Allotment. The AMP is currently in the draft stage with management facilities as described in the NRCS Conservation Plan to be incorporated. The BLM is committing to providing materials for the construction of approximately 2.5 miles of fences during the Fiscal Year of 2000 (FY00) at a cost of \$1500 per mile, and installation of one cattleguard at an estimated cost of \$2,500.00 for a total cost of \$6,250.00 for materials for FY00. Then again in the FY01 provide for an additional 2.3 miles of fence and one cattleguard at a total cost of \$5,950.00, plus an unspecified man hour cost over the next several years for planning, design, and project clearances, as well as follow-up monitoring.

The BLM will strive to meet the Conservation plan dates pending: implementation of Arizona Standards for Rangeland Health and Guidelines for Grazing Administration, meeting NEPA requirements and available funding.

Sincerely,



for
Roger G. Taylor
Field Manager

cc: ✓ Catherine Balzano, Arizona State Land Department
Lin Foremaster, Antelope Grazing Permittee



JANE DEE HULL
GOVERNOR

Arizona
State Land Department

1616 WEST ADAMS
PHOENIX, ARIZONA 85007



J. DENNIS WELLS
STATE LAND COMMISSIONER

August 17, 1998

Arizona Water Protection Fund Commission
% Arizona Department of Water Resources
500 N. Third St.
Phoenix, AZ 85004-3903

Re: Antelope Allotment Watershed Enhancement Grant Application

Dear Commissioners:

The Foremaster Revocable Trust holds Arizona State Land Department grazing lease N^o 05-451 for the State Trust land within the Antelope Allotment.

The Land Department is aware Mr. Lin Foremaster is the applicant for a Water Protection Fund Grant. The purpose of the grant is to develop range improvements and management practices to enhance watershed function on the Antelope Allotment. The anticipated enhanced watershed function will improve water quality and quantity discharged from Clayhold Wash, a tributary to the Virgin River.

The Land Department supports the proposed project on the Antelope Allotment.

We will facilitate the approval of permits to construct range improvements on State Trust land if this grant application is approved.

We also support the development of a planned grazing strategy on the Antelope Allotment, which will defer livestock use from the newly created pastures during critical times of plant growth and development. Healthy, vigorous plants will be a product of this grazing deferment, and a benefit to enhanced watershed functions.

Sincerely,

Stephen M. Williams
Range Section Manager

SMW:cb

a:\Grant.app



United States
Department of
Agriculture

Natural Resources
Conservation
Service

Fredonia Field Office
PO Box 520
Fredonia, Arizona 86022-0520
(520) 643-7062
FAX (520) 643-7411

August 17, 1998

Catherine Balzano
Water Protection Fund
Arizona State Water Protection Fund
1616 West Adam
Phoenix, Arizona 85007

RE: Antelope Allotment Application for Arizona Water Protection Fund Assistance.

Dear Ms. Balzano:

This letter is to confirm my support for the request being made by Lin Foremaster, Foremaster Revocable Trust, for funding assistance through the Arizona Water Protection Fund to install improvements benefiting riparian habitat on the Antelope Allotment.

The conservation plan to be implemented through the fund's assistance was developed by me in cooperation with the Bureau of Land Management's Arizona Strip District Office. My office will continue to assist in the implementation of the conservation plan, as needed, and monitoring of the results.

I appreciate the substantial assistance you have provided in the application for the funding assistance through the water protection fund.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen E. Cassady".

Stephen E. Cassady
Liaison District Conservationist



Fredonia Natural Resource Conservation District
P.O. Box 267
Fredonia, Arizona 86022

July 23, 1998


Water Protection Fund Commission
c/o Department of Water Resources
500 North Third Street
Phoenix, Arizona 85004

Dear Commission Members:

The Fredonia Natural Resource Conservation District supports Watershed Enhancement on the Antelope Allotment, submitted by LaVar & Lin Foremaster and currently under consideration for funding. The proposed range improvements are necessary to achieve grazing management on the allotment. Water is a limiting factor for many cow-calf operations on the Arizona Strip. It's possible that the Foremasters are leading the way and other ranchers will follow.

The Fredonia NRCD Board of Supervisors are very much aware of watershed concerns being addressed by Foremasters. Fragile soils, incised channels, bank instability, and gully and rill erosion are occurring regionally. Better distributed water sources should encourage cows to use the entire range. Areas previously used heavily, including riparian area, will be allowed to recover and revegetate naturally. Improved ground cover will enhance watershed function. Ultimately, a reduction in erosion will contribute to improved water quality.

Sincerely


R. Duane Swapp, Chairman
Fredonia NRCD

Arizona Department Of Water Resources
Water Protection Fund Commission
330 N. Third Street
Phoenix, AZ 85004

Dear Sirs:

As a Rancher and neighbor of the Foremaster's I am writing in support of the proposal entitled "Watershed Enhancement on the Antelope Allotment". I have known the Foremaster family for many years. They are hard working, dedicated to the land, and to the watersheds on there allotments. Their desire is to improve the water quality and protect the plant and wildlife in the area while running a viable livestock operation. They are a dedicated ranching family, and are dedicated to the land and watersheds in which they operate. We hope that you will support them in this project and allow them to make the improvement proposed.

Sincerely,

A handwritten signature in blue ink that reads "Donald J. Esplin". The signature is written in a cursive style with a clear, legible font.

Donald Esplin

**Arizona Department Of Water Resources
Water Protection Fund Commission
330 N. Third Street
Phoenix, AZ 85004**

Dear Sirs:

As a Rancher and neighbor of the Foremaster's I am writing in support of the proposal entitled "Watershed Enhancement on the Antelope Allotment". I have known the Foremaster family for many years. They are hard working, dedicated to the land, and to the watersheds on there allotments. Their desire is to improve the water quality and protect the plant and wildlife in the area while running a viable livestock operation. They are a dedicated ranching family, and are dedicated to the land and watersheds in which they operate. We hope that you will support them in this project and allow them to make the improvement proposed.

Sincerely,



Stan Esplin

**Arizona Department Of Water Resources
Water Protection Fund Commission
330 N. Third Street
Phoenix, AZ 85004**

Dear Sirs:

As a Rancher and neighbor of the Foremaster's I am writing in support of the proposal entitled "Watershed Enhancement on the Antelope Allotment". I have known the Foremaster family for many years. They are hard working, dedicated to the land, and to the watersheds on there allotments. Their desire is to improve the water quality and protect the plant and wildlife in the area while running a viable livestock operation. They are a dedicated ranching family, and are dedicated to the land and watersheds in which they operate. We hope that you will support them in this project and allow them to make the improvement proposed.

Sincerely,


Lewis Beatty

**Arizona Department Of Water Resources
Water Protection Fund Commission
330 N. Third Street
Phoenix, AZ 85004**

Dear Sirs:

As a Rancher and neighbor of the Foremaster's I am writing in support of the proposal entitled "Watershed Enhancement on the Antelope Allotment". I have known the Foremaster family for many years. They are hard working, dedicated to the land, and to the watersheds on there allotments. Their desire is to improve the water quality and protect the plant and wildlife in the area while running a viable livestock operation. They are a dedicated ranching family, and are dedicated to the land and watersheds in which they operate. We hope that you will support them in this project and allow them to make the improvement proposed.

Sincerely,

A handwritten signature in black ink that reads "Howard Foremaster". The signature is written in a cursive style with a large initial 'H'.

Howard Foremaster



1

<No. 2>048 11+00 NNNNN-179U 0173

Antelope Springs well
looking west

2

<No. 3>046 11+00 NNNNN-159U 0173

Antelope Springs
well look to the
west



5 Antelope Spring this is
Where the spring starts
to run

<No. 6> 040 11+00 NNNNN-09AU 0173

6 Antelope Springs looking
back east

<No. 7> 038 11+00 NNNNN-04AU 0173



3

look west at Antelope
Spring

<No. 4> 044 11+00 NNNNN-23AU 0173

#

wash at antelope Springs
looking west

<No. 5> 042 11+00 NNNNN-04AU 0173



Antelope springs look back
to the east

<No. 8> 036 11+00 NNNNN-09AU 013

8 On the hill looking down on
Antelope spring, looking back to
the east

<No. 9> 034 11+00 NNNNN-09AU 013



9 same as # 8 just looking a
little more east

<No. 10>032 11+00 NNNNN-07AU 0173

10 from the same point as
8, 9 but looking to the west

<No. 11>030 11+00 NNNNN-15AU 0173



11 Finger wash at upper
antelope spring

<No. 12>028 11+00 NNNNN-11AU 0173

12 upper Antelope spring
looking east

<No. 13>026 11+00 NNNNN-12AU 0173



13 upper Antelope spring
looking west

<No. 14>024 11+00 NNNNN-09AU 0173

14 This is at the Antelope Cave
and the power line crossing
looking to the north

<No. 15>022 11+00 NNNNN-15AU 0173



15 from the same point as
#14 looking to the south

<No. 16>020 11+00 NNNNN-13100 0173

16 same point as ~~#~~ #14, 15 but
looking west out the trail toward
the Antelope Cave

<No. 17>018 11+00 NNNNN-13100 0173



#17 Antelope well south

<No. 18>016 11+00 NNNNN-21AU 0173

18 the wash at Antelope well
south looking to the west

<No. 19>014 11+00 NNNNN-17AU 0173



1954

19 the wash at Antelope well
south looking to the east

<No.20>012 11+00 NNNNN-09AU 0773















