WPF 130

# Cover Page: Application Information

1. Title of Project: COMPLETION PHASE: *Hi-Point Well Project*

2. Type of Project:

____Water Acquisition
_XX_Capital Project or other
____Water Conservation
____Research

3. Stream type

_X_Perennial
_X_Intermittent
___Ephemeral

4. Date submitted: August 1, 1996

5. Date received by ADWR:

6. Applicant Name: NAVAJO COUNTY NRCD

7. Applicant address (city, county, zip code)

NAVAJO COUNTY NRCD
51 WEST VISTA
HOLBROOK, NAVAJO COUNTY
ARIZONA 86025

8. In an AMA

____ Phoenix
____ Tucson
____ Prescott
____ Pinal
____ Santa Cruz

Outside AMA_XX_

NOTE: PROJECT AREA IS PRIMARILY IN COCONINO COUNTY.
A SMALL SECTION OF THE PROJECT AREA IS IN NAVAJO COUNTY.

9. Contact person/title: MARK HAVER, Range Conservationist, NRCS Holbrook Field Office
Phone/fax number: phone 520-524-2652 / fax 520-524-6609

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

11. Project start date: APRIL 1, ~~1996~~ 1997 CB
End date: MARCH 31, 2000

12. Other grants obtained and secured:

| Grant type | Amount |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| Total | |

13. Estimated funding:
AWPF 77,844.40
Applicant 480.00
Other 188,216.00
Total 266,540.40

14. Tax ID number: [redacted]

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.

HELEN CROFFORD
Typed Name of Authorized Representative

Helen Crofford
Signature

CHAIRMAN, NAVAJO COUNTY NRCD, 520-524-3366
Title and Telephone No.

July 25, 1996
Date Signed

AUG - 1 1996
DIRECTOR'S OFFICE

**Summary:**

**COMPLETION PHASE: *HI-POINT WELL PROJECT***

The Navajo County Natural Resource Conservation District (NCNRCD)is submitting the final phase of the Hi-Point Well Project to the Water Protection Fund Commission for reconsideration. This grant application represents the portion of last year's Application #-0067 (Hi-Point Well - Clear Creek Allotment - Water Distribution) which has yet to be funded by other sources -- that is, the balance of water/fence improvements as well as the monitoring of upland vegetation changes. **In November 1995, the Commission was informed that the drilling of the well had been completed, a diesel pump had been installed and initial pump tests had showed that the water production at a level which exceeded expectations (32 gpm).** The NCNRCD has attempted to address all of last year's questions and concerns in order to better represent the project as well as the anticipated benefits to watershed health and, ultimately, to water quality in the Little Colorado River. Responses to last year's review and supplemental information are included in the "Introduction/Background" section of the application.

In a cooperative effort, the Natural Resources Conservation Service (NRCS), the Arizona Game and Fish Department (AGFD), the U.S. Forest Service (USFS) Chevelon Ranger District, and the Arizona State Land Department (SLD), in conjunction with the Chevelon Butte Cattle Company, have developed and initiated an upland water development in tributary watersheds to the Little Colorado River. The project has been approved for partial funding by the Winslow Habitat Partnership Committee* and has already received generous support from AGFD.

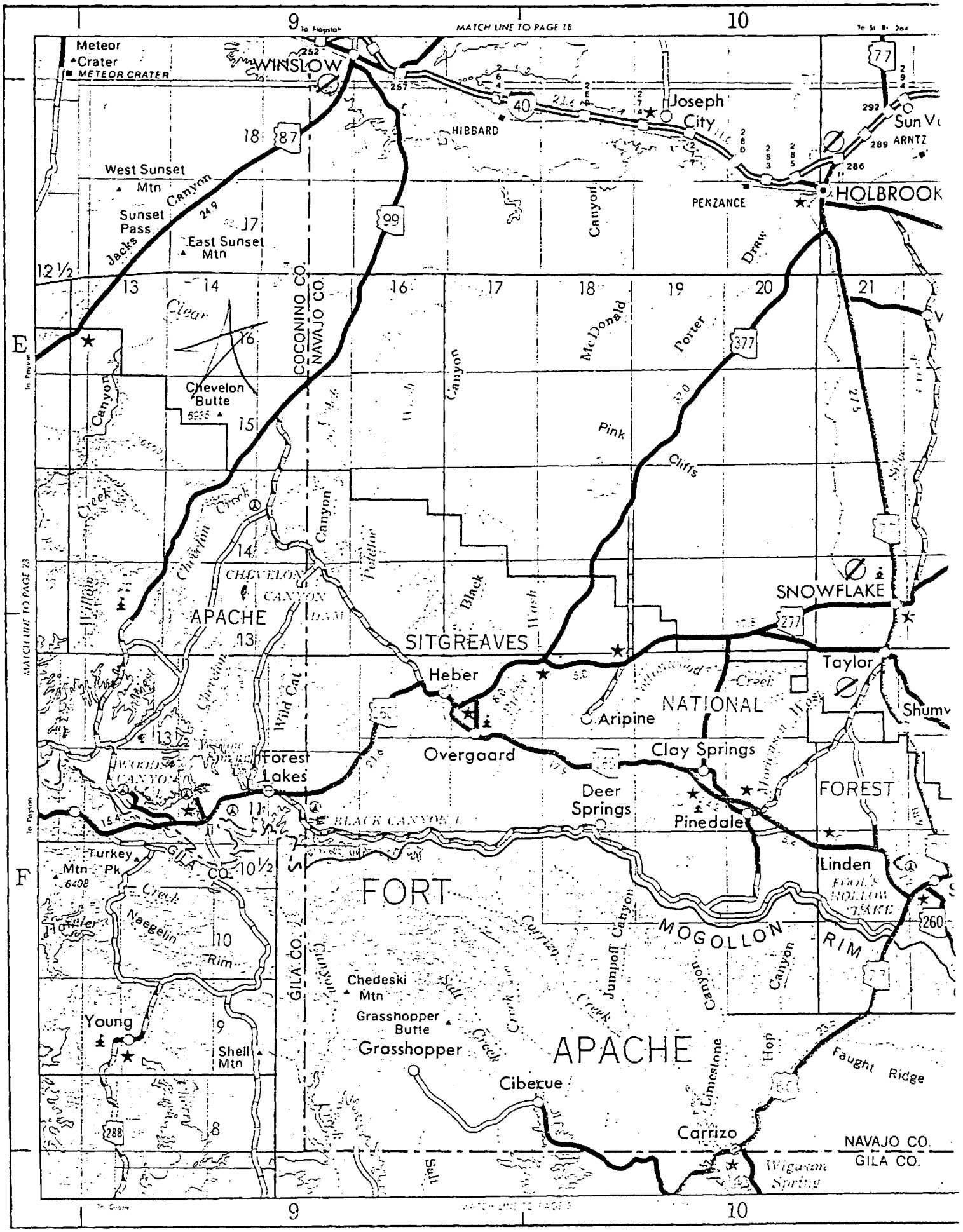
**Methods** - The "Hi-Point Well" water development project (in its entirety) consists of a new well, a large storage tank and a gravity-flow distribution system (buried pipeline) to strategically placed watering stations. Additional fencing is included to improve grazing management. The 90 square mile project area includes private, State Trust and federal lands in both the Chevelon Creek and Clear Creek Watersheds. The Hi-Point Well Project was conceived in response to deteriorating watershed conditions due to increased use by big game animals on an area grazed by domestic livestock. The project area provides habitat for domestic cattle, elk, antelope, mule deer, and other wildlife. Of course, the highest impact has been observed near dependable water supplies.

**Objectives** - Current water sources are very limited and the project area includes 26 unwatered sections. With the addition of 24 water troughs and 3.5 miles of cross fence, the projected benefits include more evenly distributed grazing use by both domestic and big game animals. Range grasses and browse will have a greater opportunity to reestablish, especially in key areas. With improved vegetative cover, there will be reduced erosion and sediment yield to both Chevelon Creek and Clear Creek, perennial tributaries to the Little Colorado River.

**Monitoring** - SLD and NRCS range personnel with CBCC and AGFD will monitor forage cover and range conditions with the use of established photo plots. In a cooperative effort, AGFD biologists will utilize standard agency methodology to monitor distribution of big game populations.

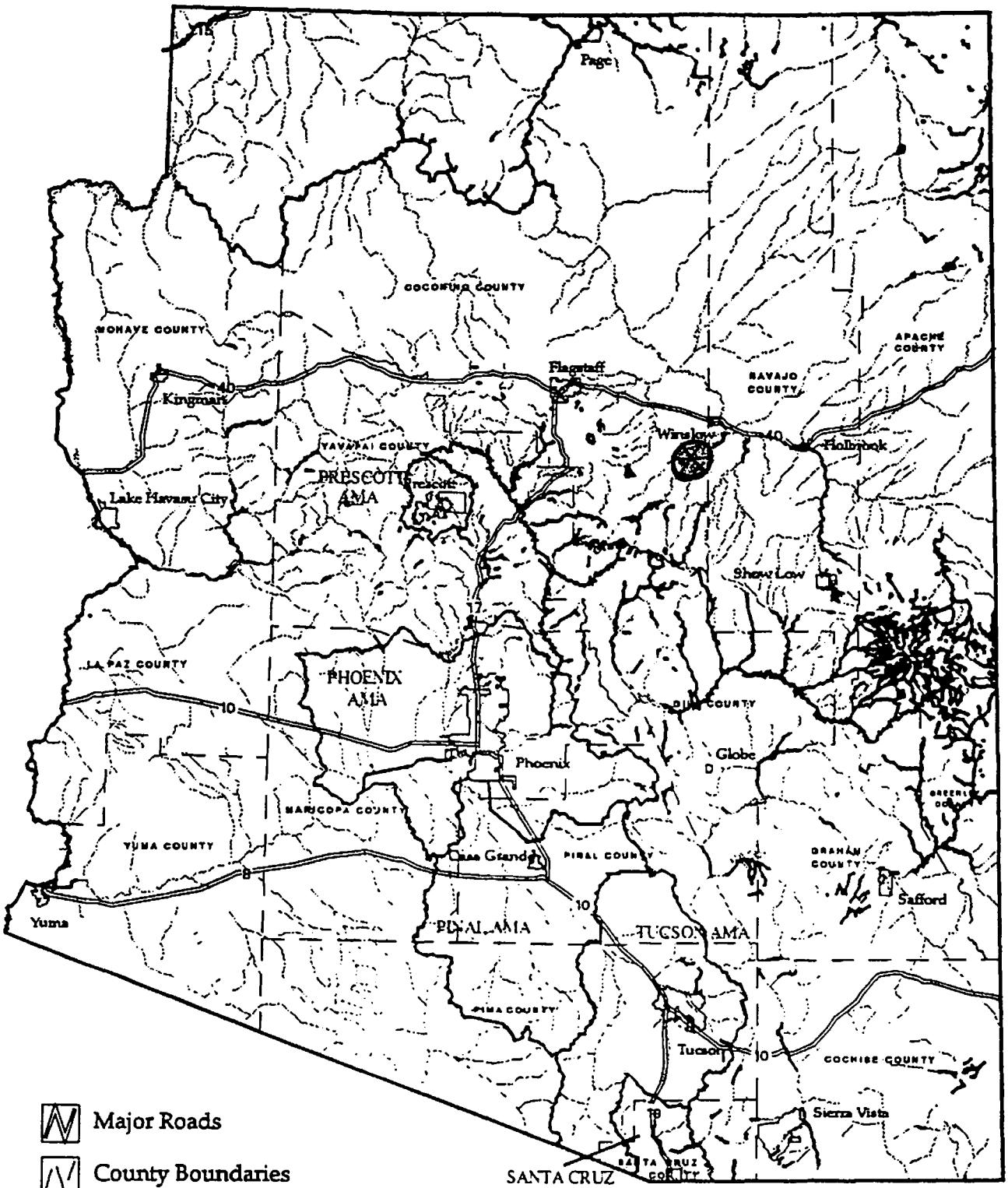
**Significance of the Project** - By improving condition of uplands, there will be a decrease in erosion and, consequently, increased water quality in tributaries to the Little Colorado. The Hi-Point Well Project further demonstrates how cooperation between local ranchers and state and federal resource management agencies has potential long-term benefits to Arizona's land and water resources.

***NOTE: Because many other species of wildlife are addressed in habitat issues, the state committee has removed the term "elk" from its name. It is now "Habitat Partnership Committee". Local committees may opt to do so accordingly.**


MATCH LINE TO PAGE 18
MATCH LINE TO PAGE 23
Meteor Crater
METEOR CRATER
WINSLOW
HIBBARD
Joseph City
HOLBROOK
PENZANCE
ARNTZ
West Sunset Mtn
Sunset Pass
East Sunset Mtn
Jacks Canyon
Clear Canyon
Chevelon Butte
COCONINO CO.
NAVAJO CO.
McDonald Canyon
Porter Draw
Pink Cliffs
Chevelon Creek
Willow Creek
Pedelina Canyon
Black Wash
CHEVELON CANYON DAM
APACHE
SITGREAVES
NATIONAL
FOREST
SNOWFLAKE
Taylor
Shumway
Heber
Aripine
Overgaard
Clay Springs
Deer Springs
Pinedale
Forest Lakes
Wild Cat Canyon
WOODS CANYON
BLACK CANYON
Turkey Mtn Pk
GILA CO.
Naegelin Rim
Linden
FOOL HOLLOW LAKE
FORT
MOGOLLON RIM
Currie Creek
Jumpoff Canyon
Chedeski Mtn
Grasshopper Butte
Grasshopper
Salt Creek
Young
Shell Mtn
APACHE
Cibecue
Carrizo
Limestone Canyon
Hop Canyon
Faught Ridge
Wigwam Spring
NAVAJO CO.
GILA CO.

## 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.




Major Roads

County Boundaries

Perennial Streams

Intermittent or Ephemeral Streams

Active Management Areas

NORTH

0 10 20 30 40 50 100 150

MILES

ARIZONA DEPARTMENT OF WATER RESOURCES

PROJECT NAME: COMPLETION PHASE: HI-POINT WELL PROJECT

## LOCATION INFORMATION SHEET/LAND OWNERSHIP FORM

1. **Counties: Coconino/Navajo 2. Sections: see map 3. Township: 15N/16N 4. Range: 13E/14E**

5. **Stream Names: CHEVELON CREEK and CLEAR CREEK, tributaries to Little Colorado River**

6. **Landownership of project area: STATE OF ARIZONA, FOREST SERVICE, CHEVELON BUTTE CATTLE CO.**

7. **Current land use of project area: LIVESTOCK GRAZING, WILDLIFE HABITAT & RECREATION (Hunting)**

8. **Length of stream through project area: CHEVELON CREEK and CLEAR CREEK define, in part, the boundaries of the project area. Neither stream flows through the project area.**

9. **Size of project area (in acres): 57,600 ACRES (90 square miles)**

10. **Is the project area fully defined at this time: Y/N? YES**

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

**FROM WINSLOW:**

Take AZ Highway 99 south 25 miles to main ranch entrance. There are ranch roads and forest roads throughout the project area. Due to the size of the project area WPF Commissioners and staff will want to be escorted by either NRCS, USFS, SLD, AGFD or Chevelon Butte Cattle Company personnel.

12. **Describe the agreements which give you legal access to the project area throughout the project period. Include signed copies of any agreements already in effect.**

The Hi-Point Well Project includes private, state and federal lands as well as personnel from all representative entities with a common goal.

The Cooperative Agreement has been finalized and signed by:

Duane L. Shroufe, Director, Arizona Game & Fish Department
M. Jean Hassell, Director, Arizona State Land Department
Mike O'haco Sr., Owner/Operator, Chevelon Butte Cattle Company
John C. Bedell, Forest Supervisor, Apache-Sitgreaves National Forests
Mike Somerville, State Conservationist, Natural Resource Conservation Service

The Cooperative Agreement in its complete form is included as Appendix I.

Copy available at Mine Office

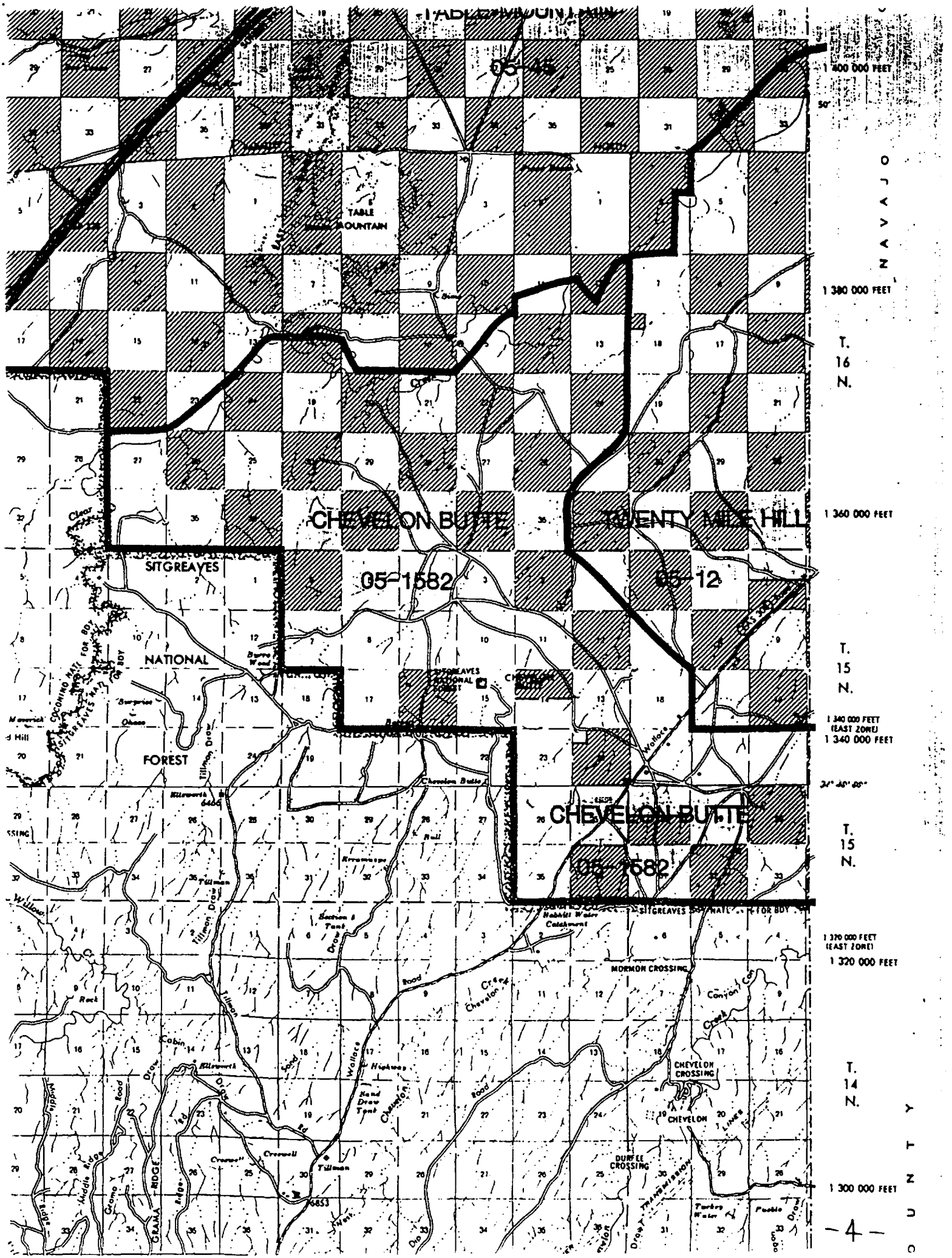


TABLE MOUNTAIN
05-45
1 400 000 FEET
1 380 000 FEET
T. 16 N.
CHEVELON BUTTE
TWENTY MILE HILL
1 360 000 FEET
SITGREAVES
05-1582
05-12
NATIONAL
FOREST
T. 15 N.
1 340 000 FEET (EAST ZONE)
1 340 000 FEET
CHEVELON BUTTE
05-1582
T. 15 N.
1 320 000 FEET (EAST ZONE)
1 320 000 FEET
MORMON CROSSING
CHEVELON CROSSING
CHEVELON
T. 14 N.
DURFEE CROSSING
1 300 000 FEET
NAVAJO
COUNTY

## COMPLETION PHASE: HI-POINT WELL PROJECT

### Statement of problem:

Range condition in upland areas of watershed is deteriorated due to impact of domestic livestock and big game animals. Elk herds are typically migratory; the animals will move to lower elevations during the winter when highland forage is under snow. However, over the last five to ten years, increasing elk densities have resulted in animals residing year-round in the lowlands as never seen before. Many areas are clearly overgrazed as range cattle and wildlife currently compete for limited dependable water resources and food. Vegetative cover in these areas is stressed and in some places unable to re-establish. Top soil is being lost at an accelerated rate due to this; contributing to sediment load and, consequently, reduced water quality in tributaries to the Little Colorado River.

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

The distribution of adequate water supplies is a major limiting problem for both wildlife and livestock on Forest Service, private and State Trust lands in much of the state. Both Chevelon Creek and Clear Creek are inaccessible due to the regional geology. Consequently, man-made water development in the upland is intensely used and degraded range conditions near dependable water prevail. A high level of use by cattle and big game animals has resulted in poor vegetative cover and accelerated soil losses. On behalf of all interests, the NCNRCD contends that the Hi-Point Well Project will alleviate these negative impacts associated with intense use.

### Statement of remedies or solutions:

All stakeholders agree that in order to improve total vegetative cover, reduce erosion rate and increase water quality, it is necessary to disperse livestock and wildlife in the project area. This can only be done with the development of a water distribution system that is appropriate for both livestock and wildlife supplemented with additional fencing to better assure better management of cattle.

## Introduction/Background:

# COMPLETION PHASE: HI-POINT WELL PROJECT

### HISTORY

In June 1992, the Arizona Game and Fish Commission created a Statewide Elk Habitat Partnership Committee (EHPC), composed of representatives from the U.S. Forest Service (USFS), Bureau of Land Management, Arizona State Land Department (SLD), Natural Resources Conservation Service (NRCS), Arizona Association of Conservation Districts, Rocky Mountain Elk Foundation, Arizona Cattle Growers Association and the Arizona Wildlife Federation. The Committee's goals were to: Develop a **habitat partnership program** and guidelines for management actions in Arizona to minimize conflicts between elk and other habitat users.

The Winslow EHPC held its first meeting in June 1993. The committee consists of local ranchers, interested citizens, Winslow sportsmen group members, and USFS, AGFD, NRCS, and SLD officials. In October of 1993. the committee had identified projects to propose for funding that would help to achieve the statewide goal. The Hi Point Well [and pipeline] was one of these first project proposals. The Winslow EHPC submitted their proposals to the AGF in January 1994. An amended funding proposal was submitted that April. The Hi-Point Well Project was not funded because of the amount requested. The committee continued to work on the proposal until agreement was reached a year later. A new proposal for funding was submitted on April 30, 1995.

A "collection agreement" for the drilling and development of Hi-Point Well was made between the AGF and the Forest Service in May 1995 to drill the well on National Forest Lands in the Chevelon Ranger District. Partial funding for the Hi-Point Well Project was secured in the summer/fall of 1995 with contributions from the AGFD, Chevelon Butte Cattle Company, the USFS, the NRCS, and the SLD. Archaeological and NEPA clearances have been completed with these contributions. Funded by the AGFD was the drilling of the well (on Forest Service land), and the installation of submersible pump. AGFD funds are dedicated for the power source, 60% of the storage tank, four miles of pipeline, fittings and hardware. and 6 water troughs.

### Project Status

The Hi-Point Well Project has progressed from concept to reality in its four years of development. All of the participants in the Cooperative Agreement and interested parties are committed to its implementation. To ensure the project's success, there has been an ongoing dialogue between all of the signing parties. The amounts of funds that have already been spent or dedicated to the project are representative of the commitment. The Cooperative Agreement outlines the dedication and participation of personnel and resources toward a common end. The selection of this project for a WPF grant award is an opportunity to complete a needed and well-planned upland improvement.

The Cooperative Agreement between the Arizona Game & Fish Department, the U.S. Forest Service, the Chevelon Butte Cattle Company, the Arizona State Land Department and the Natural Resource Conservation Service is the basis for the Hi-Point Well Project.

### Physical Setting

The project area is north-central Arizona, predominantly in Coconino County south and west of Winslow. A small portion of the project area falls in the western-most section of Navajo County. Clear Creek and Chevelon Creek, major tributaries to the Little Colorado River, define the boundaries of the project area on the north, northwest and southeast. The Sitegreaves National Forest is the western and southern boundaries of the project area.

This part of Arizona is not for the frail. The wind is constant and the weather in unpredictable. Precipitation is approximately ten inches per year. The project area contributes its runoff to Clear and Chevelon Creeks, deeply-incised drainages in the sedimentary strata of the Little Colorado Plateau. The contours on the topographic quads have no space between them. These intermittent tribuaries can best be described as *ravines* with water. The canyon walls are abrupt. developed riparian areas are minimal and the water is mostly inaccessible. As these creeks approach their confluences with the Little Colorado River, the character of the environment changes and riparian communities are present on the floodplain terraces.

The project's name is not derived from an actual Arizona place name, but is rather based on popular reference to a relatively high elevation point on a State Trust section in the project area upon which the locations of the well and storage were originally proposed. The completed well is actually on land managed by the USFS (Sitgreaves National Forest). To achieve the gravity flow for the distribution system, the storage tank will still be placed at the "hi-point".

## METHODOLOGY

The proponents of the Hi-Point Well Project have already begun. The final design and engineering for the entire system has already been completed. The new well was drilled in late 1995 and is adequate for the system. The upland water distribution system will alleviate the heavy use by livestock and wildlife. An additional cross fence is incorporated into the plan to improve grazing management for the CBCC.

Improvements such as these contribute to the overall improvement of the watershed, contributing to a decrease in soil loss and resultant sediment load in the tributaries to the Little Colorado. Included as Appendix II are the quantified results from similar improvements on the Baird Ranch, another cattle ranch less than ten miles away which showed similar degradation. A well was drilled in 1991. Water lines were added in 1992-93 to better disperse livestock and utilize forage. Cross fences were constructed in 1994-95 to facilitate better grazing management systems.

WPF staff learned during the pre-application conference, that the NRCS can quantify the benefits from these types of improvements in the monitoring phase of a project. M. Haver reports in his 7-24-96 correspondence that forage production on the Baird ranch had increased an average of 18%. The amount of soil that was saved by these improvements and not lost to erosion: 1 ton/acre/year. (This correspondence is included in Appendix V.) The soil saved or "T-value" is often used by the NRCS to describe land improvement.

It is anticipated that the overall condition of the land within the project area will improve in response to improvements and cooperation outlined in the Cooperative Agreement for the Hi-Point Well Project.

### Water Distribution System

The design of the water distribution system is described as three units: 1) "Supply Line" (from the well to the storage tank), 2) "South Line", and 3) "North Line" (with a "NW lateral" and a "SE lateral"). The distribution system is presented on detailed engineering drawings and conceptually on the accompanying mosaic of six 7.5' USGS topographical quadrangles: "Sunset Pass" Quadrangle (upper left), "Pump Ranch Tank" Quadrangle (upper middle), "Twentymile Hill" Quadrangle (upper right), "Hamilton Crossing" Quadrangle (lower left), "Chevelon Butte" Quadrangle (lower middle), and "Potato Wash North" Quadrangle (lower right).

One complete set of engineering drawings for the water distribution system are also being submitted with this proposal. Portions of the system to be installed on State Trust or privately owned land have been designed by an NRCS engineer. Portions of the system to be installed on Sitgreaves National Forest lands have been designed by a USFS engineer. Potential freezing of the system was an important consideration when the Commission and staff first looked at the project in the first year of the grants program. The oil field-type flexible pipe will actually stretch in the event of freezing conditions and will regain its shape. "Bleeder" valves are included in the NRCS design to allow for the release of air that may get trapped in the system. The overall design is based on technology that has shown to withstand freezing temperatures.

#### Water Source

Since the project was initially submitted for consideration by the Commission, the drilling of the Hi-Point Well on the Sitgreaves National Forest been completed. The AGFD originally agreed to contribute a total of $103,000 for the water distribution system in the Hi-Point Well Project as follows: $25,000 for well drilling, $50,000 for storage tank, $25,700 for pump & power, and $3,000 for water troughs.

Some estimated that water would be reached at 800'. The well actual depth is actually 250' deeper with a total depth of 1050'. The cost of drilling the well (about $19,000) has been paid by the AGFD. Initial pump tests estimate water production from the new well (accessing the Coconino formation) is 32 gallons per minute -- which will more than satisfy the requirements of the water distribution system designed by NRCS and Forest Service engineers. The AGFD has purchased and installed a submersible pump in the well; its cost was just under $15,000.

The original concept for the new water source included a *solar pumpjack for the well.* This would have been adequate for an 800' well but is inadequate for the deeper depth. Due to the depth of the well, it was determined that an

alternative energy source would be necessary. The AGFD is purchasing a 15 hp diesel generator for this purpose; the cost for the generator is finalized at $29,880.

Supply Line
The *supply line* is the 2,500' segment of the water distribution system which connects the well (on National Forest land) with the storage tank (on State Trust Land). 2,500 linear feet of 2" HDPE 3408, SDR 11 flexible pipe will be supplied by the Forest Service for this purpose. The buried supply line will be installed with labor and equipment contributed by the Chevelon Butte Cattle Company.

Storage Tank
Strategic placement of the 100,000-gallon storage tank on a relatively high elevation point in the project area (hence, the project name) allows for gravity flow to the water troughs. This will be a steel tank. The AGFD will be contributing approximately 60% toward the purchase of the tank leaving approximately 40% requested in this proposal.

South Line
The first pipeline to go in will be the 5-mile (26,500') *south line* using flexible pipe identical to that described for the supply line. The USFS has agreed to supply 14,500' of the flexible pipe leaving 12,000' to be purchased with grant monies. The buried supply line will be installed with labor and equipment contributed by the Chevelon Butte Cattle Company. Eight troughs will be supplied by the south line.

North Line
The *north line* is almost 11 miles long (57,100') and includes a NW lateral and a SE lateral. These are shown on the small map and the topographic quads. 1.25" HDPE 200psi flexible pipe will be used. Assistance with WPF monies is for 100% of the materials. The buried supply line will be installed with labor and equipment contributed by the Chevelon Butte Cattle Company. A total of sixteen troughs will be supplied by the north line.

Water Troughs
There are a total of 24 water troughs included in the water distribution system. Each "drinker" will have a capacity of 1,000 gallons and will be made of either rubber or steel. The USFS has agreed to supply five troughs (w/ floats and miscellaneous fittings) and 1,000 linear feet of 1.5" HDPE 3408, SDR 11 flexible pipe to connect troughs to main distribution lines. The AGFD has agreed to contribute six troughs. The NCNRCD is requesting assistance for the balance of 11 troughs to complete the system.

Cross Fence
The construction of a 3.5 miles cross fence (on private & State Trust land) on the 13E/14E range line is proposed to split the existing pasture in two halves. The fence will be a four-strand barbed wire fence with a smooth bottom wire for wildlife. Construction and maintenance of the fence will be the responsibility of the Chevelon Butte Cattle Company. The need and cost-benefit for "elk jumps" will be evaluated by the Habitat Partnership Committee. Locations of these modifications to the fence will be determined in conjunction with the monitoring of wildlife populations. The fence will be constructed after the completion of the water distribution system in the second year of the project. With reliable water supplies in these two "new" pastures, the management of livestock will improve.

**Disturbance to Surface Due to Proposed Activities**

The acreage of surface disturbance can only be estimated. This estimate of surface disturbance was prepared by AGFD personnel in the original scoping of the project in March 1994. (It represents the project in its entirety.)

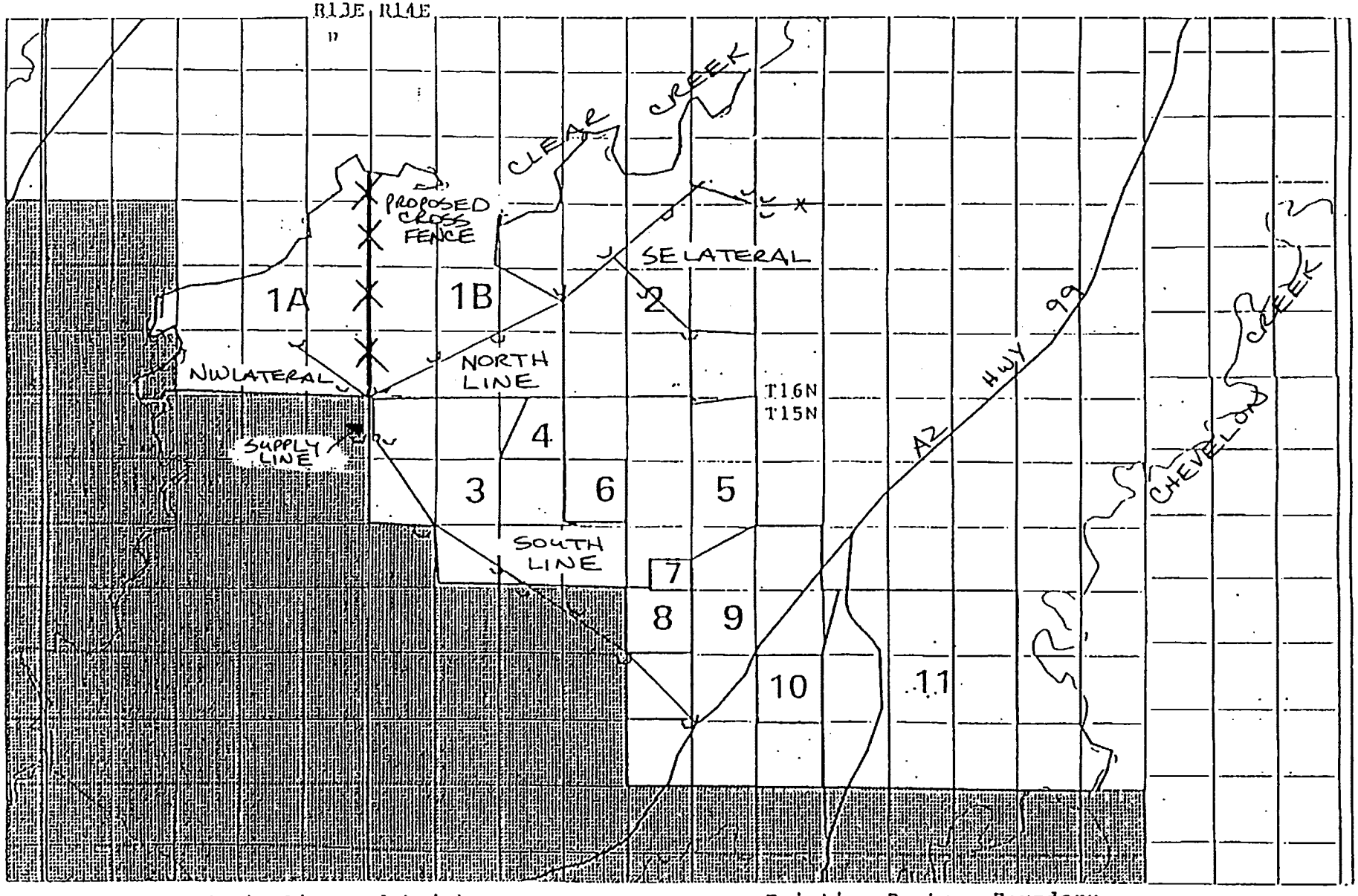
Pipeline installation will involve a 2" maximum interior diameter plastic (or of similar properties) pipe buried to a maximum expected depth of 2 feet by the single pass of a single-toothed ripper attached to a crawler tractor. this pipeline will lay on the surface where bedrock protrudes the surface. In the event the pipeline cannot be placed underground, it will be covered with 18-24 inches of backfill. Fence construction involves driven "T" posts and four strands of barbed wire. Both the pipeline and the fence cross ephemeral drainages. Assuming installation of the pipeline necessitates clearing trees and burial over the entire length (worst case scenario), approximately 75 acres of soil will be disturbed:

* 30 ft x 20.2 miles machine cleared
* 200 yards primitive access road to well and tank
* 500 $ft^2$ leveled for storage tank
* 2,400 $ft^2$ excavated and bermed (100 $ft^2$ per drinker)

Hi Point Well
Chevelon Butte Quad

Chevelon Butte Cattle Company

North




Proposed Pipeline and Drinkers

o Proposed Well and Tank Location

Proposed Cross Fencing

Existing Pasture Boundary

Chevelon Ranger District

COMPLETION PHASE: HI POINT WELL PROJECT

## Permits

State Land Department
The Chevelon Butte Cattle Company (Lease No. 05-1582) and the Fred Aja Cattle Company (Lease No. 05-12) are required to make application to the SLD to request permission to place improvements on State Trust lands. There is an application fee of $50 each and the process takes 60 to 90 days. The Land Commissioner is a signing party in the Cooperative Agreement and agrees that the completion of the project has long-term benefits to Arizona's land and water resources.

Army Corps of Engineers
With regards to the installation of the underground water distribution line and to construct a barbed wire fence with driven T-posts in unnamed washes, the Corps of Engineers has determined that the proposed water distribution line complies with the terms of the *nationwide permit* at 33 CFR Part 330, Appendix A(B)(12) for the discharge of material for backfill or bedding for utility lines, including outfall and intake structures, provided there is no change in preconstruction bottom contours. Please refer to the May 23, 1995 correspondence from Cindy Lester, Chief of the Arizona Branch Regulatory Section included in Appendix IV. The letter of verification is valid for two years after issuance (May 23, 1997).

Archaeological Clearances
The geographic area represented by the Hi-Point Well Project is very large and is comprised of privately owned land, State Trust land and National Forest land. The assessment of the area with regards to historic and cultural resources has been addressed by all of the land management agencies involved in the Cooperative Agreement. The entire length of the water distribution system has been surveyed and clearances have been obtained in order to proceed with the implementation of the project.

A modification to the original plan changed the location of the supply line from forest land to State Trust. The archaeological survey was performed by SLD personnel is included as Appendix V.

## Impact on Threatened or Endangered Species

Two special status aquatic species, the Gila roundtail chub (*Gila robusta robusta*) and the Little Colorado sucker (*Catostomus sp*[3]), listed by the AGFD may receive beneficial impacts from the Hi-Point Well Project. Please refer to the July 26, 1996 correspondence from Kenneth Hyde, Wildlife Biologist in the NRCS Flagstaff Office. The improvement of upland conditions will benefit the aquatic habitat -- "Less sediment delivered to the creeks will improve stream water quality, will reduce sediment impacts to spawning areas and fish development, and will reduce problems associated with overloading the creeks' ability to transport sediments." (The complete letter is included with the community support correspondence.)

## Grazing Management

The Chevelon Butte Cattle Company manages a large ranching operation utilizing the entire project area (private/state land) and the Chevelon Allotment (Sitgreaves National Forest). Current grazing plans for both are included as Appendix VI. With the completion of capital improvements proposed by the NCNRCD for Winslow Habitat Partnership, the CBCC will have the resources to optimally manage its cattle according to the grazing plan developed by NRCS range personnel. Additional water troughs at the end of the North Line will enhance grazing strategies used by the Big Tank (Fred Aja) Cattle Company.

Information presented has attempted to describe negative impacts in the project area due to competition between livestock and wildlife for limited resources. Big game animals do not honor pasture fences as do livestock, but can be dispersed through development and placement of water supplies. Improved grazing management will allow for the recovery of areas which have been negatively impacted due to overuse. The resulting changes in range conditions that are anticipated with the project's completion will represent the overall improved condition of the upper watershed.

## MONITORING PROGRAM

The proponents of the Hi-Point Well Project anticipate an increase in vegetative cover within the project area as a direct result of the improvements. This will result in a decrease in soil loss through erosion. The net result is an improvement in the quality of water generated from this portion of the watershed. The monitoring program has been designed to record changes in range conditions and how the animals are using the resources.

### Range Conditions

Photo plot trends will be observed by SLD and NRCS range personnel. Seven (7) sites were selected. These sites represent typical conditions throughout the project area. The locations have already been permanently identified by T-posts. Maps describing actual location and baseline data collected in August 1995 are included as Appendix III. Two photos are taken at the plot; data will be collected on species diversity and vigor. Range conditions will be monitored during the August-September time period each year during the life of the project. It is anticipated that the greatest improvement of both vegetative density and biodiversity will occur in the zones of average use. Areas that have been the heaviest impacted/degraded will take more time to show significant improvement.

### Wildlife

Monitoring the movement and numbers of big game is one of the AGFD's ongoing programs. To acknowledge the agency's participation and commitment to the success of the Hi-Point Well Project, the program as it relates to the proposed action is included for comprehensiveness. These surveys will be conducted independent of the grant being awarded but are identified as a matching contribution. Please refer to the July 23, 1996 correspondence from Richard Remington, the Supervisor for the Pinetop Region, to Mark Haver, Project Manager for the Hi-Point Well Project.

### Reports

Results of the vegetation monitoring will be reported to the Commission in September of every year. Results of the wildlife monitoring will be included in the annual reports. Assuming the project begins in April 1997, annual progress reports will be submitted to the Water Protection Fund Commission, participating agencies and interested parties beginning in March of 1998, 1999, and 2000. This project has the potential to demonstrate to a wide audience that habitat enhancement can alleviate perceived conflicts between livestock and big game on rangeland.

## MAINTENANCE

The Cooperative Agreement describes in detail how each participant will contribute financial and personnel resources toward this project. The contract specifies the maintenance (and future costs) of components of the water distribution system for which each is responsible. "All personnel will inspect the improvments on a regular basis and consult with each other for the purpose of assessing the effectiveness of the agreement, and if such assessment so justifies, to work in harmony with each other to resolve the situation." The CBCC will be responsible for the maintenance of the cross fence.

## Project Name: Completion Phase: *Hi-Point Well Project*

**Objective #1:**

Receive grant award from Water Protection Fund Commission.

**Benefits:**

Monies will be secured to begin the completion phase of the Hi-Point Well Project, a project conceived to improve overall watershed health. Anticipated results are: enhancement of vegetative diversity/abundance, reduction in soil erosion from project area and, consequently, decrease in sediment yield and improvement of water quality in two perennial tributaries to the Little Colorado River.

**Objective #2:**

Install water distribution system to provide dependable water locations in an area which currently has 26 unwatered sections.

**Benefits:**

A more balanced distribution of livestock and wildlife will be achieved; impact to heavily used areas near limited existing watering holes will be decreased.

**Objective #3:**

Construct 3.5 mile N/S cross fence.

**Benefits:**

Grazing management can be enhanced with the division of the existing Northwest Pasture into two pastures with dependable water.

**Objective #4:**

Monitor changes in vegetative cover and animal distributions.

**Benefits:**

Observations will: 1. help determine if and how resource management goals are being reached, and
2. assist in adjusting management strategies if needed.

**Objective #5:**

Demonstrate how cooperation in natural resources management benefits Arizona's land & water resources.

**Benefits:**

The completion of this project and its success will further the dialogue and problem resolution amongst private sector resource users and public sector resource managers to achieve common goals.

Project Name: Completion Phase: *Hi-Point Well Project*

Task #1 Description: Apply for State Land Department permits to place improvements on State Trust lands.

AWPF task cost: $100.00 Lease No. 05-1582, Chevelon Butte Cattle Company ($50.00 application fee)
Lease No. 05-12, Fred Aja Cattle Company ($50.00 application fee)

Deliverable description: Copies of both permits.

Deliverable due date: June 30, 1997

Task #2 Description: Collect final bids for project materials and negotiate purchase contracts.

AWPF task cost: $240.00 Project administrative cost.

Deliverable description: Copies of bids from suppliers.

Deliverable due date: May 10, 1997

Task #3 Description: Finalize purchases of project materials and arrange for deliveries to the project site.

AWPF task cost: $ 145,474.40 (No additional administrative costs)

Deliverable description: Receipts submitted for reimbursement.

Deliverable due date: May 31, 1997 for 3a-3d (water distribution system)
Mar 31, 1998 for 3e (cross fence)

Task #4 Description: Install generator at well site.

AWPF task cost: $ 0.00 Purchase includes complete installation. (Refer to 3c.)

Deliverable description: Photograph/Correspondence documenting completed installation.

Deliverable due date: August 30, 1997

Task #5 Description: Install Supply Line.

AWPF task cost: $ 2,000.00 All labor contributed by Chevelon Butte Cattle Company.

Deliverable description: Receipts/Photograph/Correspondence documenting completed installation.

Deliverable due date: August 30, 1997

Task #6 Description: Construct Storage Tank at Hi-Point Site

AWPF task cost: $ 0.00 Purchase includes complete installation.

Deliverable description: Receipts/Photograph/Correspondence documenting completed installation.

Deliverable due date: August 30, 1997

Task #7 Description: Install South Line and 8 water troughs

AWPF task cost: $ 21,200.00 All labor contributed by Chevelon Butte Cattle Company.

Deliverable description: Receipts/Photographs/Correspondence documenting completed installation.

Deliverable due date: October 31, 1997

Task #8 Description: Install North Line (including NW & SE Laterals) and 16 water troughs.

AWPF task cost: $ 45,680.00 All labor contributed by Chevelon Butte Cattle Company.

Deliverable description: Receipts/Photographs/Correspondence documenting completed installation.

Deliverable due date: December 31, 1997

Task #9 Description: Construct North/South Cross Fence

AWPF task cost: $ 3,822.00 All labor contributed by Chevelon Butte Cattle Company.

Deliverable description: Receipts/Photographs/Correspondence documenting completed installation.

Deliverable due date: July 31, 1998

Task #10 Description: Supply fuel for power source (diesel pump).
Maintain improvements according to Cooperative Agreement.

AWPF task cost: $ 7,800.00 $ 2,600.00 is maximum allowance for fuel in agreement.
NO COSTS ARE SPECIFIED FOR "MAINTENANCE".

Deliverable description: NOT a separate deliverable. Fuel costs will be reported in annual and final reports.

Deliverable due dates: March 31, 1998
March 31, 1999
March 31, 2000

Task #11 Description: Monitor range conditions (vegetative cover) using photo/plots.

AWPF task cost: $ 1,860.00 Monitoring costs contributed by SLD and NRCS.

Deliverable description: Report w/photographs of seven (7) established representative sites.

Deliverable due dates: September 30, 1997
September 30, 1998
September 30, 1999

Task #12 Description: Monitoring wildlife numbers/distribution.
Conduct big game surveys:
*** September: Elk Surveys
*** January-February: Wildlife Surveys
*** August: Antelope Surveys

AWPF task cost: $ 38,124.00 Personnel & associated costs contributed by AGFD.
Refer to 7/23/96 correspondence.

Deliverable description: Summaries of surveys to be included in annual/final reports.

Deliverable due dates: March 31, 1998
March 31, 1999
March 31, 2000

Task #13 Description: Prepare two (2) annual reports and one (1) final report depicting the year's activities and reporting expenditures and contributions represented in Cooperative Agreement.

AWPF task cost: $ 240.00

Deliverable description: Report documenting all activities, all expenditures and all labor ("in-kind contributions").
(Reports copied to all participants in Cooperative Agreement)

Deliverable due dates: March 31, 1998
March 31, 1999
March 31, 2000

Start Date: April 1, 1997
End Date: March 31, 2000
Duration: 3-year project
Yrs of Benefit: 10+ years

Project Name: COMPLETION PHASE: *Hi-Point Well Project*

Project Categories and Tasks

Months Since Project Initiated (Year 1)

| Task No. | Task Cost | Task Description | 1 April | 2 May | 3 June | 4 July | 5 Aug. | 6 Sep. | 7 Oct. | 8 Nov. | 9 Dec. | 10 Jan. | 11 Feb. | 12 Mar. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 100.00 | Secure SLD permits to place improvements on Trust lands | XXX | XXX | XXX | | | | | | | | | |
| 2 | 240.00 | Contract for project materials | XXX | XXX | | | | | | | | | | XXX |
| 3 | | Purchase materials/arrange deliveries | | | | | | | | | | | | |
| 3a | 53,000.00 | Storage Tank | | XXX | | | | | | | | | | |
| 3b | 38,029.62 | Pipe and fittings | | XXX | | | | | | | | | | |
| 3c | 31,800.00 | Generator | | XXX | | | | | | | | | | |
| 3d | 12,720.00 | Water troughs | | XXX | | | | | | | | | | |
| 3e | (year 2) | Fence materials | | | | | | | | | | | | |
| 4 | included in 3c | Install generator at well site (see 3c) | | XXX | | | | | | | | | | |
| 5 | 2,000.00 | Install Supply Line | | | XXX | XXX | | | | | | | | |
| 6 | included in 2a | Construct Storage Tank | | | XXX | XXX | | | | | | | | |
| 7 | 21,200.00 | Install South Line & troughs | | | | | XXX | XXX | | | | | | |
| 8 | 45,680.00 | Install North Line & troughs | | | | | | XXX | XXX | XXX | | | | |
| 9 | (year 2) | Construct Cross Fence | | | | | | | | | | | | |
| 10 | 2,600.00 | Allowance for Diesel | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX |
| 11 | 620.00 | Vegetation Monitoring | | | | | XXX | XXX | | | | | | |
| 12 | 12,708.00 | Wildlife Monitoring | | | | | XXX | XXX | | | | XXX | XXX | |
| 13 | 80.00 | Annual/Final Report | | | | | | | | | | | | XXX |

| Year 2 | | | Project Name: COMPLETION PHASE: *Hi-Point Well Project* | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Categories and Tasks | | | Months Since Project Initiated (Year 2) | | | | | | | | | | | |
| Task No. | Task Cost | Task Description | 13 April | 14 May | 15 June | 16 July | 17 Aug. | 18 Sep. | 19 Oct. | 20 Nov. | 21 Dec. | 22 Jan. | 23 Feb. | 24 Mar. |
| 1 | | Secure SLD permits | | | | | | | | | | | | |
| 2 | | Contract for project materials | | | | | | | | | | | | |
| 3 | | Purchase materials/arrange deliveries | | | | | | | | | | | | |
| 3a | | Storage Tank | | | | | | | | | | | | |
| 3b | | Pipe and fittings | | | | | | | | | | | | |
| 3c | | Generator | | | | | | | | | | | | |
| 3d | | Water troughs | | | | | | | | | | | | |
| 3e | 9,924.78 | Fence materials | XXX | | | | | | | | | | | |
| 4 | | Install generator | | | | | | | | | | | | |
| 5 | | Install Supply Line | | | | | | | | | | | | |
| 6 | | Construct Storage Tank | | | | | | | | | | | | |
| 7 | | Install South Line & troughs | | | | | | | | | | | | |
| 8 | | Install North Line & troughs | | | | | | | | | | | | |
| 9 | 3,822.00 | Construct Cross Fence | | XXX | XXX | | | | | | | | | |
| 10 | 2,600.00 | Allowance for Diesel | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX |
| 11 | 620.00 | Vegetation Monitoring | | | | | XXX | XXX | | | | | | |
| 12 | 12,708.00 | Wildlife Monitoring | | | | | XXX | XXX | | | | XXX | XXX | |
| 13 | 80.00 | Annual/Final reports | | | | | | | | | | | | XXX |
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| Year 3<br>Project Categories and Tasks | | | Project Name: COMPLETION PHASE: *Hi-Point Well Project*<br>Months Since Project Initiated (Year 3) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Task No. | Task Cost | Task Description | 25 April | 26 May | 27 June | 28 July | 29 Aug. | 30 Sep. | 31 Oct. | 32 Nov. | 33 Dec. | 34 Jan. | 35 Feb. | 36 Mar. |
| 1 | | Secure SLD permits | | | | | | | | | | | | |
| 2 | | Contract for project materials | | | | | | | | | | | | |
| 3 | | Purchase materials/arrange deliveries | | | | | | | | | | | | |
| 3a | | Storage Tank | | | | | | | | | | | | |
| 3b | | Pipe and fittings | | | | | | | | | | | | |
| 3c | | Generator | | | | | | | | | | | | |
| 3d | | Water troughs | | | | | | | | | | | | |
| 3e | | Fence Materials | | | | | | | | | | | | |
| 4 | | Generator | | | | | | | | | | | | |
| 5 | | Supply Line | | | | | | | | | | | | |
| 6 | | Storage Tank | | | | | | | | | | | | |
| 7 | | South Line & troughs | | | | | | | | | | | | |
| 8 | | North Line & troughs | | | | | | | | | | | | |
| 9 | | Cross Fence | | | | | | | | | | | | |
| 10 | 2,600.00 | Allowance for Diesel | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX | XXX |
| 11 | 620.00 | Vegetation Monitoring | | | | | XXX | XXX | | | | | | |
| 12 | 12,708.00 | Wildlife Monitoring | | | | | XXX | XXX | | | | XXX | XXX | |
| 13 | 80.00 | Annual/Final Reports | | | | | | | | | | | | XXX |
| | | | | | | | | | | | | | | |
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**COMPLETION PHASE:** ***Hi-Point Well Project***

**PROJECT BUDGET**

| | FUNDING SOURCES | | | |
|---|---|---|---|---|
| | **AWPF** | **Other** | **Donated Mat./Serv.** | **TOTAL** |
| | | | | |
| **ADMINISTRATION COSTS (1)** | | | | |
| SLD permits (ranchers) | | 100.00 | | |
| Administrative Support (NRCD) | | 480.00 | | |
| **DIRECT LABOR COSTS (2)** | | | | |
| CAPITAL IMPROVEMENTS: | | | | |
| Supply/South/North Pipelines | | | 68,880.00 | |
| N/S Cross Fence | | | 3,822.00 | |
| PROJECT AREA MONITORING: | | | | |
| Wildlife (AGFD) | | 38,124.00 | | |
| Vegetation (SLD & NRCS) | | 1,800.00 | | |
| | | | | |
| | | | | |
| | | | | |
| **OTHER DIRECT COSTS Materials:** | | | | |
| WATER DISTRIBUTION SYSTEM: | | | | |
| Storage Tank | 23,000.00 | 30,000.00 | | |
| Pipeline & fittings | 38,029.62 | | | |
| Generator | | 31,800.00 | | |
| Water troughs | 6,890.00 | 5,830.00 | | |
| FENCE | 9,924.78 | | | |
| FUEL | | 7,800.00 | | |
| FILM & PROCESSING | | 60.00 | | |

## COMPLETION PHASE: *Hi-Point Well Project*

| | FUNDING SOURCES | | | |
|---|---|---|---|---|
| | AWPF | Other | Donated Mat./Serv. (CBCC) | TOTAL |
| | | | | |
| OUTSIDE SERVICES | | | | |
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| CAPITAL OUTLAY | | | | |
| Tech/Industrial Equip. (3) | | | | |
| Water (CAP/Effluent) | | | | |
| Other (describe) | | | | |
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| TOTALS | 77,844.40 | 115,994.00 | 72,702.00 | 266,540.40 |

(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

**Budget Details:**

| Task # | Task Description | Details |
|---|---|---|
| 1 | Secure SLD permits | **$ 100.00** ($50.00 per lessee). Processing of application requires 60-90 days. Chevelon Butte Cattle Company (05-1582), Fred Aja Cattle Company (05-12) |
| 2 | Contract for materials | 24 hours @ 10.00/hour = **$ 240.00**<br>ADMINISTRATIVE COSTS CONTRIBUTED BY NCNRCD |
| 3 | Purchase/arrange deliveries | (Any administrative costs included in 2a) |
| 3a | Storage Tank | $50,000.00 + 6% sales tax = **$ 53,000.00** ($23,000 AWPF, $30,000 AGFD) |
| 3b | Pipe and fittings | $35,877.00 + 6% sales tax = **$ 38,029.62** (100% AWPF) |
| 3c | Generator | $30,000.00 + 6% sales tax = **$ 31,800.00** (100% AGFD) |
| 3d | Water Troughs | $12,000.00 + 6% sales tax = **$ 12,720.00** (AWPF-13, USFS-5, AGFD-6) |
| 3e | Fence | 3.5 miles @ 2,675.00/mile = $ 9,363.00 (Source: *Beef* Magazine)<br>$ 9,363.00 + 6% sales tax = **$ 9,924.78** (100% AWPF) |
| 4 | Install generator | Cost includes installation at well site on USFS land. |
| 5 | Install "Supply Line" | 2,500 linear feet @ $.80/ft = **$ 2,000.00**<br>ALL LABOR CONTRIBUTED BY CBCC |
| 6 | Construct Storage Tank | Total cost includes installation at Hi-Point site. |
| 7 | South Line & 8 drinkers | 26,500 linear feet @ $.80/ft = **$ 21,200.00**<br>ALL LABOR CONTRIBUTED BY CBCC |
| 8 | North Line & 16 drinkers<br>(includes NW & SE laterals) | 57,100 linear feet @ $.80/ft = **$ 45,680.00**<br>ALL LABOR CONTRIBUTED BY CBCC |
| 9 | Construct cross fence | 3.5 miles x 156 man-hrs/mile* x $7.00/hr = **$ 3,822.00**<br>ALL LABOR CONTRIBUTED BY CBCC<br>* Source: *Beef* Magazine (included w/attached correspondence) |
| 10 | Maintenance & Diesel Fuel | **PER COOPERATIVE AGREEMENT** (Fuel costs are <u>not ></u> $ 2,600/year) |
| | Well: | 50% AGFD / 50% USFS |
| | Storage Tank: | 50% AGFD / 50% CBCC 2,600 x 3 = **7,800.00** |
| | Water lines & troughs: | 100% CBCC |
| | Cross Fence: | 100% CBCC |
| 11 | Vegetation Monitoring | Each year: 4 man-days x $150.00/day = $ 600.00 (x 3 = **$ 1,800.00**) |
| | Materials: | Film & Processing $ 20.00/year (x 3 = **$ 60.00**) |
| | Labor: | ALL COSTS CONTRIBUTED BY SLD & NRCS |
| 12 | Wildlife Monitoring | Each year: $ 12,708.00 (x 3 = **$ 38,124.00**)<br>ALL COSTS CONTRIBUTED BY AGFD |
| 13 | Annual/Final Reports | March of each year: 8 hours x 10.00/hour = $ 80.00/year (x 3 = **$ 240.00**)<br>ADMINISTRATIVE COSTS CONTRIBUTED BY NCNRCD |

**Note to review staff: Correspondence from participating agencies regarding funding for the project are included in Appendix IV.**

**Existing Plans:**

The Hi-Point Well Project is a cooperative effort to improve watershed conditions. Since its inception, it has necessitated ongoing communication and agreements between state and federal natural resources agencies and a privately-owned ranching operation. In addition to the Cooperative Agreement already discussed, the following plans demonstrate the project's compatibility with long-term regional plans.

**Cooperative Agreement** (Attorney General Contract No. KR 96-0630-EQS)

This document is integral to the Hi-Point Well Project and has been referenced throughout this application. It is an agreement (signed by the Arizona Game & Fish Department, the Apache-Sitgreaves National Forest, the Arizona State Land Department, the Chevelon Butte Cattle Company and the Natural Resource Conservation Service) that identifies resources to be allocated toward a common goal and specifies the relationship among its participants.

**Coordinated Resource Management Plan**

The owner and operator of the Chevelon Butte Cattle Company with various state and federal agencies has agreed to implementation of a Coordinated Resource Management Plan which addresses proposed habitat manipulation and capital improvements to benefit wildlife and livestock along with proposed livestock management. The capital improvements, habitat manipulation and livestock management will be tools utilized to achieve specific goals and objectives to improve watershed quality, forage production, and maintain or boost economic viability. The ranching operation involves approximately 63 square miles of private and State Trust land and about 27 square miles (Clear Creek Allotment) on the Chevelon Ranger District, Sitgreaves National Forest.

**Clear Creek Allotment Management Plan** (Modification #1 to Permit Number 11-101)

In February 1987, Mr. O'Haco and the Forest Service acknowledged that the three pasture rest rotation system was adequate, but the following was apparent: 1) There was the lack of balanced forage capacity in all three pastures; 2) there was a lack of adequate livestock watering facilities (primarily in the East Pasture); 3) there was a potential for conflict between domestic livestock and wildlife as they competed for the forage base; and 4) the riparian component in the allotment [which forms the western boundary] had never been grazed by domestic livestock due to the natural bluffs forming the canyon walls and presented no problems from a livestock management perspective.

**Wildlife 2000 Strategic Plan**

One of the species specific strategies identified by the Arizona Game & Fish Department (and reviewed and endorsed by the G&F Commission is to: "Develop cooperative action plans, including monitoring, with private landowners and land management agencies to minimize elk-livestock interactions."

**Area Plan - Cocopai Resource Conservation & Development Area**

The planning process identified four issues that were most important in sustaining the economy and natural resources of the area: water, environment, economic development and solid waste management. Specifically, the RC&D is concerned with positive methods to *preserve all live streams* in the area and efforts to *maintain and improve* both air and *water quality*. The RC&D Council supports strategies to protect and enhance natural resources by addressing issues on a watershed basis.

## Community Support:

Letters of support that are included with this project are from:

Arizona Department of Environmental Quality - Nonpoint Source Unit

Cocopai Resource Conservation & Development Area

**Hi-Point Well Project Key Personnel:**

**Arizona Game and Fish Department:**

Duane L. Shroufe, Director, 2221 West Greenway, Phoenix, Arizona 85023

Richard Remington, Regional Supervisor, HC 66, Box 57201, Pinetop, Arizona 85935

Ken Clay, Wildlife Manager, HC 66, Pinetop, Arizona 85935

Richard Rico, Branch Supervisor, 2221 West Greenway, Phoenix, Arizona 85023

**Apache-Sitgreaves National Forests:**

John Bedell, Forests Supervisor, P.O. Box 640, Springerville, Arizona 85938

Deborah MacIvor, Engineer, P.O. Box 640, Springerville, Arizona 85938

Brian Dykstra, Wildlife/Range, Chevelon Ranger District, HC 62, Box 600, Winslow, Arizona 86047

**Arizona State Land Department:**

M. Jean Hassell, Land Commissioner, 1616 West Adams, Phoenix, Arizona 85007

Stephen Williams, Range Section Manager, 1616 West Adams, Phoenix, Arizona 85007

Gary Hase, Range Resource Area Manager, 3650 Lake Mary Road, Flagstaff, Arizona 86001

**Chevelon Butte Cattle Company:**

Mike O'haco, Sr., Owner/Operator, P.O. Box AX, Winslow, Arizona 86047

Jim O'haco, Ranch Manager, Winslow, Arizona

**Natural Resource Conservation Service:**

Mike Somerville, State Conservationist, 3003 N.Central Ave., Suite 800, Phoenix Arizona 85012-2945

Mark Haver, Range Conservationist, 51 West Vista, Holbrook, Arizona 86025

Stephanie Yard, Engineer, 1585 S. Plaza Way, Flagstaff, Arizona 86001

Ken Hyde, Biologist - Field Support Team, 1585 S. Plaza Way, Flagstaff, Arizona 86001

| AWPF Task Form for Fencing | |
|---|---|
| **Item** | **Applicant's Response** |
| Fence type: | **Four-strand livestock fence. Top 3 strands are barbed wire; bottom strand is smooth wire for wildlife.** |
| Fence description: | **Steel posts at approximately 30 feet.<br>Brace posts at 1/4-mile.** |
| Purpose of fence: | **"Cross fence" to enhance grazing management** |
| Approximate fence length: | **3.5 miles** |
| Approximate number of gates to be installed: | **three** |
| Approximate number of cattle guards to be installed: | **none** |
| Cost of fence in budget: | **$ 9,924.78 materials + $ 3,822.00 labor = $ 13,746.78 total** |
| Cost of gates and cattle guards in budget: | **Gates only.<br>Cost included in above.** |
| Have you included a map indicating the **approximate** location of all fence segments? If NO, please explain WHY. | **YES.** |
| Who will be responsible for fence maintenance once the fence is complete? | **Chevelon Butte Cattle Company (as specified in Cooperative Agreement)** |
| Additional information if required | **Elk "jumps" will be installed as needed to protect fence & wildlife.** |

| AWPF Task Form for Water Development Systems | |
|---|---|
| **Item** | **Applicant's response** |
| Source of water | **Groundwater. "Hi-Point" well.** |
| Quantity of water (ac-ft/year) | **Well capacity is 32 gallons per minute.**<br>**Estimated water use: 21.5 ac-ft/yr.**<br>**(Based on 963 head of cattle each consuming 15 gal/day and an adjustment of 40% more for wildlife.)** |
| If source is surface water, do you have a water right for this quantity of water? | **N/A** |
| If you have a surface water right, does your project change the point of diversion, place of use, or type of use? If so, describe. | **N/A** |
| If source is an existing well, what is the well's registration or identification number? | **55-551312 (application issued 8/14/95). Well completed 10/27/95.**<br>**1050 feet deep, 8" steel casing, water level = 913 feet.** |
| If source is a new well/s, have you completed and attached a task form for the well/s? | **N/A** |
| Distribution system: | **pipelines: 1. Supply 2. South 3. North**<br>**length(ft): 1. 2,500 2. 26,500 3. 57,100**<br>**diameter: 1. 2-inch 2. 2-inch 3. 1.25-inch**<br>**pipe type: 1. SDR 11 2. SDR 11 3. HDPE (200 psi)**<br><br>**above ground or below ground: BELOW GROUND**<br>**storage**<br>**tanks: 1. quantity 2. type 3. capacity**<br>**1. one 2. STEEL 3. 100,000 gallons**<br><br>**troughs: 1. quantity 2. type 3. capacity**<br>**1. 24 2. steel/rubber 3. 1000-gal**<br><br>**distribution energy source:**<br>**gravity: Gravity flow from storage tank to troughs**<br>**pumps: 15 HP (submersible)**<br>**POWER SUPPLY: 30 kw Diesel Generator** |
| Maintenance of the system: | **Responsible party during project lifetime: Specified in Cooperative Agreement.**<br><br>**Responsible party after project is completed: Specified in Cooperative Agreement.** |
| Have you included a map indicating the approximate location of the system's components? | **YES. Map and detailed drawings included.** |
| Cost of system in budget? | **YES. FUNDS TO COMPLETE DISTRIBUTION SYSTEM IS MAIN REASON FOR GRANT APPLICATION. WELL & PUMP ARE IN PLACE.** |
| | |

| | |
|---|---|
| **Photo point monitoring (Y/N): If Y,** | **YES** |
| Approximate number of points, and photos per point? | **Seven (7) photo plots.**<br>**Two (2) photos taken at each point: 1. oblique view, and 2. plan view.** |
| How often will photos be taken? | **Annually (August/September time period)**<br>**Baseline data established August 1995.** |
| Additional information if needed | **Monitoring will be performed by Gary Hase of the State Land Department - Flagstaff Field Office, and Mark Haver of the Natural Resource Conservation Service - Holbrook Field Office.** |
| **Wildlife monitoring (Y/N): If Y,** | **YES.** |
| Aquatic (Y/N): If Y, | **NO.** |
| Which plant and/or animal categories? | |
| Which parameters? | |
| How often will monitoring be performed? | |
| Start and end dates for monitoring? | |
| Terrestrial (Y/N): If Y, | **YES.** |
| Which plant and/or animal categories? | **Elk**<br>**Deer**<br>**Antelope** |
| Which parameters? | **Species, numbers, distribution.** |
| How often will monitoring be performed? | **Annual.** |
| Start and end dates for monitoring? | **September elk survey; Jan-Feb winter wildlife survey(deer/elk); August Antelope survey.** |
| Additional information if needed | **Wildlife monitoring will be performed by Arizona Game & Fish Department wildlife biologists - Pinetop Field Office** |
| **Fisheries habitat (Y/N): If Y,** | **NO** |
| List abiotic parameters | |
| List biotic parameters | |
| How often will monitoring be performed? | |
| Start and end dates for monitoring? | |