

Cover Page

WPF 0220

Fill in all blanks on the cover page. Devise a short descriptive title for the proposal. Your project may fall into more than one of the four primary project types. If so, select all categories that apply. For #12 below, only list other monies that are secured at the time of application submittal. For #13c below, you may list the total of both secured and unsecured money that is committed at the time of application submittal. The difference between #13 and #12 should represent the total of unsecured money for your proposal.

Cover Page: Application Information



1. Title of Project: HAY MOUNTAIN WATERSHED REHABILITATION

2. Type of Project:

☒ Capital Project or other
☐ Water Conservation
☐ Research

3. Stream type

☐ Perennial
☐ Intermittent
☒ Ephemeral

4. Date submitted 8/17/98 ☐ Water Acquisition5. a. Date Attended an AWPf Workshop 6/17/98

5. b. Date Attended an AWPf Consultation _____

6. Applicant Name Ruth Evelyn Cowan

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

PO. Box 430

Tombstone, AZ 85638

8. Inside AMA

☐ Phoenix☐ Tucson☐ Prescott☐ Pinal☐ Santa CruzOutside AMA ☒9. Contact person/title: Ruth Evelyn Cowan/owner

Phone number: [REDACTED]

Fax number: 520-456-233910. Type of application: ☒ New
☐ New () Continuation ()11. Project start date: March 1, 1999End date: March 1, 2001

12. Other monies obtained and secured:

Grant type

Amount

Total	

13. Estimated funding:

a. AWPf \$116,525.00b. Applicant \$ 32,000.00c. Other \$ 13,000.00d. Total \$161,525.00

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.

Ruth Evelyn Cowan

Typed Name of Authorized Representative

Ruth Evelyn Cowan
 Signature

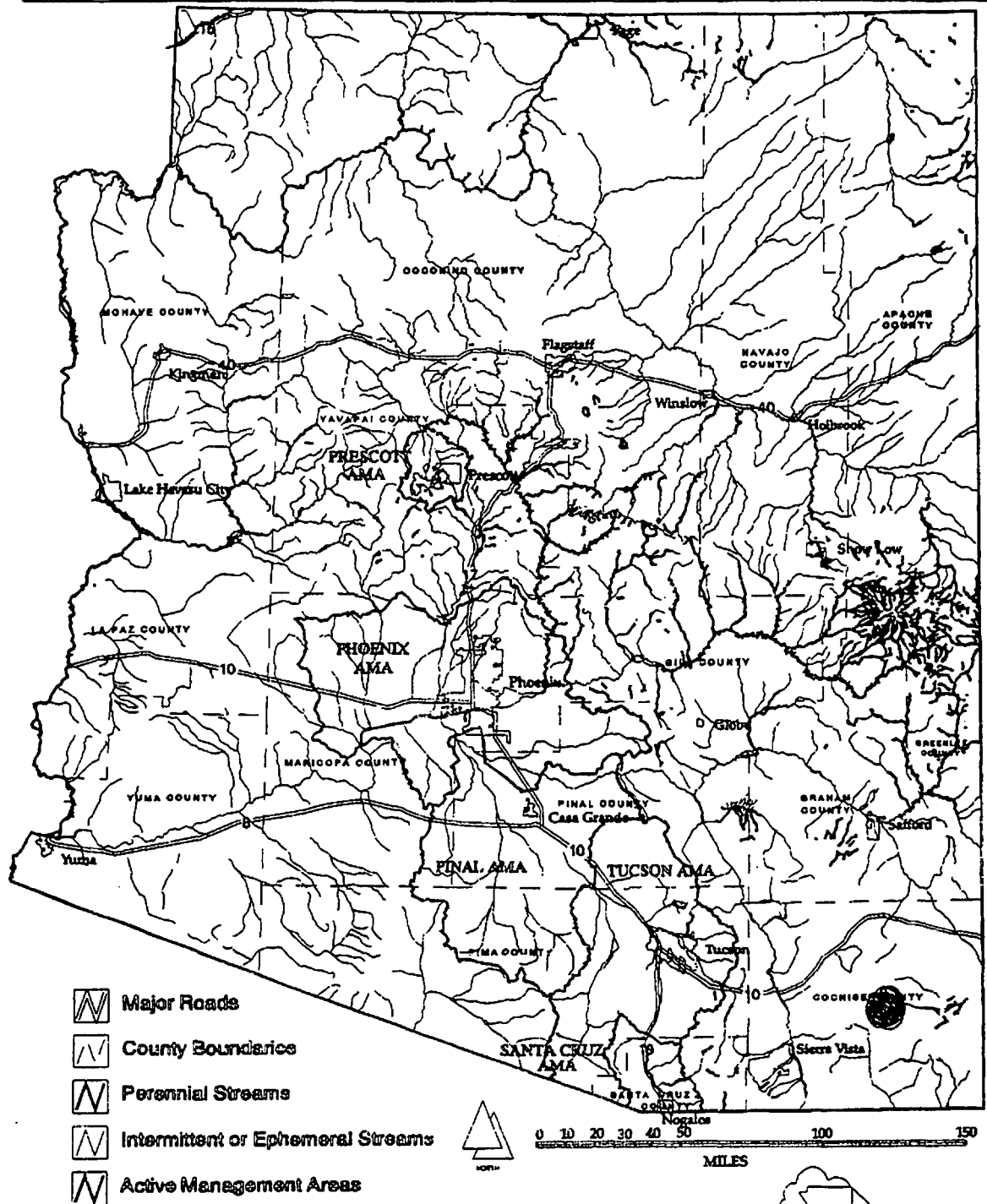
owner/lessee [REDACTED]

Title and Telephone No.

8/17/98
 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:

Haymont Watershed Restoration

HAY MT. GEOGRAPHIC PRIORITY AREA WATERSHED REHABILITATION PROJECT

Phase I

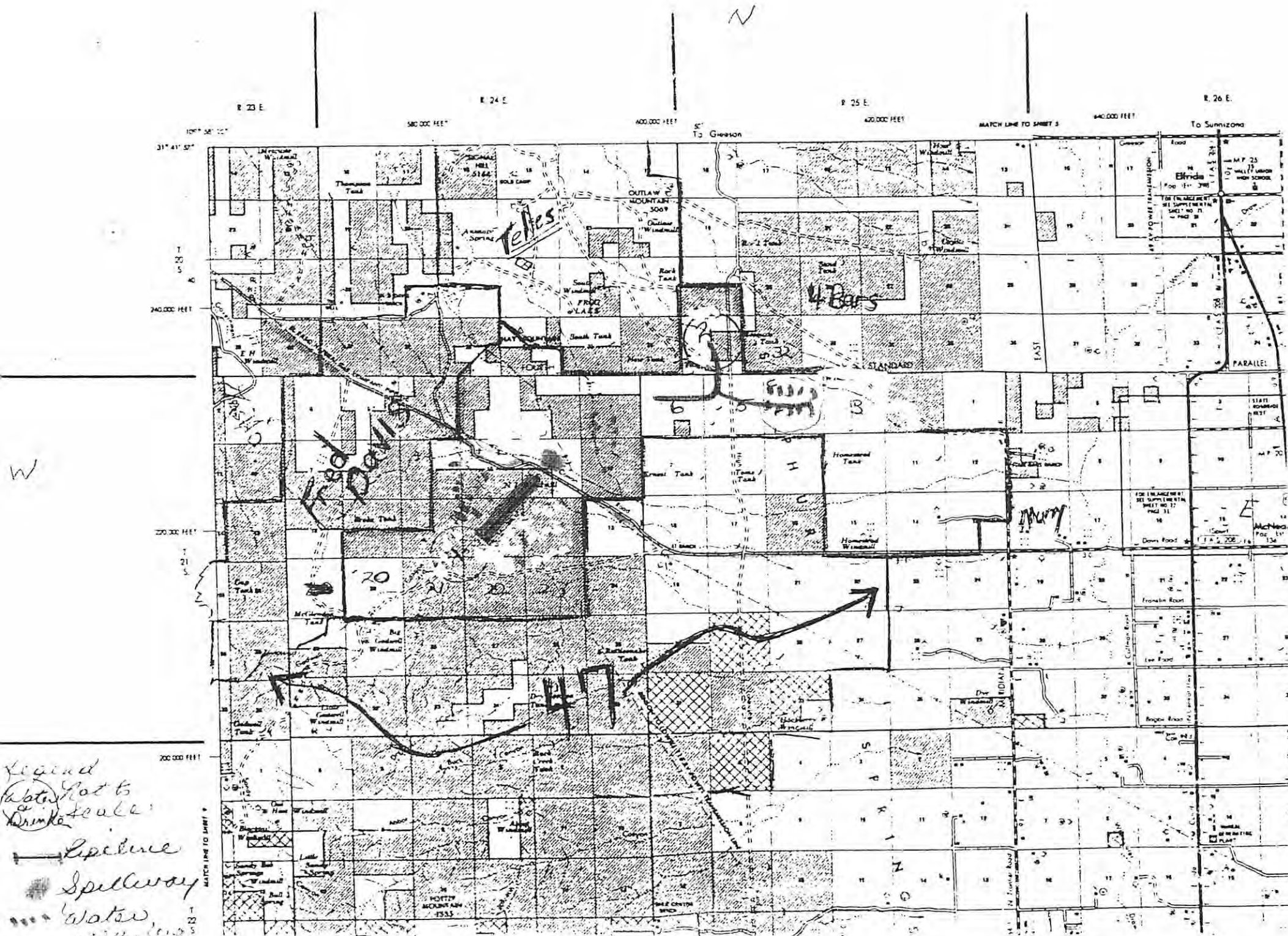
Abstract (summary)

For the past twenty five years the "NI" ranch which had been in one family for five generations was mired in an estate nightmare. In 1994 an heir was able to purchase the historic ranch preventing fragmentation of the land and maintaining open space. The new owner began pursuing very much needed, but very aggressive and expensive rehabilitation. This project is directed toward the ultimate, twenty year long range goal of restoring and rehabilitating the small Hay Mountain Watershed; approximately 11,000 acres within the newly established Hay Mountain Geographic Priority Area; and a portion of the "NI" Ranch beginning at mile post 10 on Davis Rd., approximately 5 miles from the Az. Game and Fish Bird Sanctuary, in Cochise County.

It is a cooperative conservation effort among the owner, the Az. State Land Department, the Douglas Whitewater Draw Conservation District, the Rocky Mountain Elk Foundation, the Arizona Game and Fish, and the Douglas Cowbelle Education Committee, to integrate "action oriented" aggressive, progressive, resource management to improve watershed health in a manner compatible with private and State Trust Land management (65% of project area), while at the same time insuring the maintenance of existing riparian habitat & enhancing natural biotic communities; increasing water quality flowing into the Az. Fish and Game Sanctuary; increasing water distribution and conserving water through the construction of flood control structures; providing educational material & experiences to students and the community about the shared personal responsibility for the care and restoration of State Trust Land; while perpetuating an economically and ecologically sound program of private ranching.

To accomplish the goal in this arid region of the Southwest we must reduce flooding, and retain/conservate water from seasonal and variable rainfall. The project is designed to put on the ground, capital improvements which will protect the existing riparian habitat by restoring an enormous concrete spillway per specifications of the NRCS Ag. Engineer; improve water distribution through installation of four (4) miles of pipelines & three (3) 10,000 gal. water storage tanks with drinkers, create new and improved grazing patterns for cattle and wildlife away from vulnerable areas; increase water availability and quality by limiting erosion & surface runoff rate by water through installation of four hundred seventy eight (478) rock, dirt and brush flood control structures; retain water through contour ripping and native grass re seeding in disturbed areas; educating the public about the need, function, shared responsibility, and methods for conserving water, riparian habitat, & the maintenance of capital water resource improvements on State Trust land.

AWPF funds are needed to pay for some of the costs of material, equipment, and labor to repair the spillway to maintain riparian habitat; to purchase, rip in pipe, install storage tanks and drinkers for water distribution; to purchase wire cages to contain rocks for some of the flood control structures; and to create educational material for learning experiences for students and the public.





United States
Department of
Agriculture

Natural
Resources
Conservation
Service

Subject: Spillway Repair - Ruth Cowan's Ranch
Whitewater Draw NRCD

Date: August 13, 1998

To: Xavier Montoya
District Conservationist, Douglas FO
Ruth Cowan
PO Box 430
Tombstone, AZ 85638

File Code: 210-15-7

On May 12, 1998, I visited Mr. Ruth Cowan's ranch. She expressed concern about an existing concrete spillway build in the 30's by the CCC. The structure was made of concrete and rock.

There is an erosion problem behind the north wingwall. There is some exposed concrete and rock on the apron. Approximately 500 cy of rock, 10 cy of concrete and some rebar are needed to fix the problems (see the included drawing of the spillway).

Please call me at (520) 670 6602 if you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Magdalena Moreno".

Magdalena Moreno
Ag Engineer, RST

cc:

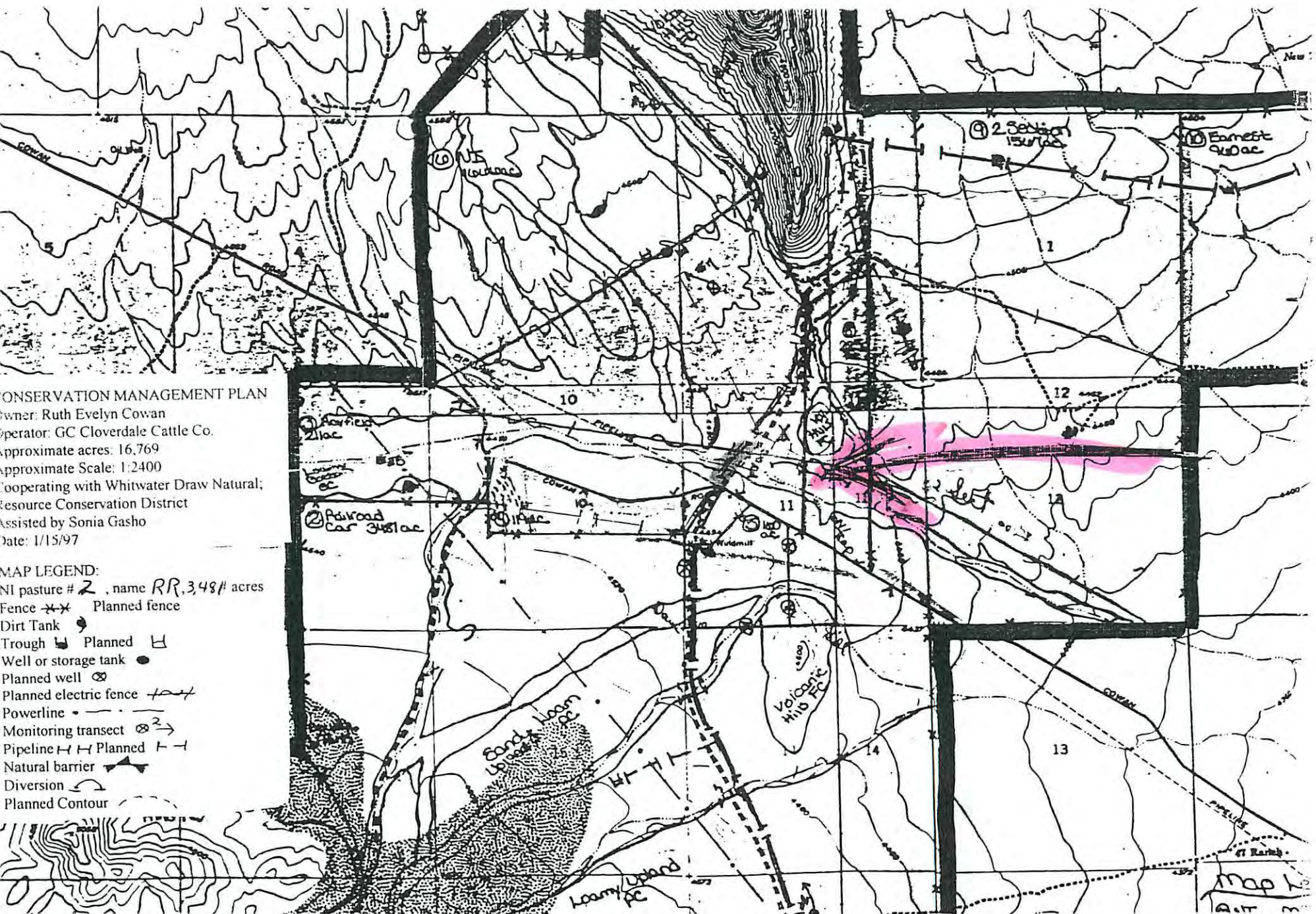
Frank Toupal, RST leader

CONSERVATION MANAGEMENT PLAN

Owner: Ruth Evelyn Cowan
 Operator: GC Cloverdale Cattle Co.
 Approximate acres: 16,769
 Approximate Scale: 1:2400
 Cooperating with Whitewater Draw Natural;
 Resource Conservation District
 Assisted by Sonia Gasho
 Date: 1/15/97

MAP LEGEND:

NI pasture # 2, name RR, 3,481 acres
 Fence Planned fence
 Dirt Tank
 Trough Planned
 Well or storage tank
 Planned well
 Planned electric fence
 Powerline
 Monitoring transect 2
 Pipeline Planned
 Natural barrier
 Diversion
 Planned Contour

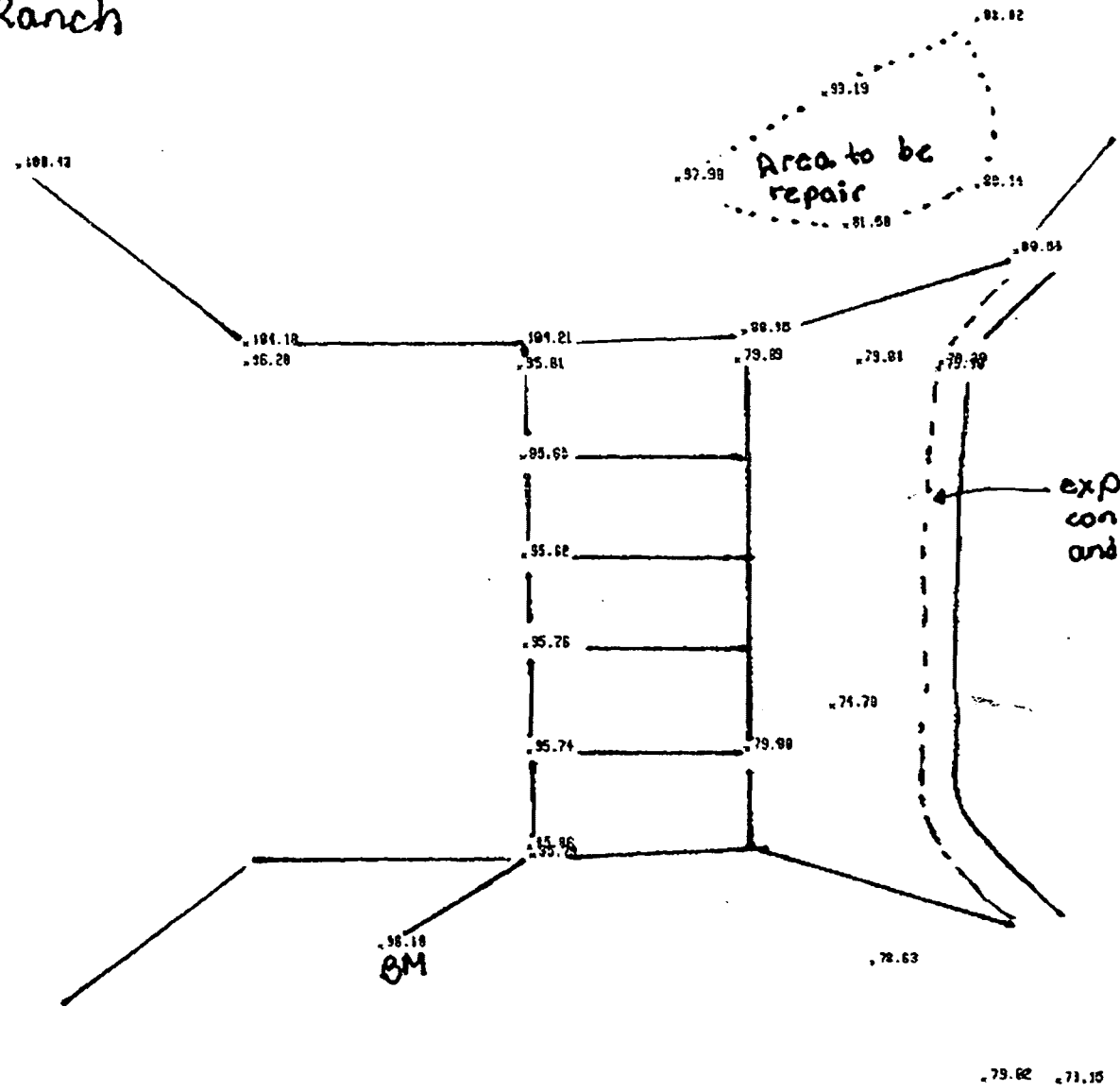


Reduced 75%

Task #12 Repair of spillway

N ↑

Existing spillway Cowan Ranch

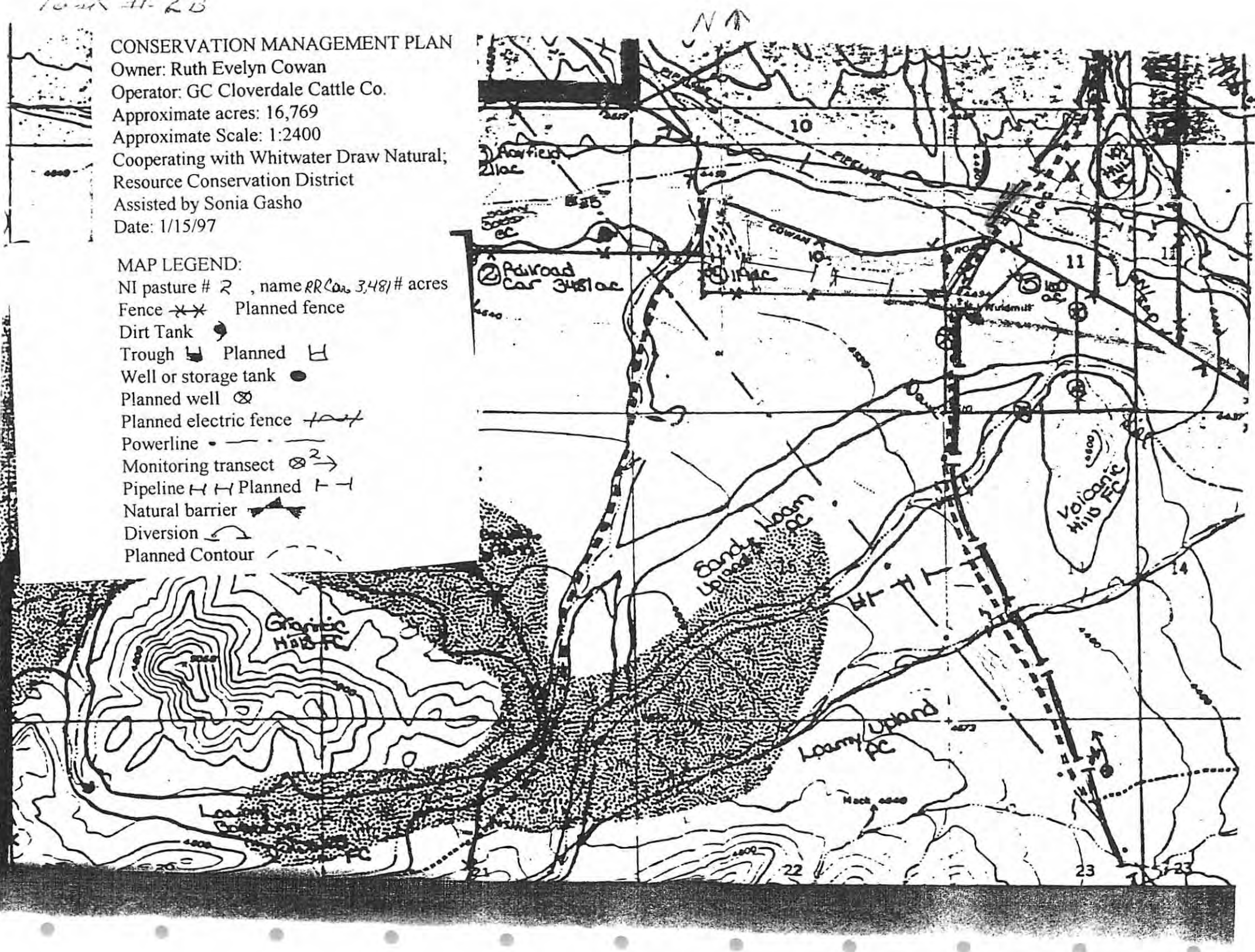


Scale 1" = 25'

CONSERVATION MANAGEMENT PLAN
 Owner: Ruth Evelyn Cowan
 Operator: GC Cloverdale Cattle Co.
 Approximate acres: 16,769
 Approximate Scale: 1:2400
 Cooperating with Whitwater Draw Natural;
 Resource Conservation District
 Assisted by Sonia Gasho
 Date: 1/15/97

MAP LEGEND:

NI pasture # 2, name RR Co. 3,481 # acres
 Fence Planned fence
 Dirt Tank
 Trough Planned
 Well or storage tank
 Planned well
 Planned electric fence
 Powerline
 Monitoring transect
 Pipeline Planned
 Natural barrier
 Diversion
 Planned Contour



Task #3

CONSERVATION MANAGEMENT PLAN

Owner: Ruth Evelyn Cowan

Operator: GC Cloverdale Cattle Co.

Approximate acres: 16,769

Approximate Scale: 1:2400

Cooperating with Whitwater Draw Natural;
Resource Conservation District

Assisted by Sonia Gasho

Date: 1/15/97

MAP LEGEND:

NI pasture #11, 12, name *Outside* # acres *2,720*

Fence *XX* Planned fence

Dirt Tank *●*

Trough *U* Planned *H*

Well or storage tank *●*

Planned well *⊗*

Planned electric fence *~~~~~*

Powerline *— · — · —*

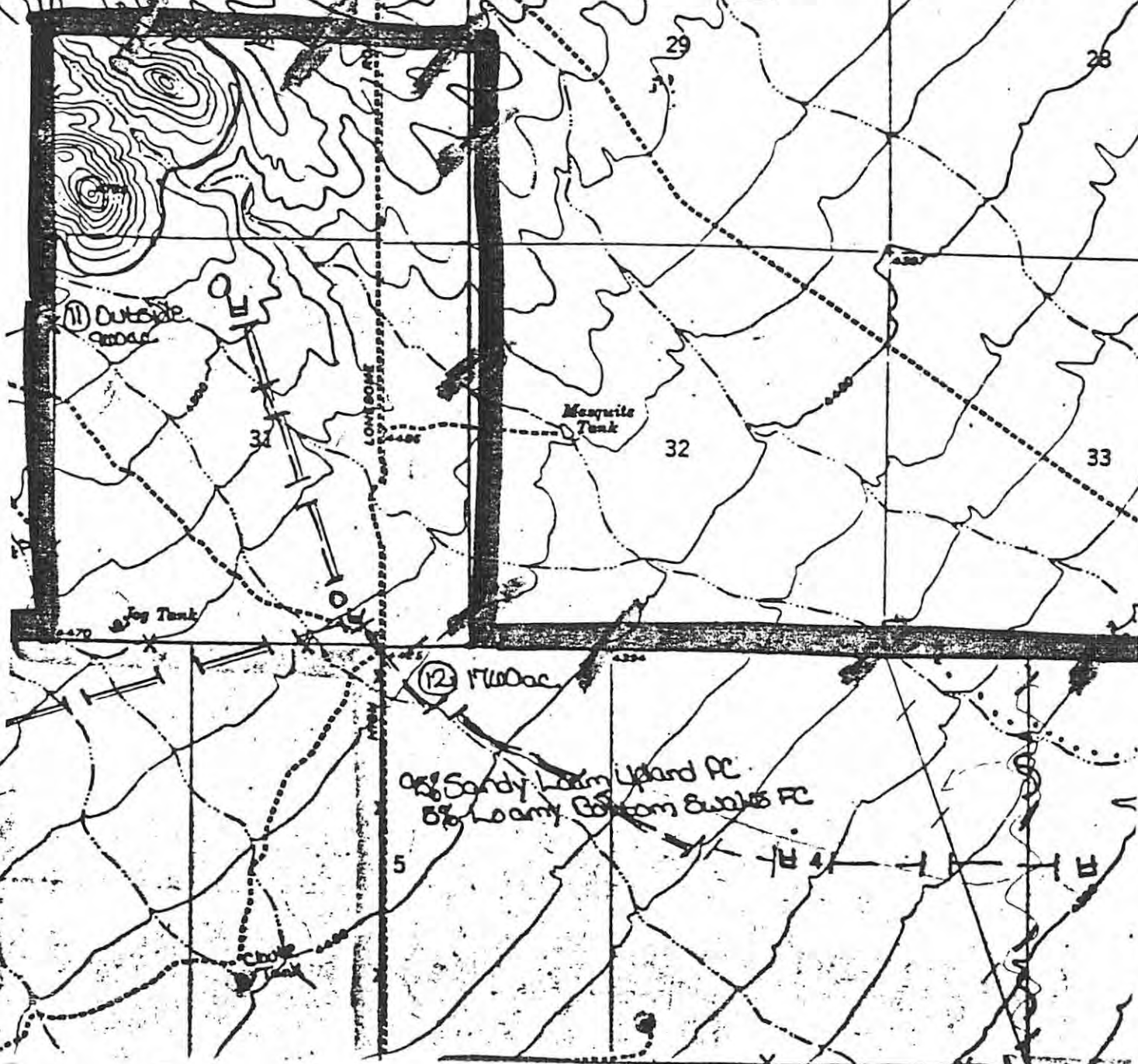
Monitoring transect *⊗* *→*

Pipeline *H H* Planned *- -*

Natural barrier *▲*

Diversion *↪*

Planned Contour *- - -*



Owner: Ruth Evelyn Cowan
Operator: GC Cloverdale Cattle Co.
Approximate acres: 16,769
Approximate Scale: 1:2400
Cooperating with Whitwater Draw Natural;
Resource Conservation District
Assisted by Sonia Gasho
Date: 1/15/97

Owner: Ruth Evelyn Cowan

Operator: GC Cloverdale Cattle Co.

Approximate acres: 16,769

Approximate Scale: 1:2400

Cooperating with Whitewater Draw Natural;

Resource Conservation District


Assisted by Sonia Gasho

Date: 1/15/97

MAP LEGEND:

NI pasture #11, 12, name *Petsch* # acres *2,720*

Fence ~~***~~ Planned fence

Dirt Tank 

Trough Planned

Well or storage tank ●


Planned well ☒

Planned electric fence

Powerline • — • —

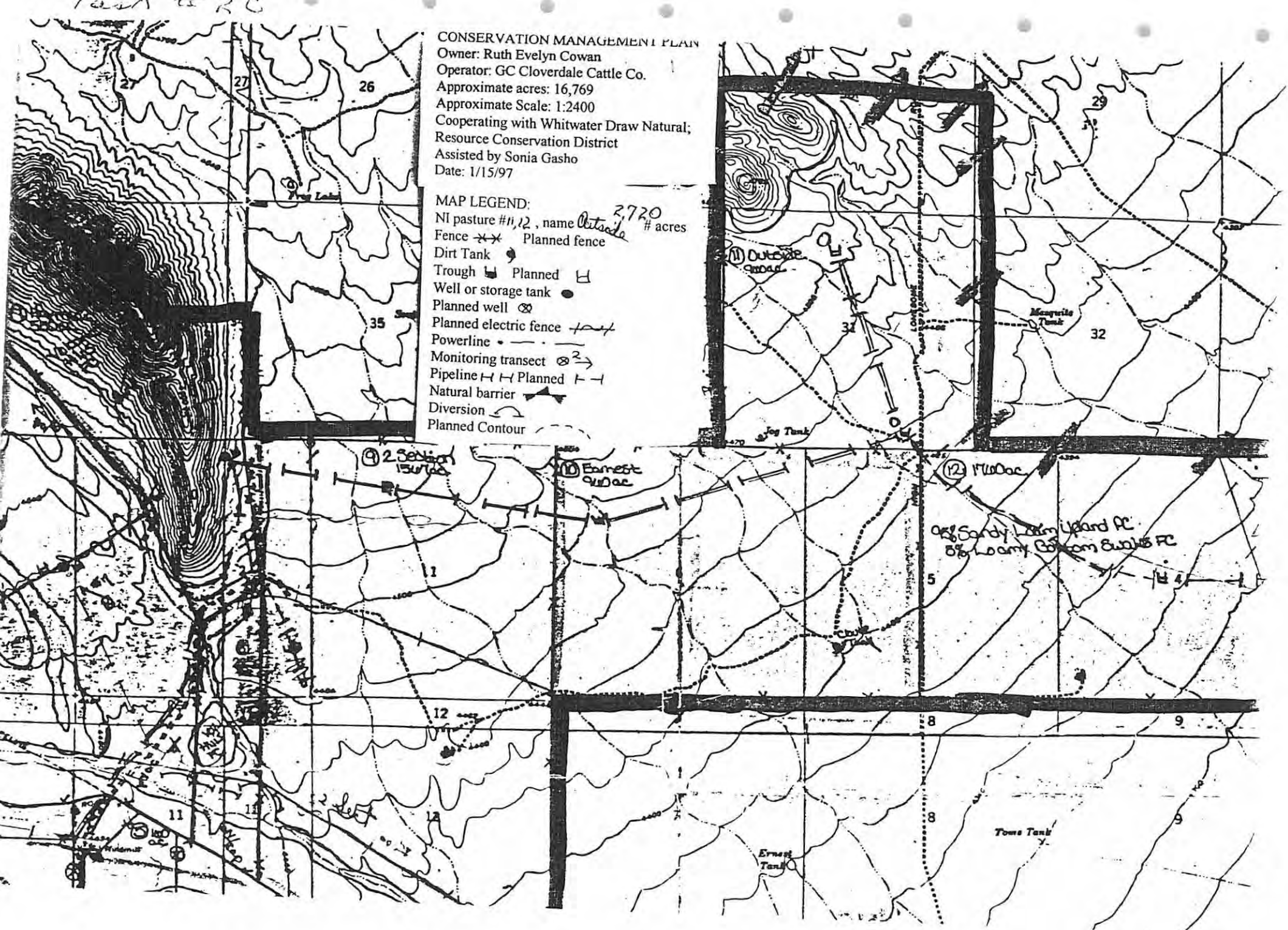
Monitoring transect \otimes^2

Pipeline H H Planned T T

Natural barrier 

Diversion

Planned Contour



CONSERVATION MANAGEMENT PLAN

Owner: Ruth Evelyn Cowan

Operator: GC Cloverdale Cattle Co.

Approximate acres: 16,769

Approximate Scale: 1:2400

Cooperating with Whitwater Draw Natural;

Resource Conservation District

Assisted by Sonia Gasho

Date: 1/15/97

MAP LEGEND:

NI pasture #11, 12, name *Outside* # acres *2,720*

Fence *XX* Planned fence

Dirt Tank *●*

Trough *H* Planned *H*

Well or storage tank *●*

Planned well *⊗*

Planned electric fence *----*

Powerline *----*

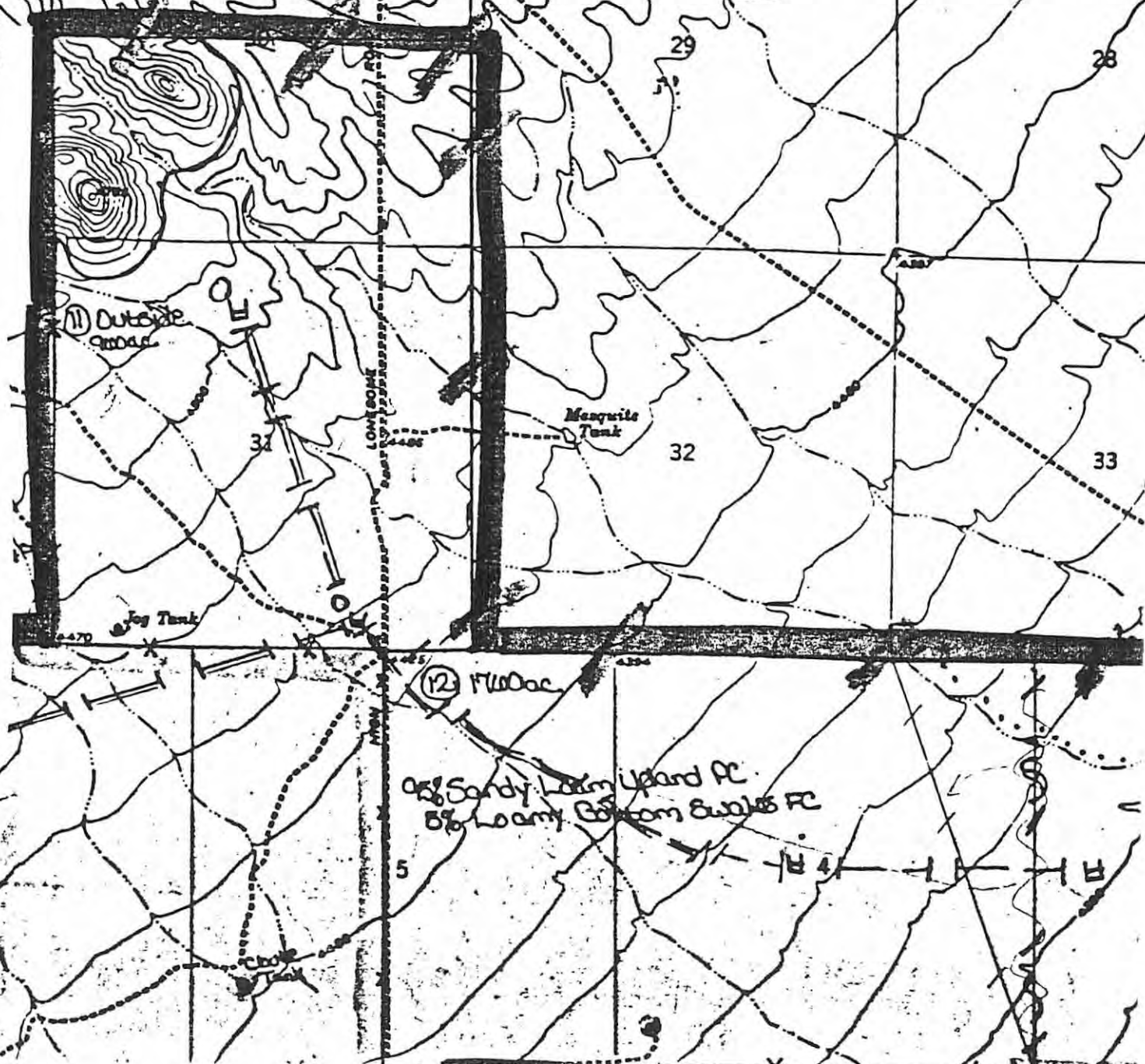
Monitoring transect *⊗²*















Pipeline *----* Planned *----*

Natural barrier *----*

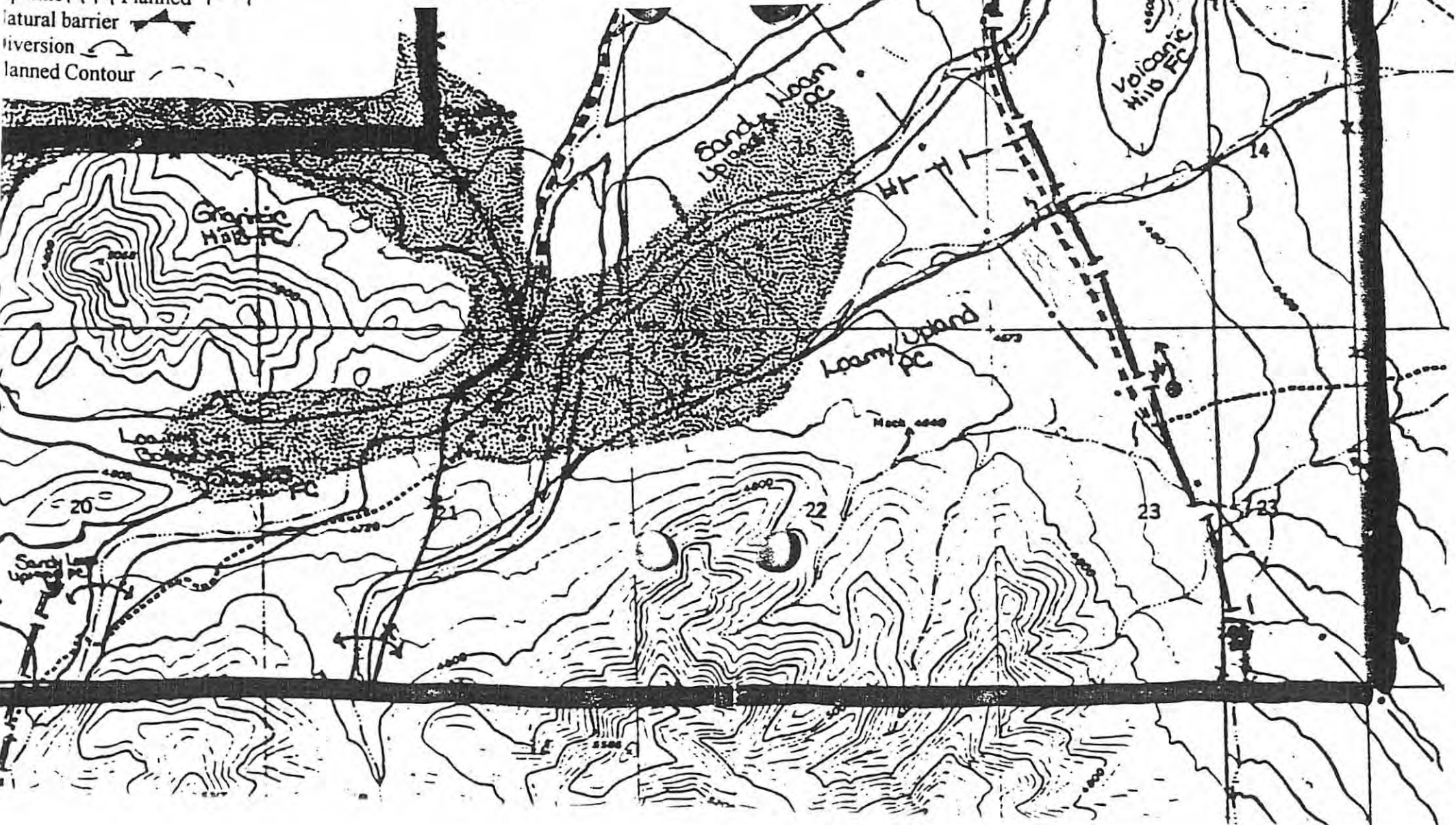
Diversion *----*

Planned Contour *----*



Pasture # _____, name _____, # acres _____
 Planned fence 
 Dirt Tank 
 Rough  Planned 
 Well or storage tank 
 Planned well 
 Planned electric fence 
 Powerline 
 Monitoring transect 
 Pipeline  Planned 
 Natural barrier 
 Diversion 
 Planned Contour 

CONSERVATION MANAGEMENT PLAN
 Owner: Ruth Evelyn Cowan
 Operator: GC Cloverdale Cattle Co.
 Approximate acres: 1,769
 Approximate Scale: 1:400
 Cooperating with Whitwater Draw Natural;
 Resource Conservation District
 Assisted by Sonia Gasho
 Date: 1/15/97



TASK #2
SPILLWAY REPAIR

8/14/98 NI Ranch SIX CHANNEL CONCRETE SPILLWAY.
Repair is needed behind wing on right and left & Around apron at the bottom
Riparian area it protects is Northwest at the top of spillway
Man in picture is 5'9" tall



8/14/98 Closeup NI Ranch SIX CHANNEL CONCRETE SPILLWAY.
Repair is needed behind wing on right and left & Around apron at the bottom
Riparian area it protects is Northwest at the top of spillway
Man in picture is 5'9" tall



TASK #2

8/14/98 NI Ranch SIX CHANNEL CONCRETE SPILLWAY.
Repair is needed behind wing on right and left & Around apron at the bottom
Riparian area it protects is Northwest at the top of spillway
Man in picture is 5'9" tall



8/14/98
North facing view of Right wing of Spillway, Hay Mt. in background
Large dikes protecting spillway in front of Mt.



TASK #3

8/14/98 NI Ranch, Rail Road Car Past., State Trust Land Lease #05-1851
Township 21 Range 24 Section 10 facing Southwest
Headcutting, damage due to increased recreational pressure



TASK #3

8/15/98 NI Ranch--Surface Runoff, gullying, lack of vegetation
Facing South to 47 Ranch in Township 21 Range 25 Section 4



HAY MOUNTAIN WATERSHED REHABILITATION (INTRODUCTION)

BACKGROUND:

Since the purchase of the 17,000 acre ranch in 1994, the owners have aggressively pursued rehabilitation. They have been awarded and completed one water distribution contract (1 1/4mi. water pipeline of 1 1/4" poly and (2) 10,000 gal. storage tanks installed) and a fencing contract. In addition they have completed without financial assistance five miles of fencing, the repair of six miles of roads, installation of two miles of new road, installed twenty large water spreaders, repaired one broken dirt tank, cleaned silt traps in two others, moved a drinker away from a riparian area, realigned the water channel leading to the large spillway. The results of those efforts are readily visible especially with the "La Nina" rains with increased forage, decreased surface runoff and erosion, increased water retention and infiltration, & improved grazing patterns. The owners recently enlisted the cooperation of two neighboring ranchers to create the Hay Mountain Geographia Priority Area with the total acreage involving 59,000 acres. They provided education through adopting a classroom for year long study and in cooperation with the Az. Game and Fish and Rocky Mountain Elk Foundation provided a field day for twenty seven third graders. It has become the most requested field day in the school district. This application for assistance through the AWPf is the first intergovernmental/community cooperative conservation project within the priority area is the next step in the process of watershed rehabilitation.

The PROBLEMS

1. **Deterioration of a major flood control spillway which maintains a 1/2 mi. riparian area**
Large scale erosion control in the project area began in the middle 1900's with the design of a large cement spillway by the Army Corp of Engineers and its construction, in a cooperative effort with El Paso Natural Gas, Ariz. Soil Conservation Service, and the previous owner. It took 142 cubic yards (seven railroad cars 60x8x8) of cement to complete. The apron was added later. It sits below a 1/2 mile riparian area with a series of large dikes surrounding the sides to support the structure and shore up surrounding grassland. The structure has effectively controlled erosion and maintained the riparian and grassland but due to previous flooding it needs repair.

2. **Insufficient or inadequate flood control structures** to prevent surface runoff, down cutting, increased sedimentation and decreased water quantity and quality. A portion of the project area is the entrance to 6,000 acres of State Trust Land. Recreational pressure continues to increase and with no state maintenance of roads, they have deteriorated with continued use, wet weather compounds the erosion. Two major ephemeral washes have jumped their banks creating new channels, headcutting, reduced natural hydrologic function and ecological processes in those washes. In many areas with little ground cover, surface runoff and gullying has increased.

3. **Insufficient water distribution and storage contribute to inefficient grazing patterns of wildlife and cattle**

Historians state large numbers of wild horses roamed the 17,000 acres of land with cattle to reach two waters. Lack of fences and water developments made it impossible to control excessive use which resulted in inefficient grazing pattern, decreased vegetation cover and

increased erosion. Even though eight additional waters were added in the middle 1900's along with fencing by the previous owners, water developments were still not sufficient for proper water distribution, and storage. This still results in surface runoff, poor retention/infiltration of water, and reduced water quality.

4. Lack of installed monitoring devices to build a data base to support changing conservation methods and to educate the public about watershed rehabilitation, shared responsibility, and cooperative conservation.

A base inventory of rangeland condition was conducted in 1997 and a 10 year management plan established, however, lack of installed monitoring devices prevents future analysis of the effects of the conservation plan to measure modified vs unmodified, and for one type of educational learning experience for students and the community.

5. Lack of Knowledge in the schools and community about watershed rehabilitation, and the shared responsibility for conserving water, riparian habitat, and maintenance of capital improvements on state Trust Land.

STATEMENT OF PROJECT-RELATED REMEDIES OR SOLUTIONS (PURPOSE & GOALS and Objectives)

Intergovernmental, community and organizational alliances have been formed to achieve the following

1. **Insure sustainability of the riparian area above spillway.** *Restoring & repairing the only MAJOR erosion control structure, a the cement, spillway will, decrease erosion damage from flooding, insure sustainability, & stability of wildlife habitat in the riparian area above the structure, reduce sedimentation and improve water quality flowing through the wash into the Whitewater Draw Bird Sanctuary.*

3. **Decrease sedimentation and increase quality of water flowing into the Whitewater Draw Bird Sanctuary.** *Installing water spreaders and small brush & rock dams and reseed with native grasses to decrease erosion, reduce the surface runoff rate, flooding, reduce the channel gradient peak, water flows & velocity; increase water retention, infiltration, recharge and reduce pressure on the riparian sustaining spillway. Those structures will also increase the duration of channel flow; promote sedimentation in small upland channels, reduce downstream sedimentation in the washes, & prevent further downcutting and gullyng.*

3. **Installing five miles of water pipeline with three 10,000 water storage tanks with drinkers away from the major water channels and reseed disturbed area with native seed** *will increase water quality, availability & distribution to wildlife, improve upland conditions & increase wildlife habitat, and further adjust and improve sustainable grazing patterns*

4. Establishing permanent monitoring/sampling/photo sites as a consistent control to measure modified/enhanced vs unmodified areas, which can be repeatedly and consistently sampled by a diverse group of individuals without jeopardizing the quality of the data and which can be used to evaluate past and future modifications. The project will provide a student's educational tool to assist in facilitating best management of Arizona State Trust land which comprises over 65% of the project area.

5. Provide an educational demonstration in restoring & maintaining natural resources, & improved land management practices in a geographic priority area. It will serve as a model of cooperative conservation among agencies, the community and organizations. As part of their learning, students will be able to scientifically measure the progress. A posture will be made about the project and its benefits and added to the other educational materials used in the year long Adopt a Classroom, display also at Cochise County County Fair, the annual NI Field Day, and a least one other yearly activity as requested by the AWPf and to be manned by the Rocky Mountain Elk Foundation.

Funds from the ADWP will pay some of the costs of material, equipment, and labor to repair the spillway; install flood control structures in and around two upland ephemeral washes which flow through the riparian area, the spillway and on into the bird sanctuary; to install pipelines, storage tanks and drinkers for cattle and wildlife away from sensitive areas; to create a baseline of information against which to scientifically measure and evaluate the effectiveness of the erosion-control systems and as the land heals, improves, and changes, continue to further modify those structures; and provide educational material and experience to students and the community so others by benefit.

(Statement of project years of benefit)

The project is the first phase of an on going twenty year restoration/rehabilitation of the Hay Mountain Watershed within the Hay Mountain Geographic Priority area, on the NI Ranch. A ten year 10 year management plan, is in place. At the end of that time the plan will be reevaluated, adjustments made and a new 10 year plan established, for a total of 20 or more years.

SCOPE OF THE WORK; OBJECTIVES

Objective #1: **Maintain the existing ½ mi. riparian area through repair of the project area's only major cement erosion control structure**, the spillway, Township 21 Range 24 Section 9 East of the Gila & Salt River Base & Meridian in Cochise County, Az. per Natural Resources Conservation Service Ag Engineer's schematic drawing located on page 42 of the application.

Objective #2: **Decrease flooding threat & Increase water quality flowing into riparian area above the spillway and flowing on into bird sanctuary** by reducing flooding and surface water runoff, which in high peak water flows threatens riparian area above the spillway and increases down cutting, and gullyng; **increase water quantity** through retention/infiltration by constructing a total of 35 dirt/rock/brush water spreaders and repairing existing 10 water spreaders and reseed with native grass using AWPf Revegetation Plan Outline Appendix :B. in Township 21 Range 24 Section 10 East of the Gila and Salt River Base and Meridian in Cochise County Arizona, State Land Trust lease #05-1851.

Objective #2b. **Increase water quantity** and decrease surface water runoff, sedimentation, down cutting, & gullyng through water retention/infiltration by constructing 30 dirt/rock/brush water spreaders, contour ripping and reseeding with native grass seed targeted areas using AWPf Revegetation Plan Outline Appendix:B, thereby **increasing water quality flowing into the sanctuary below the spillway** from Township 21 Range 24 Section 11 and Section 15 East of the Gila & Salt River Base & Meridian in Cochise County, State Land Trust Lease #05-1851.

Objective #2c. Decrease surface water runoff, downcutting, head cutting, and gulling and **increase water quantity** through retention/ infiltration by the construction 23 dirt water spreaders and increase ground cover through contour ripping and reseeding disturbed area with native grass using AWPf Revegetation Plan Outline Appendix:B to **increase water quantity flowing into the bird sanctuary** from Township 21 South, Range 25 East Section 4 of the Gila and Salt River Base and Meridian in Cochise County.

Objective #3: **Improve water distribution by installing 4 miles of pipeline with three 10,000 water storage tanks with drinkers** away from vulnerable areas and reseed disturbed area with native grass

Location #1 Township 20 Range 25 East Section 31

Location #2 Township 21 Range 24 Section 10 State Land Trust Lease #05-1851

Location # 3 Township 21 Ranch 24 Section 15 State Land Trust Lease #05-1851

Objective #4: **Establish and implement a permanent project monitoring programs** to measure modified vs unmodified areas of improvement Task #2 and Task #3 consistent with appropriate outlines established in AWPf Appendix: B.

~~read on a monthly basis and more frequently during precipitation periods.~~

Objective #5: Provide increased educational experience for students, teachers and the community through a final information transfer meeting by prepare educational experiences and material to teach the public about the need, function, shared responsibility, and methods for conserving water, riparian habitat, & the maintenance of capital water resource improvements on State Trust land.

SCOPE OF WORK: Task Descriptions

Task #1 Description: Secure all permits. 401,404 are not required, however, a State Land Department permit will be secured.

Deliverable Date: 6 months after award of grant

Task Cost: \$0

Task #2 Description: REPAIR SPILLWAY

Install approximately twenty pieces of 1" x 20' rear, 250' of V Mesh wire, 500 cubic yards of rock, 10 cubic yards of concrete, per specifications of USDA Natural Resource Ag Engineer, Magdalena Moreno, Phone #520-670-6602. Please see drawing and letter noted in the project schematic drawing section in application. It will be necessary to make a small road down into to wash to get large equipment and supplies into the site. The project will involve approximately 640 man hours, 4 hrs. Welding, 8 hours of dozer, 27 hours of front end loader, 13.5 hours of dump trailer, and 15.5 hours of truck work.

Deliverable description: Photos, invoices for material and labor, and certification of completion by Xavier Montoya, NRCS DC, Douglas.

Deliverable due date: December 1, 1999

AWPF task cost: \$24,000.00

Task #3: Install 35 water spreaders and/or small brush & rock dam (structures) and repair 10 existing water spreaders, contour rip selected uplands in (T21,T24,S10 State Trust Land Lease # 05-1851 where there is a large amount of surface runoff and erosion in and reseed disturbed areas with native grasses. The type of structure will be the best application with available material (brush, rock, dirt) for the specific erosion type. Reshaping and contouring with a dozer two erosion sites within two major ephemeral washes in leading into the riparian area and spillway, along with realigning roads and reducing head cutting damage from broken or inadequate water spreaders in. Contour rip and reseed with native grass conducive to wildlife habitat to be agreed upon between owner and range conservationist at the Douglas NRCS office. This area will be completed and funded before moving on to the next sub task of similar type in (T21,T24,S15)

Deliverable Description: Photos, invoices for material and labor, and certification of completion by Xavier Montoya, NRCS DC, Douglas

Deliverable Due Date: March 1, 2000

Task Cost: \$16,000.00

Task #3b. Installing 30 Brush, rock, dirt Flood Control Structures using available material in Section 15 of the Railroad Car Pasture, State Trust Land Lease # 05-1851 Volunteer labor from the Rocky Mountain Elk Foundation, and inmate labor through an existing interagency contract with the Az. Game and Fish, to install rock dams. Contour rip and reseed with native grass conducive to wildlife habitat to be agreed upon by the owner and range conservationist at Douglas NRCS Field office. Again the material used in the construction must suit the location

and type of erosion.

Deliverable Description: Photos, invoices for material and labor, and certification of completion of this section by Xavier Montoya and/or Wally Alexander

Deliverable due date: July 2000

AWPF Task Cost: \$14,000

Task #3c. Install 23 dirt water spreaders and/or flood control structures, contour rip and reseed with native grass conducive to wildlife habitat in Section 4. Due to the topography a dozer will be used almost exclusively.

Deliverable description: Photos, invoices for material and labor, and certification of completion by Xavier Montoya and Wally Alexander.

Deliverable due date: July 1, 2000

AWPF Task Cost: \$14,000

Task # 4: Description: Install 4 miles of 1 1/4" poly prop 200psi pipeline with three (3), 10,000 gal water storage tanks with three (3) drinkers, and reseed disturbed ground cover with native grasses conducive to wildlife to be agreed upon by owner and range consultant at the Douglas Field Office.

Deliverable description: Photos, invoices for material and labor, and certification of completion by Xavier Montoya and Wally Alexander. See community support and personnel sections.

Deliverable due date: March 1, 2001

AWPF Task cost: \$15,500

Task # 5: Establish permanent monitoring sites to measure modified vs. unmodified areas:

Deliverable description: In cooperation with the Douglas Field Office, an outside consultant will be brought in to help establish permanent monitoring/sampling sites. Aerial photography and GIS will be used as one of the tools to establish a baseline and mark the separation from historical use to new use. The owner will request the Az. Game and Fish provide a baseline wildlife inventory to measure progress in wildlife habitat. The task will have been completed when those sites are installed.

Deliverable Description: Photos, invoices for material and labor, data report, and certification of completion by Xavier Montoya and Wally Alexander.

Deliverable Due Date: Ongoing and bi-annual reports

Task Cost: \$20,000

Task #6: Description: Increase educational exposure and field experience for students, teachers, and the community by sponsoring three teachers to the Ag. In the Classroom week long tour, increase the number of classrooms adopted by one for the year long experience and increase the number of day field trips to two per year. Prepare a poster to be displayed at the County Fair and

one other function to be selected by the AWPf.

Deliverable description: Photos, poster describing the project to be displayed at appropriate functions ie. Annual NI field day, country fair, adopt a classroom activities, and at least one other yearly activity as requested by the AWPf and to be manned by the Rocky Mountain Eld Foundation.

Deliverable due date: March 1, 2001

AWPF Task cost: \$3,000

Task #7. Attend AWPf Information Transfer Meeting

Deliverable due date: March 2001

Task Cost: \$500.00

Task #8. Prepare and submit a final report

Deliverable description: Final project report will summarize all methodologies used, outcome of all tasks, summarize and analyze project data and monitoring data, suggest any further changes needed in the project and evaluate project success measured against the object.

Deliverable due date: March 1, 2001

AWPF task cost: \$6,000

Scope of Work: Sampling, Revegetation and Monitoring Plans

Methodology for monitoring will be developed in greater detail in Task #4 and if necessary the methods and techniques below changed.

The grantee shall develop and implement a program to monitor the effects of the range improvements (Task 3, 4) and improved grazing distribution of vegetation, groundwater, surface water and soil resources in the NI Ranch portion of the Hay Mountain Watershed

Subtask 5a: Weather

The grantee shall identify the official weather station by identification number, the stations location and determine the available period of record for the station that will be used to determine long-term precipitation information for the project. In addition, the Grantee shall determine 3 locations on the NI Ranch portion of the Hay Mountain watershed, where the water spreaders have been installed to put v-shaped rain gages. Mineral shall be placed in the gages to prevent evaporation. The grantee shall read the gages on a monthly basis and more often during precipitation periods.

Subtask 5b.: Surface water

The Grantee shall establish three surface water flow reference markers to determine the extent and duration of surface water flows in the main wash and its tributaries. The grantee shall establish data collection points where surface water flows occur for significant periods following precipitation events. The Grantee or consultant or NRCS shall measure the distance from the marker to the origin of the surface water flow upstream and measure the disappearance of surface water downstream The grantee shall read the measurements at week intervals during periods when surface water flow is present.

Subtask 5c: Soil Moisture

The Grantee shall determine the methodology, including the type of instrumentation, sampling numbers, frequencies and locations for evaluating soil moisture in the NI portion of Hay Mt. Watershed. Upon determination of the components of this subtask, the grantee shall provide the methodology information in the applicable quarterly report.

Subtask5d Loose-Rock Dams

The Grantee shall select a total of approximately 3 loose-rock dam structures that will be monitored during the project period as the dams are constructed.

The Grantee shall establish permanent photo points at each loose-rock monitoring site to provide a visual record of the changes in sedimentation and vegetation. In addition, the Grantee shall measure the amount of aggradation occurring at each site and identify vegetative species established at the site. The Grantee or consultant or NRCS shall measure the aggradation

occurring at each monitoring site by measuring the distance from the dam to the farthest point of evidence of sedimentation accumulation upstream from the dam. Photo documentation, aggradation measurements and vegetation identification shall be conducted by the NRCS on a semi-annual basis. For the project period, the Grantee shall have data collected six months after the structures are installed. Following the three year project period, data shall be collected on a bi-annual basis.

Subtask 5e: Riparian Vegetation and Mixed Vegetation Communities

The Grantee shall use the large scale aerial photography, and GIS methods to detail the riparian and mixed vegetation communities located in the NI portion of the watershed. The grantee shall establish best transects in selected plant communities to measure the density of woody plant species. The Grantee and consultant and/or NRCS shall collect transect data bi annually.

Subtask 5g: Upland vegetation

The Grantee shall measure upland vegetation at two locations on the NI Ranch. At each location, the Grantee shall establish a 200-foot baseline. The Grantee shall then randomly locate ten transects with 20 40-40 cm. Quadrats along the baseline. Measurements taken by the Grantee shall include: rooted frequency, species composition by dry-weight-rant, total bio-mass and ground cover. The Grantee shall measure the transects during September/December of each year during the 3-years project period, 6 months after the beginning of the project. Following the Grantee shall collect data on a bi-annual basis.

Subtask 5h The Grantee shall record information on livestock numbers and period of use for each pasture located on the NI Ranch during the project period to determine actual grazing use for each pasture.

Subtask 6h: Animal Diets

The Grantee shall continue to collect composite samples of fresh cow dung from selected pastures where cattle are present. The Grantee shall collect samples on a monthly basis for 16 months. The fecal analysis shall be conducted by Texas A & M University to determine the vegetative composition of the collected samples.

Task - Timetable

Enter the starting and ending dates of the AWPf project, the duration of the AWPf funded project (in number of months), and the years of benefit your project will provide to the riparian or aquatic habitat. Indicate the timing of all tasks from the scope of work. If you perform a task periodically (e.g., taking water level measurements every 3 months), indicate it in this manner rather than as if it is performed every month. Provide the estimated cost to the AWPf for each task (which includes labor, materials, administration, etc.). The total cost for all tasks must add up to the exact amount you are requesting from the AWPf on the application cover page (line 13a), and must agree with the AWPf column total on the budget page. Forms for years 2 and 3 are included for multi-year projects.

Start Date: <u>March 1, 1999</u> Yrs of Benefit: <u>20+</u> End Date: <u>March 1, 2002</u> Duration: <u>2yrs</u>			Project Name: Hay Mountain Watershed Rehabilitation Project											
Project Categories and Tasks			Months Since Project Initiated (Year 1)											
Task No.	Task Cost	Task Description	1	2	3	4	5	6	7	8	9	10	11	12
1	0	Permits	x	x	x	x	x	Copy						
2	23,100	Spillway repair	x	x	x	x	x	x	x	x	Photo			
3	16,800	Water spreaders	x	x	x	x	x	x	x	x	x	x	x	Photo
3b	14,700	spreaders	x	x	x	x	x	x	x	x	x	x	x	X
3c	14,700	spreaders	x	x	x	x	x	x	x	x	x	x	x	X
4	16,275	Pipeline	x	x	x	x	x	x	x	x	x	x	x	X
5	21,000	Monitoring						x						X
6	3,150	Education Program							x	x	x	x	x	x
7	6,300	Final Report												
8	500	Information Transfer Meeting												

Project Categories and Tasks			Project Name:											
			Hay Mountain Watershed Rehabilitation Project											
			Months Since Project Initiated (Year 2)											
Task No.	Task Cost	Task Description	13	14	15	16	17	18	19	20	21	22	23	24
1		Permits												
2		Spillway Repair												
3		Water spreaders												
3b		Spreaders	X	X	X	X	X	Rept						
3c		Spreaders	X	X	X	X	X	Rept.						
4		Pipeline	X	X	X	X	X	X	X	X	X	X	X	Rept.
5		Monitoring						X						Rept.
6		Education Program	X	X	X	X	X	X	X	X	X	X	X	Rept.
7		Information Transfer Meeting												Mtg..
8		Final Report												Rept.

Project Budget Forms

On the project budget form, break down your budget into Administrative costs, Direct Labor costs, Other Direct costs, Outside Services costs, and Capital Outlay costs. It is most helpful to identify all costs by Task number. Identify requested AWPFC funding on the first form and other matching funds on the next form.

Administrative costs are management and overhead costs and by statute the total administrative costs charged to the AWPFC cannot exceed 5% of the total amount requested from the AWPFC.

Direct Labor costs include the labor costs directly involved with the project. Break down these costs by: Job classification (e.g., laborer, project scientist, hydrologist, etc.); average cost/hour for that job classification; number of hours for that job classification; and total cost [Total cost = (Job classification cost/hour) x (number of hours)].

Other Direct cost include supplies and materials, paper, pencils, computer time, per diem, printing, public relations, etc.

Outside Services are consultants or subcontractors.

Outlay Capital costs include any equipment costs greater than \$1000.00.

TASK: Number and short description	AWPFC FUNDS REQUESTED					
	ADMIN COSTS (1)	DIRECT LABOR COSTS (2)	OTHER DIRECT COSTS	OUTSIDE SERVICES	CAPITAL OUTLAY (3)	TOTAL
1 Permit Acquisition						\$ 0
2 Spillway Repair	\$1,100.00	\$ 8,000.00	\$ 12,500.00			\$23,100.00
3 Water spreaders	\$ 800.00			\$16,000.00		\$16,800.00
3b spreaders	\$ 700.00			\$14,000.00		\$14,700.00
3c spreaders	\$ 700.00					\$14,700.00
4 Pipeline	\$ 770.00	\$ 7,750.00	\$ 7,750.00			\$ 16,275.00
5 Monitoring	\$ 1,000.00	\$ 8,000.00		\$12,000.00		\$ 21,000.00
6 Education Program	\$ 150.00			\$ 3,000.00		\$ 3,150.00
7 Information Transfer		\$ 500.00				\$ 500.00
8 Final Report	\$ 300.00	\$ 4,000.00	\$ 1,000.00			\$ 6,300.00

(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.

1998 AWPFC Application

Budget Forms Continued

TASK: Number and short description	OTHER FUNDS (MATCHING) (4)					
	ADMIN COSTS (1)	DIRECT LABOR COSTS (2)	OTHER DIRECT COSTS	OUTSIDE SERVICES	CAPITAL OUTLAY (3)	TOTAL
1. Permit Acquisition		\$ 800.00	\$200.00			\$ 1000.00
2. Spillway repair		\$ 16,000.00				\$ 16,000.00
3 Water spreaders			\$ 3,000.00			\$ 3,000.00
3b spreaders			\$ 3,000.00			\$ 3,000.00
3c spreaders			\$ 3,000.00			\$ 3,000.00
4 Pipeline			\$ 6,000.00			\$ 6,000.00
5 Monitoring		\$10,000.00				\$ 10,000.00
6 Education Program		\$ 3,000.00				\$ 3,000.00
7 Information transfer						\$ 0.00
8 Final Report						\$ 0.00

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

(2) Include wages, salaries, and fringe benefits.

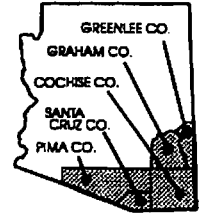
(3) Attach list of capital equipment expenditures over \$1,000.00, Water (CAP/Effluent), etc.

(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.



**Coronado
Resource Conservation & Development Area Inc.**

245 S. Curtis • Willcox, Arizona 85643
Phone: (520) 384-4534 • Fax: (520) 384-5330



August 17, 1998

Arizona Water Protection Fund Commission
Arizona Department of Water Resources
500 North Third Street
Phoenix, AZ 85004

Gentlemen:

The Coronado Resource Conservation & Development Area, Inc. (RC&D) has watershed restoration and riparian system health as a priority in it's Area Plan developed for Southeastern Arizona.

The Hay Mountain Watershed Rehabilitation Project meets the objectives of watershed restoration that meets the objectives of developing partnerships to improve natural resources in our RC&D Area. We are asking your support for the project and are committing resources valued at \$3000.00 to the project to develop an information outreach program to educate schools and the public on riparian and watershed values.

Sincerely,

Roy G. Ard
President

SPONSORS

COCHISE COUNTY
GRAHAM COUNTY
GREENLEE COUNTY
SANTA CRUZ COUNTY
PIMA COUNTY
HEREFORD NRCD
TOHONO O'ODHAM SWCD

WILLCOX-SAN SIMON NRCD
GILA VALLEY NRCD
REDINGTON NRCD
SAN PEDRO NRCD
WHITewater DRAW NRCD
PIMA NRCD

CITY OF WILLCOX
CITY OF DUNCAN
CITY OF BISBEE
CITY OF DOUGLAS
CITY OF THATCHER
CITY OF PIMA

CITY OF SAFFORD
CITY OF CLIFTON
CITY OF BENSON
CITY OF SIERRA VISTA
CITY OF HUACHUCA CITY
CITY OF PATAGONIA
CITY OF NOGALES

COMMUNITY SUPPORT (WHO WILL CARRY OUT PROJECT)

This project will be completed in cooperation with the State Land Department, Az. Dept. Of Game and Fish and Rocky Mountain Elk Foundation and/or another conservation organization, through the Adopt a Ranch Program, WDNRCDC, Project Centrl, and GC Cloverdale Cattle Co. LLC.

A grant from the Arizona Water Protection Fund will be used to pay for labor , materials & equipment needed for the repair & improvements to the NI Ranch portion of the watershed. The (WDNRCS) range& engineering department and State Land Dept personnel, and Az. Game & Fish have assisted in the scope, design, and approval of this plan as it pertains to their area of expertise and will continue to work on the project.

The WDNRCDC will also guide the owner/leasee in implementing & executing a comprehensive monitoring program using transects and photo monitoring during the two-year life of the project and results will be documented yearly and maintained for at least the seven remaining years of the management plan. At that time the exhisting ten year management plan will be reevaluated and a new ten year plan/monitoring program will be put in place. Conditions of upland and riparian vegetation will be monitored with permanent transects and photo points at selected locations. Duration and extent of surface water flow will be monitored. Livestock movements and utilization patterns will be recorded.

The Ariz. Fish and Game and Rocky Mountain Elk Foundation will assist through the Adopt A Ranch program using Heritage Funds to provide signing and volunteers to help install some projects and provide education to the public regarding cooperative conservation and personal responsibility in the care of State Trust Land, through information booths, and participation in field days, and the Adopt a Classroom.



JANE DEE HULL
GOVERNOR

Arizona
State Land Department

233 NORTH MAIN AVENUE
TUCSON, ARIZONA 85701
(520) 628-5480
FAX 628-5847



OFFICE OF
STATE LAND COMMISSIONER

August 12, 1998

Ms. Ruth Evelyn Cowan
NI Ranch
P.O. Box 430
Tombstone, AZ 85638

RE: Arizona State Land Department Grazing Lease #05-1851

Dear Ms. Cowan:

This letter is to verify the State Land Department's and my personal support for your rehabilitation project on the NI ranch. There currently exists a definite need on the State Trust lands within your ranch unit, as severe soil erosion in the forms of sheet, rill, and gully erosion are present. If this soil erosion is continued to be unaddressed, the results will magnify to the point where the watershed may be damaged beyond conventional repair. The opportunity to do something positive to prevent this is definitely now.

Arizona's previous two Governor's have publicly stated the need for riparian preservation in the State. This has been echoed by our current Governor Hull. I understand that part of your proposal is to repair a large dike that will protect a riparian area. We definitely support this project and the protection of this riparian area. We also strongly support the rest of your proposal which will protect the rangelands on the NI Ranch as well as benefit those other lands anywhere downslope. I don't have the time to explain now how I support each individual project but suffice it to say that I have reviewed them and do indeed support all of them. This is a very positive project and will benefit not only State Trust lands on site but also lands off site and will be a very good demonstration model of just what is feasible to improve rangeland conditions.

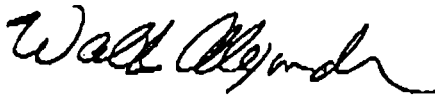
I have participated in this proposal by recommending approval of several improvements to date and by reviewing much of the ranch rangeland conditions and needs by several field reviews. I have also reviewed several of your plans for this rehabilitation project and offered my expertise where applicable.

In the future the State Land Department and myself will participate in this project by reviewing and approving your Applications to Place Improvements and Land Treatment Applications. This will involve field review and recommendations for implementation for best practice methodology. I will also be participating directly in the placement and reading of monitoring sites in order to document the progress and success of this project. I may also conduct field tours for educational purposes in the future.

I have known and worked with you for several years and am quite confident that you have the capability to implement and to succeed with a project like this, or, in fact, any other project you set your mind to. You have always been a very responsible and far thinking individual. You have always come up new ideas and discussed their feasibility with me both conceptually and practically. I would describe you as a very intelligent, confident, and capable individual. I would have no reservations recommending approval to our State Office for any of your proposed projects that you wish to implement. You have always been a pleasure to work with.

In summary, I would like to re-emphasize that we strongly support this proposed rehabilitation project and your ability to carry it through successfully. There is a great need for this project and I personally look forward to working with you to assist in your implementation, completion, and success.

Sincerely,

A handwritten signature in cursive script, appearing to read "Walter Alexander".

Walter Alexander
Range Resource Area Manager
Southeast Area

**UNITED STATES
DEPARTMENT OF
AGRICULTURE**

**NATURAL
RESOURCES
CONSERVATION
SERVICE**

**DOUGLAS FO
LESLIE CANYON RD.
RT.1 BOX 226
DOUGLAS, AZ 85607-9716**

To : Ruth Evelyn Cowan
PO Box 430
Tombstone, AZ 85638

August 12, 1998

From : J. Xavier Montoya, DC
USDA-NRCS, Douglas FO
RR1 Box 226
Leslie Canyon Rd.
Douglas, AZ 85607

Dear Ms. Cowan,

I would like to start by thanking you for taking an active roll in helping conserve and protect our natural resources. With this proposed project you are not only helping and healing your land but also the land that is around and down stream from you. Your project would not only help improve the livestock forage but would also increase food, cover and shelter for wildlife species in your area. The fact that your land does drain strait into the Whitewater Draw Game Refuge is also an important issue because with sound management and proper practices, sedimentation will be decreased and water quality of the Game Refuge will be increased. The size of the project is the boundaries of your ranch but the effects of the practices and increased management will be recognized for miles around and miles downstream.

To date we have conducted many range inventories and have worked with you in creating a management plan for your ranch that suits your needs as well as those of the wildlife in the area. With your support we have also written a proposal for the creation of a new Geographic Priority Area (GPA) under the Environmental Quality Incentives Program (EQIP) in your watershed to help address the needs of the entire watershed. You have shown your support to your ranch by completing scheduled practices and by being an active manager. I know that you are interested in increasing the ranch's capacity for cattle, but I also know that you are very interested in increasing the ranch's capacity for all wildlife species in the area.

The USDA - NRCS is supporting you in any way that we can to address the critical needs in your area. We support your grant request and all of our resources will be at your disposal. We feel very qualified and pleased that you have requested us to be advisors to your project, and will serve in this capacity to the best of our abilities.

Respectfully Submitted,

J. Xavier Montoya, DC
USDA-NRCS, Douglas FO



THE STATE OF ARIZONA

GAME & FISH DEPARTMENT2221 West Greenway Road, Phoenix, Arizona 85023-4399 (602) 942-3000
www.gf.state.az.us**Governor**
Jane Dee Hull**Commissioners:**
Chairman, Herb Guenther, Tucson
Michael M. Golightly, Flagstaff
William Berlat, Tucson
M. Jean Hassell, Scottsdale
Dennis D. Manning, Alpine**Director**
Duane L. Shroufe**Deputy Director**
Thomas W. Spalding

August 14, 1998

Ms. Ruth Evelyn Cowan
NI Ranch
P.O. Box 430
Tombstone, AZ 85638

Re: Arizona State Land Department Lease #05-1851

The NI Ranch is currently participating in the Department's Sportsman Landowner Respect Program and the Adopt-A-Ranch Program. As the Land Access Coordinator in the Heritage Access Program for the Arizona Game and Fish Department, I will be coordinating the volunteer services involved with this rehabilitation project.

In the Respect Program, informational signs are installed to reduce sportsman/landowner-lessee conflicts. There are numerous signs that have been installed throughout the NI Ranch. These signs assist the ranch in several ways, which include: no camping within ¼-mile of waters, please close gate, designated access route, private property - foot access only, and a sign in/out station.

The Heritage Access Program will be participating in the rehabilitation project through the Department's Adopt-A-Ranch Program. The Sierra Vista Chapter of the Rocky Mountain Elk Foundation has adopted the NI Ranch. The Chapter will volunteer two weekends a year to assist the ranch with the construction of rock or brush dams. This will reduce erosion, channel gradient and water velocity, thus promoting upland sedimentation, reducing downstream non-point sedimentation, and improving water quality flowing into the Whitewater Draw Bird Sanctuary.

The Heritage Access Program will be working with the NI Ranch through the Adopt-A-Ranch Program on the rehabilitation project.

Sincerely,

A handwritten signature in dark ink, appearing to read "Arlen Flax".

Arlen Flax
Land Access Coordinator

AFF:aff