

**ARIZONA GAME AND FISH DEPARTMENT
HABITAT PARTNERSHIP COMMITTEE
HABITAT ENHANCEMENT AND WILDLIFE MANAGEMENT PROPOSAL**

Game Branch / HPC Project Number: 12-503

PROJECT INFORMATION

Project Title: Harris Ranch Solar Well Retrofit

Region and Game Management Unit: Region 5/Unit 30B

Local Habitat Partnership Committee (LHPC):
• SEAZ

Was the project presented to the LHPC?
YES[X] NO[]

Has this project been submitted in previous years? YES[] NO[X]
If Yes, was it funded? YES[] NO[X] → **Funded HPC Project #(s):**

Project Type: Water Development (solar retrofit of existing well)

Brief Project Summary: Installation of a solar pumping station on a well on the Harris Ranch, located in Cochise County, GMU 30B. The "New Water Well" on the Harris Ranch is currently under development with approximately 5,000 gallons of storage and a 500 gallon drinker already installed on site. This well is currently pumped with a generator, and proves to be cost prohibitive to pump for wildlife only, when livestock are not present. This project proposes installing a solar pumping station, a wildlife friendly water trough and dedicating a yearlong water source to all wildlife species by constructing a wildlife accessible pond excluded from livestock at this location.

Big Game Wildlife Species to Benefit: Mule Deer, Javelina (Scaled and Gambels quail as well)

Implementation Schedule (Month/Day/Year):

Project Start Date: 02/01/13

Project End Date: 03/31/13

Environmental Compliance:

NEPA Completed: Yes[] No[] N/A[X]

Projected Completion Date: _____

State Historic Preservation Office - Archaeological Clearance:

Yes[] No[] N/A[X]

Projected Completion Date: _____

Arizona Game and Fish Department EA Checklist: N/A[]

To be Completed by: _____

Projected Completion Date: _____

PROJECT FUNDING

Special Big Game License Tag Funds Requested: \$ 5,600.00

Cost Share or Matching Funds: \$ 5,800.00

Total Project Costs: \$ 11,400.00

PARTICIPANT INFORMATION

Applicant (please print):
Joseph Harris

Address:
7127 N. McBride Rd
McNeal, AZ 85617

E-mail:
josephharris@wildblue.net

Telephone: (520) 227-6529

Date: August 23, 2012

AGFD Contact and Phone No. (If applicant is not AGFD personnel):
Brad Fulk (520) 400-4575

Project has been coordinated with:

Currently developing a CRM plan with the NRCS (Marques Munis), AZSLD (John Patton) and BLM, Brad Fulk; AGFD/SEAZ – HPC Coordinator

NEED STATEMENT – PROBLEM ANALYSIS:

On the Harris Ranch, wildlife accessible water sources are scarce. There are three functioning dirt tanks and two wells that are producing water for the livestock on the ranch, however these water sources offer limited water for wildlife seasonally. Only one of the dirt tanks is a permanent water source, with the other two being seasonal. The water source at the headquarters is inaccessible to wildlife due to its location (in a corral) and the adjacent landowner's domestic dogs act as a wildlife deterrent. The only developed well on the ranch (New Water Well) is pumped by a generator on a seasonal basis. Therefore water is only available when livestock are present (approximately 3 months out of the year).

PROJECT OBJECTIVES:

Retrofit the New Water Well with a solar powered pumping station to provide wildlife accessible water to an area that is currently seasonal. This would effectively provide permanent water to approximately 4,000 acres of wildlife habitat that was previously only available on a seasonal basis.

PROJECT DESCRIPTION AND STRATEGIES:

Using HPC funding and applicant cost sharing, cooperation and installation labor, permanent water will be made available on approximately 4,000 acres of wildlife habitat that is currently dry on a seasonal basis and varies based on rainfall. The nearest wildlife accessible permanent water source is a dirt tank approximately 2.5 miles away (see map).

New Water Well – Install a solar pumping station (solar panels, standpipe, solar pump and accessories) and supply water to the existing storage (5,000 gallon) and drinker (500 gallon) development at the well. The existing trough will be retrofitted with wildlife entrance and escape ramps. Also, a dedicated wildlife accessible overflow pond will be constructed (approximately 10' x 10' x 2' deep) and will be fenced to exclude livestock. The enclosure will be wildlife friendly fencing (dimensions will be approximately 60' x 60'). The fill dirt excavated from the pond site will be placed around the existing livestock trough to facilitate wildlife use as well.

PROJECT LOCATION:

The New Water Well is located on private land owned by the applicant in the NE ¼ of the SE ¼ of the SE ¼ of Section 23, T23S, R25E. See attached photos of existing storage and drinker.

LAND OWNERSHIP AT THE PROJECT SITE(S):

(if the project area is private property, please state specifically and provide the landowner's name)

- The project is located on private land. The New Water Well is located on private land owned by Joseph and Colleen Harris.

IF PRIVATE PROPERTY, IS THERE A COOPERATIVE BIG GAME STEWARDSHIP or LANDOWNER AGREEMENT BETWEEN THE LANDOWNER AND THE DEPARTMENT?

YES[] NO[X] N/A[]

HABITAT DESCRIPTION:

The Harris Ranch ranges in elevation from 5,800 feet at its highest point on Black Knob in the Mule Mountains to approximately 4,060 feet at the far east end. The habitats found on the ranch range

from limestone mountains and ocotillo dominated alluvial fans to tobosa dominated clay loam swales. The majority of the habitat on the ranch, though is mesquite uplands with large dry washes running through them. The habitat near the well is desert scrub/desert grassland, with a significant amount of mesquite/whitethorn acacia/tarbrush interspersed.

ITEMIZED USE OF FUNDS:

Special Big Game License Tag Funds

Solar Pumping Station, 200' depth (solar pump, controller, pump wire and solar panels)	\$4000
Pipe (200' 1" PVC schedule 80, 250' 1 1/4" PE pipe to connect tank and overflow pond)	\$380
Misc. plumbing, 4" x 20' stand pipe, electrical conduit, etc.	\$270
Fence material for enclosure (4 corner brace assys, 20 t posts, 2 rolls of barbed wire, 1 roll of smooth wire, 1 bundle of stays, concrete)	\$850
Wildlife ramps	\$100
Total	\$5600

Cost Share or Matching Funds (for volunteer labor rates please refer to the worksheet below)

Installation of solar pumping station (pulling old pump, installing solar pump, installing stand pipe, panels, wiring, conduit, plumbing etc.)	\$3100
Overflow pipe installation (digging ditch, plumbing)	\$300
Wildlife pond enclosure fence construction, wildlife friendly (60' x 60')	\$1300
Equipment and operation to construct wildlife ponds and install solar panels (Articulating loader w/ 6 yard bucket approx. 8 hours @ \$140/hour)	\$1100
Total	\$5800

Total cost of project \$11,400

LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:

- Applicant/Rancher: Planning, labor for all construction and installation, heavy equipment operation and supplying materials
- NRCS: Help with ranch planning, development of a CRM plan, potential future grant opportunities (EQIP)
- AZGFD: Support for the project and funding through their habitat improvement funds and Special Big Game License Tag Funds

WOULD IMPLEMENTATION OF THIS PROJECT ASSIST IN PROVIDING, MAINTAINING, OR FACILITATING RECREATIONAL ACCESS?

YES[] NO[X] N/A[]

Recreational access is in no way restricted. Neither foot nor vehicle access on road system accessing project area are not denied.

PROJECT MONITORING PLAN:

During construction, the applicant/rancher will be responsible to assure the work is done to the highest of

standards. Photographs will be taken before and after installation. Rangeland monitoring will be conducted during the inventory and analysis stage while the Coordinated Resource Management Plan is being developed, and at intervals thereafter to determine rangeland trend.

PROJECT MAINTENANCE:

The improvements, once installed, will be the maintenance responsibility of the applicant/rancher.

PROJECT COMPLETION REPORT TO BE FILED BY:

Joseph and Colleen Harris, applicant/rancher

WATER DEVELOPMENT PROJECTS (*please use the worksheet below*):

TREE CLEARING/REMOVAL PROJECTS (*please use the worksheet below*):

ARIZONA GAME AND FISH DEPARTMENT WATER DEVELOPMENT WORKSHEET

PROJECT TITLE: Harris Ranch Solar Well Retrofit

- 1) **Is the water development listed as a priority in the most recent “Wildlife Water Development Annual Implementation Schedule?”** *No*
- 2) **Please list the Development Branch personnel and date coordinated with for this project.**
Not applicable. This project is dual purpose, designed to supply water to both wildlife and livestock. It is not related to a Game and Fish Wildlife Water Catchment
- 3) **What is the estimated annual inches of precipitation for the area? (mark one)**
2-4 4-6 6-8 8-10 10-12 12-14 14-16 >16

- 4) **Is there a perennial water source available to big game within four miles of this project?**

YES (please complete #5 below) NO (skip #5 below)

- 5) **For the accessible, perennial water source nearest this project:**

Name of water source: *Bottom Tank*

Type of water source (catchment, spring, dirt tank): *dirt tank*

Ownership of water source: *Private land*

Distance in miles from project: *2.5 miles to the New Water Well*

- 6) **Is the target wildlife species a result of transplant efforts?** YES NO

- 7) **Please list any special land management status for the project site (i.e. Wilderness, National Park, National Monument). If private land, list landowner.**

New Water Well – Joseph and Colleen Harris owner

- 8) **Please provide the following information about access to the proposed site:**

Type of access (mark one): 2x4 vehicles 4x4 only foot only**

**If foot access only: Distance in miles: _____ Approximate hiking time: _____

-- Does access to this site require crossing private or tribal lands? YES NO

Access to parcel that well is located on is a public right-of-way.

-- Please describe any restrictions to public access:

No restrictions at all; the public has full, open access.

- 9) **Please list below (or on a separate sheet) the material type and dimensions of each component proposed to be added, modified, or repaired.**

Please see attached material list

- 10) **Was a site visit completed?** Yes No

If Yes, please list personnel that attended and date.

AZGFD Field supervisor Brad Fulk has a site visit planned for this fall 2012 with a member of the Mule Deer Foundation.

Harris Ranch – New Water Well- August 2012



Photo 1: View looking north. Note that well is located behind tank, in enclosure.



Photo 2: View looking south/southwest. Note well and trough. Wildlife pond will be constructed at far right side of photo.

Material List: Harris Ranch Solar Well Retrofit

Harris Ranch, Joseph and Colleen Harris
In cooperation with NRCS, AZGFD and ASLD
Proposed: August 2012

MATERIAL TYPE AND DIMENSIONS:

Submersible solar pumping station for 200' well depth.

- Solar pump and controller
- Solar panel array
- 200' 1" sch. 80 PVC pipe
- 4" x 20' standpipe for solar panels
- Various fittings and conduit for installation

250 feet 1 1/4" 160 psi PE pipeline to connect storage and overflow pond.

Galvanized fittings and brass float valves for trough plumbing.

Wildlife access and escape ramp in trough.

Wildlife pond, approximately 10' x 10' x 2' deep, fed from tank overflow.

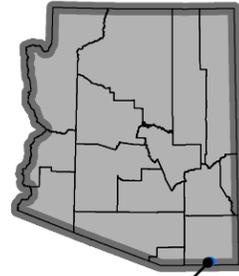
Wildlife friendly fence to exclude livestock from pond (approximately 60' x 60' enclosure).

- 4 corner brace assemblies
- 20 t posts, 5.5' long
- 2 rolls barbed wire
- 1 roll smooth wire
- Bundle of stays

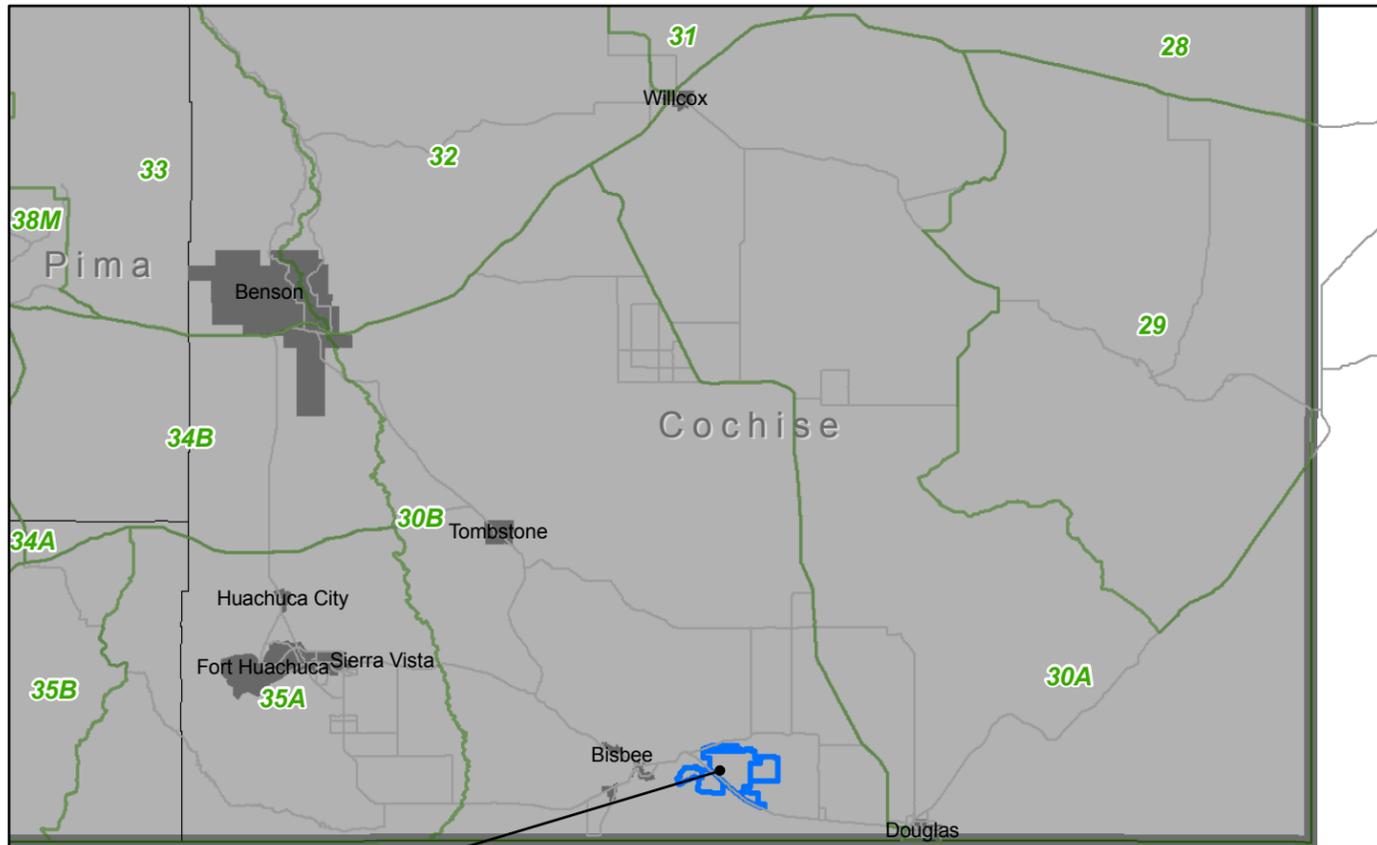
Harris Ranch Solar Well Retrofit 2012

Legend

-  Arizona
-  Game Management Units
-  Cities
-  Project Location
-  2 Mile Buffer
-  Harris Ranch Pastures
-  Highways
-  Private
-  BLM
-  State

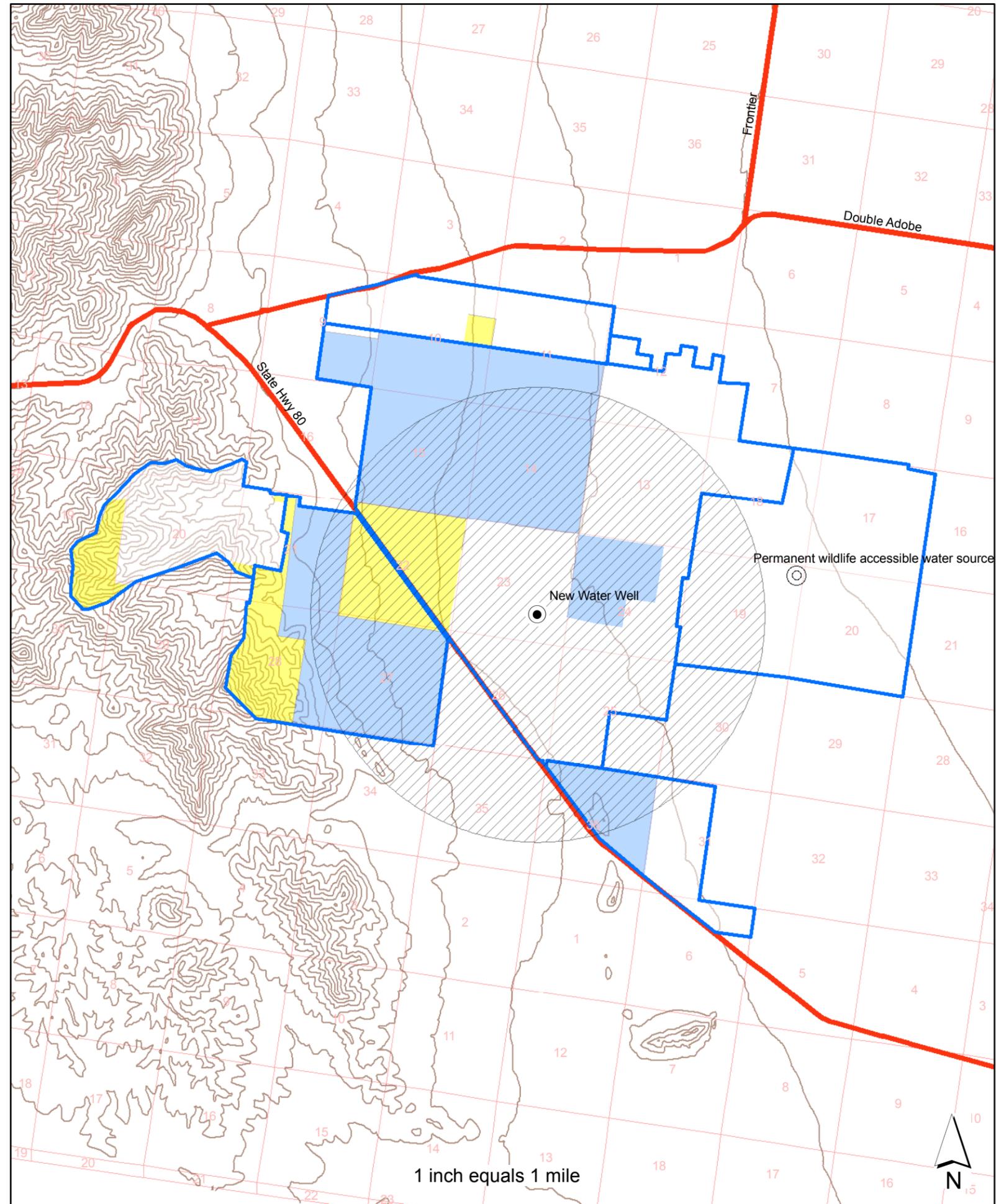


Project Location



Project Location

1 inch equals 16 miles



1 inch equals 1 mile

