

RECLAMATION

Managing Water in the West

**Public Scoping Meeting for the
San Acacia Fish Passage and
Related Works
Environmental Assessment (EA)**

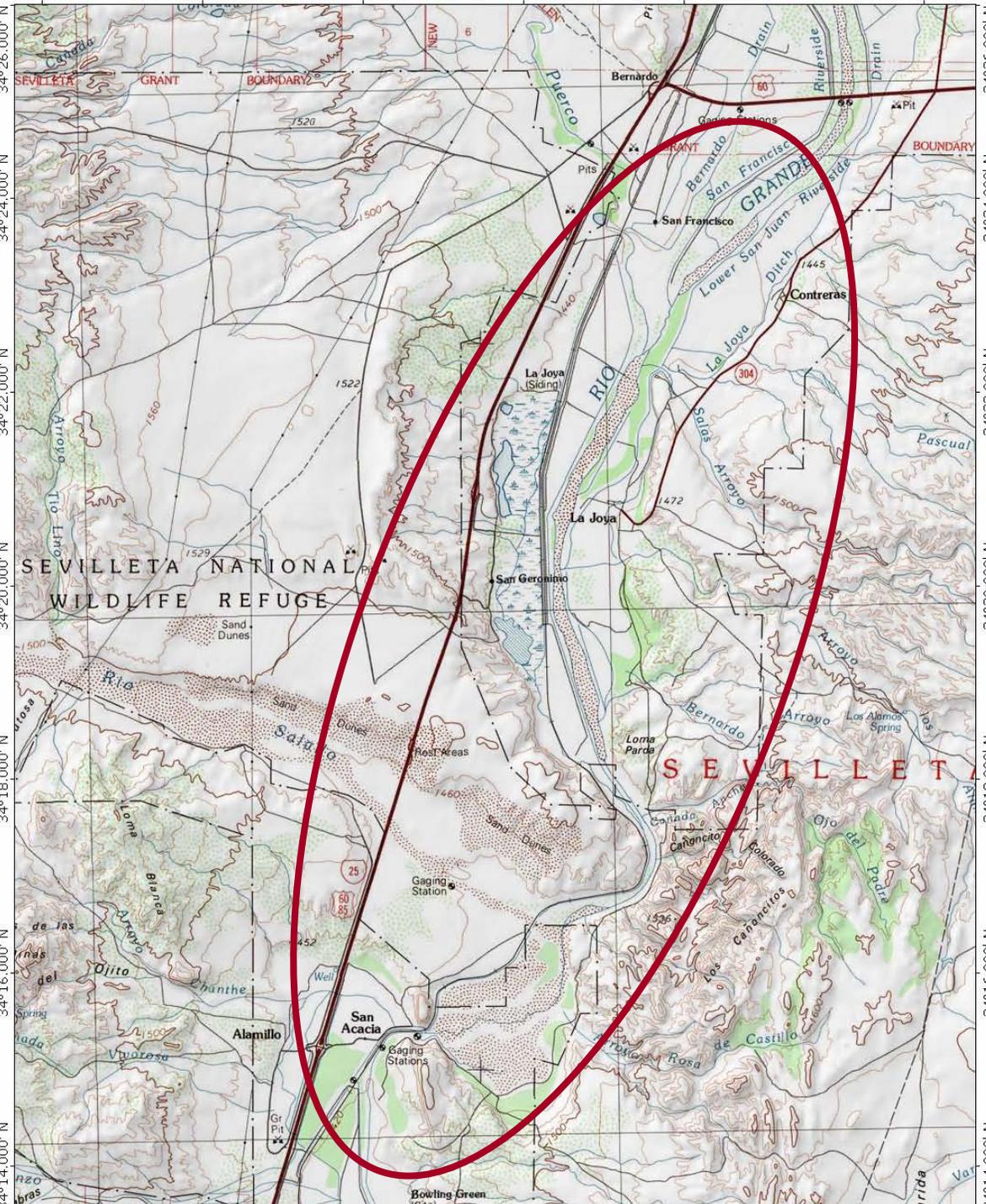
February 1 and 2, 2007



U.S. Department of the Interior
Bureau of Reclamation

Environmental Assessment (EA) Process

- EA being done to comply with the National Environmental Policy Act (NEPA)
- Public disclosure and informed decision making
- Assess impacts to natural and human environment:
 - Biological resources and sensitive species
 - Water resources and water quality
 - Land uses, including recreation and agriculture
 - Cultural resources
 - Socioeconomic conditions



Study Area

- Socorro
County

Consultation & Special Studies

- On-going consultation with Tribes and Pueblos
- Hydrological analysis
- Habitat assessment study
- Access analysis

Why are we here?

- Scoping helps disseminate information
- Scoping helps identify the following:
 - Important issues, resource concerns, and possible impacts
 - Issues that are not important or have been addressed elsewhere
 - Information sources
 - Other environmental review, permits, and consultation requirements
 - Alternatives to be evaluated in the EA

Project Background

1. Provide passage for the silvery minnow at the San Acacia diversion dam (SADD)
2. Construct and operate a siphon under the Rio Grande to improve efficiency and flexibility of irrigation operations for the Middle Rio Grande Conservancy District.
3. Protect Drain Unit 7 Extension upstream of the SADD from erosion.
4. Maintain the rip-rap apron below the SADD to protect the dam.

How do the projects relate to each other?

- Interrelationship among projects include:
 - Construction
 - Location
 - Operational considerations
 - Impacts
- Example: Operation of the siphon is likely to affect river flows at the SADD necessary for fish passage and the upstream availability of silvery minnow habitat.

Fish Passage Project

Need: Restore and sustain successful silvery minnow access to upstream habitat and increase the amount of longitudinally connected habitat available to Rio Grande silvery minnow (RGSM).

**Drain Unit 7
Extension**

**Socorro
Main
Canal**



+ Est flow below dam:
170 - 175cfs
+ Socorro Main Canal
flow – approx 200 cfs

Aerial Photo by Steven
Gonzales, Reclamation

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Fish Passage Project

Purposes: Satisfy federal requirements under the 2003 Biological Opinion (2003) that requires fish passage to be implemented at the SADD

Objectives:

- Maintain the operational flexibility of the SADD.
- Protect existing water uses in the Project Area (irrigation and Compact deliveries)
- Maintain water budget (no new net depletions)
- Minimize adverse impacts to cultural and socio-economic resources

Rio Grande silvery minnow

1. Background / History
2. Population Distribution
3. Genetic effects of river fragmentation



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Background / Life History

1. Range contraction (< 5%)
2. Need to protect remaining population
3. Life History
 - Spawns during spring runoff
 - Drifting eggs and larvae for 3-5 days
4. Changes in channel shape / barriers

Population Distribution

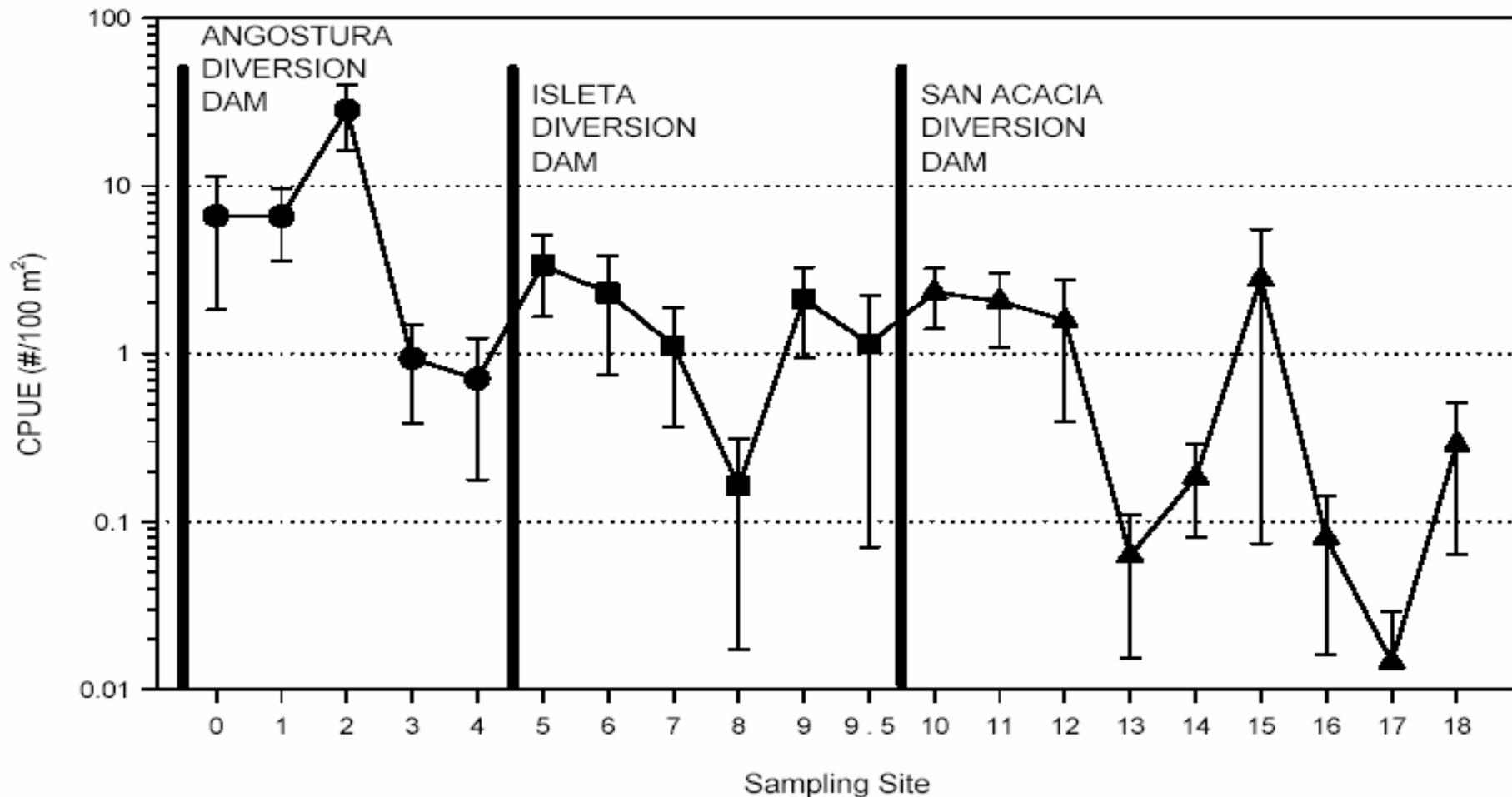


Figure 8. Inter-site comparison of Rio Grande silvery minnow catch rates (CPUE) by sampling locality (20 sites) and river reach (Angostura=circle, Isleta=square, San Acacia=triangle) during 2004. Symbols represent mean values for all sampling months (n=12) and bars represent the standard error. Dotted horizontal lines represent different orders of magnitude.

Genetic effects

Current (1999-2001) effective pop size estimated at 78

Historically between 100,000 and 1,000,000

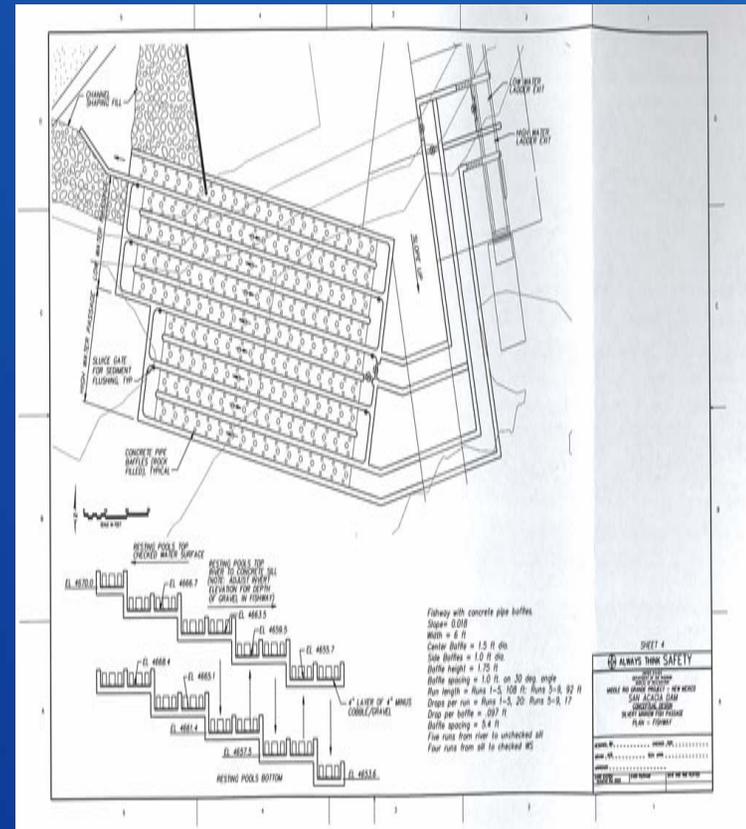
REDUCED effective population size



Fish Passage Alternatives

1. Baffled Fishway through diversion dam gates
2. Fish Trap and Lift (RGSM “elevator”)
3. Lock and “Fish Friendly” Pump
4. Roughened Channel Passage through one of the diversion dam gates

Baffled (Low Gradient Roughened Channel and Boulder Weir) Fishway



Preliminary Design Report, HDR/FishPro
August 2006

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Fish Trap and Lift



Lock and “Fish Friendly” Pump

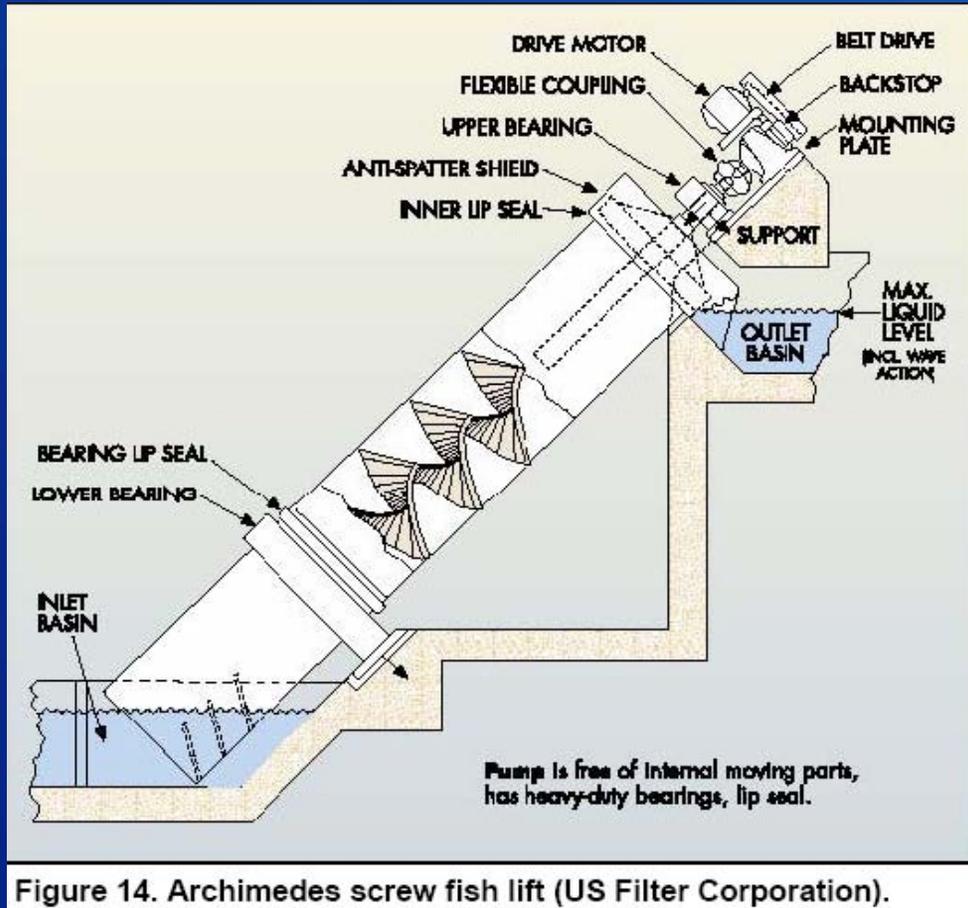
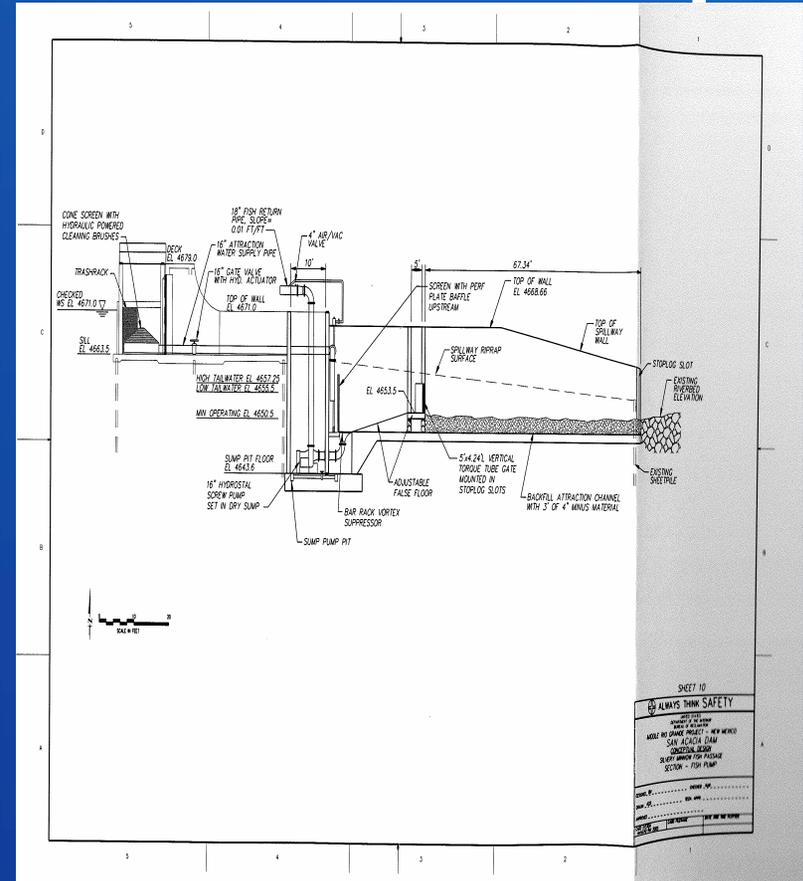


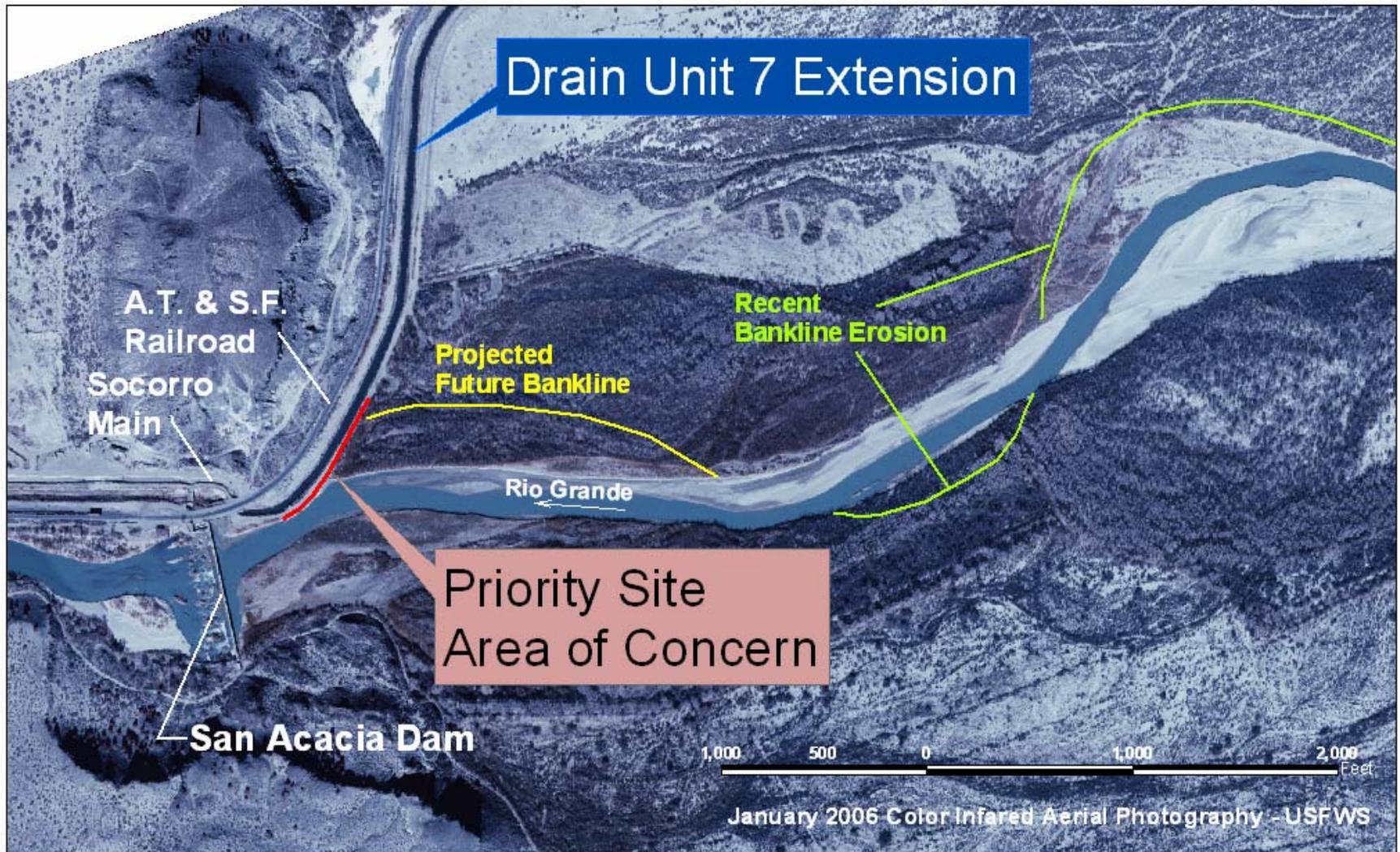
Figure 14. Archimedes screw fish lift (US Filter Corporation).



Preliminary Design Report,
HDR/FishPro August 2006

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Drain Unit 7 Priority Site – Area Map



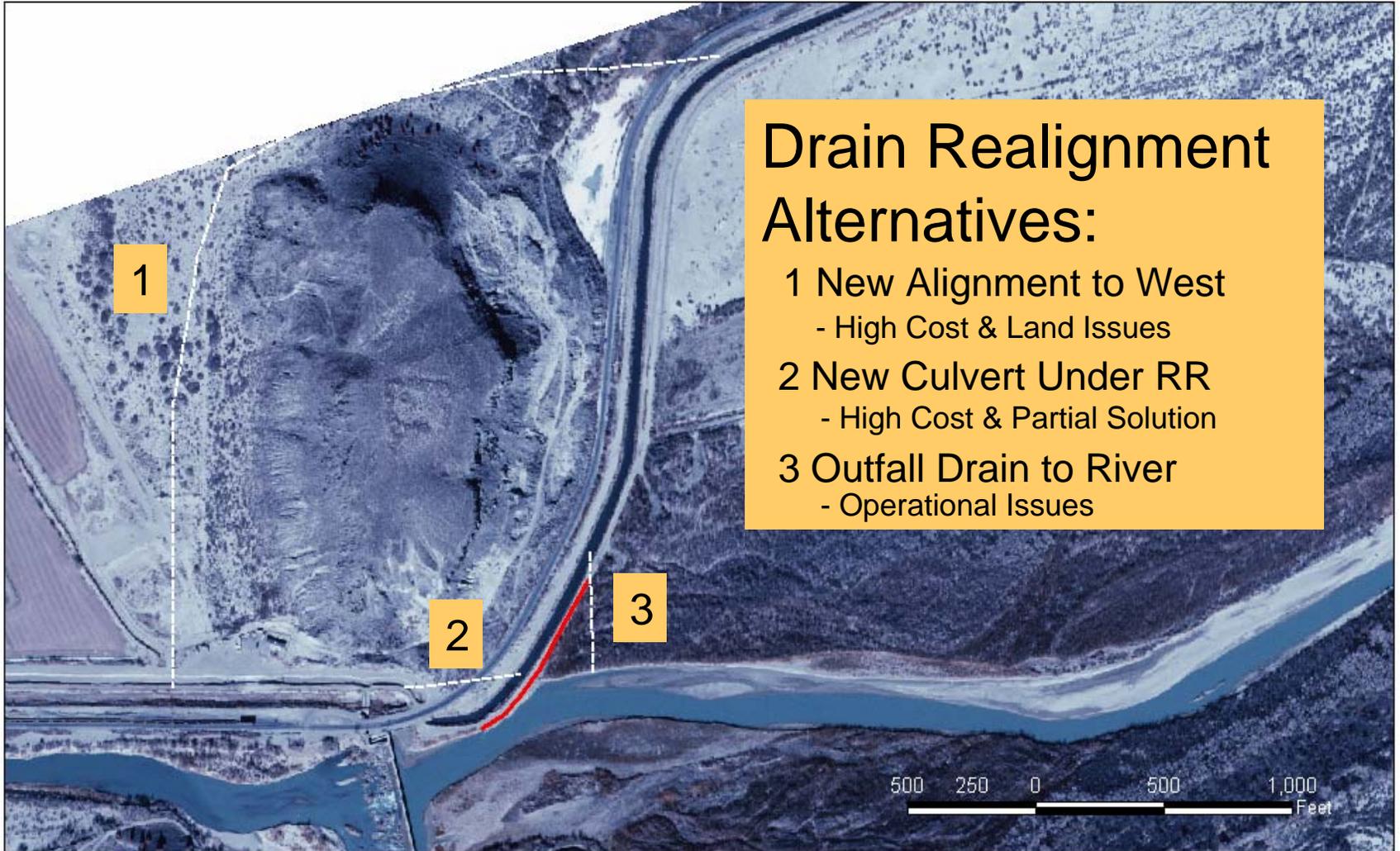
Drain Unit 7 Priority Site

- **Need**: Protect the irrigation drain and other infrastructure in the area.
- **Purpose**: Implement a permanent, low maintenance solution for the bankline erosion occurring at this location.



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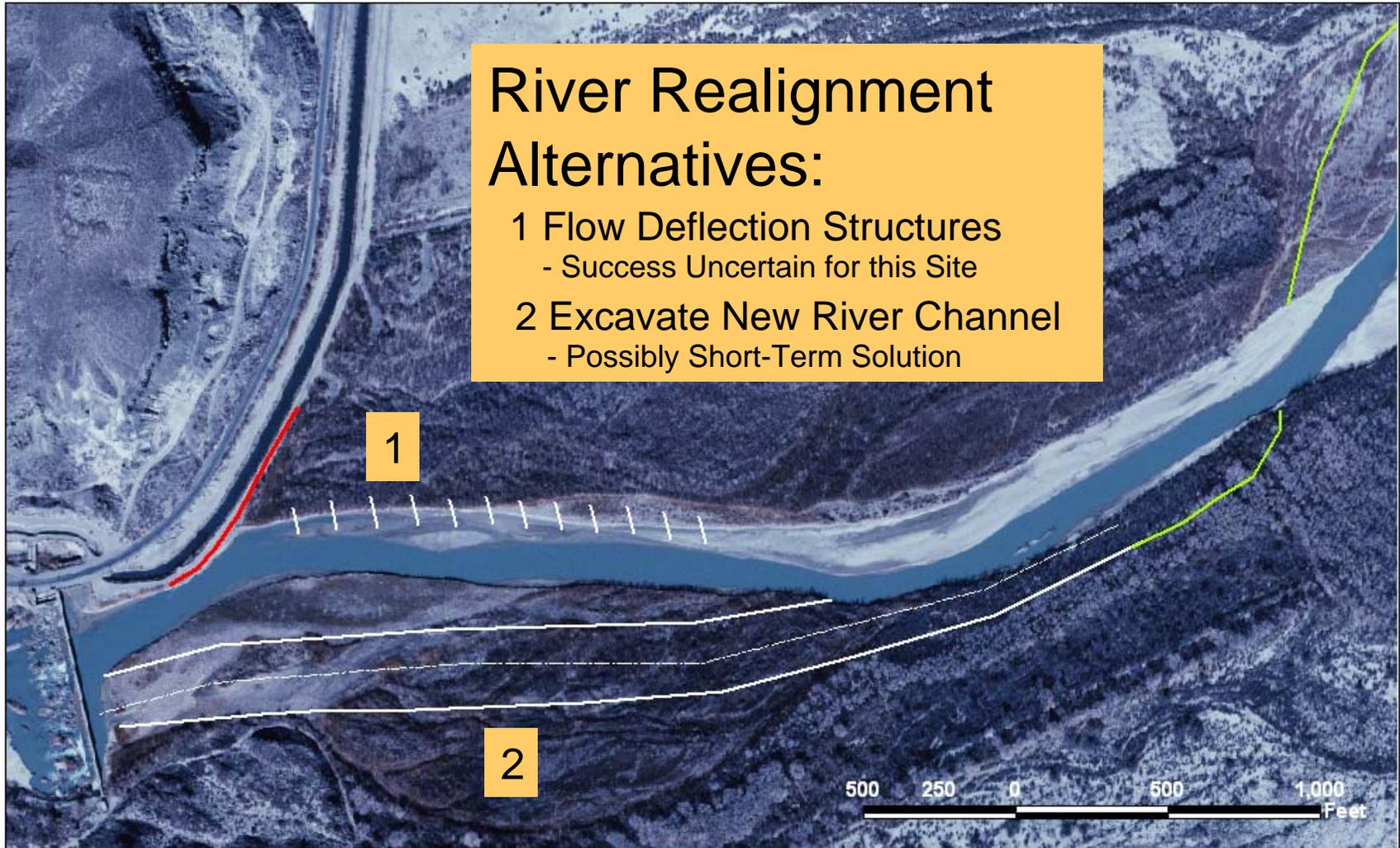
Drain Unit 7 Priority Site - Alternatives Considered



Drain Realignment Alternatives:

- 1 New Alignment to West
 - High Cost & Land Issues
- 2 New Culvert Under RR
 - High Cost & Partial Solution
- 3 Outfall Drain to River
 - Operational Issues

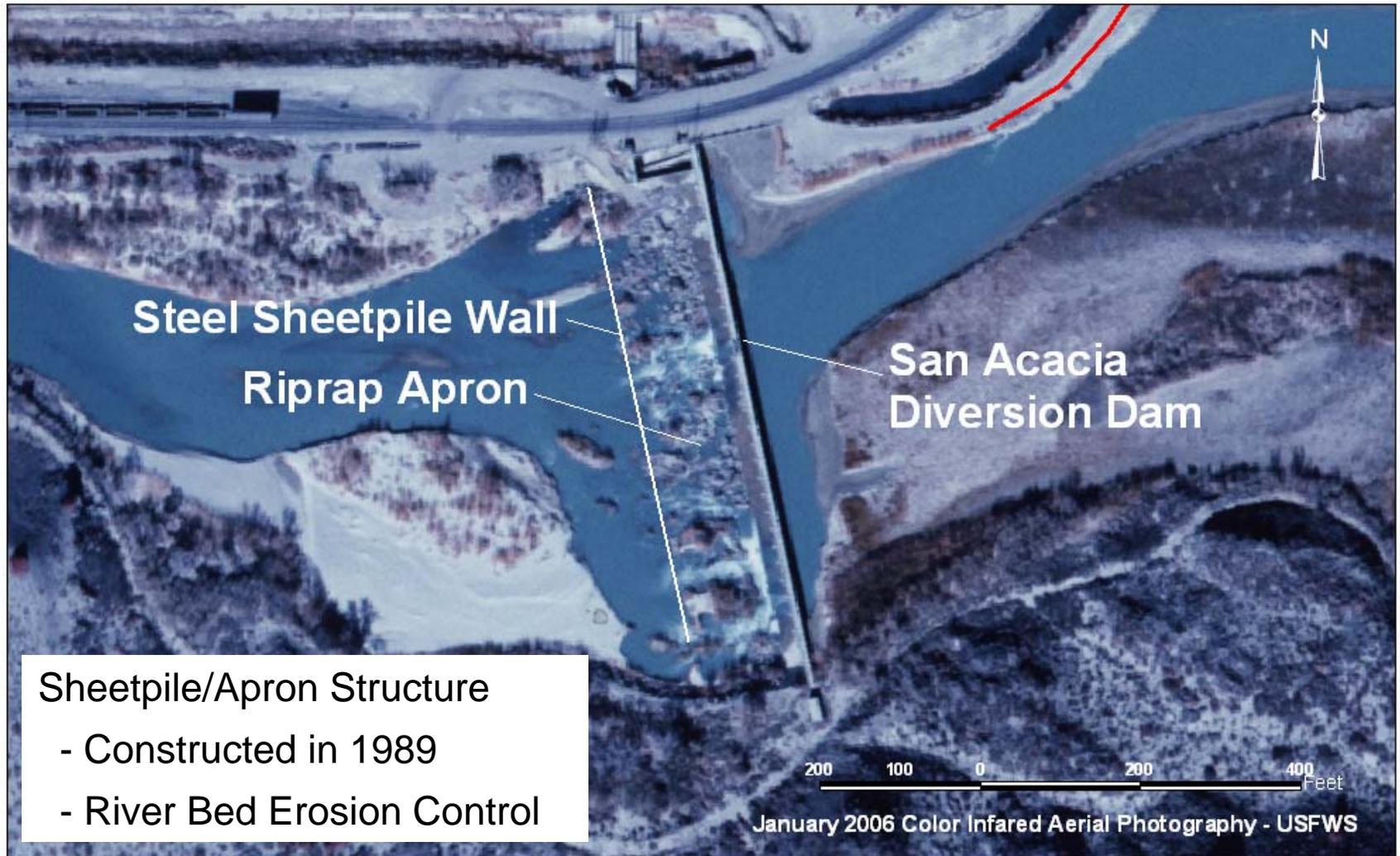
Drain Unit 7 Priority Site - Alternatives Considered



Drain Unit 7 Priority Site - Favored Alternatives



Riprap Apron Maintenance – Area Map



Riprap Apron Maintenance

Need: Repair of riprap apron on downstream side of San Acacia Diversion Dam, to insure functionality as originally constructed.



Purpose: Riprap apron and steel sheetpile structure provide river bed erosion control.

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Siphon Project

MRGCD is the project sponsor under the Water 2025 program

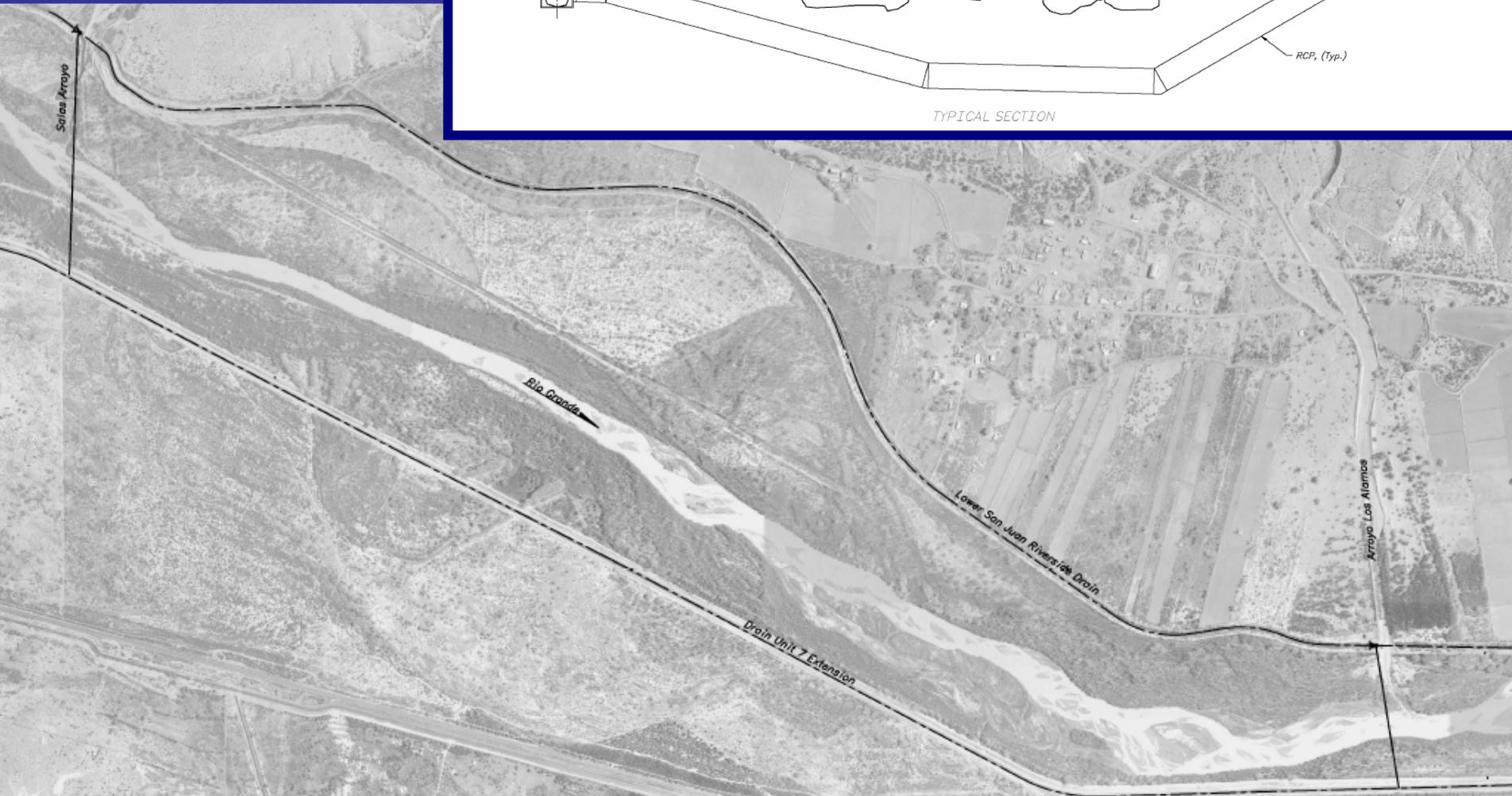
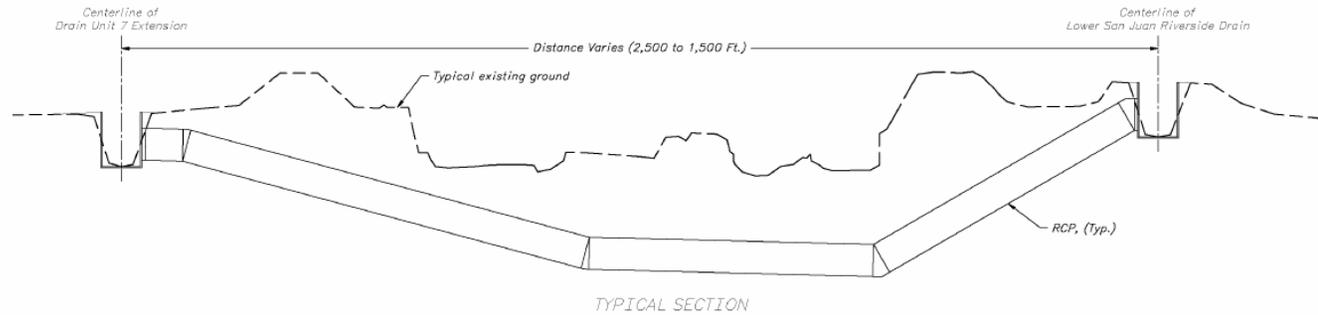
Need:

- Increase operational flexibility and improve irrigation delivery efficiency

Purpose:

- Convey water from the Lower San Juan Riverside Drain on the east side of the river to the west side of the river with discharge into Drain Unit 7.
- During drought and water short years, the siphon may improve reliability to farmers in Socorro Valley.
- Siphon design will consider impacts on environment and Endangered Rio Grande Silvery Minnows.

Siphon Project





Key EA Schedule Dates

- Scoping Meetings: February 1 and 2, 2007
- Scoping Period Ends: March 1, 2007
- Draft EA: Fall 2007
- Public Meetings: Fall 2007
- Final EA and FONSI: Winter 2007/2008

Staying Informed

Draft EA will be published on Reclamation's website:

www.usbr.gov/uc/albuq/envdocs/index.html



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Your Comments Count

Deadline: March 1, 2006

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Questions and Answers

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