

# New Mexico CAP Entity

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On October 30, 2017 the NM CAP Entity voted unanimously to amend the Proposed Action of the NM Unit. The motion included components from the recommendation of the Executive Director with some additional components related to conveyance on the San Francisco and storage in the Virden Valley.

The following components were selected:

## **Diversion**

- A Diversion on the Gila River in the vicinity of the existing Upper Gila Irrigation Diversion (Diversion was recommended without specific design criteria in order to continue communication with Engineer, Irrigators, and Stakeholders)
- A Diversion on the San Francisco River near the US Highway 180 Bridge Crossing with improved conveyance for direct deliver to agricultural land. Includes 6750 linear feet of box culvert or piping to connect conveyance to both sides of the River.
- Conventional well system in the upper Gila consisting of 5 wells (500 gallon per minute) for alternative irrigation methods such as drip or sprinkler irrigation.
- Recommendation to analyze existing diversion in the Virden Valley for efficiency.

Total estimated cost associated of diversion components 17.2 million (Phase I) s

## **Conveyance**

- Recommendation to increase capacity of existing ditches in the upper Gila valley to 50 cubic feet per second.
- Lining of approximately 18,000 linear feet of existing ditches in the upper Gila valley.
- Improvements to ditch system in the Virden Valley

Total estimated conveyance improvement cost 4.2 million

## **Storage**

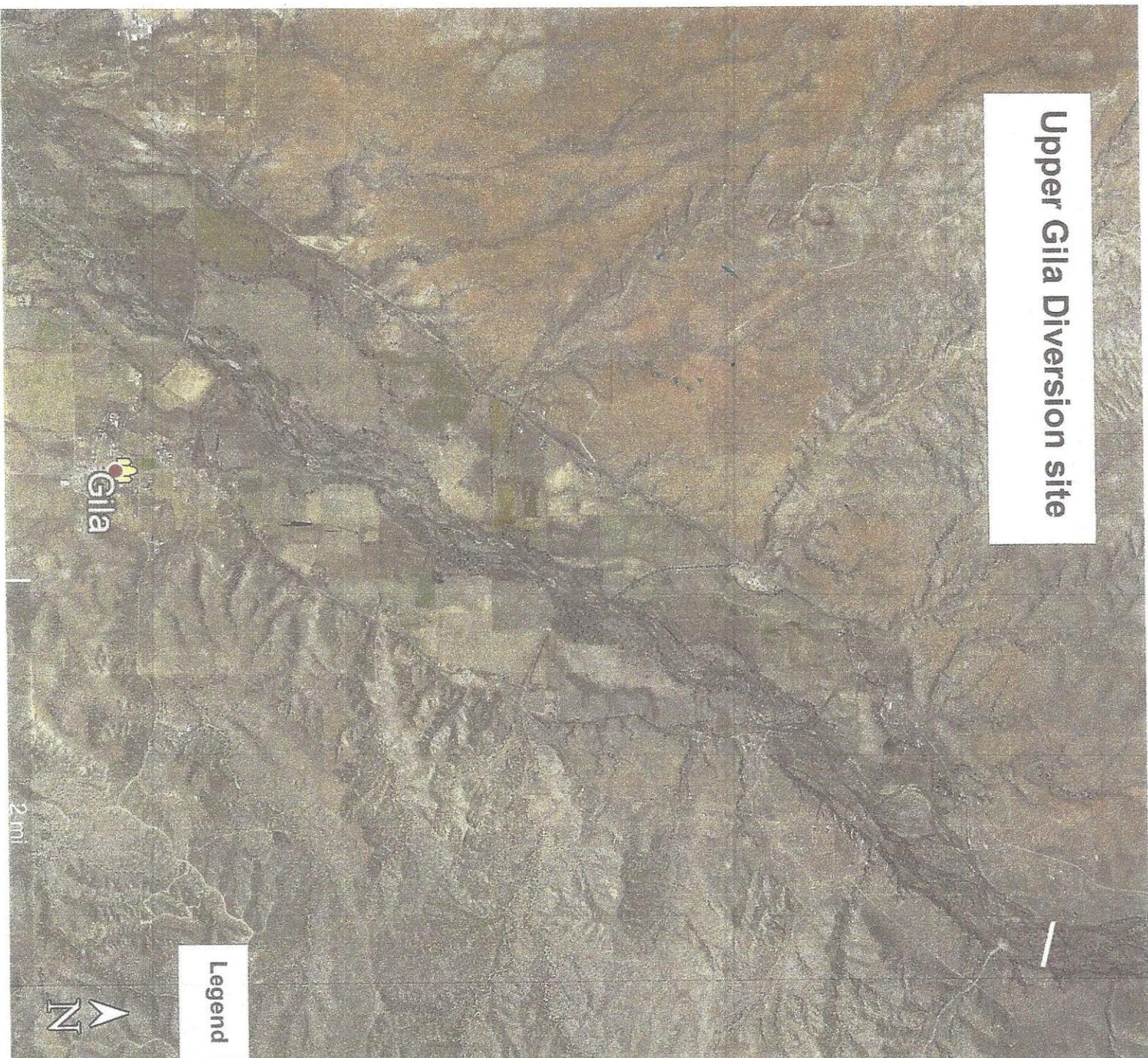
- 7 on and off farm storage ponds in the upper Gila valley (4 on West side of River-3 on East side of River) Total estimated storage 1300 acre feet of water.
- Excavation of off farm storage in Winn Canyon (Phase I) Total Estimated storage 1000 acre feet. A pumping system was included to fill this storage option
- 2 on farm storage ponds in the Virden Valley with an estimated storage of 500 acre feet of water.

Total Estimated cost of Storage component 22.5 million

## **Total Cost of Proposed NM Unit 43.9 million**

The NM CAP Entity has also approved an amendment to the Joint Powers Agreement to include the Grant Soil and Water Conservation District as a member plus engage in further conversations with Freeport McMoran on existing infrastructure for a well and aquifer recharge project.

Upper Gila Diversion site



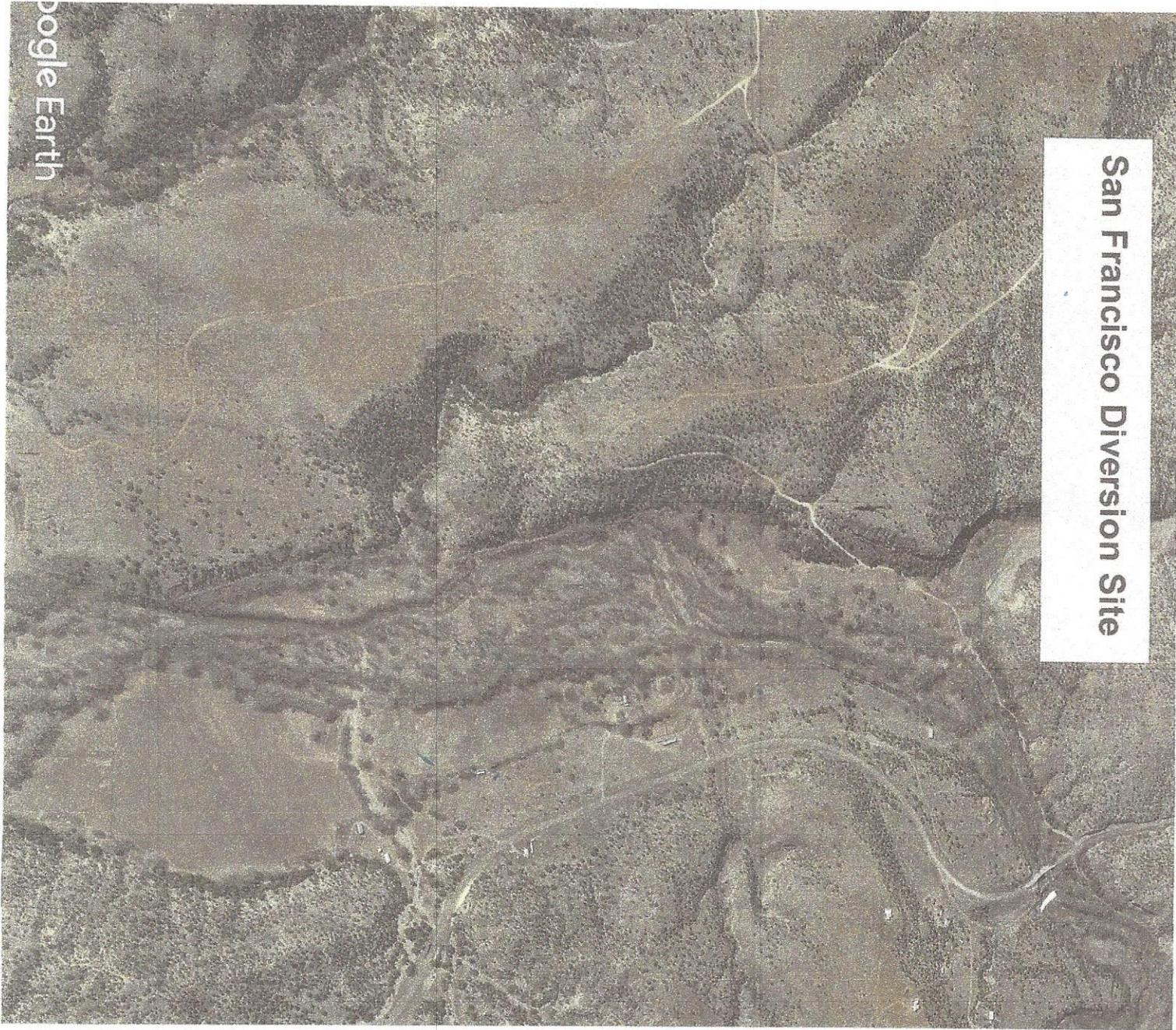
Gila

Legend



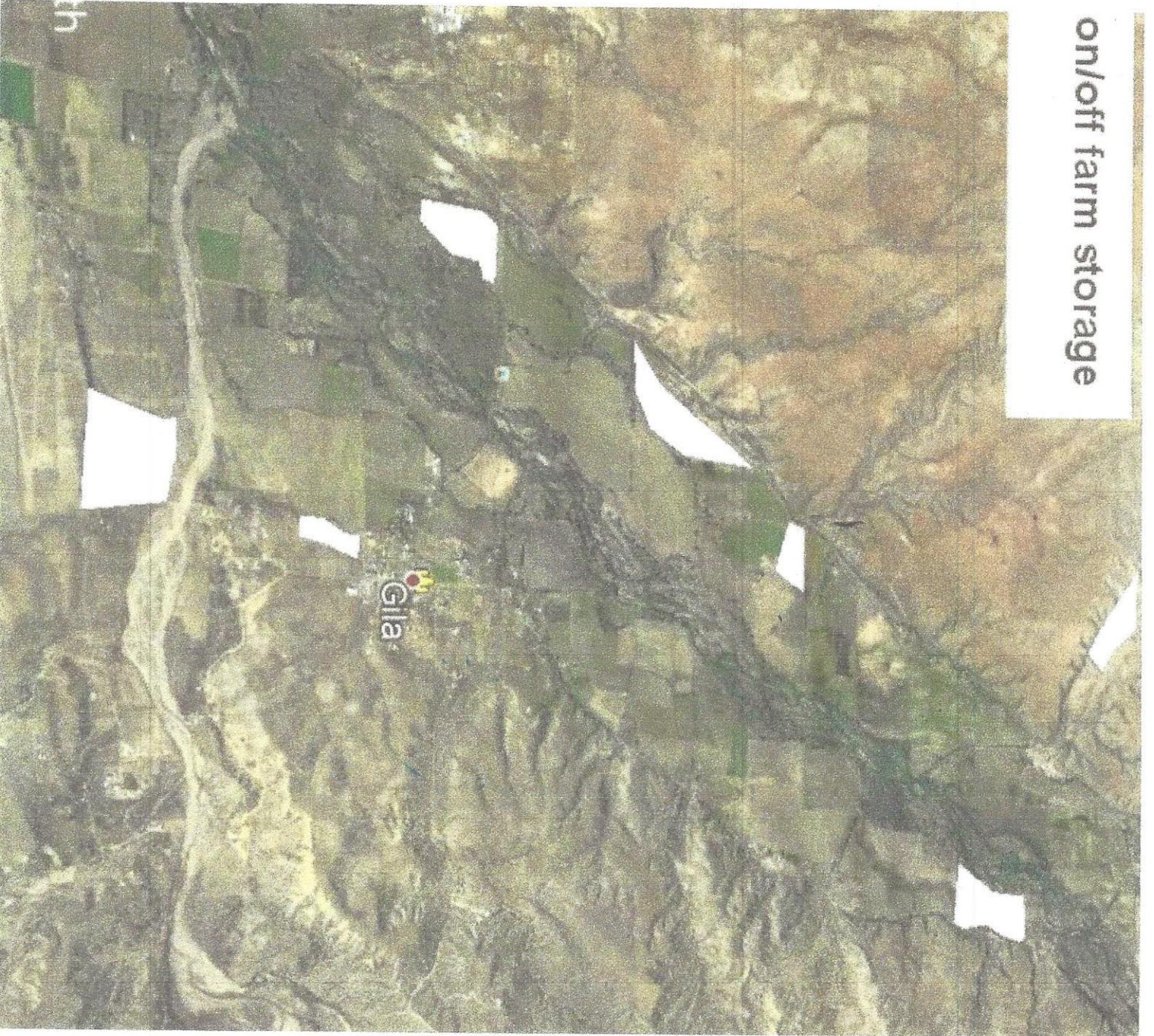
2 mi

**San Francisco Diversion Site**



Google Earth

on/off farm storage



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**TABLE 5 - On-Farm Surface Storage - Unlined**

Pond	Elev of Pond Bottom	Elev of Top of Berm	Storage (Acre Feet)	Unclassified Excavation (Cubic Yards)	Excavation Costs @ \$5/CY	Excavation Cost per Acre Feet
Upper Gila 1	4582	4597	129	24770	\$ 123,850.00	\$ 960.08
Upper Gila 2	4525	4540	540	90862	\$ 454,310.00	\$ 841.31
Upper Gila 3	4510	4525	976	148116	\$ 740,580.00	\$ 758.79
Upper Gila 4	4510	4525	520	80909	\$ 404,545.00	\$ 777.97
Upper Gila 6	4500	4515	1238	194962	\$ 974,810.00	\$ 787.41
Upper Gila 7	4503	4518	142	44283	\$ 221,415.00	\$ 1,559.26
Upper Gila 8	4500	4515	361	62234	\$ 311,170.00	\$ 861.97
Upper Gila 9	4530	4545	238	48684	\$ 243,420.00	\$ 1,022.77
Ft West 1	4565	4580	116	24408	\$ 122,040.00	\$ 1,052.07
Ft West 2	4555	4570	1250	199944	\$ 999,720.00	\$ 799.78
Ft West 3	4525	4540	367	63708	\$ 318,540.00	\$ 867.96
			5877	982880	\$ 4,914,400.00	\$ 836.21

**Opinion of Probable Construction Cost**  
**AWSA CAP Entity - Gila Unit**  
**Construct Irrigation Wells**  
**October 25, 2017**

The unit prices used in this Opinion of Probable costs are based on 2016 and 2017 construction experience. All costs have been escalated to 2018 dollars. If construction is not completed in 2018, these costs should be escalated annually until construction is complete.

The following is our opinion of most probable project costs based on our best judgment and experience. Since we have no control over the cost of labor, materials, equipment, competitive bidding, or market conditions, we cannot guarantee that the actual project or construction costs will not vary from the opinion of probable cost prepared.

The total project cost will also be affected by the time of year that bids are solicited, the amount of time allocated for construction, and the total amount of construction performed under a particular contract.

**Construct New Irrigation Wells - 6 Wells Along Gila River, Fort West Ditch, Gila Farms Ditch, Upper Gila Ditch**

**Overhead Line Power By PNM**

	DESCRIPTION	UNIT	PROBABLE QUANTITY	PROBABLE UNIT PRICE	PROBABLE COST
1	Construct Elevated Well Pad 50' x 50' x 2' - 6 Locations	C.Y.	1200	\$ 70.00	\$ 84,000.00
2	Mobilization & Demobilization with Pump Rig - 6 Locations	L.S.	6	\$ 5,000.00	\$ 30,000.00
3	24" x 50' Surface Casing	L.S.	6	\$ 20,000.00	\$ 120,000.00
4	Drill 16" Diameter Borehole, 120' Deep	L.F.	720	\$ 1,000.00	\$ 720,000.00
5	Construct 16" Shutter Screen Casing, 304 SS	L.F.	420	\$ 800.00	\$ 336,000.00
6	Construct 16" Steel Blank Casing	L.F.	300	\$ 310.00	\$ 93,000.00
7	Grout Annulus to Surface	L.S.	6	\$ 8,000.00	\$ 48,000.00
8	Construct 5' x 5' x 6" Reinforced Concrete Well Collar	L.S.	6	\$ 2,000.00	\$ 12,000.00
9	Rig Development - Arlift, Surging	L.S.	6	\$ 3,500.00	\$ 21,000.00
10	High Capacity Pumping Well Development	L.S.	6	\$ 6,000.00	\$ 36,000.00
11	30 HP (500 gpm @ 120 ft TDH)Submersible Well Pump, Conductor and Pump Controller	L.S.	6	\$ 30,000.00	\$ 180,000.00
12	8" Steel Drop Pipe, Threaded Couplings	L.F.	600	\$ 175.00	\$ 105,000.00
13	Install new pump and drop pipe. Attach 3/4" water level sounding tube.	HRS.	36	\$ 450.00	\$ 16,200.00
14	Construct well head ass'y & sanitary seal.	L.S.	6	\$ 4,000.00	\$ 24,000.00
15	Construct O/H Power - Cliff to Wellsite (Includes Easements)	L.F.	30400	\$ 40.00	\$ 1,216,000.00
16	Construct Well Head Electrical Service	L.S.	6	\$ 30,000.00	\$ 180,000.00
	Subtotal Construction				\$ 3,221,200.00
	NMGRT ON Subtotal Construction			6.5625%	\$ 211,391.25
	Subtotal Including NMGRT				\$ 3,432,591.25
	Construction Contingency @			12.00%	\$ 411,910.95
	Construction Subtotal				\$ 3,844,502.20
	Professional Services			14%	\$ 343,259.13
	NMGRT on Engineering Services			8%	\$ 27,460.73
	<b>Project Total</b>				<b>\$ 4,215,222.06</b>



## **Virden Valley Irrigation System**

### Non-irrigated land linked to existing ditch systems

- Sunset Canal 575
- New Model 44
- Miscellaneous reported non-irrigated agricultural land 142

The project would also allow for diversion, storage and delivery of adjudicated rights as well as improvements to efficiency of the agricultural system.

- Existing irrigated acres by surface water and pumping 2350

### **Total agricultural land that could be potentially affected by project components of the NM Unit in the Virden Valley**

**3111 Acres**

## **San Francisco Irrigation System (Glenwood)**

### Non-irrigated land linked to existing ditch systems

- East Pleasanton 33
- WS Ditch 25
- Miscellaneous reported non-irrigated agricultural land 485

The project would also allow for diversion, storage and delivery of adjudicated rights as well as improvements to efficiency of the agricultural system

- Existing irrigated acres by surface water and pumping 690

### **Total agricultural land that could be potentially affected by project components of the NM Unit on the San Francisco River (Glenwood)**

**1233 Acres**

**Total number of acres with potential for re-development or additional development on the Gila and San Francisco Rivers.**

**9209 Acres.**

Although this report identifies agricultural acreages that could potentially be returned to production as well as improvements to the system by the NM Unit, it would be fair to say that only a fraction would actually be redeveloped. Additional analysis would need to be done to show exactly what would be available for agricultural production. However, by an increase in sustainable water as well as efficient storage and delivery system it could present significant opportunities for agricultural production in Southwest New Mexico while additionally providing reliable delivery of both AWSA and adjudicated water during critical times for economically beneficial crop production.

My apologies to the committee for not having the correct information available for a productive conversation.

Sincerely,

Anthony Gutierrez  
Executive Director-NM CAP Entity