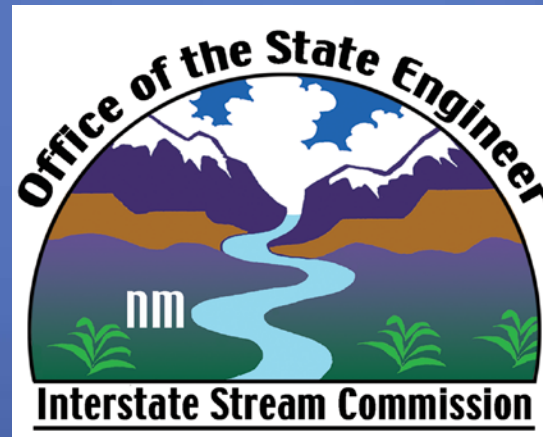


Taos Settlement Mitigation Wells

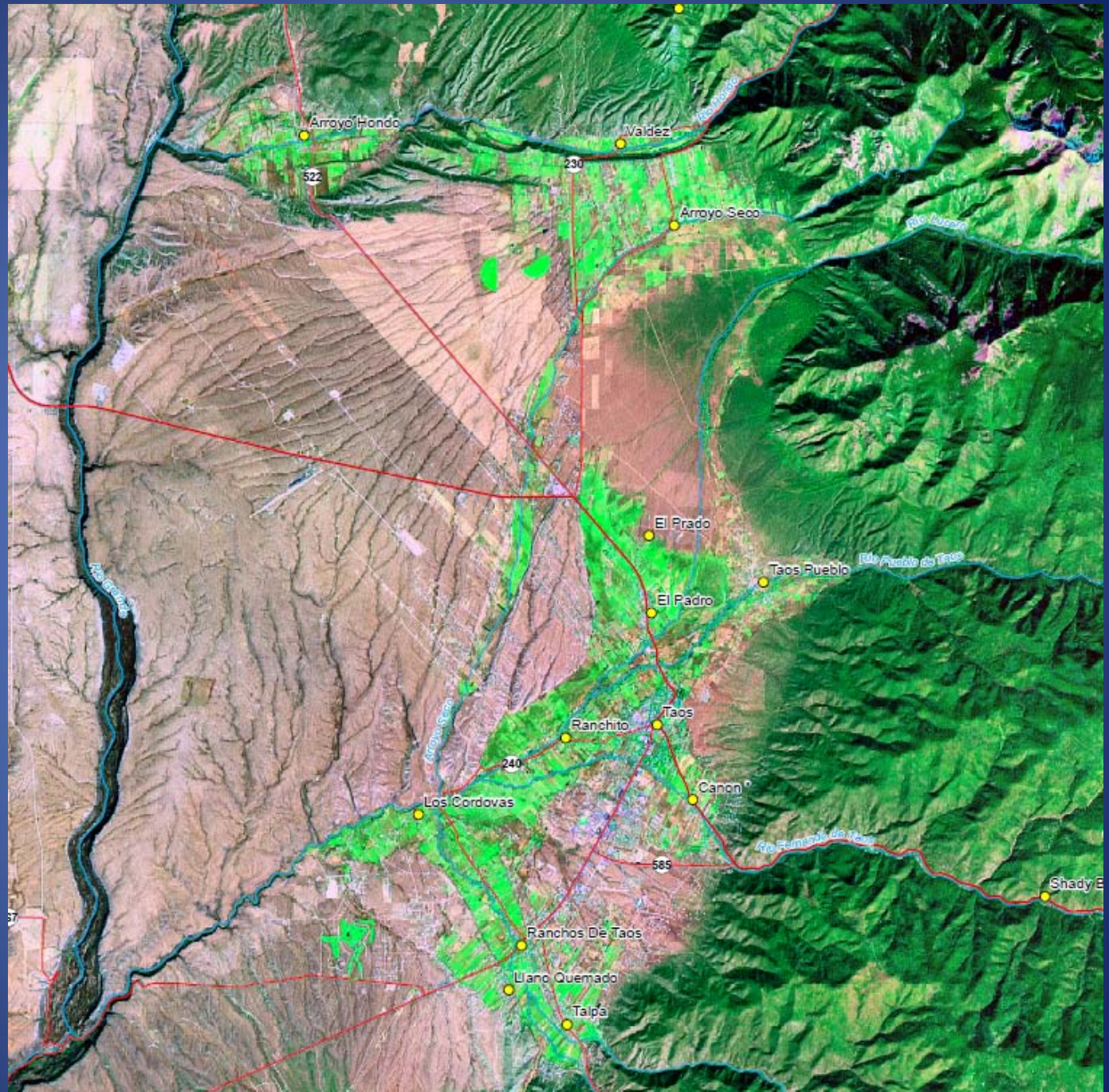


Peggy Barroll
Taos Public Meeting
October 8, 2013

Taos Valley

Acequia
Irrigation
from
Tributary
Streams

Important
Natural
Wetland on
Pueblo Land:
Buffalo
Pastures



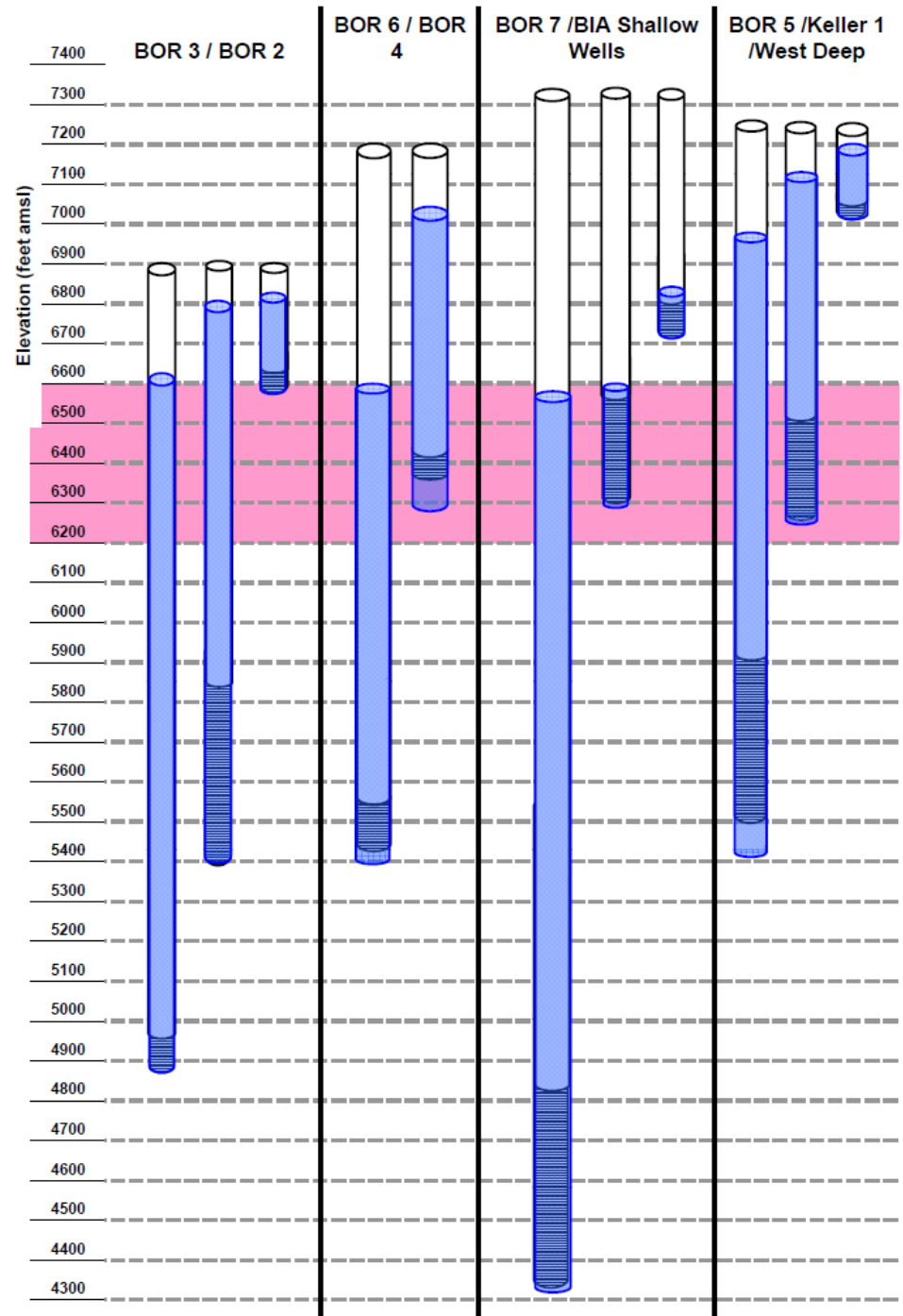
Problems

- Groundwater depletions to surface water must be offset
 - Tributaries: protect Acequia water rights.
 - Rio Grande: maintain Rio Grande Compact compliance.
- “Tributaries Offsets” often means “Purchase and Retirement of Acequia Water Rights”

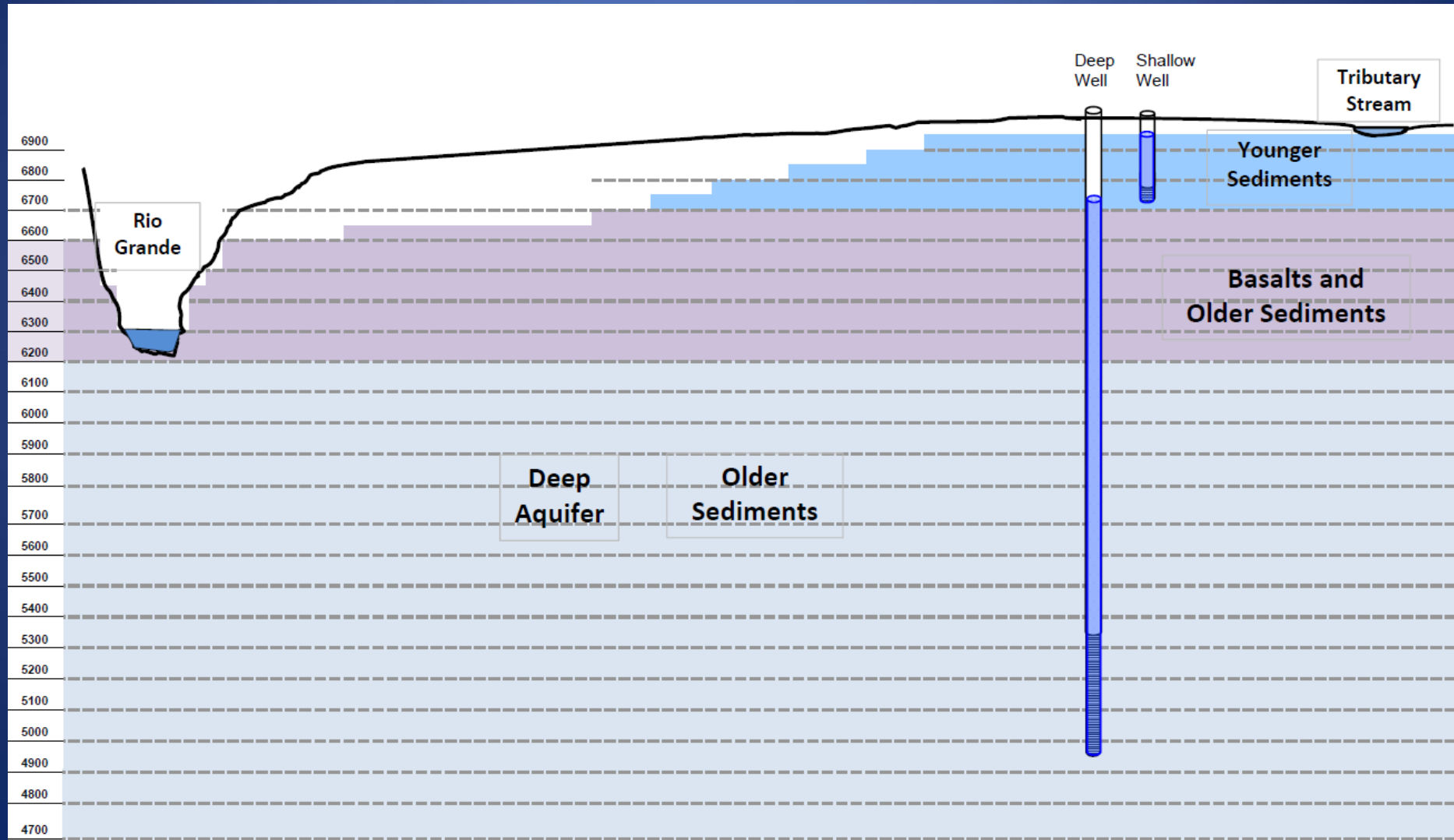
Questions

- How would deep pumping effect shallow groundwater system in Taos Valley?
- Can we offset effects, keeping the hydrologic system whole, without breaking up acequias?

Water Levels
in deep wells
are very
different
than in
shallow wells



Schematic of Taos Valley Aquifer System

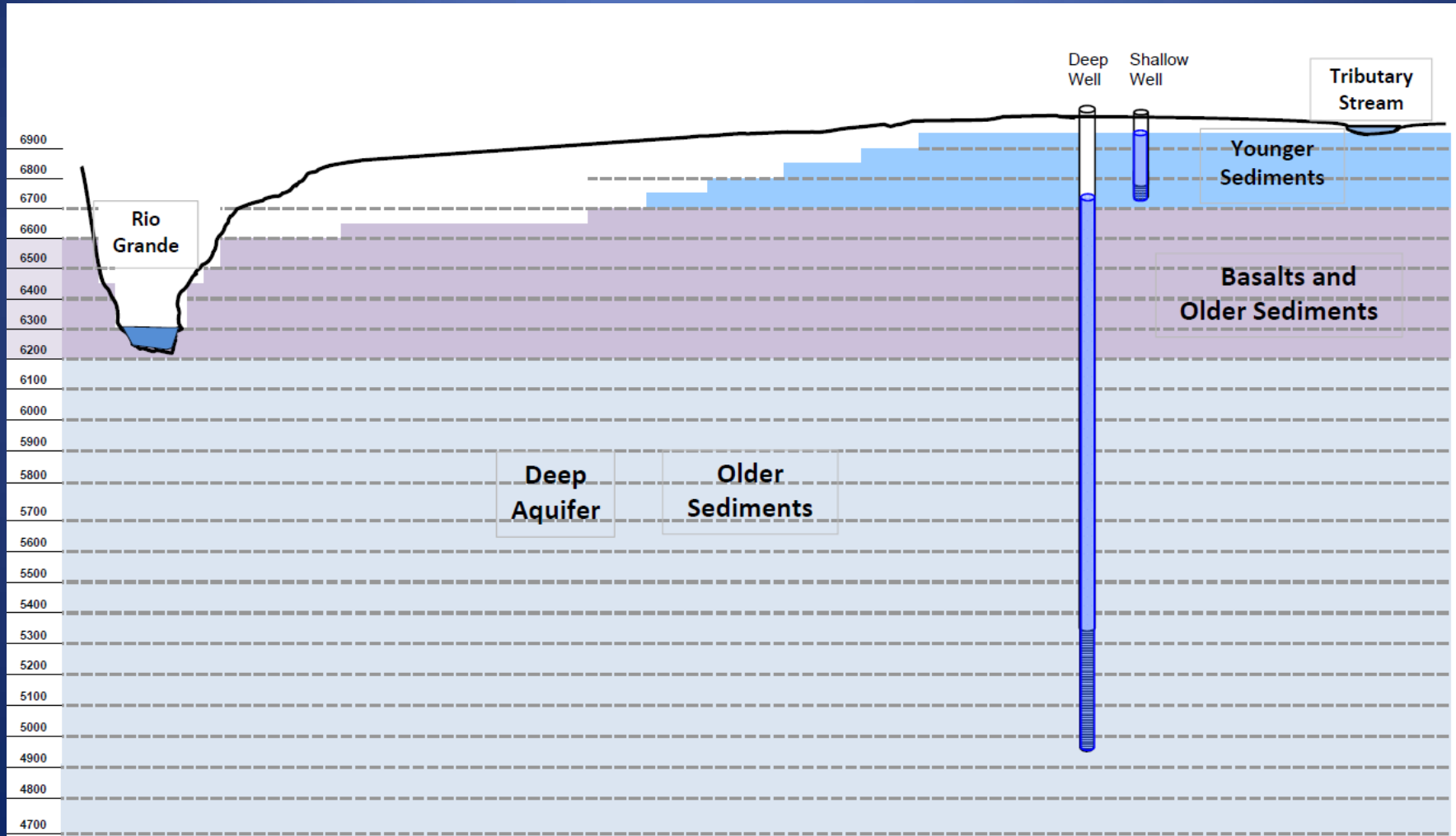


Taos Settlement Provisions

Future Development of Groundwater

- Limits additional groundwater pumping in vicinity of Pueblo and eastern Taos Valley.
- Future pumping increases will come from Settlement Wells: deep wells, located at a distance from Buffalo Pastures.

Stream depletions from Deep Well Pumping: Mostly on Rio Grande, But some on Taos Valley Tributaries



Taos Settlement

New System for Offset of Depletions to Tributary Streams

- Standard OSE system: buy up and transfer out Acequia rights in order to compensate for well depletions on the Tributaries.
- Settlement system: Settlement parties contribute to Mitigation Well System, then offset all stream depletions on Rio Grande main stem (transferring water rights/San Juan Chama water).

Mitigation Wells

- Provide some (limited) groundwater supply to Acequias
- Allows offsets to be made on Rio Grande instead of through retirement of acequia rights.

Taos Settlement

Mitigation Well System

- 7.3.3.1.1. IN GENERAL. A system of mitigation wells shall be the preferred method for providing offsets for the Water Rights Owning Parties' Tributary Depletions resulting from Future Groundwater Diversions. These wells will balance the interests of supporting continued acequia irrigation and allowing for flexibility in the delivery of municipal water. The Town, EPWSD, and MDWCAs agree to use the Mitigation Well System to offset at least fifty (50) percent of their Tributary Depletions resulting from all of their respective Future Groundwater Diversions.
- Deep wells, locations determined by USBOR working with Acequias, based on Settlement Agreement.
- Depletions caused by Mitigation wells are offset on Rio Grande main stem.

Mitigation Wells

- 7.3.3.1. MITIGATION WELL SYSTEM.
- 7.3.3.1.5. Five (5) wells shall be developed, completed, and equipped with pumps, necessary appurtenances, and connections to Acequias, tributary streams, and MDWCAs.

Well	Operator
A – Rio Hondo	Upper Arroyo Hondo MDWCA
B – Rio Lucero/Rio Pueblo de Taos	Upper Ranchitos MDWCA
C – Rio Fernando de Taos	Town of Taos
D – Rio Grande del Rancho	Llano Quemado MDWCA
E – Rio Chiquito	Acequia Madre del Rio Chiquito

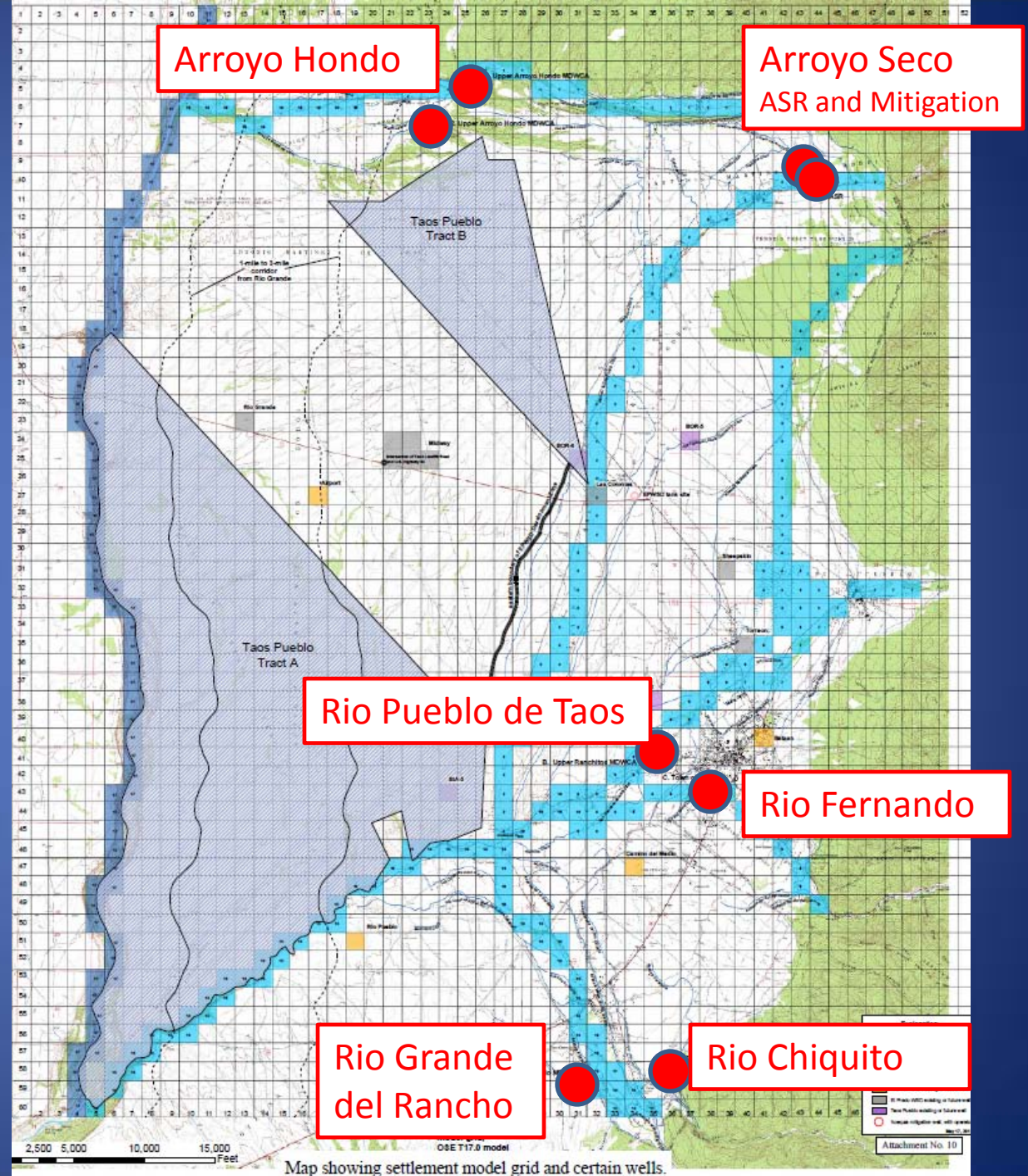
- 7.3.3.1.9. MITIGATION WELL LOCATIONS AND BENEFITTED STREAM SEGMENTS. The Water Rights Owning Parties shall work together on planning the final location, design, and construction of the mitigation wells and any replacement, supplemental, or deepened mitigation wells.
- 7.3.3.1.15.1. SINKING FUND. Operation, maintenance, and replacement costs shall be paid out of a sinking fund established pursuant to **Article 10.1.5.2.**

Aquifer Storage and Recovery (ASR) Wells

- 7.3.3.1.9.6. The ASR Project wells shall be located as depicted on **Attachment 10 and shall deliver water via pipeline to the Arroyo Seco** near the point where the Acequia Madre del Rio Lucero y del Arroyo Seco crosses the Arroyo Seco and in a manner that offsets the surface water depletion effects modeled in the Arroyo Seco Stream Segment.
- 6.1.1.1. ...The Acequia Madre del Rio Lucero y del Arroyo Seco shall own, operate, and maintain these ASR Project wells...
- 6.1.1.2. SURFACE STORAGE PROJECT. As an alternative to the ASR Project described in **Article 6.1.1.1 and subject to all applicable water rights** acquisition, transfer, and permitting requirements, the Parties agree that the one hundred (100) AFY of additional depletions or two hundred sixty (260) AFY of diversions may be diverted and stored in one or more surface reservoirs off Pueblo Lands.
- 6.1.3. OPERATION, MAINTENANCE, AND REPLACEMENT SINKING FUND. Non-Federal funds shall be made available to the Acequia Madre del Rio Lucero y del Arroyo Seco to establish a sinking fund to provide for future operation, maintenance, and replacement of the ASR Project.

Mitigation Well Planned Locations

US Bureau of Reclamation to install wells and the distribution system from each well in consultation with Acequias and other parties



Taos Settlement Mitigation Well System

- Mitigation Wells pumping limits: equal to the tributary depletions caused by Settlement pumping.
- These depletions will be calculated using Settlement Groundwater Model; amounts start out small and grow with time
- Acequias will have flexibility as to when they pump the wells.

Further Information

- http://www.ose.state.nm.us/legal_ose_proposed_settlements_taos.html
- <http://uttoncenter.unm.edu/ombudsman/taos-adjudication.php>