

**Regional Planning
and Solutions
for
Chino Valley's
Water
Transportation System**

February 20, 2008

Prepared by Mark Holmes



Town of
Chino Valley

Presentation Outline

1. Concept Philosophy
2. Regional Pumping Center
 - Criteria for the best regional pumping center
3. Water Transportation System
4. Arizona Water Institute
 - Regional planning scope of work outlined
5. Safe Yield
 - Regional recharge facilities
 - Chino Valley's newly acquired regional recharge facility
6. Chino Valley's regional stakeholder meetings
 - Stakeholders are not a moving target
7. Chino Valley's next steps for regional planning



Concept Philosophy

1. Chino Valley is taking an approach to examine the best possible regional scenarios and solutions for the purpose of transporting groundwater from the Big Chino Sub-Basin into the Prescott AMA and ensuring the Upper Verde River historical base flows, habitats, and wildlife are maintained



Concept Philosophy

- 2. Chino Valley is utilizing the best possible regional solutions where all concerned stakeholders, water organizations, critical habitats, the environment, and all the inhabitants of this area are assured that the parties are working together towards a regional solution that provides the maximum benefit.**



Regional Pumping Center(s)

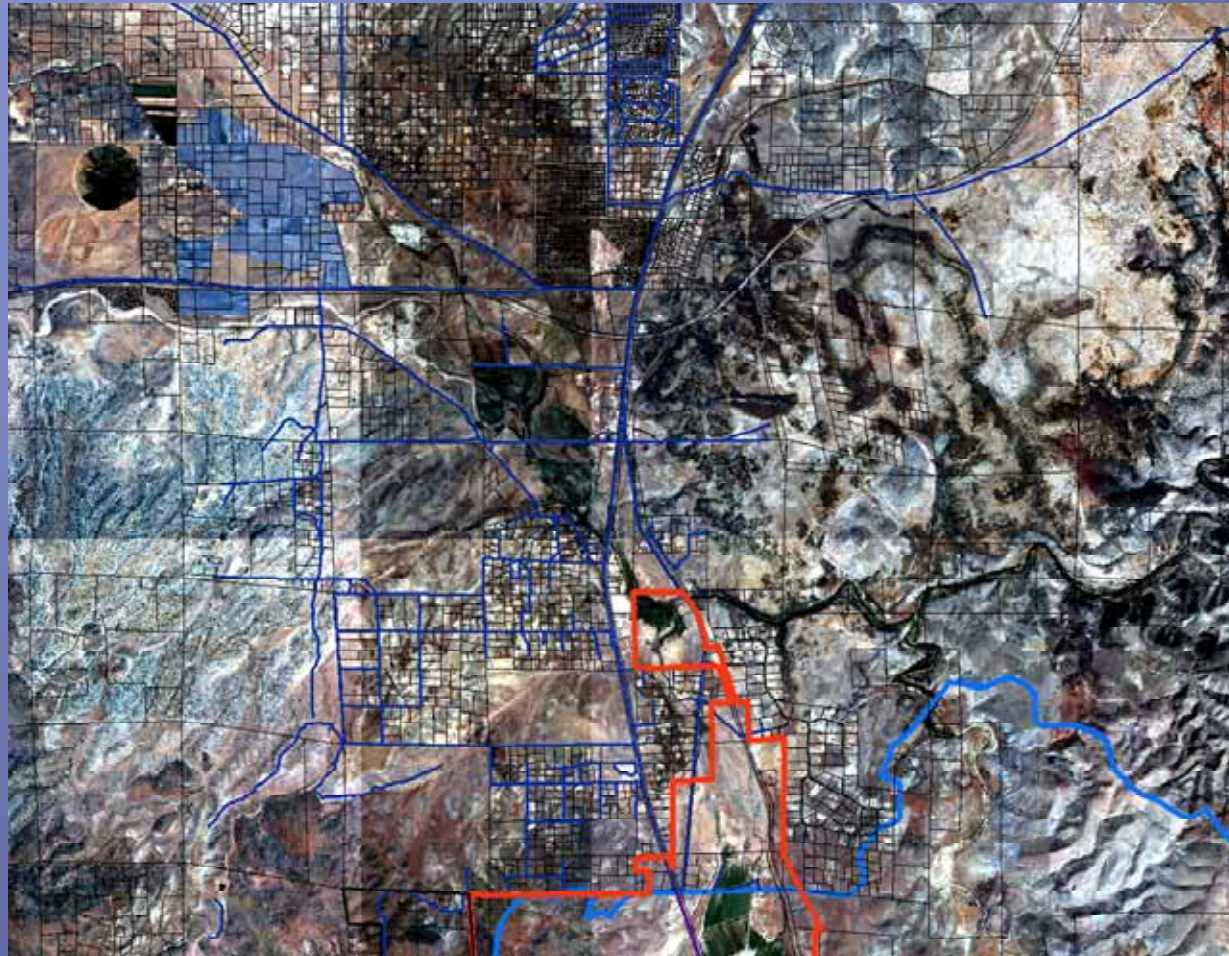
Regional Solution Concept

Criteria for best pumping center

- 1) It should be located where the greatest saturated thickness of the basin fill aquifer (water in storage) occurs
- 2) It should have transmissivity values that will allow regional pumping with minimal drawdown
- 3) It should have the best water quality to avoid any arsenic or other expensive water treatment
- 4) This regional pumping center should be isolated away from other pumping activities through land easements or setbacks and other easement provisions
- 5) If possible this regional pumping center must be able to accommodate the total potential withdrawal total based on all importable legal water rights according to ARS § 45-555
- 6) The land must be available to use by permission of the landowner, agreement by the landowner, or the land must be owned by an entity or the region for this specific purpose



Regional Pumping Center(s)



Town of
Chino Valley

Regional Pumping Center(s)



Town of
Chino Valley

Regional Pumping Center(s)



Town of
Chino Valley

Regional Pumping Center(s)

Criteria for the pumping center

1. A buffer will need to be established around the pumping center
 - Prevent any well impacts to the pumping center
 - Prevent any well impacts to surrounding lands of the pumping center
2. If a regional pumping center is established than the newly proposed assured water supply rules of priority rights are not needed



Regional Pumping Center(s)

3. Chino Grande has offered the CV Ranch as a regional pumping center for the following reasons

- It has the deepest saturated basin fill sediments within the Sub-Basin
- Chino Grande has constructed 5 new water production wells each capable of producing >4000 GPM
- The CV ranch may be able to accommodate all regional pumping
- All water quality testing indicates that all groundwater meets EPA and ADEQ arsenic MCL
- The Ranch owner is willing to participate in regional solutions



Water Transportation System

- On May 10, 2007, Chino Valley entered into a private-public partnership with Chino Grande LLC to finance, design, bid, and build a water transportation system to the Garlic Farm (10 mile water transportation system)
- Chino Grande LLC and Chino Valley are in the process of amending its agreement to propose the pumping location be moved to the CV Ranch
- Chino Valley has been meeting with other interested third parties for the financing and construction of a regional water transportation system capable of transporting all regional water supplies and the completion of the other required elements of the project



Arizona Water Institute (AWI)

SCOPE OF WORK

- Hydrologic / Monitoring Studies
- Planning and ordinance development
- A Conservation Plan
- Regional Planning Enhancements
- Land Use Optimization
- Public Participation Enhancements



Arizona Water Institute (AWI)

(Blend of NAU, ASU, and U of A facilitation)

SCOPE OF WORK

1. Hydrologic / Monitoring Studies

- Hydrologic / Biologic monitoring systems – to evaluate the effects of pumping and recharge efforts
- Design an adaptive groundwater model to support planning and decision making efforts for aquifer optimization
- Design the adaptive model to incorporate new conditions such as drought or climate change etc. and link the groundwater model, interactive water budget calculator, and biological indicators
- Develop monitoring and modeling related to water quality aspects of artificial recharge, e.g. geochemical modeling to limit the potential of releases regarding arsenic, nitrate, and pharmaceuticals into the environment

2. Planning and ordinance development (require water policy, legal, land use planning expertise, and database and other computer support)

- Include innovative new designs and plans for developers, opportunities for regional collaboration, best management practices to insure these are integrated with land use plans

3. A Conservation Plan



Town of
Chino Valley

Arizona Water Institute (AWI)

3. Water Conservation Plan Enhancements

Chino Valley is committed to creating water resource sustainable use plans, codes and ordinances that include:

- The use of imported water for the interior uses of residential, commercial, or industrial developments only, and prohibit the exterior use of that water supply
- Rain water harvested supplies are encouraged for exterior landscape uses through both passive and active systems
- Cooperation with ADWR is key for establishing enhancements to assured water supply rules and AMA management plans
- Stakeholder groups will be key in assisting with rapid implementation of such conservation goals
- Chino Valley will unveil its new proposed plans, codes, and ordinances within upcoming months during council study sessions
- A regional IGA between the cities, Towns, and the County should be sought that requires regional conservation measures across the board, and empowers each political body



Town of
Chino Valley

Arizona Water Institute (AWI)

3. Water Conservation Plan Enhancements

A Monitoring and Enforcement Plan

- Ensure all Chino Valley customers are maximizing water use efficiency and ordinance requirements
- Evaluate development potable water deliveries and metered effluent to ensure developments meet contractual obligations with the Town and Certificate of Assured Water Supply obligations
- Incentives for existing well owners and septic systems to connect to the Town's water and sewer system
- Best Management Practices options for drought preparedness, drought monitoring, and preparations for climate change



Arizona Water Institute (AWI)

4. Regional Planning Enhancements

- **Facilitation of a regional discussion of a long term water supply optimization to include:**
 1. Use of effluent
 2. Imported HIA or other imported water
 3. Natural recharge enhancement
 4. Maximizing opportunities to reaching safe-yield
 5. Infrastructure needs
- **Identification of local and regional water supply planning objectives and options for meeting those objectives including:**
 1. Evaluation of optimal use of effluent for AWS or Big Chino recharge
 2. May include ADWR partnering options



Arizona Water Institute (AWI)

5. Land Use Optimization

Develop a proposal for conservation easements in the Big Chino

- Identify critical areas for natural recharge, habitats, and recreation
- Identify areas for potential density transfers
- Work in tandem with The Morrison Institute for Global Sustainability
 1. Land use planning
 2. Zoning
 3. Ecology
 4. Recreation planning
 5. Landscape architecture



Arizona Water Institute (AWI)

6. Public Participation Enhancements

Design a public participation plan

- Maximize the opportunities for effective and efficient input into the water supply planning process
- Continue with public participation through time to enhance any planning adjustments etc.



Safe Yield

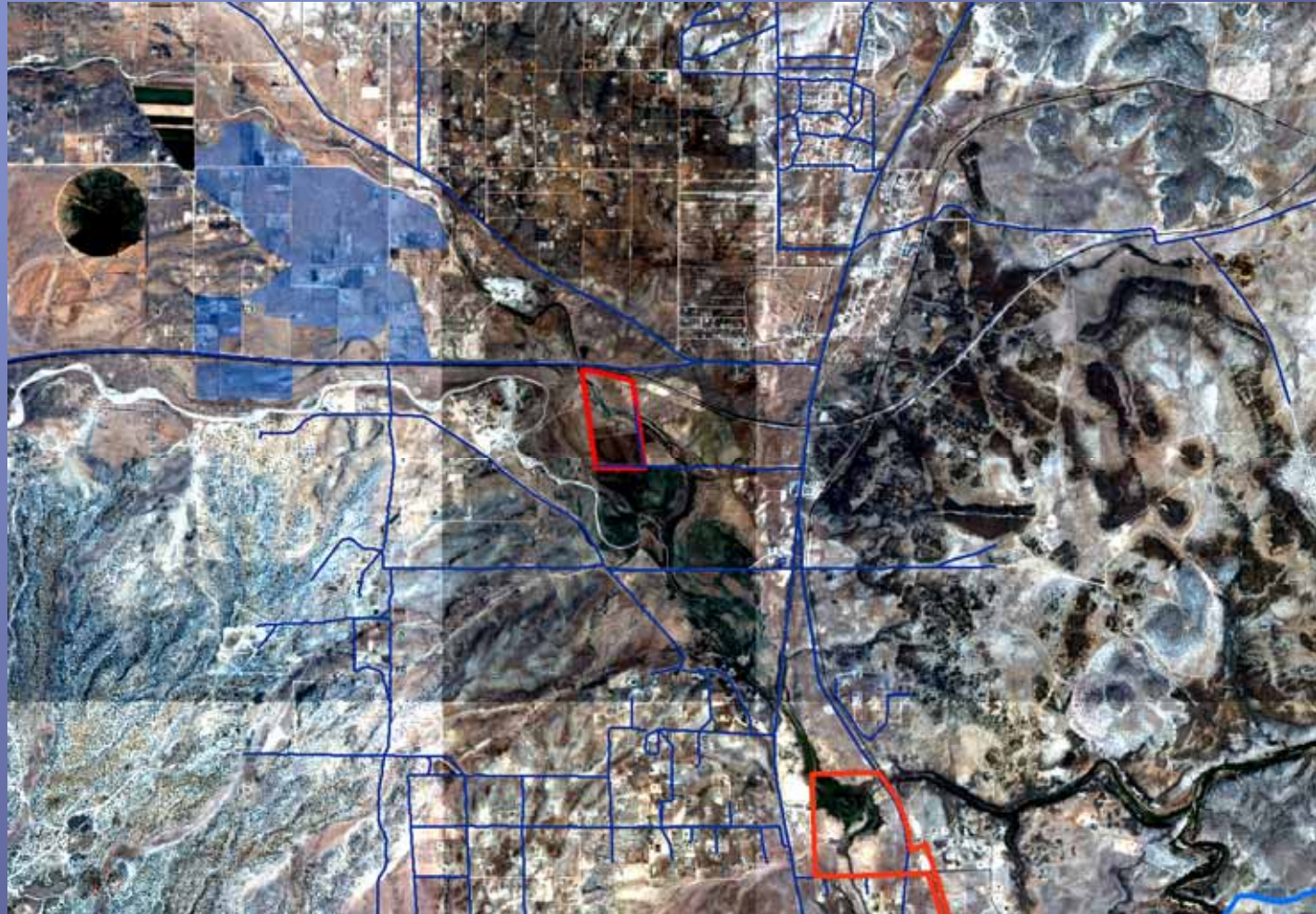
Regional Solutions

An importation plan that includes non-recoverable recharged credits, monitoring and mitigation, and reduced or eliminated AMA groundwater pumping to restore balances towards safe-yield goals.

- Regional recharge facilities within the Big-Chino and the Prescott AMA for balancing recharged water must be secured as part of a mitigation plan.
- Chino Valley has secured a 74.4 acre property that has the potential to be a regional recharge facility within the Big Chino Sub-Basin
- Initially eliminate or drastically reduce the groundwater pumping within Chino Valley and the Prescott AMA to allow natural and artificial recharge to work towards safe-yield goals
- Use an optimization plan for balanced pumping and usage that allows for a balance of AMA safe-yield and Big Chino mitigation



Chino Valley's Recent Land Acquisition and Potential Recharge Site



Town of
Chino Valley

Chino Valley's Recent Land Acquisition and Potential Recharge Site



Recharge Site Acquisition

Chino Valley acquired the 74.4 acre, 1.5 million dollar property, through a private public partnership at no fiscal impact to its taxpayers

- A third party will purchase the property for the Town after a 90 day due diligence period that will include the following items of which the third party will also pay for to include:
 1. Recharge feasibility study
 2. ALTA survey
 3. Title search
 4. Phase I and if needed a Phase II environmental survey
 5. All attorneys fees associated with the agreements
- After purchase the Town is free to use property in any manner conducive with a best use e.g. a regional recharge enterprise etc
- Chino Valley is also evaluating the potential of a fourth party to construct the facility at no cost to the Town, if the site is conducive for recharge, and can meet permit requirements at a potential cost savings of 2.5 million dollars.



Chino Valley's Stakeholder Meetings

Chino Valley has met with various stakeholders to describe its regional planning concepts that include:

- The Arizona Department of Water Resources
- Salt River Project
- The Governor's Office
- The Center for Biological Diversity
- The Nature Conservancy
- United States Fish & Wildlife Service
- The Sierra Club
- Citizens Water Advisory Group
- Several Significant Land Owners
- The Morrison Institute for Global Sustainability
- The Arizona Water Institute
- City of Prescott
- Town of Prescott Valley
- Global Water Resources LLC



Town of
Chino Valley

Chino Valley's Stakeholder Meetings

Stakeholders are not a moving target

- The stakeholders have held steadfast to their various concerns and also desire to contribute ideas, support, assistance and voice concerns that are important to the river, the habitats, the landowners and the overall region.
- The stakeholders will be part of a stakeholder committee as part of the public processes through the requirements of assessments, permits and the Arizona Water Institute work as Chino Valley moves forward with regional planning.
- Information learned and gathered will be a public document for the region to use as we all make steps together and possibly separately towards the best regional solutions.



Chino Valley's Next Steps

1. Promote a business plan for a regional water transportation system to seek financing through private public partnerships
2. Currently meeting with 5 national entities with the wherewithal to finance the regional solution in its entirety
3. Continue to meet with all the regional entities and strive for excellence in regional planning and solutions
4. Chino Valley will continue to strive for regional solutions through partnerships that create a win-win for the region's citizens at minimal or no costs to those citizens
5. Continue to communicate with Federal, State, and Local agencies regarding both successes and remaining hurdles
6. Continue fine tuning the regional solution plan until it meets or exceeds all necessary planning components that allow it to be accepted and adopted by the region as the best solution for our water resources future, sustainable and efficient use planning, and safe-yield planning



Questions
Or
Comments?



Town of
Chino Valley