Community Academy: Water Resource Planning

Peter Abraham, Water Utility Director

October 28, 2025

Town of Oro Valley

Presentation Outline

Town of Oro Valley

- 1-Acre/Ft. = 325,851 gallons (1 Acre/Ft. can serve about 3 SFR's for 1 year)
- Water Utility Mission & Commission
- Water Utility Yesterday & Today
- Water Utility Service Area & Assets
- Water Resource Utilization by Year
- Water Resource Conservation
- Water Shortage Preparedness
- Colorado River System
- Lower Basin Drought Contingency Plan
- OVWU Water Resource Utilization Model & Sustainability Strategies (2023 Data)
- OVWU Water Resource Utilization (Past/Present/Future)
- Northwest Recharge, Recovery & Delivery System (NWRRDS)
- Water Utility Rate Comparisons
- Water Utility Looking Forward

Oro Valley Water Utility – The Mission & Commission

Mission

To manage the available water resources to ensure the community has an adequate, safe and reliable water supply to sustain the Town's quality of life and support residential and economic development.

Water Utility Commission

- Composed of seven members that serve terms of 3-years.
- Commissioners are selected to give a balanced representation of residential and commercial/turf interests served by the Utility.
- Makes recommendations on OVWU items that require Council action
  Examples: Water code changes, Water rate changes, etc.
- Commission meets the second Monday of each month at 5 pm.
- **Currently recruiting for two seats to begin service on January 1, 2026.**

Oro Valley Water Utility - "Yesterday" & "Today"

Town of Oro Valley

OVWU Yesterday…

- 1996 - Town purchased 2 water companies
  - Canada Hills Water Company & Rancho Vistoso Water Company
  - 9,800 connections serving 26,000 residents
  - Solely dependent on groundwater as the only source of supply

OVWU Today…

- Successfully operated Enterprise fund of the Town for over 27 yrs.
- Has over 21,500 service connections serving over 47,000 residents
- Diverse water resource portfolio
  - Groundwater (All uses)
  - CAP water – 2012 (All uses)
  - Reclaimed water -2005 (Turf irrigation)

Service Area & Assets

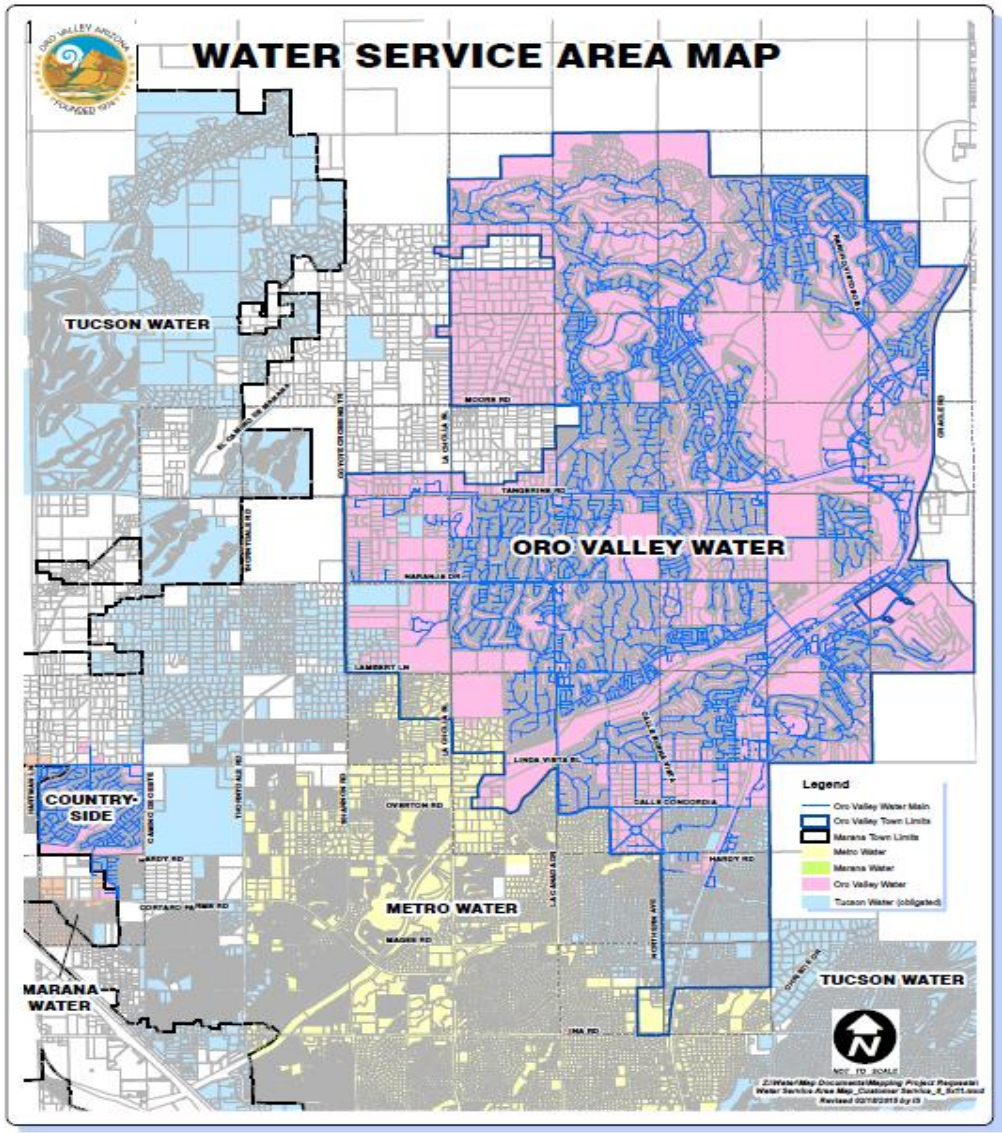
Town of Oro Valley

The Oro Valley Water Utility has …

- 2 service areas
- A service area of 33 Sq. miles – Not all of O.V.
- 18 production wells
- 26 booster stations
- 12 reservoirs
- 385 miles of distribution mains
- 4 recovered CAP interconnects
- 2 water systems
  - Potable & Reclaimed

The Oro Valley Water Utility is…

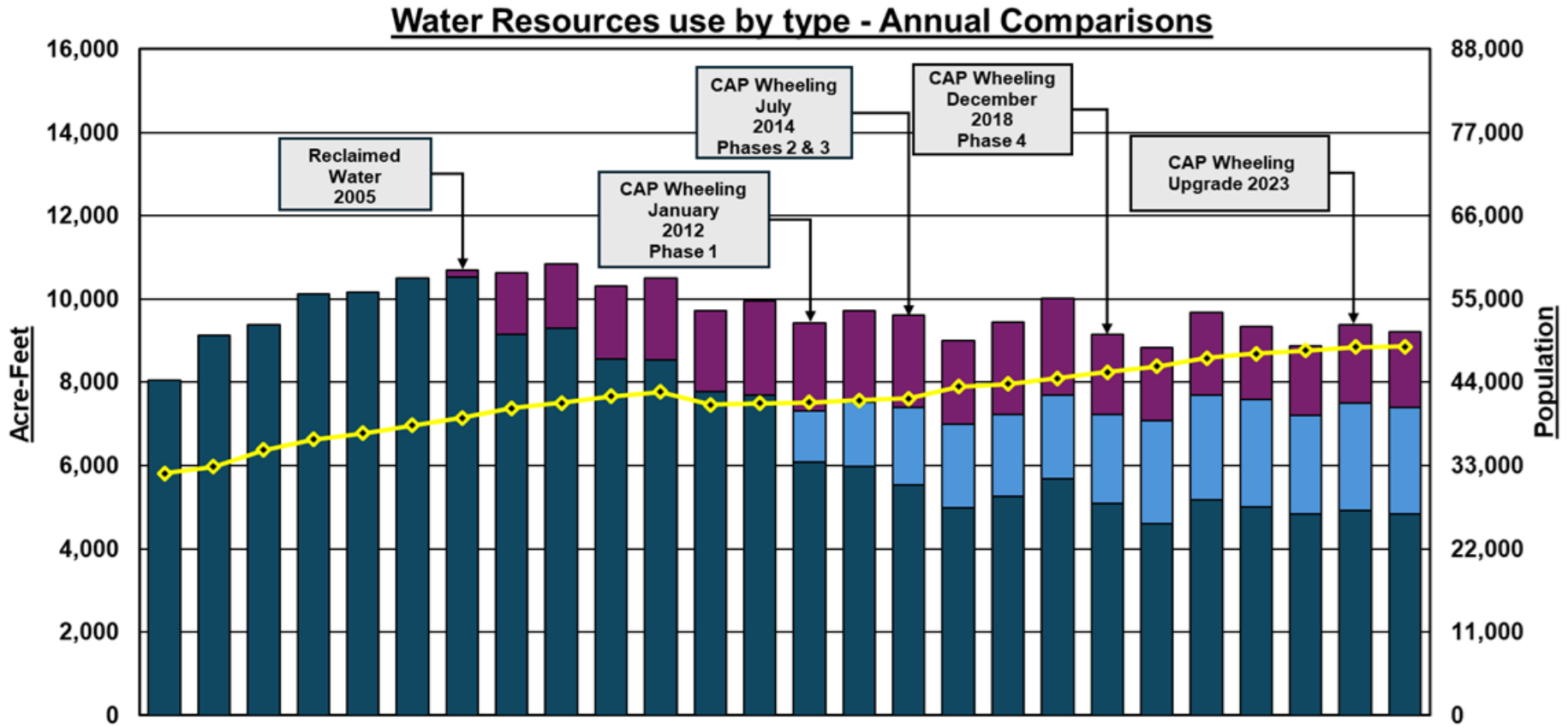
- 2nd largest Municipal Water Service provider in Southern AZ
- Operated and maintained by a staff of 40 water professionals



OVWU Water Resources Utilization by Year

Town of Oro Valley

- Significant Reductions in Reliance on Groundwater as a Source of Supply



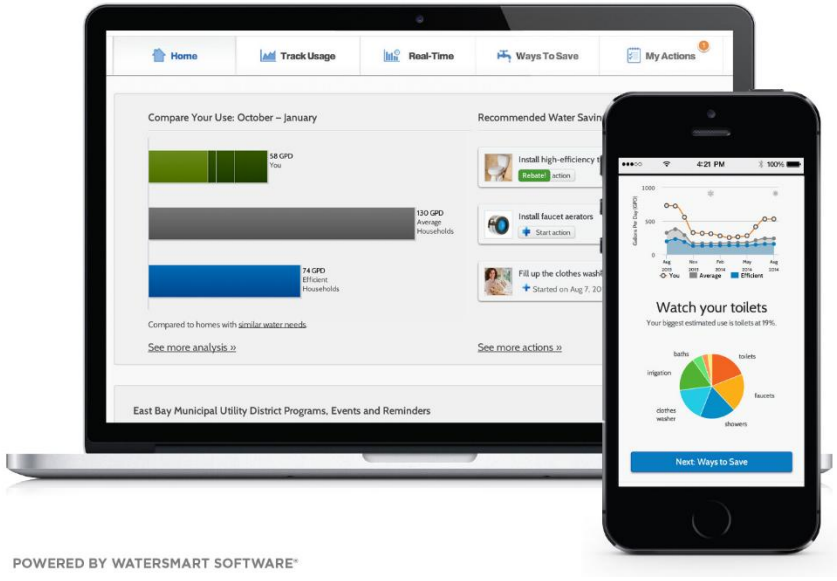
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
RECLAIM							184	1,497	1,537	1,764	1,958	1,957	2,256	2,108	2,207	2,223	2,018	2,222	2,313	1,933	1,753	1,987	1,767	1,665	1,880	1,817
CAP														1,229	1,532	1,849	1,994	1,981	2,020	2,124	2,484	2,510	2,584	2,386	2,572	2,560
GROUNDWATER	8,060	9,125	9,385	10,126	10,174	10,502	10,519	9,139	9,298	8,550	8,545	7,770	7,688	6,078	5,983	5,542	4,992	5,250	5,675	5,097	4,596	5,176	4,997	4,826	4,925	4,840
POPULATION	32,000	32,772	35,055	36,430	37,265	38,321	39,281	40,601	41,273	42,126	42,750	41,061	41,237	41,356	41,602	41,889	43,420	43,781	44,558	45,352	46,116	47,218	47,792	48,226	48,655	48,700

Water Resource Conservation

Town of Oro Valley

- **Conservation tools**
  - 1-full time water conservation specialist (Dan Mance) (outreach, education, water audits)
  - AMI metering system
  - Tiered commodity rate structure – "Conservation Pricing"
  - Utility partnership with "WaterSmart"

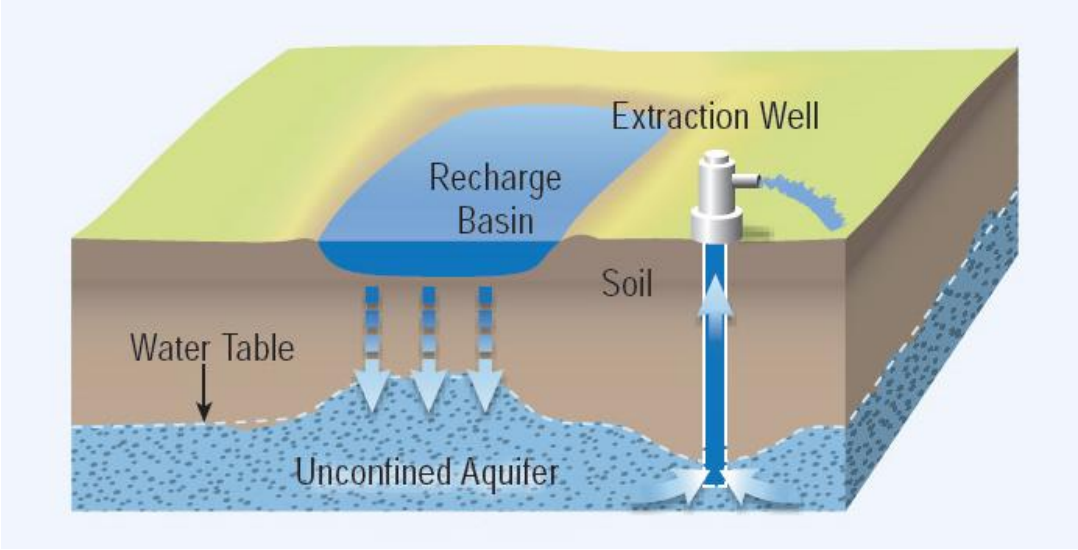
- **"WaterSmart"**
  - Customer self-service web portal
  - Track your daily water use
  - Compare your household water use to similar utility customers.
  - Set personal water alarms
  - Receive notifications when consumption exceeds user alarm thresholds



Water Shortage Preparedness – Recharge, Recovery & Storage

Town of Oro Valley

- CAP Recharge and recovery
  - CAP water delivered to nearby recharge basins
  - CAP water percolates through soil & recharges groundwater
  - Recovery wells pump recharge groundwater to service areas
  - Recharged groundwater not pumped accumulates in the form of LTSC



- Storage
  - For over a decade the OVWU has recharged groundwater in nearby aquifer storage facilities
  - OVWU has always recovered less water than stored annually
  - OVWU has accrued years of LTSC

Colorado River System

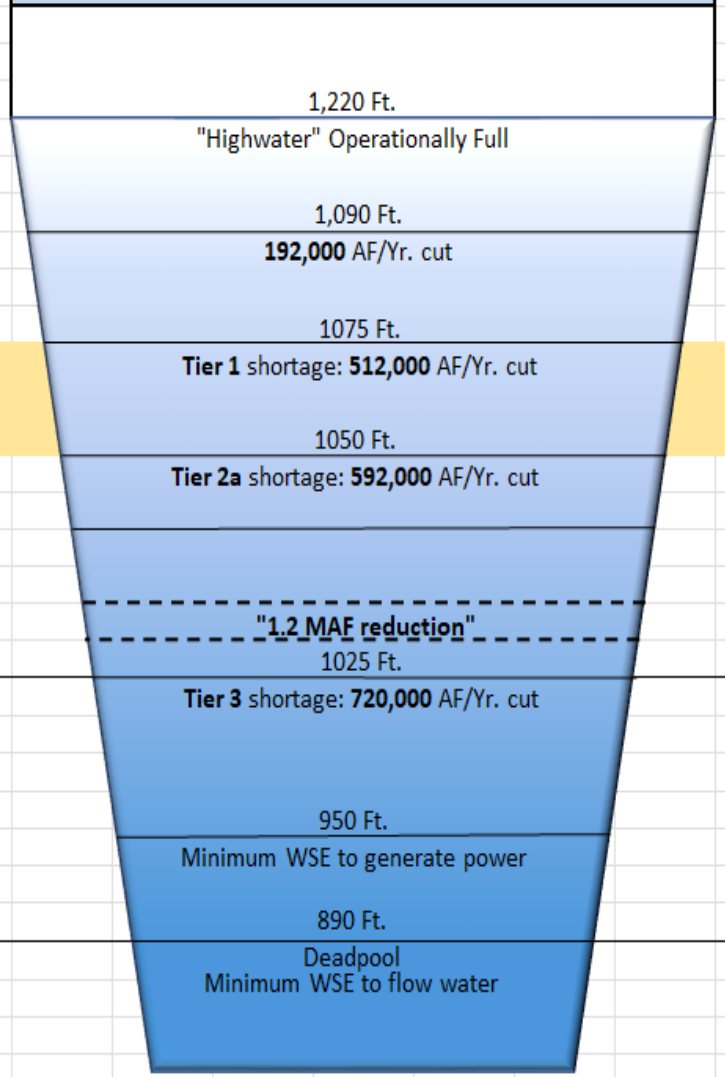
Town of Oro Valley

- Colorado River system is 1,450 miles long, Rocky Mountains to Gulf of California
- Provides water to seven US states & Mexico
- ***Upper Basin States:*** Colorado, New Mexico, Utah and Wyoming
- ***Lower Basin States:*** Arizona, California and Nevada
- 7.5 MAF/year for each
- Lower Basin Colorado River Allocations
  - California: 4.4 MAF/Yr.
  - Arizona: 2.8 MAF/Yr. (1.6 MAF/Yr. CAP)
  - Nevada: 0.3 MAF/Yr.
- Supplies water for 40 million people
- Annual delivery volumes to lower basin States determined by water surface elevations of Lake Mead
- In the midst of a 24-year drought

Lower Basin Drought Contingency Plan

Town of Oro Valley

CAP Priority Order
Unallocated Excess Water (Lowest Priority)
Agriculture Pool
NIA Agriculture
NIA Agriculture
NIA Agriculture
M&I Pool Oro Vallley Priority (Highest Priority)



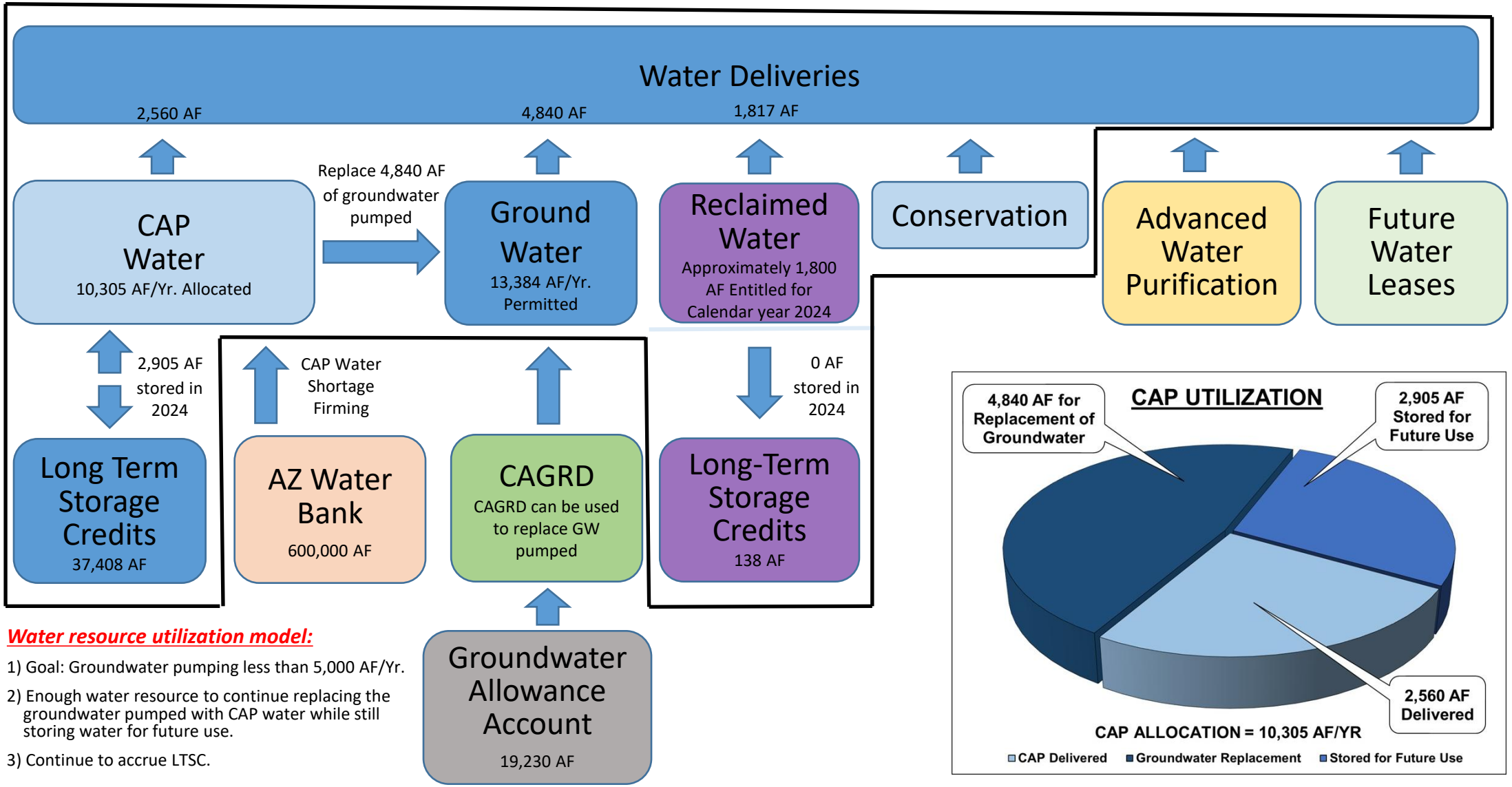
Lower Basin States Drought Contingency Plan							
Shortage Condition	Lake Mead WSE (ft.)	AZ Total Reduction (Acre-Ft.)	NV Total Reduction (Acre-Ft.)	CA Total Reduction (Acre-Ft.)	BOR Total Reduction (Acre-Ft.)	MX Total Reduction (Acre-Ft.)	River Total Reduction (Acre-Ft.)
None	>1090	None	None	None	None	None	None
Tier 0	> 1090 >1075	192K	8k	0	100K	41K	341K
Tier 1	> 1075 >1050	512K	21K	0	100K	80K	713K
Tier 2a	> 1050 > 1045	592	25K	0	100K	104K	821K
Tier 2b	> 1045 > 1040	640	27K	200k	100K	146K	1113K
Tier 2c	> 1040 > 1035	640	27K	250k	100K	154K	1171K
Tier 2d	> 1035 > 1030	640	27K	300k	100K	162K	1229K
Tier 2e	> 1030 > 1025	640	27K	350k	100K	171K	1288K
Tier 3	< 1025	720	30K	350k	100K	275K	1475K

OVWU Water Resource Utilization Model & Sustainability Strategies (2024 Data)

Town of Oro Valley

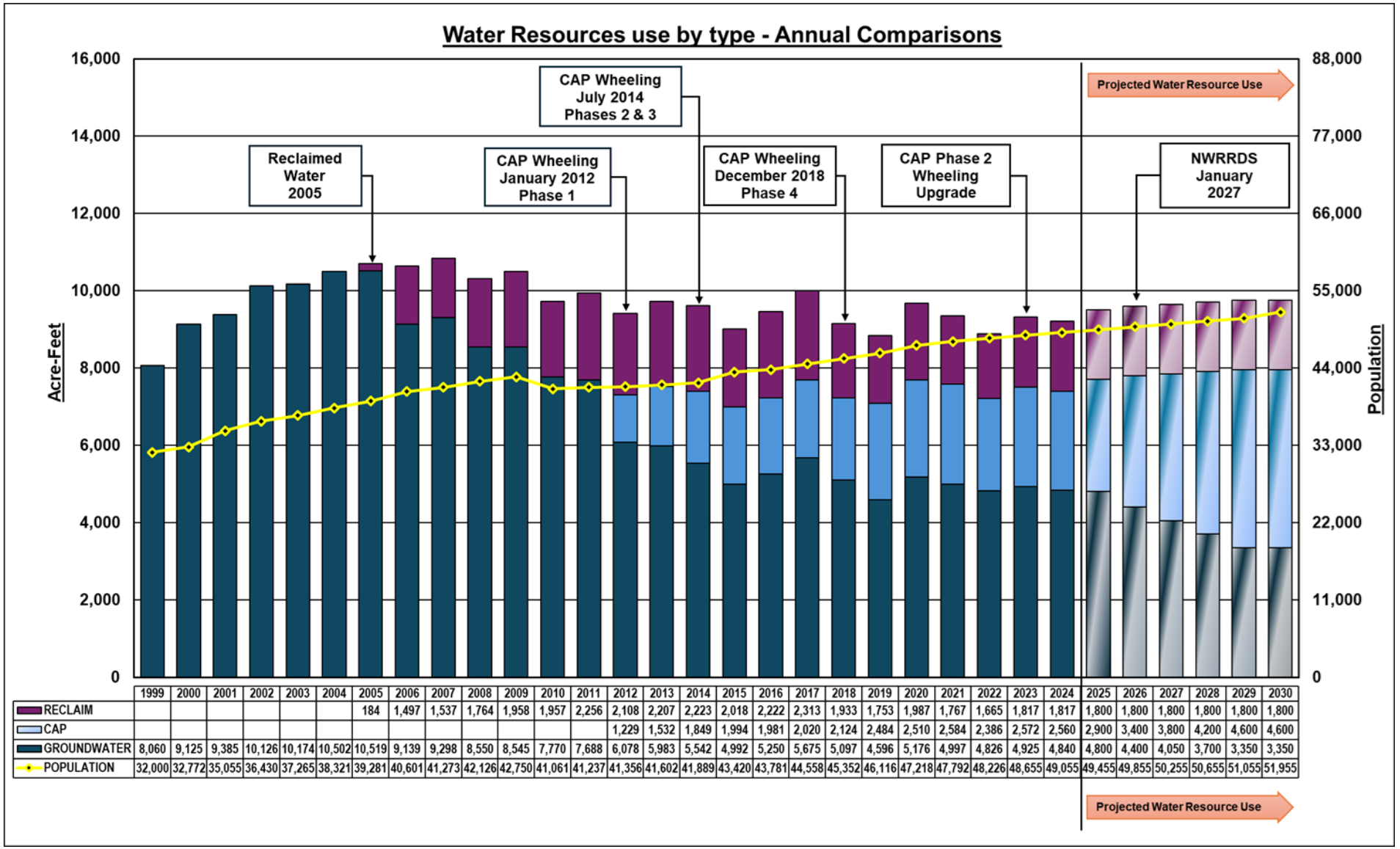
Water resource utilization model:

1) Goal: Groundwater pumping less than 5,000 AF/Yr.
2) Enough water resource to continue replacing the groundwater pumped with CAP water while still storing water for future use.
3) Continue to accrue LTSC.



OVWU Water Resources Utilization (Past/Present/Future)

Town of Oro Valley



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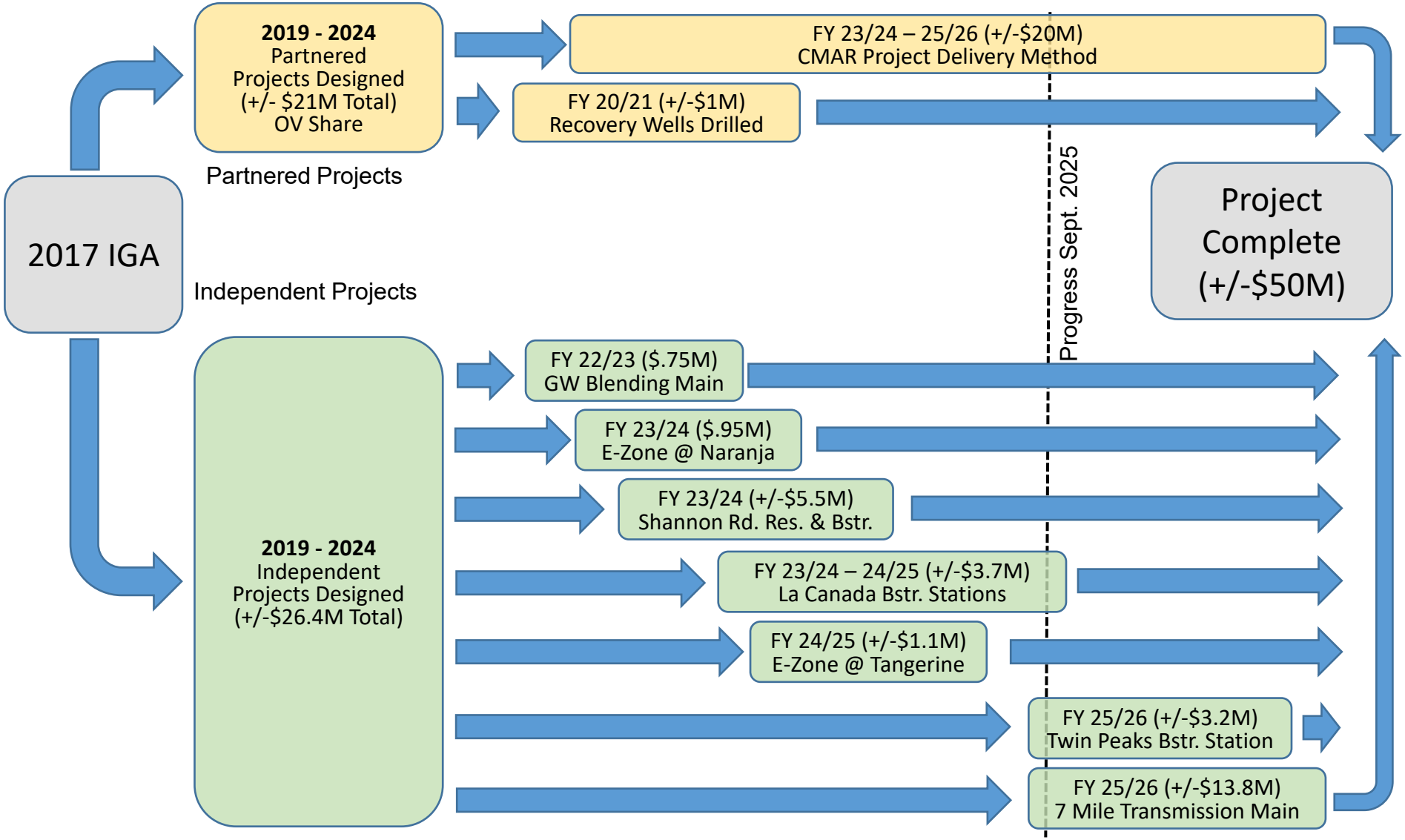
Northwest, Recharge, Recovery & Delivery System (NWRRDS)

Town of Oro Valley

- The Foundation of the NWRRDS Project
  - April 2017: The governing bodies of Metro Water, the Town of Marana and the Town of Oro Valley unanimously approved the NWRRDS IGA: a 50-year IGA.
  - Capacity Entitlement: ***Oro Valley & Metro Water:*** 4,000 AFY ***Marana:*** 2,400 AFY
  - Partnered & independent projects
  - The partnered projects consists of:
    - Construction & equipping of 2 recovery wells
    - Construction of 7-miles of transmission pipeline
    - Construction of a 1-million gallon reservoir
  - The independent projects consist of:
    - Construction of a 500,000-gallon reservoir
    - Construction of 4 booster stations
    - Construction of a groundwater blending main
    - Construction of two E-Zone tie-in transmission mains
    - 7-miles of transmission pipeline from Partnered reservoir to OVWU service area

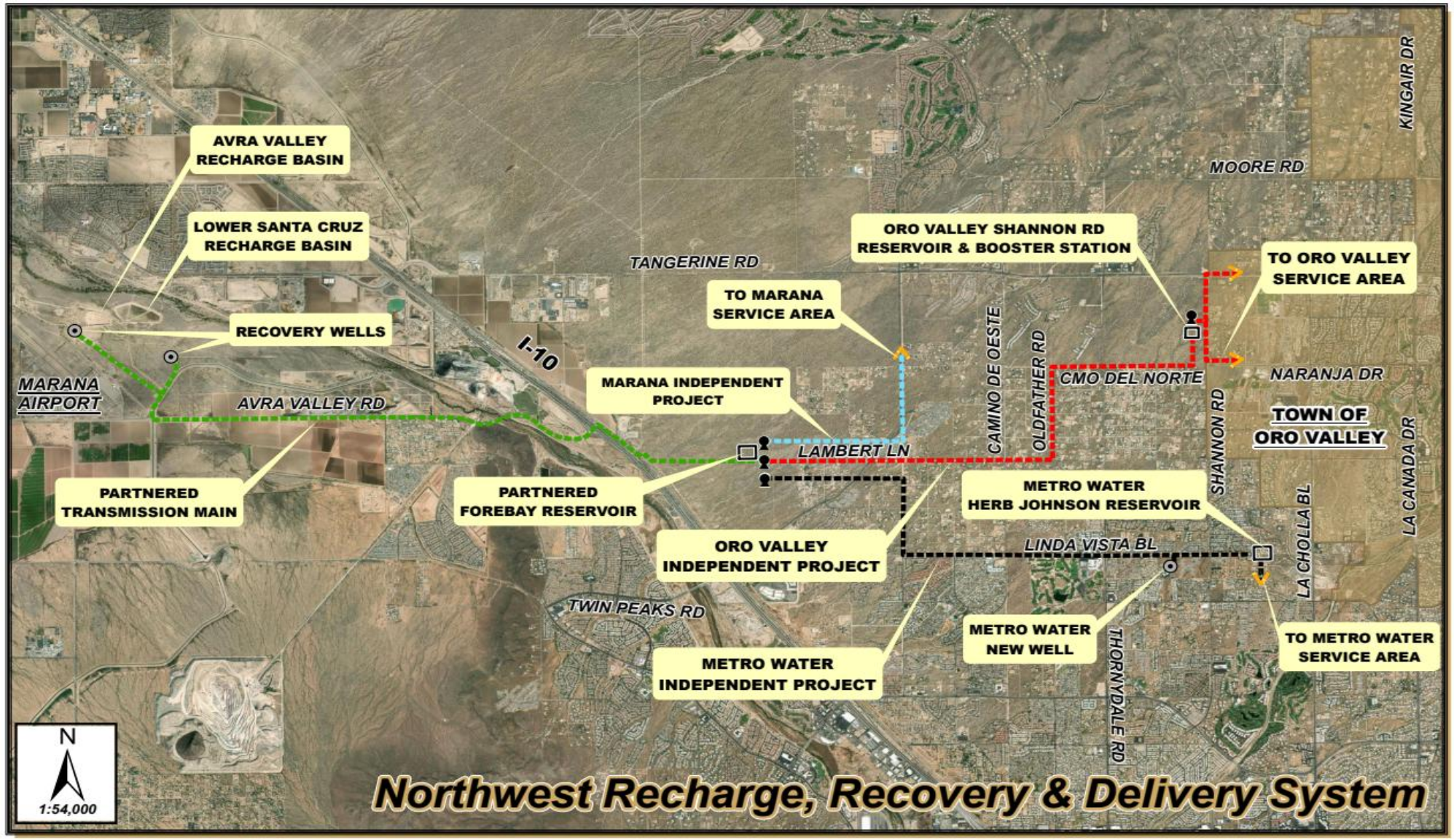
Northwest, Recharge, Recovery & Delivery System (NWRRDS)

Town of Oro Valley



Northwest, Recharge, Recovery & Delivery System (NWRRDS)

Town of Oro Valley



Northwest, Recharge, Recovery & Delivery System (NWRRDS)

Town of Oro Valley

- Funded by impact fees, groundwater preservation fees, Grants, Awards and Forgivable Principal on WIFA loan (See Table A)
- Debt service will be paid for by impact fees and GPF
- In summary:
  - $29,319,499.00 (52%) paid for by future rate payers
  - $19,546,332.00 (35%) paid for by existing rate payers
  - $ 7,297,337.00 (13%) paid for by Grants, Awards, etc.
- 21,600 connections x 2.2 ppc = 47,520 residents
- $19,546,332.00 / 47,520 residents = $411.33 / resident

Table A

Funding Source	Amount of Funding	Percent of Project Total
Impact Fee Fund (New Meter Sales - Future Customers)	$ 15,421,598.00	27%
Groundwater Preservation Fee (Existing Customers)	$ 10,281,065.00	18%
WIFA Loan (Low Interest Federal Loan - Future Customers)	$ 6,600,000.00	12%
WIFA Loan Interest paid over 20 years - Future Customers	$ 2,794,545.00	5%
WIFA Loan (Low Interest Federal Loan - Existing Customers)	$ 4,400,000.00	8%
WIFA Loan Interest paid over 20 years - Existing Customers	$ 1,863,030.00	3%
Private Loan (Low Interest Bank Loan - Future Customers)	$ 3,600,000.00	6%
Private Loan Interest paid over 10 years - Future Customers	$ 903,356.00	2%
Private Loan (Low Interest Bank Loan - Existing Customers)	$ 2,400,000.00	4%
Private Loan Debt Service over 10 years - Existing Customers	$ 602,237.00	1%
WIFA Grant (Federally Funded Award - No Repayment)	$ 3,000,000.00	5%
ARPA Award (Federally Funded Award - No Repayement)	$ 2,373,337.00	4%
WIFA Loan (Forgivable Principal - No Repayment)	$ 1,000,000.00	2%
NW Reliablity Funds (State Funded Award - No Repayment)	$ 924,000.00	2%
Total Projected NWRRDS Total Cost	$ 56,163,168.00	100%

Oro Valley Water Utility – Rate Comparisons

Town of Oro Valley

Monthly water bill comparisons to other water providers

- 87% of Oro Valley Water Utility customers have a 5/8-inch meter and consume an average of 7,000 gallons per month

Water Provider	Cost for 7,000 Gallons (Tier 1)	Cost for 15,000 Gallons (Tier 2)	Cost for 25,000 Gallons (Tier 3)	Cost for 40,000 Gallons (Tier 4)
Oro Valley Current	**$51.45**	**$99.61**	**$188.61**	**$358.91**
Metro Water	$57.10	$105.10	$179.65	$307.90
Marana Water	$55.50	$104.56	$179.26	$319.81
Tucson Water	$56.74	$139.10	$288.21	$581.49

- Continued upward pressure on water resource and power costs for all water service providers
- The Community can expect 3%-5% annual water rate increases every year in the near future

Looking Forward

Town of Oro Valley

- With the support of the Community and Town Leadership the Water Utility will…
  - Continue it's 29-year tradition of successfully managing, growing and firming its water resource portfolio
  - Continue to work with water professionals and law-makers to reach consensus on sound water policies, regulations and management strategies
  - Continue to responsibly implement incremental rate adjustments as necessary to match the pace of increasing water resource costs
  - Continue to meet the water resource needs of the community