



Arizona Water Company Superstition System – Gold Canyon

**Presented by
Bill Staples, General Manager - Superstition Water System
Terri Sue Rossi, Water Resources Manager
Raluca Mihalcescu, Water Conservation Specialist**

February 5, 2022

PINAL COUNTY FACT SHEET



Santiago Trail Nitrate Removal Facility in Casa Grande.

STATEWIDE OVERVIEW

- Established in 1955
- U.S. Owned & Family-operated
- 2nd Largest Investor-owned Utility in Arizona
- Serving 8 Counties and 14 Incorporated Areas
- 24 Water Systems
- 100,000 Connections
- 250,000 People Served
- 249 Employees

PINAL COUNTY WATER SYSTEMS



SERVICE:

CONNECTIONS

Over 60,000

PEOPLE SERVED

130,000

WATER DEMAND

26,700 AF



WATER SYSTEMS:

PINAL VALLEY

Casa Grande
Coolidge
Arizona City

SUPERSTITION

Apache Junction
Superior

FALCON VALLEY

Saddlebrooke
Oracle
San Manuel



INFRASTRUCTURE:

ACTIVE WELLS

51

MILES OF MAIN

1,244

MILLION GALLONS OF STORAGE

46.7



CAP WATER:

PINAL VALLEY

10,884 AF

APACHE JUNCTION

6,285 AF

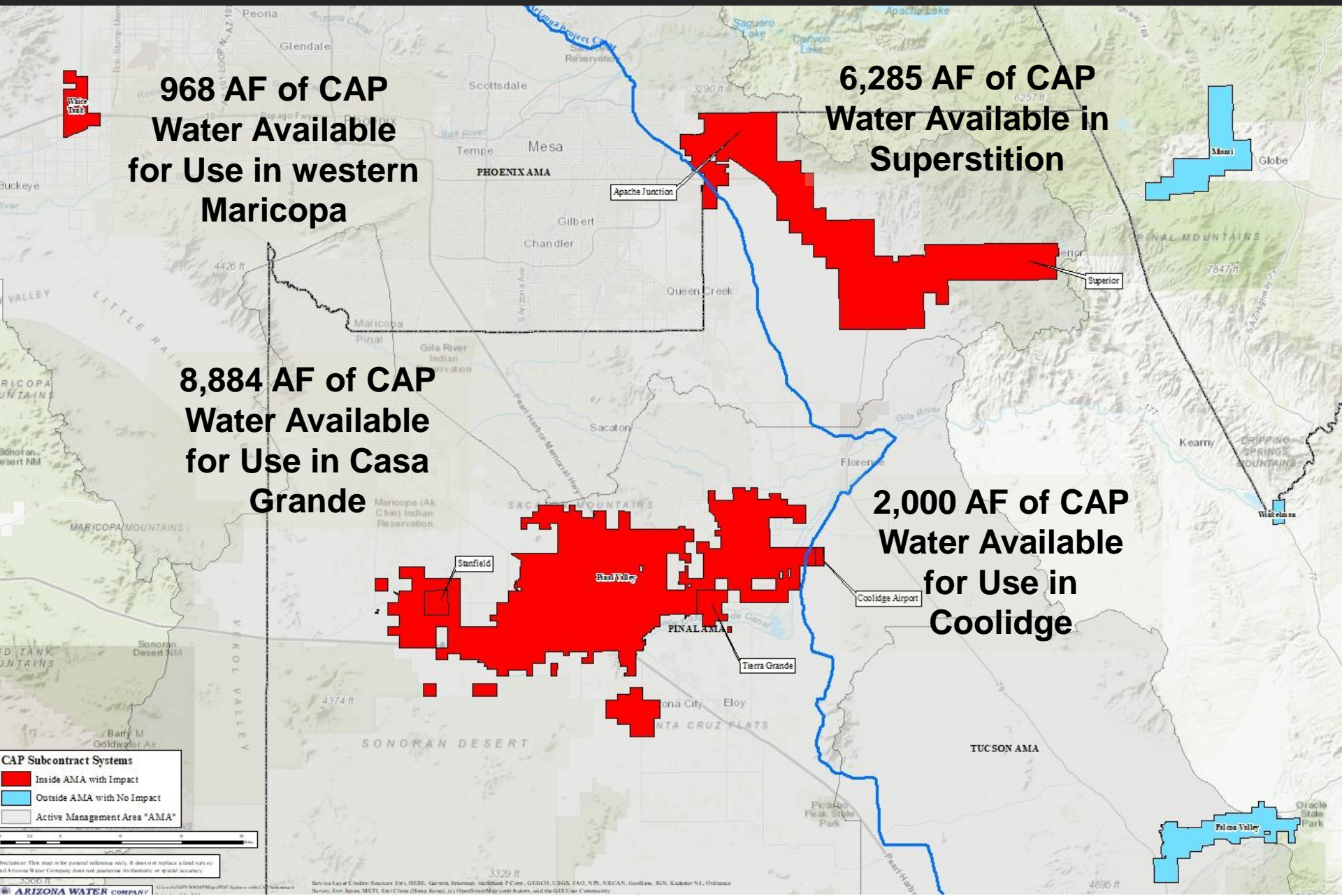
The largest water provider in Pinal County, Arizona Water Company operates nine water systems. In 2020, Arizona Water paid over \$7 million in sales and property taxes in Pinal County and \$6.1 million in wages to 117 employees.



Water Resources – AWC Superstition System

Terri Sue Rossi, Water Resources Manager

AWC Water Systems Expected to Experience Shortage



968 AF of CAP Water Available for Use in western Maricopa

6,285 AF of CAP Water Available in Superstition

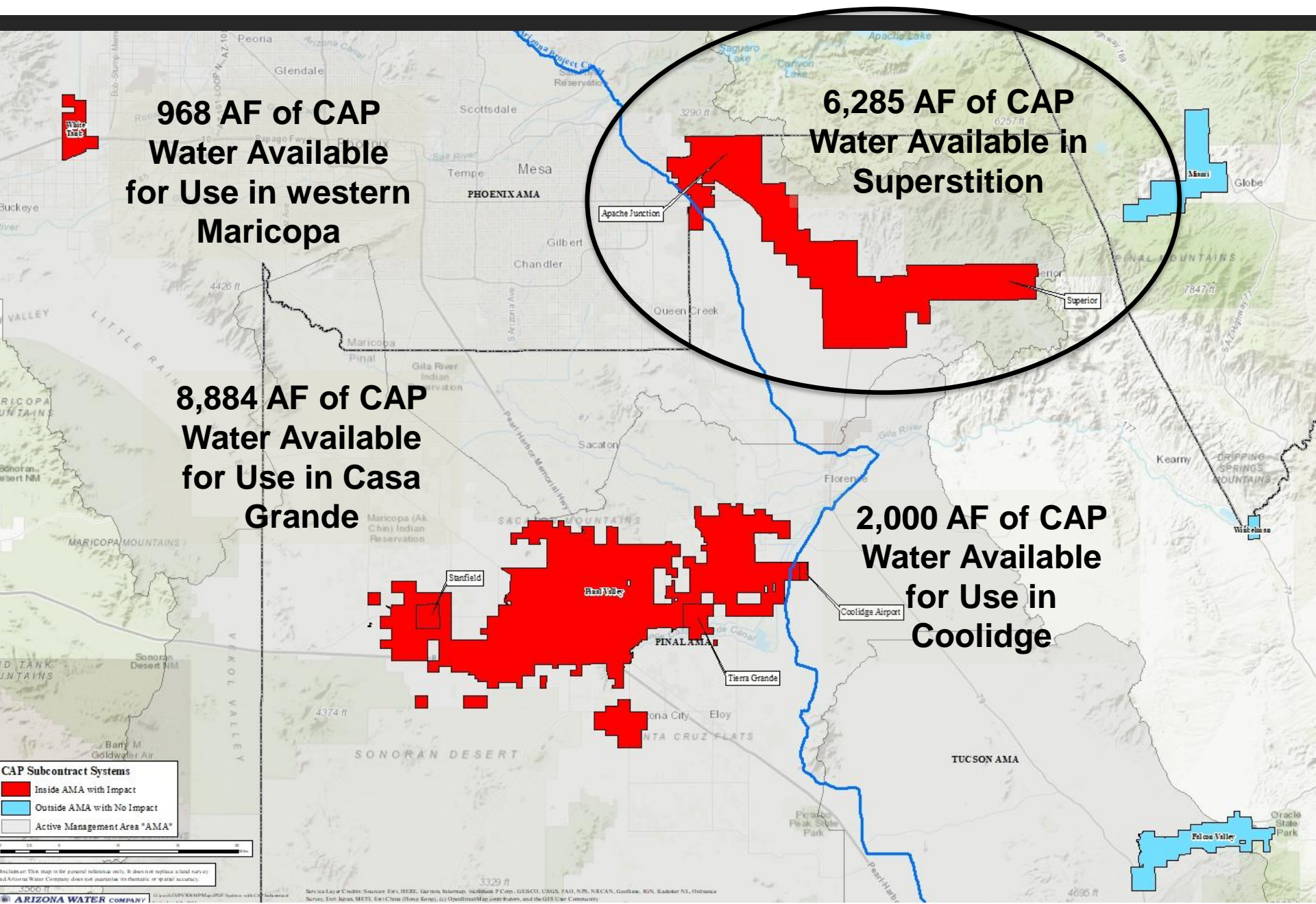
8,884 AF of CAP Water Available for Use in Casa Grande

2,000 AF of CAP Water Available for Use in Coolidge

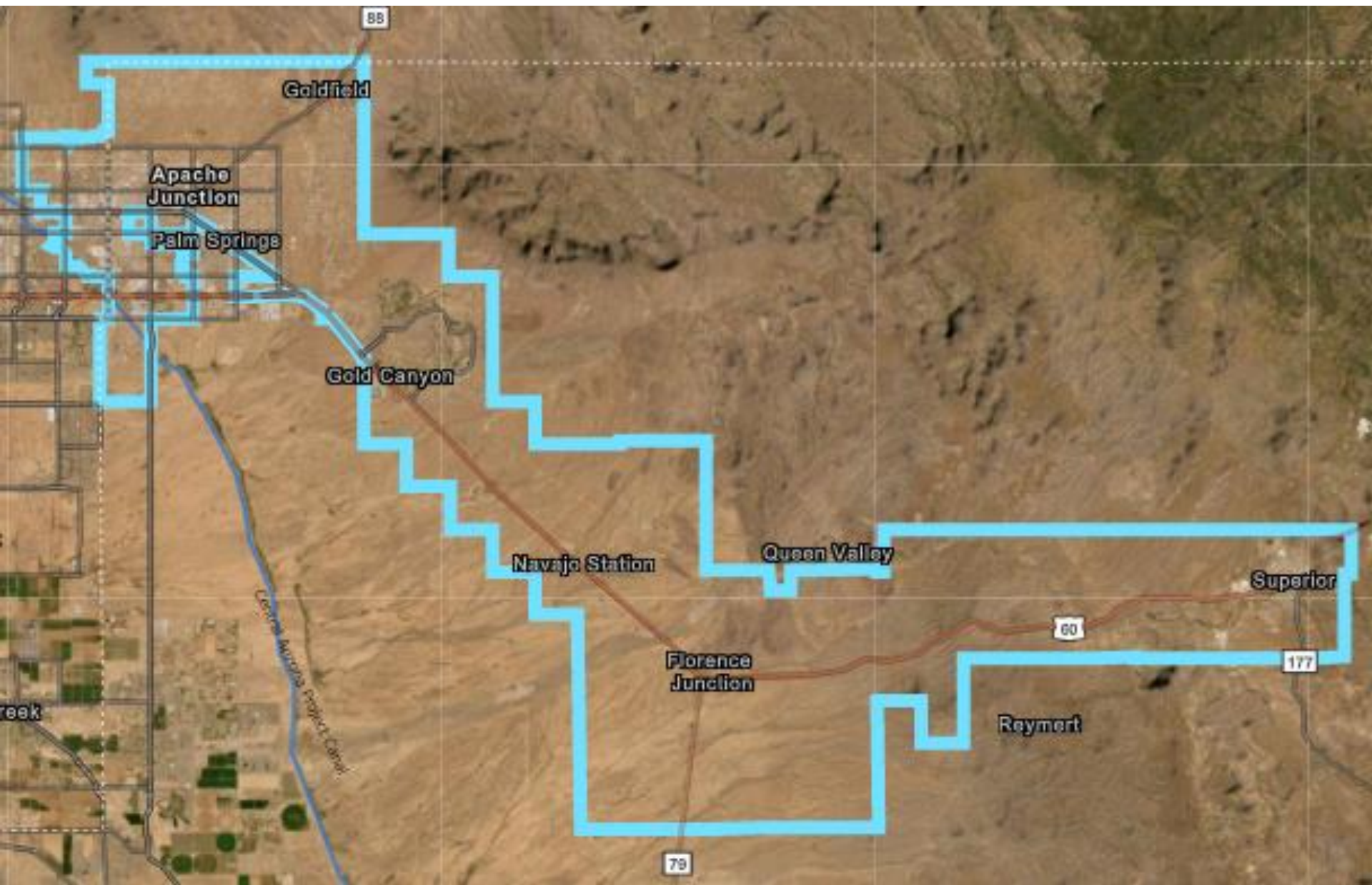
CAP Subcontract Systems
■ Inside AMA with Impact
■ Outside AMA with No Impact
■ Active Management Area "AMA"

Disclaimer: This map is for general reference only. It does not replace a field survey and Arizona Water Company does not guarantee its thematic or spatial accuracy.

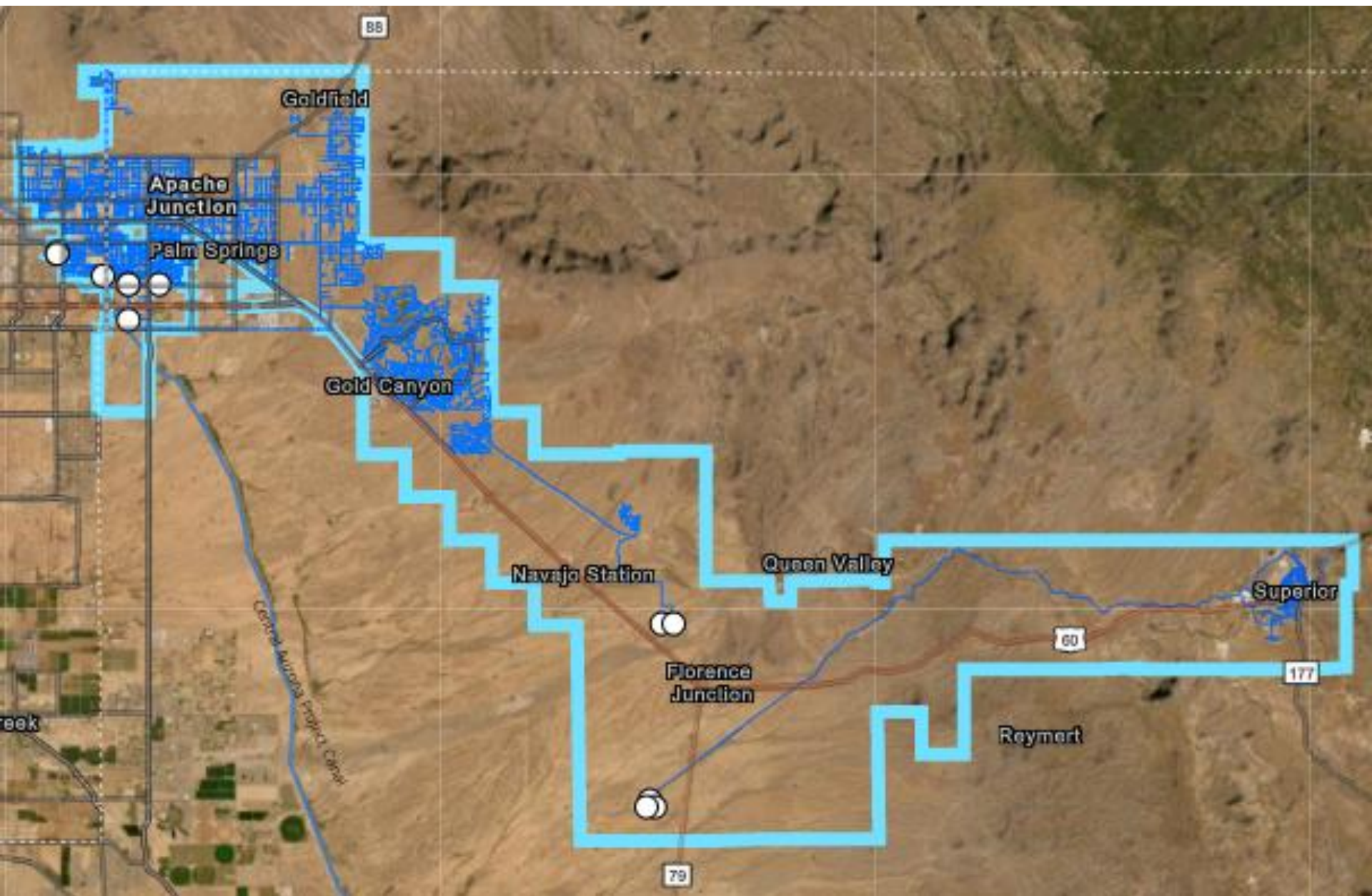
AWC Water Systems Expected to Experience Shortage

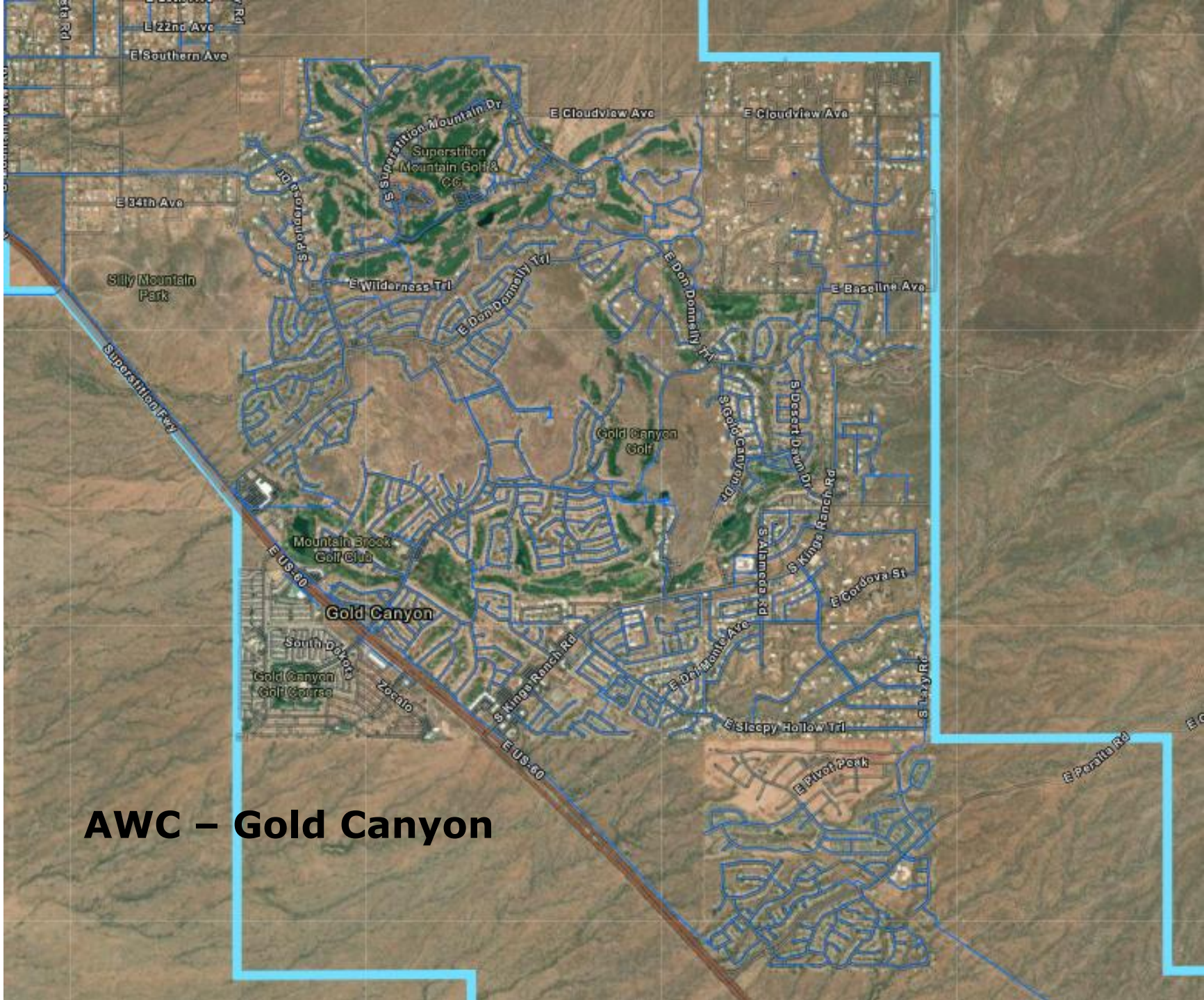


AWC - Superstition Water System



AWC - Superstition Water System





AWC – Gold Canyon

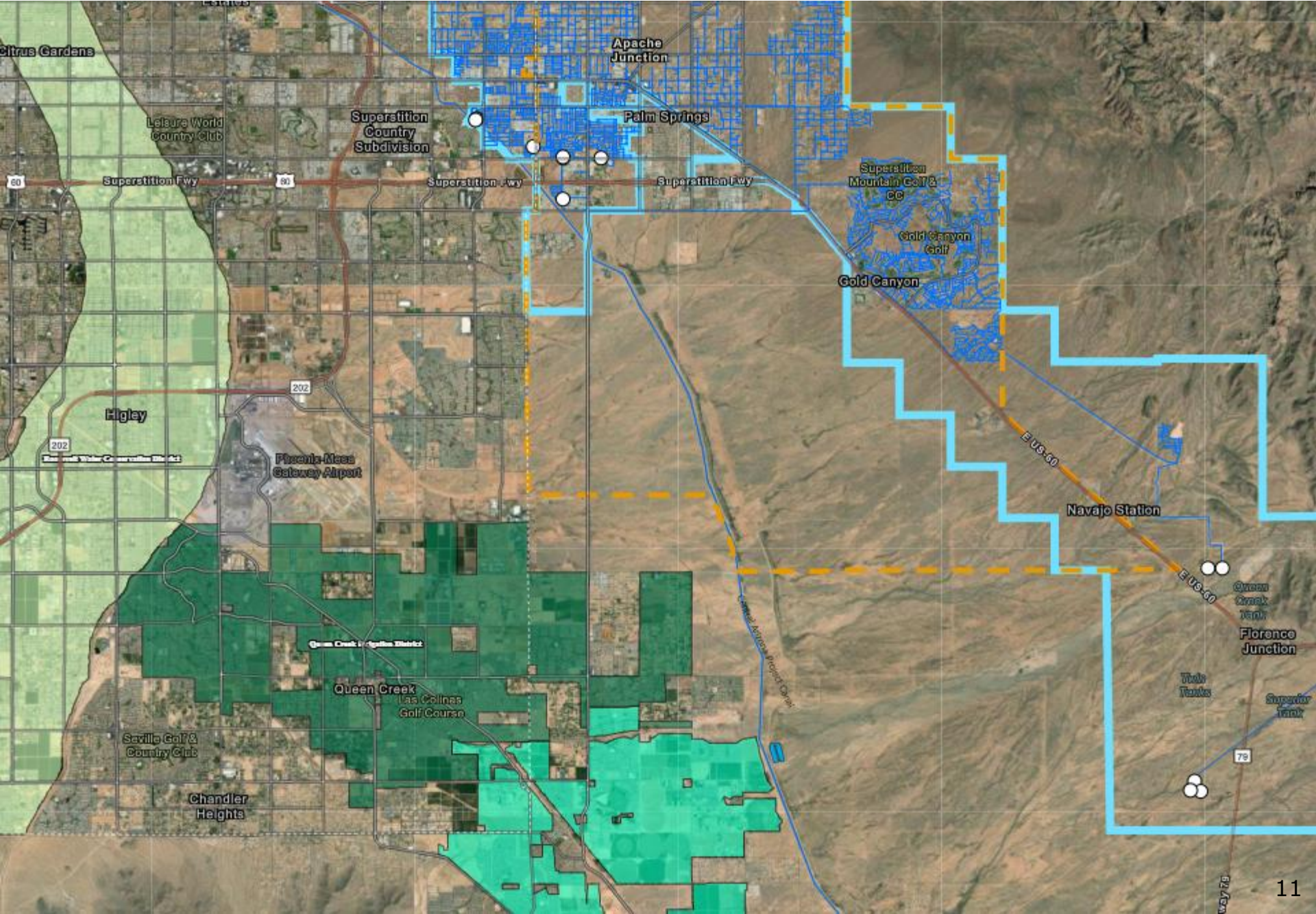
AWC - Superstition Water System

Sources of Supply

- Groundwater
- CAP Water
 - Direct delivery
 - Recovered
- Effluent
 - Direct delivery from Liberty Utilities

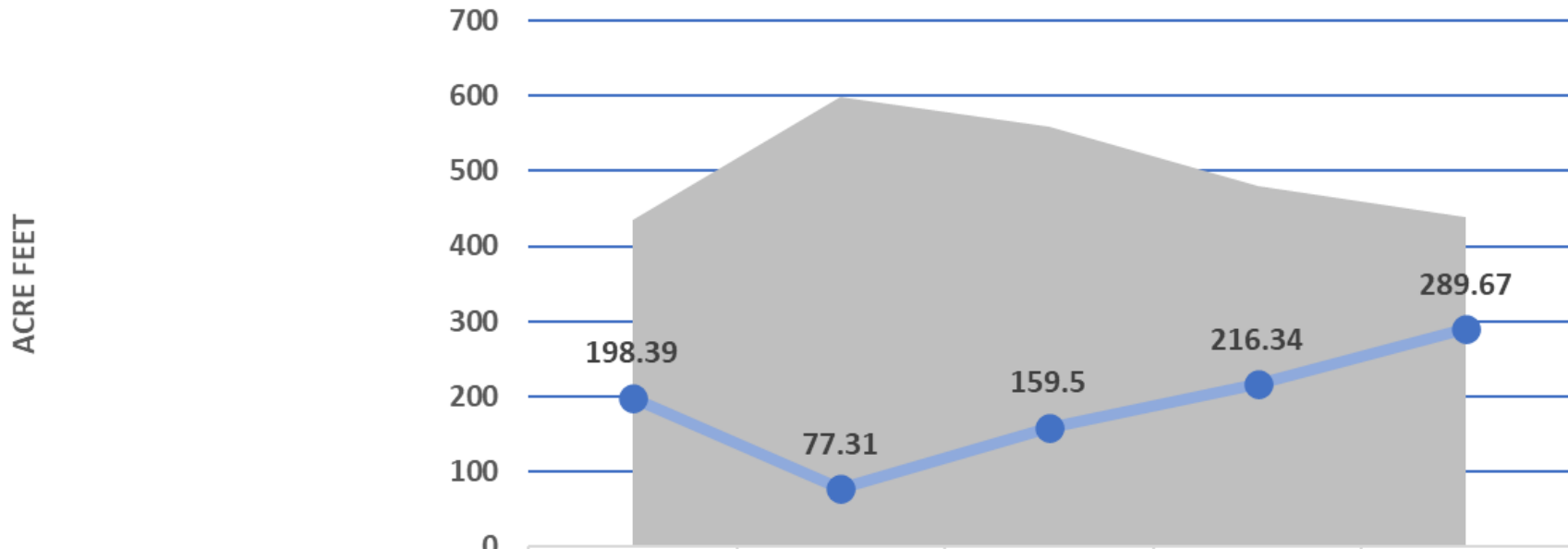
	AWC - Superstition	Gold Canyon
Potable Production		
Recovered CAP Water	1,743.00	424.34
Groundwater Production	<u>7,074.71</u>	<u>1,734.11</u>
	8,817.71	2,158.45
Raw CAP Water	3,050.00	2,588.00
Total Production	11,867.71	4,746.45
Accounts		
Residential	20,676	6,545
Non-Residential	<u>933</u>	<u>189</u>
Total Accounts	21,609	6,734
Deliveries		
Residential	5,844.66	1,496.93
Non-Residential	1,767.04	366.31
RAW CAP Water	<u>3,050.00</u>	<u>2,588.00</u>
Total Deliveries	10,661.70	4,451.24

Recharge and Recovery in AWC Superstition System



Gold Canyon Sewer Company

Gold Canyon Effluent Treatment Plant



	2016	2017	2018	2019	2020
■ Effluent Stored USF	435.53	597.52	559.13	478.98	439.04
● Total Effluent Delivered To AWC	198.39	77.31	159.5	216.34	289.67

Colorado River Shortage Planning

- **Lots of organizations involved**
 - USBOR, ADWR, CAP, AWBA, CAGRD and CAP Users
 - AWC involved at all levels
- **Shortage modeling and its impacts on users conducted at multiple levels**
- **Impacts to CAP M&I subcontractors estimated in Arizona Water Banking Authority (AWBA) rolling 10-Year Plan prepared annually**
- **Recovery planning**
- **Relying on AWBA to back fill shorted volume in addition to implementing our water resource strategy**

What is the AWBA?

- AWBA is an insurance policy monetized with water that underwrites Colorado River shortages
- Mission = store unused CAP water underground to help mitigate future shortages
- Accrues Long-Term Storage Credits (LTSCs)
- Accrued 3.75 MAF of LTSCs since 1997 to offset shortages in Arizona
- Vaults of AWBA will open for first time in 2022 (first Tier 1 shortage declaration affecting only tribal NIA water users)
- Partners with others to recover LTSCs



How AWC Responds to Shortage Declaration

- AWC holds four M&I CAP Subcontracts totaling 18,137 AF
 - **Superstition = 6,285 AF**
 - Casa Grande = 8,884 AF
 - Coolidge = 2,000 AF
 - White Tank = 968
- July 29, 2021 AWBA Presentation on 10-Year Plan shows expected impacts to M&I Subcontractors through 2031 – highlighted in yellow
- First impact to M&I CAP subcontracts expected in 2024

Operational Tier	KAF	M&I Firming									
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Tier 1 DCP Contribution (≥1050 and ≤1075)	512	-	-	-	-	-	-	-	-	-	-
Tier 2 DCP Contribution (≥1025 and <1050)											
Tier 2a (>1045 and <1050)	592	-	-	-	-	-	1,530	4,598	7,665	10,732	13,799
Tier 2b (≥1025 and ≤1045)	640	21,983	25,050	28,118	31,185	34,252	37,319	40,387	43,454	46,521	49,588
Tier 3 DCP Contribution (<1025)	720	76,549	79,616	82,684	85,751	88,818	91,885	94,953	98,020	101,087	104,154
Total CAP M&I Priority Firming³ (af)		-	-	28,118	85,751	34,252	91,885	94,953	98,020	46,521	49,588

How AWC Responds to Shortage through 2031

- **Impacts of shortage declarations on all four of AWC’s CAP Entitlements, based on July 2021 data, range from 798 AF to 2,783 AF**

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Short to M&I Pool	-	-	28,118	85,751	34,252	91,885	94,953	98,020	46,521	49,588
Reduction to Long-Term Pool	0%	0%	4%	13%	5%	14%	15%	15%	7%	8%
Impact on AWC entitlements (AF)	-	-	798	2,435	972	2,609	2,696	2,783	1,321	1,408

Basic Strategy

- **Protect direct deliveries:**
 - 3,000 AF to untreated water users in Superstition System
- **Recover Long-Term Storage Credits (LTSC) stored by the AWBA to offset Colorado River shortages**

How AWC Responds to Shortage through 2031

- **AWC will offset shortage by recovering AWBA LTSCs against remaining water production**
 - AWC will use “independent recovery” method
 - AWBA distributes LTSCs to AWC
 - AWBA will distribute 100% of the shorted volume for any year through 2026
 - Post 2026, AWBA will distribute up to 1,257 AF (20%) for Superstition depending on the shortage level and CAP system demands for each shortage year

Other Expected Impacts

- **Increase in CAP fixed OM&R costs**
 - 32% increase between normal supply and Tier 1 shortage based on CAP published rates
 - Will increase with Tier 2 and 3 as delivery volumes further decline
- **Curtailement of CAP water deliveries**
 - Reduced deliveries to Irrigation Districts
- **Increase in groundwater pumping by others relying on CAP**
 - Water level declines increasing costs to pump groundwater
 - Well deepening and replacement
 - Potential economic impacts on agricultural economy

What is AWC doing to protect its water?

- Monitor groundwater levels
- Conduct hydrologic studies
- Utilize 100% of CAP Allocation
- Develop and maintain water conservation programs
- Work with raw CAP water users to shift to other supplies
- Participate in regional water supply protection efforts
- Fully utilize reclaimed water generated by AWC customers
- Replace existing wells and construct new wells
- Work to provide sewer service in currently undeveloped areas
- Participate in water supply development projects
- Require developments to secure renewable water supplies

ADWR Assured Water Supply Program

- **New subdivisions regulated under the State's Assured Water Supply Program**
- **Must meet several criteria to secure a Certificate of AWS (CAWS):**
 - Water is physically, continuously and legally available
 - Adequate water quality
 - Financial capability
 - Consistency with management plan and goal

ADWR Assured Water Supply Program

- **AWC is a certificate-based system**
- **75 CAWS issued in Gold Canyon area**
 - About 6,000 lots under certificate
 - About 4,400 lots built
 - 3,330 AF of groundwater pledged for AWS purposes
- **Physical Availability Determination (PAD)**
 - Sufficient groundwater for 100 years to cover existing demands and the demands associated with the 75 CAWS
 - An additional 16,000 AF per year has been approved by ADWR in PAD



Demand Management Programs

Raluca Mihalcescu, Water Conservation Specialist

ADWR Conservation Requirements



4th Management Plan

- Conservation program requirements effective beginning 2023
- Implement basic information program
- Minimize system losses
 - < 10% on annual or 3-year average basis
- Reporting
 - Annual Water Withdrawal and Use Reports
 - Provider Profile
 - Conservation Effort Report
- Implement BMPs
 - < 5,000 connections: 3 points
 - 5,001 – 30,000 connections: 8 points
 - > 30,000 connections: 15 points

5th Management Plan

- Drafted by January 1, 2022
- Conservation program requirements effective beginning 2025
- Working group discussions:
 - Supplemental information program for large providers
 - Providers separated into 4 tiers instead of 3, change in BMP points required for each tier
 - Revision of BMP categories
 - Requirement of BMPs from specified number of categories
 - Increase in required number of BMPs
 - Recognition for conservation efforts beyond minimum requirements

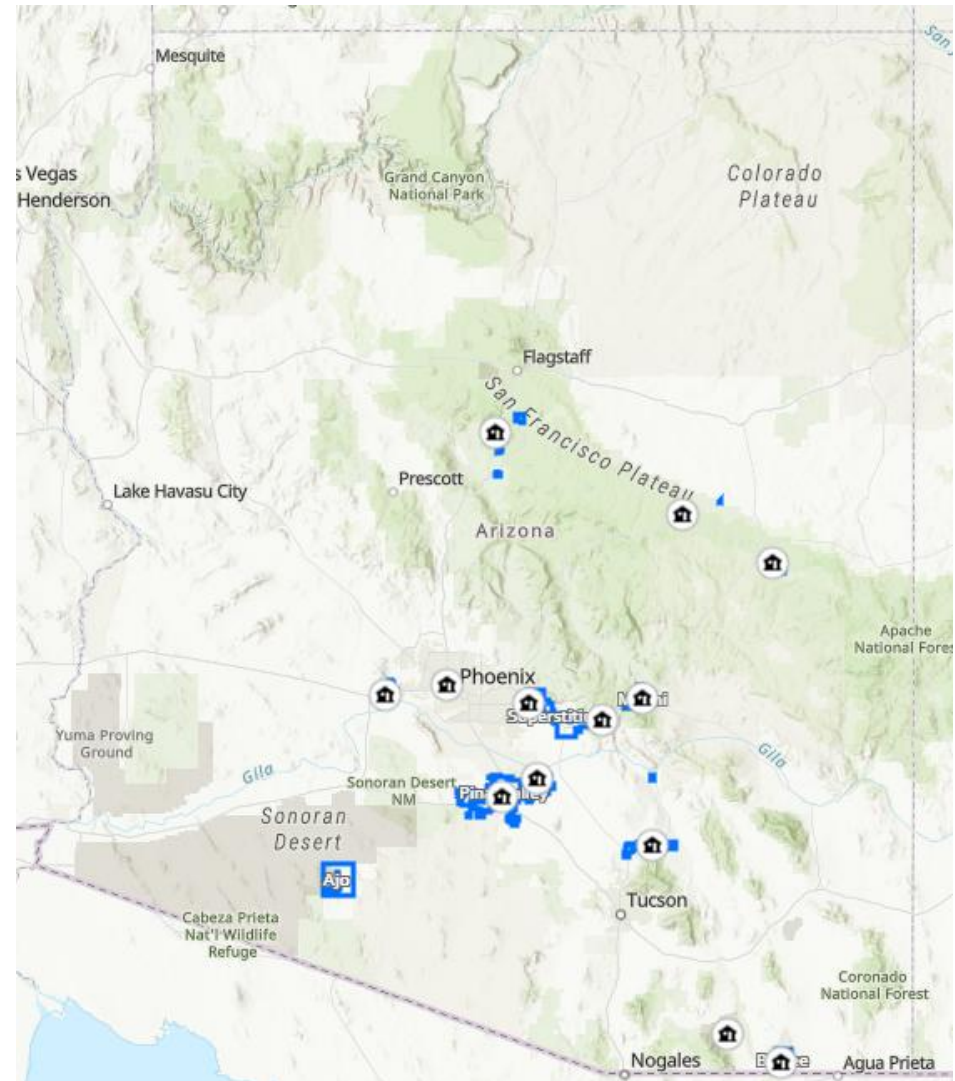
Current Conservation Measures

Best Management Practices and Points			Superstition System
Category 1: Public Awareness/Public Relations			
1.1	Local and/or regional conservation campaign	1 point	
1.2	Special events/programs and community presentations	1 point	X
1.3	Market surveys to identify information needs/assess success of conservation messages	2 points	
1.4	Distribution plan for water conservation materials	1 point	
Category 2: Conservation Education and Training			
2.1	Adult education and training programs	1 point	
2.2	Youth conservation education programs	1 point	
2.3	New homeowner landscape information	1 point	
2.4	Xeriscape education garden	1 point	
Category 3: Outreach Services			
3.1	Residential audit program	1 point	X
3.2	Landscape consultations (residential and/or non-residential)	1 point	
3.3	Water budgeting program (non-residential)	1 point	
3.4	Customer high water use inquiry resolution	1 point	X
3.5	Customer high water use notification	1 point	X
3.6	Water waste investigations and information	1 point	X
Category 4: Physical System Evaluation and Improvement			
4.1	Distribution system leak detection program	2 points	X
4.2	Meter repair and/or replacement program	2 points	X
4.3	Comprehensive water system audit program	3 points	
4.4	Installation of advanced metering infrastructure	2 points	

9
Points

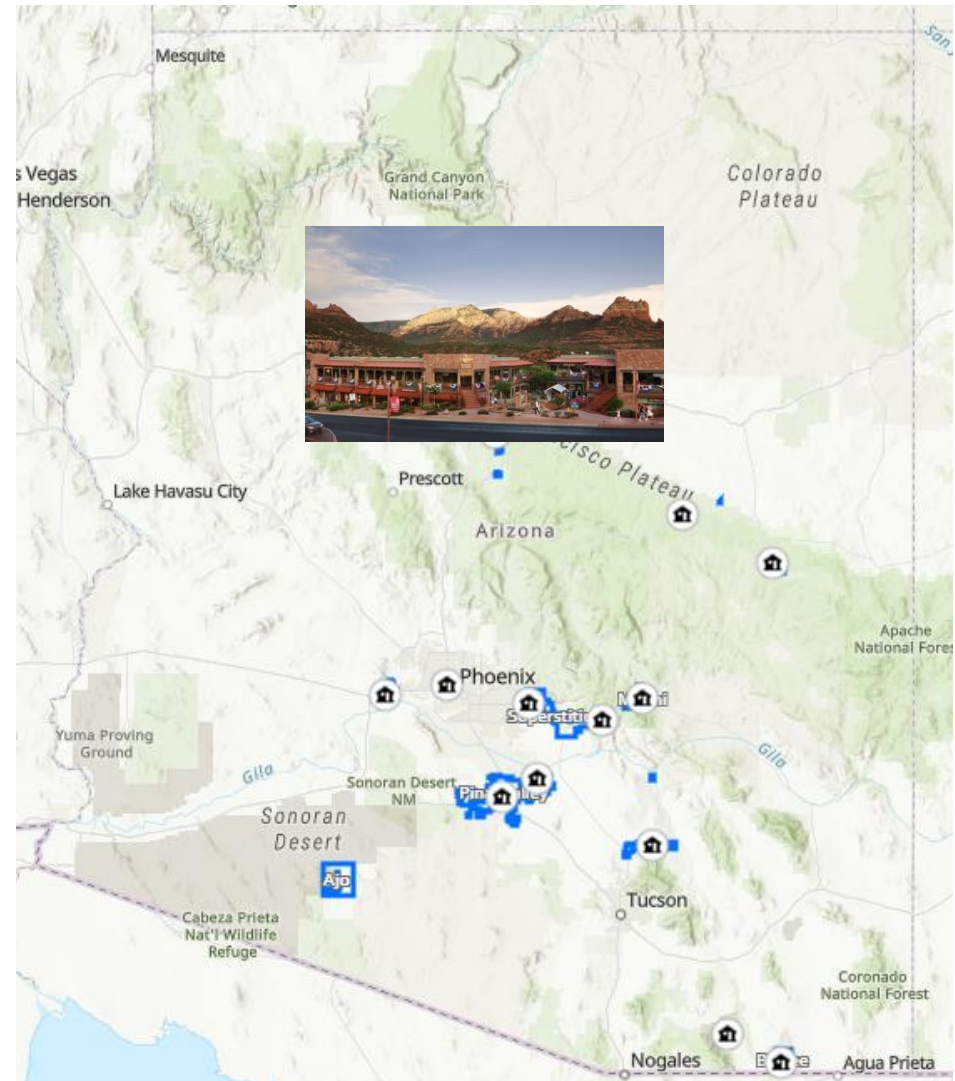
Demand Management Program

- 24 water systems company wide
 - Diverse communities served
- Focus:
 - Standard private utility approach
 - The AWC approach: most effective strategy for improving conservation ethic and efforts



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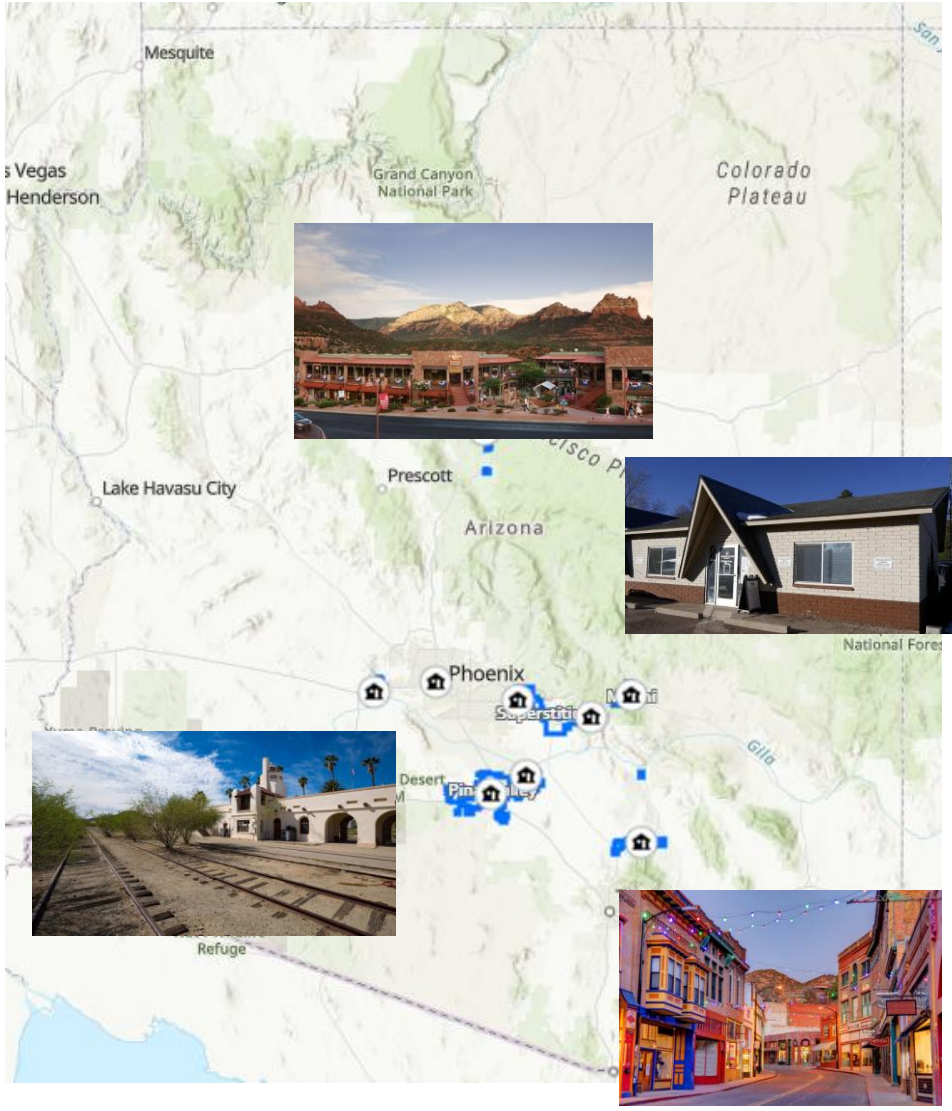
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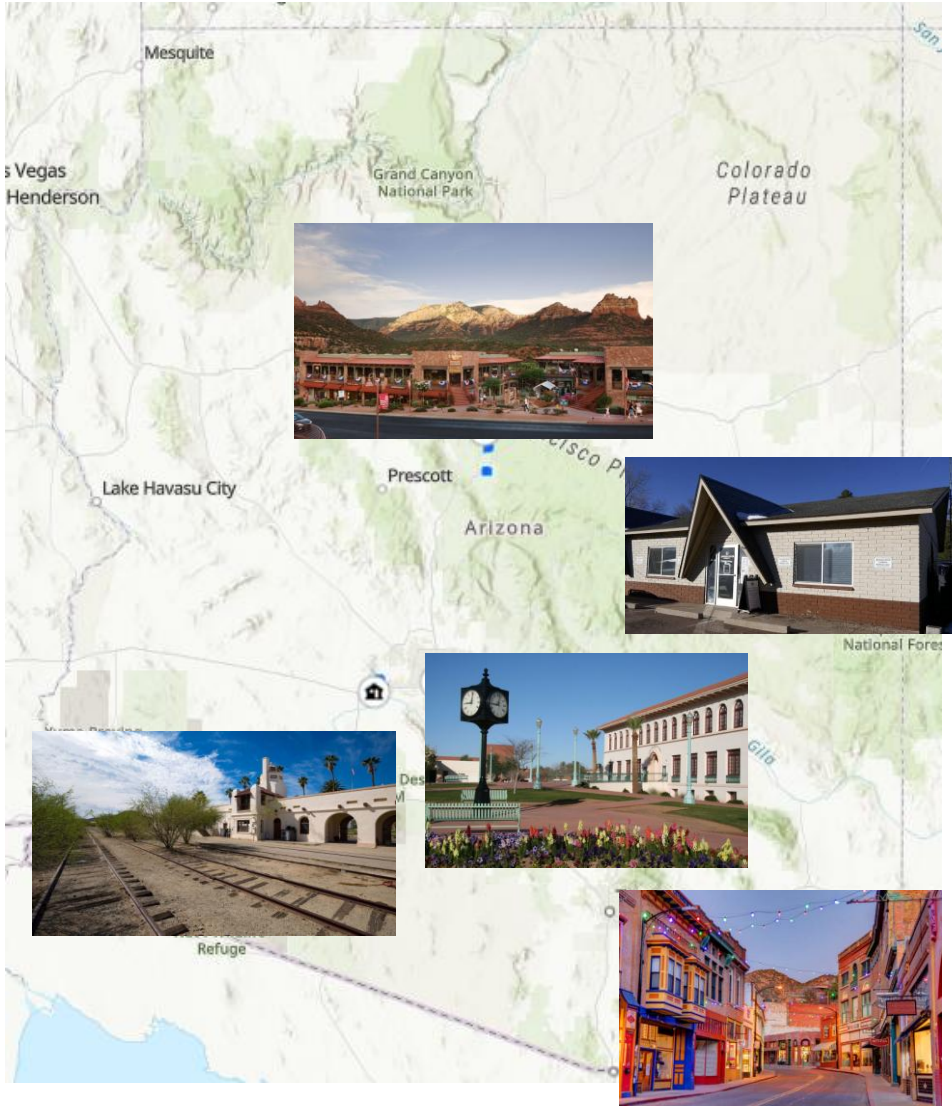
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Template for Conservation Programs

- Comprehensive Water Use Assessment
 - Use billing data to assess the water use of a community
 - Assessment of existing resources
 - Lost and Unaccounted for Water
- Digital Marketing Campaign
 - Vessel to hold together all conservation efforts
 - Educate residents and businesses on resources available
- Unique, Community-Based Elements
 - Develop elements specific to the community
- Joint Effort
 - Leadership feedback is integral

Gold Canyon: Water Use Benchmarks

Water Use Comparison

Estimated Residential Daily Per Capita Water Demand in Arizona

Source	Estimated GPCD	Year of Study
AMWUA	120	2019
USGS / U of A	116-154	2015
ADWR	145	2010

Residential Daily Per Capita Water Demand in Gold Canyon



Based on 2020 Census population estimate of 11,612

Gold Canyon: Customer Category Water Use Analysis

Connection Type	Benchmark (AF)	Connections Above Benchmark	Total Volume of Water Use Above Benchmark (AF)	Average Per Connection Water Use Above Benchmark(AF)
SINGLE FMLY DWELLING	0.43	603	159.50	0.26
COMMERCIAL IRRIGATE	5.51	5	36.70	7.34
COMMERCIAL	3.18	8	31.50	3.94
MULTI-FAM/MASTER MTR	18.61	1	9.30	9.30
RV PARK	61.97	1	4.72	4.72
MULTI-FAM/INDIV MTR	0.18	34	2.52	0.07
MOBILE HOME-MASTER	78.06	1	0.46	0.46
TEMPORARY LODGING	3.64	0	0.00	N/A
MOBILE HOME-INDIVID	0.32	0	0.00	N/A
TOTAL		623	483.43	

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Gold Canyon: Summary of CWUA

Largest opportunities for water conservation in Gold Canyon:

- Commercial users
 - Focus on outdoor water use in parks, housing developments
 - Opportunity to reduce irrigation demand through turf replacement, xeriscaping, outdoor watering ordinances, irrigation efficiency upgrades, etc.
- Residential users
 - Largest customer category in the service area
 - Opportunity to reduce GPCD to below statewide average
 - Focus on integrated public awareness and education campaigns
 - Ex: information on desert landscaping, low water use plants, etc.

Town of Superior

- Sustainability Elevated
 - Digital Marketing Campaign
 - Why this brand/approach?
- Social Media
 - [Facebook](#): Sustainability Elevated
- Other Resources:
 - [Landing Page](#): About the campaign
 - [FAQ Page](#): Living document
 - [Launch Video](#)
 - [Water Journey Video](#)



Town of Superior

- Individualized Efforts:
 - Plant sale
 - In partnership with the Boyce Thompson Arboretum
 - 46 plants given away
 - Large Scale Water User Irrigation Audits
 - Gary Woodard – Contractor
 - 4 Locations investigated



City of Casa Grande

- Save It!
 - Digital Marketing Campaign
 - Water Wise Outside
- Social Media
 - [Facebook](#): Save It CG
 - [Instagram](#): SaveItCG
 - Snapchat
- Individualized Efforts
 - Water Wise Outside
 - Gary Woodard Commercial Irrigate Audits



City of Coolidge

- Every Drop Counts!
 - Digital Marketing Campaign
 - Kids Education: APW
- Social Media
 - [Facebook](#): Every Drop Counts
- Individualized Efforts
 - Partner with Arizona Project WET to educate children on conservation
 - Gary Woodard Commercial Irrigate Audits



Community Engagement

- Communities visited:
 - Casa Grande
 - Superior
 - Coolidge
 - Apache Junction
- 14 Total events in 2021
- Goal: Get to know the community and promote conservation campaigns



Next Steps

- Goal: Gold Canyon Demand Management Program
- Meet to discuss elements
 - Dive into CWUA more
 - Find out existing community conservation efforts
 - Learn more about GLUP development
 - Discuss potential brand/logos
 - Determine customized efforts for the community
 - Determine a landing page host
 - Set a launch date



Water Resource Strategy

- **Balance between reliability and sustainability:**
 - **Implement demand management company-wide**
 - **Protect existing and potential water rights**
 - **Invest in water management infrastructure**
 - **Reuse 100% of effluent produced by water customers**
 - **Secure additional renewable water supplies**

Questions?

