



CITY OF PHOENIX

# FUTURE OF WATER

University of Arizona  
April 2025

# PHOENIX WATER:

ONE OF THE NATION'S LEADING UTILITIES

- Largest potable water provider in Arizona
- 5 water treatment plants
- 7,000 miles of pipelines
- Produce over 110 billion gallons per year of clean water
- 3 wastewater treatment plants
- 5,000 miles of sewer mains
- 70 billion gallons per year of recycled water put to beneficial use





## LABORATORY TESTING

Phoenix Water conducts over a million tests annually throughout the water and wastewater utility, ensuring compliance with over 100 regulatory standards.



## ENGINEERING THE FUTURE

Phoenix Water engineers strategically design innovative infrastructure projects to support water and wastewater services.



## OPTIMIZING OPERATIONS

Certified treatment operators ensure water and wastewater facilities are running safely and optimally while meeting all regulatory standards.





# PHOENIX RELIES ON SURFACE WATER

ABOUT 98% OF THE WATER WE USE IS SURFACE WATER

- Groundwater (2%)
- Colorado River (40%)
- Salt and Verde (58%)
- U.S. Secretary of the Interior declared a Tier 1 Shortage on the Colorado River in August 2021
- Phoenix declared a Stage 1 Drought in June 2022
- New Colorado River Operating Guidelines will become effective January 2027





# IN THE DESERT, EVERY DROP COUNTS.

SEE WATER DIFFERENTLY



## SOLUTIONS

NOW

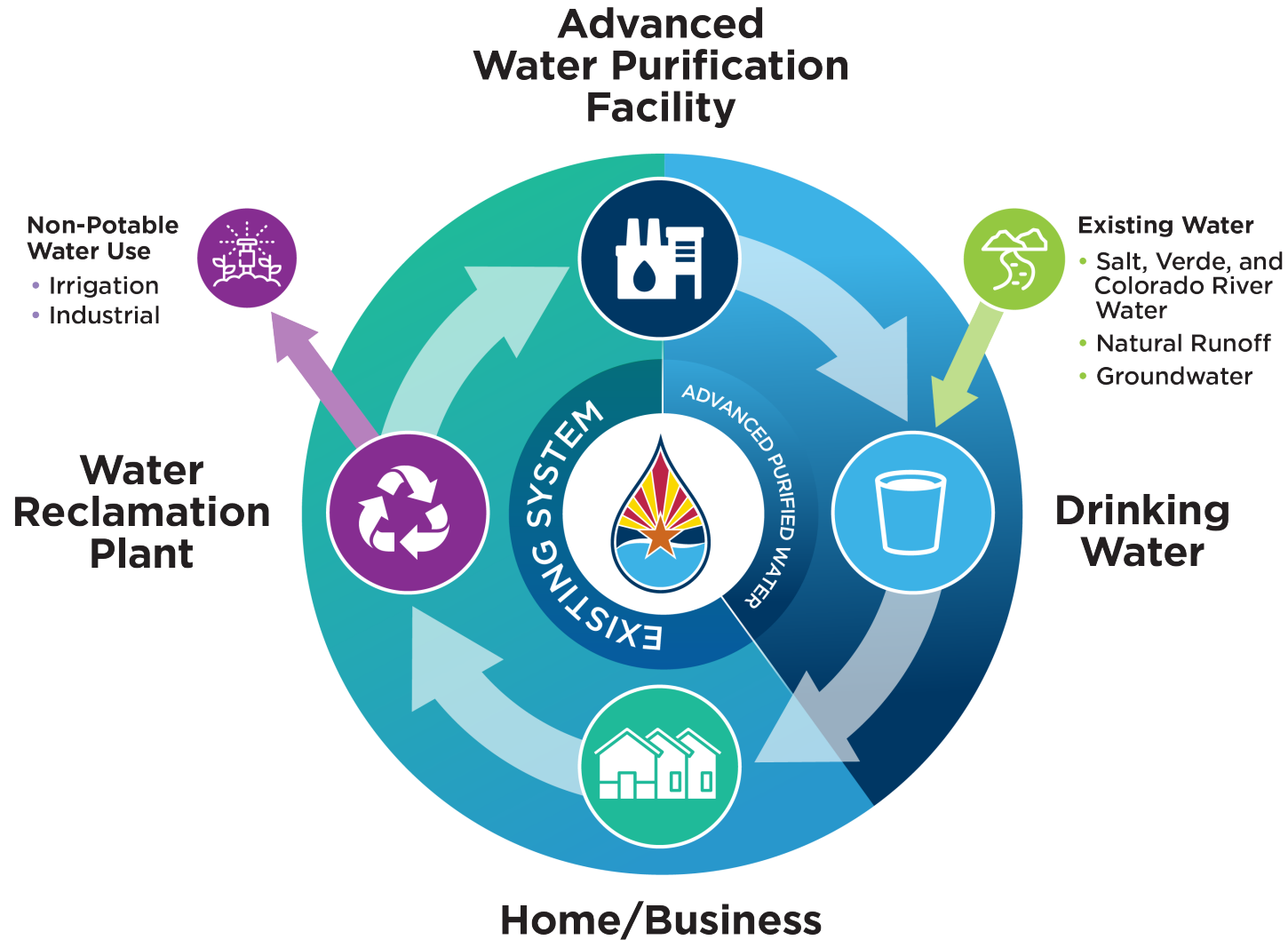
FUTURE



- **Water Conservation and water use efficiency** are cornerstones of life in the Valley
- **Phoenix Recycles Water** for use in agriculture, energy production, irrigation, and wetlands
- **Develop Advanced Purified Water** to provide a new, safe, sustainable, drought-proof water supply adding reliability to our water sources.



# ADVANCED TECHNOLOGY COMPLETES THE WATER CYCLE



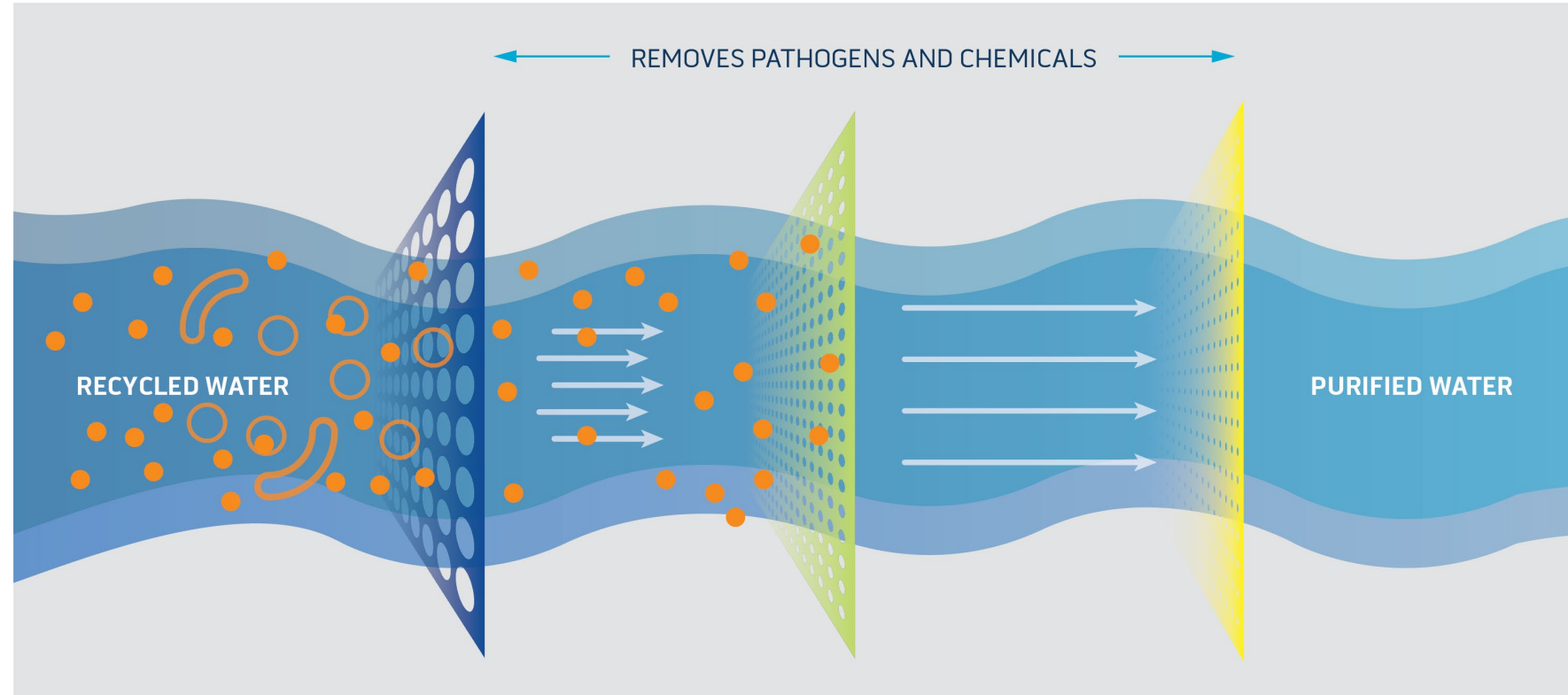
- ***Phoenix Recycles Water*** for use in agriculture, energy production, irrigation, and wetlands
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# WHAT IS ADVANCED WATER PURIFICATION?

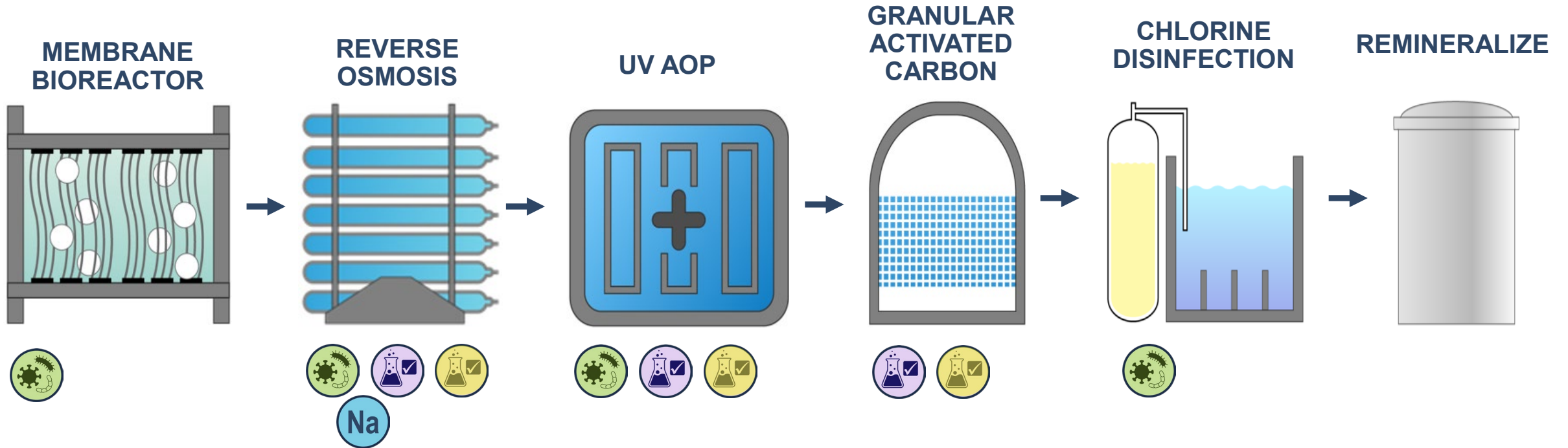
## MULTI-STEP BARRIER SYSTEM TO:

- Remove pathogens and organics in the water
- Remove chemicals and byproducts from the water
- Reduce water salinity



# CAVE CREEK AWPf

## ADVANCED PURIFIED WATER



### Pathogen Barriers

**2+2**

### Chemical Barriers

**2+1**

### Unregulated Chemicals

**0+3**

### Salinity Control

**0+1**

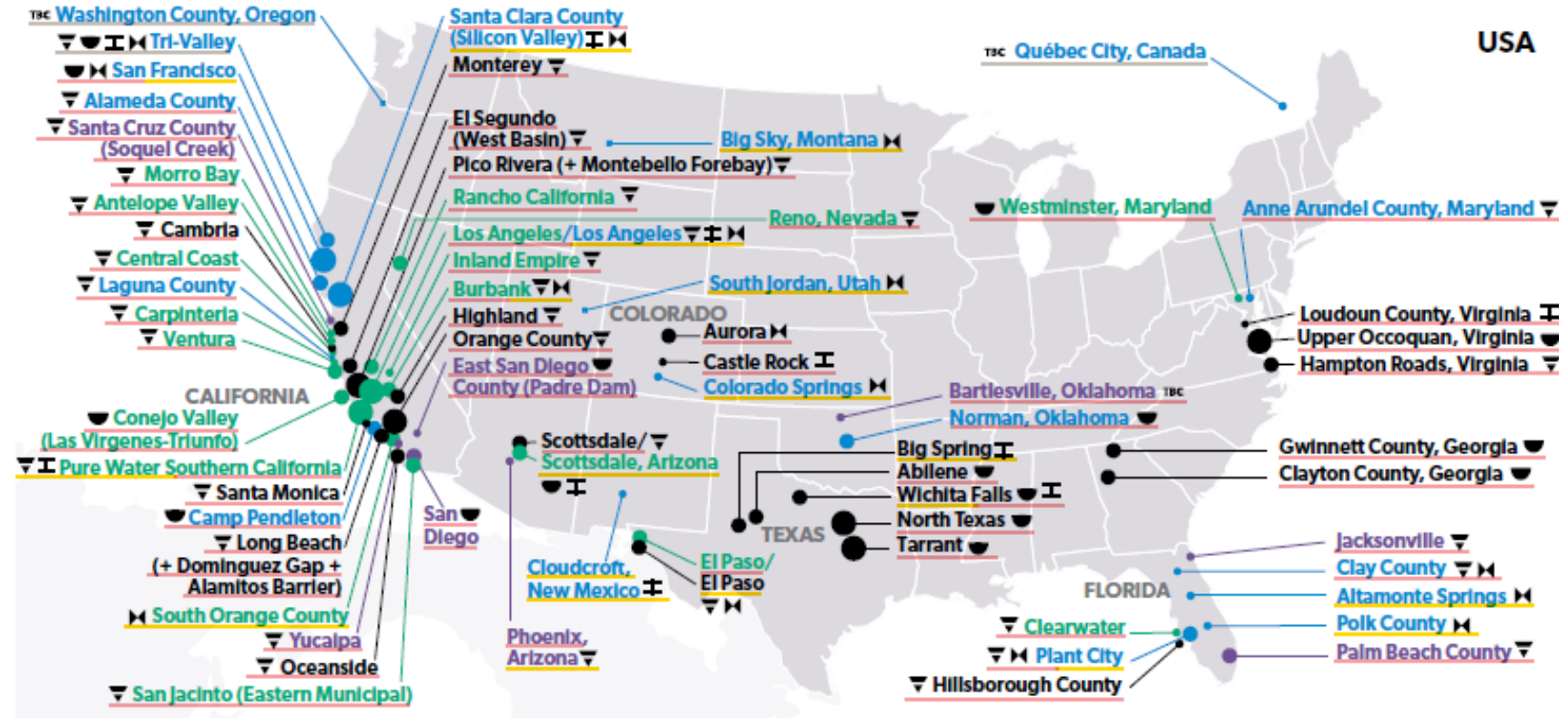




# ADVANCED PURIFIED WATER IN THE U.S.

## POTABLE REUSE IS PART OF WATER SUPPLY

- U.S. is a leader in advanced water purification
- Communities across the world have systems online or planned
- Safe, reliable and drought resistant

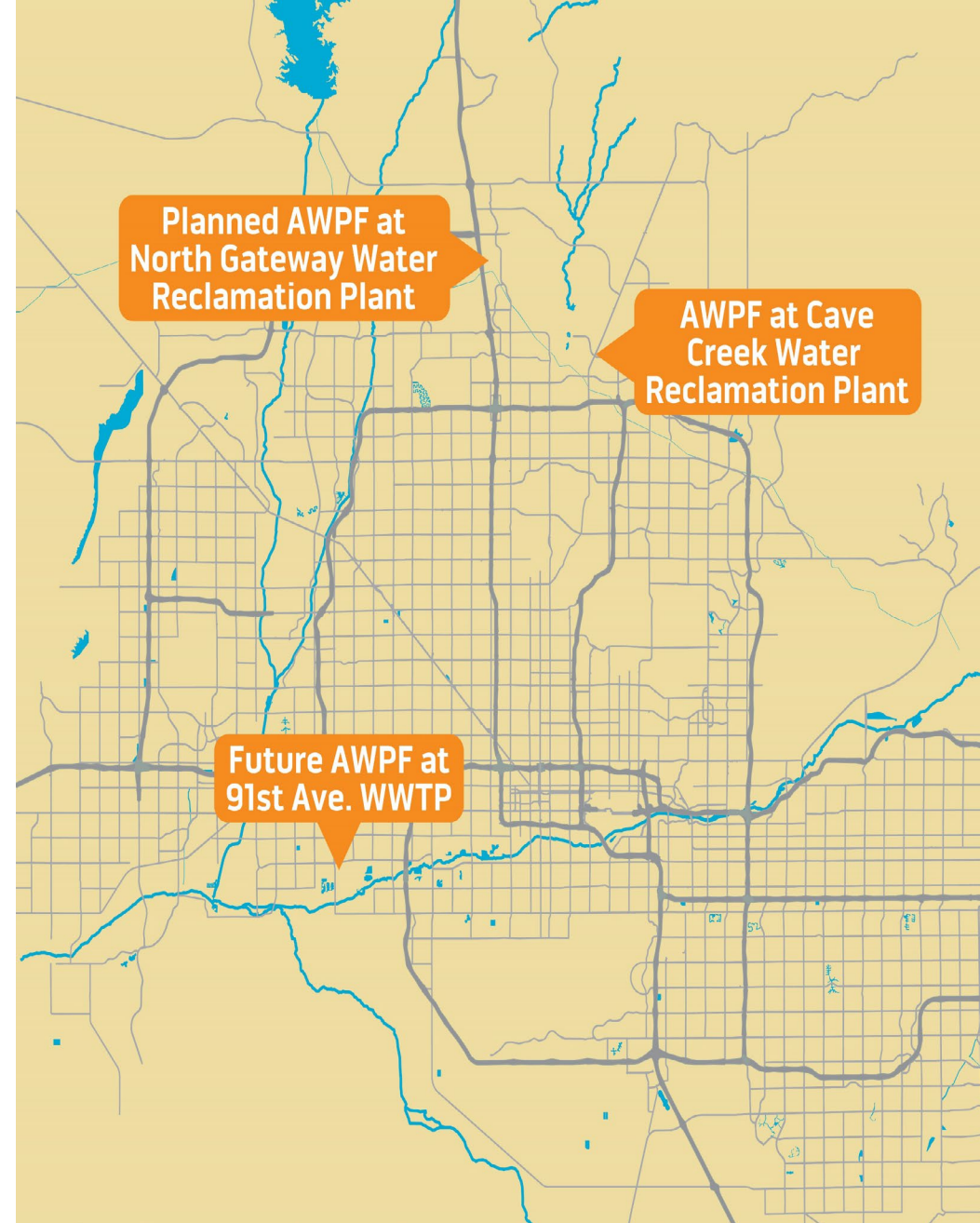


Map courtesy of Water Services Association of Australia in collaboration with WateReuse Association.



# ADVANCED WATER PURIFICATION FACILITY (AWPF) FUTURE LOCATIONS

- *Cave Creek AWPf*
- *North Gateway AWPf*
- *91<sup>st</sup> Ave AWPf*



# CAVE CREEK AWWPF



**8  
MGD**



# NORTH GATEWAY AWPf



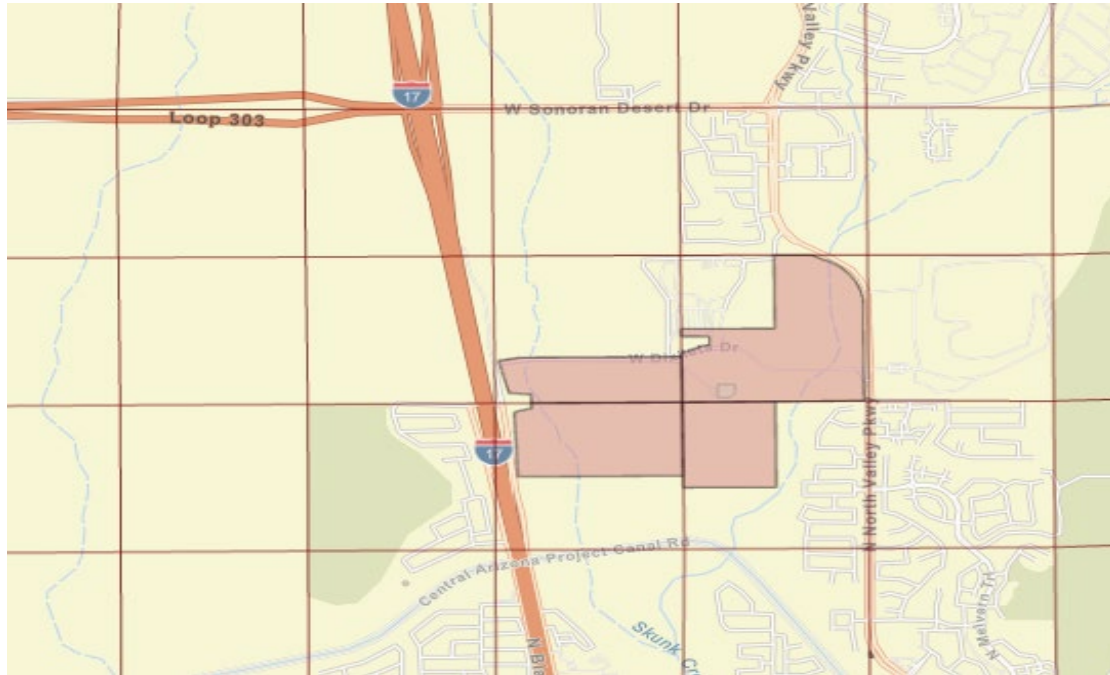
**2025**  
Start  
Design

**2026**  
Start  
Construction

**2029**  
Construction  
Complete  
and AWPf  
Online

**2030**  
Full-scale  
Pilot  
Testing

**2031**  
Direct  
use



**8**  
**MGD**



# 91<sup>st</sup> AVENUE AWPf



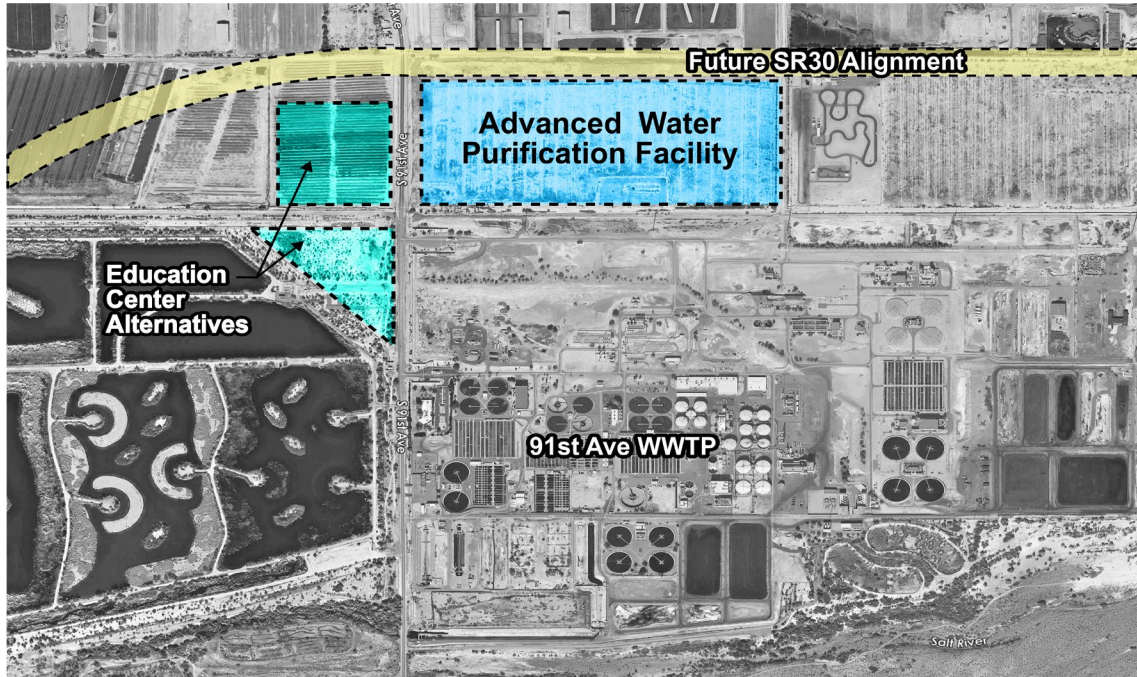
**2029**  
Start  
Design

**2030**  
Start  
Construction

**2033**  
Construction  
Complete  
and AWPf  
Online

**2034**  
Full-scale  
Pilot  
Testing

**2035**  
Direct  
use



**50-80 MGD**



# ADVANCED PURIFIED WATER

Federal  
Safe  
Drinking  
Water ACT



Arizona  
Advanced  
Water  
Purification  
Rules



Pure Water  
Phoenix



“Water should not be judged by its  
history, but by its quality.”

Lucas van Vuuren  
National Institute of Water Research

# ROADMAP

## Ongoing

- Public outreach
- Strategize for additional State/Federal funding
- Construction of Cave Creek Water Reclamation Plant and Pure Water Phoenix at Cave Creek
- Feasibility Study for 91<sup>st</sup> Avenue

## Future Activities

- Launch mobile demonstration facility
- Design and permitting for North Gateway and 91<sup>st</sup> Avenue AWWP

