



# Reclaimed Water Rule Revisions Stakeholder Meeting

May 2, 2017

1. Introductions and Welcome
2. Rulemaking Schedule and Timeframe
3. Background and Existing Reclaimed Rules
4. Overarching Structure of Proposed Rules
5. Key Proposed Changes
6. Open Discussion



- **Friday, May 5, 2017** – Please provide comments on the draft to Heidi Haggerty (haggerty.heidi@azdeq.gov)
- **Late May or early June 2017**- Proposed rule will be filed with Secretary of State
- **Late June 2017** – 30 day comment period likely to begin
- **December 2017** – Final Rule
- This is just Phase 1, Phase 2 & 3 involves workgroups to provide expert opinions



# **BACKGROUND AND EXISTING RECLAIMED RULES**

**1972 – First reclaimed water rules, ADHS**

**2001 – Comprehensive rules transform program**

- Stringent treatment standards for new/expanded WWTPs under APP
- Permit program for reclaimed water end users
- RWQS for five classes of reclaimed water (A+, A, B+, B, C)
- List of end uses allowed for the five classes



Reclaimed water pipeline,  
City of Chandler



Viticulture with reclaimed water, Cottonwood  
(Yavapai College photo)

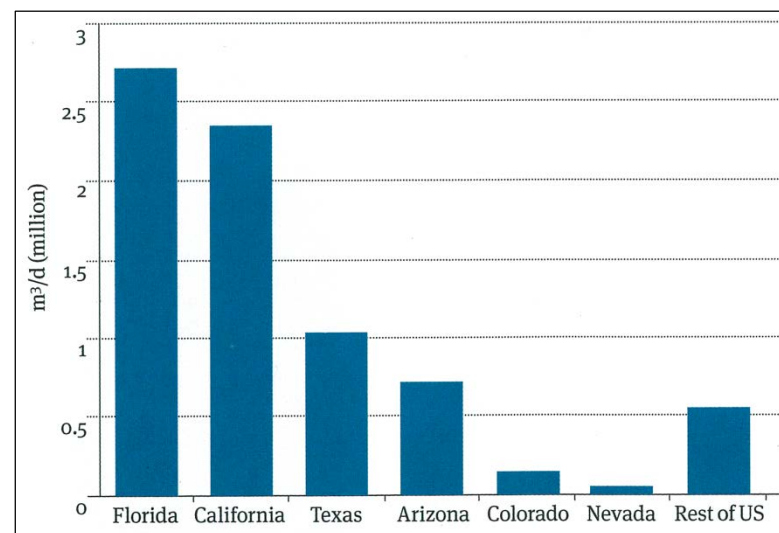
# Rules Helped Spur Reuse, National Prominence

82% of reuse occurs in just four states, Arizona being one



Map: Western Water, July/August 2008

Reused Wastewater Flows, 2014

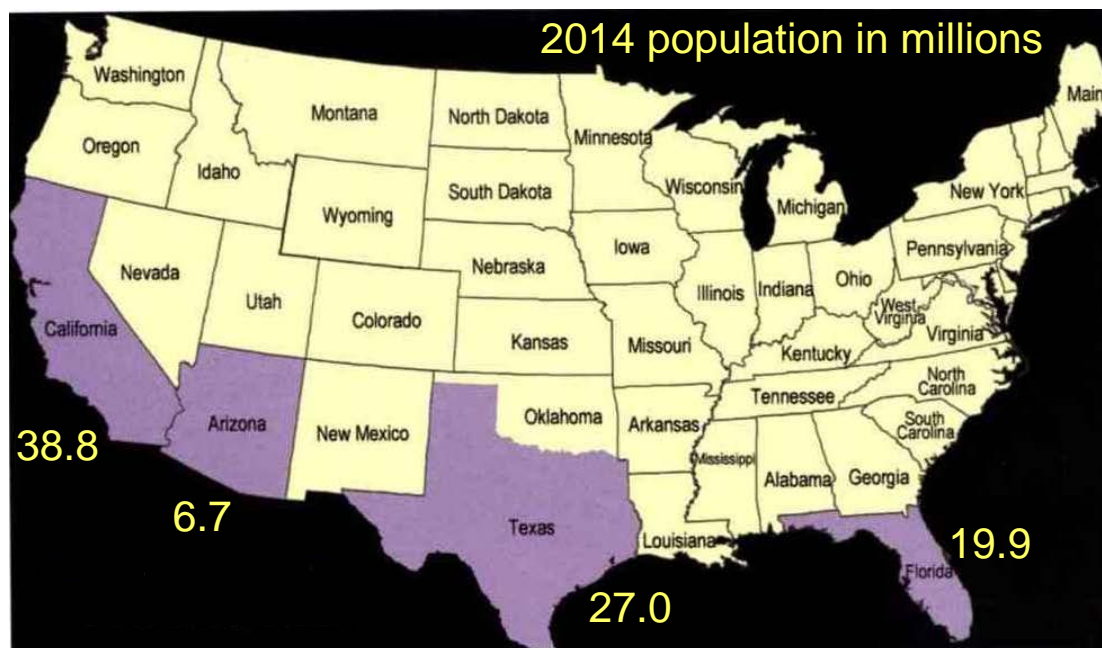


Source: Bluefield Research

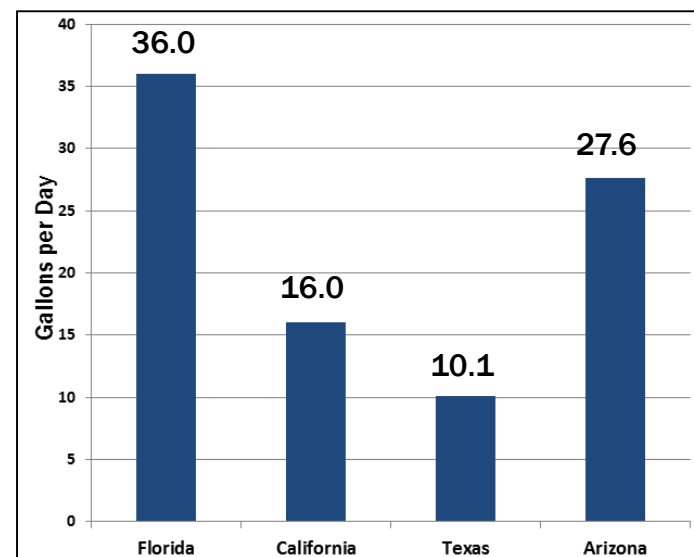


# Rules Helped Spur Reuse, National Prominence

Arizona is 2nd highest nationally in per capita reuse



Reuse Per Person, 2014



# Rules Helped Spur Reuse, National Prominence

Water Reuse Capacity (AF/yr)		Reclaimed Water as % of Total Water Supply
Israel	510,000	20%
Singapore	80,783	30%
United States	3,400,000	3%
Florida	955,000	4%
California	807,000	2%
Texas	482,000	3%
Arizona	504,000	7%

Source:  
Bluefield Research

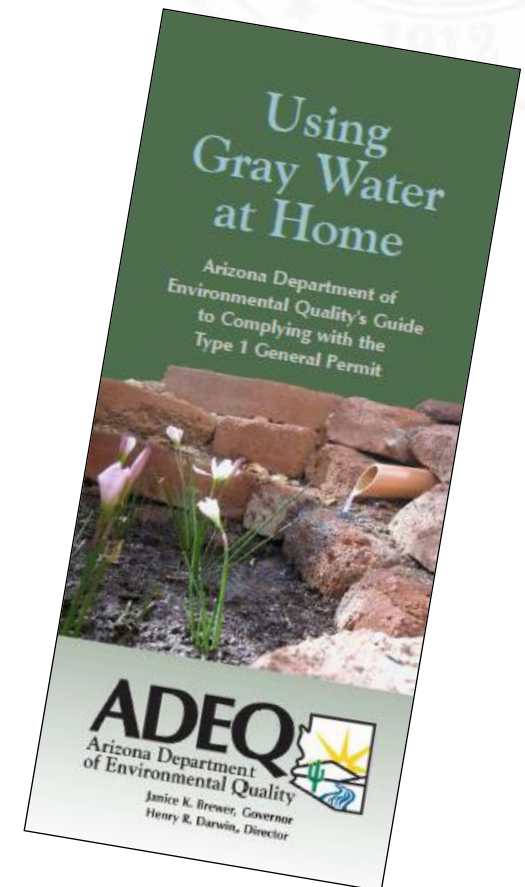


...but **#1** at integrating reuse into the water supply portfolio



## Gray Water Rules Were Also Transformed In 2001

- Merged into the reclaimed water rules
- Removed requirement for “hard permitting” of home gray water use
- New focus on education—simple BMPs for home use



# So, Why This Rule Revision?

- Keep up with the rapidly moving reclaimed/reuse field
- Sustainable water supplies are becoming even more important
- Need to address potable reuse



City of Scottsdale photo

- Expert workgroups established – first meeting held on April 28
  - Reclaimed water quality standards
    - review standards based on current science
  - Infrastructure/technology
    - review distribution system criteria for adequacy
    - recommend detailed criteria for potable reuse
- Two installments of rulemaking (possibly combined into one) based on expert input



# **OVERARCHING STRUCTURE OF PROPOSED RULES**

# Existing Rule Organization

## 18 A.A.C. 9, Article 6

### Reclaimed Water Conveyances

Pipeline  
Conveyances

Open Water  
Conveyances

Definitions,  
Transition, General  
Requirements, and  
other Administrative  
Sections

Signage  
for Direct  
Reuse

Reclaimed  
Individual  
Permit  
Application and General  
Provisions

Type 1  
Gray  
Water  
Permit

Type 2  
Reclaimed  
Permits  
(A+, A, B+, B, C)

Type 3  
Reclaimed  
Permits (Agent  
and Blended  
Facility)

Type 3 Gray  
Water Permit

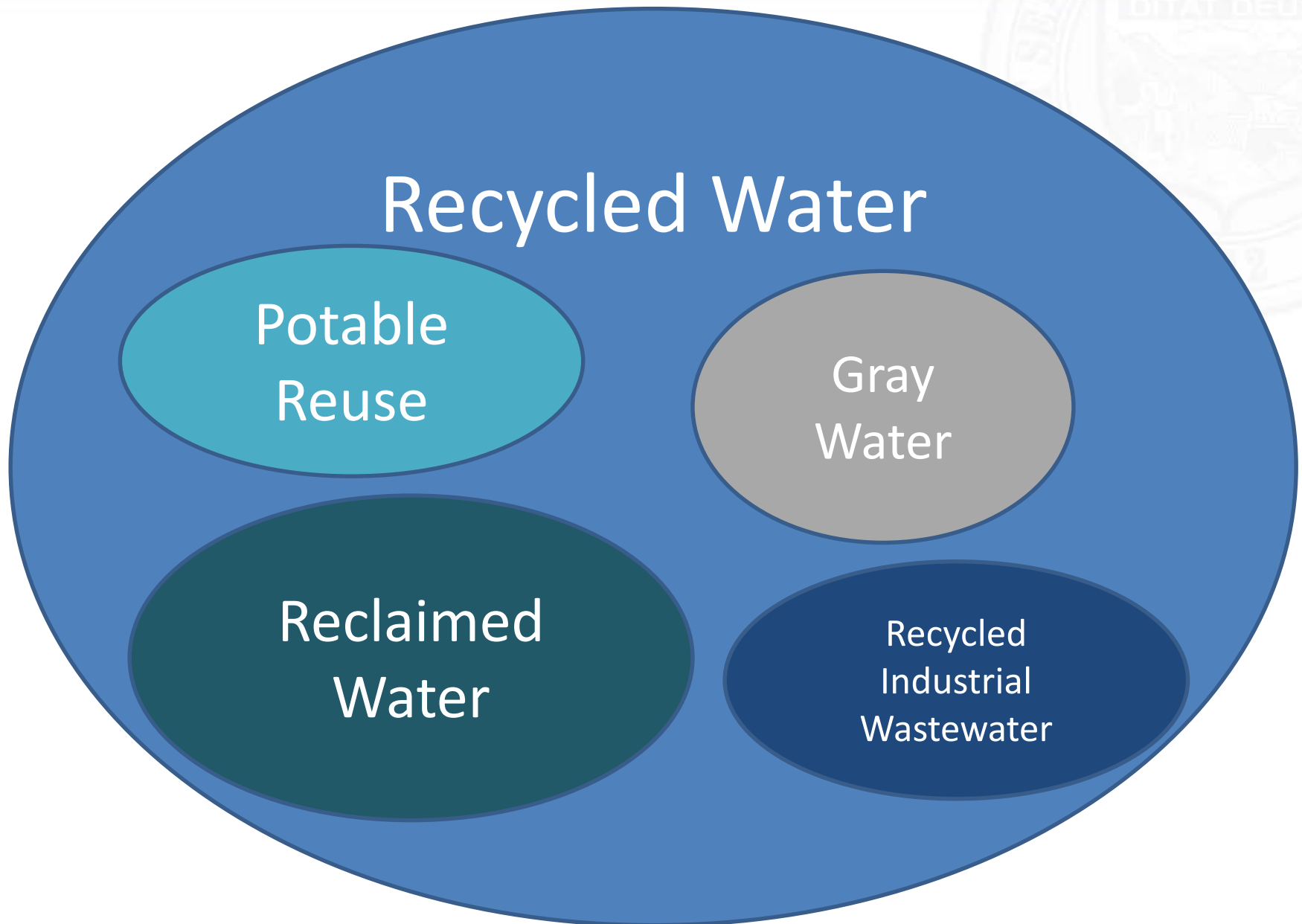
## 18 A.A.C. 9, Article 7

### Direct Reuse of Reclaimed Water

General Permit  
Revocation

Enforcement

Reclaimed  
Individual  
Industrial  
Wastewater  
Permit





# New Recycled Water Umbrella

Article 7	Use of <b>Recycled Water</b>
Part A	General Provisions
Part B	Reclaimed Water
Part C	Recycled Industrial Wastewater
Part D	Gray Water
Part E	Purified Water for Potable Reuse



“Recycled Water” means....

“a processed water, including reclaimed water and gray water, for which the Department has designated water quality specifications to allow the water to be used as a supply.”

Article 7	Use of Recycled Water	Section Titles
Part A	General Provisions	→Definitions
		→Applicability and Standards for Recycled Water
		→Recycled Water Individual Permit Application
		→Recycled Water General Permit
		→Recycled Water Permit Term, Information Changes, and Renewal
		→Recycled Water Permit Revocation
Part B	Reclaimed Water	→Transition of Permits
		→General Requirements (includes conveyances and signage)
		→General Provisions for Recycled Water Individual Permit for Reclaimed Water
		→Type 2 Recycled Water General Permit(s) for Direct Reuse of Class A+/A/B+/B/C Reclaimed Water
		→Type 3 Recycled Water General Permit for a Reclaimed Water Blending Facility
		→Type 3 Recycled Water General Permit for a Reclaimed Water Agent
Part C	Recycled Industrial Wastewater	→Recycled Water Individual Permit for Industrial Wastewater
Part D	Gray Water	→Type 1 Recycled Water General Permit for Gray Water
		→Type 3 Recycled Water General Permit for Gray Water
Part E	Purified Water for Potable Reuse	→Recycled Water Individual Permit for an Advanced Water Treatment Facility

# Permit Types Under New Structure

Permit Type <sup>1</sup>	Part
Type 1 Recycled Water General Permit for Gray Water	D
Type 2 Recycled Water General Permit(s) for Direct Reuse of Class A+/A/B+/B/C Reclaimed Water	B
Type 3 Recycled Water General Permit for a Reclaimed Water Blending Facility	B
Type 3 Recycled Water General Permit for a Reclaimed Water Agent	B
Type 3 Recycled Water General Permit for Gray Water	D
Recycled Water Individual Permit <sup>2</sup>	A
Recycled Water Individual Permit for Industrial Wastewater That Is Reused	C
Recycled Water Individual Permit for an Advanced Water Treatment Facility <sup>3</sup>	E

<sup>1</sup>No permit types were removed from existing rule.

<sup>2</sup>Individual permit can be used with all recycled water types to accommodate special situations and provide flexibility.

<sup>3</sup>New permit tailored to potable reuse.




# KEY PROPOSED CHANGES

1. New Nomenclature and Rule Structure
2. Modified Prohibition Against Providing Reclaimed Water for Human Consumption
3. Added Interim Permitting Criteria for Producing Potable Water from a Reclaimed Water Source
4. Modified Type 1 and Type 3 Gray Water Permit Provisions



And...

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5. Notice and Signage Provisions
  6. Reporting Requirements
  7. Permit Revocation Provisions
  8. Notice Requirements for Permit Issuance
  9. Other minor clarifications and technical, grammatical, and consistency modifications



- Modified Prohibition Against Providing Reclaimed Water for Human Consumption
- Definition: Advanced Water Treatment Facility
- Part E. Interim Criteria for an Individual Permit for Potable Reuse



## From:

Prohibited activity.

Providing or using reclaimed water for...

**“Direct reuse for human consumption.”**

## To:

Prohibited activity.

**“Providing water for human consumption from a reclaimed water source except as allowed in Part E of this article.”**

“Advanced water treatment facility” means:

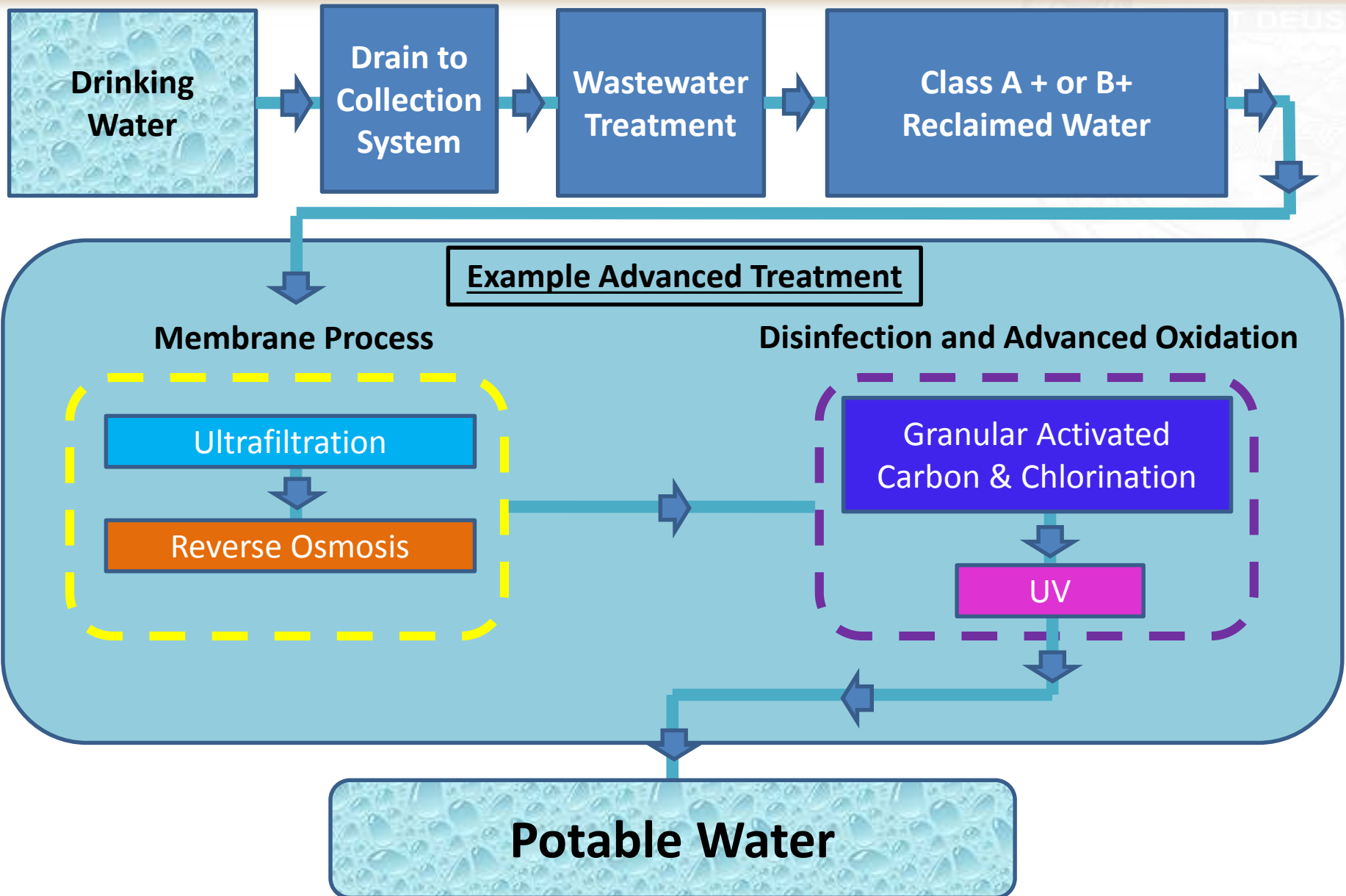
- A facility that treats and purifies Class A+ or Class B+ reclaimed water to produce potable water suitable for distribution for human consumption.
- R18-9-B702(B) does not apply to an advanced water treatment facility.
- Potable water produced by an advanced water treatment facility is not reclaimed water.

# Interim Permitting Criteria of Potable Reuse

- Source water characterization
- Pilot treatment system
- Microbial control technology
- Microbial reduction targets
- Chemical control technology
- Monitoring plan
- Start-up plan
- Operation and maintenance plan
- Operator Training
- Financial capability



# Advanced Water Treatment Example



- No fundamental permitting changes
- Best management practices clarifications and improvements including:
  - Lists some measures for minimizing standing water
  - Holding time in tanks should be less than 24 hours



Photo by Brad Lancaster



- New criteria for end use makes Type 3 permit more usable



Subsurface irrigation with gray water and harvested rainwater, Reid Park Zoo Training Center, Tucson

- Annual reporting changed to calendar year
- Easy to make informational changes
- Other unlisted changes will require a new permit
- Clearer language for revocation of permits for noncompliance



- ADEQ will notice permits on the Department's website, rather than in the newspaper
  - More efficient
  - Saves the state and customers money in the end
  - Will still reach large audience through GovDelivery
  - Saves time and speeds up permit issuance





# OPEN DISCUSSION

Send comments to:

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Questions:

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or

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602-771-4815 (or above email)