

# Austin Water's Aquifer Storage & Recovery (ASR) Project



## What is Aquifer Storage and Recovery (ASR)?

- ASR is a storage strategy that water utilities in Texas and around the world use to store water in a natural aquifer when it is available during wet times, and withdraw the stored water during times when other supplies are needed.
- Storing the water in a natural aquifer helps reduce costs associated with building other storage alternatives and prevents evaporative loss (although there are other system losses to manage).

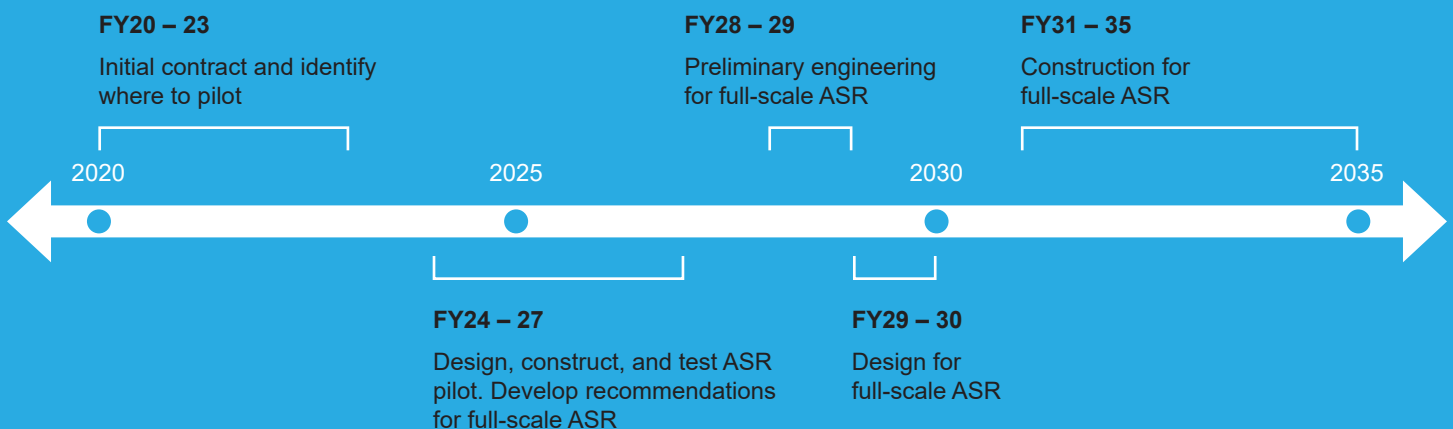


## ASR Strategy in Water Forward, Austin's 100-year Integrated Water Resource Plan

- ASR was approved as part of the Water Forward Plan along with a suite of conservation, reuse, and other supply options that will be implemented.
- Modeling performed in Water Forward shows the need for additional supply strategies by 2040 to manage risks associated with climate change and droughts worse than the drought of record, and ASR is a major drought and resiliency strategy to help manage those risks.
- Water stored in an ASR will improve Austin's climate resiliency by serving as a second source of water in drought or emergency situations, such as water quality upsets.



## Approximate timeline *subject to change*



## Austin ASR overview

- Austin's ASR project would store drinking water from Austin's water treatment plants. This water would be available under Austin's existing water rights and would be stored in the aquifer during periods when water is more plentiful, maximizing Austin's existing supplies.
- Stored water withdrawn from the ASR project would be treated to the extent needed to be compatible with Austin's drinking water quality and then distributed to customers.
- Multiple aquifers, including the Carrizo-Wilcox, Edwards, and Trinity aquifers will be evaluated during Phase 1 of the project.
- The target volume included in Water Forward is 60,000 acre-feet of stored water by 2040, with the plan to store additional water in the future.



## Environmental considerations

- Storing treated surface water already permitted to Austin is in keeping with the Water Forward guiding principle of maximizing locally available water resources.
- As stated in Water Forward: "The ASR option is in no way intended to be a strategy to develop native groundwater."
- Using a natural aquifer to store water allows for large volumes of water to be stored with minimal disturbance to the land above the aquifer.

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## Community engagement, customer outreach, affordability, and equity

- A major component of the project scope is dedicated to extensive community engagement and ongoing public outreach throughout all phases of development of an ASR project.
- **Affordability:**
  - ▶ Engaging in long-term planning for ASR to ensure a sustainable water future for Austin can help avoid more costly emergency projects in the future.
  - ▶ A focus of the pilot ASR is to further refine the costs and affordability considerations of implementing a full-scale ASR.
  - ▶ Austin Water plans to pursue low-interest loans for the ASR project as appropriate.
- **Equity:** Austin Water is committed to implementing this ASR project with an equity focus in collaboration with our community. The pilot ASR will help gather more information on how to implement this project with equitable outcomes.



## ASR Pilot and Program Management consultant scope highlights

### Phase 1

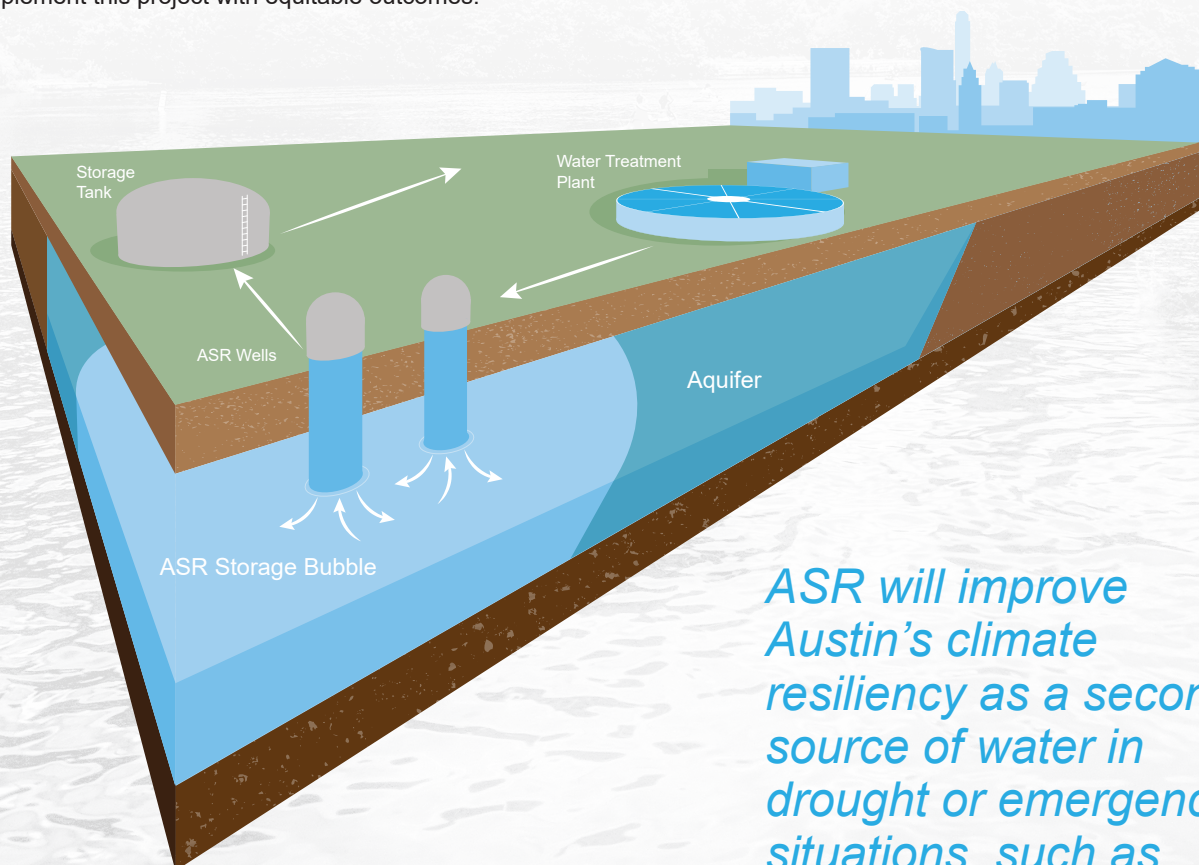
Develop an ASR program and perform desktop modeling and field testing to evaluate potential sites for piloting. A Carrizo-Wilcox ASR strategy was included in the Water Forward Plan, but through this phase other aquifers that may be closer to Austin will also be evaluated.

### Phase 2

Design, construct, and test an ASR pilot project(s) (subject to future Council approval).

### Phase 3

Act as owner's representative through any potential full-scale ASR project development (subject to future Council approval). Other consultant teams will be procured for design and construction of any full-scale ASR project components.



*ASR will improve Austin's climate resiliency as a second source of water in drought or emergency situations, such as water quality upsets.*