

# Liberty Aquifer Replenishment Facility (LARF)

## Fact Sheet – February 2017

### Project Background

- Developed pursuant to 2014 agreement between Liberty Utilities and Central Arizona Water Conservation District.
- First-of-its-kind public/private partnership to develop reclaimed water recharge facility.
- 3 year process to assess and identify suitable site for groundwater recharge within Liberty service area.
- Land for project purchased 2015.
- Site construction completed December 2016.

### Project Design and Implementation

- LARF designed to sustainably manage water resources within Liberty's water service area by recharging the same aquifer water is withdrawn from.
- Recharge occurs within an area of historical water level declines in regional aquifer.
- The facility design incorporates an innovative bird-netting over recharge basins to reduce potential for bird strikes at Luke Air Force Base.

### Delivery System

- Reclaimed water delivery infrastructure from Liberty's Palm Valley Water Reclamation Facility.
- Connection from existing 24 inch pipeline along Camelback Road will deliver reclaimed water to the recharge facility.

### Monitoring

- Operating under an Aquifer Protection Permit from ADEQ, Liberty will monitor water quality adjacent to LARF via two installed monitor wells.
- Underground storage facility permit from ADWR requires monitoring and reporting of water deliveries to LARF, with accounting for quantities of water that actually recharge the aquifer.
- Flow meters measure inflow to each basin and total inflow to facility.
- Water level sensors remotely measure basin water levels.
- On-site piezometer to assess potential mounding of recharge water beneath facility.



## Initial Site Condition

- Facility site previously zoned for industrial uses, but never developed.
- Proximity to Luke AFB flight path limits potential uses of land.

## Facility Layout

- Facility size: 51.77 acres
- Area of Phase I Basins - 9.04 acres (4 total basins)
- Depth of Phase I Basins – 10 feet
- Area of Phase II Basins - 12.78 acres (up to 3 additional basins; final area of Phase II basins dependent on recharge performance of Phase I basins)
- Depth of Phase II Basins – 5 feet



## Recharge Capacity

- Underground storage facility permit divides operational capacity into three phases:
  - » Phase I capacity – 4,000 acre-feet/year for 7 years
  - » Phase II capacity – 5,000 acre-feet/year for 7 years
  - » Phase III capacity – 6,000 acre-feet/year for 6 years

## Location

- 15080 W. Camelback Rd., Goodyear, AZ
- SE ¼, Section 17, Township 2 N, Range 1 W GSRB&M

## Partners

- Liberty Utilities – owner and operator of facility.
- Central Arizona Project – invested approximately \$6.1 million for cost of construction and received 100 year lease of 2,400 acre-feet of recharged water annually to meet replenishment obligations of Central Arizona Groundwater Replenishment District.

## Costs

- Total facility cost: approximately \$8 million

