



# Arizona Water Reuse 2019 Symposium

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# About the Water Authority

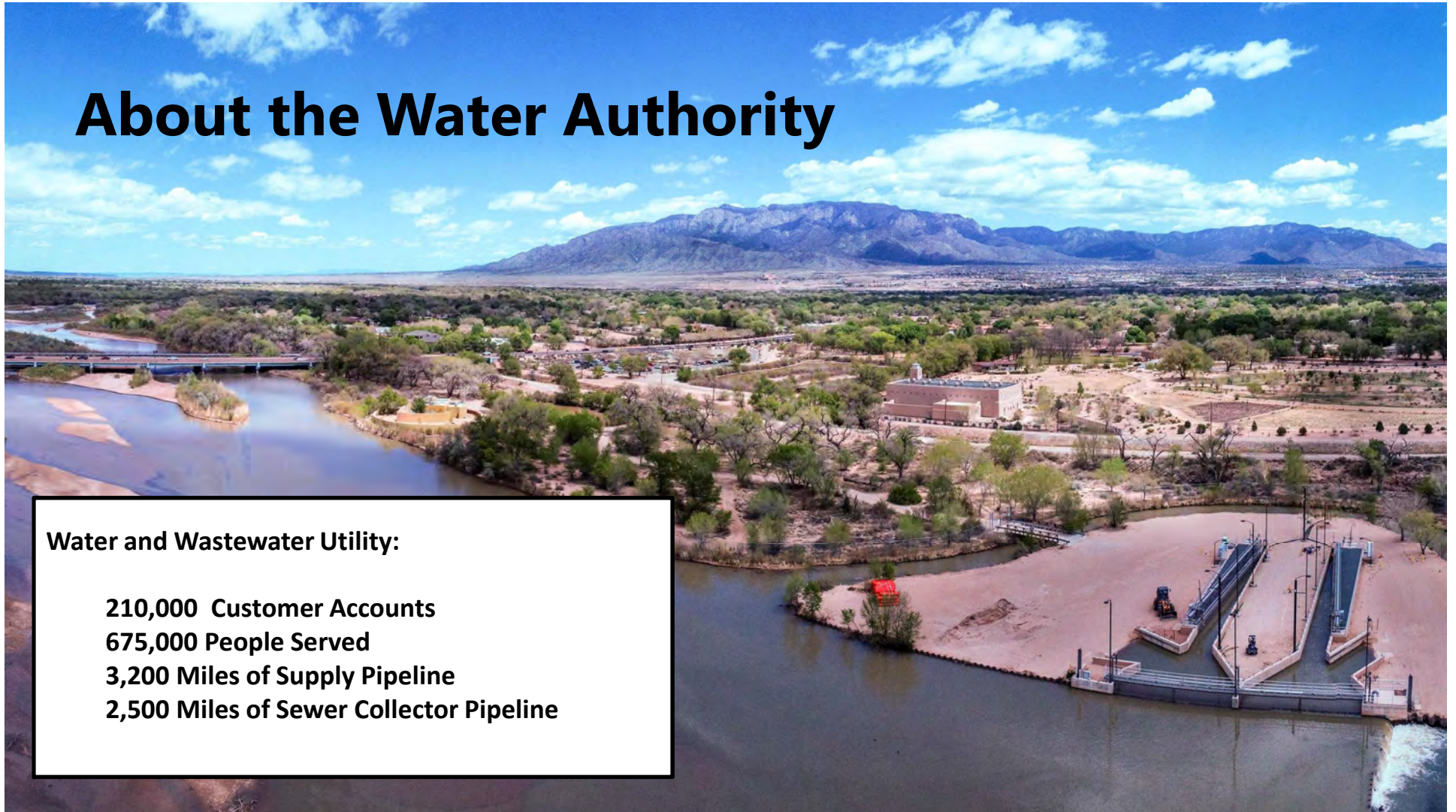
## Water and Wastewater Utility:

**210,000 Customer Accounts**

**675,000 People Served**

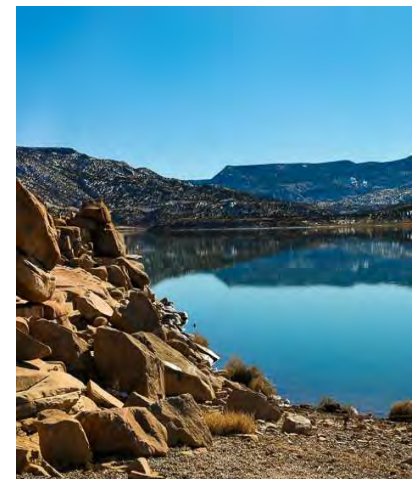
**3,200 Miles of Supply Pipeline**

**2,500 Miles of Sewer Collector Pipeline**




## Current Sources of Supplies

- Surface (San Juan-Chama)
- Groundwater (native RG)
- Non-Potable Surface Water (SJC)
- Non-Potable Wastewater Effluent
- Aquifer Storage and Recovery (SJC)



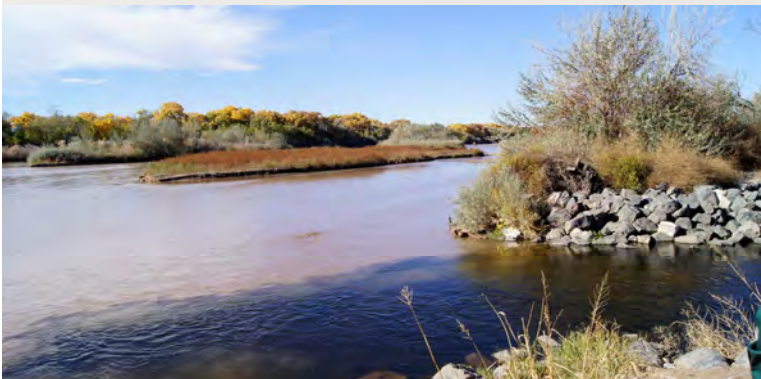




## Southside Water Reclamation Plant (SWRP) - Reclaimed Water

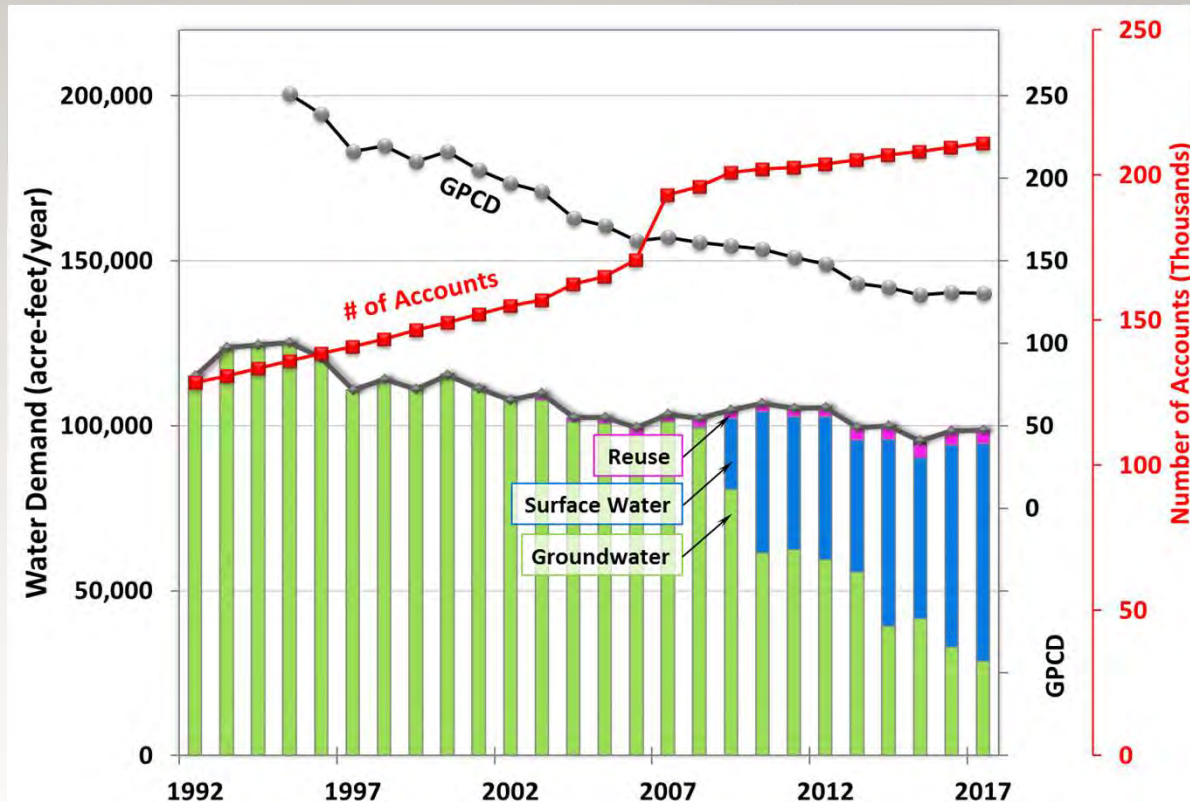
- 18.5 billion gallons per year (55 MGD)
- Offsets for groundwater pumping
- Return of native Rio Grande water back to the river
- "Purple Pipe" System



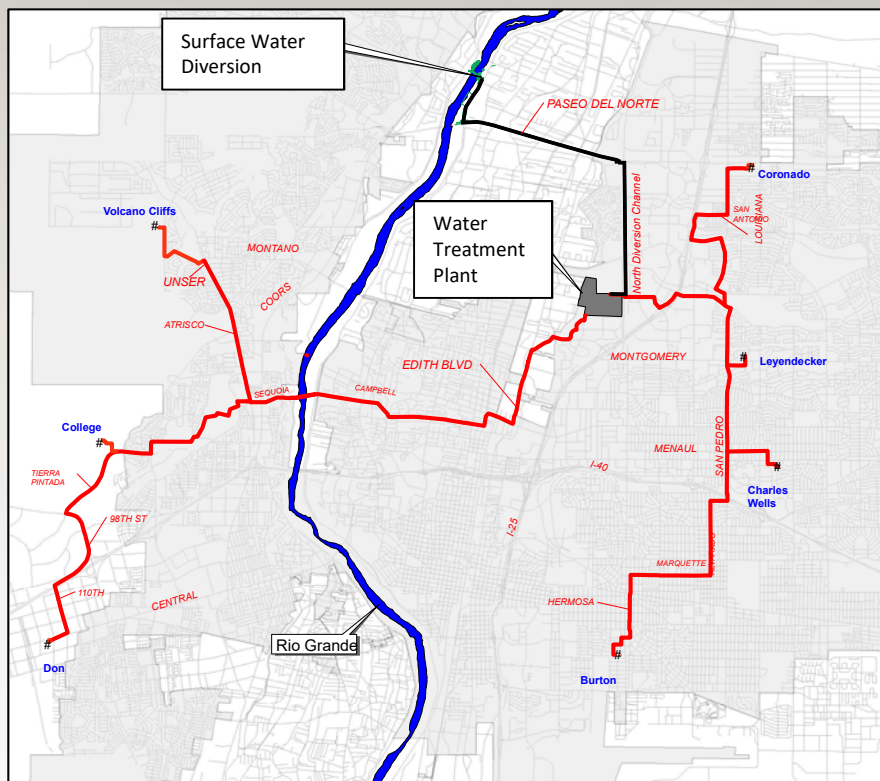


## WUA River Diversion and Return to Rio Grande

# Water Usage has Decreased Even with Growth



# Drinking Water Project Implemented



## Multiple Benefits

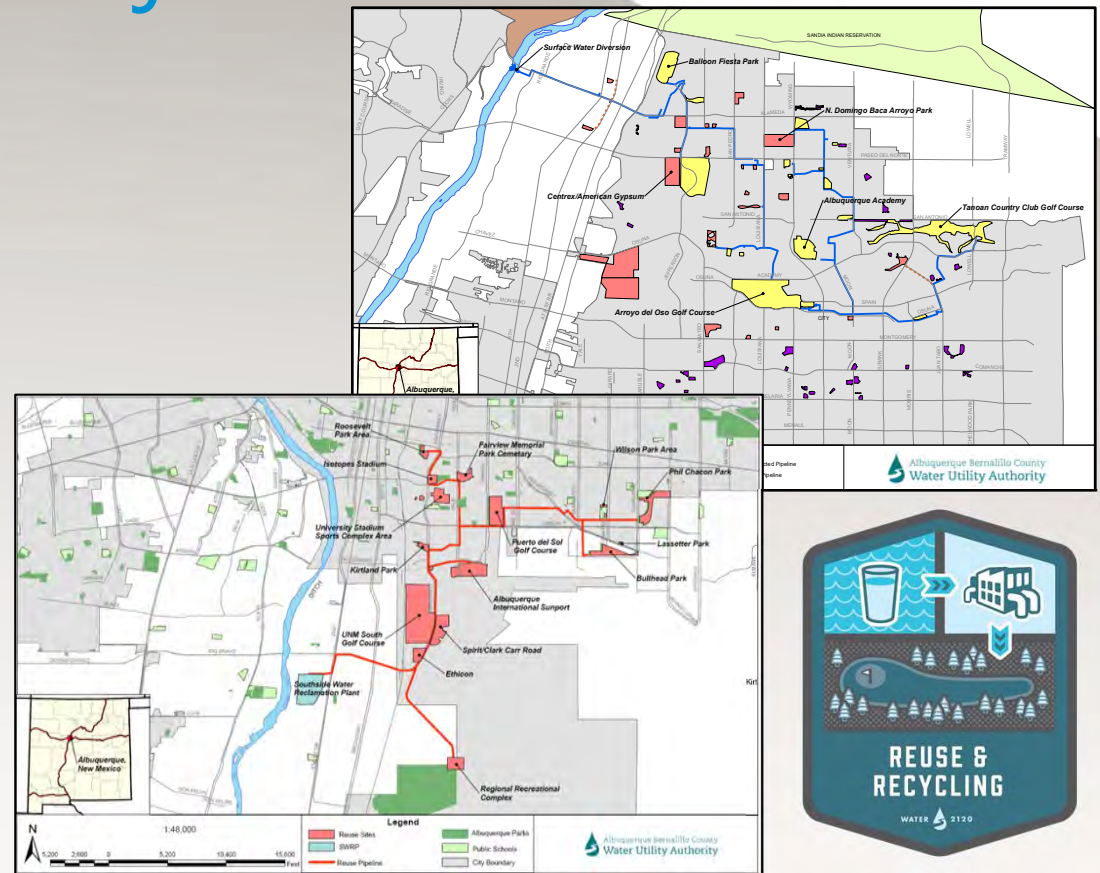
- New ASR Wells co-located at the Water Treatment Plant
- New infrastructure can move supply throughout the system
- Reduced need for arsenic treatment



# Existing Reuse Projects

Current projects and supply

- Industrial recycling  
~**30 ac-ft/yr**
- North I-25 non-potable project (SJC) ~ **2,500 ac-ft/yr**
- Southside effluent reuse  
~**1,300 ac-ft/yr**





# Aquifer Storage and Recovery

Bear Canyon

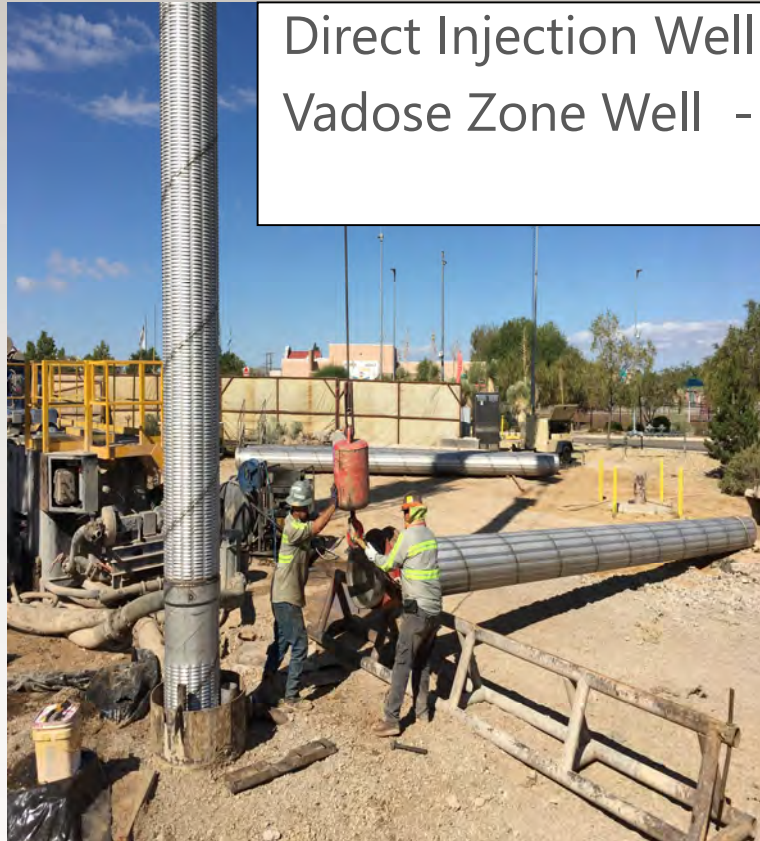


~300 AF recharged each year, currently ~1,700 AF currently in storage



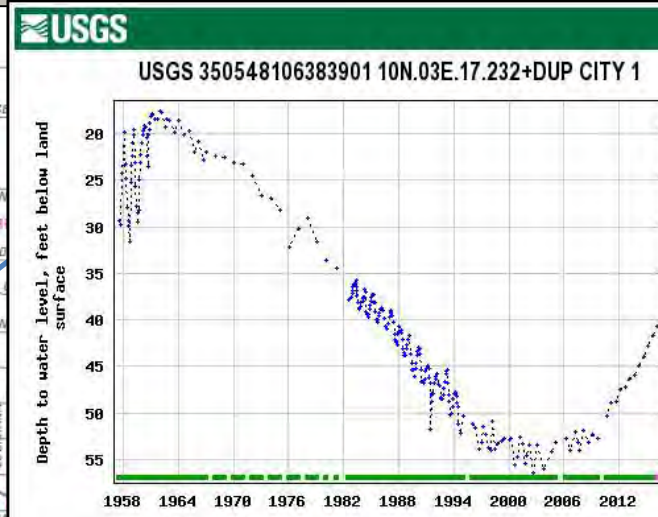
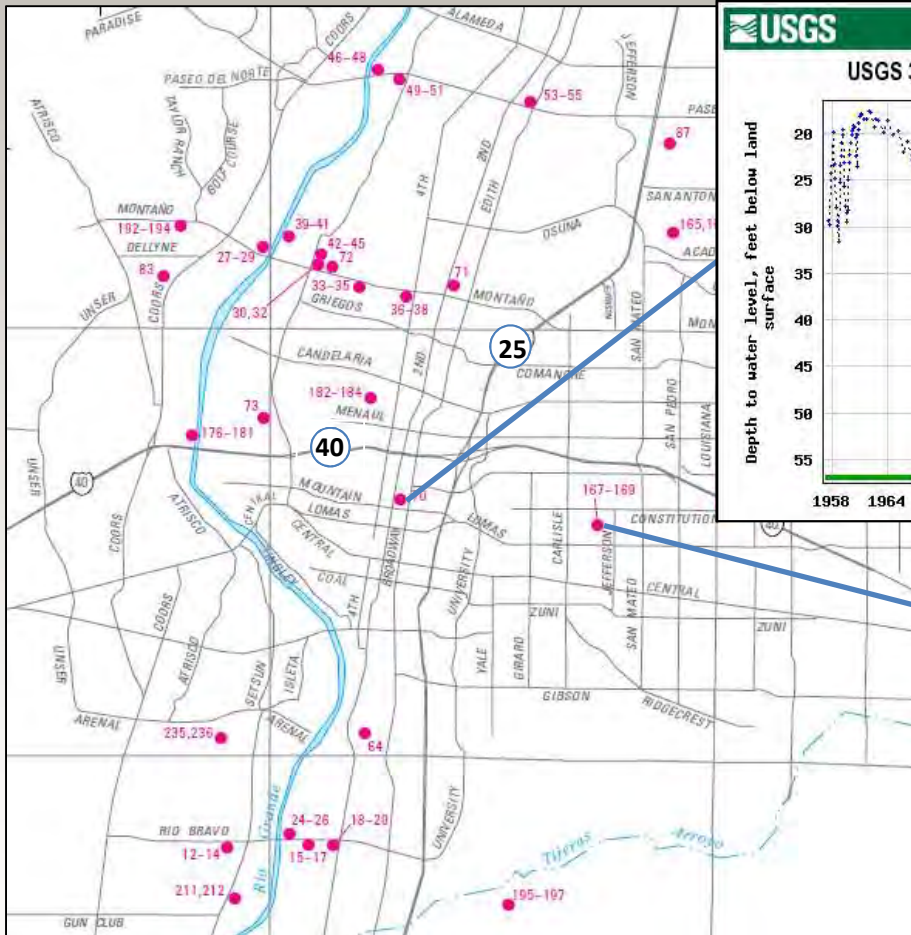
# Large Scale ASR Project

Direct Injection Well - 3,000 to 5,000 AFY  
Vadose Zone Well - 500 AFY

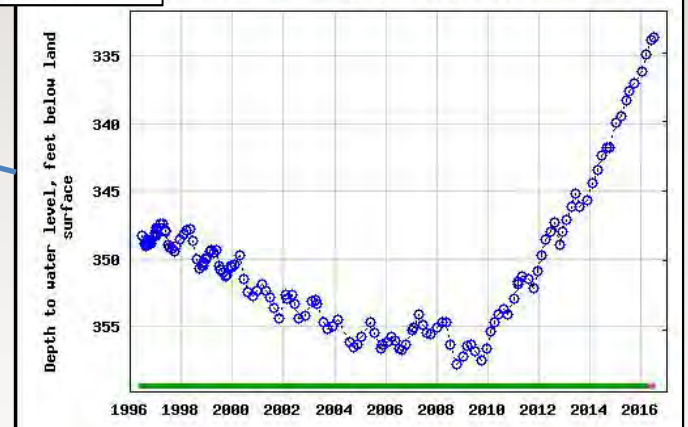




# The Aquifer Continues to Rise

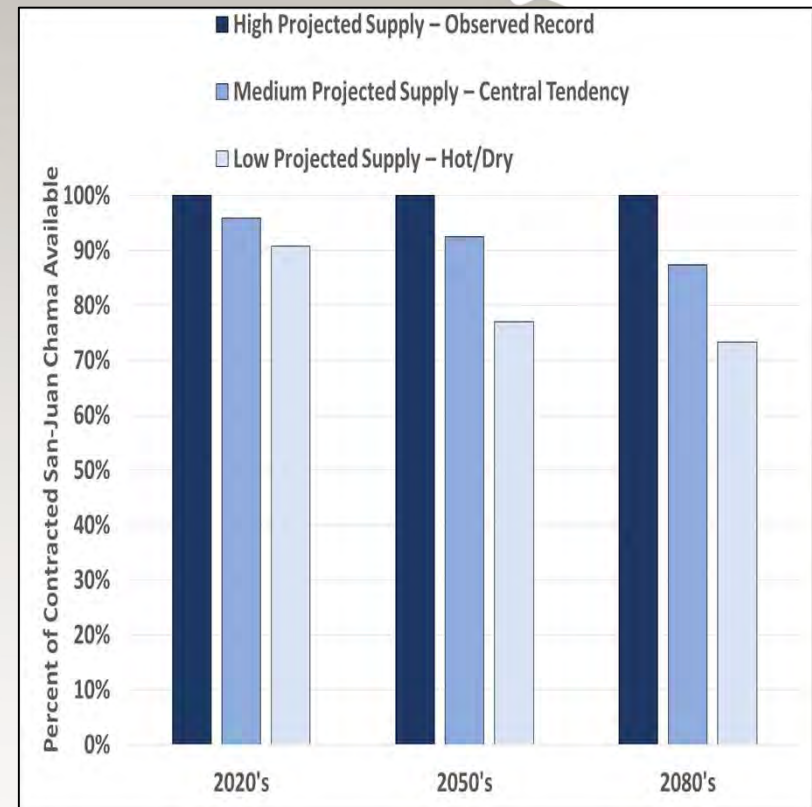


350534106354703 10N.03E.14.324B DEL SOL DIVIDER




# How was the 100-Year Plan Developed?

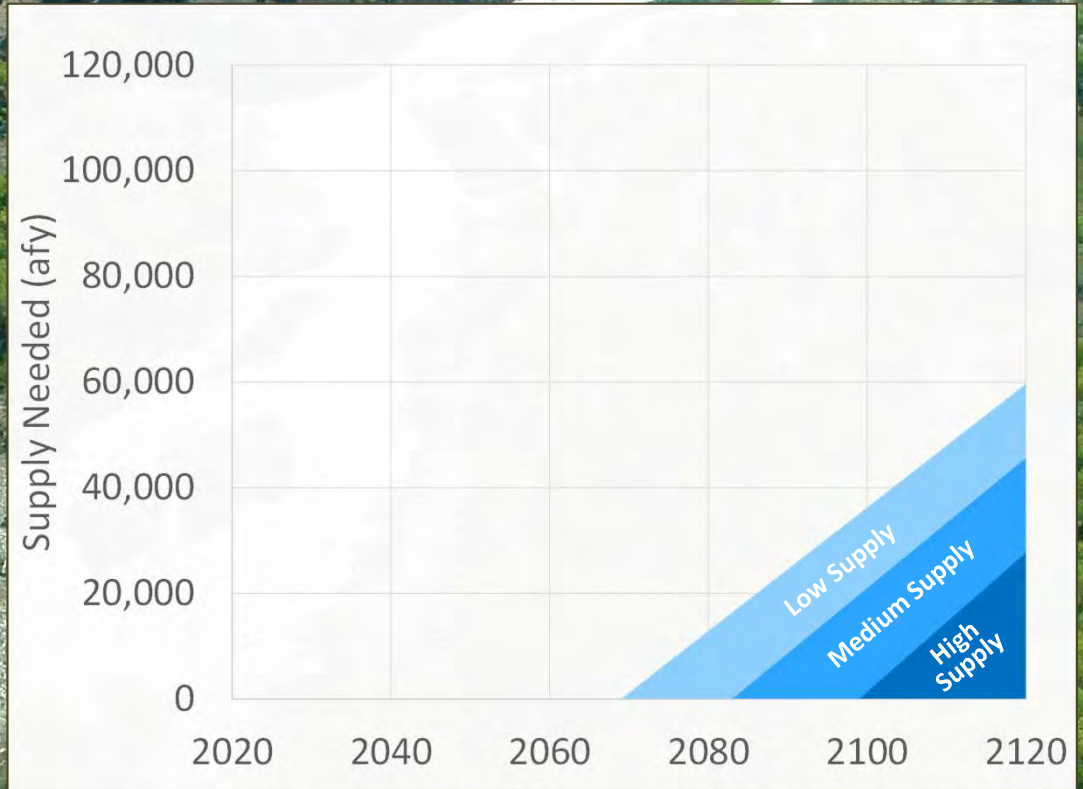
- Demand – How much water do we need?
- Supply – How much water do we have? Climate Change?
- Gaps – Do we need additional supply?
- Filling the Gaps – What will the new supplies be?





# Supply Gaps

Supply 			
Demand 	High Low	High Medium	High High
	Medium Low	Medium Medium	Medium High
	Low Low	Low Medium	Low High



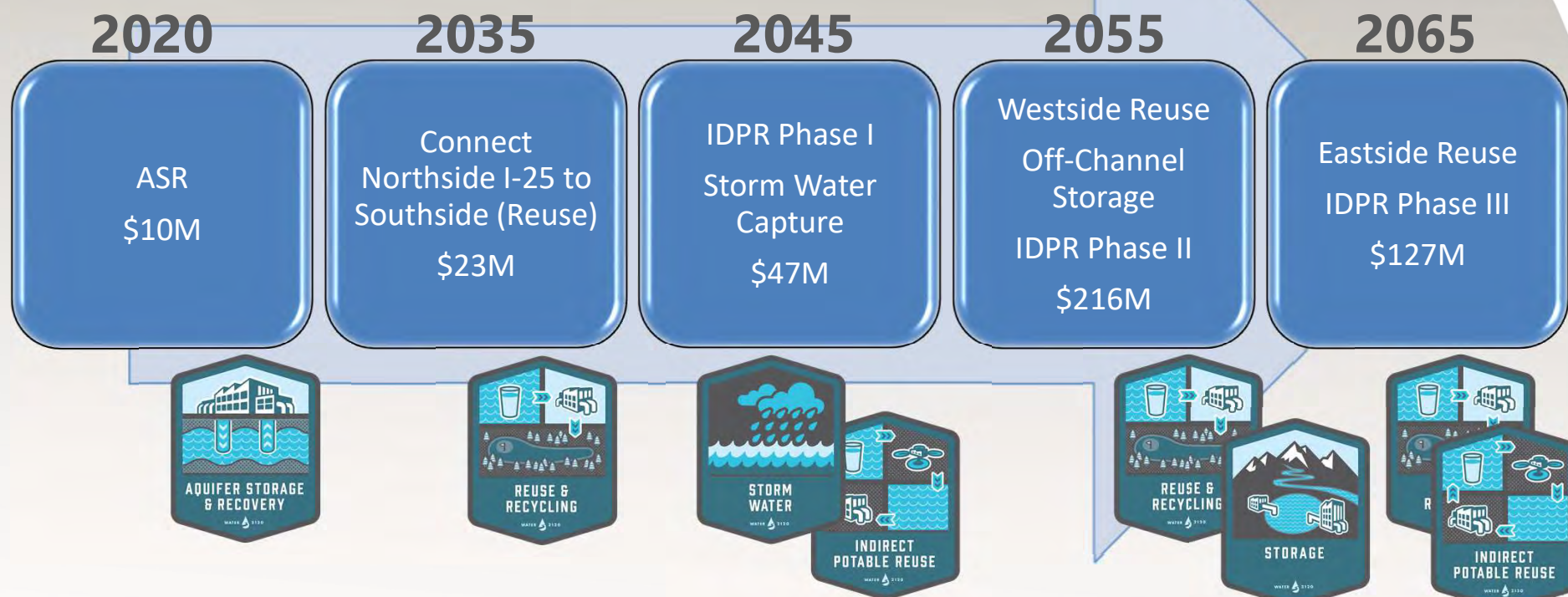
# Water 2120 Plan Elements



- Conservation – 110 gpcd in 20 years (plan adopted 2016)
- Diverse portfolio of supplies – includes stormwater
- No additional acquisition of Pre-1907 Water Rights
- Reuse – includes ASR and/or new storage
- Aquifer storage and recovery (ASR) – Large Scale
- Indirect potable reuse/direct potable reuse (IDPR/DPR)
- Additional storage – Elephant Butte and Abiquiu Reservoirs
- Watershed management



# Projected Timeline of Projects and Estimated Costs

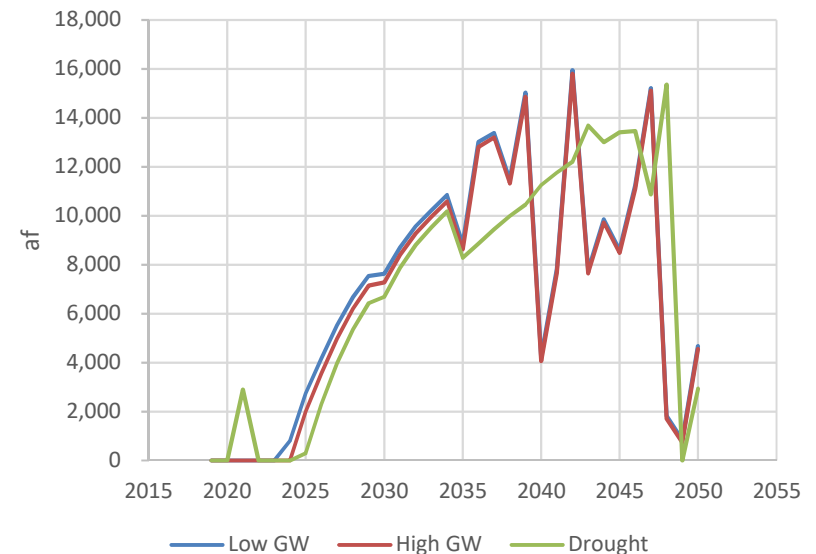


# 2120 Reuse Implementation



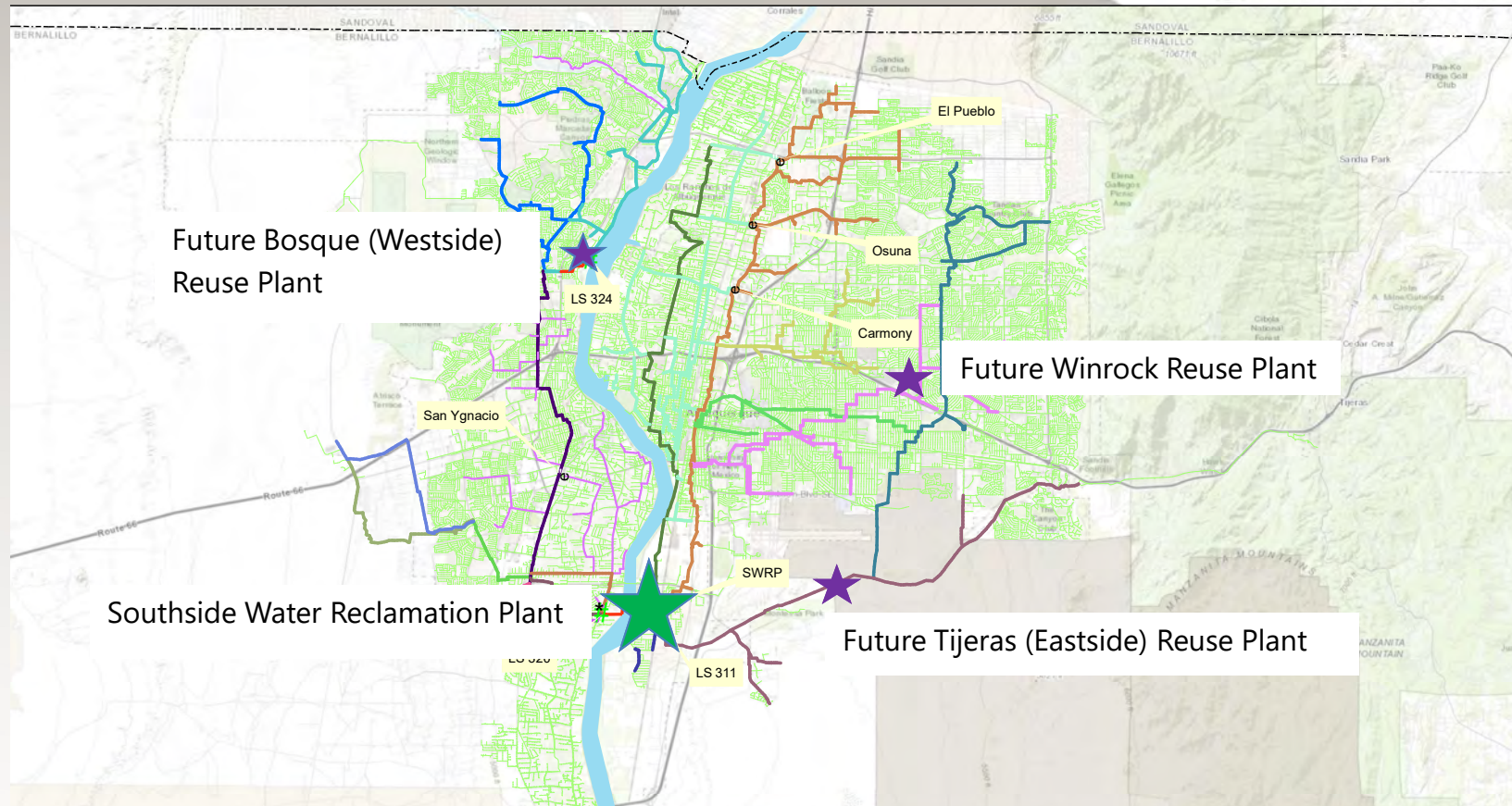
- Reuse Projects for Irrigation
  - Winrock Reuse Plant
  - Bosque Reuse Plant (return flows in winter)
- Reuse and IDPR with ASR
  - Tijeras Reuse Plant and Infiltration Project
- Reuse and DPR
  - Connect the North/South Reuse Project
  - Advanced Treatment at SWRP
  - Pipeline to SJC Water Treatment Plant
- Storage

Available Return Flow



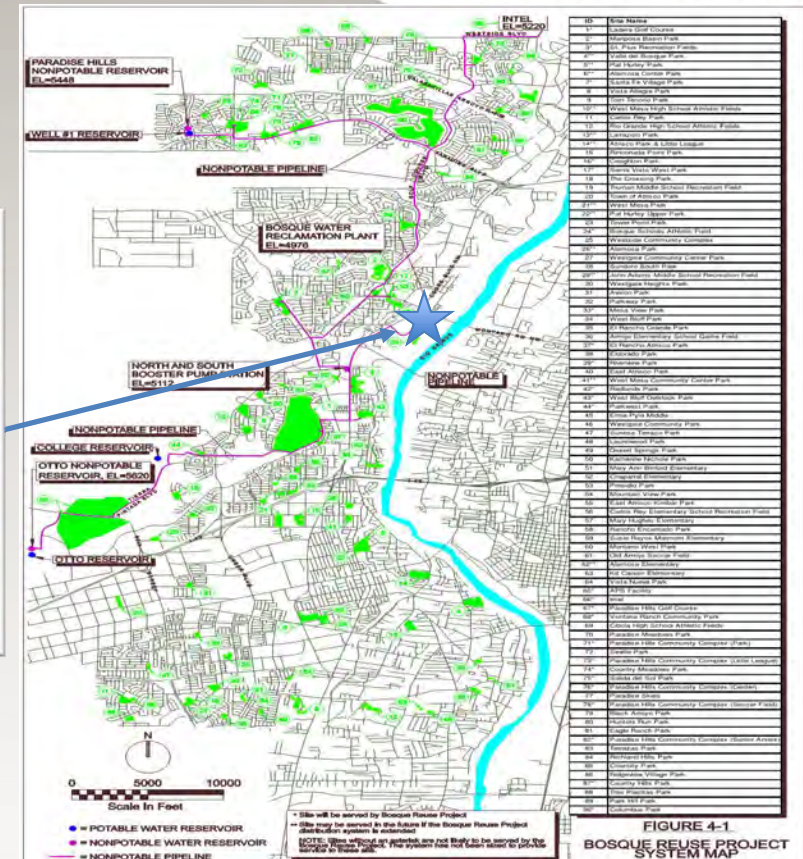


# Sewer Interceptor System



# Water 2120 Westside Effluent Reuse Project

Bosque Reuse Plant and Project  
2,000 -7,000 AFY



Map of Westside Turf Irrigation Sites



## Water 2120 Westside Effluent Reuse Project



Bosque Reuse Plant

Winter Months - treated Effluent  
Returned to RG (return flows)

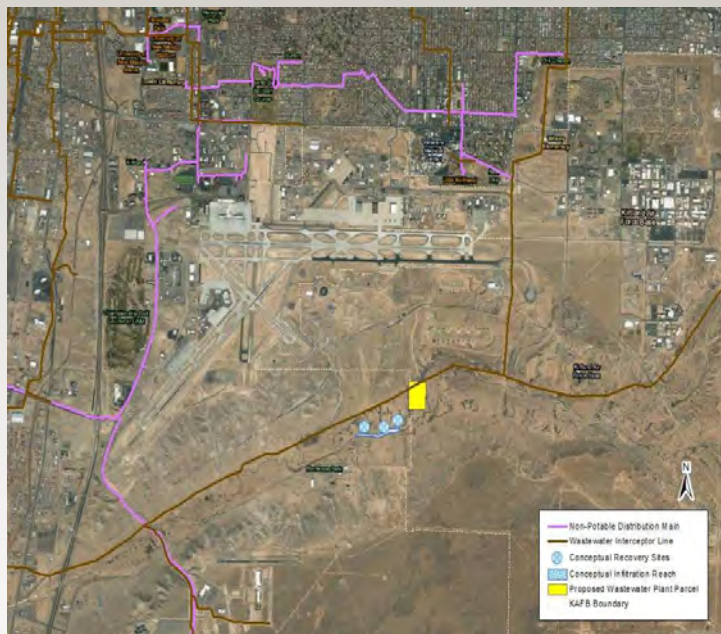


Effluent Discharge to Rio Grande

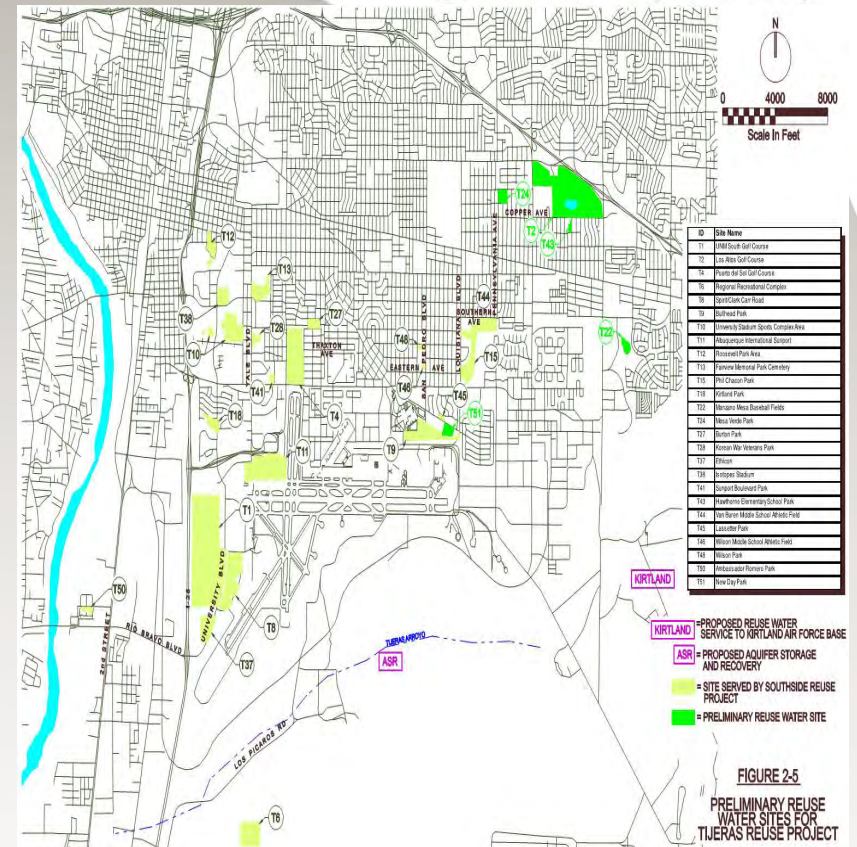


# Water 2120 Eastside Reuse Project

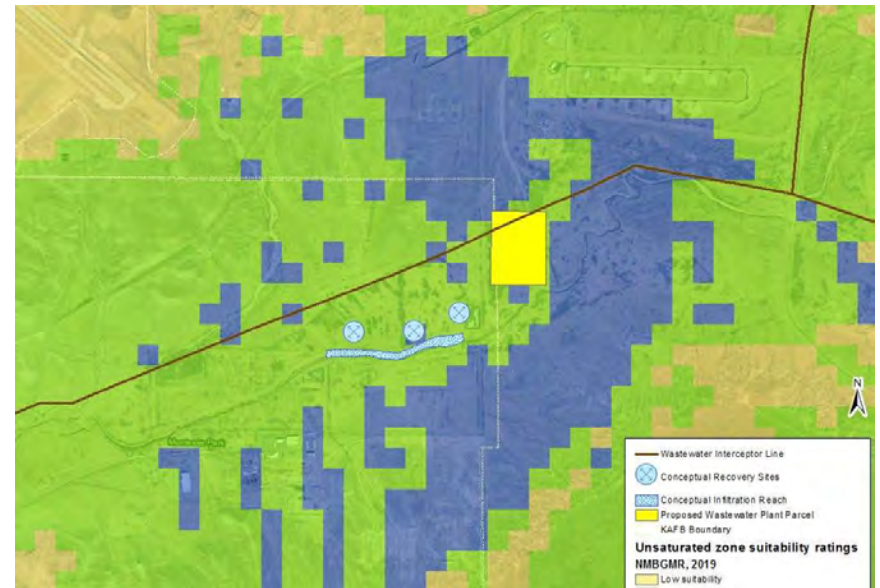
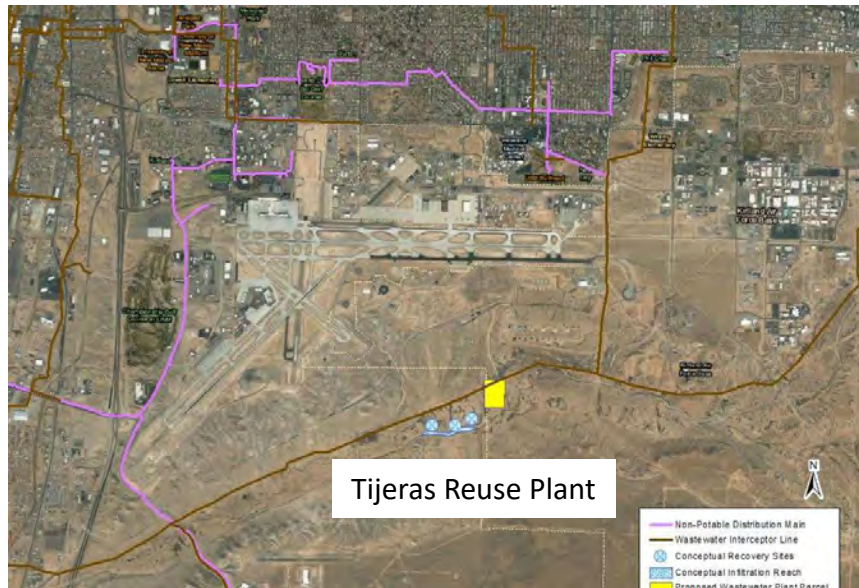
Tijeras Reuse and ASR Project  
**6,000- 7,000 AFY**



*Tijeras Reuse Plant Site (KAFB)*



Map of Eastside Turf Irrigation Sites

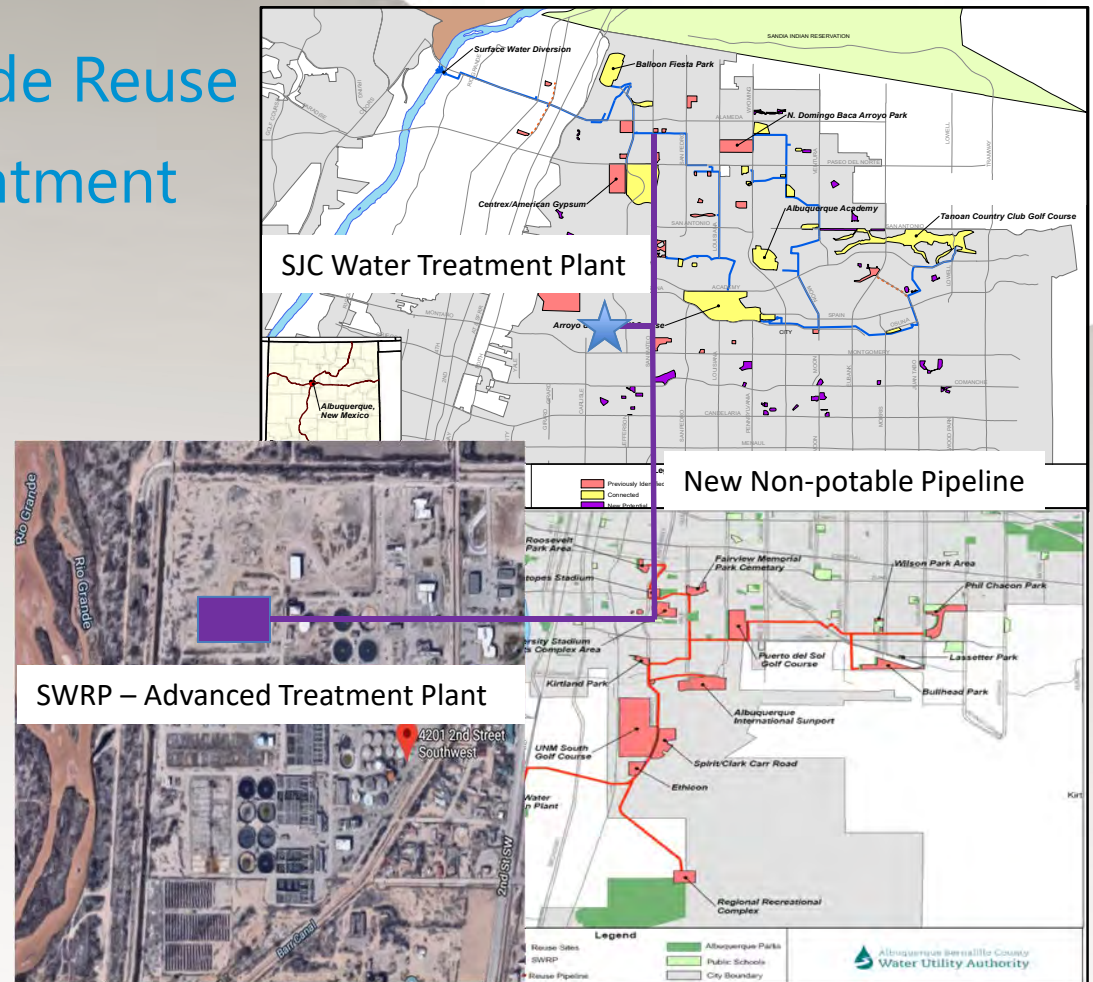


## Water 2120 Eastside Reuse Project



# Connect Northside/Southside Reuse Systems with Advanced Treatment

- New Pipeline to connect North/South Reuse Projects
- Use Non-potable Effluent for Entire Eastside Reuse
- Save SJC for other uses (ASR)
- Advanced Treated Effluent conveyed to SJC Water Treatment Plant (DPR)



# Direct Potable Reuse

- Excess Return Flows used for Reuse and Drinking Water Supply
- Construct new Advanced Water Treatment Facilities
- Connect to SJC Water Treatment Plant





Thank You!

Questions?

