

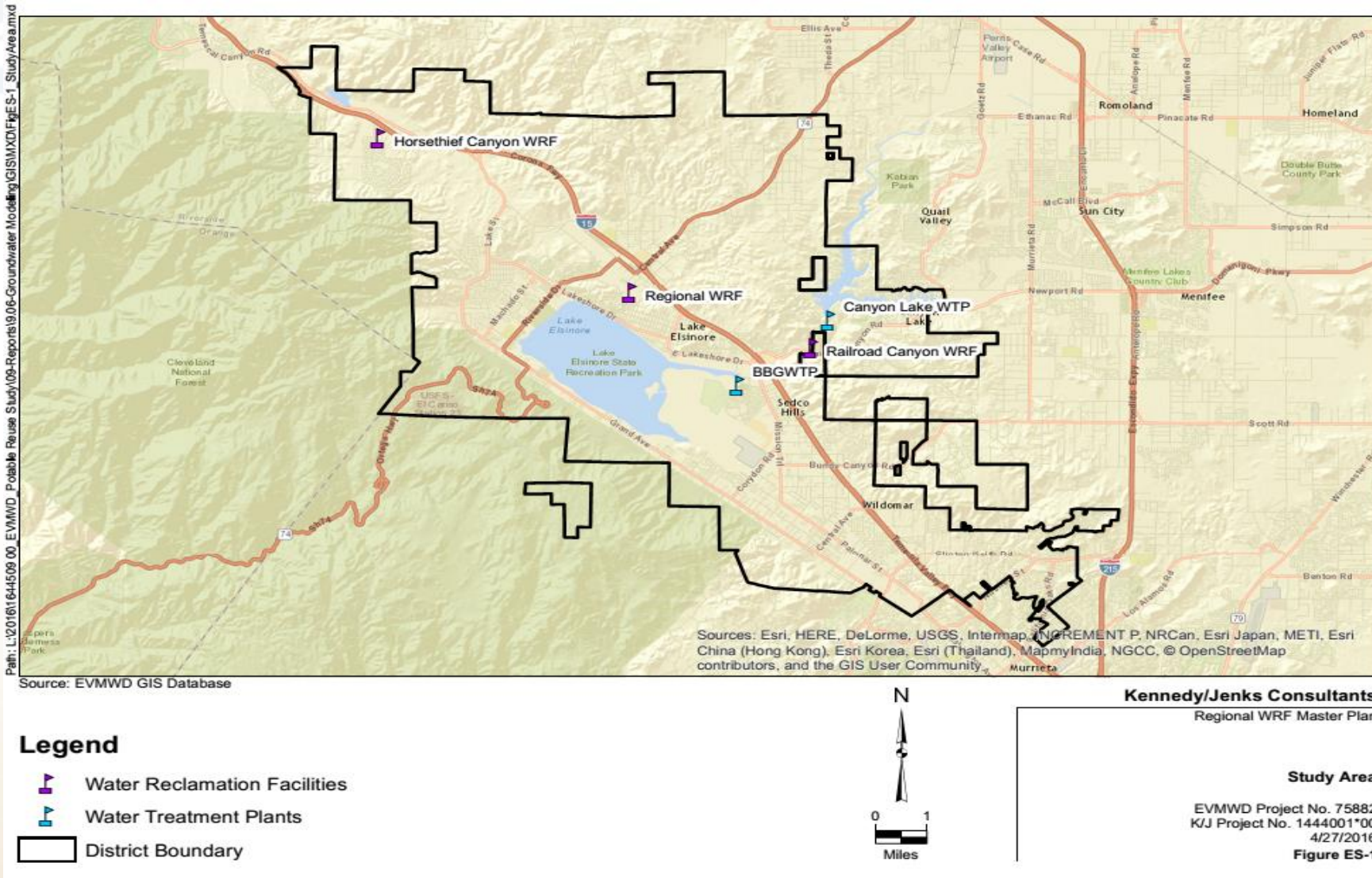
Water Reuse – Current Status in Elsinore Valley Municipal Water District

Sudhir Mohleji / Mike Ali
EVMWD Water Resources Department

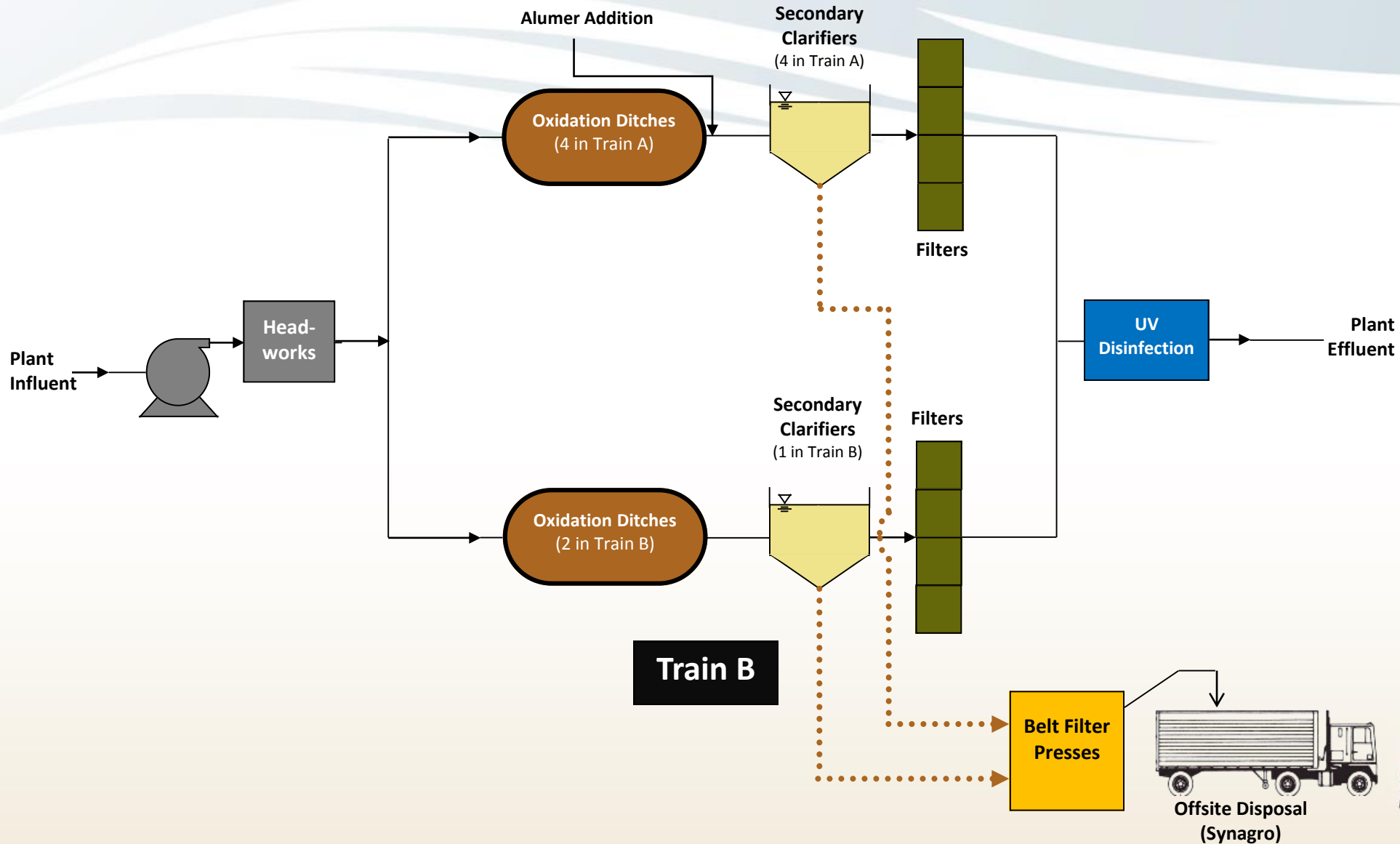
May 9, 2017

EVMWD Water Reclamation

RWRF – 8 mgd HTCWRF – 0.5 mgd RRCWRF - 1.2 mgd



RWRF Plant Schematic



RWRF Aerial View





Secondary Treatment Train B (4 mgd)

Belt Filter Presses - BFPs



WAS Flow into BFPs



BFP Flow After Polymer



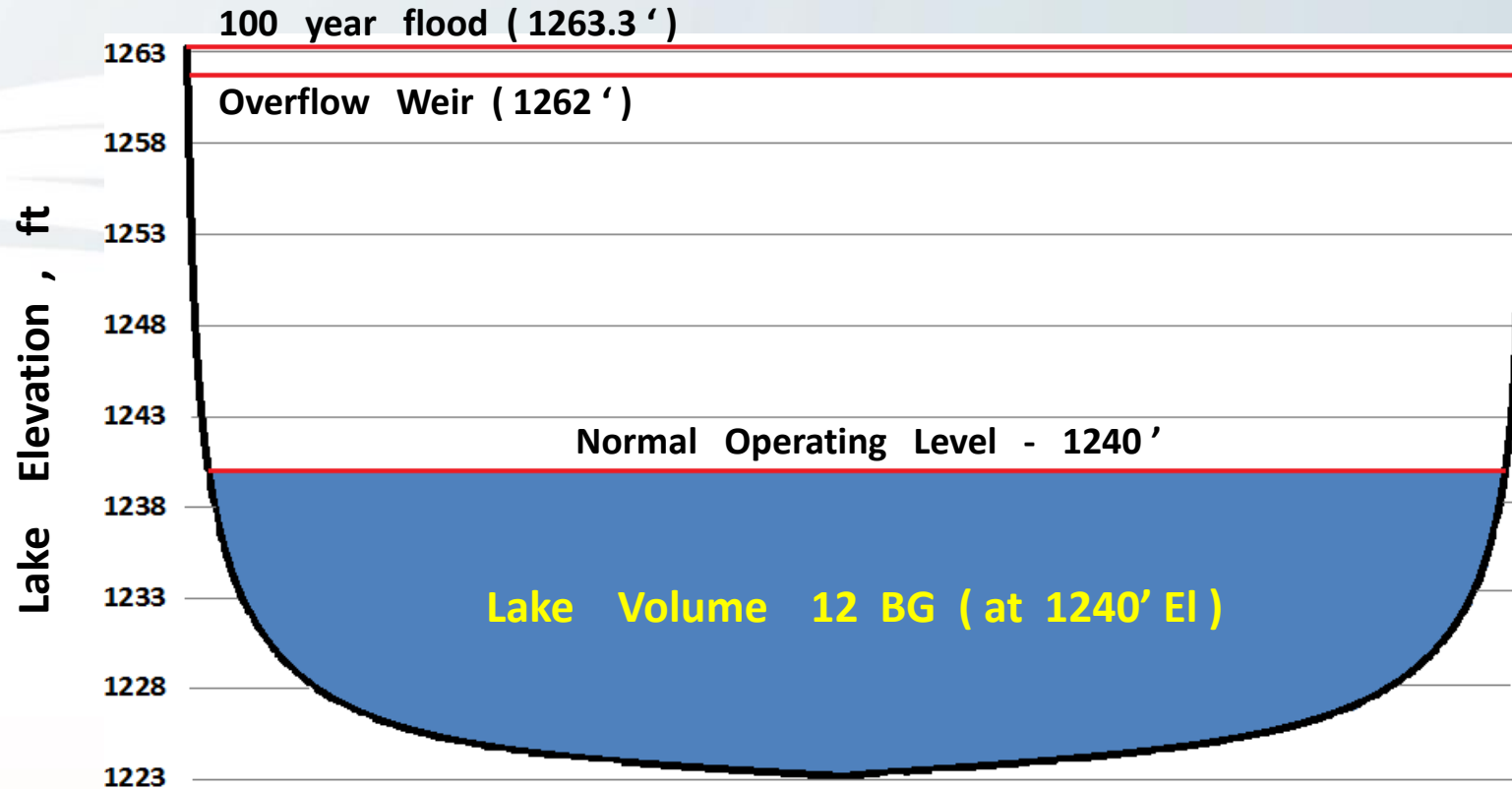
Dewatered Sludge

RWRF Flows / Effluent Reuse

- **Current Flow 5.5 mgd – Projected to Reach Design Capacity (8 mgd) in 4 to 5 years**
- **Effluent Reuse – 100%**
 - 0.5 mgd to Temescal Wash for Riparian Habitat
 - 5.0 mgd to Lake Elsinore Replenishment
 - Minor Amount used for Landscape Irrigation
- **Lake Discharge Requires N/P Offsets – Met by Lake Aeration Project**

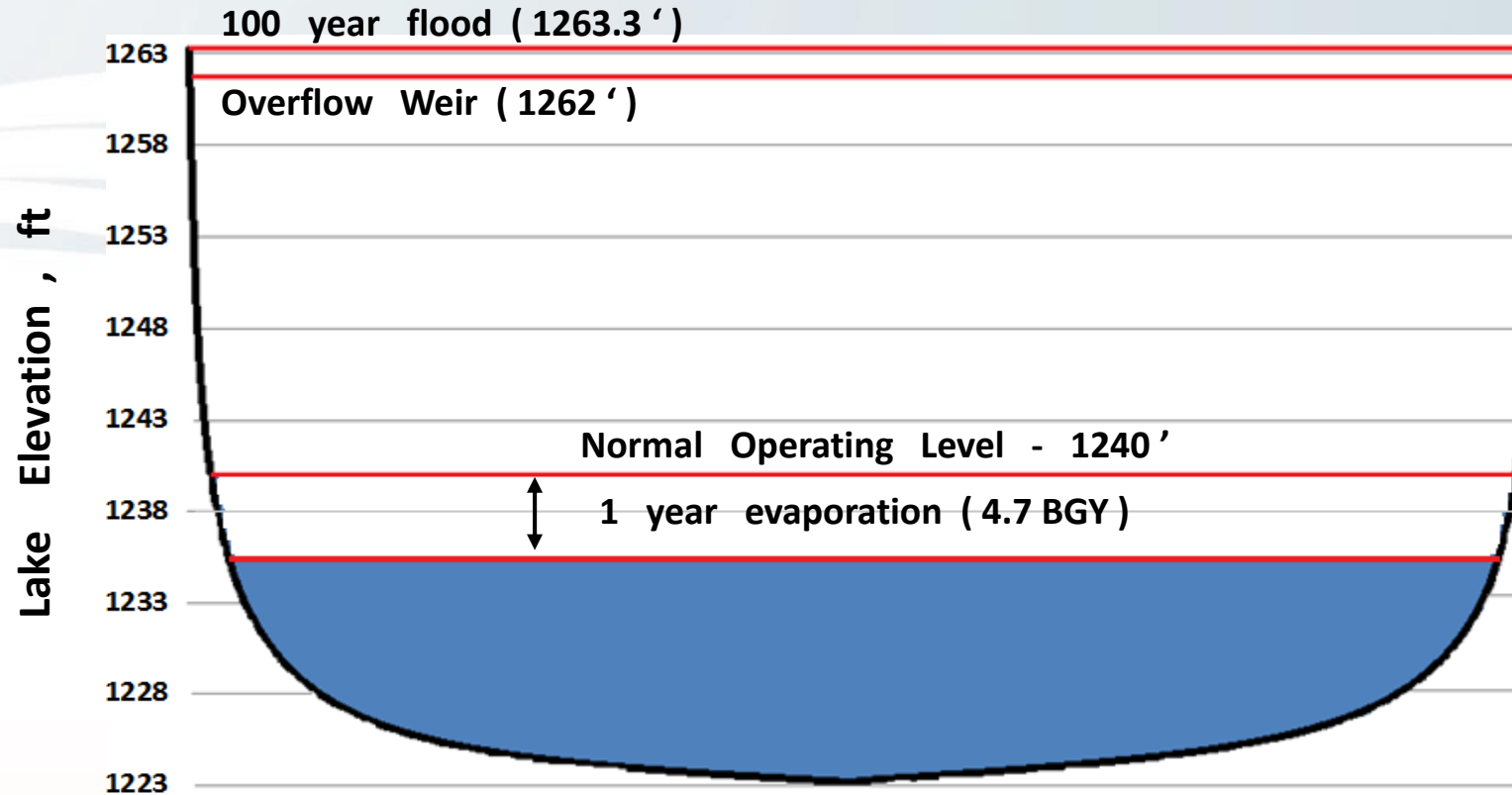
Lake Elsinore Aeration

Lake Elsinore Operation



Approx. Lake Volume = 1' Depth (El 1241- El 1240) = 1 BG

Lake Elsinore Operation

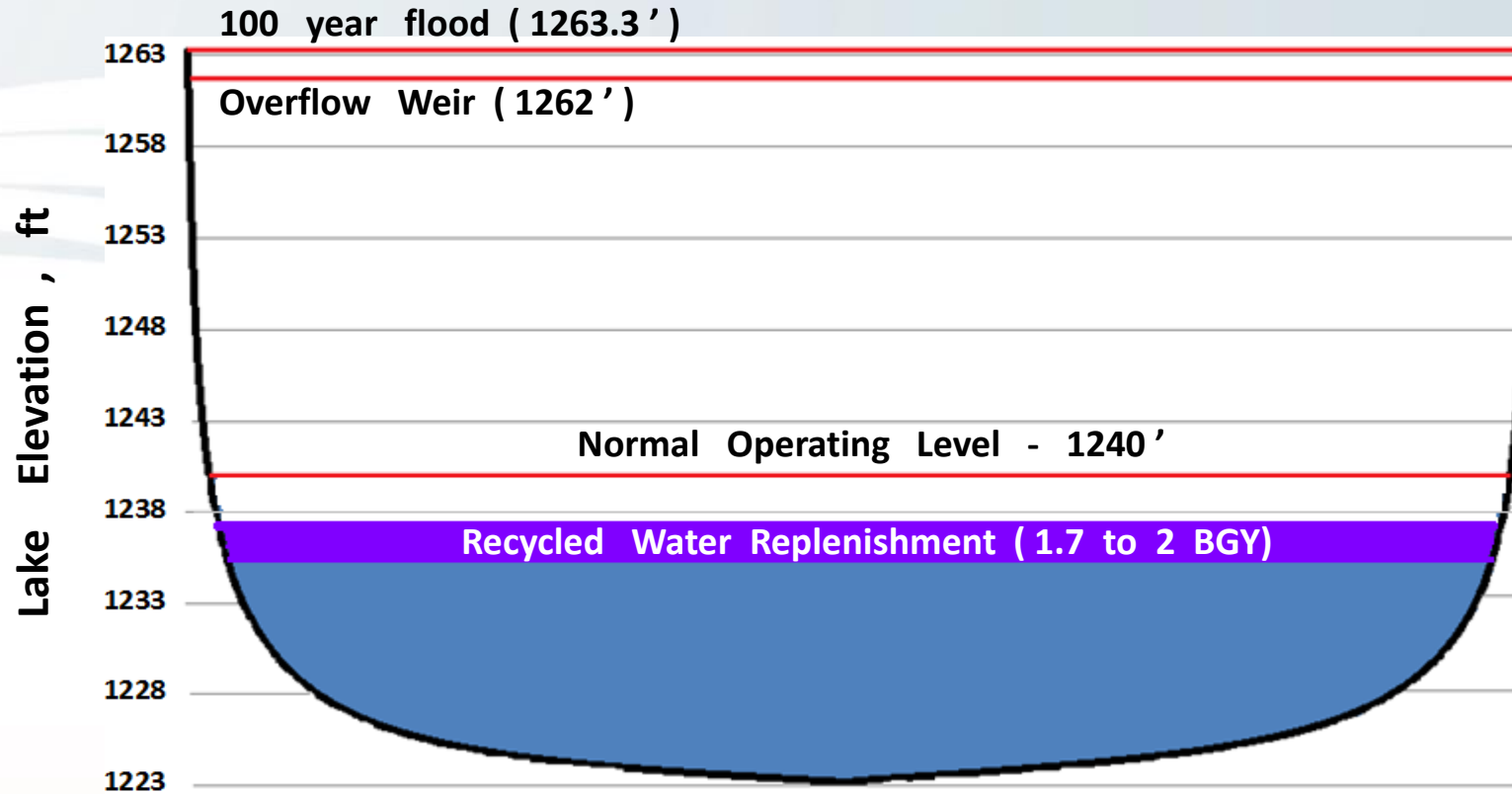


Annual (Evaporation - Precipitation) = 4.7 feet/year = 4.7 BGY = 14,500 AFY

BGY = Billion Gallons / Year

AFY = Acre-Feet / Year

Lake Elsinore Operation



Recycled Water Replenishment = 1.7 to 2 BGY = 5,200 to 6,100 AFY = 36 % to 42 % of evaporation

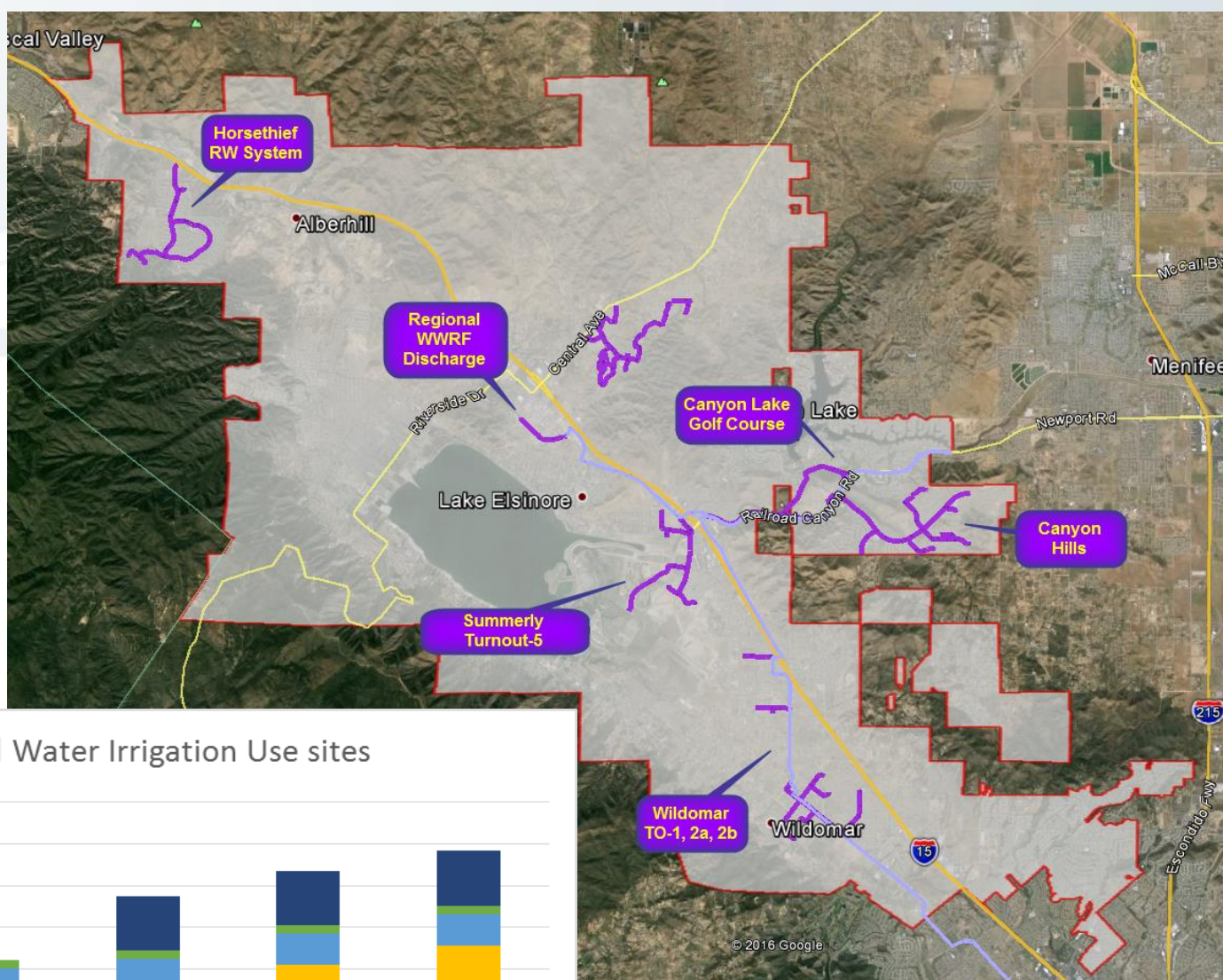
BGY = Billion Gallons / Year

AFY = Acre-Feet / Year

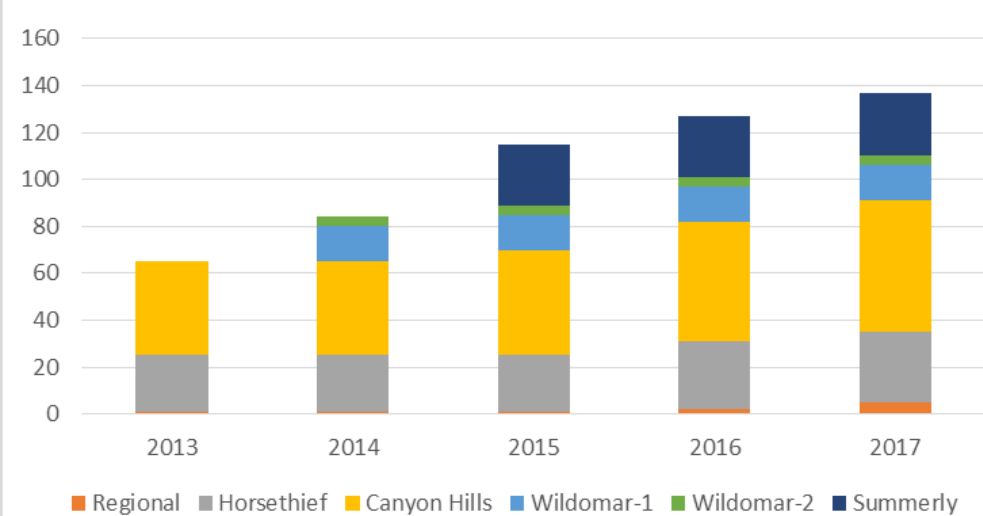
EVMWD Recycled Water Irrigation System Overview

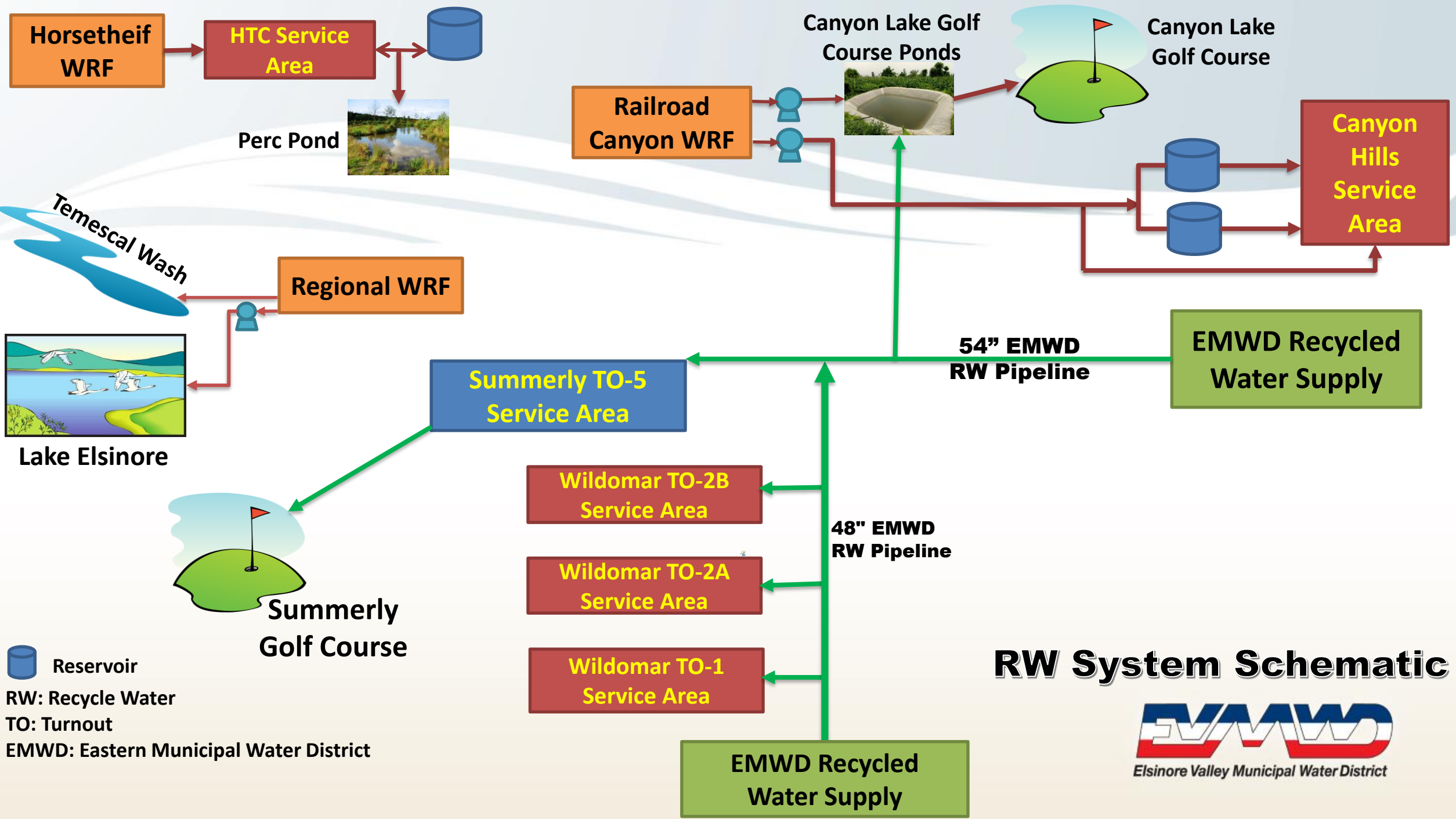
EVMWD Recycled Water Service Areas

- 4 Service areas (28 miles of RW Mains)
- 137 Irrigation Customers
- Irrigation Demands: 1300 AF/Year



Recycled Water Irrigation Use sites

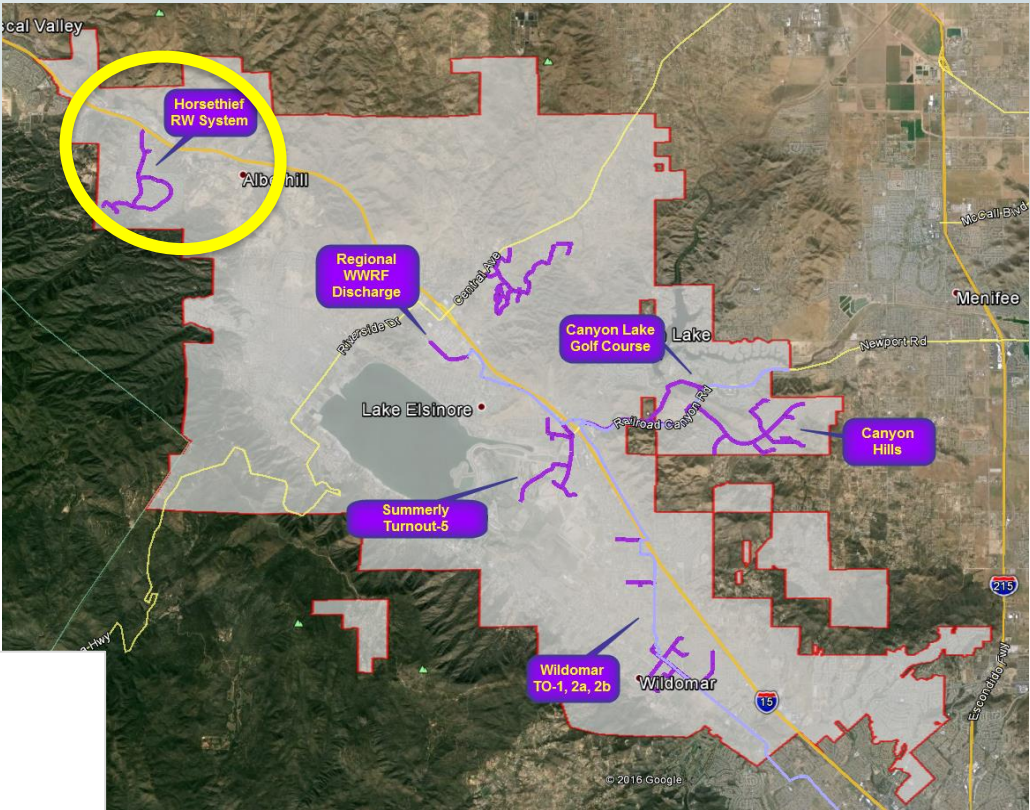
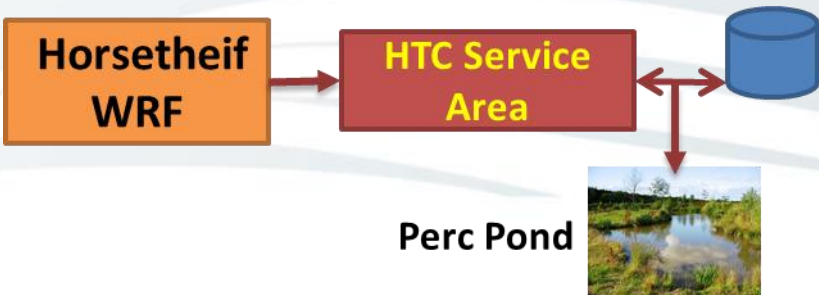




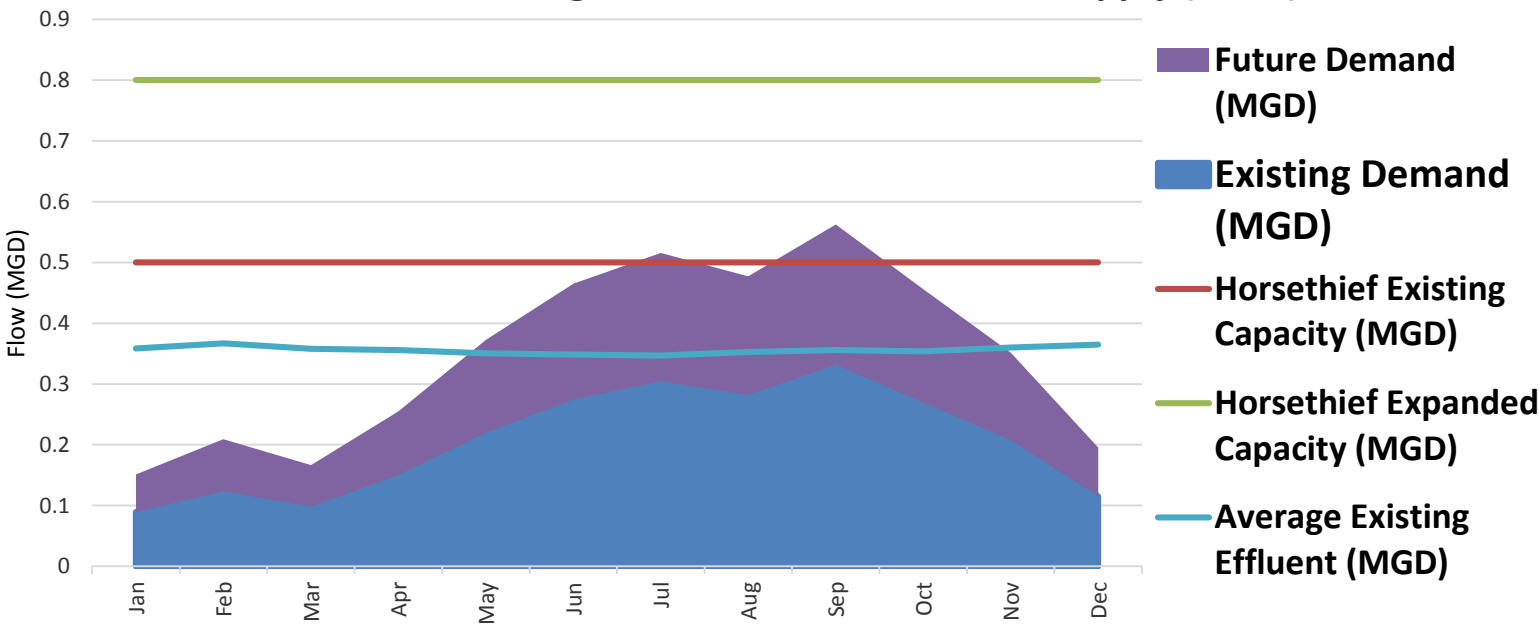
RW System Schematic



Horsethief WRF Recycled Water

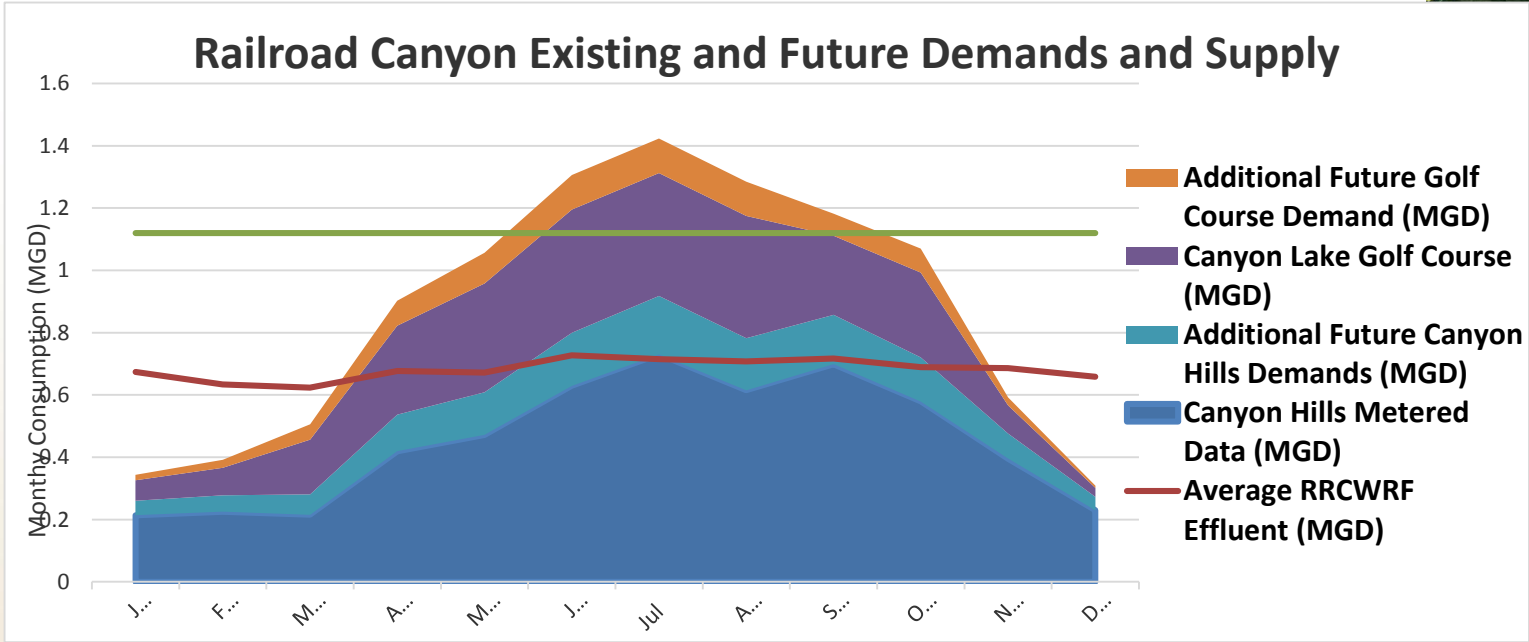
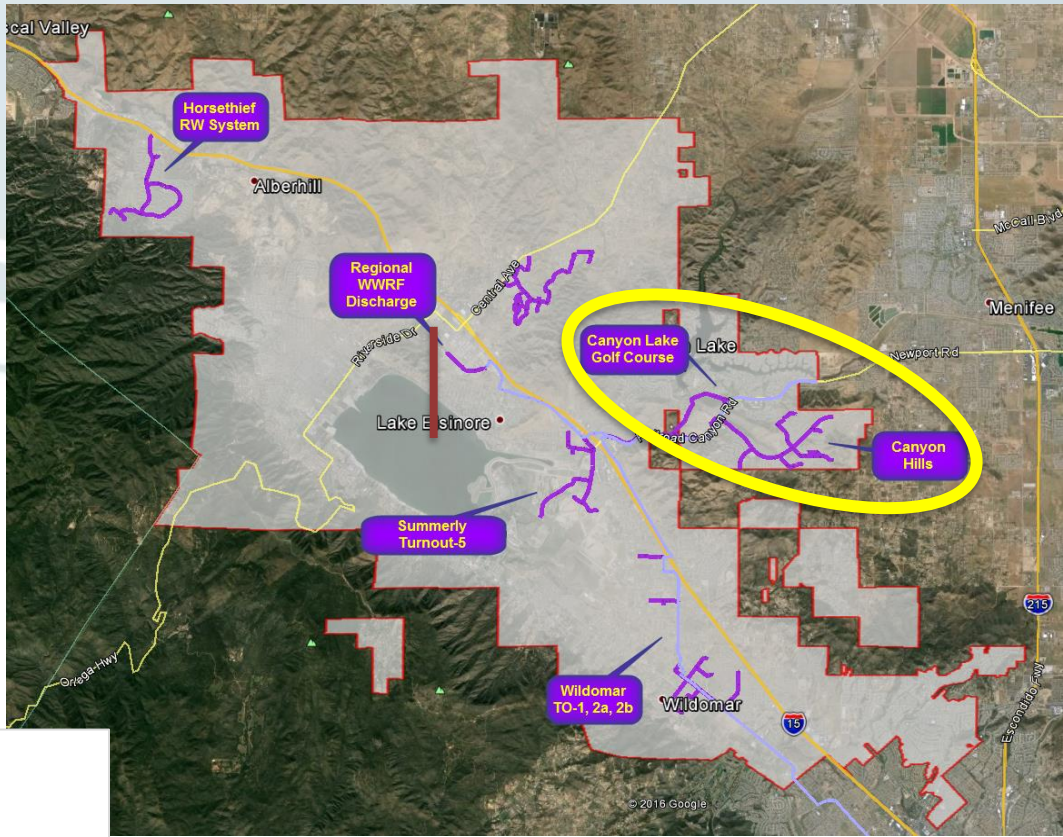
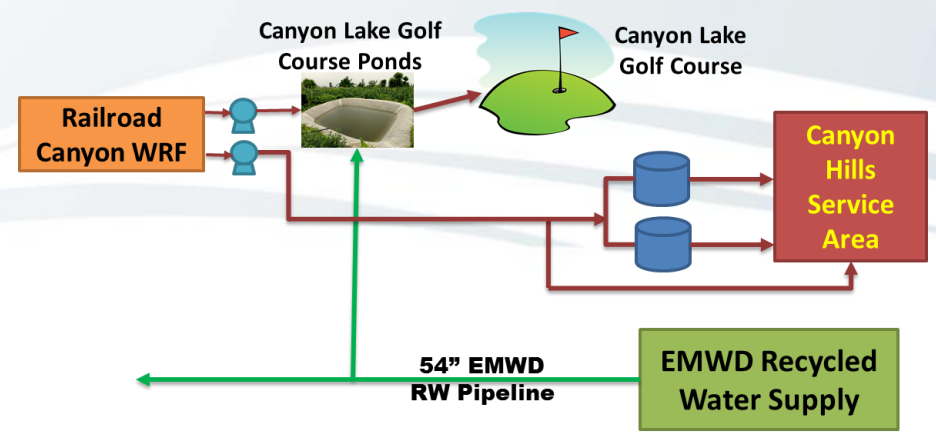


Horsethief Existing and Future Demands and Supply (MGD)



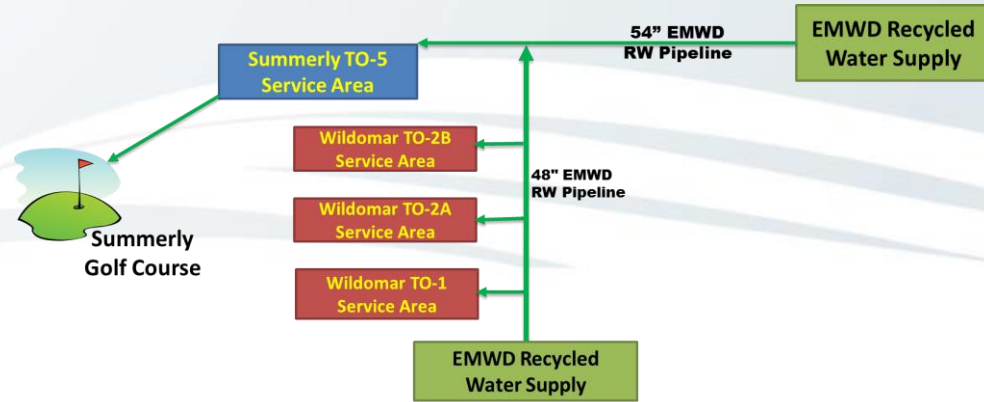
- Existing Demands: 195 AF/Yr
- New Development (160 Af/Yr)
- Near Term Future Demands: 355 AF/Yr

Railroad Canyon WRF Recycled Water

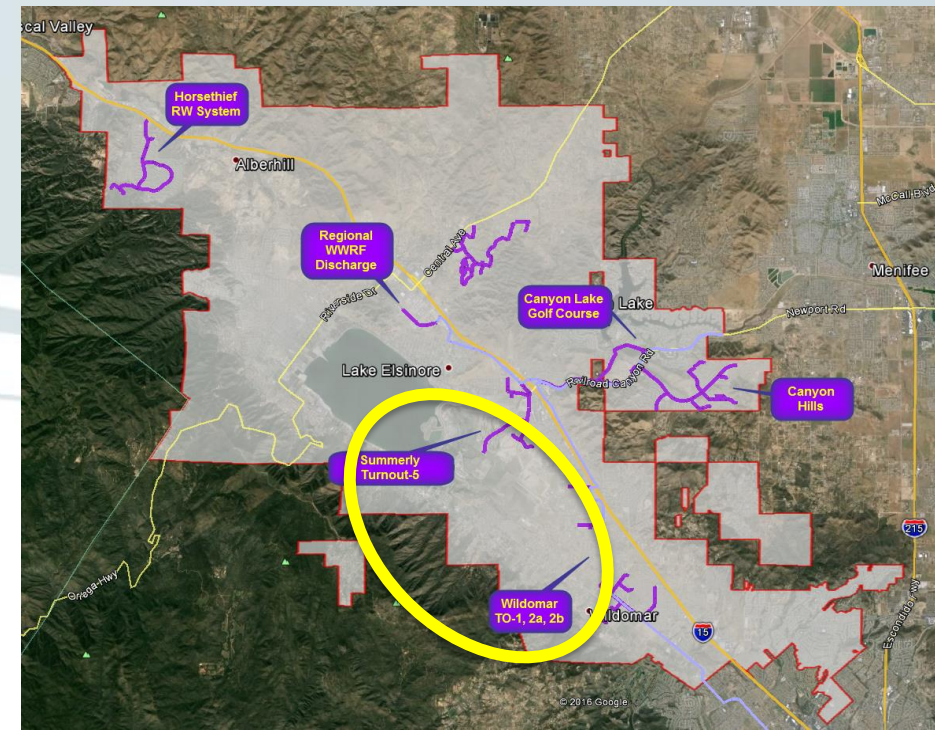
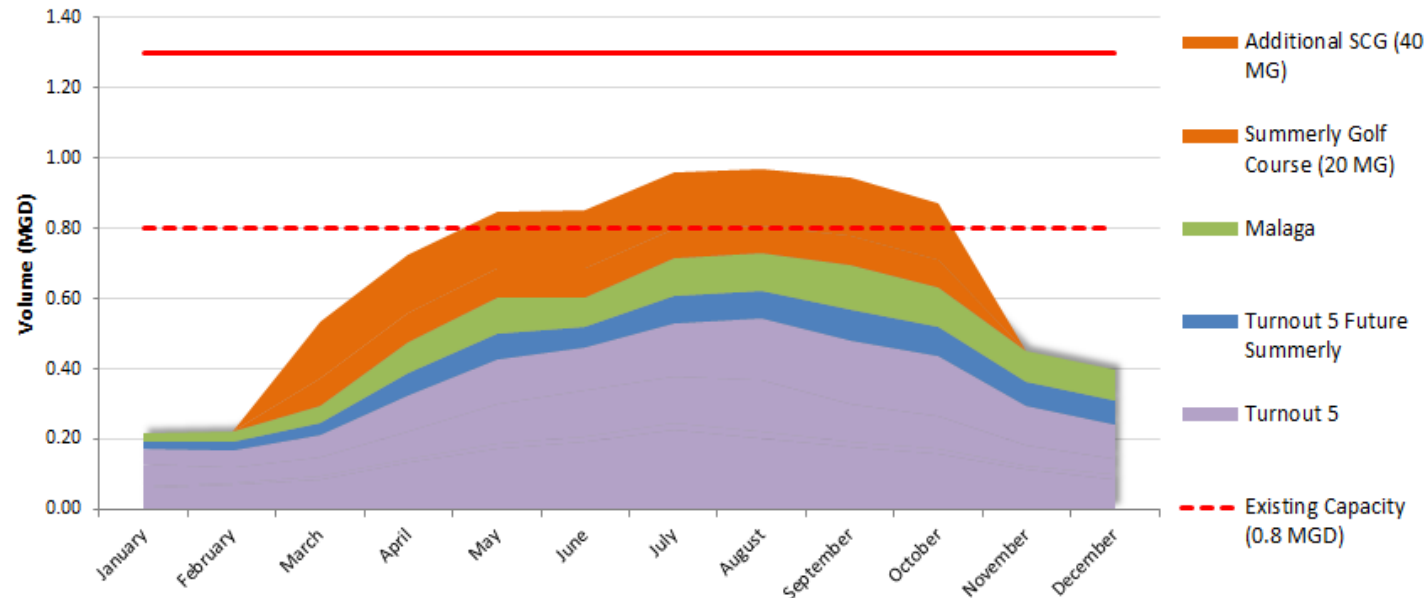


- Existing Demands: 820 AF/Yr
- RCWRF: 520 AF/Yr
- Diversion structure for additional flow
- Supplement from EMWD: 300 AF/Yr

Wildomar / Summerly Recycled Water

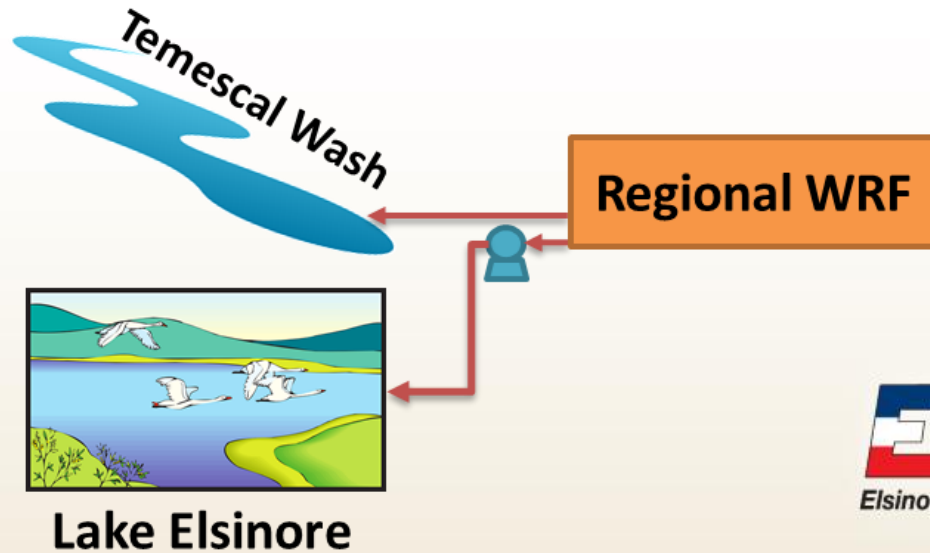
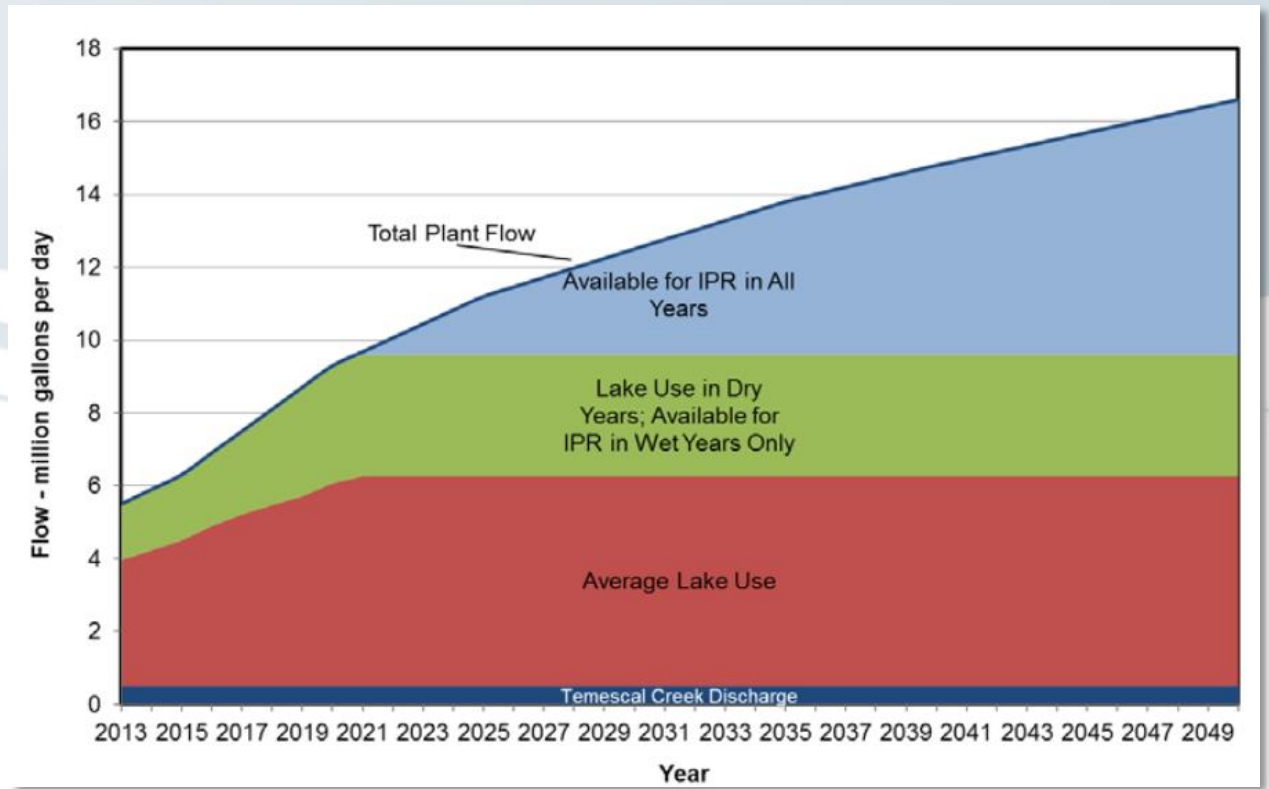
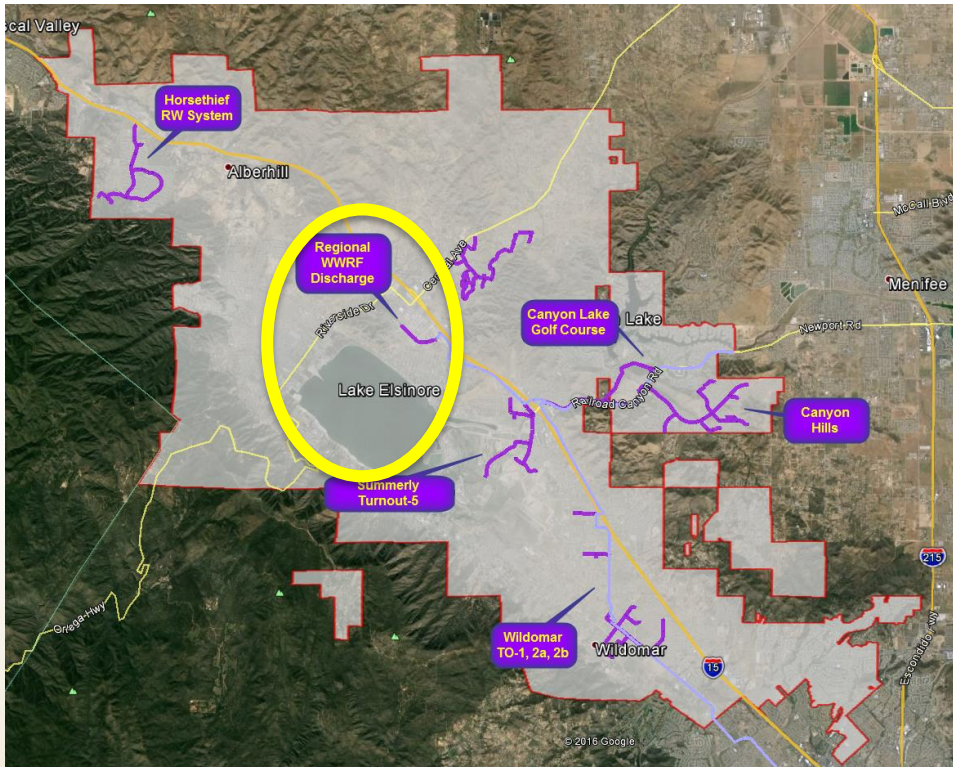


Projected RW Demands Based on 3 Year Historical Usage (MGD)



- Deliveries from EMWD (4 Turnouts)
- Currently 0.8 mgd, Near term 1.3 mgd
- Increased pipeline capacity to 2 mgd
- Existing Demands: 430 AF/Yr
- Future excess deliveries to Wetlands

RWRF Flow Projections & Recycled Water Availability



RWRF Master Plan Recommendations

(Completed June 2016)

- **Additional 8.8 mgd Capacity Needed by 2040 (3 Phases)**
 - Phase 1 – 4 mgd (2021)
 - Phase 2 – 2.8 mgd (2029)
 - Phase 3 – 2 mgd (2035)
- **Phase 1 Features**
 - Design Just Started – Completion Expected Mid 2018
 - Construction Completion Expected 2020-21
 - Process – MBR without Sludge Digestion
 - Cost - \$ 69 M – Phase 1 (\$ 170 M for 3 Phases)

EVMWD WaterReuse in Future *IPR Potential*

- **Up to 9 mgd RWRP Effluent Projected to Meet Lake Elsinore Replenishment**
- **For Surplus Future Effluent - IPR is on the Horizon**

The Subject of Next presentation



QUESTIONS?