



Lake Mission Viejo Advanced Purified Water Treatment Facility



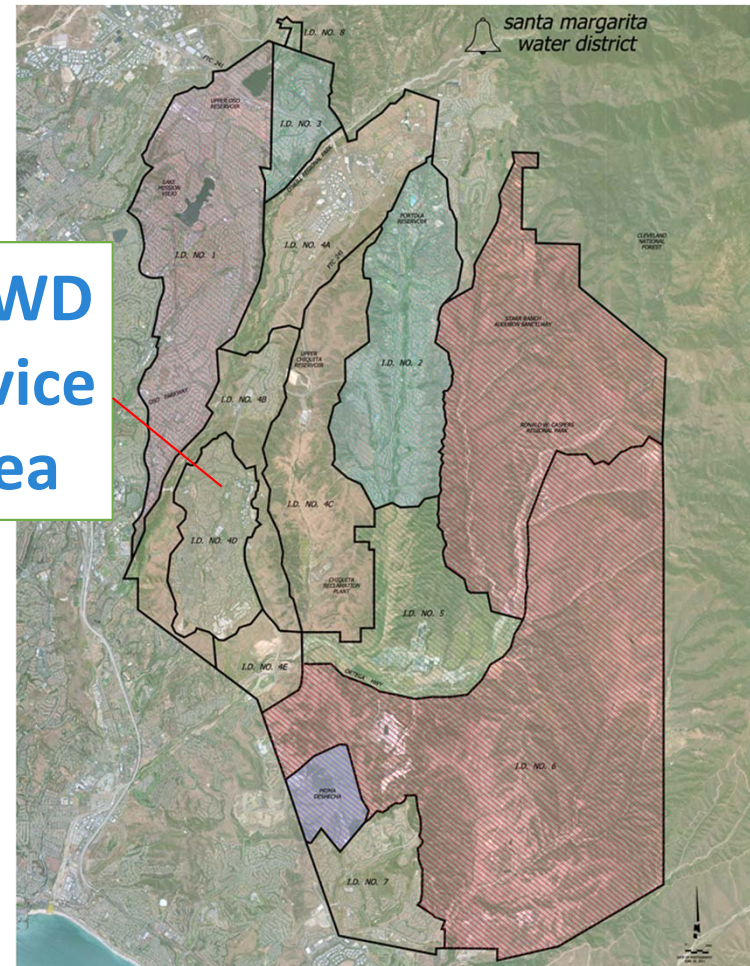
April 21, 2016

Santa Margarita Water District

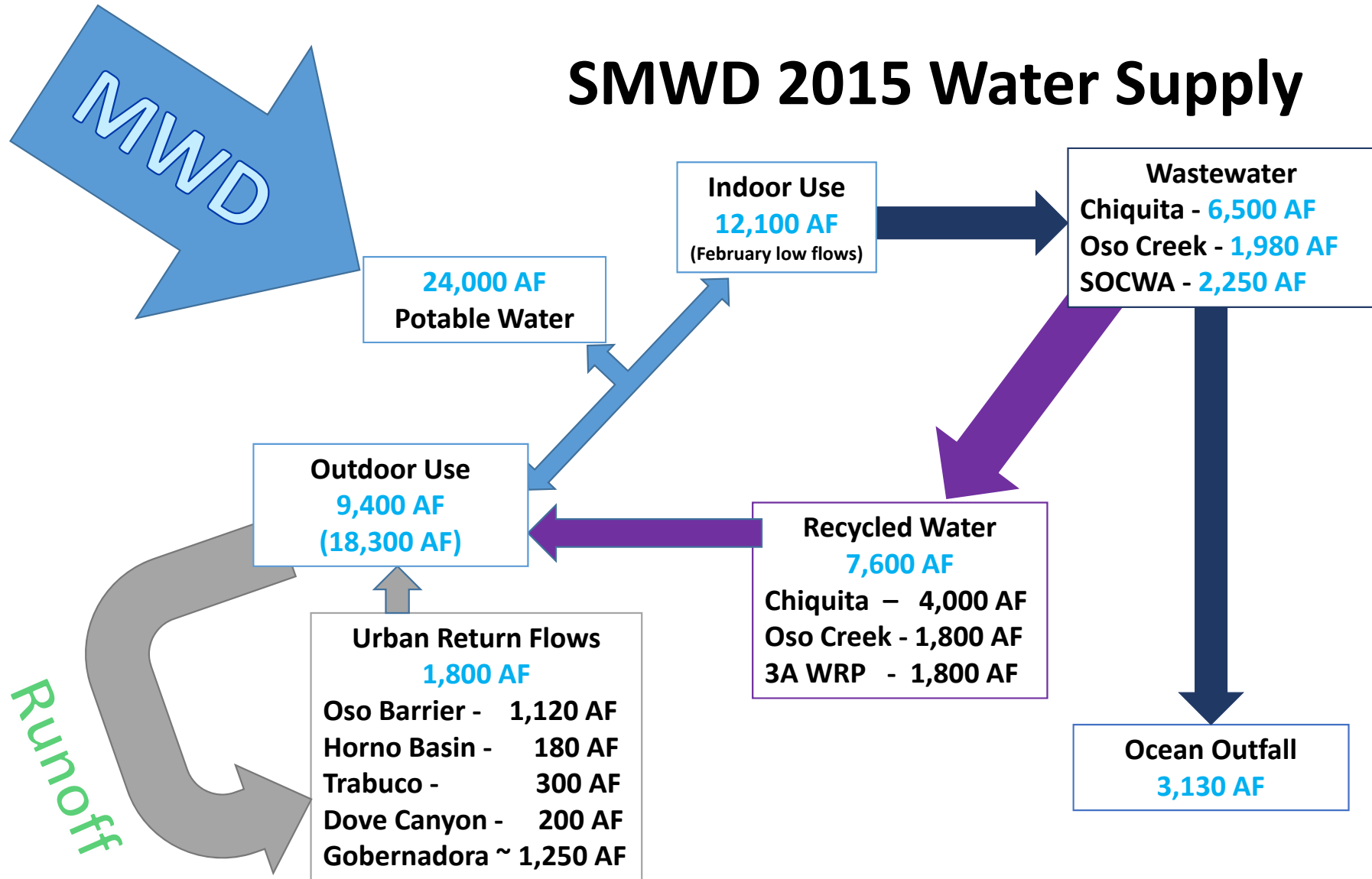
- Provides Water and Wastewater Service to over 155,000 residents
- Over Next 20-30 years ~40,000 More Residents

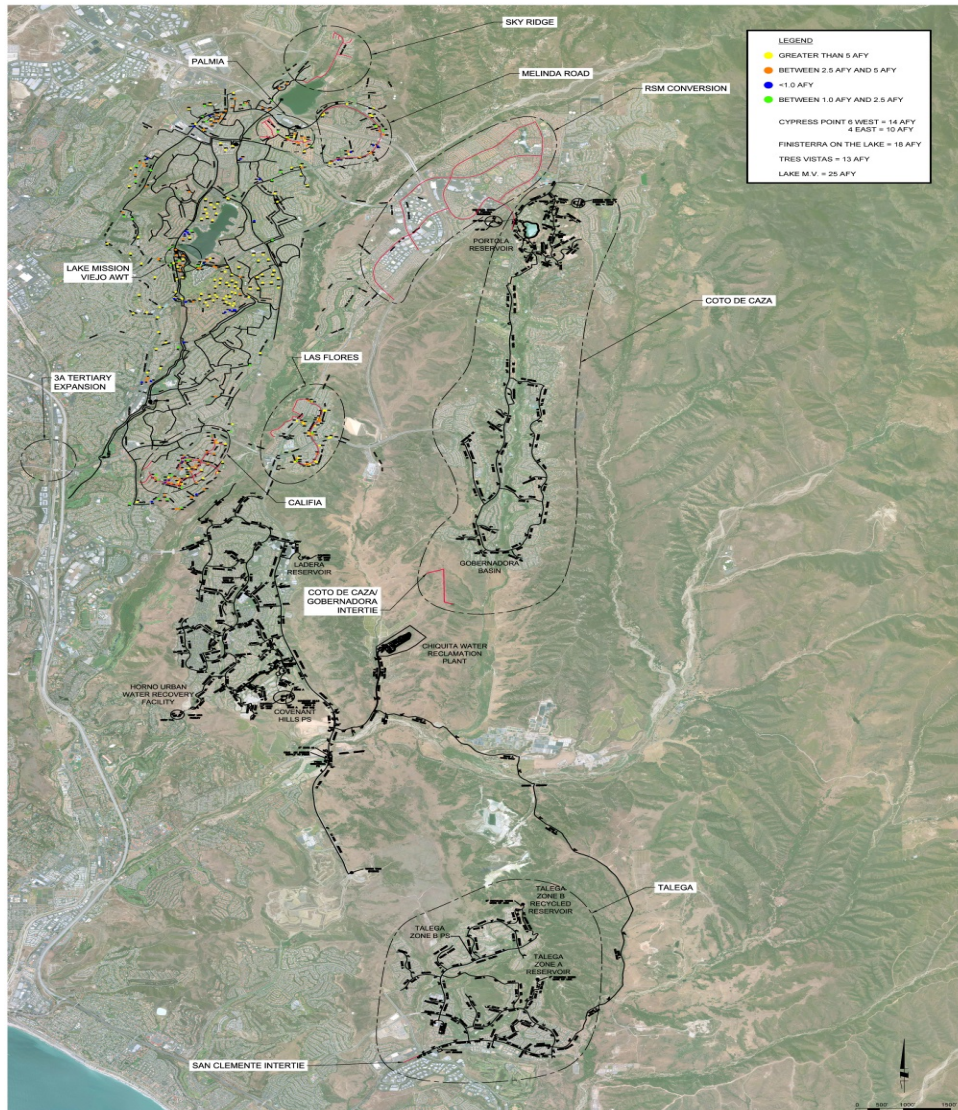


**SMWD
Service
Area**



SMWD 2015 Water Supply





RECYCLED WATER SYSTEM

RECYCLED WATER PROJECTS

- Calafia – 220 afy
- Coto de Caza – 400-1,250 afy
- Palmia – 70 afy
- **Lake Mission Viejo APWTF – 300 afy**
- Misc. Conversions
 - Hidden Ridge – 35 afy
 - Lake Mission Viejo – 50 afy
 - City of Mission Viejo – 50 afy
- Las Flores – 220 afy
- Melinda Road – 150 afy
- Rancho Santa Margarita – 1,000 afy

Lake Mission Viejo

Advanced Purified Water Treatment Facility

Project Background

- Lake Refill ~ 600 afy
 - Rainfall ~ 100-300 afy
 - Groundwater ~ 150 afy
 - Potable Make Up Water ~ 150-350 afy
- Provide Sustainable Make Up Water
 - Drought proof
 - Avoid regulatory restrictions
- Cost Effective
- Implementable
 - Proximity to District Facilities





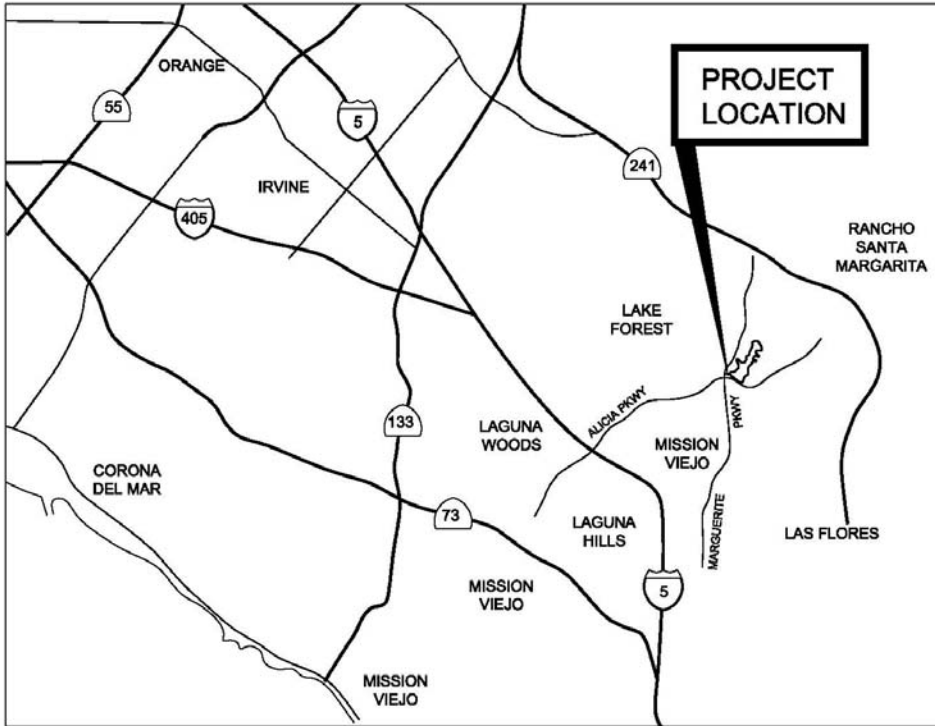
3A PLANT

OSO CREEK WRP

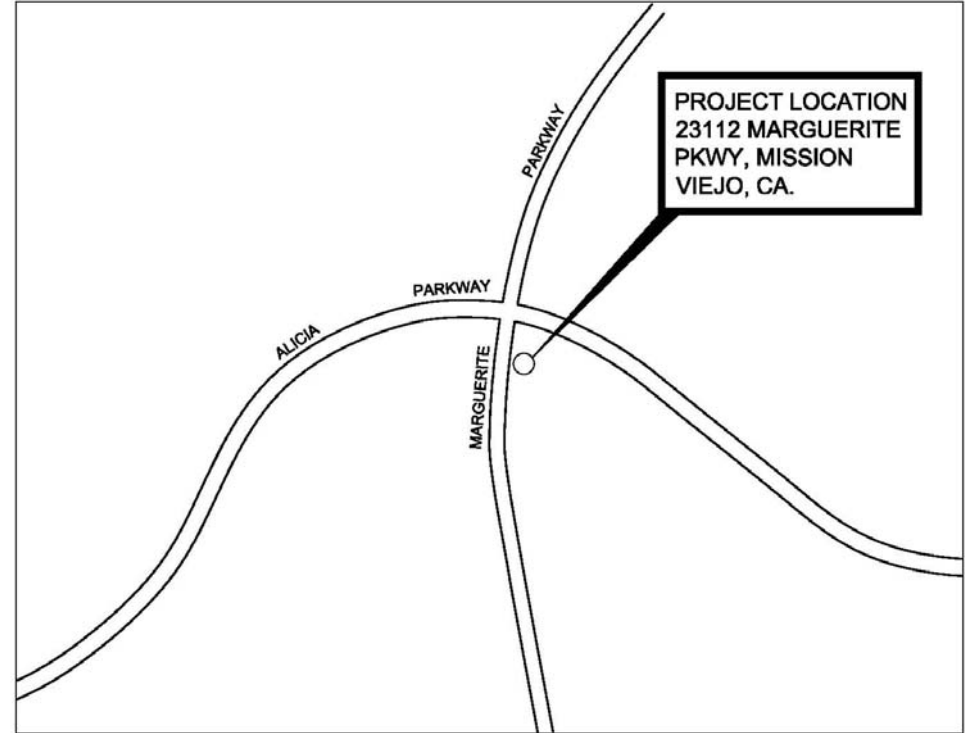
OSO BARRIER

FINISTERRA PUMP STATION

UPPER OSO RESERVOIR

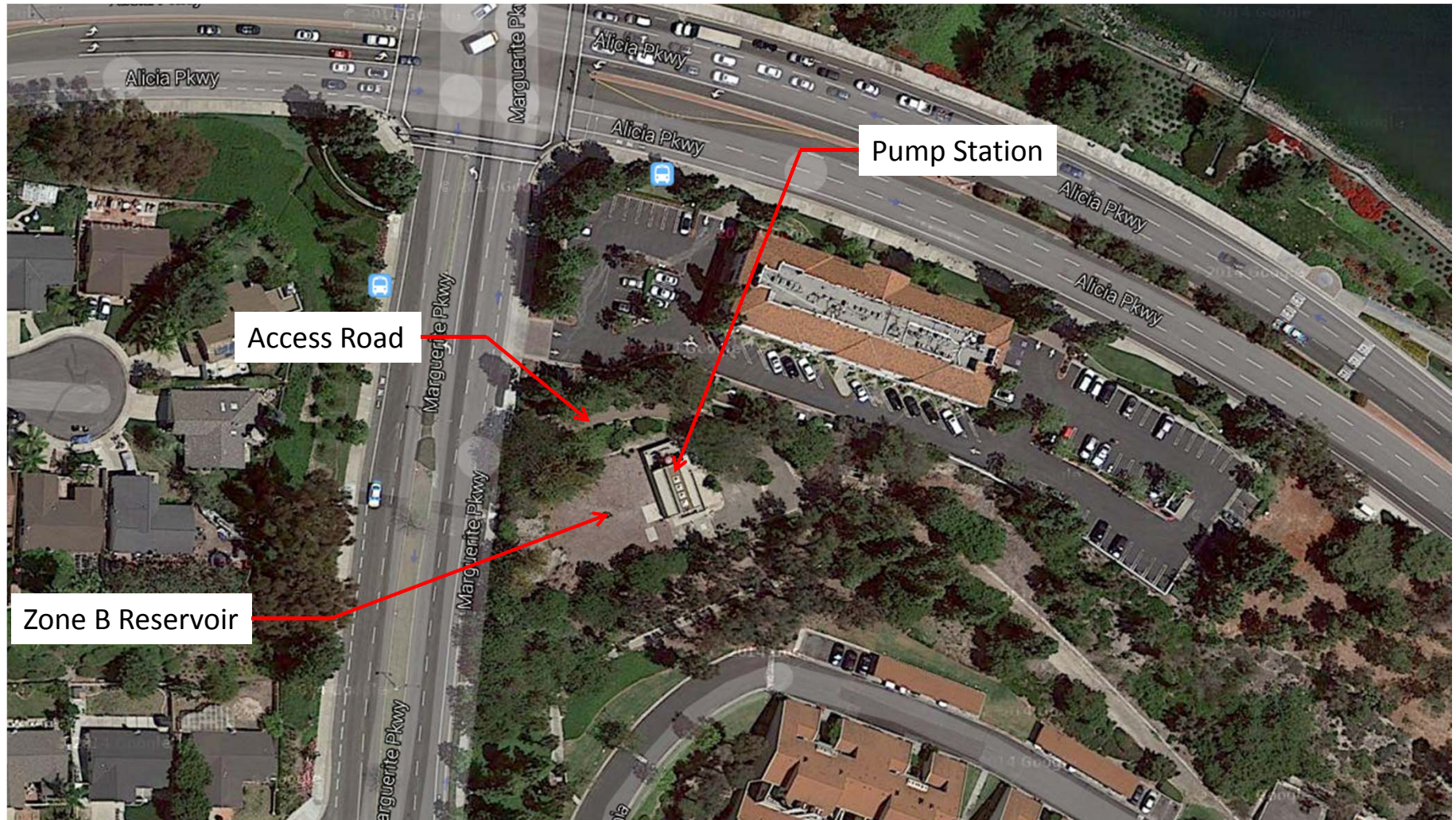


LOCATION MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

Finisterra Pump Station



Looking East Across Reservoir at Pump Station



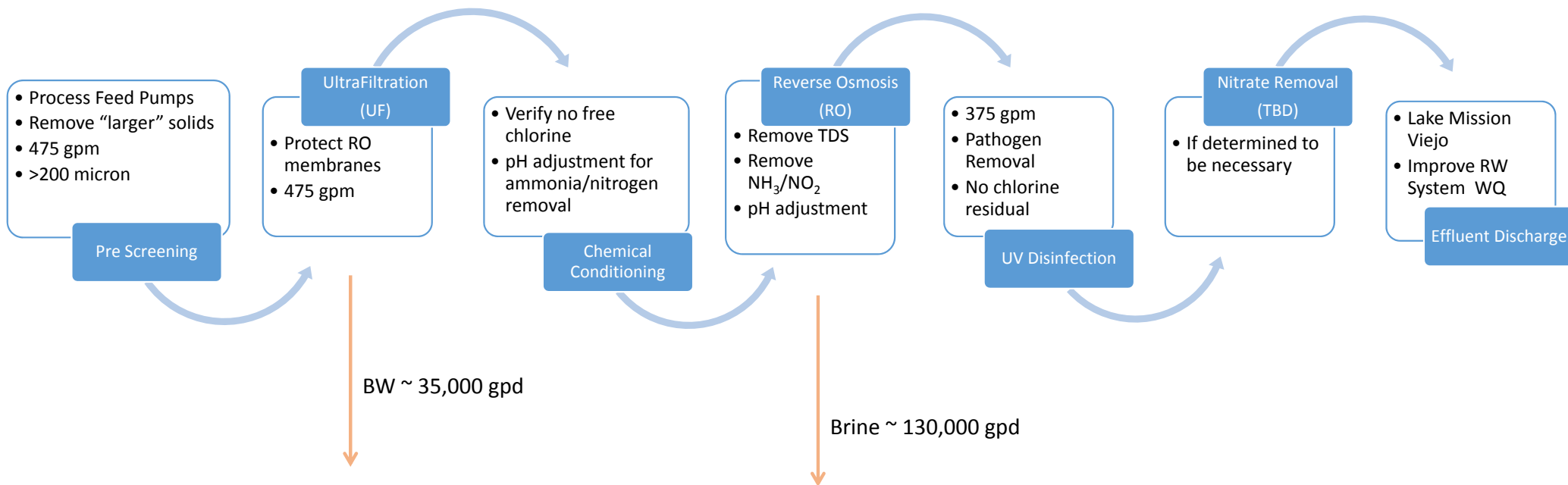
Looking North West at Finisterra Pump Station



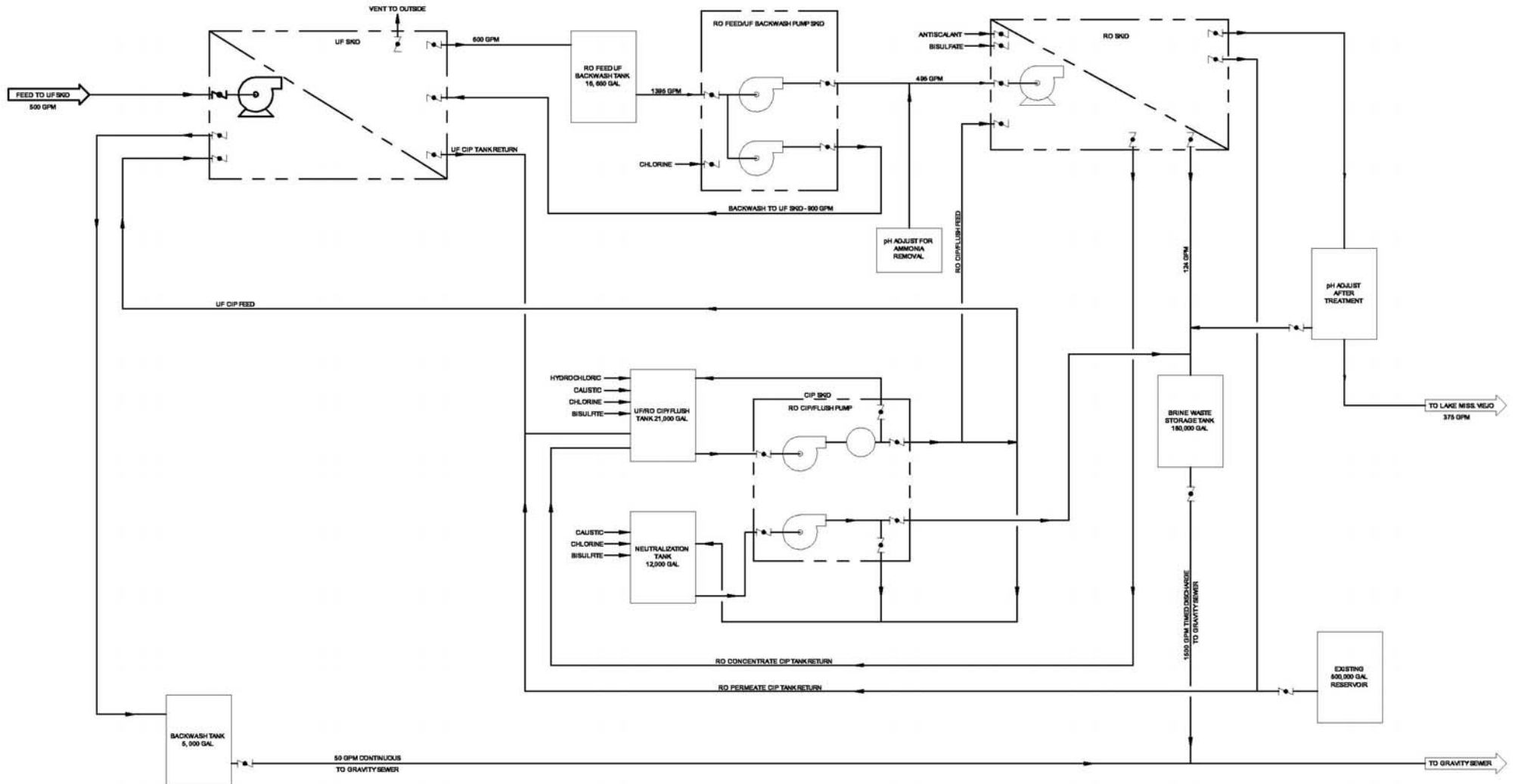
Looking West Across Reservoir



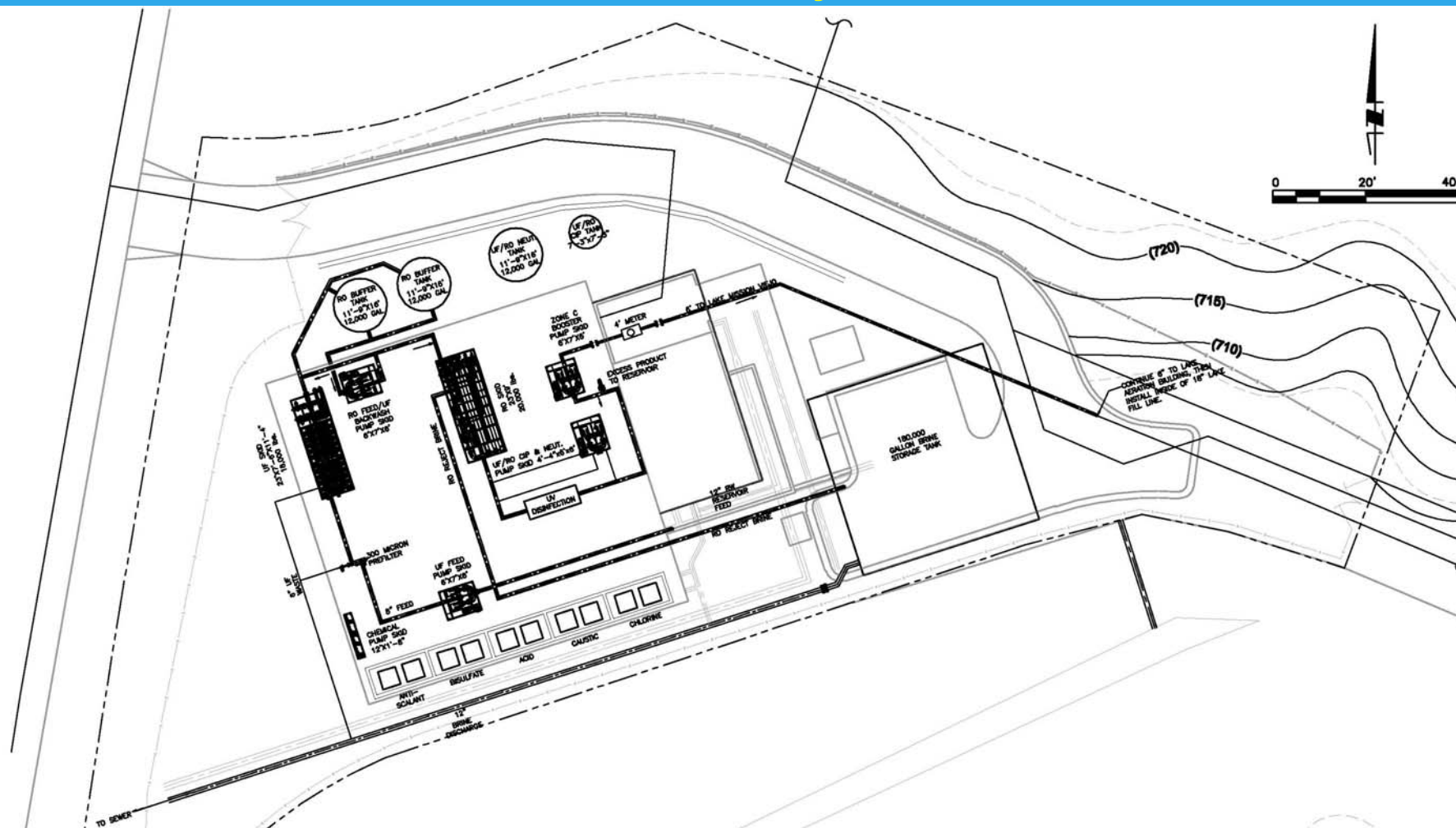
Lake Mission Viejo APWTF - Components



Lake Mission Viejo Preliminary Process Diagram



Lake Mission Viejo APWTF Preliminary Site Plan



Lake Mission Viejo - Advanced Purified Water Estimated Cost of Water

ITEM	Annual Cost	300 AF/YR
CapEX @ \$5.1 m – 20 yrs. @ 2.5% - 3.75%	\$300,000	\$1,000
O&M Costs		
Electrical	\$ 66,000	
Chemical	\$ 61,000	
Repair & Replace	\$129,000	
Labor	<u>\$150,000</u>	
Subtotal O&M Costs ⁽¹⁾	\$406,000	\$ 680
Cost of Source Water		\$ 320
Cost of APW (\$/AF)		\$2,000
MWD – LRP Contribution		(\$475)
Effective Cost of APW (\$/AF)		<u>\$1,525</u>

(1) Assumes operating costs spread over 600 af/yr production

Project Financing

- City of Mission Viejo
 - \$1 million grant
 - \$3 million low interest loan
- Santa Margarita Water District
 - \$1.1 million loan
- Lake Mission Viejo Association
 - Repays CapEX with monthly fixed charges
 - Pays operating costs for only that APW provided
- Metropolitan Water District
 - LRP - \$475/af, 15 years