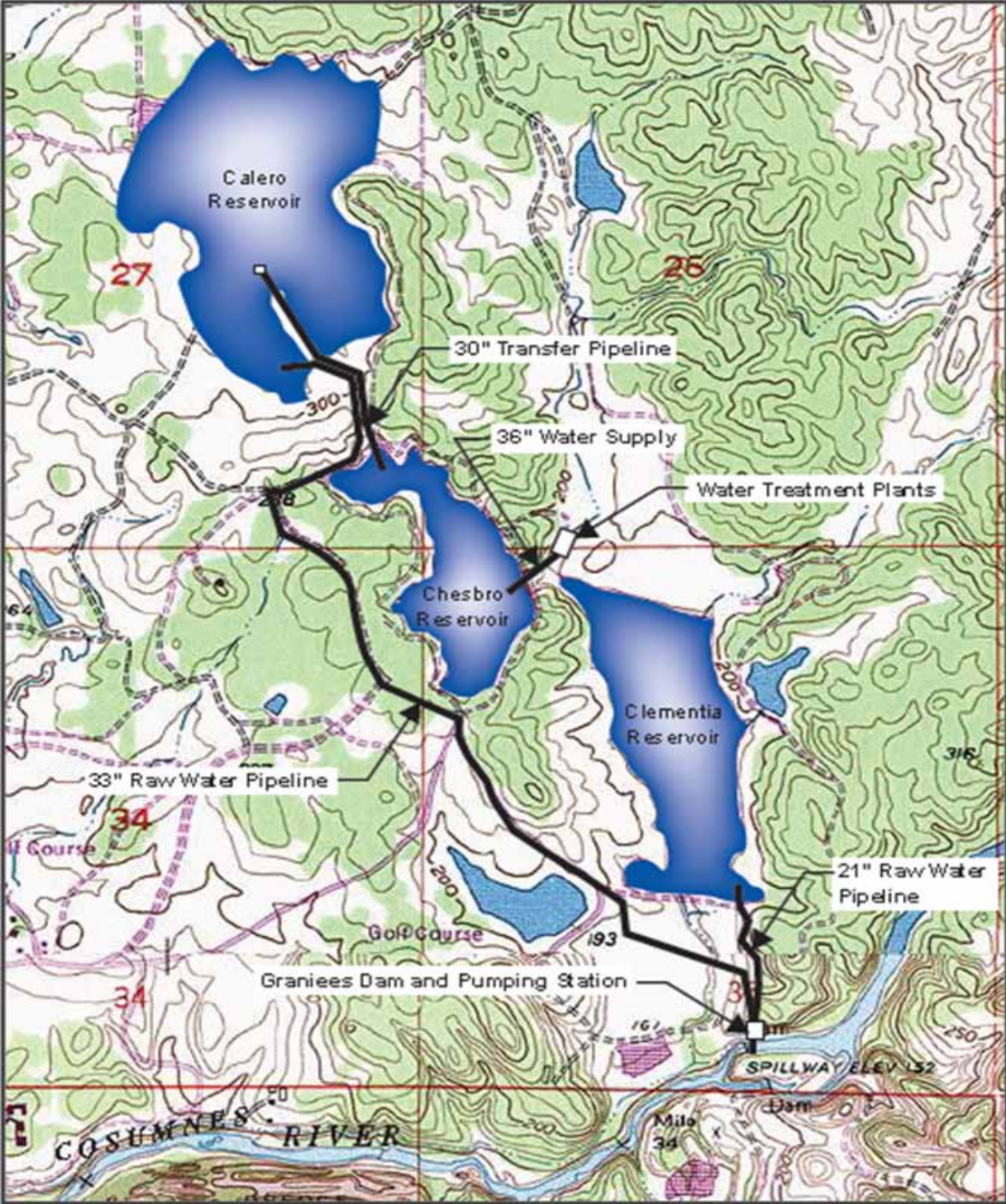


# Raw Water Supply





# Arial view of Granlees Dam location





# Granlees Pumping & Diversion Station





# Granlees Pumping & Diversion Station



# Granlees Pumping & Diversion Station

- RMCSD diverts water from the Consumnes river from Nov.1-May 31<sup>st</sup> of each year for raw water storage. Amounts and times vary depending on river levels and water quality. We endeavor to pump the cleanest water possible while filling the reservoirs
- River Diversion through the CIA (Cosumnes Irrigation Association) ditch is utilized to convey water for downstream ranch uses. The CIA ditch is 2/3 owned by the Anderson Ranch and 1/3 by RMCSD, with the District performing the maintenance and billing the CIA for their share. There are 14 separate water rights that provide water to the area from the Consumnes River, mostly for diversion during the winter months.



# Cosumnes Irrigation Association (CIA) Ditch





# Arial Photo of Raw Water Storage Lakes



# Raw Water Storage Lakes

- Calero
  - 2630 Acre feet of Storage
  - Fed from Granlees pump station. Gravity feeds when level is high to Chesbro or is siphoned when level is lower
  - No body contact or gas motors are allowed
- Chesbro
  - 1130.7 Acre feet of Storage
  - Gravity feeds the Water Plant for water production
  - No body contact or gas motors are allowed
- Clementia
  - 907 Acre feet of storage
  - Body contact allowed, gas motors are not allowed
  - May be pumped to Water plant as an emergency water source



# Raw Water Storage Reservoirs

- Each Lake contains its water within dams
  - Each dam must be monitored and maintained as per the Department of Water Resources - Division of Safety of Dams (DSOD)
    - Maintenance includes no trees or brush growth on dam faces and a rodent control program
    - Subdrain pump stations pump water away from foot of dam. Pump station flows are monitored for DSOD.
    - Piezometers to monitor seepage levels through the dams
    - settlement surveys

# Calero Influent





# Calero Main Dam





# Calero East Dam





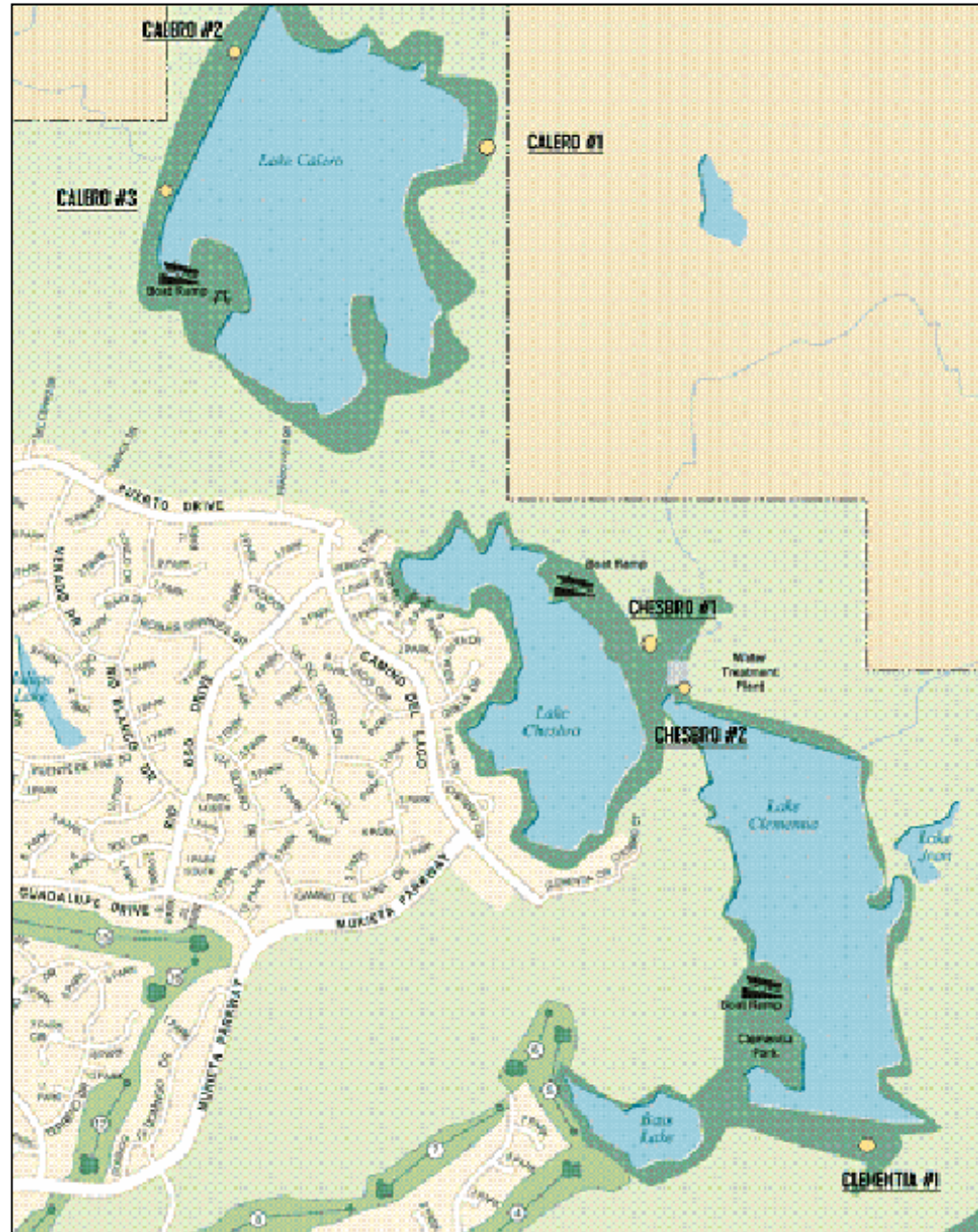
# Calero Subdrain Pump Station





# Dam Subdrains

Five (5) are  
dewatered by  
pumps and the  
rest via gravity  
flow





# Clementia Dam Subdrain pump



# Calero Siphon Pump Station

These pumps are used to fill the transfer line from Calero to Chesbro when Calero's level drops. Once the line is filled and the valve at Chesbro is opened, it allows it to pull a siphon and the pumps can be shut back off.



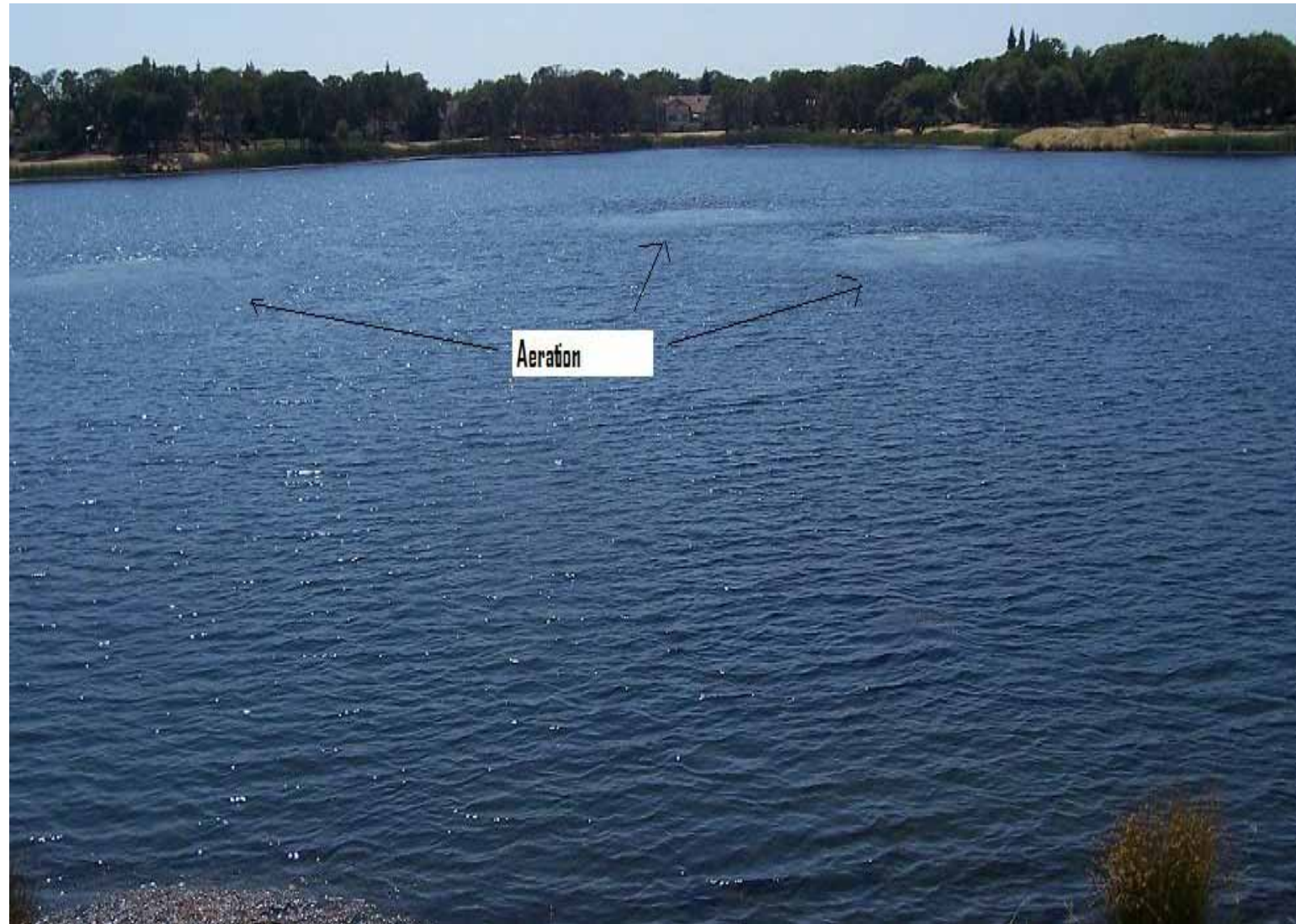


# Water source for RMCSD Water Plant





Aeration in  
lake Chesbro  
is used to  
keep the  
lake mixed  
& oxidize  
Iron or  
Manganese





# Water Treatment Plants



# WATER TREATMENT PLANTS

- Original facility consisted only of chlorination of raw water
  
- Plant 1 – Currently 4.0 mgd summer flow, 2.5 winter
  - Began Operation in 1975 as a 2.0 mgd facility single media. De-rated to 1.5 due to conversion to dual media in 1993
  - Converted to 4.0 MGD submerged ultrafiltration membranes & added SCADA system (began Op. Feb. 2016)
  
- Plant 2 – Conventio Filtration Plant producing 2.0 million gallons a day (MGD)
  - Began Operation in 1988
  - retrofitted in 1993 to meet new surface water treatment rule requirements





**Cassette being lifted with crane**



**View of Membrane treatment equipment under the canopy**

**Plant 1**

Plant #2  
Sedimentation  
Basin  
after  
Cleaning





# Plant #2 Filtration Room



# Plant #2 Effluent Pumps & Alternative Water Supply line





Rio Oso  
Tank  
1.2 MGD

Rehabed 2007-08



# Van Vleck 3.0 Million Gallon Tank





# Water System Pressure & Gravity zones

- Units 3 & 4 in the North are fed by the Rio Oso booster pump station, indicated by dark blue
- The rest of the District is gravity fed by the elevation of the Van Vleck tank, indicated by light blue

