

Running Out of Water

Permitting an Emergency Recycled Water Supply to Respond to the California Drought

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April 4, 2016

**CDM
Smith**

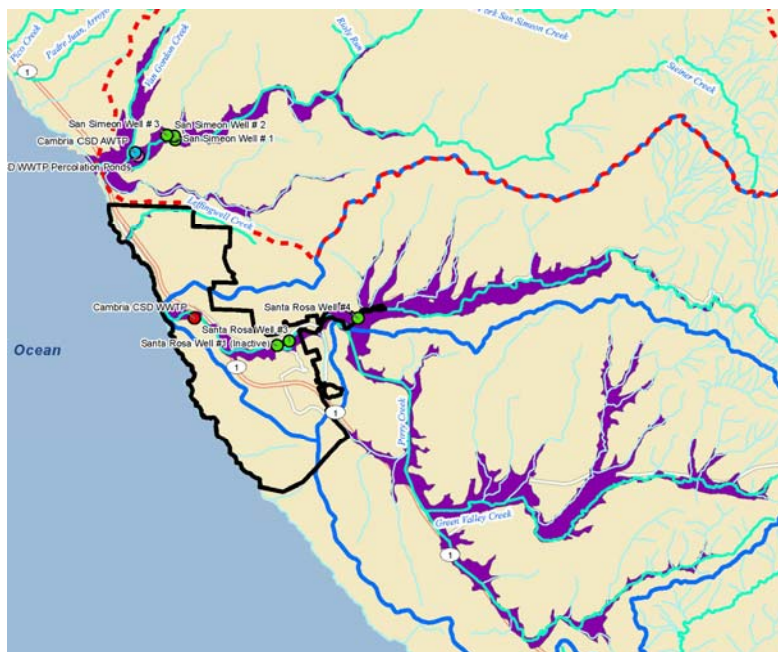
Cambria California

- Located in San Luis Obispo County on California's Central Coast
- Approximately 6,200 full-time residents
- Large population of part time residents and tourists



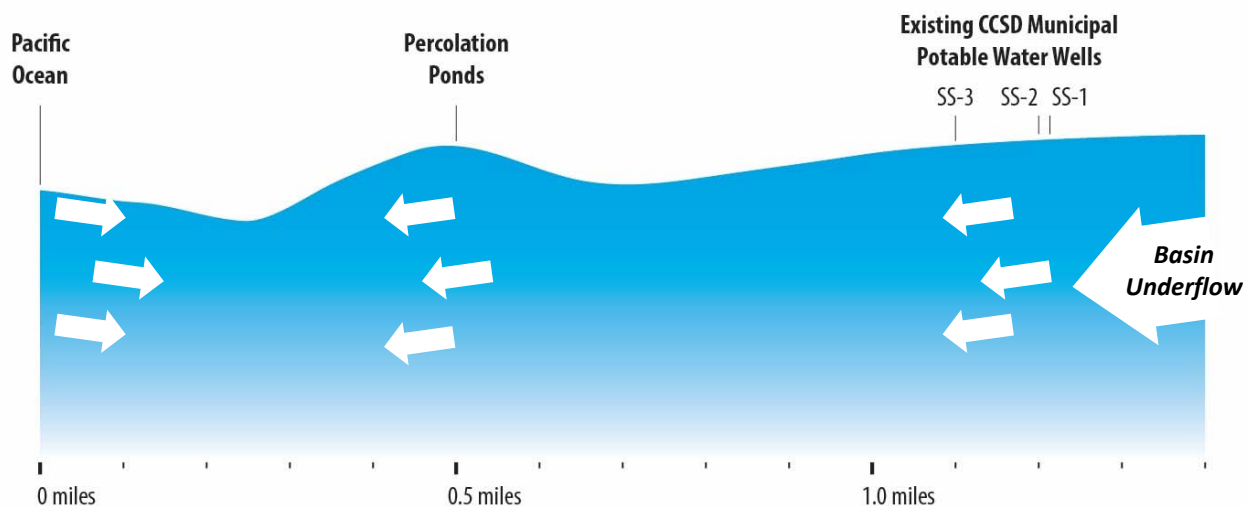
Cambria California

- Relies on two coastal stream aquifers for its water supply
- Limited water supply has constrained growth and required conservation since the 1980s



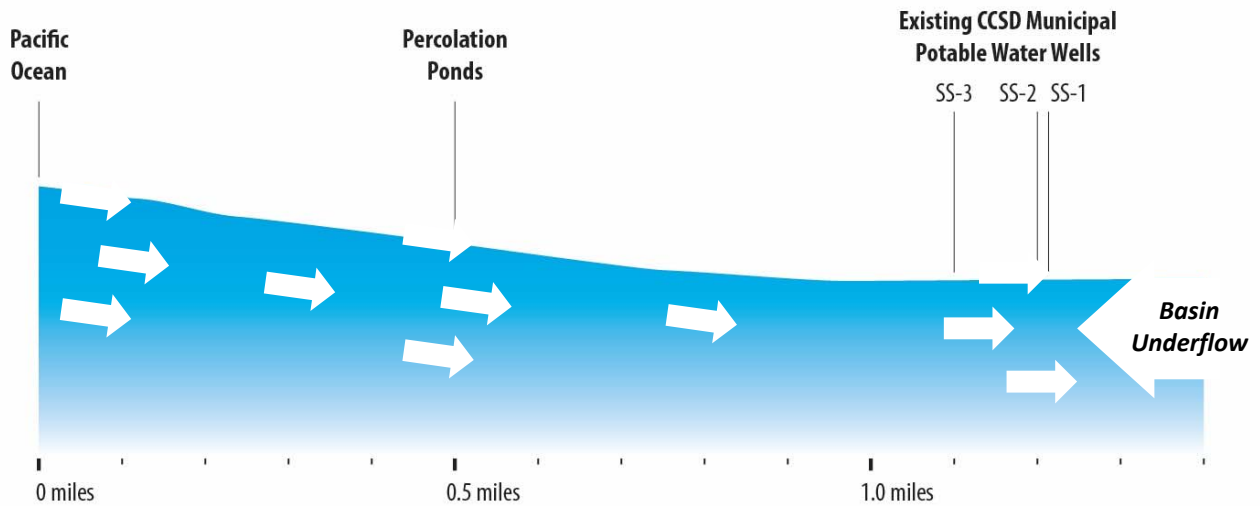
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Groundwater Aquifer - Average Year



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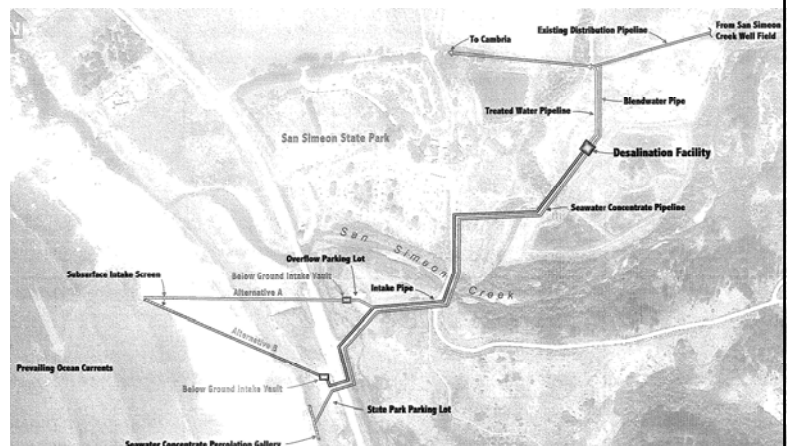
Groundwater Aquifer – Drought Year



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Water Supply Solutions

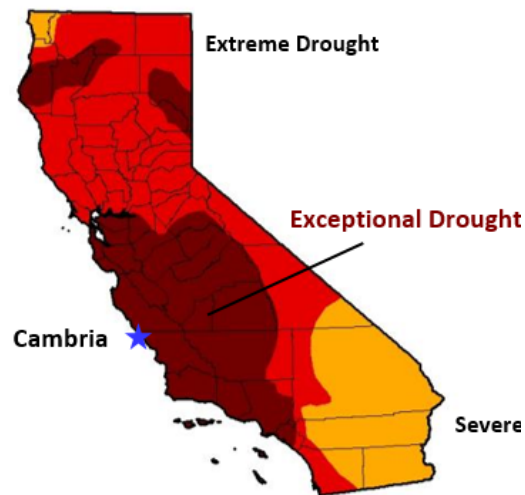
- Seawater desalination first proposed in 1987
- Design completed in 1995
- Environmental concerns triggered multiple redesigns
- In 2010 design converted to an on-shore brackish groundwater system



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2014 Drought Emergency

- Third year of drought conditions in California
- Early spring 2014 rainfall in Cambria only 80% of minimum amount required to recharge local aquifers
- Emergency conservation measures requiring 40% reductions in water use enacted
- Cambria's aquifers initially projected to run dry by the summer



July 8, 2014
US Drought Monitor

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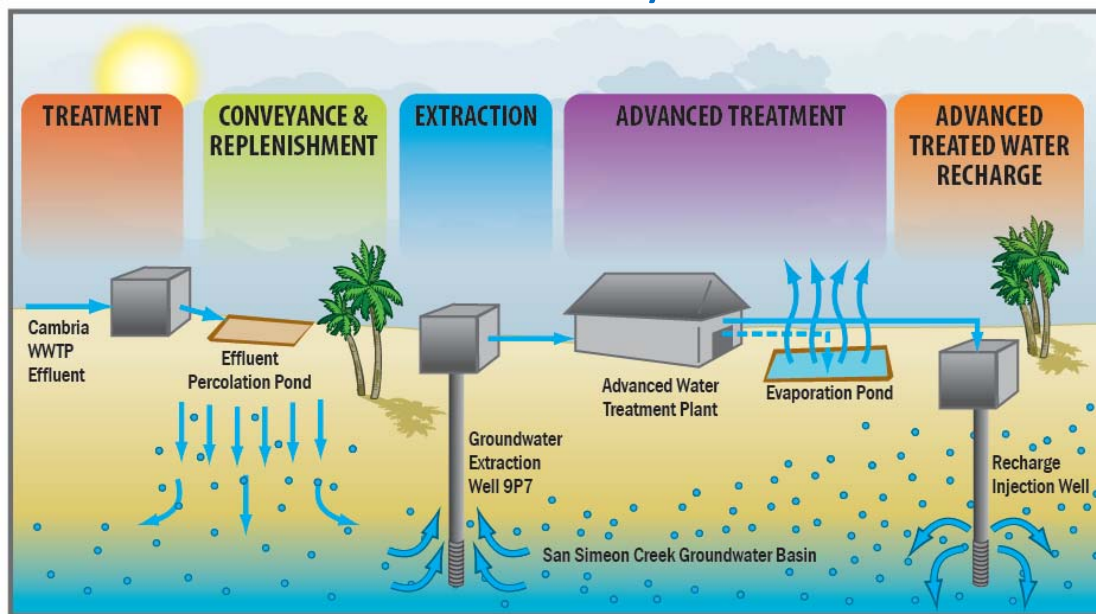
2014 Drought Emergency Response

- Community Services District approves a Design Build Contract for Brackish Water Treatment Project in February 2014
- Permitting initiated that same month alongside project design



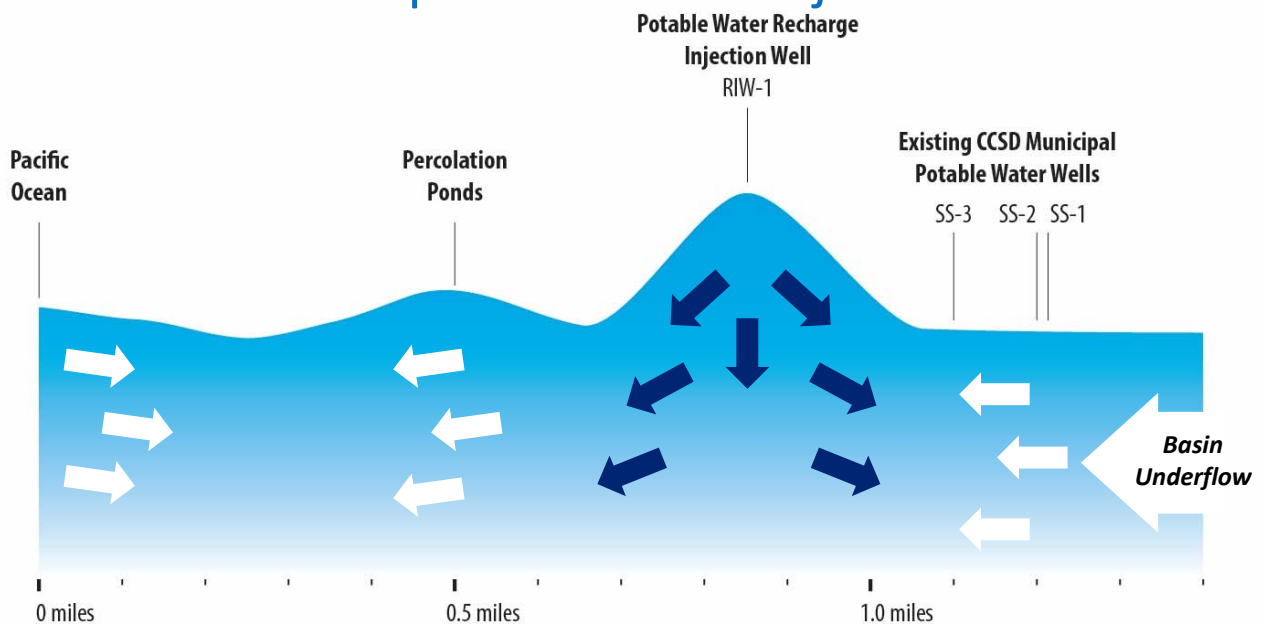
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Brackish Water Treatment System



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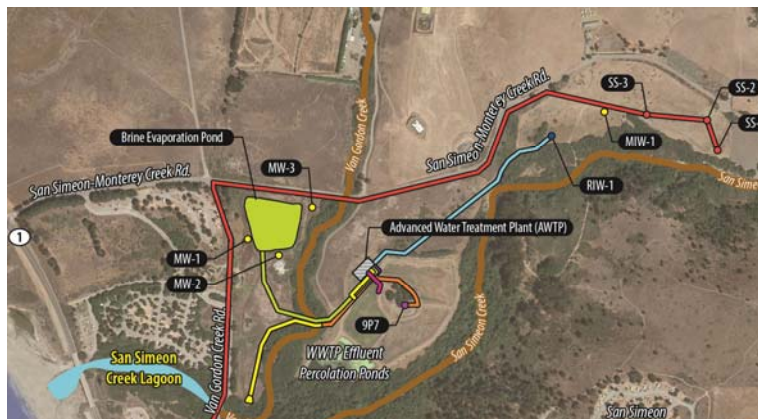
Groundwater Aquifer – With Project



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Brackish Water Treatment System

- 300 gpm of drinking water to CCSD customers
- Approximately 250 acre-feet of drinking water during the 6 month drought season
- Prefabricated treatment plant built in shipping containers



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Permitting Emergency Water Supply Project

- Permits required
 - Clean Water Act Title 22 (Advanced Treated Water Reuse) and Title 27 (Brine disposal in onsite evaporation pond)
 - Construction SWPPP
 - NPDES Low Threat Discharge Permit
 - Coastal Development Permit
 - Groundwater Well Permits
 - County Emergency Response Plan
 - Environmental Compliance (CEQA)



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Initial Permit Streamlining Actions

- Permit delays had halted water supply remedies for 27 years
- Project scale reduced to system designed to address current demand shortfall
- Project footprint reduced to fit entirely on CCSD-owned property



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Challenges Facing Successful Implementation

- Typical timeline for multiple required permits in excess of 18 months – completed project needed in 10 months to avoid wells running dry
- Multiple organized local citizen groups and influential residents in opposition to the project
- Rate increase notices for funding of the municipal bond measure and protest window could not be scheduled until after major design work would need to be completed to maintain schedule
- Title 22 Tracer Study required CCSD to only use one aquifer while 2 month test underway

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Steps Taken During Design Help Clear the Path

- State Office of Emergency Services, SWRCB, Central Coast RWQCB, SLO County, and CCSD confer on fast tracking Title 22 and Title 27 permits, and Coastal Development Permit
- Emergency Coastal Development Permit secured allowing construction to commence while regular long-term permit development was underway
- Extensive outreach to the local community completed following rate increase notice in response to announced campaign by project opponents to protest the higher rates

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Initial Permitting Outreach Changes Project Design

- IS/MND prepared and circulated for public comment in June
- Coordination with Responsible Agencies during and immediately after public comment period resulted in changes to project design



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Steps Taken During Design Help Clear the Path

- Project footprint modified to avoid Coastal Commission and Army Corps jurisdiction
- Lagoon mitigation discharge moved to avoid interaction with existing monitoring well
- Governor's Office of Planning and Research confirms the emergency project's exemption from CEQA in September 2014



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Water Supply Crisis Delayed

- Rainfall from one storm in late April provided sufficient inflow to Santa Rosa Creek Basin to allow tracer test to commence
- Stage 4 drought emergency conservation requirements enacted by CCSD reduce per capita water use to lowest in the State (40 gpp/d)
- San Simeon Aquifer returned to service after tracer test complete



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Water Supply Crisis Delayed

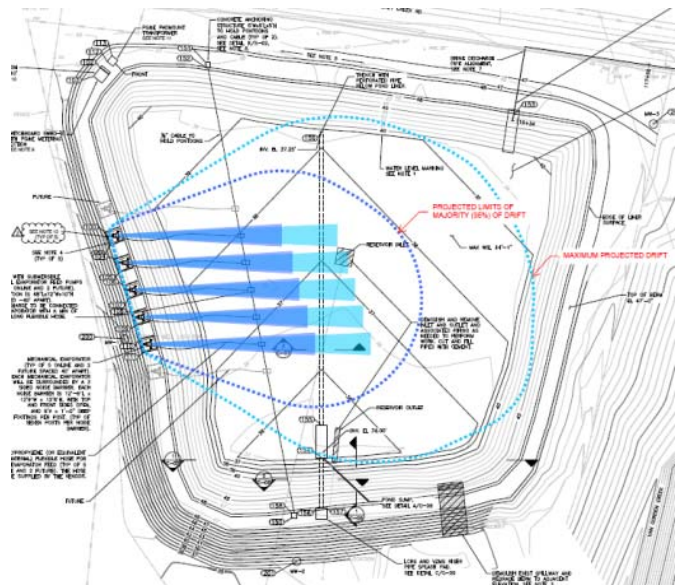
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Construction Commences

- Construction initiated in late August while ROWD development and review by SWRCB and RWQCB still underway
- Final design and modeling of mechanical evaporators was still underway
- Identification of required mitigation actions not yet complete



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Design Adapts

- Inspection of Brine Evaporation Pond grading by RWQCB interrupted by gopher
- Gopher response plan required prior to installation of pond lining scheduled for following week
- Trenchless tunneling under Van Gordon Creek approved to avoid jurisdictional waters



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Design Adapts

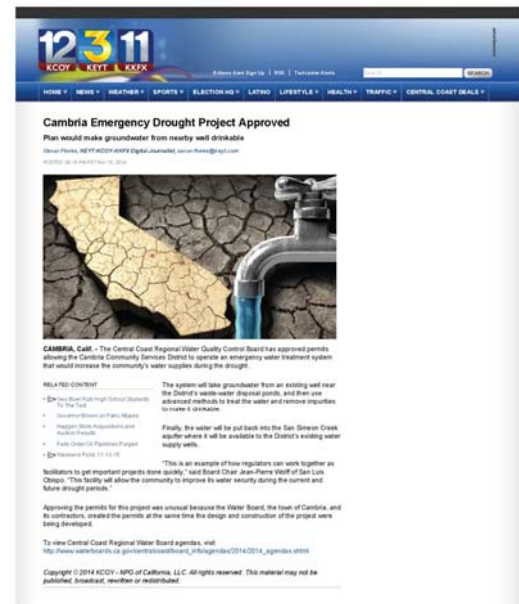
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RWQCB Board Hearing

- Scheduled prior to completion of approved ROWD
- Staff development of permit packages for Board Review completed alongside District development of ROWD
- Board hearing attended equally by Cambria residents in support of and opposed to the project



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Project Operation Commences

- Final RWQCB approval of Title 22 and 27 permits and NPDES low threat discharge permits received January 2015
- Initial operation runs approximately 6 weeks to complete startup procedures and train CCSD staff
- Plant restarted in August 2015 to respond to low groundwater levels and is run through early Fall



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Long-term Permitting Continues

- Regular Coastal Development Permit effort with County initiated after Emergency Permit was issued and continues
- Associated EIR also under development
- Both efforts being informed by the extensive monitoring and reporting requirements included in the CWA permits



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Lessons Learned

- Early and close communication with staff of all permitting agencies key to project success
- Quick responses to all regulators and Regional Board Staff questions in particular was critical
- Flexibility with final design configuration late into project implementation allowed for streamlined permit approval



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