Regional Service

- 1.5 Million customers
- 600 employees
- 350 miles (540 km) conveyance pipelines
- 5 treatment plants
- 43 pumping, 19 regulator stations

Resources created:
- Fertilizer (biosolids)
- Energy (biogas)
- Reclaimed water

Brightwater Flows:
- 36 MGD base flow to 130 MGD peak flow
Brightwater Treatment Plant

• ~$500 Million Project, part of $1.8 Billion Treatment system expansion
• GC/CM Project – Hoffman Contract for Liquids Structure work, Site Work, EECC and Mitigation Area Work.
• Concurrent Lump Sum Contract with Kiewit for Solids and Odor Control Work
• Plant Operational January 2011
Treatment Plant Site Layout

120 Acre Site
36 Million Gallon / Day Treatment Capacity
Challenges - Earthwork

• Earthwork - 750,000 cy yards of soil to move.

• Dewatering – All structures involve 30’-40’ excavations into groundwater layers requiring extensive dewatering.

• Stormwater – Site parallels Little Bear Creek requiring extensive stormwater detention and treatment.
Site Prep/North Mitigation Area
Structures Construction

- Heavily Reinforced Structures due to Seismic Issues, Crack Control and IBC
- Congested Rebar
Structures Construction

- Thick walls and slabs
- Emphasis on crack control leads to checker-boarding of walls and slabs
- 14 day cure time between adjacent pours
- 7 day water cure after pours
Tower Crane on Rails

Leibherr 550’s with 200’ of Jib
~ 16,000 lbs capacity

Primary Basins – 280’ of Travel
Aeration Basins – 180’ of Travel
Primary Sedimentation Tanks
Aeration Basins

Aeration Tanks – 3 Tanks – 320’ long x 26’ wide x 30’ deep
~ 1.8 Million Gallon Capacity Each
Membrane Area & North end of Aeration Basins, looking Southeast
Membrane Basins

Membrane Tanks – 10 Tanks - 70’ Long x 28’ Wide x 14’ Deep
Membrane Technology

Secondary Treatment Process is Largest Membrane Bio-Reactors in the Country
36 Million Gallons/Day

GE/Zenon supplied hollow fiber membranes

Membranes treatment produces reclaimed water, suitable for irrigation
Odor Control Systems

Foul Air Ducting for Odor Control

Odor Control at the site is a priority

All tanks covered and air treated by 3 stages of Odor Control.

Extensive odor control to achieve “No Odor” commitment
Solids Holding Tank
Brightwater Environmental Education Center

• 15,000 sf facility with access to 70 acres open space, trails, and habitat
• In 2017 – 17,578 participated in educational programs on-site
• Average rate of students of color for schools attending programs = 62% students of color
Questions?