

## Tour Date:

- September 15th

## History:

The construction of the WRF began in 1977 and was placed into service in 1981 along with the collection system. The plant includes preliminary, primary, secondary, and tertiary treatment processes along with disinfection and evaporation/percolation ponds for the treated effluent. Solids facilities include a gravity belt thickener, three high-rate anaerobic digesters, a belt filter press, two sludge degasification basins and sludge drying beds.

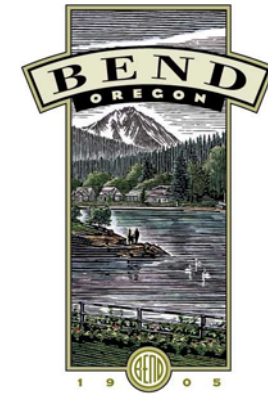
The City of Bend WRF was originally a conventional activated sludge plant but was converted to the Modified Ludzack Ettinger (MLE) activated sludge process in 2000 to improve nitrogen removal. Various upgrades over the years has resulted in a daily average design capacity of 6.0 MGD.

The WRF collects, treats and disposes of wastewater under a permit issued by the Department of Environmental Quality. Limits of discharge are defined by this permit with penalties mandated by OAR Chapter 468 if the limits are not met by the City's collection, treatment and disposal processes. Our current permit was issued in 2010 and will expire on November 30, 2015.

## WRF Facts

- 31 Years Old
- Provides effluent reuse water to the Pronghorn Resort during irrigation season
- All Biosolids are land applied in accordance with DEQ approved Biosolids Management Plan
- WRF Designed for ADMM (Average Day Maximum Month) flow of 6.0 MGD
- AAF (Average Annual Flow) of 5.5 MGD
- Peak hourly flow of 8.9 MGD <sup>(1/12)</sup>
- Flows have been stable past 12—18 months but organic loading is has been increasing
- The Water Pollution Control Facility (WPCF) permit contains the following effluent parameters:
  - BOD5/TSS monthly average of 20 mg/L or less.
  - Total Nitrogen annual monthly average of 10 mg/l
  - pH shall be within range of 5.5—9.0
  - E. Coli concentrations shall not exceed 126 organisms per 100 ml monthly geometric mean and no single sample shall be >406 organisms per 100 ml

# Water Reclamation Facility (WRF) Tour



## Sewer Infrastructure & Advisory Group (SIAG)



**WATER RECLAMATION FACILITY:**

- 1 Control Building/Laboratory
- 2 Kerry Training Center
- 3 Filter Building/Effluent Reuse
- 4 Secondary Clarifiers
- 5 Aeration Blowers
- 6 Aeration Basins
- 7 Primary Clarifiers
- 8 Headworks
- 9 Solids Handling Facility
- 10 Digester Complex
- 11 Maintenance Shop
- 12 Degasification Basins
- 13 Drying Beds



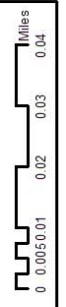
Plant Trunk Main

Airport LS  
Force Main



**CITY OF BEND - WATER RECLAMATION FACILITY**  
Public Works Department - Utility Division (August, 2012)

- Lift Station
- Pressurized Main
- Force Main
- Gravity Main



This map is for reference purposes only. The information was derived from Deschutes County G.I.S. and City of Bend land records. Care was taken in the creation of this map, but it is provided "AS IS". Please contact the City of Bend to verify map information or to report any errors.