

WASTEWATER TREATMENT PLANT: neuse river wastewater treatment plant



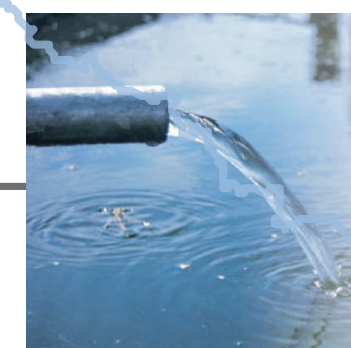
DESTINATION



Water moves through 2,300 miles of sewer PIPE eventually hitting the dual 72" reinforced concrete pipes that head to the wwp



NEUSE RIVER WASTEWATER TREATMENT PLANT



40 mgal/d EFFLUENT to the Neuse River

Neuse River WWTP

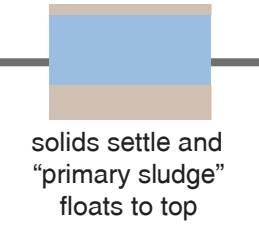
PRIMARY TREATMENT

concrete basins slope down to equalization tank



gravity moves water through most of the facility

primary clarifiers



solids settle and "primary sludge" floats to top
"primary sludge" a blanket of oil and grease are removed

SECONDARY TREATMENT

aeration basins



six concrete pools - bacteria eats solids & removes all harmful chemicals, except nitrates

various basins



bacteria do different things to remove nitrogen (spends one day)

secondary clarification basins

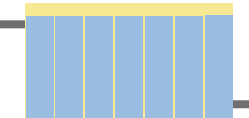


bacteria create sludge blanket at bottom of pools (spends two days)

sludge becomes return activated sludge (RAS) 6 times before becomes waste activate sludge (WAS)

ADVANCE TREATMENT

natural element



water flows through deep sand filters remove fine particles

UV treatment



90% WAS reused as biosolids for fertilizing



"Public Utilities Department." The Official City of Raleigh Portal. Web. 10 Feb. 2011. <<http://www.raleighnc.gov/services/content/Departments/Articles/PublicUtilitiesDept.html>>. Huler, Scott. On the Grid: a Plot of Land, an Average Neighborhood, and the Systems That Make Our World Work. Emmaus, Penn.: Rodale, 2010. Print.