

# Pendleton/Clemson Wastewater Treatment Plant Upgrade and Expansion Project

## WHAT?

The Pendleton/Clemson Wastewater Treatment Plant (PCWWTP) is owned by the Town of Pendleton, but is managed by a three-way intergovernmental agreement by the Town of Pendleton, the City of Clemson and Anderson County. The City of Clemson's service area for Pendleton/Clemson is basically everything east of Hwy 93 and is largely residential.

The PCWWTP is located west of the Town of Pendleton, on Woodburn Road, near Eighteen Mile Creek. The PCWWTP is an extended aeration, activated sludge plant that treats wastewater discharges from a service area that extends from the Town of Pendleton north to US 123, east of Clemson. The PCWWTP discharges effluent that has been treated to tertiary limits to the Eighteen Mile Creek under NPDES Permit No. SC0035700. The rated capacity of the plant is 2.0 million gallons per 24-hour day (MGD). Treated wastewater effluent discharge currently averages approximately 1.2 million gallons per day, MGD. The maximum flow was 2.4 million gallons per day.

## WHY?

The City of Clemson has 1,000,000 gallons per day, GPD, of capacity in the wastewater treatment plant, the Town of Pendleton has 800,000 GPD capacity and Anderson County has 200,000 GPD capacity. The wastewater treatment plant exceeds the allocated capacity in the treatment plant for permitted projects. The wastewater treatment plant is currently operating under a "Flow Advancement Agreement from the SC Department of Health and Environmental Control" that was signed in May of 2016. The Advancement Agreement allows the Town of Pendleton, Anderson County and the City of Clemson to permit flows up to 3.0 MGD based on our commitment to expand the wastewater treatment plant. Under this agreement the owners of the plant must maintain proper treatment and not exceed the permitted flow.

The City of Clemson recently completed a Rate Study and it is anticipated that the City of Clemson's population will double in size within ten years. The Town of Pendleton currently is the fastest growing area in SC. Anderson County is experiencing a boom in industry and homes in the service area. With the growth projections that are expected it would not be economical to construct the plant in phases. Clemson will need the capacity for the Kadera Development that is located at the Milliken Plant and for the Grange that will be built between Patrick Square and Road 18. Kadera is looking at 1400 to 1600 homes and 500,000SF of commercial space.

The Grange buildout will be similar. Both areas will be served by the Pendleton/Clemson Wastewater Treatment Plant. There are other areas in the City of Clemson that will require sewer service and most of the available properties are in the Pendleton/Clemson service area.

The anticipated cost of the plant upgrade and expansion is expected to be around \$60,000,000. The City of Clemson is responsible for 33.3% of the plant so our share of the upgrade will be \$15,000,000. That balance of the project will be paid by Pendleton and Anderson County. Pendleton and Clemson's capacity primarily consists of traditional housing. Anderson County's capacity is a mix of homes and industry. So the answer to your question is yes. New residential development along 76, 123 and industrial growth in Anderson County are all contributing to the need for expansion.

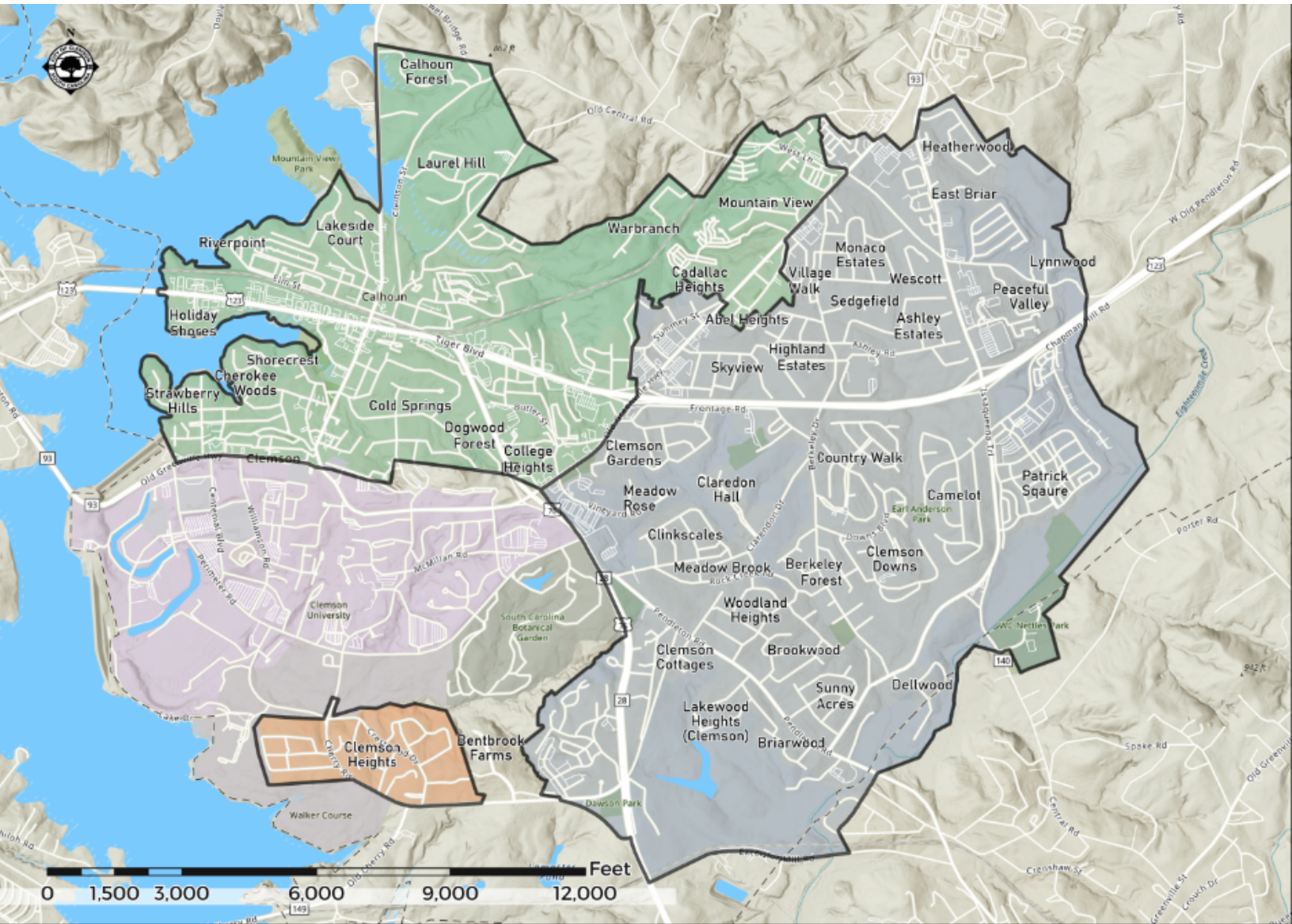
The plant is changing the wastewater treatment process from an extended air plant to an A<sup>2</sup>O Process which is anaerobic (A), anoxic (A) and aerobic (O). If the plant stayed with the existing treatment process it would not be able to expand beyond 3.0 MGD. With the A<sup>2</sup>O Process the plant can be expanded to at least 7.5 MGD within the existing footprint. Basically, the plant is going to be new and building from zero to 5.0 MGD and removing the old aeration basins. There are many components of the plant that need to be replaced regardless of capacity due to age.

## HOW?

To finance the project, we received \$10,000,000 in SCIP money and received \$5,300,000 from Congressionally Designated Funding; this leaves a balance of \$45,000,000 of which the City is responsible for \$15,000,000. The City of Clemson will use a mix of Impact Fee money and bonds to pay for the project. The City recently had its impact fees evaluated and Council increased them to the maximum supported amount. Impact fees are paid by new construction and are used to offset growth related expenses. The City will also keep looking for additional funding opportunities. The City of Clemson, Town of Pendleton and Anderson County have made two different trips to Columbia already to meet with Senator Alexander, Rural Infrastructure Authority (RIA) and USDA about funding possibilities.



# City of Clemson Sewer Collection Zones



Served by Cochran Road Plant



Served by Pendleton Clemson Plant



Served by Clemson University Plant