

WATER ENVIRONMENT ASSOCIATION OF TEXAS

MUNICIPAL WASTEWATER TREATMENT PLANT OF THE YEAR Category 3 (>15 MGD)

...to recognize a municipal wastewater treatment plant in Texas that has consistently exhibited outstanding performance of daily activities beyond the normal call of duty.

City of Denton Pecan Creek Water Reclamation Plant

The city of Denton Pecan Creek Water Reclamation Plant meets the criteria for this award, both in spirit and in practice. The Wastewater Reclamation Division has been proactive and visionary in enhancing the operation and maintenance of all their wastewater plants and lift stations. The hard work and dedication of the professionals at the Pecan Creek Water Reclamation Plant has improved both the environment in and around Denton, as well as improving the general standing of the wastewater industry in Texas.

The Denton wastewater collection system dates back to the 1910's. The wastewater collection system currently consists of over 500 miles of wastewater lines, 27 lift stations, and 2 treatment plants. The Pecan Creek Water Reclamation Plant was constructed in 1963 with three mgd capacity. It was expanded in 1968, 1983, 1990 and 1995 up to 15 mgd capacity. The 2003 expansion upgraded the capacity to 21 mgd Average Daily Flow & 46 mgd Peak Flow. The wastewater system provides retail service to over 30,000 customers and wholesale service to cities that include Corinth, Argyle, Krum and Shady Shores.

The 2003 expansion of the Pecan Creek WRP was designed to meet stringent CBOD, TSS and ammonia limits. Since completing this last major plant expansion and upgrade, the operating and maintenance staff has done an excellent job keeping the facilities in top condition and meeting the plant's discharge permit consistently. The staff has fine-tuned the treatment processes to achieve high operating efficiency, judging from the energy consumption for every million gallons of wastewater treated. The 1200 kWh/

MG usage is the lowest among its peers. The plant has performed exceptionally well, reducing the pollutant loading in the receiving stream and thereby in Lewisville Lake. Over the last three years, the TSS loading was lower by 93 percent, ammonia loading lower by 95 percent, CBOD loading lower by 82 percent, and E. coli loading was lower by 96 percent when compared to the TCEQ permit limits.

The Pecan Creek WRP composts 100 percent of the primary and secondary sludge. In 2014, this resulted in 21,513 wet cubic yards of sludge not being disposed in the landfill. In addition, 101,975 cubic yards of brush was diverted from disposal in the landfill to make compost with the wastewater plant sludge. If stacked on the full dimension of a regulation football field, the combined sludge and brush would be 58 feet tall. This air space was saved at the landfill at the same time producing a green product.

The Pecan Creek WRP has hosted the training of inspection teams from the USEPA and TCEQ. From the bio-selectors in the aeration basins, the tertiary level treatment with filters, 46-mgd UV disinfection system, state of the art SCADA system, to the Seepex Cake Pumps system with glass lined pipe for pumping the pressed 17 percent combined sludge for composting, the plant offered a host of training opportunities to the EPA and TCEQ inspection teams.

Under the leadership of Assistant Utilities Director P.S. Arora, P.E. and Plant Superintendent Rusty Willard, the plant protected and improved the environment more than what the discharge permit stipulates. It is a deserving recipient of the Plant of the Year Award – Category 3.