

City Talk Column for Nov. 8, 2023
Wastewater Department
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Preventative maintenance at the Sedona Wastewater Reclamation Plant

We all know how a little preventative maintenance can help extend the life of most everything. For example, we do this with our vehicles to help them last hundreds of thousands of miles, we cover our plants before a freeze to prevent loss and we exercise and try to eat healthy to prevent diseases in our bodies. It is no different at the wastewater department. Preventative maintenance is a large part of our operations at the Sedona Wastewater Reclamation Plant (WWRP), within the collection system and in our laboratory. The wastewater crew performs the majority of the preventative maintenance on our equipment in house, all year round.

At the WWRP we have 78 pieces of mechanical equipment such as conveyor belts, filters and pumps. Each of these pieces of equipment require regular preventative maintenance. Oil changes, greasing bearings, turning valves and annual tune-ups are required. In the collections system, we have 52 pumps needing either annual or semi-annual oil changes. The department has 18 generators that require semi-annual preventative care to ensure reliability during a power outage. In the wastewater lab, we perform daily calibrations on seven instruments, annual calibrations on 22 instruments and monthly maintenance on 12 instruments to ensure accurate test results.

The department's fleet consists of 10 vehicles, three golf carts and nine pieces of heavy operating equipment which all receive monthly inspections and regular maintenance to keep the equipment running well and safe during our operations.

Safety is a top priority for our workers. We have a variety of tools ranging from ladders, power tools, hand tools, harnesses, gas monitors, emergency eye wash and shower stations and fire extinguishers that are inspected prior to each use, as well as monthly inspections.

Preventative maintenance isn't limited to our mechanical equipment and tools. We also perform preventative maintenance on our lift stations by cleaning storage wet wells quarterly to ensure that foreign debris is removed before it can cause damage to mechanical equipment. We clean sewer pipes throughout the city to ensure that sludge buildup does not impede flow through the pipes – aiming to clean the entire 110 miles of sewer pipe once every five years using high pressure jets. During this same time period we also perform video assessments of the inside of pipes to inspect for defects such as cracks, offset joints and root intrusion so that they can be repaired and prevent catastrophic failure of the pipes.

Another way that the wastewater industry keeps pipes clean is to have a pretreatment program. These programs are robust in areas that experience a lot of industrial wastewater. In Sedona, while we don't have industrial wastewater, we do have a lot of waste that contains fats, oils and greases, or F.O.G. F.O.G. can accumulate on the walls of pipe, restricting flow and eventually causing blockages that lead to sanitary sewer overflows. Our pretreatment program consists of requiring commercial kitchens in restaurants, bakeries, grocery stores and schools to have a grease trap. The grease trap is installed in the sewer service prior to where it enters the municipal pipes. It separates the grease from the water, collecting it in a tank and allowing only water to enter the sewer system. The grease is then periodically

cleaned out of the grease trap and disposed of properly. There are 116 commercial businesses in Sedona that have grease traps. We inspect each of these businesses at least twice per year to ensure cleaning is done at the required intervals to keep the grease traps functioning properly. Residents can also fight F.O.G. at home by scraping cooking grease into the trash before washing dishes. This will also help you as a home owner avoid costly repairs to the sewer pipes on your property by preventing grease buildup.

All of this preventative maintenance helps us extend the useful life of our equipment. Service life ranges anywhere from five years on mechanical components to 30+ years for sewer pipe. Ultimately everything will need repair or replacement at some point and we plan for that too. We have a major maintenance reserve and an equipment replacement reserve where funds are set aside each year and accumulate to help pay for costly repairs or replacement of equipment when needed. I hope this article gives you useful insight into the city's sewer maintenance and if you ever want a tour of the facility on the third Thursday of every month by appointment, call (928) 204-2234.