

# AUBURN LAKE TRAILS, CALIFORNIA

## PROBLEM

The Auburn Lake Trails Subdivision in California was developed during the 1970s and 1980s as a recreational community near Auburn Lake, with more than a 1,000 relatively small lots in an area with shallow, low-permeability soils and steep topography. When developers discovered that local soils could not treat the waste adequately to protect water resources upon full build-out, they proposed building a centralized sewage collection and treatment system. However, it was opposed by residents as too costly.

## SOLUTION

The community authorized the Georgetown Divide Public Utility District (PUD) to design and manage conventional and advanced treatment individual and clustered wastewater systems. The PUD developed an approach that links the required performance levels for treatment systems to health and environmental risk and where maintenance and monitoring schedules depend on the system type.

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## OVERVIEW

The Auburn Lake Trails Subdivision lies between the Middle and South Forks of the American River in El Dorado County. In 1985, the Auburn Lake Trails Onsite Wastewater

Disposal Zone (the Zone) was formed to support the management of individual and small community systems in the subdivision in lieu of a centralized sewage system. The Georgetown Divide PUD has jurisdiction over the Zone. The program consists of:

- **Operating permit requirements with performance standards**
- **Routine inspection and maintenance agreement requirements**
- **System inventory**
- **Groundwater and surface water monitoring data collection**

## MANAGEMENT UNITS CLASSIFIED BY ENVIRONMENTAL RISK

The subdivision's hydrology and geology was mapped and classified in order to divide the area into five management units based on environmental risk. Wastewater systems in each unit were designed to achieve certain water quality performance levels. The technologies included mounds,

intermittent media filters, and pressure-dosing, soil-dispersal systems. One clustered system serves 134 homes using a gravity sewer collection line and a series of dispersal fields.

## EMPHASIS ON INSPECTIONS AND MAINTENANCE

The PUD has the authority to investigate, design, inspect, monitor, operate, maintain, and repair treatment systems. Because of liability concerns and costs, the district no longer maintains the systems. Homeowners or contractors are required to make any necessary repairs under the oversight of the PUD. If repairs are not made, the PUD can pump or repair the system and place a lien on the property for noncompliance. The district conducts annual inspections of all systems.

## FUNDING SOURCES

The 2008/2009 annual budget for the program was \$365,000, funded through monthly user fees that range from \$14.63-\$22.51 for individual onsite systems, to \$50.87 for septic tank effluent pump/septic tank effluent gravity (STEP/STEG) systems. Property taxes also contribute to program support. A loan program was established to help residents repair or replace their tanks. Typical management services include an annual system inspection, issuance of permits, performance of repairs, and collection and analysis of monitoring data.

"It is critical that septic tank and pump tanks be watertight and constructed with a level of uniformity to facilitate pump installation, operation, and maintenance. This requires watertight testing on all new construction.

In addition, the Georgetown Divide PUD has initiated watertight testing on all septic tanks that are connected to the STEP (septic tank effluent pump) clustered system that are 20 years or older and/or prior to property transfer.

We have found an **80% failure rate** on all **tanks 20 years or older**. These leaking tanks have contributed significant inflow/infiltration into this STEP system, which can result in sanitary sewer overflows and can hydraulically overload the dispersal leachfields."

Becky Siren, *Operations Manager,*  
Georgetown PUD

## RESULTS

Of the 134 septic tanks inspected in 2009, five were found to be defective and were replaced. The inspection and management program has prevented onsite system malfunctions and has been an effective alternative to costly centralized sewers. The annual inspection of all systems provides for early detection of problems that could lead to a malfunction. Water quality sampling since 1985 has found no degradation of groundwater or surface water.

Of the 999 systems in the subdivision, most of them (63%) are more than 20 years old, and 36% are more than 30 years old. Only 10 systems have malfunctioned in the last 25 years; malfunctions were mostly due to tree roots, hydraulic overloading and other problems such as improper grading, construction activities, etc.

By identifying the location of systems and ensuring their proper operation, the community can make smart decisions to accommodate residential development.



*Photo: Florida Department of Health.*

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### References and Resources

Georgetown Divide Public Utility District. Website [www.gd-pud.org](http://www.gd-pud.org).

Manci, K. 2001. Onsite Wastewater Management: A Model for Success. In Proceedings of the 9th National Symposium on Individual and Small Community Sewage Systems, American Society of Agricultural Engineers, Fort Worth, TX.

Population data—Auburn Lake Trails Property Owners Association.