



Extension FactSheet

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Managing Holding Tanks

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Home construction is sometimes proposed in remote areas because of their unique natural environment and views. Mountains, beaches, and wet lands are in themselves precious natural resources. Unfortunately, these areas can be poorly suited for septic systems. Shallow or thin soils to limiting layers, rapidly permeable sand and bedrock, or steep slopes can all limit the ability of the natural soil to renovate wastewater to protect the public health and the environment. If it is appropriate to build a home in these areas, special care must be taken to properly dispose of household wastewater to avoid public nuisances and prevent water pollution.

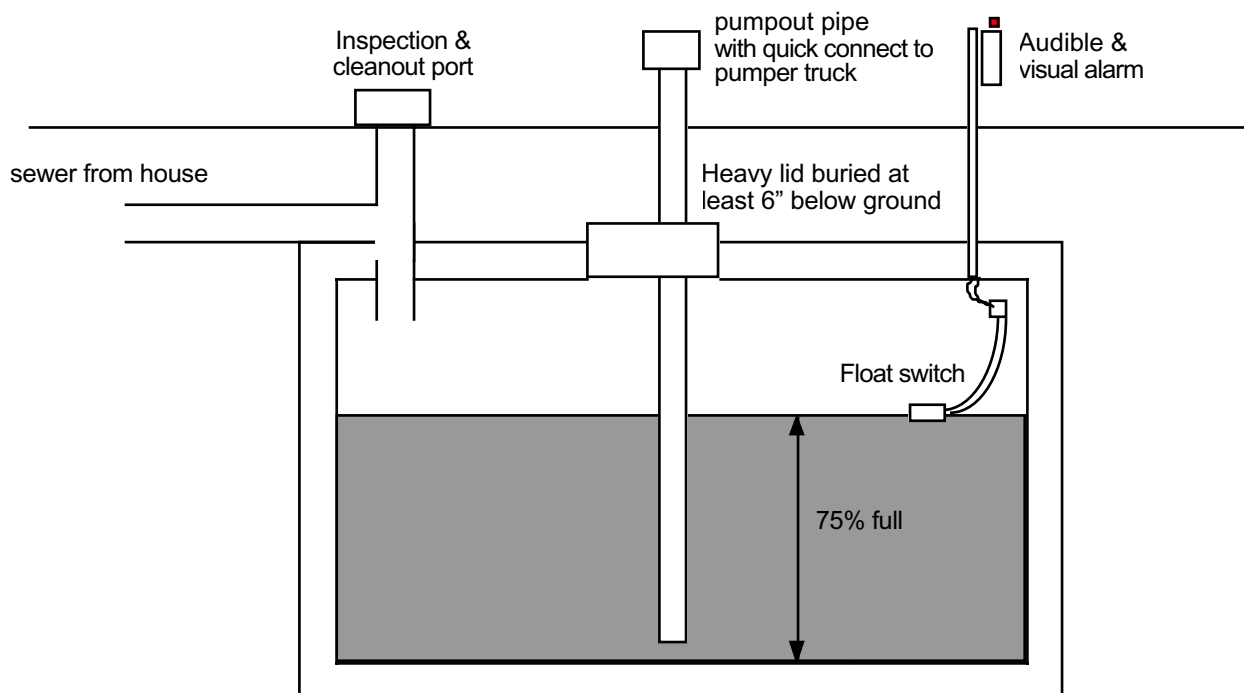


Crystal Lakes, Colorado, is a mountain recreational community with about 100 full-time and 600 part-time dwellings. The thin soil over fractured granite bedrock and high water tables close to mountain streams restrict the use of septic systems at many locations. About 300 home sites use holding tanks.

A holding tank is a watertight tank built to meet the same construction standards as a septic tank. All wastewater generated by the home or business must be contained until it can be removed on a regular basis for treatment and disposal in another location. The tank should be at least 1500 gallons in size to accommodate 2 to 3 people. Since average water use



To protect the public health and the delicate mountain environment, while still reducing costs, the property owners association hired their own sewage system manager, bought a pumper truck and constructed three treatment and disposal fields right in the community. Each treatment and disposal field has 2-2000 gallon settling tanks and 2-5000 gallon digesters. The digesters flow into 3600 square foot soil absorption systems sited in areas with deep, well-drained soils. Each soil absorption system is built in 6 zones, and the management staff checks it for ponding once per month and alternates the zones to allow for resting. The management staff also samples groundwater monitoring wells.



is 50 gallons per person per day, a 1500 gallon tank will require weekly pumping.

To prevent tank overflow or backup, it must be equipped with a visual and audible alarm that acti-

vates when it is 75 percent full. The tank should be situated near a driveway so it is easy to bring in a truck to pump it out. But it must be protected against access by children. Use a very heavy lid or a locked cover to restrict access.

If a holding tank is used in wet areas with a high water table, the empty tank could float and lift out of the ground or at least shift, breaking the sewer pipe. Steps must be taken to drain the tank area, anchor the tank or pump only a portion of the liquid from the tank to prevent flotation.

Regular pumping of holding tanks comes at a cost. The domestic wastewater must be hauled to a treatment plant for safe disposal to protect the public health and the environment. Pumping a holding tank in a remote area can be costly due to long hauling distances. Costs begin at \$75 per load and charges of \$300 or higher are not unusual. For example, if local pumping costs are \$150 per load, weekly pumping would cost \$7,800 per year. Water conservation measures, even rather expensive low water use systems, can quickly pay for themselves.



Pumping and hauling holding tank waste to a distant wastewater treatment plant costs over \$300 per load in nearby mountain communities. By working together as a community to manage holding tanks, a community treatment and disposal system, and a pumping truck, Crystal Lakes residents pay \$75 per 2000 gallons pumped.

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