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Extension Extra

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Homeowner's Responsibilities for Using On-site Sewage Treatment Systems

*by Russ Derickson, Extension associate for water and natural resources,
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Do not generate more wastewater than the average daily flow (gallons per day) for which the on-site system was designed. Install a water meter to measure the volume of water being used by the household (or other facility) to determine the flow released into the on-site treatment system.

If the system has a pump/lift station delivering septic tank effluent to the soil treatment unit, install an electrical event counter on each lift station. Install a water meter to measure water usage. The event counter will tally the number of pump operation cycles, which, if multiplied by the gallons pumped per cycle, will determine the amount of effluent delivered to the soil treatment unit.

If less sewage flow is indicated by the house water meter than by the lift station, then groundwater is entering into the system and will eventually cause hydraulic failure of the soil treatment unit.

Regularly remove accumulated solids in the septic tank by a thorough tank cleaning. Remove solids when the bottom of the scum layer is within 3 inches of the bottom of the outlet baffle or when the sludge layer is closer than 12 inches to the bottom of the outlet baffle. A rule of thumb is that a 1000-gallon septic tank serving four or five occupants needs to be cleaned every two or three years. If a garbage disposal is used, the tank may require a cleaning every year.

To adequately clean a septic tank, it is necessary to open the 20 inch-diameter manhole located in the tank cover or to remove the tank cover. It cannot adequately be cleaned through a 4-inch inspection pipe. Unless it is adequately cleaned on frequent intervals as necessary, solids will be washed into the soil absorption system, causing failure.

Warning: Do not enter any septic tank or pumping station unless you are a qualified service person. Lack of oxygen and dangerous gases inside septic tanks can be fatal.

After an on-site sewage system has been installed and the contractor/installer has done the final grading, **place no additional fill over the soil absorption unit**, other than the slight amounts of additional fill necessary to fill depressions that settle over trenches or where the septic tank or pump tank are located.

Take care in landscaping so that no heavy equipment operates closer than 20 feet to any part of the soil treatment unit. Plant shrubs no closer than 10 feet to the edge of mounds. Do not allow shrubs to grow higher than 3 feet above the elevation of the mound.

Do not allow runoff water from such surfaces as roofs, driveways and patios to flow over any area of the on-site system. Divert all runoff water around the location of the on-site system. If any surface water ponds at any time over any part of the on-site sewage treatment system, add fill soil and re-landscape to eliminate future water ponding.

Establish a vegetative cover, such as grass or natural vegetation, over the soil absorption unit. In the case of an elevated mound, establish grass vegetation and mow the area frequently.

Remove/do not install a subsurface lawn sprinkler systems that sprays water over any part of the soil treatment area. If a slight amount of watering is required on a soil treatment area or a lawn to maintain the grass cover, use a manually operated sprinkler instead of an automatic lawn sprinkling system.

Avoid unnecessary foot traffic over the soil treatment unit and allow absolutely no vehicle traffic. In the wintertime, there should be no traffic of any type that might compact accumulated snow over the soil treatment unit. Do not graze pets or animals over soil treatment units.

Periodically check and record water consumption, which indicates the sewage flow rate. Check the inspection pipes of the soil treatment unit at the same time. Record the number of feet of trench having effluent ponded, or the depth of effluent in the rock layer of a mound.

FOR MORE INFORMATION . . . concerning on-site systems, contact your local County Extension Office, certified on-site wastewater treatment contractor, septic tank pumper, or obtain a copy of MWPS-24 "On-site Domestic Sewage Disposal Handbook" (cost \$6) available from SDSU's Agriculture and Biosystems Engineering Dept. Box 2120, Brookings, SD 57007, 605-688-5667.

RELATED REFERENCE MATERIALS . . .

ESS 43-B Household Wastewater: Septic Systems and Other Treatment Methods

EC 665 Rural Wastewater Treatment for Individual Homes

FS 907 Septic System: Homeowner's Manual

ExEx 1018 Septic Tank Maintenance

ExEx 1032 Wastewater Treatment for Rural homes and Cabins

ExEx 1033 Periodic Maintenance for On-site Wastewater Treatment Systems

ExEx 1034 Solving Wastewater System Backups

ExEx 1035 Septic System Additives — Not Needed

ExEx 1043 Septic System Failures

ExEx 1044 Recommended Method for Checking Homes with Septic System Failures

ExEx 1046 Trouble Shooting Septic Systems

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