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Installing a Shoreland Septic System

SHORELAND BEST MANAGEMENT PRACTICES

NUMBER 3 IN THE SERIES

What Are Shoreland BMPs?

Best Management Practices (BMPs) are actions you can take to reduce your impact on the environment. BMPs have been described for agriculture, forest management, and construction. This fact sheet describes BMPs you can adopt on your shoreland property to help protect and preserve water quality. In many cases, the best management for shorelands may be retaining the natural characteristics of your property.

Why Are Septic Systems a Problem?

In shoreland areas, it is particularly important to install your septic system correctly because soil and water conditions near shore may make the system less efficient in treating wastewater. Location and construction are especially critical in shoreland areas to ensure that the system is effective. Incomplete treatment can result in health risks for humans and water quality problems. For more information on how septic systems work and on proper maintenance, review fact sheet #2 in this series.

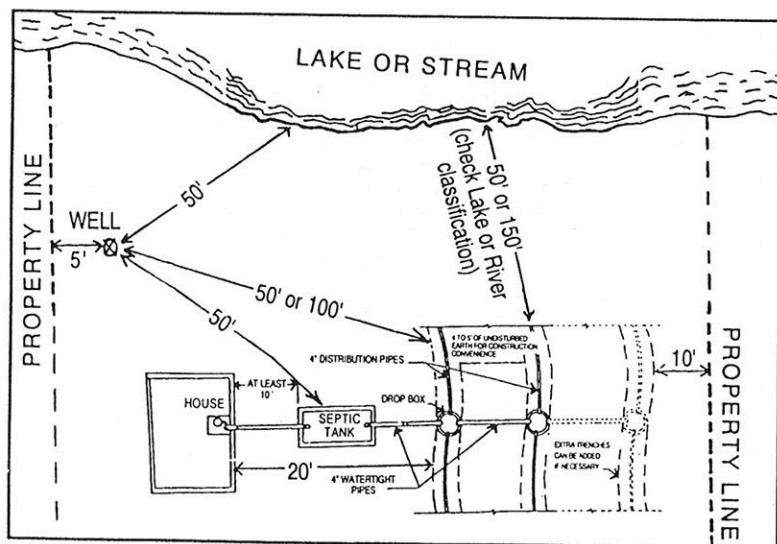


Figure 1: Sewage treatment system with minimal separation distances.

Before You Begin...

BEFORE purchasing undeveloped property, evaluate whether it has a suitable area for construction of a septic system. BEFORE installing the septic system, identify the best possible site for it. Determine the site for your septic system and well BEFORE laying out the design for your buildings or compacting soil by using heavy equipment.

To identify where the septic system should be installed, determine:

- depth to the highest known ground water table or to bedrock
- soil types and conditions
- slope
- setback requirements from wells, waterfront, buildings, and property lines
- exact property boundaries

Also, be sure to identify areas for future expansion or replacement of the septic system. This expansion area must be kept available and no buildings, driveways, or other development should take place on this area.

The homeowner should be able to determine information about soil, ground water, and other pertinent conditions through test holes and soil percolation tests. For assistance or information about soils, contact the Soil and Water Conservation District (SWCD) or University of Minnesota Extension Service in your county.

Consult property descriptions on deeds or abstracts for information about boundaries. Your county zoning or health departments can provide information about setback requirements.

A contractor may be hired to locate the proper site for a septic system and to apply for the necessary permits. The contractor you select must be licensed and bonded to comply with Minnesota Rules, Chapter 7080.

Once a suitable site has been identified, draw a sketch of the proposed construction giving as much detailed information as possible about location and construction. The plan should then be submitted to your local or county health or zoning department for approval or modification. Any change in location, size, or design of the system from the accepted plan must also be approved by the health or zoning official before proceeding with construction. Unforeseen problems such as a high water table, ledge rock, or a change in soil conditions might require some changes.

Be sure to give a copy of the permit and sketch to your contractor. The contractor is responsible for constructing the system in accordance with all conditions set forth in the permit. As a homeowner, you should check to make sure the contractor is meeting setback requirements and other standards to prevent water quality problems because you are ultimately responsible.

Your Investment and Costs

A new septic system may cost between \$2,000 and \$7,000 depending on type, size, and construction. New or replacement systems must be installed correctly to meet all local codes and setbacks. If the system fails to meet legal requirements, it may need to be replaced. Moreover, if your system is improperly located, designed, or constructed, contaminants may reach your well, lake, or stream.

Regulations that Apply

The Minnesota Rules for construction of on-site wastewater treatment systems are governed by the Department of Health and the Pollution Control Agency in Chapter 7080.

The MN Department of Natural Resources has minimum setback requirements that apply to all shoreland areas, but some counties may have more restrictive ordinances. Check with your local or county Zoning and Planning, Health, or Shoreland offices for the setback requirements and permits needed in your county.

Setback is the distance away from the shore and is usually measured from the ordinary high water level. In some cases, the setback may be measured from the top of a bluff or where vegetation begins. The setback for septic systems depends on the type of lake or river. Required setbacks range from 50 feet for general development lakes to 150 feet for remote river segments or natural environment lakes (see Figure 1).

For More Information...

call

county offices:

- Planning and Zoning Department
- Health Department or Sanitarian
- University of Minnesota Extension Service
- Soil and Water Conservation District (SWCD)

regional offices of MN State agencies:

- MN Pollution Control Agency (PCA)
- MN Department of Natural Resources (DNR)

read

Septic System Owner's Guide. Bulletin, PC-6583. Available from county offices of the University of Minnesota Extension Service or Distribution Center.

Get to Know Your Septic Tank. Bulletin, MI-0639, from your county offices of the University of Minnesota Extension Service or Distribution Center.

FARM-A-SYST worksheet and fact sheet #6, Reducing the Risk of Groundwater Contamination by Improving Household Wastewater Treatment. Contact your county extension office.

PART OF A SERIES...

This fact sheet is one of a series designed to assist shoreland property owners in protecting and preserving water quality. The series includes:

- 1 Understanding Shoreland BMPs
- 2 Maintaining Your Shoreland Septic System
- 3 Installing a Shoreland Septic System
- 4 Ensuring a Safe Water Supply
- 5 Limiting Impact of Recreation on Water Quality
- 6 Developing Shoreland Landscapes and Construction Activities
- 7 Stabilizing Your Shoreline to Prevent Erosion
- 8 Minimizing Runoff from Shoreland Property
- 9 Caring for Shoreland Lawns and Gardens
- 10 Managing Your Shoreland Woodlot
- 11 Valuing Your Shoreland Trees
- 12 Preserving Wetlands
- 13 Managing Crops and Animals Near Shorelands
- 14 Reducing the Use of Hazardous Household Products
- 15 Preventing the Introduction of Exotic Species
- 16 Accessing Information to Protect Water Quality
- 17 Shoreland Stewardship Scorecard
- 18 Conserving Water

This series of fact sheets is a cooperative effort of the following agencies:

University of Minnesota Extension Service of the Arrowhead counties
College of Natural Resources, University of Minnesota
Water Plan Coordinators of the Arrowhead counties
Minnesota Board of Water and Soil Resources
Minnesota Department of Health
Minnesota Department of Natural Resources, Division of Fish and Wildlife, Division of Waters, Division of Forestry
Minnesota Pollution Control Agency
Minnesota Sea Grant Extension Program
Mississippi Headwaters Board
St. Louis County Health Department, Environmental Services Division
Soil and Water Conservation Districts of the Arrowhead counties
Natural Resources Conservation Service
Environmental Protection Agency
Western Lake Superior Sanitary District

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