Where to Go for Help

Contact your local Natural Resources Conservation Service office. It is listed in the telephone directory under Government offices—U.S. Department of Agriculture, Natural Resources Conservation Service (formerly known as Soil Conservation Service).

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To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

UNITED STATES DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service
Plant Materials Center
14119 Broad Street
Brooksville, FL 34601

United States Department of Agriculture

Natural Resources Conservation Service

Rock Reed Filter

What is it?

What is a Rock Reed Filter?

The Rock Reed Filter is a sewage treatment system that uses rocks and aquatic plants to filter septic wastes. The United States Department of Agriculture, Natural Resources Conservation Service (NRCS), in cooperation with the United States Environmental Protection Agency, has constructed a demonstration Rock Reed Filter at the NRCS plant materials center in Brooksville, Florida. NRCS technicians are evaluating the effectiveness of the Rock Reed Filter when used in conjunction with a conventional sewage treatment system.

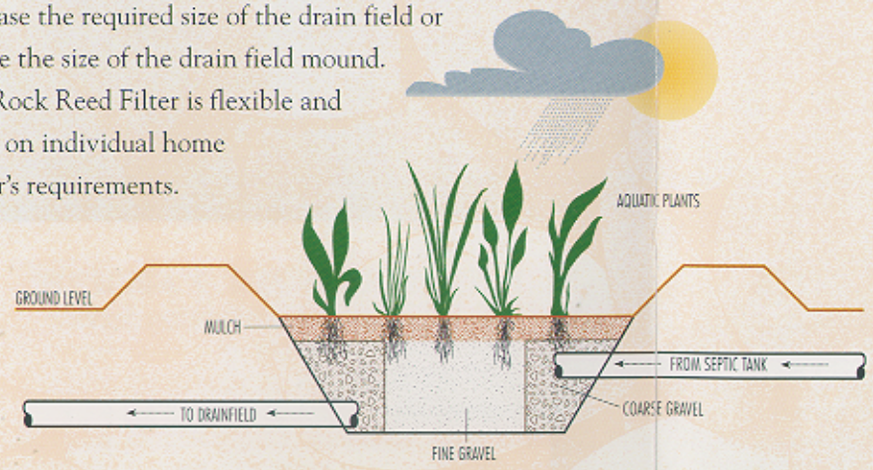
The aquatic plants filter the suspended solids, use the nutrients for plant growth, and accumulate the pollutants found in the effluent.

How Does it Work?

The Rock Reed Filter works by using aquatic plants grown hydroponically in a layer of rock. After the plants are established, their roots extend to the bottom of the rock layer where the effluent provides the nutrients needed for plant growth. A symbiotic relationship exists between the plants and several types of microorganisms. In a healthy aquatic plant, these microorganisms absorb minerals, heavy metals, and organic chemicals in the waste water while producing simple sugars and amino acids available for plant uptake. In return, the plant provides the oxygen needed to maintain the beneficial microbial population. Due to an impervious liner that surrounds the entire structure, the Rock Reed Filter works independently of the ground water level. This allows successful treatment of effluent in areas where the water table is shallow or where water levels continually fluctuate.

Monitoring wells are used to sample the waste water. Initial testing has shown a reduction of suspended solids, nitrogen, phosphorus, and coliform bacteria.

When compared to the cost of building conventional systems, the construction of the Rock Reed Filter is relatively inexpensive. It is designed to decrease the required size of the drain field or reduce the size of the drain field mound. The Rock Reed Filter is flexible and based on individual home owner's requirements.



Benefits to Using Rock Reed Filters

- Practically odorless
- Aesthetically pleasing
- Easily maintained
- Individually designed
- Relatively inexpensive
- Environmentally beneficial

A variety of aquatic plants can be used in the Rock Reed Filter making it an aesthetically pleasing alternative to waste water treatment.

For More Information—Contact your local Natural Resources Conservation Service or your local Soil and Water Conservation District.