



Handbook for Managing Onsite and Clustered (Decentralized) Wastewater Treatment Systems

Introduction

The *Handbook for Managing Onsite and Clustered (Decentralized) Wastewater Treatment Systems* is a “how-to guide” designed to assist sanitarians, regulators, community leaders, planners and utility managers in implementing EPA’s *Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems* (March 2003). It will help communities apply the EPA voluntary management guidelines to their own local situation and support a greater range of options for cost-effective wastewater treatment.

The Handbook describes a step-by-step approach to developing a community management program for decentralized wastewater systems. It is intended to help improve the performance of onsite and clustered treatment systems through better planning, design, siting, installation, operation, maintenance and other activities. It includes specific community examples, gives an overview of the elements essential for sound management of these systems, and provides links to extensive resources (articles, publications, web sites, databases, software and government programs) for more thorough investigation of particular topics or elements of management.

The Handbook covers all aspects of a management program, including the following:

- Public awareness and education tools
- Case studies of management programs
- Databases for inventories
- Funding sources
- Model codes and ordinances
- Examples of septage management

Using the Handbook in concert with EPA’s voluntary management guidelines, communities are able to choose a management program structure that best fits their needs, resources, goals, and objectives. The total package of the Handbook and guidelines will enable the promotion of proper application and management of decentralized wastewater treatment systems to minimize any potential degradation of water quality.

Background

- The performance of decentralized wastewater treatment systems, commonly referred to as septic systems, is an issue of national concern due to existing and potential impacts on public health and water quality from system malfunctions.
- According to the U.S. Census Bureau, decentralized wastewater treatment systems serve nearly 25 percent of U.S. households and almost 33 percent of new development. Approximately four billion gallons of wastewater are treated and discharged daily by decentralized wastewater treatment systems. More than half of the existing systems are more than 30 years old.

- In March, 2003, EPA published voluntary national guidelines for the management of onsite and clustered (decentralized) wastewater treatment systems. The guidelines discussed the concept of management, and described a progressive series of 5 conceptual “model” management programs of increasing management intensity, which are selected according to local factors such as environmental and public health risk, and complexity of wastewater system technologies.
- If properly managed (sited, designed, maintained), decentralized systems are capable of treating wastewater to a high level of quality. However, it is estimated that nationwide, between 10 and 20 percent of these systems are malfunctioning as a result of inadequate management. Decentralized systems are identified by State water quality agencies as the second greatest threat to groundwater quality (the greatest threat is leakage from underground storage tanks).
- With effective management, onsite and other decentralized wastewater systems can be “a cost effective and long-term option for meeting public health and water quality goals, particularly for small, suburban, and rural areas.” (EPA’s conclusion in a report to Congress, published in April, 1997).

For More Information

For further information regarding this Handbook, please contact Joyce Hudson of EPA’s Office of Wastewater Management, at (202) 564-0657 or by e-mail at HUDSON.JOYCE@EPA.GOV. The Handbook is also found on EPA’s web site at WWW.EPA.GOV/OWM/ONSITE.

EPA-832-B-05-001
U.S. ENVIRONMENTAL PROTECTION AGENCY
1200 PENNSYLVANIA AVENUE, N.W. (MAIL CODE 4204M)
WASHINGTON, D.C. 20460
DECEMBER 2005