

Management Programs for On-Site and Community Wastewater Treatment Systems

The key to successful on-site and small community wastewater treatment systems is proper management. Most septic systems, whether conventional or alternative, fail largely because of inadequate monitoring or poor maintenance. The costs of failing septic systems go beyond the monetary costs of replacing those systems with large-scale municipal systems or hooking up with a main sewer system. Failing systems contaminate drinking and surface water sources, negatively impact the broader environment and reduce residents' quality of life.

Communities can ensure the effective and long-term life of on-site wastewater treatment systems by implementing a management program to ensure proper siting, monitoring and maintenance of those systems. Community management programs can also expand the technology options available to the community by guaranteeing that the needs of high maintenance systems such as aerobic treatment units are met. In this way, alternative on-site systems can be used in some areas unsuitable for conventional systems.

While most communities already manage on-site systems through regulations such as permits, site evaluations and inspections for new installations, these tools rarely address issues such as the need for ongoing system maintenance, record keeping, monitoring of systems and homeowner education. All of the above are important for ensuring effective system performance.

Components of Community Management Programs

Wastewater management decisions often generate considerable public interest and conflict. Public education and participation in decision-making can generate public support and cooperation for community wastewater management plans. Decisions are most acceptable if concerned citizens are aware of all policy and technology options available and are allowed to have a voice in the decisions made.

Listed below are six components of community management programs. There is no set formula for an effective management program. When tailoring its program, each community must consider what the community's wastewater needs are, what it can afford, and what level of service residents want or expect. Each of the components below vary according to the financial, technical and human resource costs needed to implement it.

1. *Educating homeowners* on the proper maintenance of their on-site systems and the negative impacts to the environment, public health and the local economy from failed septic systems.
2. *Assessing current systems* to identify and address any immediate problems.
3. Identifying wastewater treatment strategies to meet the future needs of the community and planning to implement those strategies.

4. *Supervising the siting, design, construction, and installation* of new systems.
5. *Maintaining a data base* of the location and specifications of individual systems, information on system users, permits, individual system maintenance requirements and schedule, and the results of inspections and site evaluations.
6. *Establishing and enforcing a monitoring and maintenance schedule* for existing systems.

Institutional Options for Wastewater Management

While local government may choose to manage community management programs on their own, others may choose not to because of financial and organizational constraints. Michigan law provides for a number of institutional options for community wastewater management and the construction of community wastewater treatment systems.

1. Rural townships can contract for management services from an adjacent community with a pre-existing wastewater management entity.
2. If the county has a county sewage/water district, then local governments contract directly with the county for wastewater management services.
3. Small communities, townships and villages can contract with a private company to monitor and



maintain on-site and community wastewater systems.

4. Several townships and/or villages can establish a joint authority such as a sewage district or a septic system management district to share building and management costs.
5. Neighborhoods and sub-divisions can form their own non-profit corporation (e.g., home owners' association) to build and manage their own small-scale system. Non-profits can receive state and federal grants directly.

When deciding which institutional option to use for implementing the community wastewater management program, local government officials should consider the following.

1. Does the management entity have the ability to provide policy and management continuity?
2. Can it charge service fees?
3. Can it compel users to comply with the requirements of the management plan?
4. Does it have the capacity for maintaining adequate financial responsibility?
5. Can it hire and retain adequately qualified employees?

Tools for Effective Management

To ensure that residents comply with the standards and schedule of the community management plan, local governments have several tools available to them.

1. Regulations such as permits, site evaluations, site plan review and permits for expanding or

modifying the existing system can ensure that community systems are in compliance with local sanitary codes.

2. Operating permits are renewed regularly. The quality of the effluent and/or the quality of the groundwater or surrounding surface water sources must fall within the limits set by the local sanitary codes for the permit to be renewed. The cost of inspections and lab work can be offset by charging fees for permit renewal.
3. Management Districts and other entities are created and given the authority to centrally control decentralized systems. The scope of authority can vary from total management (even ownership) of all aspects of wastewater treatment to management of one aspect of treatment such as maintenance.

Other Information Sources

1. Your local health department regarding your county's local sanitary codes and community management options.
2. Pipeline, Spring 1996, vol. 7, no. 2. available through the National Small Flows Clearinghouse (free). With a mandate to assist small communities in meeting their wastewater needs, The National Small Flows Clearinghouse has a toll free hot-line (800-624-8301) where local communities can reach NSFC's staff of engineers for technical assistance with their wastewater problems.

3. Wellspring, Spring/Summer 1995, vol. 4, nos. 2-3 (free). Available through the Michigan Technological University Regional GEM Center, 906-487-3341.
4. A Guidebook for Local Officials on Small Community Wastewater Management Options (EPA 430/9-87-006), US Environmental Protection Agency. Please write to request a copy from US EPA, Office of Municipal Pollution Control, Municipal Facilities Division, Washington, D.C., 20460.
5. Dean Mikulski, Director Environmental Health District #3. Tel: (616) 547-6523. Mr. Mikulski's area which covers Antrim, Ostego, Emmet and Charlevoix counties has a number of cluster and mound systems in operation.

Local Government and Drinking Water Protection Fact Sheet Series

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