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715 N. Cedar St.

Lansing, MI 48906

517-886-0555

freebury@pznews.net

# COMMUNITY SEWER SYSTEMS

by Melissa Armstrong

Residential developments in rural areas have traditionally utilized individual on-site septic systems for wastewater treatment and disposal. However, recent interest in open space zoning and the clustering of residential developments in agricultural or environmentally sensitive areas has led to renewed interest in alternative systems for sewage treatment and disposal. Clusters of single-family homes, like those permitted in most open space zoning ordinances, are often not conducive to individual on-site septic tanks and drainage fields. Even under perfect soil conditions, an on-site septic system often requires a building lot of three-quarters of an acre. Connection to a municipal sewer system, traditionally the only alternative to an on-site septic system, may not be feasible since the rural areas typically covered under an open space zoning ordinance are often long distances from existing municipal lines.

## Alternative Treatment and Disposal Systems

There are several methods of sewage treatment and disposal for rural subdivisions or cluster developments not served by a central sewage systems. These "community sewer systems" include both pack-

age wastewater treatment plants and cluster treatment facilities as well as lagoon based systems. A **package wastewater treatment plant** is a small, prefabricated mechanical treatment facility, similar to municipal treatment plants in operation, that can be brought in by truck to the construction site. Wastewater is collected from each home by a network of sewer pipes that connect to the treatment plant located in close proximity to the development. The package treatment plant typically includes an aeration tank and clarifier which reduces biochemical oxygen demand (BOD) and removes solids. The end result is an effluent that may be suitable for discharge into a large stream or body of water, if available and if approved by the Department of Natural Resources. However, if a receiving body of water is not available, groundwater disposal is the only alternative. Groundwater disposal requires a large drainage field that meets soil percolation requirements and provides the required isolation distances from neighboring developments. Package plants require close supervision and monitoring, and depending on the type and size of the plant, may even require a

part-time or full-time operator. See photo below.

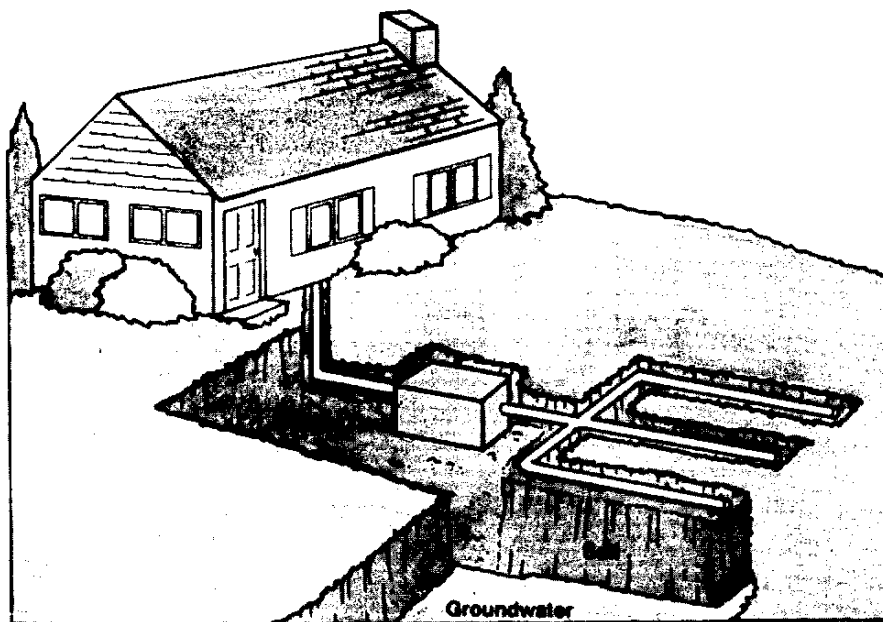
A second alternative for wastewater treatment in open space residential developments is a **cluster treatment facility**. The cluster treatment facility is actually a larger version of an on-site septic system with a large soil absorption system, or drainfield, for distributing wastewater into the ground. Individual or shared septic tanks remove solids and grease in the same manner as individual on-site septic systems. Similar to a package treatment plant, sewer lines collect wastewater and transport it from the individual septic tanks to the nearby neighborhood drainage field. See illustration on page 15.

**Generally, 27 or more homes using one central system create at least 10,000 gallons per day effluent.**

## The Regulatory Process

To protect water purity and, hence, public health, the discharge of any effluent into the waters of the state, be it groundwater or surface waters, is highly regulated. Whenever a sewer/septic system serves more than one property it is automatically classified as a **public sewer system**. Public sewer systems must receive an Act 98 (MCL 325.201-214) construction permit from the local district office of the Michigan Department of Natural Resource's (MDNR) Surface Water Quality or Waste Management Division. In contrast, private systems, such as individual on-site septic systems, need only receive a permit from the local certified health department. In obtaining an Act 98 construction permit, the developer usually contacts the district office early in the planning stages to verify what will actually be required during the permitting process. Approval guidelines include the type of piping, the tank construction and size, the type of soil in the drainage field, the size of the drainage field, and the size and location of a backup drainage field. The Act 98 construction permit is generally issued within 30-60 days of receipt of an acceptable sewage disposal plan.

All surface water discharge systems and ST-TF (Septic Tank-Tile Field) systems that will generate more than 10,000 gallons per day of wastewater, must obtain an Act 245 (MCL 323.1 *et seq*) wastewater discharge permit from the MDNR. In addition all systems that serve more than one property must obtain an Act 98 construction permit. Generally, 27 or more homes using one central system create at least 10,000 gal-



Standard Septic System

Source: It's Your Choice, A Guidebook for Local Officials on Small Community Wastewater Management Options, Environmental Protection Agency, September 1987

lions per day effluent. An Act 245 permit, which is granted by the MDNR under the authority of the Water Resources Commission, can take up to six months to two years to review and receive approval.

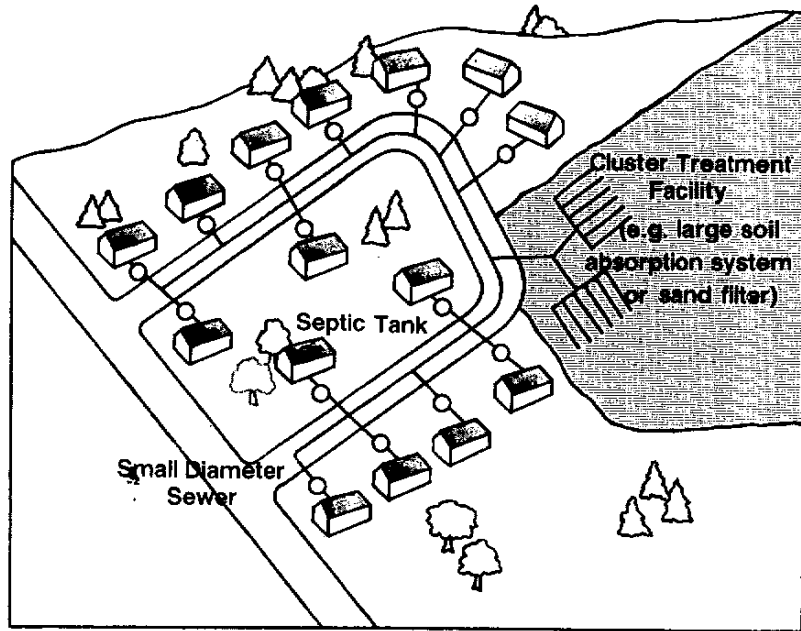
Mobile home parks, hospitals, nursing homes and campgrounds are all regulated by the Michigan Department of Public Health (MDPH). However, the MDNR does have an agreement with the MDPH to evaluate effluent quality and perform necessary surveillance for these land uses when applicable.

### Municipal Role in the Permitting Process

By virtue of a simple sign-off procedure included in the Act 98 rules, the local municipality can play an important role in the regulation of community septic systems. Before the MDNR will issue an Act 98 construction permit, the local government unit having jurisdiction over the proposed development site, must adopt a resolution stating that it will assume responsibility for the operation, maintenance, and, in the event of system failure, the clean-up of the proposed sewage system if the owner "in any way fails to perform in this capacity." If the municipality does not adopt this resolution and accept future responsibility for the community sewage system, the MDNR will not issue the Act 98 construction permit.

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The inclusion of this sign-off procedure in the Act 98 permitting process provides a not-so-subtle hint of what is widely viewed as the major problem associated with community sewer systems: the lack of future responsibility and accountability for the ongoing maintenance of the system. Because these systems are usually owned initially by the developer, then later by land owners in the development (often represented by a neighborhood association), no one person is assigned to monitor the system, and, even more importantly, no one is financially responsible for financing the cleanup of the drainage field site if the absorption system fails. For this reason, the MDNR, as well as individual counties throughout Michigan, strongly discourage the use of privately owned and operated sewer systems. In fact, future connection to a municipal sewer system, if one becomes available, is often a condition of the Act 98 construction permit. In Washtenaw County, for example, the health department uses its role in the sewer planning process to guide future extension of municipal



Cluster System

sewer systems to areas with existing community (package or cluster sewer) systems, thus eliminating them from the County.

While the MDNR and many counties in Michigan strongly discourage the use of community sewer systems, they can actually do very little to prevent their use if a developer meets permitting standards. In contrast, cities, villages and townships (and counties with county zoning) can do a lot to control the use and management of community sewer systems through the municipal sign-off requirement in the Act 98 permitting process.

Saugatuck Township was recently asked to accept responsibility for the "effective and continued operation and maintenance" of a proposed central sewage system designed to serve a small condominium project. The Township adopted the resolution with several conditions. First, the developers and condominium association were asked to sign an "indemnification agreement" stating that they will attach a deed restriction to any unit sold. The deed restriction must include the following two items:

- the Association and developers agree to reimburse the Township for any costs incurred in the operation and/or maintenance of the sewage system; and
- the Township may collect a special assessment in the event the Association or developers fail to reimburse the Township in a timely manner.

Prior to adoption, the developers also agreed to deliver a letter of credit for \$5,000 to the Township at the time the permit is granted. These funds would be drawn upon to defray any expense to the Township for the operation and maintenance of the proposed community sewer system. Adoption of the resolution was also contingent upon an addition to the development's Master

Deed stating that the Association is obligated to connect to any future extensions of the municipal sewer disposal system and a special assessment could be used to defray the expense of the connection when it occurs. Saugatuck Township felt that through these conditions and the resulting agreements with the condominium association and developers, the Township could protect the health, safety and general welfare of its inhabitants and still allow the construction of what was viewed as a quality residential development.

***Other municipalities simply prohibit all community sewer systems.***

Other municipalities simply prohibit all community sewer systems. They are usually concerned that long time use will result in groundwater pollution or lowered surface water quality in the receiving stream; or that the higher density usually accommodated via the community sewer system will have other undesirable public service impacts—particularly on roads. Still others take the position that if the natural soil conditions are unsuited for individual septic systems, that the property ought not to be developed at any density higher than the natural situation permits. This is especially true in areas with other sensitive natural features like wetlands and floodplains. Other communities do not wish to potentially saddle future residents with liability costs associated with potential pollution caused by the community sewer system. In addition, it is quite possible that expensive improvements may have to be made to community sewer systems at some future time to conform with

more rigorous state and/or federal water quality standards.

### Conclusion

The issue of community sewer systems, especially as they relate to open space zoning, is a double-edged sword. The clustering of homes in rural areas can be effective in reducing urban sprawl, protecting rural character, and preserving agricultural and environmentally sensitive areas. But, when homes are clustered so tightly that lot sizes are reduced below three-quarters of an acre, the safe use of traditional on-site septic systems becomes less likely. The simplest and most cost-effective solution to this dilemma (where enough lots are served) is the utilization of a community sewer system. The most common are cluster systems with individual or shared septic tanks and one large common drainfield and backup. This solution is far from perfect, however. Systems such as these are notorious for failing, with the potential for groundwater contamination and a health hazard for those who live in close proximity.

Some communities may view community sewer systems as a temporary solution for those types of developments where traditional disposal and treatment solutions would be impractical, if not impossible—such as small open space zoning projects. If proper precautions are taken utilizing developer agreements and deed restrictions, the municipality can be assured that any maintenance and cleanup expenses will be covered by the properties served.

Community sewer systems may be most viable in those locations where a future extension of a municipal sewer system is planned. However, whether or not future connection to municipal sewers is possible, the municipality must make sure that the financial responsibility for any community sewer systems within their jurisdiction remains with the developer and/or neighborhood association. It is a good idea to have an explicit policy on whether and under what circumstances to permit community sewer systems in the comprehensive plan. Specific implementing standards should also be included in the zoning ordinance. Most communities will probably continue to decide to prohibit community sewer facilities because they promote leapfrog growth and present liability problems for the community. It is best for a community to decide on its policy before being presented with a specific development proposal with a community sewer as a part of it. □

### References

EPA, **A Guidebook for Local Officials on Small Community Wastewater Management Options**, Office of Municipal Pollution Control, Municipal Facilities Division, Washington, D.D., Sept. 1987 (EPA 430/9-87-006).

MDPH, **Michigan Criteria for Subsurface sewage Disposal**, Bureau of Environmental and Occupational Health, Michigan Department of Public Health, June 1989.

Following is a summary of the contents of the Resolution adopted by the Saugatuck Township Board and the Indemnification Agreement referred to therein for a 20-unit condominium project. For the complete text of these documents and for further information, please contact Lynda E. Thomsen, Attorney, Bauckham, Sparks, Rolfe and Thomsen, 616/382-4500.

### Resolution

The "whereas's" identify the parties, the project, the DNR requirements for a Township resolution assuming responsibility of the sewage system in order for the developer to get an Act 98 permit, and a finding that doing so is in the public interest as long as the developers conform with the Resolution requirements.

The Township resolves to assume responsibility for the "effective and continued operation and maintenance" of the sewage system under the following conditions:

1. Execution of the Indemnification Agreement (see below).
2. Delivery of an irrevocable letter of credit to defray Township costs in maintaining the system.
3. If public sewer service becomes available, the development must connect.
4. Inclusion of notice of the Indemnification Agreement in the Master Deed.
5. Payment by the developers of the costs of preparing the Resolution and Indemnification Agreement.
6. Approval of all documents by the Township Attorney.
7. Notice that all applicable present or future laws must be conformed with.

### Indemnification Agreement

THIS AGREEMENT is made effective the \_\_\_\_\_ day of \_\_\_\_\_, 1989, by and among the Township of Saugatuck, Clearview Condominium Association, a Michigan nonprofit corporation ("Association") and Richard D. Rudich and Charles A. Laserwitz ("Developers").

WHEREAS, Clearview is a site condominium subdivision being developed in the northwest quarter of Section 10, Saugatuck Township, Allegan County, Michigan, being developed by Developers, and

WHEREAS, the Association is a nonprofit corporation being formed to represent the interests of co-owners of units within the condominium and manage and operate the common elements of the condominium, including an on-site sewage collection and treatment system ("Treatment System"), and

WHEREAS, the Township Board of Trustees has adopted a resolution by which the Township has assumed responsibility for the effective and continued operation and maintenance of the Treatment System, and

WHEREAS, the Township desires that the Association and Developers jointly and severally indemnify the Township from any and all costs incurred by the Township with respect to such operation and maintenance,

NOW THEREFORE, for good and valuable consideration, the parties agree as follows:

1. The Association and Developers acknowledge that the township has agreed to assume responsibility for the effective and continued operation and maintenance of the Treatment System to be constructed in Clearview. The Association and Developers agree to jointly and severally indemnify the Township for all reasonable costs incurred by the Township in undertaking such operation and maintenance to Association and Developers. Any such costs incurred by the Township shall be reimbursed to it by the Association within 30 days after notice of the amount of such costs has been furnished by the Township to the Association. In default of such payment, the Township shall be entitled to undertake whatever collection proceedings are available to it by law against the Association, Developer and the owners of any units within Clearview, including, but not limited to, the addition of any such costs to the tax roll to be collected in the same manner as property taxes against any real property, or interest therein, owned by the Association or the Developers in Clearview.
2. The term of this Agreement shall extend for so long as the Treatment System exists and is operated in Clearview; provided, however, that the personal obligation of Developers hereunder shall extend only until such time as the Developers have disposed of 80% or more of the units in Clearview in bona fide dispositions to third parties. However, rights against any property owned by Developers in Clearview shall continue.
3. The provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective legal representatives, successors, and assigns. □