

# **Areawide Water Quality Management Plan Chapter 5**

## **ONSITE SEWAGE TREATMENT**

### **Executive Summary**

#### **What are Onsite Sewage Treatment Systems?**

Onsite sewage treatment systems are used where public sewers aren't available.

Properly designed and maintained, they protect public health and the environment in rural areas, and allow limited development. If not maintained, they can compromise public health and pollute streams and groundwater. Incompletely treated sewage may carry numerous diseases, including cholera, typhoid fever, and dysentery. Sewage contains high nitrate levels, which in drinking water is harmful to human health. Infants, pregnant or nursing women, and the elderly are the most susceptible.

Many onsite systems consist of a septic tank and a soil absorption system, or "leaching field." The tank removes most solids, and the soil absorption system completes the treatment process by removing pollutants and pathogens.

Where there isn't room or soils are unsuitable, alternative systems may be used. In the past, systems designed to discharge to a stream or ditch were common. These systems are discouraged or prohibited because they discharge effluent that does not meet Clean Water Act standards.

Ohio regulations call for onsite system designs that are based on soil and site conditions to protect surface and ground water. Where soil conditions are not adequate to absorb and treat sewage, a discharging system may be permitted. However, the effluent discharged is subject to an Ohio EPA NPDES permit. That permit requires that effluent be tested and meet Clean Water Act standards.

Package plants are small sewage treatment plants used by individual businesses that generate too much wastewater for a septic system to handle. Most are mechanical treatment plants designed to discharge to a stream. There are less than 200 package plants that are in use in the TMACOG area.

In Ohio, regulation is split between Ohio EPA and Ohio Department of Health. Local Health Districts represent ODH at the local level. Residential sewage systems for single, two, or three family units are regulated by ODH. Sewage systems for commercial establishments, and residential systems serving four or more families are regulated by OEPA, as are systems designed to discharge effluent off-lot. Local Health Districts may opt to assume management of discharging systems under agreements with state agencies. In Michigan, MDEQ is responsible for package plants, and the Health Districts regulate residential sewage systems through the County Sanitary Code.

Ohio regulations and this Plan require that onsite systems are required to connect to a public sanitary sewerage system that is available and accessible.

- A public sewer is "available" if the Designated Management Agency that owns the sewer will accept taps into it, and if the wastewater collection and treatment has the capacity to handle the flow.
- A public sewer is "accessible" if determined so by the responsible Designated Management Agencies, based on criteria that include distance to the sewer and physical barriers.

#### **Sludge disposal**

Sludge is a slurry of biological solids produced by treating wastewater. For aerobic treatment plants, it consists mostly of microorganisms that digest sewage. For septic systems, it is called "septage," and consists of microorganisms and sewage solids. Disposal regulations vary for each county. The Plan

identifies municipal wastewater plants that accept sludge or septage. For counties that allow septage application to agricultural land, the Plan recommends guidelines.

## **Policy Recommendations**

The Plan makes several recommendations to improve the tracking and management of onsite systems:

- All onsite systems must be properly operated and maintained
- Encourage research and demo projects to determine designs that work in our region's soil conditions
- Package plants must be required to be abandoned and tapped into public sewers when available
- Package plants should be available as a treatment option for subdivisions (in place of septic systems but not in place of public sewers) with two provisos:
  - The package plant is owned and operated by the County Sanitary Engineer (Ohio), Drain Commissioner (Michigan), or Regional Water and Sewer District. (Ohio).
  - The plant has an NPDES permit and meets its effluent requirements.
- Training programs should be held for package plant operators at the regional level at least every three years
- Support modifying ORC §3733.03 to allow County Health Departments to charge wastewater permit fees to all facilities with package plants. Presently many recreational facilities are exempted.
- Support modifying OAC §3745-33-08 (b) and (c) to require abandonment of package plants in favor of available public sewers regardless of the package plant's size and whether it has an NPDES permit.
- All package plants should have either a general or individual NPDES permit.
- Improved education and information for homeowners on the proper operation and maintenance of onsite sewage systems.

## **Critical Sewage Areas**

Critical Sewage Areas are recommended as:

- Priority areas for Ohio EPA, Michigan DEQ, and Health Departments to conduct sanitary surveys
- Priority areas for inspection and maintenance of onsite systems.
- Priority areas for public sewers or innovative community onsite sewage treatment system to replace concentrations of individual systems and/or package plants. For critical areas where a public sewerage system is the best alternative, the priority order for construction may be affected by the availability of financial assistance.
- Priority areas for financial assistance to homeowners for upgrading systems

## Lucas County

1. Oregon/Jerusalem
2. Neapolis
3. Monclova
4. Pt Place/Washington Twp
5. Swan Cr Headwaters: Airport-Swanton
6. Alexis/Whiteford
7. Springbrook/Davis
8. SR 64 NW of Whitehouse
9. Berridge Road
10. Bittersweet Farms/Camp Courageous
11. Rancamp
12. Secor N of Whiteford Center
13. State Line + Detroit-Alexis-CSX Triangle
14. Longworth
15. East Hancock
16. West Hancock
17. Fallen Timbers
18. River Road
19. Bailey Road
20. Reno Beach
21. North Toledo

## Monroe County

1. Erie
2. Lost Peninsula
3. McLeary's Point
4. Morin Point
5. State Road

## Ottawa County

1. Curtice
2. Williston
3. SR 19 S of Oak Harbor
4. Waterford Place
5. SR 19 N of Oak Harbor to Salem-Carroll Road
6. Behlman
7. Clay Twp Near Genoa
8. Clay Twp Near Genoa
9. South Bass Island
10. South Bass Island
11. Locust Point
12. Johnson's Island
13. SR 269 in Danbury Twp
14. Church Road
15. Englebeck Road
16. Rocky Ridge
17. Erie Twp: SR 163 and Richey Road
18. Portage Twp south shore, sections 7, 8, and 9
19. Middle Bass Island
20. State Road
21. Port Clinton Eastern Road
22. Lacarne
23. Willow Beach
24. East Harbor Road
25. Toussaint River Association

## Sandusky County

1. Toussaint Cr
2. Portage below S. Br
3. Portage below N. Br
4. Sugar Cr
5. Timpe Rd
6. Woodland Hts
7. Rodriguez St
8. Muncie Hollow
9. White's Landing
10. Wightman's Grove
11. Rambo Rd
12. Hessville
13. Vickery
14. Helena
15. Hayes/53
16. Twp Line 198 @ Cole
17. Green Cr Limerick Rd
18. Country Club Estates
19. Barkshire Hills

## Wood County

1. Risingsun
2. West Millgrove
3. SR 64 N of King
4. Hull Prairie
5. Liberty Hi S of RR
6. Stony Ridge
7. Lemoyne
8. Bairdstown
9. Otsego along river
10. Dowling
11. Dunbridge
12. Sugar Ridge
13. Kramer/Huffman
14. Hammansburg
15. Curtice/Bradner
16. Five Point
17. Hatton
18. Johnson's Subdivision
19. Mermill
20. Maurer's MHP
21. J&T MHP
22. South Rudolph
23. Truman Road