

ALTERNATIVE WASTEWATER DISPOSAL SYSTEMS

Regulation, Available Technologies, and Potential
Funding Sources

Hancock County Planning Commission

395 State Street

Ellsworth ME 04605

207-667-7131 www.hcpcme.org

May 2013



Parts I and II adapted from material prepared by the Washington County Council of Governments under the Grow Washington Aroostook project

INTRODUCTION

Many Hancock County towns have large areas with poor soils. This makes it difficult to encourage compact development unless there is access a public sewer system. The sewer systems in Hancock County generally have limited capacity and serve a small portion of the county. Some homeowners in areas not served by public sewer are coping with failing septic systems and may need to replace them. This report presents some steps that towns can take. For more information contact the Hancock County Planning Commission (tmartin@hcpcme.org or 667-7131).

PART 1: ADJUSTING YOUR REGULATIONS

The Maine model state subdivision ordinance does not have standards for a shared or community subsurface wastewater disposal system. The language presented below allows for this option. It is possible for multiple residences or commercial properties to share privately or publicly managed septic systems. *This is sample language and should **not** be adapted verbatim. Rather, it should be modified to reflect your current ordinance. Given the ongoing changes in legislation and court cases, any town contemplating using this material is urged to have the language reviewed by an attorney skilled in Maine land use law.* Be sure that any land use ordinance provisions are supported by your comprehensive plan. HCPC can help you draft amendments to your plans.

1. Sample Ordinance Language:

The entire section 11.6 of the Subdivision Model Ordinance is shown below with the proposed changes to allow communal wastewater collection systems.

11.6 Sewage Disposal

NOTE: *Towns without public sewer systems should **not** incorporate the language from subsection A below into their ordinances.*

A. Public System.

1. Any subdivision within the area designated in the comprehensive plan for future public sewage disposal service shall be connected to the public system.
2. When a subdivision is proposed to be served by the public sewage system, the complete collection system within the subdivision, including manholes and pump station, shall be installed at the expense of the applicant.
3. The sewer district shall certify that providing service to the proposed subdivision is within the capacity of the system's existing collection and treatment system or improvements planned to be complete prior to the construction of the subdivision.
4. The sewer district shall review and approve the construction drawings for the sewerage system. The size and location of laterals, collectors, manholes, and pump stations shall be reviewed and approved in writing by the servicing sewer district or department.

B. Private Systems.

1. When a proposed subdivision is not within the area designated for public sewage disposal service in the comprehensive plan, connection to the public system shall not be permitted. Sewage disposal shall be private subsurface waste water disposal systems or a private treatment facility with surface discharge. *Alternative language: If there is no public sewage disposal system in town, sewage disposal shall be by a private subsurface wastewater disposal system or a private treatment facility with surface discharge.*
2. The applicant shall submit evidence of site suitability for subsurface sewage disposal prepared by a Maine Licensed Site Evaluator in full compliance with the requirements of the Maine Subsurface Wastewater Disposal Rules (chapter 12 of 10 CMR 241), henceforward referred to as the Rules.
 - a. The site evaluator shall certify in writing that all test pits which meet the requirements for a new system represent an area large enough for a disposal area on soils which meet the Rules.
 - b. On lots where the limiting factor has been identified as being within 24 inches of the surface, a second site with suitable soils shall be shown as a reserve area for future replacement of the disposal area. The reserve area shall be shown on the plan and restricted so as not to be built upon.
 - c. In no instance shall a disposal area be on a site which requires a New System Variance from the Rules.
3. When a privately owned multi-user subsurface disposal system (as defined in the Rules) is proposed, the applicant shall file proof of incorporation of an association of homeowners or other property owners that complies with the ownership and maintenance requirements for multi-user disposal systems, including:
 - a. The ownership of all parts of the system beyond the building sewer, as defined by the Rules;
 - b. The authority to charge a maintenance or service fee to assure sufficient capitalization to meet its responsibility to sustainably maintain the multi-user system;
 - c. The liability for operation, maintenance, repair, or replacement of all parts of the system beyond the individual building sewers, and for keeping the system free of any nuisance or threat to public health or contamination of the environment;
 - d. The right by easement, including access easements recorded against all properties associated with or necessary for the system to operate, to enter said properties for purposes of servicing, maintaining, repairing, or replacing any or all parts of the system, and for the purpose of enlarging or replacing the system should such enlargement or replacement be deemed necessary by the ownership organization, or if the local plumbing inspector orders such action for the purpose of abating a public nuisance; and

- e. All other requirements of the Rules governing multi-user disposal systems.

2. The Application Review Process:

Hancock County planning boards may not be familiar with the highly technical homeowners association (or other organization) bylaws required to ensure that these systems operate per state standards. As part of the development review process, the town may want to hire a licensed site designer or engineer to review the design specifications and the operations and maintenance manual proposed for the disposal system. The cost of this professional review can be charged to the applicant as part the development review costs. See Section 6.1.B of the Model Subdivision standards:

All applications for preliminary plan shall be accompanied by a nonrefundable application fee of \$300, plus \$50 per lot or dwelling unit, ... In addition, the applicant shall pay an escrow fee of \$250 per lot or dwelling unit, to be deposited in a special escrow account designated for that subdivision application, to be used by the Board for hiring independent consulting services to review engineering and other technical submissions.

PART II: TYPES OF ALTERNATIVE SYSTEMS

Alternative systems are described briefly below. For more information, see: <http://www.gro-wa.org/technologies-and-performance.htm> from which this report is excerpted.

1. Clustered Systems

Clustered systems (also known as community or shared systems) serve more than one property. They may require an individual septic tank and pumping equipment onsite, but the effluent is generally piped offsite for combined treatment and disposal. Those with design flows of less than 2,000 gallons per day (gpd) can be installed using the same design criteria as a system for a single-family residence. The advantages of clustered systems include cost, flexibility in land use, centralized maintenance, and increased environmental protection.

2. Small multi-user disposal systems

Small multi-user disposal systems with design flows of less than 2,000 gpd may be designed by site evaluators using the criteria outlined in the Maine wastewater rules, if the soil conditions and topography allow for placement of a suitably-sized common disposal field on one of the lots. If three or more sites share a common disposal field, all system components on all lots must be owned and managed by a single, independent, legally established entity, such as a homeowners' association, sanitary district, or town government. This rule is intended to ensure appropriate long-term maintenance and monitoring for the system, so that one property owner's failure to perform routine septic tank pumping (for example) will not jeopardize the entire shared system.

3. Large clustered systems

Large clustered systems with design flows exceeding 2,000 gpd must be designed by a Maine-licensed Professional Engineer. Engineered systems are also required (regardless of flow rate) if the wastewater effluent will contain Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS) in combined amounts greater than 2,000 milligrams per liter, since these waste components typically require pre-treatment and a more robust disposal field design than would normally be indicated by the onsite soils and topographic conditions. Engineered systems may also require higher levels of treatment, additional soils evaluations, site setbacks, hydrogeological analyses, the formal identification of responsible management and ownership entities, and defined operation and maintenance duties including any reporting and monitoring requirements.

4. Variances

Variations are often granted for new systems on smaller lots, particularly if the soils and site conditions are favorable (or if pre-treatment systems are used to reduce the size of the required disposal field). State law specifically precludes the use of lots smaller than 20,000 square-feet for clustered systems with design flows in excess of 2,000 gpd, and for individual septic systems of any design flow that are intended to treat wastewater with a high organic content.

A 20,000-square-foot lot will generally accommodate both an onsite water supply and a septic system. Some lots may require more land, depending on site conditions such as slope, bedrock outcrops, availability of suitable soils, and the type of water supply and septic system used. A drilled well has the smallest minimum setback distance if an onsite water supply is needed. Connection to a public water supply reduces the lot size requirement.

The smallest land area allowed for an individual onsite septic system would be for a traditional septic tank and disposal field on sandy, well-drained soils (approximately 600 square feet) plus all required minimum offsets. As soil permeability decreases, the disposal field size increases, plus fill extension areas in some cases, with sufficient additional land surrounding the field to accommodate minimum offsets. Pre-treatment systems can reduce the size of a disposal field in low-permeability soils by up to 50 percent, and may eliminate the need for fill extensions.

5. Clustered offsite septic systems

Clustered offsite septic systems can reduce lot size requirements, in many cases to just slightly larger than a lot connected to a municipal sewer system. Land use planning for an offsite clustered system should incorporate easy access to all lots for construction and maintenance of individual tanks and lines, adequate space to install septic tanks (and pre-treatment systems, if used) on each individual lot with all required minimum offsets, and sufficient acreage in suitable site conditions to place both a primary disposal field and a reserve area.

To estimate the amount of land required to construct these systems under different soil conditions, consider the hypothetical case of two clustered systems, one with a design wastewater flow of 4,000 gpd (up to 14 single-family residences) and the other with a design flow of 10,000 gpd (up to 37 residences). The smaller system will require 0.6 to 1 acre for the common disposal field, while the larger system will occupy 1.2 to 2 acres.

PART III: FUNDING SOURCES FOR NEW OR REPLACEMENT SYSTEMS

The role of various agencies in funding new or replacement systems is described here. Participating households must meet income guidelines to qualify for assistance.

1. Washington Hancock Community Agency

Telephone: (207-546-7544)

Website: <http://www.whcacap.org/house-and-home/index.php>

Washington Hancock Community Agency provides 1% mortgages or 0% deferred/forgivable mortgages (i.e. 0% interest rate with no monthly payment) to low-income homeowners for necessary home repairs. Wells and septic system repairs or replacements are eligible activities.

2. Maine State Housing Authority

Telephone: 1-800-452-4668

Website: <http://www.mainehousing.org>

The Maine State Housing Authority oversees the Affordable Housing Tax Increment Financing (AHTIF) Program, which offers a flexible financing tool to assist affordable housing projects and support related infrastructure and facilities. AHTIF enables communities to dedicate the tax revenues from new affordable housing development to help make the housing affordable or to pay for related costs. Communities using AHTIF avoid the decreases in state revenue sharing and increases in county taxes that otherwise would occur with increased property values.

Eligible uses of incremental tax revenues include:

- Housing development or operating costs *within the AHTIF district*, such as capital investments, financing costs, project operating costs, professional service fees, administrative and start-up expenses, and the costs of recreational and child care facilities.
- Investments *outside the AHTIF district* that are necessary because of activities within the district, such as: infrastructure or public safety improvements, and mitigation of adverse impacts on the community (including costs to local schools).
- Establishing permanent housing development revolving loan or investment.

Key requirements include:

- At least 25% of the district area must be suitable for residential use, and development within the district must be primarily residential.
- The development must address an identified community housing need and comply with Maine law regarding growth-related capital investments.
- At least 33% of the housing units must be for households earning no more than 120% of area median income.

- The affordability of rental units must be maintained for at least 30 years; the affordability of homeownership units must be maintained for at least 10 years.

3. USDA RURAL DEVELOPMENT

Telephone: 207-990-3676

Website: http://www.rurdev.usda.gov/me/RHP_CF.htm

Rural Development is a division of the United States Department of Agriculture. Its single-family housing programs include:

- a. **Section 502 Guaranteed Loans** - Loans are made by mortgage lenders and guaranteed by USDA Rural Development to low and moderate income applicants to buy or build homes (30-year fixed interest rate) in rural areas of Maine.
- b. **Section 502 Direct Loan Program** - Low interest loans are made directly by Rural Development to applicants whose incomes are less than 80 percent of the median income for the area. This program is focused toward purchasing modest housing, constructing new homes, or repairing pre-owned dwellings, located in rural areas of Maine.
- c. **Section 504 Direct Loan Program** - Loans are made at 1 percent interest rate to repair, improve, or modernize modest single family homes in rural areas, making homes safer or more sanitary, or to remove health and safety hazards. Applicants' incomes must be less than 50 percent of the median income for the area.
- d. **Section 504 Grant Program** - For homeowners 62 years old or older who cannot repay a loan, grant funds are available to remove health or safety hazards, or remodel dwellings to make them accessible to household members with disabilities.
- e. **Mutual Self-Help Housing Program** - Low interest loans are made directly by Rural Development to applicants whose incomes are less than 80 percent median income for the area. This program is focused toward constructing modest new homes, through a group effort, in rural areas of Maine.

4. Maine Office Of Community Development

Telephone: 207-624-7484 Website: <http://www.meocd.org>

The primary focus of the Office of Community Development is the administration of the HUD funded Community Development Block Grant (CDBG) Program. Hancock County Planning Commission serves as the designated technical assistance provider for CDBG programs in the HCPC service area. Housing Programs include:

a. Housing Assistance Grants:

The Housing Assistance Grant Program (HA) provides funding to address housing problems of low and moderate-income (LMI) persons. Eligible activities are those directly related to assisting or creating residential housing units including Acquisition, Code Enforcement, Conversion of Non-Residential Structures, Demolition, Historic Preservation, Housing Rehabilitation, New Housing Construction as allowed by HUD regulations, Relocation Assistance, and Removal of Architectural Barriers. Only applicants with populations that exceed 3,000 are eligible to apply. Multi-jurisdictional applications with more than three communities will not be accepted.

Maximum grant award: \$500,000.

b. Public Infrastructure Category 2:

The Public Infrastructure Grant (PI) Program provides gap funding for local infrastructure activities, which are part of a community development strategy leading to future public and private investments. Eligible activities in the PI Program are construction, acquisition, reconstruction, installation, relocation assistance associated with public infrastructure, and public infrastructure limited to supporting construction of fully-funded affordable LMI housing.

Maximum Grant Award: \$500,000

Prepared with funding from the USDA-Rural Utilities Services. Opinions expressed herein are not necessarily those of the funding agencies.