Montgomery County Council

**Committee:** T&E
**Committee Review:** At a future date
**Staff:** Ludeen McCartney-Green, Legislative Attorney
**Purpose:** To receive testimony – no vote expected
**Keywords:** #SepticMaintenance

AGENDA ITEM #8
November 30, 2021
**Public Hearing**

## SUBJECT

Bill 40-21, Individual Water Supply and Sewage Disposal Systems – Amendments

Lead Sponsor: Council President at the Request of County Executive

## EXPECTED ATTENDEES

Members of the Public

## COUNCIL DECISION POINTS & COMMITTEE RECOMMENDATION

- To receive testimony – no vote expected

## DESCRIPTION/ISSUE

Bill 40-21 would:

(1) clarify certain definitions related to individual water supply and sewage disposal;
(2) require the owners of individual sewage disposal systems to periodically pump-out the sewage treatment unit of the systems;
(3) authorize use of Water Quality Protection Charge funds to partially reimburse septic system owners that perform sewage treatment unit pump-out; and
(4) generally, revise County law regarding individual water supply and sewage disposal facilities.

## SUMMARY OF KEY DISCUSSION POINTS

- None

**This report contains:**

Agenda Item #8
November 30, 2021
**Public Hearing**

**M E M O R A N D U M**

November 24, 2021

TO: County Council

FROM: Ludeen McCartney-Green, Legislative Attorney

SUBJECT: Bill 40-21, Individual Water Supply and Sewage Disposal Systems – Amendments

PURPOSE: Public Hearing – no Council votes required

Bill 40-21, Individual Water Supply and Sewage Disposal Systems – Amendments, sponsored by Council President at the Request of County Executive, was introduced on November 2, 2021. A Transportation and Environment Committee Worksession will be scheduled at a later date.

Bill 40-21 would:

(1) clarify certain definitions related to individual water supply and sewage disposal;
(2) require the owners of individual sewage disposal systems to periodically pump-out the sewage treatment unit of the systems;
(3) authorize use of Water Quality Protection Charge funds to partially reimburse septic system owners that perform sewage treatment unit pump-out; and
(4) generally revise County law regarding individual water supply and sewage disposal facilities.

Bill No. 40-21
Concerning: Individual Water Supply and Sewage Disposal Systems
Revised: 11/1/2021 Draft No. 1
Introduced: October 26, 2021
Expires: April 26, 2023
Enacted:
Executive:
Effective:
Sunset Date:
Ch. __ , Laws of Mont. Co.

# COUNTY COUNCIL
# FOR MONTGOMERY COUNTY, MARYLAND

By: Council President at the Request of County Executive

**AN ACT** to:

(1) clarify certain definitions related to individual water supply and sewage disposal;
(2) require the owners of individual sewage disposal systems to periodically pump-out the sewage treatment unit of the systems;
(3) authorize use of Water Quality Protection Charge funds to partially reimburse septic system owners that perform sewage treatment unit pump-out; and
(4) generally revise County law regarding individual water supply and sewage disposal facilities.

By amending

Montgomery County Code
Chapter 19, Erosion, Sediment Control and Stormwater Management
Section 19-35

Chapter 27A, Individual Water Supply and Sewage Disposal Facilities
Sections 27A-1, 27A-2, 27A-3, 27A-4, 27A-5, 27A-6, 27A-7, 27A-8, 27A-9, 27A-10, and 27A-11

| | |
|---|---|
| **Boldface** | *Heading or defined term.* |
| Underlining | *Added to existing law by original bill.* |
| **[**Single boldface brackets**]** | *Deleted from existing law by original bill.* |
| Double underlining | *Added by amendment.* |
| **[[**Double boldface brackets**]]** | *Deleted from existing law or the bill by amendment.* |
| * * * | *Existing law unaffected by bill.* |

*The County Council for Montgomery County, Maryland approves the following Act:*

**Sec. 1. Sections 19-35, 27A-1, 27A-2, 27A-3, 27A-4, 27A-5, 27A-6, 27A-7, 27A-8, 27A-9, 27A-10, and 27A-11 are amended as follows:**

**19-35. Water Quality Protection Charge.**

(a) * * *

(b) * * *

(c) * * *

(d) * * *

(e) * * *

(f) The Director must deposit funds raised by the Charge, and funds for this purpose from any other source, into a stormwater management fund. Funds in the stormwater management fund may be applied and pledged to pay debt service on debt obligations to finance the construction and related expenses of stormwater management facilities as approved in the Capital Improvements Program. Funds in the stormwater management fund must only be used for:

(1) construction, operation, financing, and maintenance of stormwater management facilities, and related expenses, including debt service payments related to construction and related expenses of stormwater management facilities;

(2) enforcement and administration of this Article; **[**and**]**

(3) reimbursement payments to property owners that perform County-approved water quality protection activities under Chapter 27A and related administrative costs; and

**[**(3)**]** (4) any other activity authorized by this Article or state law.

(g) * * *

(h) * * *

(i) * * *

**27A-1. Intent.**

It is the intent of this **[**chapter**]** Chapter to assure an adequate supply of potable water for use on an individual lot, and to protect the public health by providing sanitary methods for the disposal of sewage on an individual lot. It is the general policy of the County that connections **[**must**]** be made to community water supply and sewerage systems when such systems abut the lot**[**, except when**]** unless sewer or water service is unavailable by policy determination **[**as stated in the county's comprehensive water supply**]** under the County's Comprehensive Water Supply and **[**sewerage systems plan**]** Sewerage Systems Plan. It is intended that permits for individual water supply and sewage disposal systems **[**will**]** be issued only when community systems are unavailable, inadequate or connections are not economically feasible.

**27A-2. Definitions.**

The following words and phrases have the following meanings:

*Best Available Technology ("BAT")* means a technology that has been approved by the Maryland Department of the Environment as a best available technology for removing nitrogen from onsite sewage disposal systems.

*Director***[**:**]** means **[**The**]** the Director of the Department of Permitting Services or the Director's designee.

*Director of Environmental Protection* means the Director of the Department of Environmental Protection or the Director of Environmental Protection's designee.

*Individual sewage disposal system***[**:**]** means **[**A**]** a system, other than a public or community system, which receives liquid wastes or human excreta, or both, generated on the **[**same lot**]** lot or parcel that the system serves. An individual sewage disposal system may also be located on an adjacent lot or parcel by easement as approved by the Director. **[**It**]** An individual sewage disposal

system includes a sewage treatment unit, effluent disposal area and related appurtenances.

*Individual water supply system***[**:**]** means **[**A**]** a well or other approved source of water, and all appurtenances thereto, including pumps and piping, for delivery of an adequate supply of potable water [for use on the same lot].

*Permit***[**:**]** means **[**A**]** a written permission issued by the Director for the construction and/or maintenance of an individual water supply system or an individual sewage disposal system.

*Person***[**:**]** means **[**Any**]** any institution, individual, partnership, governmental entity, public or private corporation or other entity.

*Potable water***[**:**]** means **[**Water**]** water **[**which**]** that is **[**safe for human consumption**]** free from impurities in amounts sufficient to cause disease or harmful physiological effects and which conforms with the State of Maryland Safe Drinking Water Standards.

*Pump-out* means the removal of the contents of a sewage treatment unit by a person under a Sewage Sludge Utilization Permit.

*Lot***[**:**]** means **[**A**]** a measured parcel of land having fixed boundaries and designated on a plat or survey, together with any recorded easement satisfactory to the Director.

*Sewage treatment unit* means a device designed and constructed to receive sewage and to provide treatment to reduce organic and inorganic matter and includes septic tanks, BAT, aerobic treatment units, or any other MDE approved devices.

*Well***[**:**]** means **[**Any**]** any **[**excavation that is drilled, cored, bored, driven, dug, jetted or otherwise constructed when the intended use of such an excavation is for the location, extraction or artificial recharge of**]** hole made in the ground to explore for ground water, to obtain or monitor ground water, to inject water into

any underground formation from which ground water may be produced, or to transfer heat to or from the ground or ground water if the hole:

(1) extends more than 20 feet below the surface of the ground; and

(2) is not a well for obtaining geothermal resources under Maryland Code, Environment Art., § 5-601 or any successor provision.

**27A-3. Duties and responsibilities of [director] Director.**

(a) The [director] Director [shall be] is responsible for the administration and enforcement of this [chapter] Chapter. The [director shall] Director must receive applications, collect fees and issue permits for the construction, installation and maintenance of individual water supply and sewage disposal systems, and for related facilities and services; inspect the premises for which such permits have been issued; and enforce compliance with the provisions of this [chapter] Chapter and any [rules and] regulations [promulgated hereunder] adopted under this Chapter.

(b) When there [is] are [evidence of] practical difficulties and undue hardship created by strict application of the provisions of this [chapter] Chapter, the [director] Director may, in writing, waive or vary such provision upon written application of the owner or his designated representative, provided the spirit and intent of the law shall be observed and that the public health and safety are assured.

**27A-4. Regulations.**

[After consulting] The County Executive may, in consultation with the Washington Suburban Sanitary Commission[,] and the Montgomery County Planning Board, [and any other concerned agency, the county executive may] adopt[,] regulations under method (2) [of section 2A-15 of this Code, regulations] to implement this [chapter] Chapter.

**27A-5. Permits.**

(a) **[**It shall be unlawful for any**]** A person **[**to**]** must not construct, alter or extend an individual water supply system or an individual sewage disposal system within the **[**county**]** County unless **[**he**]** the person holds a valid permit issued by the **[**director in the name of such person, for**]** Director authorizing the specific construction, alteration or extension proposed.

(b) **[**It shall be unlawful for any**]** A person **[**to**]** must not collect, transport and dispose of the solid and liquid contents of chemical toilets, holding tanks, **[**septic tanks**]** sewage treatment units, seepage pits and privies unless **[**he**]** the person holds a valid permit issued by the **[**director in the name of such person**]** Director.

(c) **[**All**]** An **[**applications**]** application for a **[**permits**]** permit under this Chapter **[**shall**]** must be made to the **[**director,**]** Director **[**who shall**]**. The Director must issue a permit **[**upon compliance by**]** if the **[**applicant**]** application complies with the applicable provisions of this **[**chapter**]** Chapter and any **[**rules and**]** regulations adopted **[**hereunder**]** under this Chapter.

(d) All permit applications **[**shall**]** must be in writing**[**, shall be**]** and signed by the applicant **[**and shall**]**. Applications must also include all information specified **[**in rules and regulations adopted in accordance with the provisions of this chapter, and**]** by regulation as well as any other necessary information required by the **[**director**]** Director **[**in accordance with this chapter**]**.

(e) * * *

**27A-6. Inspections.**

(a) **[**The director is authorized and directed to make such inspections as are necessary to determine satisfactory compliance with the provisions of this

chapter and any rules and regulations promulgated hereunder.**]** Before issuing a permit for the construction of an individual sewage disposal system, the Director must require the property owner to execute an easement and an inspection and maintenance agreement that is binding on each subsequent owner of any property on which the system is located and any property served by the system.

(b) **[**It shall be the duty of the owner or occupant of a property to give the director access to the property at reasonable times for the purpose of making such inspections as are necessary to determine compliance with the provisions of this chapter and any rules and regulations promulgated hereunder.**]** The Director or Director of Environmental Protection may enter a property for which a permit has been issued under Section 27A-5 at any reasonable hour to confirm compliance with the permit.

(c) **[**The director is authorized to establish procedures leading to the resolution of differences in field interpretations of this chapter, and the regulations promulgated hereunder.**]** The Director or the Director of Environmental Protection may perform inspections of an individual water supply system or an individual sewage disposal system as needed to ensure that the system remains in proper working condition.

**27A-7. Abatement of excreta disposal nuisances.**

**[**It shall be unlawful for any**]** A person **[**to**]** must not discharge or cause **[**to be discharged,**]** the discharge of sewage or sewage disposal effluent directly or indirectly into the ground surface, groundwaters, surface waters, storm sewers or abandoned wells, or maintain or operate a sewage disposal system in such a manner that it becomes a nuisance or adversely affects the public health, safety or welfare.

**27A-8. Maintenance of individual sewage disposal systems.**

(a) *Pump-out*. The owner of any individual sewage disposal system must ensure that the system remains in proper working condition through pump-out of the sewage treatment unit at least once every 5 years in accordance with the regulations adopted under Section 27A-4.

(b) *Pump-out notification*. The owner must notify the Director of Environmental Protection in writing within 30 days after the septic tank and/or distribution box(es) are pumped. The written notification must include a copy of the receipt from the pump-out vendor containing the following information:

(1) the name, telephone number, and mailing address of the owner;

(2) the street address of the property;

(3) the property tax identification number;

(4) the date the tank was pumped;

(5) the number of gallons pumped;

(6) the name of the scavenger company; and

(7) the Montgomery County Sewage Sludge Utilization permit number of the vehicle performing the pump-out.

(c) *Notice of violation*. The Director or the Director of Environmental Protection is authorized to issue a Notice of Violation to the owner of any property in violation of this Chapter or any permit issued pursuant to this Chapter. The owner of any individual sewage disposal system must complete pump-out of the sewage treatment unit within the time period specified in any written notice of violation issued by the Director of Environmental Protection.

**27A-9. Reimbursements.**

(a) The Director of Environmental Protection may issue a partial reimbursement to cover a portion, set by regulation, of the expenses

incurred by the owner of an individual sewage disposal system to perform the pump-out required under Section 27A-8 during the tax year that the owner completes pump-out of the system's sewage treatment unit. In any tax year, the Director of Environmental Protection may, at his or her discretion, determine whether reimbursements shall be issued for pump-outs performed during that tax year and in what amount, if any, such reimbursements shall be issued.

(b) To receive the reimbursement, the owner must apply to the Director of Environmental Protection in a form prescribed by the Director. The application must accompany the pump-out notification required under Section 27A-8(b).

(c) The Director of Environmental Protection must not issue a reimbursement to any property owner under this Section more frequently than once every 5 years.

**[27A-8] 27A-10. Penalties**.

A violation **[**Any persons violating the provisions**]** of this **[**chapter**]** Chapter **[**shall be**]** is **[**subject to punishment for**]** a **[**class**]** Class A violation **[**as set forth in section 1-19 of chapter 1 of the County Code**]**. Each day that the violation continues **[**shall be**]** is a separate offense.

**[27A-9] 27A-11. Conflicts of law.**

Nothing in this **[**chapter**]** Chapter **[**shall**]** may be construed to repeal or affect any powers, responsibilities or functions provided under **[**state**]** State law.

# LEGISLATIVE REQUEST REPORT

Bill 40-21
*Individual Water Supply and Sewage Disposal Systems – Amendments*

| | |
|---|---|
| **DESCRIPTION:** | The legislation proposes amendments to Chapter 19, Erosion, Sediment Control and Stormwater Management and Chapter 27A Individual Water Supply and Sewage Disposal Facilities to require the owners of individual sewage disposal systems to periodically pump-out the sewage treatment unit of the systems; and authorize use of Water Quality Protection Charge funds to partially reimburse septic system owners that perform sewage treatment unit pump-outs. |
| **PROBLEM:** | Currently, after design and construction of an individual sewage treatment system (also known as a septic system) there are no further requirements for maintenance and inspection of the system unless there is a reported problem. Improperly maintained septic systems can cause human health problems and contamination of groundwater, local streams, and the Chesapeake Bay. |
| **GOALS AND OBJECTIVES:** | The proposed amendments will improve the operation of septic systems in the County thereby reducing potential human health problems and improving ground and surface water quality. |
| **COORDINATION:** | Department of Environmental Protection, Department of Permitting Services |
| **FISCAL IMPACT:** | To be requested. |
| **ECONOMIC IMPACT:** | To be requested. |
| **EVALUATION:** | To be researched. |
| **EXPERIENCE ELSEWHERE:** | Queen Anne's County, Maryland; Virginia; Hopewell Township, York County, PA; Connecticut; Washington State; Minnesota; and Wisconsin. |
| **SOURCE OF INFORMATION:** | Steven Shofar, Division Chief, Intergovernmental Affairs, Department of Environmental Protection, 240-777-7736 |
| **APPLICATION WITHIN MUNICIPALITIES:** | To be researched. |
| **PENALTIES:** | Class A. |

OFFICE OF THE COUNTY EXECUTIVE

Marc Elrich
*County Executive*

MEMORANDUM

October 11, 2021

TO: Tom Hucker, Council President
Montgomery County Council

FROM: Marc Elrich, County Executive

SUBJECT: Introduction of XX-21, Individual Water Supply and Sewage Disposal Systems - Amendments

It is my pleasure to transmit the attached legislation, XX-21 Individual Water Supply and Sewage Disposal Systems - Amendments, to modify the County's current law to require pumping of septic tanks at least every five years. In addition, the legislation provides for a rebate that will be funded through the Water Quality Protection Charge (WQPC) to property owners who pump their septic tanks.

**BACKGROUND:**

An Onsite Wastewater Treatment System (OWTS), also known as a septic system, usually consists of septic tank to remove solids from wastewater and a drain field to allow the liquid waste to percolate through the soil to be treated before it flows into the groundwater. An improperly maintained OTWS can create public health concerns and contaminate ground and surface water.

Septic system discharges are one of the eight sectors listed in the Chesapeake Bay Total Maximum Daily Load (TMDL) and are a major source of pollution in the Chesapeake Bay. Montgomery County has a lower percentage of septic systems than some other rural counties in the State of Maryland with an estimated 19,000 septic systems or approximately 13% of all properties. With no critical area in the County, the potential septic impacts on the Bay are less than some other counties in Maryland. However, those impacts are not insignificant.

Under current County law the only time that an OWTS is regulated is at the time of design, permitting and construction by the Department of Permitting Services (DPS). DPS will also review the condition of an OWTS if a problem or surface discharge is reported by a property owner or neighbor.

The Office of Legislative Oversight prepared a report (OLO Memorandum Report 2017-5) entitled "Life-Cycle Regulation of On-Site Wastewater Treatment Systems" in December of 2016. The report presents alternative management models to regulate the maintenance and performance of onsite wastewater treatment developed by the United States Environmental Protection Agency (EPA). As a result of that report, when the County Council approved the 2018 Comprehensive Water Supply and Sewerage Report they requested that the County pursue EPA Management Model #1, Homeowner Awareness. Homeowner Awareness consists of documenting all the OWTSs in the County and conducting outreach to the owners of the OWTSs to remind them of the need for regular maintenance.

The tasks of Management Model #1 were completed in FY21. Using data from the Washington Suburban Sanitary Commission (WSSC) and the state's property database, the Department of Environmental Protection (DEP) has created a database with all the properties determined to have septic systems in the County. In addition, DEP sent a postcard to all known septic system owners asking them to go register their system with DEP as well as, access the DEP website for additional information on how to properly operate and maintain their septic system and drinking water well. This legislation goes beyond Management Model #1 and is between Model #1 and Model #2. Management Model #2 requires the property owner to have a maintenance contract with septic company. This legislation does not require a contract but does require the pumping to be done every five years.

In preparation for this legislation DEP developed a white paper entitled "Review of Conventional Onsite Treatment System Laws and Regulations." The report evaluates septic laws and regulations throughout the country and provides some examples of different legislative and regulatory frameworks.

**POLICY OVERVIEW:**

The DEP report showed a wide variety of OWTS management programs ranging from simple outreach to complex inspection and maintenance programs. In Maryland, Queen Anne's County is the only jurisdiction with a septic pump out requirement. There are no other jurisdictions in Maryland that require post installation inspection or maintenance. Frederick and Howard Counties have a rebate program to encourage septic pump out but there are no regulatory requirements for pump out. Fairfax County has a requirement for septic pump out every five years similar to this legislative proposal. There are a number of states throughout the country that require inspection and maintenance of OWTSs. One innovative approach by Clallam County, Washington, certifies homeowners through an online septic inspection training program (called *Septics 201*) to inspect their own OWTS.

This legislation is a large step forward in assuring OWTSs are property maintained and operated. Future legislation could potentially include requirements for OTWSs to be inspected on a regular basis (at the time of pump-out). Inspections were not included at this time because of the resources needed to implement such a program.

**IMPACT (excerpted from OLO report)**:

As mentioned previously, an improperly operated OWTS can contaminate drinking water and pollute groundwater. A study by EPA estimated that 168,000 viral illnesses and 34,000 bacterial illnesses occur each year as a result of consumption of drinking water from systems that rely on improperly treated ground water. EPA has concluded that proper use of OWTSs "reduces the risk of disease transmission and human exposure to pathogens, which can occur through drinking water, surface water, and shellfish bed contamination." In addition, properly treated wastewater can recharge ground water and replenish aquifers.

Substandard or malfunctioning OWTSs also contribute to an overabundance of nutrients in coastal estuaries and inland surface waters. Increases in nitrogen and other nutrients in surface waters leads to excessive algae growth and harmful reductions in dissolved oxygen levels. wastewater treatment removes nutrients that can pollute ground and surface water.

**RESOURCES:**

It is anticipated that the workload required to implement this legislation will require an additional position in DEP's Intergovernmental Affairs Division (IGAD) starting in FY23, a Program Specialist I. This position will handle day-to-day aspects of the program: responding to inquiries, organizing notice mailings, etc. Existing IGAD staff—the Senior Engineer, the Senior Planner, and Planner III—can address other responsibilities as needed as part of their existing workload. The impact of the additional workload will be somewhat less time dedicated to review of WSSC budget and technical reports and the category change program.

**TIMING:**

It is anticipated that the legislation will be in place by the end of calendar year 2021. The executive regulation is anticipated to be in place by the end of the fiscal year and implementation is expected to start in FY23. The County will be divided into five areas with approximately one fifth of the total septic systems in each area. Over the next five years all the septic systems will either have to have their septic tanks pumped or the owners provide proof that the tank was pumped within the past five years. Once a pump out notification is provided to a property owner, they will have 60 days to have their tanks pumped and provide proof of pumping. The property owner can also apply for a rebate at that time.

ME:ss

Attachments

**Fiscal Impact Statement**

**Bill XX-21 – Individual Water Supply and Sewage Disposal Systems**

**1. Legislative Summary.**

Bill XX-21 makes several changes to the County Code to require the regular pumping of septic tanks. Specifically, the bill:

- requires the owners of individual sewage disposal systems to periodically pump-out the sewage treatment unit of the systems;
- authorizes use of Water Quality Protection Charge (WQPF) funds for reimbursement payments to septic system owners that perform sewage treatment unit pump-out; and
- generally, revises County law regarding individual water supply and sewage disposal facilities for clarity.

There are approximately 18,922 septic systems in the County, and the pumping of septic tanks provides impervious area (IA) credit as part of the County's Municipal Separate Sanitary Sewer System (MS4) permit requirements. If all the property owners complied with the regulation, that would equal 75.7 impervious acres per year or 378.4 acre every five-year MS4 cycle.

**2. An estimate of changes in County revenues and expenditures regardless of whether the revenues or expenditures are assumed in the recommended or approved budget. Include source of information, assumptions, and methodologies used.**

Bill XX-21 is not expected to impact County revenues.

Bill XX-21 will impact County expenditures by authorizing a reimbursement program for property owners who pump their septic tanks, associated outreach materials, and a position to manage the program. The annual cost estimate is $471,903, which would be funded by the WQPF. It should be noted that the reimbursement is not required, and Department of Environmental Protection (DEP) has the option of not providing the reimbursement for fiscal or other reasons. However, for illustrative purposes this fiscal impact statement assumes there will be a reimbursement of $100 per cleaning, comparable with what is offered by Howard County, Maryland for a similar program.

Position: It is anticipated that the workload to implement the legislation will require one additional position (a Grade 18 Program Specialist I) to handle day-to-day administration, such as maintaining the records of nearly 19,000 septic systems, database and program management, tracking cleanings and enforcement, and interactions with property owners. The salary and benefits are estimated to be $83,503 per year.

Outreach materials: The printing and mailing of notices is expected for the program, totaling $10,000 per year. This is based on outreach costs incurred by the septic program and similar programs.

Reimbursements: There are approximately 18,922 septic tanks in the County. If the reimbursement were set at $100 and all property owners complied with the new legislation and then requested reimbursement after pumping their septic tanks, there would be a maximum annual cost of $378,400 (assuming a five-year cycle).

An executive regulation setting the reimbursement rate is expected to be in place by the end of calendar year 2021, and implementation is expected to start in FY23. The County would be divided into five areas, with enforcement expanding to one new area each year. Thus, it is estimated that the program will take five years to roll out to the entire County.

**3. Revenue and expenditure estimates covering at least the next 6 fiscal years.**

As stated in Question 2, implementation of the bill will require a Grade 18 Program Specialist I at an annualized cost of $83,503. Assuming the position begins in October 2022 the FY23 personnel cost would total $63,523, while reimbursements are estimated to be level at $378,400 per year (the amount for total compliance in one of the five County areas). Operating expenses are assumed to be flat at $10,000 annually to pay for outreach materials. As shown in the table below, the fiscal impact of the legislation is estimated to be $451,923 in FY23 and $471,903 each year thereafter.

Although the WQPF is projected to have the capacity to absorb these costs without a rate adjustment, it reduces the ability of the County to fund other priorities without increasing the Water Quality Protection Charge (WQPC). For illustrative purposes, the table shows the equivalent impact to the WQPC assuming this legislation is fully paid for by increasing the charge.

| | FY22 | FY23 | FY24 | FY25 | FY26 | FY27 | Total, FY22-27 |
|---|---|---|---|---|---|---|---|
| Personnel Costs | $0 | $63,523 | $83,503 | $83,503 | $83,503 | $83,503 | $397,535 |
| Operating Expenses | $0 | $10,000 | $10,000 | $10,000 | $10,000 | $10,000 | $50,000 |
| Reimbursement Costs | $0 | $378,400 | $378,400 | $378,400 | $378,400 | $378,400 | $1,892,000 |
| Total | $0 | $451,923 | $471,903 | $471,903 | $471,903 | $471,903 | $2,339,535 |
| Impact to WQPC rate | $0 | $1.23 | $1.29 | $1.29 | $1.29 | $1.29 | |

**4. An actuarial analysis through the entire amortization period for each bill that would affect retiree pension or group insurance costs.**

Not applicable.

**5. An estimate of expenditures related to County's information technology (IT) systems, including Enterprise Resource Planning (ERP) systems.**

DEP's existing Infor asset management software will be used to support the program. It is anticipated that the work to modify Infor would be covered by existing IT staff.

**6. Later actions that may affect future revenue and expenditures if the bill authorizes future spending.**

Bill XX-21 does not authorize future spending.

**7. An estimate of the staff time needed to implement the bill.**

It is estimated that during implementation it will take up to approximately 50 hours per week to update information, develop materials, and contact owners of septic systems. Once all the necessary operations have been set up, it is estimated that the bill will require up to 40 hours per week to administer. The anticipated workload will require one new position, Grade 18 Program Specialist I, with existing staff providing additional support as needed.

**8. An explanation of how the addition of new staff responsibilities would affect other duties.**

In addition to a new staff position, the implementation of this bill will be assisted by the Senior Engineer in the Intergovernmental Affairs Division with assistance from a Planner III position. The additional work of those two positions is expected to be minimal but could have a minor impact on their other duties. There may also be additional workload on the Environmental Compliance Unit in enforcing Bill XX-21.

**9. An estimate of costs when an additional appropriation is needed.**

See response to Question 3.

**10. A description of any variable that could affect revenue and cost estimates.**

The number of property owners that request a reimbursement is variable and could affect expenditures.

**11. Ranges of revenue or expenditures that are uncertain or difficult to project.**

Not applicable.

**12. If a bill is likely to have no fiscal impact, why that is the case**

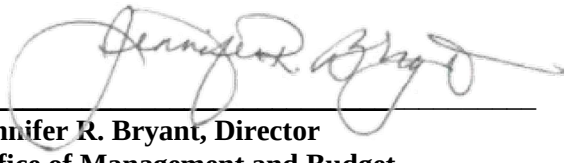
Not applicable.

**13. Other fiscal impacts or comments.**

Not applicable.

**14. The following contributed to and concurred with this analysis:**

Patty Bubar, Department of Environmental Protection
Vicky Wan, Department of Environmental Protection
Steven Shofar, Department of Environmental Protection
Alan Soukup, Department of Environmental Protection
Richard Harris, Office of Management and Budget



8-20-21

**Jennifer R. Bryant, Director** **Date**
**Office of Management and Budget**

**December 6, 2016**

**To**: County Council

**From**: Aron Trombka, Senior Legislative Analyst

**Subject: Life-Cycle Regulation of On-Site Wastewater Treatment Systems**

This memorandum report responds to the County Council's request that the Office of Legislative Oversight (OLO) prepare a report that presents alternative models to regulate the maintenance and performance of on-site wastewater treatment systems. At present, Montgomery County regulates these systems only at the time of design and installation. This report presents case studies of communities that have adopted inspection and maintenance regulations over the entire life of an on-site wastewater treatment system.

This report is organized in four sections:

- **Section 1** provides background information on on-site wastewater treatment systems;
- **Section 2** presents five management models developed by the United States Environmental Protection Agency to improve the performance of on-site wastewater treatment systems;
- **Section 3** presents case studies of jurisdictions that have implemented life-cycle regulation of on-site wastewater treatment systems;
- **Section 4** presents OLO's observations from the information presented in this report.

## SECTION 1: ON-SITE WASTEWATER TREATMENT SYSTEMS

This section provides background information on on-site wastewater treatment systems.

### 1.A. Definition of On-Site Wastewater Treatment Systems

Property owners not served by public sewerage facilities require on-site systems to treat wastewater generated from their properties. Multiple names exist for these systems including "septic systems," "private sewage disposal systems," and "on-site decentralized systems." This report refers to these systems as "on-site wastewater treatment systems" (or "OWTS"), the term used by the U.S. Environmental Protection Agency. The U.S. Environmental Protection Agency (USEPA) defines an OWTS as "a system relying on natural processes and/or mechanical components that is used to collect, treat, and disperse/discharge wastewater from single dwellings or buildings."[1]

[1] United States Environmental Protection Agency, *Onsite Wastewater Treatment Systems Manual*, EPA/625/R-00/008, Glossary-3, February 2002.

OWTS employ varied designs and technologies. The efficacy of a particular OWTS is dependent on many local conditions including soil characteristics, the depth of the water table, topography, climate, the density of development, and other factors. State and local governments throughout the United States establish regulatory requirements for OWTS to address public health and environmental concerns. This report does not evaluate the relative efficacy of different OWTS designs and technologies. Rather, the purpose of this report is to describe alternative governmental OWTS inspection and permitting requirements intended to protect public health and the environment.

### 1.B. Public Health and Environmental Concerns

Properly designed, installed, and maintained OWTS often have minimal effect on public health and the environment. However, poorly designed, installed, or maintained OWTS can contaminate groundwater and produce significant public health and environmental concerns. The U.S. Environmental Protection Agency has found that OWTS "are often significant contributors of pathogens and nutrients" in ground water and bodies of water. [2]

- Public Health Concerns: Substandard or malfunctioning OWTS can contaminate drinking water. A study by the USEPA estimated that 168,000 viral illnesses and 34,000 bacterial illnesses occur each year as a result of consumption of drinking water from systems that rely on improperly treated ground water. [3] The USEPA has concluded that proper use of OWTS "reduces the risk of disease transmission and human exposure to pathogens, which can occur through drinking water, surface water, and shellfish bed contamination." [4] In addition, properly treated wastewater can recharge ground water and replenish aquifers.

- Environmental Concerns: Substandard or malfunctioning OWTS also contribute to an overabundance of nutrients in inland surface waters and coastal estuaries. Increases in nitrogen and other nutrients in surface waters leads to excessive algae growth and harmful reductions in dissolved oxygen levels.[5] Proper wastewater treatment removes nutrients that pollute from surface water.

Despite these concerns, communities throughout the United States experience public health and environmental problems resulting from improper on-site wastewater management. According to the USEPA, many OWTS "are improperly managed and do not provide the level of treatment necessary to adequately protect public health and surface and ground water quality." [6]

### 1.C. County Regulation of Residential On-Site Wastewater Treatment

Approximately 22,000 properties in Montgomery County are served by on-site wastewater treatment systems. The County requires property owners to obtain a permit prior to the construction, reconstruction, alteration, or addition of an OWTS. County regulations also require a permit for the

---

[2] United States Environmental Protection Agency, *EPA Guidelines for Management of Onsite/Decentralized Wastewater Systems*, EPA-832-F-00-012, page 1, July 2 000.
[3] United States Environmental Protection Agency, *Onsite Wastewater Treatment Systems Manual*, page xiv.
[4] United States Environmental Protection Agency website, *Septic Systems Overview,* https://www.epa.gov/septic/septic-systems-overview.
[5] United States Environmental Protection Agency, *Onsite Wastewater Treatment Systems Manual*, page xiv.
[6] United States Environmental Protection Agency, *Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems,* EPA 832-B-03-001, page 3, March 2003.

correction of existing failing OWTS. In addition, the County obligates a property owner to obtain a new permit when "the use of an existing building or facility changes because of an increase in the volume of waste, there is an increase in the number of bedrooms, or the composition of the waste entering the system is being changed." [7]

As detailed in the County's *Ten-Year Comprehensive Water Supply and Sewerage Systems Plan,* the Department of Permitting Services (DPS), is responsible for the permitting of OWTS. An applicant for an OWTS permit (called a "septic" permit) must provide DPS with information about the size of the dwelling unit to be served by the new or modified system as well as engineering plans detailing the design and location of the proposed system. DPS reviews applications to assure that the proposed system is in compliance with County regulations (found in Chapter 27A of the Code of Montgomery County Regulations).

County policy requires two tests prior to installation of an OWTS. The following two tests are intended to assure that OWTS conform to public health and environmental standards and regulations:

- Water Table Test: The first test determines the depth from the surface to the highest level of saturated soil (the "water table"). Unsaturated soil above the water table provides area for treating wastewater. Sufficient vertical distance is necessary between the OWTS drainfield trench and the top of the water table to prevent untreated wastewater from entering the ground water. DPS performs water table testing in the late winter through early spring when the ground water levels are at their highest.

- Percolation Test: The second test determines the speed at which wastewater effluent flows downward through the soil (the "percolation" rate). An overly rapid flow rate does not provide sufficient time for the unsaturated soil to treat the wastewater prior to its entry into the water table. A slow flow rate will fail to properly distribute the wastewater through the drainfield and could cause the system to back up.

**Montgomery County**
***Ten-Year Comprehensive Water Supply and Sewerage Systems Plan***
**(Approved November 2003)**

The County's Department of Permitting Services (DPS), Well and Septic Section, is responsible for the administration and enforcement of County and State laws and regulations governing on-site, individual sewerage systems….

DPS fulfills these responsibilities by reviewing preliminary plans and record plats for properties served by on-site systems, issuing permits for, and inspecting, the construction of new and replacement systems, and by responding to complaints concerning on-site systems. Testing a property for a new septic system involves two tests: 1) the water table test to determine the probable highest level of water-saturated soil, and 2) the percolation test to determine the speed at which fluids percolate through the soil. (page 4-62)

[7] COMAR, 27A.00.01.03

Following permit approval, DPS inspects OWTS after the trenches have been dug to full length and depth and the septic tank has been installed. DPS conducts a second inspection following the installation of all stone, pipe and geotextile fabric and the connection of the septic tank to the trenches.

As stated on the County's website, the testing and permitting requirements are intended to ensure that OWTS meet regulatory requirements "at least when … septic systems are installed."[8] In other words, the County currently has no protocol to routinely inspect an existing OWTS for adequate function or possible failure after initial installation of the system. Moreover, as stated in the *Ten-Year Comprehensive Water Supply and Sewerage Systems Plan,* "DPS does not currently maintain a comprehensive database of septic problems throughout the County."[9]

DPS maintains records of permitted OWTS in the County. In addition, the Department responds to complaints about OWTS and takes enforcement action when necessary to achieve compliance with regulatory requirements.

The next section of this report presents alternative models to regulate and improve the performance of existing OWTS.

[8] Department of Environmental Protection website, *Private Well and Septic Service,* https://www.montgomerycountymd.gov/DEP/water/private-wells-and-septics.html
[9] *Ten-Year Comprehensive Water Supply and Sewerage Systems Plan,* page 4-62.

## SECTION 2: OWTS MANAGEMENT MODELS

In the United States, state, local, and tribal governments are responsible for establishing and enforcing OWTS-related laws and regulations.[10] However, most jurisdictions limit regulation of OWTS to permitting at the time of installation. As noted by USEPA, "few programs address onsite system operation and maintenance, resulting in failures that lead to unnecessary costs and risks to public health and water resources."[11]

As is the predominant practice in the United States, Montgomery County focuses its regulation of OWTS on approval of initial design and inspection of a new system at the time of installation. The County does not require any post-installation OWTS inspection nor does it mandate any on-going system maintenance. Nonetheless, as described in Section 1.B., existing OWTS that are not properly maintained can produce significance public health and environmental concerns. The USEPA describes the importance of life-cycle management of OWTS:

> "Proper management of decentralized systems involves implementation of a comprehensive, life-cycle series of elements and activities that address public education and participation, planning, performance, site evaluation, design, construction, operation and maintenance, residuals management, training and certification/licensing, inspections and monitoring, corrective actions, recordkeeping/inventorying/reporting, and financial assistance and funding." [12]

This section presents five management models developed by the United States Environmental Protection Agency (USEPA) as part of voluntary national guidelines intended to improve the performance of OWTS. The five models appear in a 2003 USEPA publication, *Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems.*[13] The five models presented below are conceptual approaches to life-cycle management with progressively increasing controls. The controls in each of the five models exceed current requirements in place in Montgomery County. The following pages briefly explains each of the models. A description of each model excerpted from the USEPA guidelines appears in the shaded boxes below. Additional details about each model appear in the table on page 11.

[10] United States Environmental Protection Agency, *Onsite Wastewater Treatment Systems Manual*, page 2-6.
[11] *Ibid*., page xiv.
[12] United States Environmental Protection Agency, *Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems*, EPA 832-B-03-001, page 3, March 2003.
[13] *Ibid*.

## 2.A. Model #1: Homeowner Awareness

USEPA's first level model is called "Homeowner Awareness." EPA considers this model appropriate in areas with low environmental sensitivity where OWTS require minimum owner attention. This model includes two primary components:

1. **The regulatory authority documents and inventories all OWTS located in the jurisdiction; and**

2. **The regulatory authority routinely sends periodic notices to remind property owners of the need for regular OWTS maintenance.**

This model features shared responsibility between the government and property owners. The government must incur the cost to develop and maintain an accurate and up-to-date database of OWTS and to implement a procedure for routine notification of property owners. Property owners, in turn, are responsible for voluntarily entering into contracting with service providers to perform necessary OWTS maintenance functions. This model further requires the availability of properly trained service providers in the area.

**EPA OWTS Management Model #1**
***Homeowner Awareness***

This program specifies appropriate management practices where treatment systems are owned and operated by individual property owners in areas of low environmental sensitivity, i.e., no restricting site or soil conditions such as shallow water tables or drinking water wells within locally determined horizontal setback distances. This model is applicable where treatment technologies are limited to conventional systems, which are passive and robust treatment systems that can provide acceptable treatment under suitable site conditions despite a lack of attention by the owner. Failures that might occur and continue undetected will pose a relatively low level of risk to public health and water resources. The objectives of this management model are to ensure that all systems are sited, designed, and constructed in compliance with sound, prevailing rules; all systems are documented and inventoried by the regulatory authority; and system owners are informed of the maintenance needs of their systems through timely reminders. The model is intended to provide an accurate record of the types and location of installed systems, to raise homeowners' awareness of basic system maintenance requirements, and to better ensure that the homeowners attend to those deficiencies that overtly threaten public health. This model, like all management programs described in this guidance, suggests the use of only trained and licensed/certified service providers. This model is a starting point for enhancing management programs because it provides communities with a good database of systems and their application for determining whether increased management practices are necessary. [14]

[14] United States Environmental Protection Agency, *Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems*, EPA 832-B-03-001, page 19, March 2003.

### 2.C. Model #2: Maintenance Contract

USEPA recommends the "Maintenance Contract" model in areas where more complex OTWS designs are needed to properly treat wastewater. This model includes three primary components (the first two being identical to those of Model #1, the Homeowner Awareness model).

1. **The regulatory authority documents and inventories all OWTS located in the jurisdiction;**

2. **The regulatory authority routinely sends periodic notices to remind property owners of the need for regular OWTS maintenance; and**

3. **The regulatory authority may not permit an OWTS unless the property owner has a current contract with a trained and licensed service provider to perform proper and timely maintenance.**

Similar to the Homeowner Awareness model, this model also divides responsibility between the government and property owners albeit at a heightened level for both entities. Under this model, the property owner bears the responsibility and cost of entering into an on-going maintenance contract. For the government, this model adds the responsibility and cost to regulate compliance with the maintenance contract requirement. The local availability of trained and licensed service providers is an essential element of the Maintenance Contract model.

**EPA OWTS Management Model #2**
***Maintenance Contract***

The Maintenance Contract Model employs more complex system designs to enhance the capacity of conventional systems to accept and treat wastewater or where small clusters are used. For example, pretreating wastewater to remove non-biodegradable materials and particulate matter that typically pass through a septic tank may enhance subsurface infiltration system performance on marginally suitable sites (sites with limited area, slowly permeable soils, or shallow water tables). However, such pretreatment units can have mechanical components and sensitive treatment processes, which require routine observation and maintenance if they are to perform satisfactorily. Maintenance of these more complex systems is critical to sustaining acceptable protection in these areas of greater environmental sensitivity. Therefore, these systems should be allowed only where trained operators are under contract to perform timely operation and maintenance. The objectives of this model build on the Homeowner Awareness Model by ensuring that property owners maintain maintenance contracts with trained operators. [15]

[15] *Ibid*., page 19.

### 2.C. Model #3: Operating Permit

USEPA recommends the "Operating Permit" model in areas where sustained performance of OWTS is critical to protect public health and water quality. This model includes two primary components:

1. **The regulatory authority issues limited-term operating permits that are renewable for another term if the property owner demonstrates that the system is in compliance with the terms and conditions of the permit; and**

2. **The regulatory authority establishes performance requirements that include different maintenance, treatment, and inspection standards for different areas of the jurisdiction.**

In contrast to the previous two models, the Operating Permit model requires the government to expand OWTS regulation beyond initial installation to include periodic re-permitting during the active life of the system. The government would incur the cost of creating a re-permitting process as well as the cost of implementing all inspection and testing protocols associated with re-permitting. Under this model, the property owner bears the responsibility and cost of maintaining the OWTS as necessary to meet regulatory standards throughout the life of the system. In most cases, the property would have to contract with a maintenance service provider. The local availability of trained and licensed service providers is an essential element of the Operating Permit model.

**EPA OWTS Management Model #3**
***Operating Permit***

The Operating Permit Model is recommended where sustained performance of onsite wastewater treatment systems is critical to protect public health and water quality. Examples of locations where this program might be appropriate include areas adjacent to estuaries or lakes where excessive nutrient concentrations may be a concern or situations where a source water assessment has identified onsite systems as potential threats to drinking water supplies. EPA strongly recommends that this be the minimum model used where large-capacity systems or systems treating high-strength wastewaters are present.... A principal objective of this management program is to ensure that the onsite wastewater treatment systems continuously meet their performance criteria. Limited-term operating permits are issued to the property owner and are renewable for another term if the owner demonstrates that the system is in compliance with the terms and conditions of the permit. In subareas where it is appropriate to use conventional onsite system designs, the operating permit may contain only a requirement that routine maintenance be performed in a timely manner and the condition of the system be inspected periodically. With complex systems, the treatment process will require more frequent inspections and adjustments, so process monitoring may be required. An advantage to implementing the program elements and activities of this management program is that the design of treatment systems is based on performance criteria that are less dependent on site characteristics and conditions. Therefore, systems can be used safely in more sensitive environments if their performance meets those requirements reliably and consistently. The operating permit provides a mechanism for continuous oversight of system performance and negotiating timely corrective actions or levying penalties if compliance with the permit is not maintained. To comply with these performance standards, the property owner should be encouraged to hire a licensed maintenance provider or operator. [16]

[16] *Ibid*., pages 19-20.

### 2.D. Model #4: Responsible Management Entity Operation and Maintenance

USEPA recommends the "Responsible Management Entity Operation and Maintenance" model where large numbers of onsite and clustered systems must meet specific water quality requirements because the sensitivity of the environment is high. Under this option, a public or private "responsible management entity" (RME) is responsible for maintaining OWTS. This model includes three primary components:

1. **The regulatory authority issues operating permits to an RME rather than to the property owner;**

2. **The RME is responsible for retaining the requisite managerial, financial, and technical capacity to implement on-going long-term operation and maintenance of OWTS in compliance with regulatory standards; and**

3. **The property owner pays a service fee to the RME.**

The RME Operation and Maintenance model shifts most responsibility from the property owner and the government to a third party. The property owner's responsibility is limited to paying a service fee; the government must only establish regulatory standards for on-site wastewater treatment. (States may need to establish a regulatory structure to oversee service fee rate setting.) The RME assumes responsibility for all other OWTS operation and maintenance functions.

**EPA OWTS Management Model #4**
***Responsible Management Entity Operation and Maintenance***

The Responsible Management Entity (RME) Operation and Maintenance Model is recommended where large numbers of onsite and clustered systems must meet specific water quality requirements because the sensitivity of the environment is high, e.g., wellhead protection areas or shellfish waters. Frequent and highly reliable operation and maintenance is required to ensure water resource protection. Issuing the operating permit to an RME instead of the property owner provides greater assurance of control over performance compliance. This allows the use of performance based systems in more sensitive environments than the Operating Permit Model. For a service fee, an RME takes responsibility for the operation and maintenance. This approach can reduce the number of permits and the administration functions performed by the regulatory authority. System failures are also reduced as a result of routine and preventive maintenance. The operating permit system is identical to that of the Operating Permit Model except that the permittee is a public or private RME. States may need to establish (and some already have) a regulatory structure to oversee the rate structures that RMEs establish and any other measures that a public services commission would normally undertake to manage private entities in noncompetitive situations. [17]

[17] *Ibid*., page 20.

### 2.E. Model #5: Responsible Management Entity Ownership

The "Responsible Management Entity Ownership" model is a variation of the RME Operation and Maintenance model, with the exception that ownership of the OWTS resides with the RME rather than with the property owner. The RME serves as a type of regional sewerage provider that owns, operates, and manages a collection of OWTS. Under this model, the RME is solely responsible for all elements of OWTS management including planning, installation, operation, and maintenance. The RME would have the authority to upgrade or replace existing systems as necessary or to install clustered systems to serve multiple properties. USEPA recommends the RME Ownership model where new, high-density development is proposed in the vicinity of sensitive receiving waters. This model includes three primary components (the first being identical to those of the RME Operation and Maintenance model).

1. **The regulatory authority issues operating permits to an RME rather than to the property owner;**

2. **The RME owns, operates, maintains, upgrades, and replaces OWTS in compliance with regulatory standards; and**

3. **The government implements a funding mechanism to support the RME.**

This model places all OWTS planning, installation, operation or maintenance responsibility exclusively with the RME. The property owner served by the OWTS retains none of these responsibilities. The government establishes regulatory standards, maintains a permitting function, and devices a program for funding the RME.

**EPA OWTS Management Model #5**
***Responsible Management Entity Ownership***

The Responsible Management Entity Ownership Model is a variation of the RME operation and maintenance concept in the RME Operation and Maintenance Model, with the exception that ownership of the system is no longer with the property owner. The designated management entity owns, operates, and manages the decentralized wastewater treatment systems in a manner analogous to central sewerage. Under this approach, the RME maintains control of planning and management, as well as operation and maintenance. This management model is appropriate for environmental or public health conditions similar to those for the RME Operation and Maintenance Model, but Model 5 provides a higher level of control of system performance. It also reduces the likelihood of disputes that can occur between the RME and the property owner in the RME Operation and Maintenance Model when the property owner fails to fully cooperate with the RME. The RME can also more readily replace existing systems with higher-performance units or clustered systems when necessary. EPA recommends implementation of the management practices detailed in the RME Ownership Model in cases such as where new, high-density development is proposed in the vicinity of sensitive receiving waters. States might need to establish a regulatory structure to oversee the rate structures that RMEs establish and any other measures that a public services commission would normally undertake to manage entities in noncompetitive situations. [18]

[18] *Ibid*., page 20.

## Summary of USEPA On-site Wastewater Treatment System Management Models

**TABLE 1: SUMMARY OF MANAGEMENT MODELS**

| TYPICAL APPLICATIONS | PROGRAM DESCRIPTION | BENEFITS | LIMITATIONS |
|---|---|---|---|
| **MODEL 1** - HOMEOWNER AWARENESS MODEL | | | |
| • Areas of low environmental sensitivity where sites are suitable for conventional onsite systems. | • Systems properly sited and constructed based on prescribed criteria.<br>• Owners made aware of maintenance needs through reminders.<br>• Inventory of all systems | • Code-compliant system.<br>• Ease of implementation; based on existing, prescriptive system design and site criteria.<br>• Provides an inventory of systems that is useful in system tracking and area-wide planning. | • No compliance/problem identification mechanism.<br>• Sites must meet siting requirements.<br>• Cost to maintain database and owner education program. |
| **MODEL 2** - MAINTENANCE CONTRACT MODEL | | | |
| • Areas of low to moderate environmental sensitivity where sites are marginally suitable for conventional onsite systems due to small lots, shallow soils, or low-permeability soils.<br>• Small clustered systems. | • Systems properly sited and constructed.<br>• More complex treatment options, including mechanical components or small clusters of homes.<br>• Requires service contracts to be maintained.<br>• Inventory of all systems.<br>• Service contract tracking system. | • Reduces the risk of treatment system malfunctions.<br>• Protects homeowner investment. | • Difficulty in tracking and enforcing compliance because it must rely on the owner or contractor to report a lapse in a valid contract for services.<br>• No mechanism provided to assess effectiveness of maintenance program. |
| **MODEL 3** - OPERATING PERMIT MODEL | | | |
| • Areas of moderate environmental sensitivity such as wellhead or source water protection zones, shellfish growing waters, or bathing/water contact recreation.<br>• Systems treating high-strength wastes or large-capacity systems. | • Establishes system performance and monitoring requirements.<br>• Allows engineered designs but may provide prescriptive designs for specific receiving environments.<br>• Regulatory oversight by issuing renewable operating permits that may be revoked for noncompliance.<br>• Inventory of all systems.<br>• Tracking system for operating permit and compliance monitoring.<br>• Minimum for large-capacity systems. | • Allows systems in more environmentally sensitive areas.<br>• Operating permit requires regular compliance monitoring reports.<br>• Identifies noncompliant systems and initiates corrective actions.<br>• Decreases need for regulation of large systems.<br>• Protects homeowner investment. | • Higher level of expertise and resources for regulatory authority to implement.<br>• Requires permit tracking system.<br>• Regulatory authority needs enforcement powers. |
| **MODEL 4** - RESPONSIBLE MANAGEMENT ENTITY (RME) OPERATION AND MAINTENANCE MODEL | | | |
| • Areas of moderate to high environmental sensitivity where reliable and sustainable system operation and maintenance (O&M) is required, e.g., sole source aquifers, wellhead or source water protection zones, critical aquatic habitats, or outstanding value resource waters.<br>• Clustered systems. | • Establishes system performance and monitoring requirements.<br>• Professional O&M services through RME (either public or private).<br>• Provides regulatory oversight by issuing operating or NPDES permits directly to the RME. (System ownership remains with the property owner.)<br>• Inventory of all systems.<br>• Tracking system for operating permit and compliance monitoring. | • O&M responsibility transferred from the system owner to a professional RME that is the holder of the operating permit.<br>• Identifies problems needing attention before failures occur.<br>• Allows use of onsite treatment in more environmentally sensitive areas or for treatment of high-strength wastes.<br>• Can issue one permit for a group of systems.<br>• Protects homeowner investment. | • Enabling legislation may be necessary to allow RME to hold operating permit for an individual system owner.<br>• RME must have owner approval for repairs; may be conflict if performance problems are identified and not corrected.<br>• Need for easement/right of entry.<br>• Need for oversight of RME by regulatory authority. |
| **MODEL 5** - RESPONSIBLE MANAGEMENT ENTITY (RME) OWNERSHIP MODEL | | | |
| • Areas of greatest environmental sensitivity where reliable management is required. Includes sole source aquifers, wellhead or source water protection zones, critical aquatic habitats, or outstanding value resource waters.<br>• Preferred management program for clustered systems serving multiple properties under different ownership (e.g., subdivisions). | • Establishes system performance and monitoring requirements.<br>• Professional management of all aspects of decentralized systems through public/private RMEs that own or manage individual systems.<br>• Qualified, trained, owners and licensed professional owners/operators.<br>• Provides regulatory oversight by issuing operating or NPDES permit.<br>• Inventory of all systems.<br>• Tracking system for operating permit and compliance monitoring. | • High level of oversight if system performance problems occur.<br>• Simulates model of central sewerage, reducing the risk of noncompliance.<br>• Allows use of onsite treatment in more environmentally sensitive areas.<br>• Allows effective area-wide planning/watershed management.<br>• Removes potential conflicts between the user and RME.<br>• Greatest protection of environmental resources and owner investment. | • Enabling legislation and/or formation of special district may be required.<br>• May require greater financial investment by RME for installation and/or purchase of existing systems or components.<br>• Need for oversight of RME by regulatory authority.<br>• Private RMEs may limit competition.<br>• Homeowner associations may not have adequate authority. |

## SECTION 3: CASE STUDIES

This section presents case studies of four jurisdictions that have implemented life-cycle regulation of the OWTS. In each case, the State or County approves design and inspects OWTS at the time of system installation (as is done in Montgomery County) but also mandate additional on-going notification, maintenance, and/or maintenance requirements throughout the operational life of the system. The case studies selected by OLO each align with the USEPA "Homeowner Awareness," "Maintenance Contract," or "Operating Permit" models (models #1, #2 and #3) described in the previous section. This report does not present case studies from the two USEPA "Responsible Management Agency" models (models #4 and #5) as these approaches represent more far-reaching regulation than previously discussed by the Council.

Each of four case studies includes elements of USEPA management models #1, #2, and #3. The case studies appear on the next four pages, including descriptions of OWTS programs in:

1. Albemarle Region, North Carolina
2. Fairfax County, Virginia
3. Monroe County, Florida
4. Hamilton County, Ohio

Following a brief overview of OWTS in the jurisdiction, the case study presents summary information about:

- The number of on-site wastewater systems;
- Inspection/maintenance requirements;
- Enforcement practices;
- Program management and staffing;
- Budget and funding; and
- Data management.

# REVIEW OF CONVENTIONAL ONSITE TREATMENT SYSTEM LAWS AND REGULATION

**Prepared By:**
**Montgomery County Department of Environmental Protection**
**Intergovernmental Affairs Division**
**February 2021**

## PURPOSE:

To review Onsite Wastewater Treatment Systems (OWTS) laws and regulations in other similar jurisdictions and make a recommendation for future Montgomery County legislation and regulation.

## INTRODUCTION:

Onsite Wastewater Treatment Systems (OWTS) are used to treat wastewater from a home or business and return treated wastewater back into the environment. OWTS design and size can vary significantly due to several factors. These factors include soil type, site characteristics, lot size, proximity to sensitive water bodies, climate, household size, and local programs and regulations.

On-site wastewater treatment systems are typically referred to as septic systems, as most incorporate a septic tank for removing solids and a drainfield for additional treatment. For the purposes of this report, these types of onsite wastewater disposal systems are usually referred to as conventional systems. Currently more than 90% of on-site wastewater treatment systems in Montgomery County are conventional systems. **In this report the Onsite Wastewater Treatment System (OWTS) refers to Conventional Systems only.**

The type of operation and maintenance required for OWTS depend on several factors, including quality and quantity of wastewater discharged into the OWTS and hydrogeological site conditions. The U.S. Environmental Protection Agency (EPA) provides a wealth of technical information as well as guidelines on OWTS siting, design, installation, and proper operation and maintenance.

Regulations are the responsibility of state and local jurisdictions and usually local environmental conditions dictate the development of regulations and management programs. Many states in the country have developed their own basic regulations while providing local jurisdictions the ability to establish more robust regulations based on their local conditions, resources, and needs.

The Montgomery County Department of Permitting Services (DPS) is the regulating authority for OWTS in Montgomery County, Maryland. DPS issues permits for the installation of OWTS. Once an OWTS is designed, constructed, inspected, and operational, proper operation and maintenance becomes the sole responsibility of the property owner for the entire life of the system. After an OWTS system in the county is constructed and becomes operational, regular maintenance or periodic inspections are not required. However, mortgage lenders often require a septic inspection be conducted as part of their loan approval process during a property transfer.

## The Need for Proper Operation and Maintenance of OWTS in Montgomery County:

Maintenance is critical to the proper functionality of OWTS. Without proper maintenance, OWTS pose a threat to public health and the environment. Proper maintenance of OWTS typically includes periodic system inspections and the removal of solids accumulated in the septic tank over time through system pump-outs. Several states across the nation have developed regulations requiring statewide routine maintenance and inspection for their OWTS. Most states in this country delegate this responsibility to the local authorities to develop protocols. These protocols are, based on local environmental conditions, and require OWTS owners to regularly inspect and maintain their systems.

The Office of Legislative Oversight (OLO), tasked by the County Council in 2016, prepared OLO Memorandum 2017-5 (attached). Presented in this report are several potential alternative models used by other jurisdictions in the country, for the regulation and maintenance of OWTS. This review is intended to supplement and further expand on the OLO report.

The development and establishment of an OWTS management program in Montgomery County is critical for the health and welfare of its citizen and the environment. Many jurisdictions within Maryland and across the country have these programs in place. Neighboring jurisdictions, located within the Chesapeake Bay Watershed, were prioritized in this research. Also included are states and local jurisdictions across the United States, who have established innovative and robust maintenance programs.

**MARYLAND:** According to the Maryland Department of the Environment (MDE), approximately 420,000 households in Maryland rely on OWTS to treat their wastewater. The Maryland Department of the Environment (MDE), through the Code of Maryland Regulations (COMAR) chapter 26, provides guidance, technical assistance, and direction to counties and local approving authorities for the implementation of delegated programs for OWTS. This generally includes OWTS site selection, system design, and installation. Once operational, the responsibility for proper operation and maintenance becomes the sole responsibility of the property owner over the life of an OWTS.

Enforcement: None for conventional OWTS.
Right of Entry: None for conventional OWTS.
Penalties: None for conventional OWTS. (For Best Available Technology (BAT) systems, a fine of not less than $50 and not more than $100 for each offense which is compounded daily).
Funding: None available for conventional OWTS through the State.

*It should be noted that the above discussion regarding OWTS in Maryland applies only to conventional systems and does not include systems installed through the BAT Program for enhanced nutrient reduction. The operation and maintenance of BAT systems in Maryland including Montgomery County are regulated and include regular inspection and pump-outs, a recorded easement allowing the County to enter the property to inspect systems, and a contractual agreement between the owner and a licensed contractor for maintaining the system. Further information can be accessed here:*

https://mde.maryland.gov/programs/water/bayrestorationfund/onsitedisposalsystems/pages/index.aspx

Several local jurisdictions have developed regulations or programs to enforce and encourage proper OWTS maintenance in Maryland. Some of these local jurisdictions include:

- **Queen Anne's County:** In general, every OWTS s septic tank (except holding tanks and those with BAT systems) must be pumped out at least once every five years. System inspection in lieu of such a pump-out may be allowed. System inspection includes internal measurement of the solids in the tank measured by licensed liquid waste hauler and verification that the OWTS system is functioning properly. Violators may be issued civil citations and subject to a fine not exceeding $500.00 for a first offense and not exceeding $1,000.00 for a second or subsequent offense. It should be noted that much of Queen Anne's County is within Chesapeake Bay Critical Area and is the only jurisdiction in the State of Maryland that has adopted regulations requiring mandatory pump-out of OWTS. https://www.qac.org/DocumentCenter/View/1713/Ord-08-09-PDF?bidId=

- **Frederick County:** The County has implemented a rebate program in the amount of $75 for system pump-out by a licensed hauler every five years and recommends inspection of OWTS yearly. The purpose of these programs is to encourage proper maintenance and is not a regulatory requirement.

- **Howard County:** The County offers an incentive program aiming to promote proper OWTS systems maintenance. The offer is $100 to owners or operators of OWTS who pump their septic tanks every 3-5 years. Funds are limited, granted on a first-come, first served basis. No regulations exist requiring inspection/pump-outs in Howard County. The purpose of these programs is to encourage proper maintenance and is not a regulatory requirement.

- **Baltimore County:** No regulations/programs being implemented but studies have been conducted to adopt regulations including one in 1999. (http://resources.baltimorecountymd.gov/Documents/Environment/watersewerservice.pdf

- **Charles County:** Charles County residents with OWTS are eligible once every 3 years for reimbursement of a system pump-out. For properties outside of the Chesapeake Bay Critical Area, 50% of the pump-out fee is reimbursed up to $187.50. For properties inside the Chesapeake Bay Critical Area, 75% of the pump-out fee is reimbursed up to $187. The County also provides a Septic Riser Installation Reimbursement Program encouraging property owners with existing septic systems to have tank risers installed when their septic system is pumped out. Owners can apply for this reimbursement in the amount of $100 at the same time as the reimbursement for a Septic System Pump Out. The purpose of these programs is to encourage proper maintenance and is not a regulatory requirement.

**VIRGINIA:** In Virginia, the Department of Environmental Quality (DEQ) provides a variety of programs to support OWTS maintenance, repair and installation. These DEQ programs include the Clean Water Financing and Assistance Program, implementation of the Chesapeake Bay Preservation Act and the Watershed Program. These programs are administered by DEQ but are carried out at the local level. The Chesapeake Bay Preservation Act is the only mandatory Virginia Code which requires all OWTS within the Chesapeake Bay Preservation Area (CBPA) be inspected/pumped out at least once every five years by certified contractors. This applies to existing homes and businesses as well as new development. Additional information can be accessed here:
**https://www.deq.virginia.gov/Programs/Water/ChesapeakeBay/ChesapeakeBayPreservationAct.aspx**
**https://law.lis.virginia.gov/vacodefull/title62.1/chapter3.1/article2.5/**

*Enforcement:* Covered by the State only for jurisdictions within the CBPA and delegated to local authorities.

*Right of Entry:* Covered by the State only for jurisdictions within the CBPA and delegated to local authorities

*Penalties:* Covered by the State only for jurisdictions within the CBPA and delegated to local authorities. (*Any person who violates the provisions of the CBPA can be assessed a civil penalty not to exceed five thousand dollars ($5,000.00) for each day of violation. With the consent of any person who violates any provision related to protection of water quality in a designated CBPA, or violates or fails, neglects or refuses to obey any county or board notice, order, rule, regulation, variance or permit condition authorized under the county Code or Virginia law, the county may provide for an issuance of an order against such person for the one-time payment of civil charges for each violation in specific sums, not to exceed ten thousand dollars ($10,000.00) for each violation.*)

*Funding:* None Available

- **Fairfax County:** Fairfax County administers state and local regulations for OWTS to ensure proper operation and maintenance. The County is located within the Chesapeake Bay Preservation Area (CBPA) and OWTS within this area are required to be inspected/pumped-out once every five years and documentation of the pump-out must be provided. The CBPA also requires the local authorities to provide homeowner education as needed and to take enforcement action when necessary.

  Should an owner fail to perform a pump-out after receipt of a written notice of violation to the owner, the County may request the Director of Public Works and Environmental Services to perform the pump-out, regardless of whether the premises are occupied. If the owner, occupant, or other person responsible for the premises denies free access for this purpose, the Administrative Authority may proceed after obtaining a warrant. Cost and expenses incurred by the Administrative Authority in performing the pump-out are assessed against the property and are recoverable from the owner in the same way as taxes and levies.

  Compliance to Fairfax County regulations related to right of entry and inspection of OWTS is covered under the provisions of the Individual Sewage Disposal Facilities Code of Fairfax County, Virginia (Chapter 68, Article 2, Section 68). Under these regulations, the County is authorized to inspect any OWTS maintained on any premises in the County, including any building or structure thereon, for the purpose of ascertaining whether such systems are operating or are constructed satisfactorily. If any such system is found to be malfunctioning or improperly constructed, the County shall notify the owners of the premises served to comply with requirements. If any person refuses to allow the County to enter the premises, the Administrative Authority may proceed after obtaining an inspection warrant.

  Under Section 68.1-1-3, the violators of this Chapter shall be deemed guilty of a Class 2 misdemeanor and each day any violation of this Chapter shall constitute a separate offence. Additional information can be accessed here:
  https://www.fairfaxcounty.gov/health/sewage-and-water

- **Loudon County:** The County is not located within the CBPA but has established program and regulations for proper operations and maintenance of OWTS. Chapter 1066 of the Codified Ordinances of Loudoun County enacted in 1994 (amended in 2011) provides for

the proper operation and maintenance of OWTS. It requires owners/operators to pump-out OWTS system by a licensed contractor at least once every five (5) years and provide documentation of the subject maintenance at the request of the County. In lieu of the required 5-year pump-out, the owner may submit documentation annually, certified by an individual who is licensed or certified under Code of Virginia that the system has been inspected, is functioning properly. This documentation, including sludge and scum accumulation depths, must be submitted every two (2) years after the initial five (5)-year report until the tank is pumped.

Failure by an operator to submit a pump-out report within the required time frame may result in a fifty-dollar ($50.00) fine for each summons. Failure by an owner to pump-out a septic tank within the required time frame may result in a one hundred-dollar ($100.00) fine for an initial summons and a one hundred fifty-dollar ($150.00) fine for each additional summons.

The County Health Director may inspect OWTS, at any premises in the County, for the purpose of determining if such is being operated and maintained in a sanitary manner. Such inspection shall be done at reasonable times and, whenever practical, in the company of the owner or occupant of the premises. Repairs, and significant component replacements of an existing OWTS shall be permitted and inspected by the Health Director.

Further enforcement is provided under Section 202.99 of the Codified Ordinances of Loudoun County. Under Section 202.99, whoever violates or fails to comply with any of the provisions of these Codified Ordinances will be guilty of a Class 1 misdemeanor and shall be fined not more than two thousand five hundred dollars ($2,500) or imprisoned not more than twelve months, or both, plus costs of prosecution, for each offense.

Right of entry relative to OWTS in Loudoun County is provided under the State Code: "§ 32.1-25 which states: "*Upon presentation of appropriate credentials and upon consent of the owner or custodian, the Commissioner or his designee shall have the right to enter at any reasonable time onto any property to inspect, investigate, evaluate, conduct tests or take samples for testing as he reasonably deems necessary in order to determine compliance with the provisions of any law administered by the Board, Commissioner or Department, any regulations of the Board, any order of the Board or Commissioner or any conditions in a permit, license or certificate issued by the Board or Commissioner. This right of entry shall not apply to privileged communications pursuant to § 8.01-581.17. If the Commissioner or his designee is denied entry, he may apply to an appropriate Circuit Court for an inspection warrant authorizing such investigation, evaluation, inspection, testing or taking of samples for testing as provided in Chapter 24 (§ 19.2-393 et seq.) of Title 19.2.*" Additional information can be accessed here: https://www.loudoun.gov/331/Onsite-Water-Sewage-Information

- **Stafford County:** The county is within Virginia's CBPA and in accordance with the Virginia Administrative Code, 9VAC25-830-130, Stafford County is required to implement the State mandated program requiring that OWTS be pumped out every five (5) years. Property owners with septic systems will be notified on a rotating basis once every five years (5) to have their septic system pumped out.

  The director of the Department of Utilities of the Stafford County and other duly authorized employees of the County bearing proper credentials and identification shall be permitted to enter all properties for the purpose of inspection, observation, measurement, sampling and

testing of OWTS. *(Other State of Virginia laws including right of entry to inspect (§32.1-25) and CBPA regulations concerning relevant noncompliance penalties maybe applicable)*

Other related regulations concerning right to enter for inspection purposes could not be found directly from Stafford County webpages. However, it appears right to enter properties to inspect OWTS is covered under the State of Virginia Law § 32.1-25 (Right of entry to inspect). Under these regulations; upon presentation of appropriate credentials and upon consent of the owner or custodian, the Commissioner or his designee shall have the right to enter at any reasonable time onto any property to inspect, investigate, evaluate, conduct tests or take samples for testing as he reasonably deems necessary in order to determine compliance with the provisions of any law administered by the Board, Commissioner or Department, any regulations of the Board, any order of the Board or Commissioner or any conditions in a permit, license or certificate issued by the Board or Commissioner. This right of entry shall not apply to privileged communications pursuant to § 8.01-581.17. If the Commissioner or his designee is denied entry, he may apply to an appropriate circuit court for an inspection warrant authorizing such investigation, evaluation, inspection, testing or taking of samples for testing as provided in Chapter 24 (§ 19.2-393 et seq.) of Title 19.2. Additional information can be accessed here: https://staffordcountyva.gov/2076/Septic-System-Pumpout-Program

- **Henrico County:** Henrico County requires all OWTS owners to have their septic system pumped out by a licensed sewage handler at least once every five (5) years. This is in accordance with Henrico County's Chesapeake Bay Preservation Ordinance, Chapter 24-106.3. Septic system owners may submit documentation of inspection by a certified operator or on-site soil evaluator within the last 5 years indicating the system is functioning properly and does not need to be pumped out, as an alternative to this pump-out requirement. (*Please note: Relevant information concerning program enforcement and compliance could not be found from the Henrico County websites. However, like Stafford County (above), State of Virginia laws including right of entry to inspect (§32.1-25) and CBPA regulations concerning relevant noncompliance penalties maybe applicable)*. Additional information can be accessed here: https://henrico.us/works/engineering-environmental-services/septic-system-pump-outinspection-program/

**PENNSYLVANIA:** The Pennsylvania Sewage Facilities Act requires local governments to address existing sewage disposal needs, and help prevent future problems through the proper planning, permitting, and design of all types of sewage facilities. There are statewide regulations about the construction and design of new septic systems. However, required maintenance and inspection regulations are left up to counties and municipalities as part of their individual Sewage Management Plans (SMPs). The state has funding mechanisms in place to aid local governments in planning and implementing their plans, as well as funding mechanisms for private citizens to help with the costs of maintaining their systems.

Pennsylvania requires local governments to adopt maintenance plans for all septic systems and cesspools located in their districts. For example, Hopewell Township, York County requires homeowners to pump-out and inspect their conventional OWTS once every four years by a certified contractor.

*Enforcement:* PA Department of Environmental Protection

*Right of Entry:* None - delegated to local authorities
*Penalties:* None - delegated to local authorities
*Funding:* Property owner funded. However, several grant/loan programs are available including:

- Act 13 Marcellus Legacy Fund. This grant program assists municipalities and local agencies in administering their Act 537 planning responsibilities. This is an annual grant program administered by the Department of Community and Economic Development (DCED) through the Commonwealth Financing Authority (CFA).
- Pennsylvania Infrastructure Investment Authority (PENNVEST). Low interest loans are offered to qualified private landowners to assist in the repair of malfunctioning on-lot sewage disposal systems.
- Single Family Housing Repair Loans and Grants Program, otherwise known as the Section 504 Home Repair Program. This program is administered by the United States Department of Agriculture Rural Development and can provide funding to low income homeowners for OLDS repair and replacement.

- **Hopewell Township, York County:** Mandatory pump-out and inspection every 4 years, Township contacts owner in January to have done by August (frequency can be increased if issues are found). The septic contractor is required to submit the results of the inspection and pump-out to the Township within 30 days of completion. The Township developed their own septic system report form for contractors to fill out. Penalty for non-compliance is a $1,000 fine and up to 90 days jail time. Failing systems are reported by septic contractors to the Township. If the property owner will not repair or replace the failing system, the Township will take over responsibility. The Township will issue a lien on the property to recoup costs. Additional information can be accessed here: https://www.hopewelltownship.com/wp-content/uploads/2017/05/OLDS_ordinance.31675140.pdf

**DELAWARE:** Delaware, through regulation 7 DE Admin. Code 7101 (4.12.6.5.5), administers an operation and maintenance program of OWTS across the state. Owners/operators are responsible for operating and maintaining their on-site systems. OWTS are recommended to be pumped by a licensed hauler once every three (3) years. Owner/operators of conventional OWTS must maintain all records indicating the system has been pumped. Records must be available on request; however they are not submitted to the state after a pump-out. The State may also impose specific operation and maintenance requirements for OWTS systems with performance issues. Additional information can be accessed here:
https://dnrec.alpha.delaware.gov/water/groundwater/septic-systems/

*Enforcement:* Delaware Department of Natural Resources and Environmental Control
*Right of Entry:* None
*Penalties:* No penalty, homeowner must report issues to State and provide plan for remediation.
*Funding:* Property owner funded.

**CONNECTICUT:** The State has established permit regulations for the construction, operation and maintenance of OWTS. Requirements for permit issuance includes an inspection/pump-out

agreement to be performed at least once every 5 years. Results of inspection/pump-out are recorded on a Discharge Monitoring Report (DMR), provided by the state. The DMR is submitted to the state by the end of the month in which the inspection/pump-out took place. The state authorizes municipalities to prepare and implement a Water Pollution Control Plan (WPCP) for conventional OWTS.

*Enforcement:* Department of Energy and Environmental Protection
*Right of Entry:* None
*Penalties:* State can take civil action, as well as revoke permits.
*Funding:* Property owner funded.

**WASHINGTON STATE:** Based on local environmental conditions, the State of Washington has developed and adopted location specific regulations for conventional OWTS in different parts of the state. Proper operation and maintenance are regulated through system inspections at least once every three years. OWTS inspections include complete system components (tank and drainfield).

Local governments have been given the authority to adopt their own regulations for meeting the States' inspection and maintenance requirements. In some counties resident homeowners can be certified to inspect their own system. In King County, inspection and other required maintenance related activities including pump-out must be completed by a certified contractor. In Clallam County, even though the state requires inspections by a certified contractor, the homeowners can become certified through online septic inspection training program (called Septics 201) to maintain their own OWTS. This applies only to conventional systems. Additional information can be accessed here: http://www.clallam.net/HHS/EnvironmentalHealth/Septics201DIY.html

*Enforcement:* Varies by local authority. In Clallam and King counties, the Health Officer or his/her appointed representative is authorized to enforce the provisions and take legal action including administrative, civil, or criminal. Any violation of this chapter is considered a misdemeanor.
*Right of Entry:* Varies locally. In Clallam County, whenever necessary to inspect or to determine compliance with the provisions of the regulation, the Health Officer has authorization, in accordance with federal and State law, to seek entry at reasonable times. If consent to enter is not provided by the owner, occupier, or other persons having the authority to give consent, the Health Officer shall use any remedies provided by law to secure entry, including but not limited to acquiring search warrants.
*Penalties:* In Clallam County, the Health Officer has the authority to issue a monetary penalty. The monetary penalty for violations for noncompliance with required system status inspections and reporting shall be $5 per day, not to exceed $300 per year.
*Funding:* The owner is responsible for the cost of operation and maintenance of OWTS, but State and local governments offer special loans and grants to qualified owners for repair and replacements.

**MINNESOTA:** The State requires local governments to develop and adopt their own regulations. The State also requires that every OWTS must be assessed every 3 years. All counties must adopt local OWTS ordinances that comply with state laws. Inspection requirements are based on maintenance plans and varies by local authority. In Itasca and Hennepin counties, a certificate of proper operation is required for conventional OWTS systems every three years. Inspection is to be conducted by a certified contractor. All contractors are licensed by the State of Minnesota.

*Enforcement:* Local authorities have the authority to enforce their own regulations. Additional information can be accessed here:
*https://www.hennepin.us/your-government/ordinances/ordinance-19#11*
*Right of Entry:* In Hennepin County, upon the request of the Health Authority, the applicant, owner, permittee, or any other person shall allow access at any reasonable time to the premises as well as provide any related records. If entry is refused, the Health Authority shall have recourse to the remedies provided by law to secure entry. No person shall hinder or otherwise interfere with the Health Authority in the performance of their duties and responsibilities pursuant to the enforcement of this Ordinance. Refusal to allow reasonable access to the premises shall be deemed a separate and distinct offense.
*Penalties:* Varies locally. In Hennepin County any person, firm, corporation or other entity who violates any of the provisions of the County of Hennepin Ordinance shall be guilty of a misdemeanor, punishable by imprisonment or a fine or both, as defined by law.
*Funding:* Several State and local funding programs and financial assistance including grants and financial aid are available to private citizens.

**WISCONSIN:** Wisconsin has recently (2019) adopted regulations regarding the operation and maintenance of OWTS. Additional information can be accessed here:
https://docs.legis.wisconsin.gov/code/admin_code/sps/safety_and_buildings_and_environment/380_387/383

It requires the local authority to develop and implement a comprehensive maintenance program for all OWTS. Many local governments in the state pass mandatory inspection or pumping ordinances to meet the state maintenance program requirements. The local program can license or hire their own inspectors, maintenance contractors, and installers to ensure further compliance. Bayfield County requires OWTS to be properly pumped or inspected every 3 years. Inspections may be conducted by a master plumber, journeyman plumber or by a licensed person. Similar regulations have been adopted in Walworth County. Additional information can be accessed here:
https://www.co.walworth.wi.us/535/Sanitation

*Enforcement:* Varies by local authority. In Bayfield County, noncompliance of inspection requirements constitutes a violation.
*Right of Entry:* Varies by local authority. For Bayfield County, access will be granted to any premises for the purpose of performing official duties between 8 a.m. and 8 p.m. or at other times set by mutual agreement between the property owner or his agent and the Planning and Zoning Administrator or upon issuance of a special inspection warrant in accordance with §66.122 Wisconsin Statutes. Application for a sanitary permit is considered for the purposes of this ordinance as the owner's consent to enter the premises.
*Penalties:* Varies by local authority. In Bayfield County a summons and complaint will be filed to achieve compliance. Additional penalty fee(s) may be up to $500 a day from the date of non-compliance, as well as court costs.
*Funding:* Several State and local funding programs and financial assistance including grants and financial aid to private citizens are available. The State provides financial assistance to local government units who participate in the program.

## CONCLUSION:

The state requirements for operation and maintenance program for OWTS vary. Some states have no mandatory operation and maintenance requirements, some states mandate pumping, and some states mandate inspection and pumping. Ideally, requirements for operation and maintenance of OWTS would come from the State along with a certification programs for inspectors and maintenance professionals.

While programs do differ in many ways, the following are the most prevalent requirements:

- 3- to 5-year septic tank pump-out
- OWTS maintenance is the responsibility of the property owner.
- Local authorities are responsible for enforcing compliance with regulations but do not conduct inspections or pump-outs which would require authorization or an easement to enter property.
- Maintenance records must be submitted by septic contractors to local authority.
- Inspection and pump-out are performed simultaneously, to properly inspect the system a pump out needs to be performed.
- Generally, inspections and pump-outs are conducted by a licensed or certified septic contractor. (There are a few jurisdictions in Washington State implementing programs certifying homeowners to conduct their own inspections.)
- The right to access sites (right of way -ROW) for inspection or enforcement varies among those implementing maintenance programs. For the most part, the challenges with having access or ROW has been indirectly surrogated through certified contractors. Some jurisdictions have included ROW as a condition to the original permit issuance. Some jurisdictions can access the sites indirectly through the ROW regulations for non-compliance issues. Few jurisdictions address the site access through search warrant.
- In most cases, failure to submit maintenance records results in non-compliance and monetary penalties.
- Jurisdictions provide rebates or incentives to comply with guidelines and/or regulations.

## RECOMMENDATIONS:

A mandatory pump-out requirement would be a good start on ensuring proper maintenance of OWTS in Montgomery County. Property owners should be required to maintain their OWTS by hiring approved septic contractors to perform pump-outs at least every 5 years. The County should develop a pump-out form, that septic contractors or the property owner will be required to submit to the County. The County should continue to develop the on-site systems database and incorporate pump-out records. The County should also consider a rebate program to incentivize compliance and/or establish non-compliance penalties.

**Action Items:**

1) Implementation of a vigorous outreach and education program for owners and operators of OWTS in the County.

2) Develop legislation/regulation and implement mandatory pump-outs for OWTS at least once every five years by a licensed and certified contractor.

3) Formation of an OWTS Advisory Committee composed of members from different County agencies, WSSC, owners and operators of OWTS, HOAs, OWTS contractors, and environmental groups to develop future legislation and regulation for inspection of OWTSs.

4) Within the County's planned sewer service envelope, require the owners of OWTS to connect public sewerage systems where feasible and practical.

5) Explore and develop a viable funding mechanism for the provision of public sewer service to unserved and underserved communities within the planned sewer service envelop.

6) Evaluate the County's permitting and design requirements of OWTS.

7) Investigate the United States Department of Agriculture Rural Development, Section 504 Home Repair Program for applicability in Montgomery County

# TABLE 1 - On-Site Wastewater Treatment Systems (OWTS) Operation and Maintenance requirements in other jurisdictions

| Jurisdiction | Pump-out Requirement | Inspection Requirement | Incentive Program | Licensing Requirement | Program Funding | Penalties For Non-Compliance | Remarks |
|---|---|---|---|---|---|---|---|
| Hopewell Township, York Co. PA | 4 years, Township contacts owner in Jan to have done by August (frequency can be increased if issues are found) | Performed at pump-out, Contractor submits results to township withing 30 days | No | Yes | Paid by homeowner | $1,000 fine, up to 90 days jail time | |
| Delaware | 3 years, owner must maintain records, only provide on request | No, although state can require if they deem it nessesary | No | Yes | Paid by homeowner | No fine, property owner must report to state plans to remedy situation | Permitting Administered by state, not local jurisdiction |
| Wisconcin | Pump-out frequencies are based on annual maintenance program and inspection reports. | Annual inspection reports are required as part of maintenance program. | No | Yes | Several funding programs are available from State and local agencies including grants and financial aids. | NA | Local governments required to develop and implement a comprehensive maintenance program for all OWTS systems. |
| Bayfield County, WI | Requires OWTS system owner/operator to pump-out the system every three years. | OWTS system must be inspected and reported every three years. | No | Yes | Paid by homeowner | NA | NA |
| Minnesota: | State requires local governments to develop and adopt their own regulations. The state also requires that every OWTS must be assessed every 3 years. | Inspection requirements are based on maintenace plans and varies ny local authorities | NO | Yes | Several funding programs are available through local and State agencies including grants, financial aids. | NA | All counties must adopt local OWTS ordinances that comply with state laws. |
| Itasca County, MN | Certificate of proper operation is required for OWTS systems every three years. | Inspection is included in the by a certified contractor is required every three years. | No | Yes | Paid by homeowner | NA | NA |
| Iowa | Local authorities have primary responsibility for developing and adopting additional regulations. | At the time of transfer | No | Yes | Grants and loans offered by the state to assist homeowners and businesses. | NA | Local authorities have the primary responsibility for regulating OWTS. (domestic) septic systems. |
| Woodbury County, IA | No | At the time of transfer | No | Yes | Paid by homeowner | NA | NA |
| Connecticuit | The state authorizes municipalities to prepare and implement a Water Pollution Control Plan (WPCP) for OWTS | Inspection requirements are based on maintenace plans and varies ny local authorities | No | Yes | The Connecticut Clean Water Fund (CWF) is available to help local governments. | NA | The state authorizes municipalities to prepare and implement a Water Pollution Control Plan (WPCP) for OWTS |
| Town of Clinton, Connecticut | Property owners with OWTS system are required to have their systems cleaned and inspected by at least once in every five-year period. | Once every five years | No | Yes | Paid by homeowner | NA | NA |
| Vermont | Recommend pumping when needed and also regularly | No | No | Yes | Paid by homeowner | NA | Permitting Administered by state, not local jurisdiction |
| Maine | Maintanance and inspection responcibility of property owner | No | No | Yes | Paid by homeowner | NA | NA |
| New Jersey | Recommend pumping when needed and also regularly | No | No | Yes | Paid by homeowner | NA | NA |
| Frederick County Maryland | Recommended every 5 years | Recommended yearly | $75 / 5 years | Yes | County | NA | NA |
| Maryland (BAT Systems Only) | As needed, determined by manufacturer certified contractors or manufacturer recommendation | Minimum Every Year | No | Yes, contractor certified by manufacturer of system | Paid by homeowner | a fine of not less than $50 and not more than $100 for each offense (compounded daily) | Inspection reports must be filed with MDE after each inspection |
| Virginia (designated as Chesapeake Bay Preservation Areas) | 5 years required | No | No | Yes | Paid by homeowner | | Pump-out not required if filters installed, or report submitted by licensed contractor stating pump-out is not required. |

## CASE STUDY:
## ALBEMARLE REGION, NORTH CAROLINA

**Overview:** Seven counties located in mostly rural, northeast North Carolina participate in a regional public health agency, Albemarle Regional Health Services (ARHS). In 1993, the County and municipal governments in the region authorized the establishment of a management entity to inventory and monitor the condition of OWTS. Under the management of ARHS, the local governments formed the Albemarle Septic Management Entity to, among other things, permit and perform routine mandatory inspections of OWTS.

**Number of On-Site Wastewater Systems:** The region includes approximately 7,000 OWTS, mostly serving residential properties.

**Inspection/Maintenance Requirements:** Property owners are required to maintain OWTS in proper operating condition and must sign a contract agreeing to annual inspection of their systems. The maintenance/inspection agreement is entered into the land record for the property. Public health inspectors perform annual inspections of each OWTS.

**Enforcement:** ARHS will not issue an OWTS permit unless the property owner agrees to annual inspections. If an OWTS fails its annual inspection, the property must make repairs at his/her own cost to bring the system back into regulatory compliance. If the property owner does not make the required repairs, then the ARHS will conduct the work and put a lien on the property to recover the cost of the work.

**Management and Staffing:** Seven certified public health inspectors perform annual OWTS inspections along with other responsibilities. The program director estimates that his staff spends between two to three work years combined on OWTS inspections.

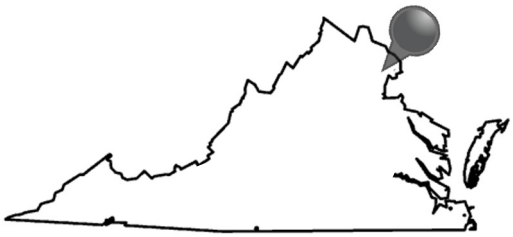
**Budget and Funding:** The Albemarle Septic Management Entity has an annual operating budget of about $290,000. The primary source of operating revenue is user fees. Residents with OWTS on their property pay a one-time lot evaluation fee of $225 and a one-time permit fee of $225. In addition, residents pay an annual system inspection fee of $60 per year.

**Data Management:** ARHS developed and maintains a database of all OWTS in the seven counties served by the Albemarle Septic Management Entity. The database includes information about the permit and inspection status of each system and generates annual inspection notices and bills.

Sources:

- United States Environmental Protection Agency, Septic Systems Case Studies and Demonstration Projects, https://www.epa.gov/sites/production/files/2015-06/documents/decentralized-case-study_albemarle-region-nc-2.pdf.
- Telephone interview with Ralph Hollowell, Director, Albemarle Environmental Health Department, October 26, 2016.

## CASE STUDY:
## FAIRFAX COUNTY, VIRGINIA



**Overview:** The State of Virginia regulates OWTS. Fairfax County first adopted local OWTS requirements in 1928. Most recently, Fairfax County enacted ordinance to require inspection, operation and maintenance contracts, and routine pumping for all OWTS.

**Number of On-Site Wastewater Systems:** Approximately 23,000 OWTS exist in Fairfax County, mostly serving residential properties.

**Inspection/Maintenance Requirements:** Virginia mandates that all OWTS be pumped at least every five years. Virginia established additional requirements for "alternative" OWTS (for example, a system that does not result in a point source discharge). Property owners with alternative systems must contract with a licensed provider to annually inspect and perform regular maintenance to assure that the OWTS meets all performance standards. Property owners bear the cost for OWTS inspection, maintenance, and pumping which typically range between $400 and $600 per year (excluding repair costs). The certified contractor must provide documentation to the County demonstrating compliance with all inspection, maintenance, and pumping requirements.

**Enforcement:** Fairfax County seeks to achieve compliance through routine notifications and education. The State requires that property owners receive an operations and management manual for their specific OWTS design upon installation of a new system or property sale. The Virginia General Assembly recently approved legislation authorizing civil penalties for property owners who fail to provide documentation of proper OWTS inspection and maintenance.

**Management and Staffing:** The Fairfax County Health Department administers the OWTS program. Six field inspectors perform inspection of newly installed or repaired systems. (Private providers conduct the mandatory annual inspections for existing systems.) In addition, the Health Department allocates about one-quarter of an FTE to manage OWTS program data and documentation.

**Budget and Funding:** The annual operating budget for the Fairfax County OWTS program is approximately $1.6 million. Permit fees offset about 30% of annual operating costs; State and County resources cover remaining costs. One-time permit fees vary by the system size and design but generally range between $500 and $700 (including all State and County fees combined).

**Data Management:** The Health Department maintains a database of all OWTS in the County. The database includes information about the permit and inspection status of each system.

Sources:


- United States Environmental Protection Agency, Septic Systems Case Studies and Demonstration Projects, https://www.epa.gov/sites/production/files/2015-06/documents/decentralized-case-study_fairfax-county-va-2.pdf .
- Telephone interview with Adrian Joye, Director, Environmental Health Program Manager, Fairfax County Health Department, October 27, 2016.

## CASE STUDY:
## MONROE COUNTY, FLORIDA (2007)

**Overview:** Monroe County encompasses the Florida Keys, an environmentally sensitive area, particularly vulnerable to the effects of water pollution. In response to deteriorating conditions of coastal waters and marine habitats, the State of Florida in 1999 adopted more stringent wastewater treatment standards for Monroe County.

***NOTE: Monroe County is currently in multi-year period to transition nearly every residential property to public sewer service. The information and data in this case study reflects conditions in 2007 when nearly all properties were served by on-site wastewater systems.***

**Number of On-Site Wastewater Systems:** About 30,000 OWTS existed in Monroe County in 2007. (Within two years, fewer than 100 active OWTS could exist in Monroe County.)

**Inspection/Maintenance Requirements:** In order to receive an OWTS permit, property owners are required to sign an affidavit agreeing to hire a private sector contractor to maintain their system in accordance with performance standards. The affidavit is entered into the land record for the property. Maintenance contractors must be certified by the product manufacturer and must inspect each system twice per year; public health officers inspect each system annually.

**Enforcement:** The Florida Department of Health will not renew OWTS permits for property owners who fail to comply with inspection and maintenance requirements. Operating an OWTS without a permit could subject the property owner to civil fine under Florida law.

**Management and Staffing:** In Florida, OWTS are regulated by County offices of the State Department of Health. In 2007, the Monroe County office of the Florida Department of Health employed five OWTS inspectors.

**Budget and Funding:** The 2007 operating budget for the Monroe County OWTS program was approximately $300,000. The OWTS permit fee is $100 for two years.

**Data Management:** The Department of Health hired a private entity to develop and maintain a database of OWTS in Monroe County. The database includes information about the permit, inspection, and maintenance status of each system. Information in the database is searchable and available to the public online.

Sources:

- United States Environmental Protection Agency, Septic Systems Case Studies and Demonstration Projects, https://www.epa.gov/sites/production/files/2015-06/documents/decentralized-case-study_monroe-county-fl-2.pdf .
- Telephone interview with William Brookman, Director Community Health Services, Florida Department of Health in Monroe County, October 28, 2016.

## CASE STUDY:
## HAMILTON COUNTY, OHIO

**Overview:** The State of Ohio has relatively weak OWTS requirements. In 1993, in response to concerns regarding bacteria and viruses in surface waters, the Hamilton County Board of Health adopted OWTS regulations that are significantly more stringent than State requirements.

**Number of On-Site Wastewater Systems:** Approximately 20,000 OWTS exist in Hamilton County.

**Inspection/Maintenance Requirements:** As a condition of the OWTS permit, Hamilton County requires each non-mechanical system be inspected every 58 months. (The County established the requirement two months short of five years to allow inspections to rotate through different seasons of the year.) Mechanical OWTS must be inspected at least once per year. In addition, the County mandates that owners of mechanical systems enter into annual maintenance, monitoring, and service contracts with a vendor certified by the manufacturer of the system. The certified contractor must provide documentation to the County demonstrating compliance with all inspection, maintenance, and performance requirements.

**Enforcement:** Hamilton County regulations authorize the Board of Health to revoke permits for noncompliance. Violators are subject to criminal prosecution if required corrective actions are not taken. The County may also put a lien on a property to cover delinquent inspection fees.

**Management and Staffing:** A public entity called Hamilton County Public Health administers the OWTS program. Hamilton County Public Health employs nine dedicated sanitarians to inspect OWTS for compliance with all operations and maintenance standards.

**Budget and Funding:** The annual operating budget for the Hamilton County OWTS program is about $900,000. The program is almost entirely funded by user fees. For non-mechanical systems, the current inspection fee is $90 and the operating permit fee is $43 (each paid every 58 months). For mechanical systems, the current inspection fee is $43 and the operating permit fee is $21 (each paid annually).

**Data Management:** Hamilton County Public Health maintains a database of OWTS in the County. The database includes information about the permit and inspection status of each system. The database also provides access to design drawings for each system. Private inspectors are able to submit reports directly into the database. Property owners can access the database online to receive inspection results. Information in the database is also stored in GIS format to allow mapping of OWTS to assist in environmental remediation and complaint response efforts.

Sources:


- United States Environmental Protection Agency, Septic Systems Case Studies and Demonstration Projects, https://www.epa.gov/sites/production/files/2015-06/documents/decentralized-case-study_hamilton-county-oh-2.pdf.
- Telephone interview with Chris Griffin, Director, Hamilton County Public Health Division of Water Quality, October 31, 2016.

## SECTION 4: OLO OBSERVATIONS

OLO culled the following observations while preparing the report. These observations are intended to inform Council consideration of whether to implement life-cycle OWTS regulation:

- Education and Outreach: Most communities with life-cycle OWTS management programs include an education and outreach effort. At a minimum, the regulatory agency periodically reminds property owners of the need to properly maintain their systems. Some communities further require that property owners receive an operations and management manual for their specific OWTS design upon installation of a new system or upon sale of the property.

- Inspections: Communities with life-cycle OWTS management programs establish re-inspection periods ranging from every six months to every five years. In some jurisdictions, the re-inspection period varies based on the type of system. Public sector personnel perform inspections in some communities; in others, certified private sector firms perform inspections and report the results to the local health department (or equivalent).

- Maintenance Requirements: Several communities mandate life-cycle maintenance of OWTS by requiring property owners to contract with a certified private sector system maintenance firm. In some communities, the property owner must document that the system had been pumped within a designated period of time.

- Permitting and Enforcement: All communities with life-cycle OWTS regulations require compliance with local inspection and maintenance requirements a condition for permit renewal. Some jurisdictions also subject violators to civil fines and/or criminal prosecution. In addition, some State and local laws allow for a lien to be put on a property to cover unpaid fees or the cost of corrective actions.

- Program Staffing: Implementation of a life-cycle OWTS management program requires staff for program management, data management, and most notably, field inspections (if performed by the public sector personnel). Based on staffing levels in other communities, a single full-time inspector could perform between 1,000 and 3,000 inspections per year. Multiple factors affect how many inspections a staff member could perform per year including the variety of OWTS system designs, the complexity of the inspection, and the travel time needed between inspection locations.

- Budget and Funding: Different communities have adopted different approaches to funding their OWTS programs. Some set permit and inspection fees in the hundreds of dollars so that user charges cover all or nearly all of the cost of the program. Others only recover a small portion of program costs from user charges, and so, rely on general government or other resources to cover costs. For some communities, annual public sewer user rates are a relevant reference point for evaluating the reasonableness of OWTS fee charges.

- Data Management: At a minimum, a life-cycle OWTS management program requires a data management system that (a) retains information about the permit and inspection status of individual systems, and (b) generates annual inspection notices and bills. Some jurisdictions have developed and maintain their own OWTS program database; others contract with a vendor to provide this service. Some data management systems have an online capability that allow the public to search the data and permit private inspection firms to directly upload reports. One community stores OWTS data in GIS format to allow mapping of OWTS to assist in environmental remediation and complaint response efforts.

- Transition: Several of the OTWS program directors interviewed by OLO spoke of the importance of a well-planned transition to life-cycle OWTS regulation. The directors stressed the need to establish clear rules along with a robust outreach program to educate property owners of new requirements. In addition, the program directors advised that the County should expect the transition period to bring a measure of public discontent, particularly from property owners who have not been paying for on-going OWTS maintenance.