



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Septic Systems and the Environment

SepticSmart 2025

Onsite Wastewater Management Unit

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Agenda

Introduction

SepticSmart

Septic Systems in Michigan

Septic System 101

Septic Science

How to Be Septic Smart

Homeowner Resources



EGLE's Onsite Wastewater Management Unit

- Program specific training to local health departments (LHD), and the private sector;
- Soils training to LHD staff;
- Advise on conventional and alternative onsite wastewater treatment; and
- **NEW: Septic Replacement Loan Program**



Public Outreach



What is SepticSmart?



SepticSmart is a nationwide public education effort developed by the Environmental Protection Agency (EPA) with outreach activities and resources for homeowners, local organizations, and government leaders to encourage homeowners and communities to care for and maintain their septic systems.





ON BEHALF OF THE PEOPLE OF MICHIGAN,
I, Gretchen Whitmer, governor of Michigan, do hereby proclaim

September 15 – 19, 2025
as
SEPTICSMART WEEK

WHEREAS, proper septic system use and routine care are vital to protecting public health, preserving our groundwater, lakes, streams, and waterways, and avoiding costly repairs that can result from neglect; and,

WHEREAS, over 1.3 million septic systems in Michigan treat wastewater from homes and businesses and represent a significant part of Michigan's wastewater infrastructure; and,

WHEREAS, if not used and maintained properly, septic systems can become leaky, broken, or outdated and introduce nitrogen, phosphorous, household chemicals, bacteria, viruses, and other harmful pollutants into state waters; and,

WHEREAS, wastewater professionals in the State of Michigan use their expertise in the design, installation, maintenance, and regulation of septic systems in Michigan; and,

WHEREAS, the United States Environmental Protection Agency's SepticSmart Program used by Michigan health officials educates homeowners about the need for proper septic system use and routine maintenance; and,

WHEREAS, residents and the environment of Michigan benefit from properly designed, installed, operated, and maintained septic systems; and,

WHEREAS, the State of Michigan has created and started a new statewide septic replacement loan program that assists system owners in replacing failing septic systems;

NOW, THEREFORE, I, Gretchen Whitmer, governor of Michigan, do hereby proclaim September 15 – 19, 2025, as SepticSmart Week in Michigan.

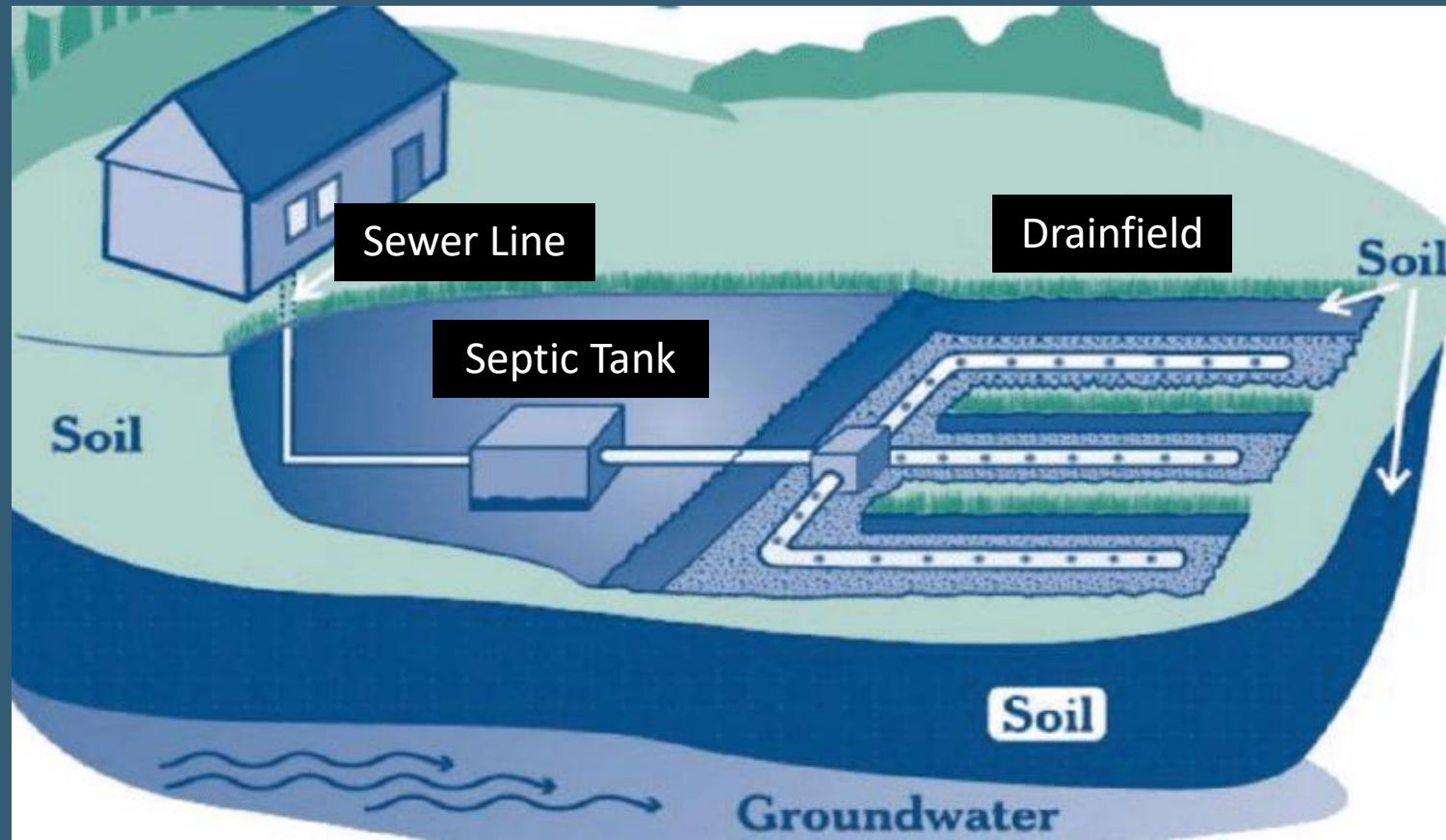



Gretchen Whitmer
Governor



2025 Governor's Proclamation

What is a Septic System?



Septic Systems in Michigan

680,000

+1,300,000

810,000

800,000

1,000,000

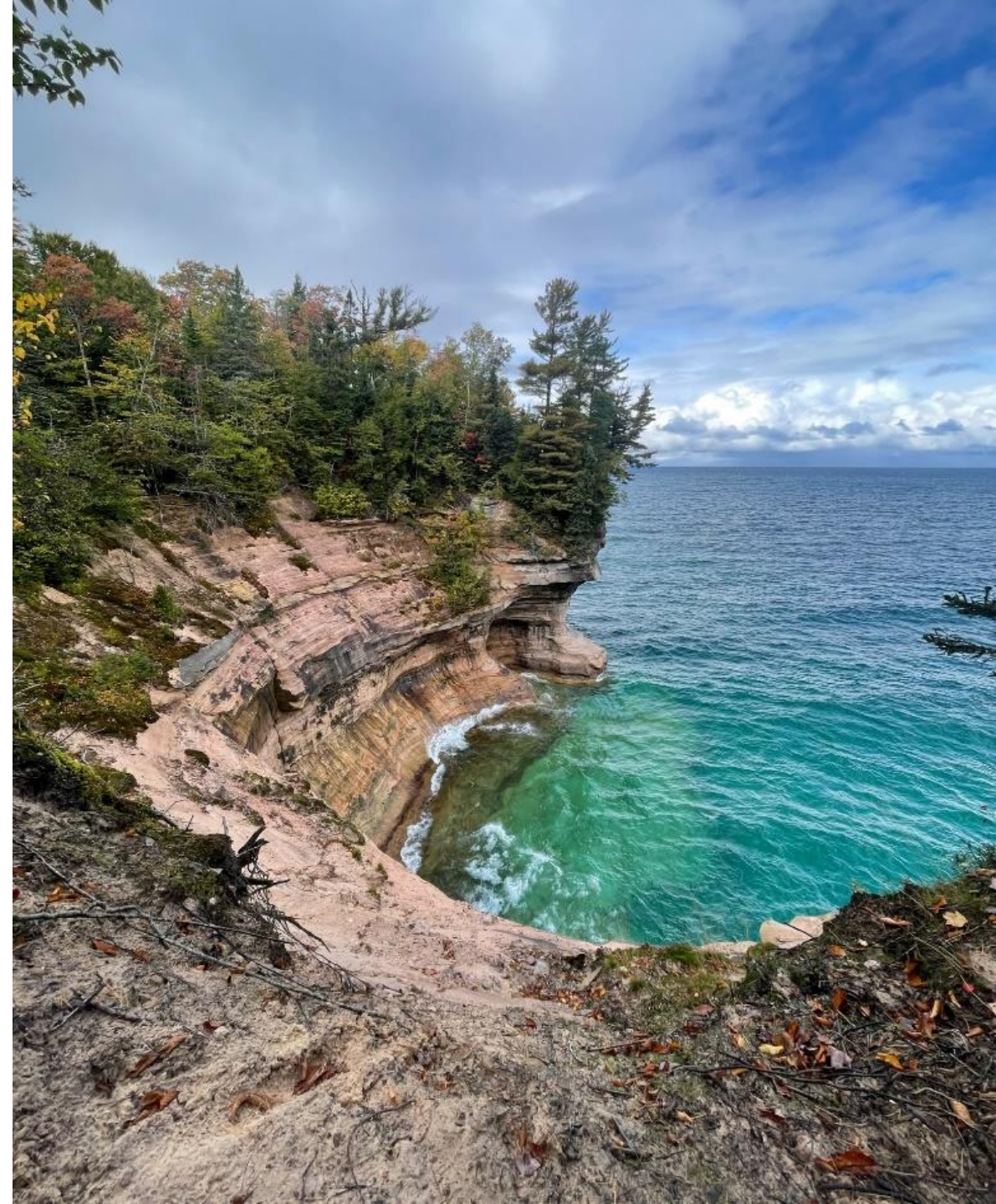
Drinking Water in Michigan...

- **1.2 million wells in Michigan**
- **An estimated 45 percent of all Michigan residents rely on wells for their drinking water.**
 - **Many small and mid-sized community water supplies utilize wells.**
 - **25 percent of Michigan residents are served by private wells.**

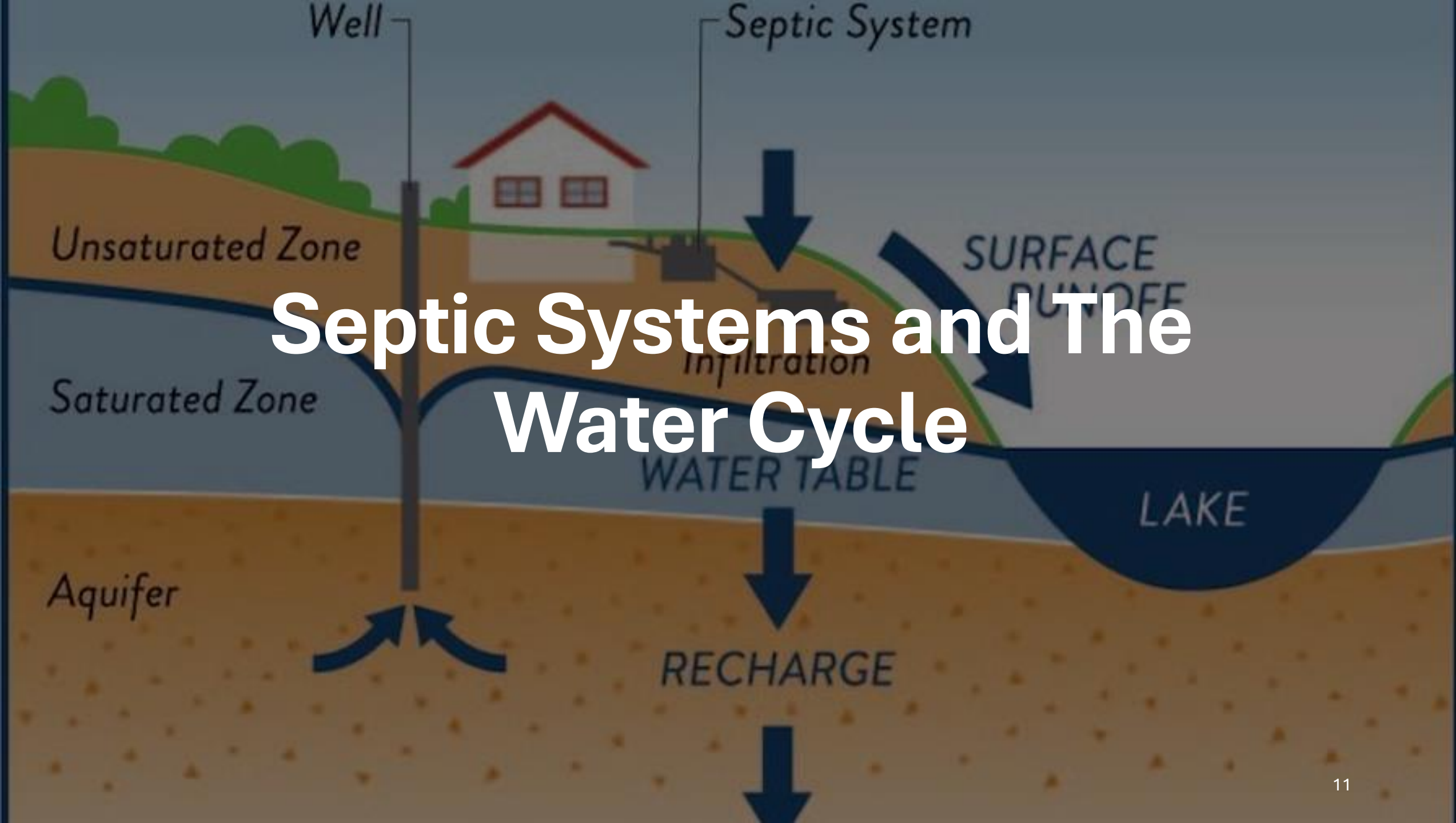


“The Great Lakes State”

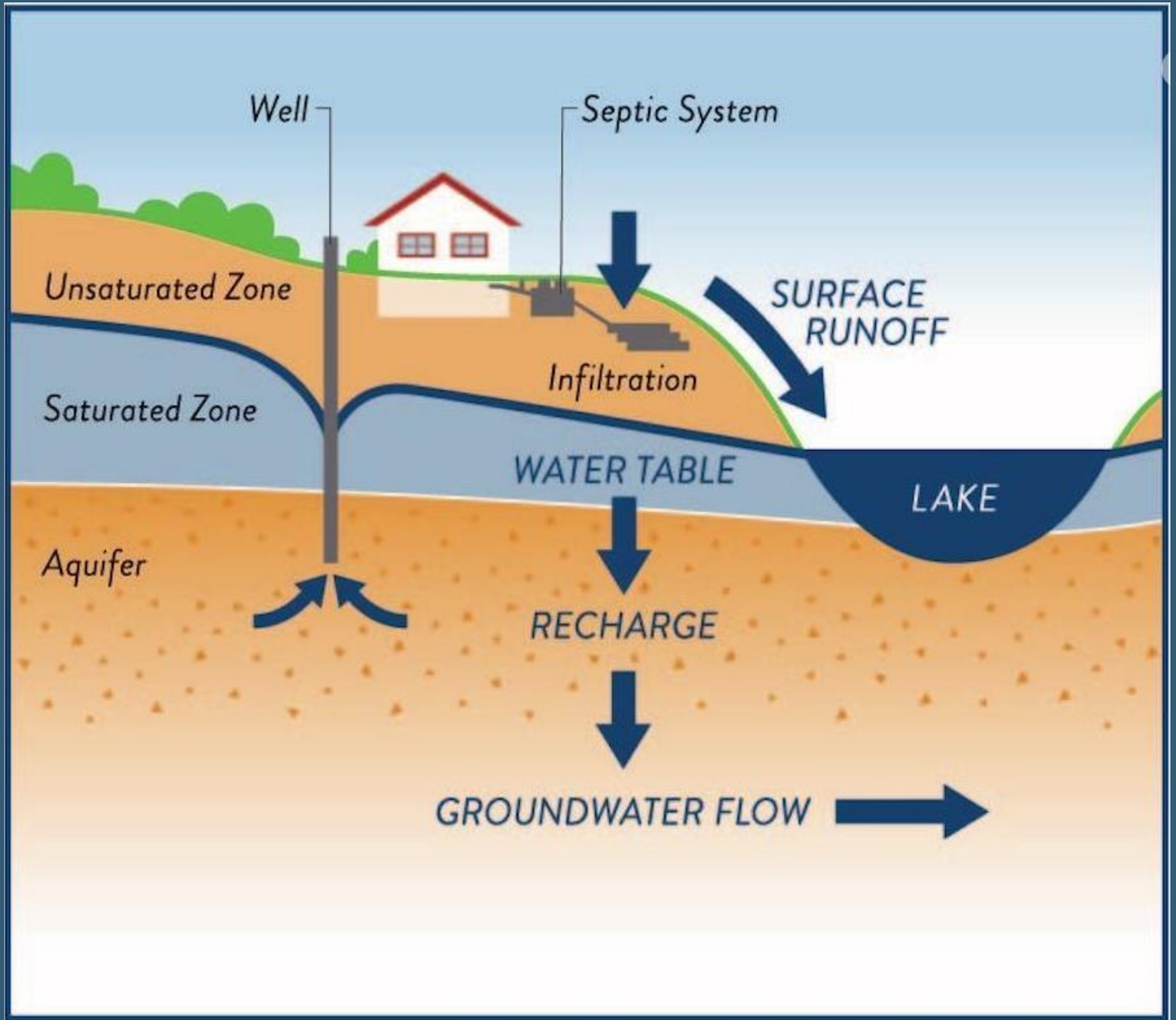
- 4 out of 5 Great Lakes
- 6.5 million acres of wetlands
- 11,000 inland lakes
- Over 76,439 miles of rivers
- 1,200 public and private beaches



Septic Systems and The Water Cycle



**Septic Systems
are an integral
part of our water
cycle**



**Properly designed,
installed, and
maintained septic
systems protect
people and the
environment.**



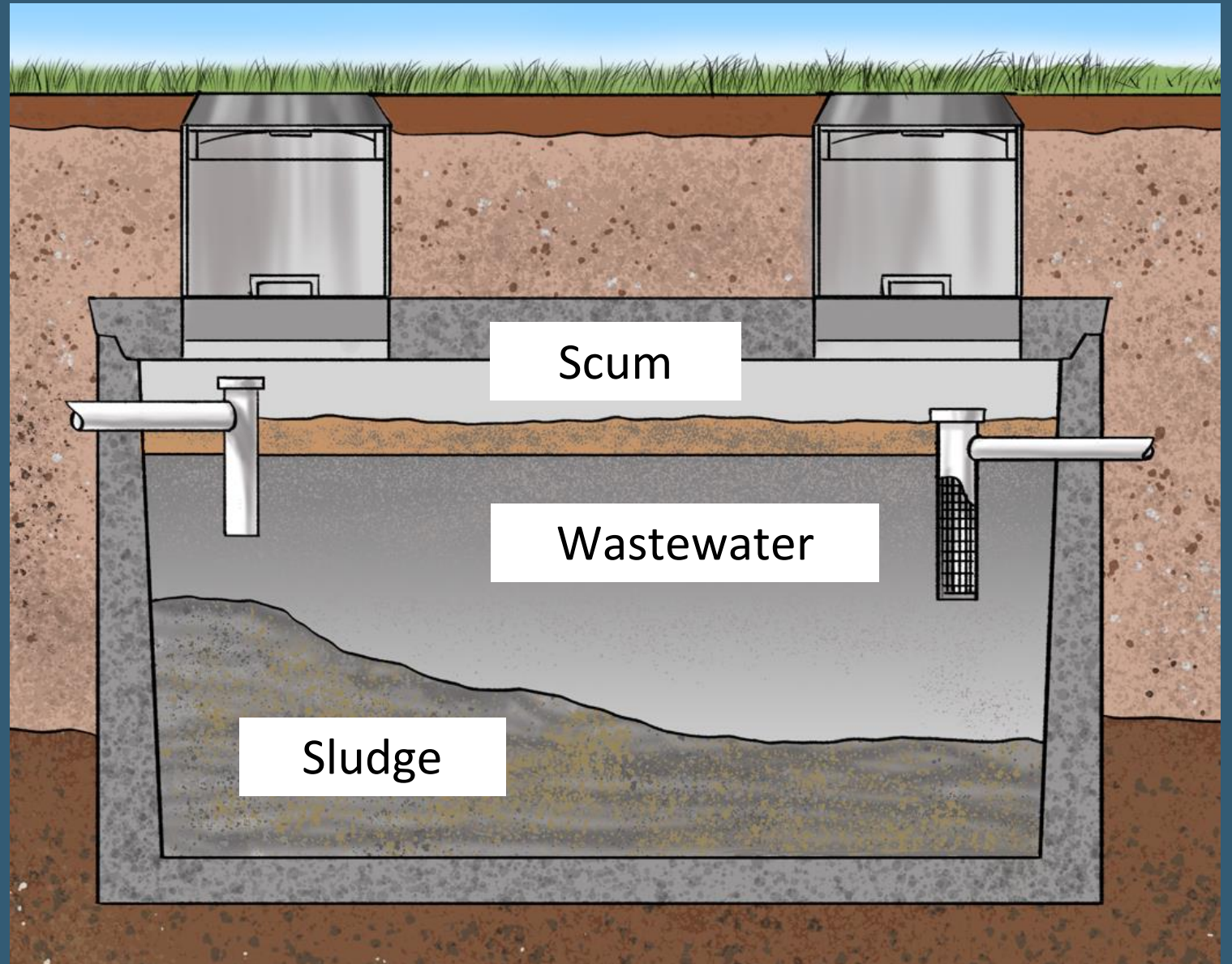
How does a Septic System Work?

All water runs
out of the house
and into the
septic tank.



Septic Tanks

The septic tank holds wastewater long enough for solids to settle to the bottom and the fats, oils, and grease to float to the top.



Septic Tanks, Continued

1. Must be watertight
2. Variable materials:
 - Concrete (most common)
 - Plastic
 - Fiberglass
 - Steel (degrades easily)



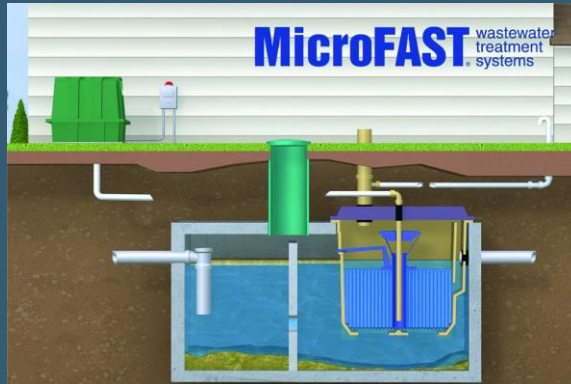
Riser Lids

- An extension of the lids over septic tanks that allow for easier access.
 - Allows for pumping and inspection.
- Secondary safety devices where risers are to grade.
 - This could be the concrete lid left in place, a grate, or a net.



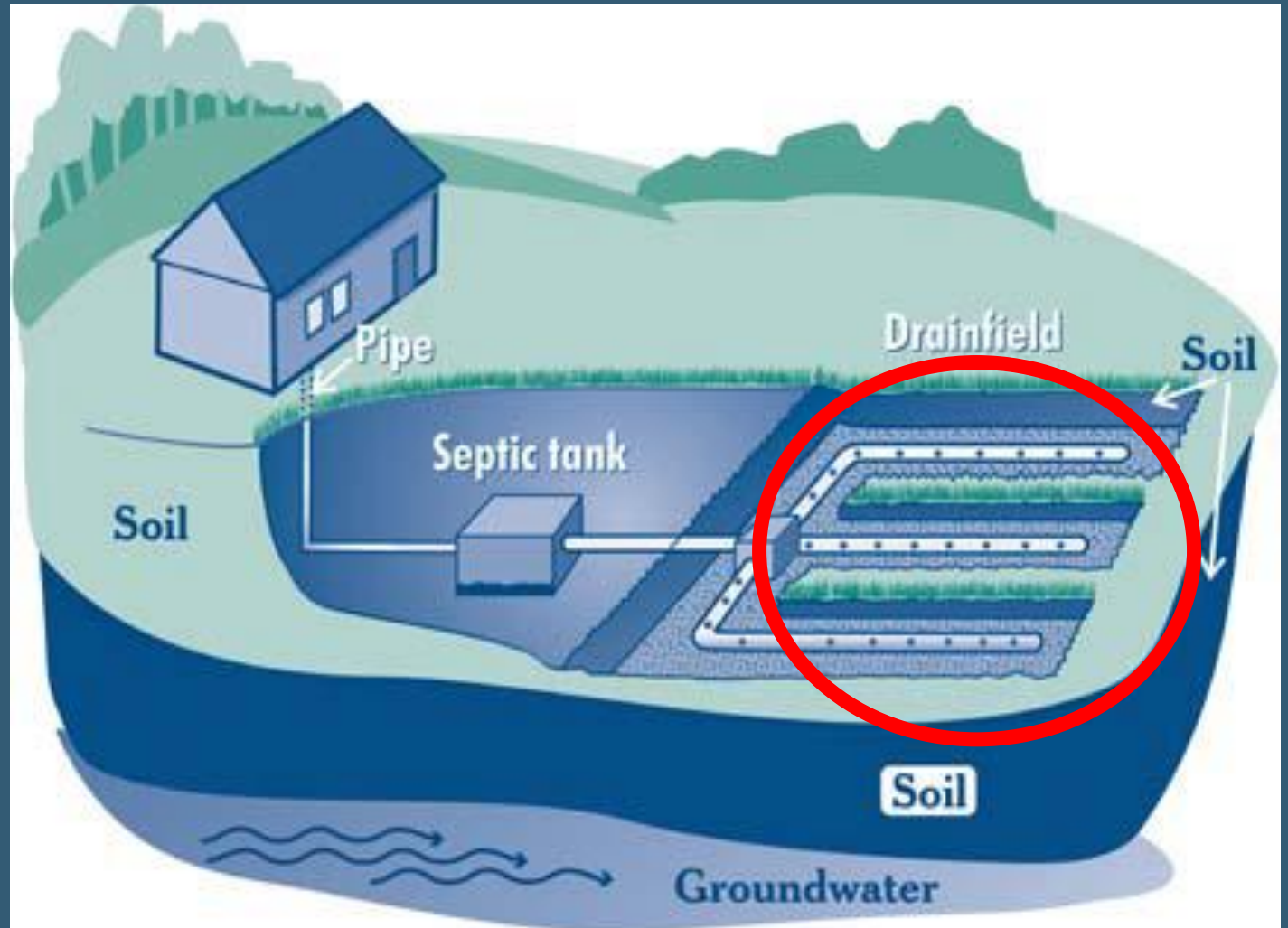
Other Components

- Effluent Filter
- Distribution Box
- Control Pannel and Visual/Audio Alarms
- Alternative Treatment Devices



Drainfield/ Absorption Area

Liquid wastewater
exits the tank and
is spread
throughout the
drainfield.



Purpose of the Absorption Area

- Spreading of Wastewater
- Storage During Surge Flows
- Deliver the Wastewater to the Soil for final treatment



Septic Science

Wastewater Components

- Biodegradable organics (BOD)
- Total suspended solids (TSS)
- Nutrients
- Pathogens
- Inorganics



Components are Removed Through:



Physical Processes

E.g., Settling, Filtration



Biological Processes

E.g., Anaerobic/Aerobic Activity



Chemical Processes

E.g., Nitrogen Cycle

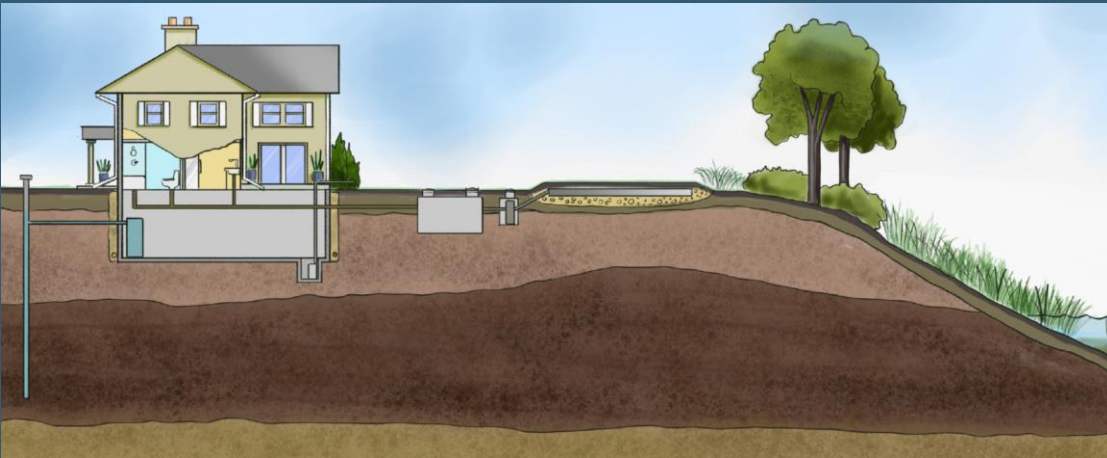
Wastewater Treatment

Septic Tanks:

- Reduces BOD, TSS, Phosphorus, and solids primarily through settling
- NO significant reduction in nitrogen or pathogens occurs in the septic tanks!

Absorption Area:

- Further treats the BOD, TSS, Phosphorus, and suspended solids
- The native soil is vital for the treatment of pathogens and nutrients



The Importance of Soil

Provide an aerobic (oxygen) environment for the treatment of the wastewater through natural processes.

The soil absorption system must be above the water table!

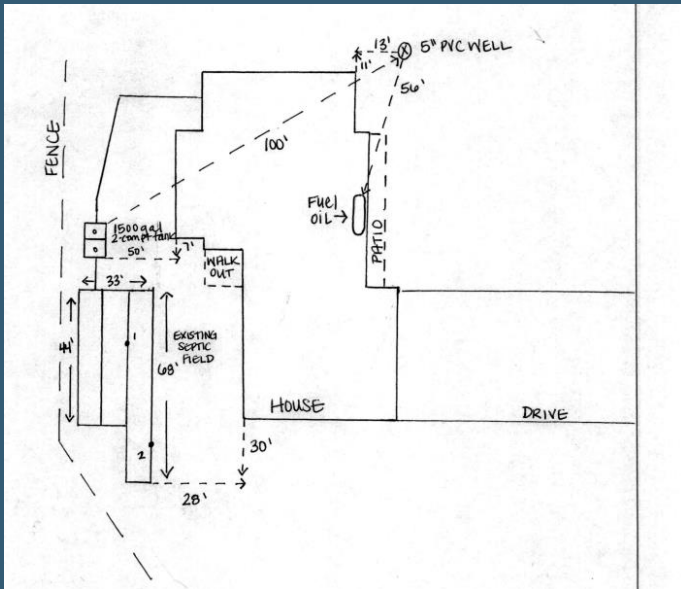




EPA's 1997 Response to Congress on Use of Decentralized Wastewater Treatment Systems:

"Properly managed decentralized wastewater systems can provide the treatment necessary to protect public health and meet water quality standards, just as well as centralized systems. Decentralized systems can be sited, designed, installed and operated to meet all federal and state required effluent standards."

How to Locate a Septic System



If you don't have records:

1. The LHD may have historical records for the system.
 - Freedom of Information Act (FOIA) request
2. Call a licensed septage hauler (pumper), system installer, or system evaluator to assist in locating the system.
3. Call MISSDIG (811)

Failing Septic Systems

- Failing septic systems pose risks to both public and environmental health.
- Pollution of groundwater and drinking water aquifers, lakes, rivers, and streams.
- 20 percent of systems in Michigan are estimated to be failing.



Signs of a Failing Septic System



**SLOW DRAINS OR
GURGLING SOUNDS.**



UNPLEASANT ODORS.



**LUSH GRASS OVER THE
DRAINFIELD.**



STANDING WATER.

SepticSmart Quick Tips

- **Think at the Sink!**
- **Don't Strain Your Drain!**
- **Keep it Clean!**
- **Shield Your Field!**
- **Protect It and Inspect It!**
- **Don't Overload the Commode!**
- **Pump Your Tank!**

Think at the Sink



Don't:

- Pour cooking grease or oil down the sink or toilet.
- Rinse coffee grounds into the sink.
- Pour household chemicals down the sink or flush them.

Do:

- Eliminate or limit the use of a garbage disposal.
- Properly dispose of coffee grounds and food.
- Put grease in a container to harden before discarding in the trash.

Don't Strain Your Drain



Don't:

- Concentrate your water use by using your dishwasher, shower, washing machine, and toilet at the same time.
- All that extra water can really strain your septic system.

Do:

- Stagger the use of water-generating appliances. This can be helpful especially if your system has not been pumped in a long time.
- Become more water efficient by fixing plumbing leaks and consider installing water-efficient products.
- Repair leaking fixtures.



Keep it Clean

- If you have a well, many things can contaminate your drinking water, such as a failing septic system. Test your water regularly.
- For more information about water sampling, contact your local health department.

Shield Your Field



Don't:

- Park or drive on your drainfield. The weight can damage the drain lines.
- Plant trees or shrubs too close to your drainfield. Roots can grow into your system and clog it.

Do:

- Consult a septic service professional to advise you of the proper distance for planting trees and shrubs, depending on your septic tank location.



Protect it and Inspect it

Do: ✓

- **Have your system inspected every three years by a licensed septage hauler to have your tank assessed if pumping is necessary.**

Don't Overload the Commode

Don't: 

- Flush products or chemicals, such as feminine hygiene products, condoms, dental floss, diapers, contacts, cigarette butts, cat litter, paper towels, pharmaceuticals, or **FLUSHABLE WIPES**.

Do: 

- Only flush human waste and toilet paper.





Pump Your Tank

Have your septic tank pumped by a licensed septage hauler when the solids exceed $\frac{1}{3}$ of the tank volume.

When to Pump the Tank?

Pumping frequency primarily depends on the size of the tank and the number of people using the system.

Septic Tank Pumping Frequency in Years						
Tank Size	Number of People					
	1	2	3	4	5	6
1000	12.4	5.9	3.7	2.6	2	1.5
1250	15.6	7.5	4.8	3.4	2.6	2
1500	18.9	9.1	5.9	4.2	3.3	2.6

Resources for Homeowners

Septic System Funding



REPLACING OR CONSTRUCTING A SEPTIC SYSTEM IS A NEW EXPERIENCE FOR MOST HOMEOWNERS – AND OFTEN A CHALLENGING ONE.



IT IS ESTIMATED THAT 56 PERCENT OF AMERICANS ARE UNABLE TO AFFORD A \$1,000 EMERGENCY. (SOURCE: BANKRATE STUDY CONDUCTED IN 2022)



EGLE ONSITE WASTEWATER MANAGEMENT UNIT STAFF COLLABORATED WITH COUNTERPARTS NATIONWIDE TO BRING A SOLUTION TO MICHIGAN.

SRLP Program Overview



The Michigan Legislature appropriated 35 million dollars for EGLE's OWMU to develop and implement a loan program to replace failing and near-failing septic systems statewide.



EGLE has contracted with non-profit, green bank, Michigan Saves for the Septic Replacement Loan Program (SRLP).



This is a two-tiered financing program with both an income based and market-based loan.

General Provisions



Unsecured, personal loan for individuals owning residential dwellings.



Sites with a documented failing, near-failing, non-existent septic system, or similarly inadequate system will be eligible for replacement under the SRLP.



Replacement systems must be evaluated, permitted, and installed in accordance with program minimum standards.

General Provisions

Eligible costs for SRLP projects include:

Evaluation of System

Design

Pumping

Installation

Connection to Municipal Sewer (where available)

Authorized Contractors

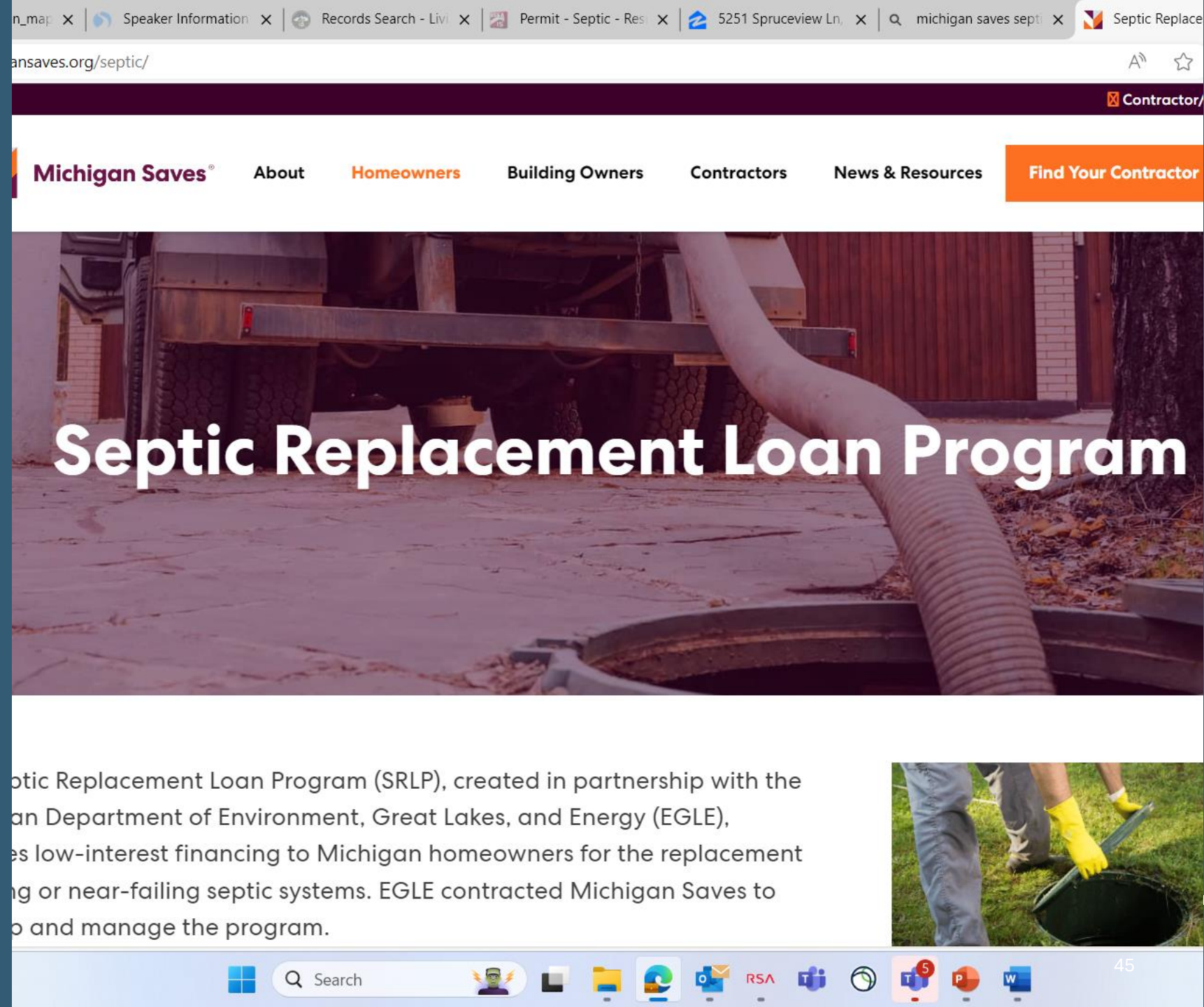
- Any contractor wishing to participate in the SRLP must register as an Authorized Contractor through Michigan Saves.
- 158 Authorized Contractors Statewide



For More Information About the SRLP

Visit:

MichiganSaves.org/Septic/



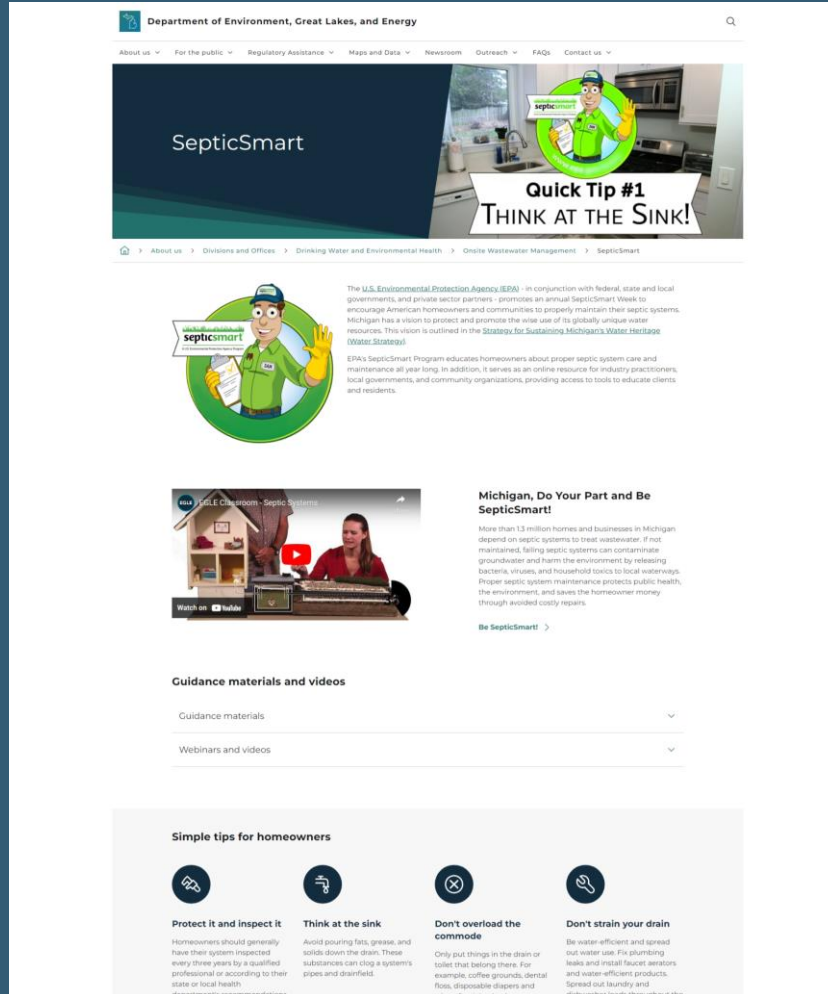
The screenshot shows a web browser window with multiple tabs open. The active tab is "Michigan Saves.org/Septic/". The website has a dark blue header with the "Michigan Saves" logo and navigation links: "About", "Homeowners", "Building Owners", "Contractors", and "News & Resources". An orange button labeled "Find Your Contractor" is on the right. The main content area features a large image of a septic tank being cleaned by a truck, with the text "Septic Replacement Loan Program" overlaid in white. Below this, there is a paragraph of text about the SRLP, which is partially cut off. To the right of the text is a small image of a person wearing yellow gloves working on a septic tank. The Windows taskbar is visible at the bottom of the browser window.

Michigan Saves[®] About Homeowners Building Owners Contractors News & Resources Find Your Contractor

Septic Replacement Loan Program

Septic Replacement Loan Program (SRLP), created in partnership with the Michigan Department of Environment, Great Lakes, and Energy (EGLE), provides low-interest financing to Michigan homeowners for the replacement of old or near-failing septic systems. EGLE contracted Michigan Saves to administer and manage the program.

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Guidance materials and videos

Guidance materials

[SepticSmart Week Proclamation](#)

[SepticSmart Week Save the Date](#)

[Do Your Part, Be SepticSmart!](#)

[English](#) | [Spanish](#)

[Do's and Don'ts of Your Septic System](#)

[English](#) | [Spanish](#)

[Do's and Don'ts of an Advanced Treatment Unit](#)

[English](#) | [Spanish](#)

[Guide to Proper Care and Maintenance of Your Septic System](#)

[English](#) | [Spanish](#)

[Holiday SepticSmart Reminder](#)

[Homeowner's Guide to Septic Systems](#)

[English](#) | [Spanish](#)

[Homeowner's Guide to Septic Systems for Tribal Communities](#)

[New Homebuyer's Guide to Septic Systems](#)

[English](#) | [Spanish](#)

[Outreach Toolkit](#)

[Poster for Parks, Campgrounds, and Rest Stops](#)

[Poster for Restaurants/Kitchens](#)

[Proper Landscaping On and Around Your Septic System](#)

[English](#) | [Spanish](#)

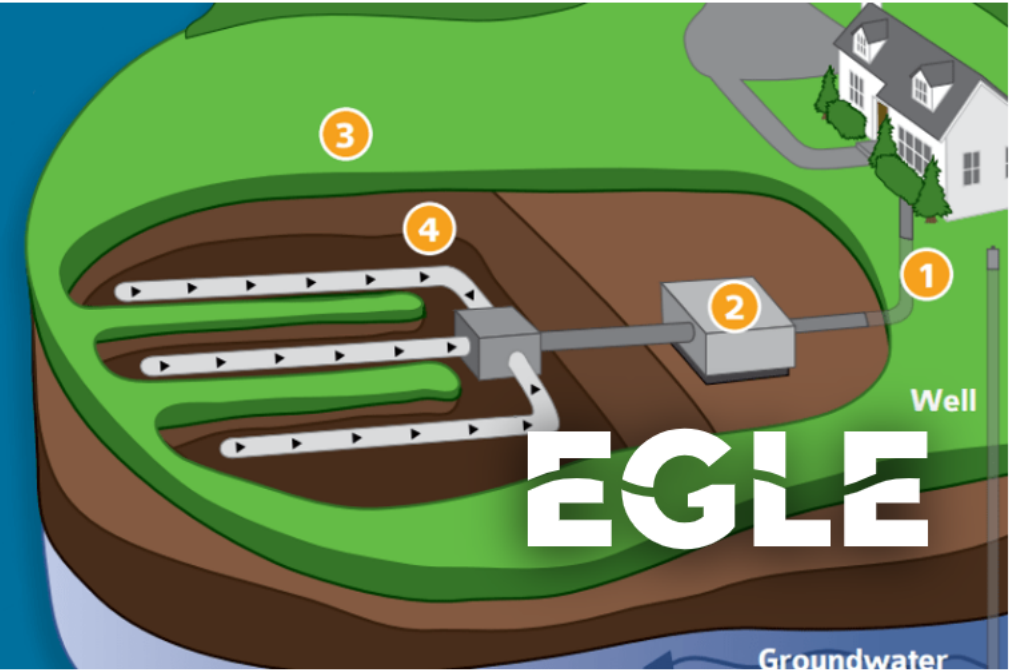
[Rental Property with Septic Systems](#)

[English](#) | [Spanish](#)

EGLE's SepticSmart Webpage

[MICHIGAN.GOV/SEPTICSMART](https://michigan.gov/septicSMART)

FAQ: Septic systems



[Home](#) > [FAQs](#) > [Septic systems](#)

Michigan's residents rely on over 1.3 million septic systems to treat the wastewater generated in their homes. Proper septic system use, and

EGLE FAQ: Septic Systems

[HTTPS://WWW.MICHIGAN.GOV/EGLE/FAQS/DRINKING-WATER/SEPTIC-SYSTEMS](https://www.michigan.gov/egle/faqs/drinking-water/septic-systems)

EPA SepticSmart Website

- [EPA.gov/Septic/SepticSmart](https://www.epa.gov/septic/septic-smart)

Septic Systems

[CONTACT US](#)

[Septic Systems Home](#)

[About Septic Systems](#)

[Care and Maintenance](#)

[Funding](#)

[SepticSmart](#)

[SepticSmart Week](#)

[SepticSmart Education
Materials](#)

[Decentralized Wastewater
Partnership](#)

[Additional Resources](#)

SepticSmart

EPA's SepticSmart program is a nation-wide initiative to share information on the proper care and maintenance of septic systems and encourage public stewardship in caring for these wastewater treatment systems. The SepticSmart program provides a wealth of online resources for homeowners, local organizations and government leaders to facilitate an understanding on:

- how to properly care for and use your septic system,
- how simple septic maintenance can save you money and protect your property value,
- why maintaining your septic system can protect your family's health and the environment.

The SepticSmart program emphasizes seven simple messages to help homeowners and users of septic systems understand how to be "SepticSmart."

Follow these SepticSmart quick tips every day:

1. **Think at the Sink!**

Learn what not to put down your kitchen sink (such as fats, oils, or greases), how to properly dispose of food



Learn what you can do:

- [Engage in SepticSmart Week](#)
- [Share SepticSmart Education Materials](#)



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Questions?