# SEPTIC REPLACEMENT LOAN PROGRAM: PROGRAM MINIMUM STANDARDS



MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

### I. Background

Throughout Michigan, failing septic systems are often identified as a potential source of pollution that contributes to both public health and environmental concerns. One of the barriers preventing the replacement of septic systems and installation of systems designed to protect our waters is a lack of funding options available to homeowners.

#### II. Introduction

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) has received funding and contracted with a non-profit third-party lender, Michigan Saves Inc., to develop and implement a statewide loan program to replace failing and near-failing septic systems. The Septic Replacement Loan Program (SRLP) provides financing for the installation of residential Onsite Wastewater Treatment Systems (OWTS) that are protective of public health and the environment. To assure these protections, EGLE has developed a set of program minimum standards for OWTS constructed through the SRLP. The information below describes the program minimum standards.

### III. Purpose

The primary purpose of the SRLP is to provide loans to eligible homeowners to repair and replace existing septic systems that are at or near failure to protect public health and water quality. Systems supported by the SRLP shall be permitted in accordance with the program minimum standards outlined within this document.

#### IV. Contact Information

For more information go to:
<a href="Septic Replacement Loan Program">Septic Replacement Loan Program</a>

Additional contacts:
Michigan Department of Environment, Great Lakes, and Energy
Anne Mitchell, Program Manager
517-914-4254
EGLE-DWEHD-SRLP@Michigan.gov

Michigan Saves, Inc.
Nishaat Killeen, Senior Project Manager
517-371-7431
NKilleen@MichiganSaves.org

Pat O'Boyle, Director of Business Development 517-410-5924
POBoyle@MichiganSaves.org

#### V. Definitions\*

#### 1. Authorized Contractor.

An entity or individual installing systems supported by the SRLP who has met all requirements outlined in (Section VII) and maintained registration with Michigan Saves, Inc. (MS).

#### 2. Failure:

A system is considered to be failing when sewage backs up into the home or structure, discharges to the ground surface, contaminates surface water or drinking water supplies, any part of the system is bypassed, the system is the source of an illicit discharge, there is an absence of a septic tank and absorption system, or there is a structural failure of a septic tank or other associated appurtenances.

#### 3. Onsite Wastewater Treatment System (OWTS):

A system of components and appurtenances actually used or intended for use by the owner of the system, or owner of the property, to collect, hold, and treat less than 10,000 gallons per day of sanitary sewage through discharge to a subsurface soil dispersal system. OWTS does not include discharges that are the subject of a valid permit issued by EGLE pursuant to the Natural Resources Environmental Protection Act (NREPA).

\*The definitions outlined within this document are specific to the Septic Replacement Loan Program.

#### VI. General Provisions

- 1. This is a personal loan for individuals owning a residential dwelling. Loan applications may be filed for OWTS that serve a single-family home occupied as a dwelling or an OWTS to serve an attached two-family home, often called a duplex, owned by one individual. Loan applications are filed online through the MS website.
- 2. Eligible costs for septic replacement projects supported by the SRLP include but are not limited to evaluation of the system, design, pumping costs, and installation costs including parts and labor.
- 3. Sites with a documented failing, near-failing, non-existent septic system, or similarly inadequate system will be eligible for replacement under the SRLP. Near failing is considered in situations where failure can be anticipated within a short period of time. Eligibility of "malfunctioning" or similarly "inadequate" would be limited to circumstances where there is clear risk to water quality or public health.
- 4. Only local health department (LHD) documentation will be acceptable documentation of failure, near-failing, non-existent septic system, malfunctioning, or similarly inadequate system. Utilizing the local health department-completed Failed System Data Collection – Residential form (Attachment 1, form EQP1728) could meet this documentation requirement.

I. Reports or documentation created by other persons, other than local health department staff, are required to be verified by the local health department for final determination.

### **VII.** Michigan Saves Authorized Contractors

All contractors installing systems supported by the SRLP must be authorized by MS.

- 1. To become a MS Authorized Contractor the following requirements must be met:
  - I. Registered and in good standing with State of Michigan Corporations Division
  - II. Maintain minimum levels of insurance as specified by MS
  - III. Registered/Certified by local health department where applicable
  - IV. No history of disciplinary action by local health department
  - V. Attendance at MS training events
  - VI. Read and agree to terms and conditions of the Michigan Saves Contractor Agreement and Implementation Guide
- 2. MS Authorized Contractors will be responsible for uploading all required documentation into the MS database including but not limited to:
  - I. LHD permit
  - II. Permit supporting documents and attachments
  - III. Failed System Data Collection Residential form (Attachment 1, form EQP1728)
  - IV. Septic Tank Pumping Record form (Attachment 2, form EQP1731)
  - V. Affirmation that the installed system met all of the program minimum standards
  - VI. LHD final inspection documentation
  - VII. Certificate of Completion (COC)
- MS Authorized Contractors must disclose any land use restrictions as may be filed with the Register of Deeds Office and/or EGLE pursuant to Part 201 or Part 213, NREPA.
- 4. MS Authorized Contractors must acknowledge that other potential requirements to obtain state or locally issued permits or approvals from EGLE have been met. As associated with:
  - I. Wetlands
  - II. High-risk dune erosion
  - III. Sediment and erosion control
  - IV. Flood plains
  - V. Local building code (as associated with OWTS construction in a Michigan regulated flood plain).

- 5. MS Authorized Contractors are required to assess internal plumbing for leaking fixtures and non-sewage connections to the sewage system. Leaking toilets, sinks, etc. must be repaired prior to OWTS installation. All sources of sanitary sewage, including greywater, must be discharged to the OWTS.
- A COC will be required for all OWTS installed through the SRLP. The COC must be reviewed and signed by both the MS Authorized Contractor and homeowner. The MS Authorized Contractor is responsible for uploading the completed COC into the MS database.

### **VIII. Septic Tanks and Pumping Chambers**

All septic tanks and pumping chambers being installed, pumped, or evaluated through the SRLP must comply with the following standards:

- 1. For the purposes of this program, the pumping of septic tanks and/or pumping chambers shall only be performed by a licensed septage waste hauler.
- All existing septic tanks and pumping chambers must be assessed for watertightness and structural integrity. A completed Septic Tank Pumping Record form (Attachment 2, form EQP1731) must be submitted by the MS Authorized Contractor if an existing tank(s) is being re-used or as prescribed below (Section VIII).
- 3. Septic tank pumping is required if sludge and scum accumulations exceed 30 percent of the tank volume or are encroaching on the inlet and outlet baffle entrances. When pumping is needed, assessment for watertightness and structural condition is to occur as part of pumping. The effluent level in relation to the outlet invert will be observed prior to beginning pumping. Indicators of infiltration or exfiltration will also be noted. A completed Septic Tank Pumping Record form (Attachment 2, form EQP1731) must be submitted by the MS Authorized Contractor when pumping is needed.
- 4. Septic tanks and pump chambers must be equipped with a watertight riser to grade and a secured secondary safety component. Existing tanks approved to be reused, must be upgraded with a watertight riser to grade and a secured secondary safety component. To view a Technical Advisory Council Advisory visit the following link: MOWRA.org/TACAdvisoryTankRiserandLidAssemblies.

### IX. Program Minimum Standards for OWTS funded by SRLP

Systems supported through the loan program need to meet the site suitability and design standards of one of the following categories:

**Category 1 (C1):** Site evaluation completed by the local health department has determined:

I. There is a minimum of eighteen inches (18") of non-mottled, naturally occurring soil, including six inches (6") of non-mottled soil below the topsoil horizon, and

Provided the following conditions are met based on the Category of systems as follows:

**Option A (C10A):** Dispersal system utilizing non-uniform/gravity distribution network and separated by no less than forty-eight inches (48") to seasonal high water table, water table, greater than fifty percent (50%) rock material, or bedrock.

Or

**Option B (C10B):** Dispersal system utilizing pressure distribution network and separated by no less than thirty-six inches (36") to seasonal high water table, water table, greater than fifty percent (50%) rock material, or bedrock.

II. When/if elevated above natural ground surface, a minimum 3:1 slope/tapers from the dispersal stone or media is required to inhibit toe slope seepage during wettest time of the year.

**Category 2 (C2):** Performance based systems may be considered when the local health department site evaluation has determined:

III. There is less than eighteen inches (18") of non-mottled, naturally occurring soil, and

Provided the following conditions are met based on the Category of systems as follows:

#### Class A (C2CA): Nonproprietary Technology (public domain)

This class includes a wastewater treatment or distribution technology, method, or material not subject to a patent or trademark. These technologies provide a means to, or significantly contribute to, attainment of treatment. Nonpropriety technology may involve a qualified consultant in private practice to prepare a design. Pressurized mound systems would be an example of nonproprietary technology.

All conditions to be met:

i. Dispersal system utilizes pressure distribution and is separated by no less than forty-eight inches (48") to seasonal high-water table, water table, greater than fifty percent (50%) rock material, or bedrock.

- ii. When elevated above natural ground surface, a minimum 4:1 slope/tapers from the dispersal stone or media is required to inhibit toe slope seepage during wettest time of the year.
- iii. Preferred dispersal system length to width ratio is not less than 2:1.

#### Class B (C2CB): Proprietary Treatment Technology

Includes a treatment product held under patent or trademark which significantly contributes to the treatment performance and attainment of effluent quality standards as defined by the National Safety Foundation (NSF) Standard 40 certification. All conditions to be met:

- System design and management plans in accordance with EGLE approved manufacturer's design manual are prepared by a qualified consultant in private practice for local health department review (Attachments 3 and 4).
- ii. The local health department permit requires that the performance based system will be perpetually operated, maintained, and inspected as appropriate for the useful life of the system and requires report submission documenting results of such at least every three (3) years for permit compliance. This requirement shall be filed or recorded in the land records of the subject property prior to final approval by the local health department.
- iii. Wastewater treatment systems incorporating treatment equipment certified per NSF Standard 40, with effluent treatment to 30 mg/L BOD, 30 mg/L TSS are supported provided the dispersal system is designed with 24" separation between the infiltrative surface and the limiting layer (seasonal high water table, water table, greater than fifty percent (50%) rock material, or bedrock).
- iv. A minimum 4:1 slope/taper is required from the dispersal stone or media to inhibit toe slope seepage during wettest time of the year.
- v. Preferred dispersal system length to width ratio is not less than 2:1.
- vi. EGLE consultation available with request from local health department during plan review and prior to local construction permit issuance.

#### IX. Additional Standards

Systems supported by the SRLP need to meet the following standards:

 Systems supported through the loan program should include an assessment of the dispersal system sizing, design, and construction criteria for consistency with best practices and/or soil loading rates as referenced in:

- I. Pressure Mound Systems, Technical Guidance for Site Suitability, Design, Construction, and Operation and Maintenance (June 2003)
- II. Draft Criteria for Onsite Wastewater Treatment (January 2013)
- III. Michigan Criteria for Subsurface Sewage Disposal (April 1994)
- 2. The following are examples of systems/projects not supported through the loan program:
  - I. Drywells
  - II. Cesspools/Seepage pit configuration/type disposal systems
  - III. Lagoons
  - IV. Holding tanks
  - V. Services aimed at system restoration including but not limited to flushing, system aeration, and biomatt disruption
  - VI. Systems for new construction homes
  - VII. Connections to municipal sewer
  - VIII. Systems installed with less than forty-eight inches (48") of vertical isolation to seasonal high water table that don't meet Category 1 or Category 2 standards
- 3. The proposed system shall maintain one-hundred feet (100') of horizontal isolation distance from the closest edge of the dispersal system to surface water bodies. When a local health department site evaluation has determined that one-hundred feet (100') of horizontal isolation distance to surface water cannot be achieved due to insufficient replacement area, systems shall maintain the maximum horizontal isolation distance from surface water that the subject site provides.
- 4. When necessary, an elevation benchmark shall be created by qualified consultant in private practice or local health department staff. A benchmark serves as a reference point for the critical design elevations. Benchmarks help to assure that vertical isolation to the seasonal high water table is maintained.
- 5. When existing system or components must be removed, proper <u>abandonment or removal</u> of septic tanks and soil dispersal areas is necessary. Technical guidance is available by visiting the <u>EGLE Onsite Wastewater Management</u> webpage (Michigan.gov/EGLE/About/Organization/Drinking-Water-and-Environmental-Health/Onsite-Wastewater-Management).
- 6. Homeowners of systems constructed through the loan program are responsible for the proper use and maintenance of the OWTS. SRLP participants are encouraged to follow the information accessible through the Environmental Protection Agency (EPA) Septic Systems (Decentralized/Onsite Systems) webpage <u>SepticSmart | USEPA</u> (EPA.gov/Septic/SepticSmart).

### X. Other Applicable Standards

1. The septic tank, soil dispersal system, and other appurtenances must meet or exceed the requirements of the local health department's legally adopted regulations

and associated design standards. Written variances relevant to the local requirements only may be granted by the local health department.

2. When applicable, follow water supply system isolation distances, as per local health department regulations, Michigan Well Construction Administrative Code pursuant to Part 127, Act 368 of 1978, and Act 399 of 1976, the Safe Drinking Water Act.

#### **Attachments**

Attachment 1: Failed System Data Collection – Residential form (EQP1728)

Attachment 2: Septic Tank Pumping Record form (EQP1731)

Attachment 3: EGLE Manufacturers Design Manual Request for Submission

Attachment 4: List of EGLE Validated Manufacturers Design Manuals

#### References

MCSSD "Water that rests or flows on the ground surface"

Part 31, NREPA, Sec 3112a (9)(c) "Surface water" means all of the following, but does not include drainage ways and ponds used solely for wastewater conveyance, treatment, or control:

- (i) The Great Lakes and their connecting waters
- (ii) Inland lakes
- (iii) Rivers
- (iv) Streams
- (v) Impoundments
- (vi) Open drains
- (vii) Other surface bodies of water

Part 22 Rules R 323.2203 Definitions; R to W (g) "Surface water" means all waters of the state excluding groundwater but does not include drainage ways and ponds used solely for wastewater conveyance, treatment, or control.

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# Michigan Local Public Health Accreditation Program Tool 2023 – MPR Indicator Guide

# SECTION VI: ONSITE WASTEWATER TREATMENT MANAGEMENT EGLE FAILED SYSTEM DATA COLLECTION - RESIDENTIAL

☐ Failed per "failure" definition ☐ Non-Failure	Date:			
FOR LOCAL HEALTH DEPARTMENT COMPLETION ONLY				
Address:Township: _	County:			
Health Department Jurisdiction:				
<b>Dwelling Type:</b> ☐ Single Family ☐ Two-Family				
<b>Dwelling Size:</b> ☐ 2 Bedrooms ☐ 3 Bedrooms	3 ☐ 4 Bedrooms ☐ >4 Bedrooms			
Septic Tank Type:  Single Two Compartment	More Than One Tank			
<b>Septic Tank Capacity – Gallons:</b>	00 – 2,000			
☐ >3,000 ☐ Unknown				
Advanced Treatment Unit:   Yes  No If yes, Treatment Unit Name:				
	ressure Dosed Bed			
☐ Gravity Mound ☐ Dosed Mound ☐ P	Determine ressure Dosed Mound			
☐ Chambers ☐ Drywells ☐ O	ther			
System Age: □ 0 - 5 □ 6 - 10 □ 11 - 15 (years) □ 26 - 30 □ 31 - 40 □ > 40				
Soil Texture:  Coarse Sand, Medium Sand Fine Sand	, Loamy Sand Sandy Loam			
☐ Loam, Sandy Clay Loam ☐ Clay Loan	n, Silt Loam			
☐ Organic Soil, Fill Soil				
<b>Seasonal High Water Table:</b> $\square$ 0 – 12 $\square$ 13 – 24 $\square$ 25 – 36 $\square$ 37 – 48 $\square$ > 48 (inches below grade)				
System Size: Bed ft² Trenches	_ bottom area ft² ☐ Unable to Determine			



### Michigan Local Public Health Accreditation Program Tool 2023 – MPR Indicator Guide

#### SECTION VI: ONSITE WASTEWATER TREATMENT MANAGEMENT

Address:	Township:	County:
Health Department Name: _		
Probable Cause(s) of Failt	ıre:	
☐ Septic Tank Failure	☐ Infrequent Tank Pumping	☐ Pipe Filled with Solids
☐ Damaged/Collapsed Piping System	☐ Hydraulic Overload	System Undersized
☐ Insufficient Isolation to Water Table	☐ Root Intrusion	☐ Installation Error
Unsuitable Fill	☐ Dirty Stone	☐ Excess Cover
☐ Lack of Maintenance	☐ Soil Clogging	☐ Unable to Determine
Other:		
Form Completed by:	(Print Name)	
Date Form Completed:		

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# SEPTIC REPLACEMENT LOAN PROGRAM SEPTIC TANK PUMP RECORD



For properties with multiple onsite wastewater treatment systems, individual pump records are required to be completed and submitted.

Address:	City:	Zip Code:
County:		
Property Owner(s) Name	o:	
Date of Pumping/Service	(Month/Day/Year):	
Filter cleaned at time of p	pumping: YES NO	
Outlet device appears to	be in good condition: YES NO	_
Tank location accessible	e for pumping/maintenance: YES I	NO
Recommended Repair or (If YES, explain in comme	r Replacement of Tank: YES NO _ nts section below)	_
Comments:		
Septage Waste Hauler Na	ame:	
LICENSE NUMBER:	(printed)	
THE INFORMATION REP	ORTED IS ACCURATE TO THE BEST (	OF MY KNOWLEDGE
Signature:		
Company:		

For questions, please contact Anne Mitchell at 517-914-4254 or <a href="EGLE-DWEHD-SRLP@Michigan.gov">EGLE-DWEHD-SRLP@Michigan.gov</a>



# SEPTIC REPLACEMENT LOAN PROGRAM SEPTIC TANK PUMP RECORD



Tank Number:	Tank 1	Tank 2	Tank 3
Size (gallons)		N/A	N/A
Gallons Pumped			
Tank Material (check one)	☐ Prefabricated ☐ Concrete ☐ Polyethylene (plastic) ☐ Steel ☐ Other Material	☐ Prefabricated ☐ Concrete ☐ Polyethylene (plastic) ☐ Steel ☐ Other Material	☐ Prefabricated ☐ Concrete ☐ Polyethylene (plastic) ☐ Steel ☐ Other Material
Sludge/Scum Layers Present Indicating Active Tank	YES NO	YES NO	YES NO
Tank Watertight with No Evidence of Groundwater Infiltration	YES NO	YES NO	YES NO
Tank(s) Structurally Sound	YES NO	YES NO	YES NO
Risers to Grade	YES NO	YES NO	YES NO
Secondary Safety Device Present	YES NO	YES NO	YES NO
Liquid Level	At Outlet Below Outlet Above Outlet	At Outlet Below Outlet Above Outlet	At Outlet Below Outlet Above Outlet
Evidence of Drain/Run Back from Field	YES NO	YES NO	YES NO
Outlet Device	Baffle "T" Vented Elbow Effluent Filter None Other (explain in comments section below)	Baffle "T" Vented Elbow Effluent Filter None Other (explain in comments section below)	Baffle "T" Vented Elbow Effluent Filter None Other (explain in comments section below)
Comments:			

For questions, please contact Anne Mitchell at 517-914-4254 or <a href="EGLE-DWEHD-SRLP@Michigan.gov">EGLE-DWEHD-SRLP@Michigan.gov</a>



## SEPTIC REPLACEMENT LOAN PROGRAM SEPTIC TANK PUMP RECORD



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## Invitation to Submit a Manufacture's Design and Management Manual for the Septic Replacement Loan Program

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) has received funding and contracted with green bank lender, Michigan Saves, Inc., to develop and implement a loan program to replace failing and near-failing septic systems statewide. The Septic Replacement Loan Program (SRLP) is limited to Onsite Wastewater Treatment Systems (OWTS) that serve a single-family home occupied as a dwelling.

The purpose of this letter is to invite manufacturers to submit proprietary treatment design manuals for consideration by EGLE for use within the SRLP. While EGLE does not have a procedure for general approval of wastewater treatment technologies, manuals specific to replacement systems funded by the SRLP are a requirement of the loan program.

The SRLP has statewide site suitability and design standards as laid out in the program's minimum standards (attached). These program minimum standards (PMS) are subject to change as the program is implemented in early 2024. The program's minimum standards will promote uniform minimum standards across the state for the use and management of proprietary technology for residential onsite wastewater treatment systems. In accordance with Michigan's onsite wastewater regulatory structure, local health departments (LHD) may have local requirements that are more restrictive.

The statewide requirements for the SRLP are based on the Michigan Criteria for Subsurface Disposal, the Draft Criteria for Onsite Wastewater Treatment, and Pressure Mound Systems, Technical Guidance for Site Suitability, Design, Construction, and Operation and Maintenance. Therefore, systems supported through the loan program should include an assessment of the dispersal system sizing, design, and construction criteria for consistency with best practices and/or soil loading rates as referenced in all three documents. The Draft Criteria for Onsite Wastewater Treatment includes the use of proprietary treatment technology to justify reducing the required separation between the final dispersal system and limiting layer identified on the subject site.

The use of proprietary treatment technology within the SRLP will be limited to those technologies and specific models that have received an NSF 40 Certification. A requirement for use of proprietary technology within the SRLP includes review and validation by EGLE of a manufacturer's design and management manual developed specifically for use within the program. It is important to note that not all LHDs recognize or approve reductions in isolation distances based on the use of treatment technology and systems funded under the SRLP must also meet health department requirements.

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As noted above, EGLE invites all manufacturers of proprietary treatment technologies that have received NSF 40 certification to submit proposed SRLP-specific Design, Operation and Management manuals for limited approval for use under the program. For the SRLP manuals, it is requested that manuals at a minimum include:

- Manufacturers specification sheets with documentation of NSF 40 certification for each specified model and associated intended use and flow rates.
- Design and Installation Manual.
- Certification requirements for designers, installers, and service providers.
- A homeowner Operation and Maintenance Manual including maintenance frequency and effluent testing requirements.
- A recommended field inspection and maintenance form.
- Responsible manufacturers contact name and information for questions regarding design, installation, troubleshooting, or other management concerns.
- A statement in the manual indicating its use if specific to the SRLP only.
- A statement that any changes in the manual will be submitted to EGLE for consideration.

All submissions will be reviewed by the EGLE Onsite Wastewater Management Unit and will be notified of approval status for participation within the loan program via letter within 10 business days of receipt.

Please submit questions and/or proposed manufacturer design and management manuals for the SRLP to:

Anne Mitchell, MPH, REHS SRLP Program Manager

EGLE-DWEHD-SRLP@Michigan.gov

Attachment: PMS



# Septic Replacement Loan Program EGLE Validated Manufacturers Design and Management Manuals

Systems utilizing these technologies must be designed, permitted, and installed in accordance with the appropriate manufacturer design and management manual for the SRLP, and EGLE's SRLP Program Minimum Standards.

Design manuals can be found by visiting the following link:

Septic Replacement Loan Program (Michigan.gov)

Eljen B43 Geotextile Sand Filter technology

Eljen A42 Geotextile Sand Filter technology

Infiltrator AeroFin technology

Infiltrator AES technology

Infiltrator ATL technology

Norweco Singulair/Singulair Green technologies

Sludehammer Model(s) S-400/600/800/1000

This validation does not represent an endorsement of these products by the Michigan Department of Environment, Great Lakes, and Energy.