

Resiliency Measures

Decentralized Wastewater Treatment Systems (DWTS) (Septic Systems)

Last updated July 2026

Clean Water State
Revolving Fund (CWSRF)
Helene Decentralized
Funding



Background

All decentralized wastewater treatment system (DWTS) (septic system) projects receiving CWSRF Helene Decentralized Funding must use those funds “[T]o improve the resilience of decentralized wastewater treatment systems to flooding, to assess the potential to connect homes served by decentralized wastewater treatment systems to centralized wastewater systems, and to fund such connections.”¹ As such, projects that add resiliency components to protect against future flooding, rapid hydraulic change, and landslides (e.g. flood-induced damages) can be eligible for this funding.

The list of currently approved resiliency measures is shown below in the [Project Application Resiliency Measures Checklist](#). Additional activities to improve DWTS resiliency may be eligible, and the Department of Environmental Quality (DEQ) encourages applicants to complete the attached [New Resiliency Measure Approval Request Form](#) and submit it to DEQ’s Division of Water Infrastructure (DWI) for review. Any requests that are approved will be added to the list in red, and the “Last Updated” date above will be adjusted on this document.

**Please check the webpage
for the most recent list:**

<https://www.deq.nc.gov/clean-water-state-revolving-fund-cwsrf-helene-decentralized-wastewater-treatment-systems-septic>

Also included on later pages of this document is the list of [Resiliency Requests Not Receiving Approval](#).

¹ <https://www.epa.gov/system/files/documents/2025-03/sa-hmw-implementation-memorandum.pdf>

Instructions for Project Application Resiliency Measures Checklist:

Please fill out the checklist included in the following pages and submit those pages with your project application for review. Place a check mark in each box that pertains to a resiliency measure that is being taken on the project. At the bottom, provide details of the specific measure(s) utilized (e.g., specific equipment, flood elevation, description of grading, etc.).

If you are working on a septic-to-sewer connection or a cluster system assessment or project, please skip to [Section V](#) of the checklist.

Project Application Resiliency Measures Checklist	
Project name:	
Address:	
County:	
Applicant name:	
Contact name:	
Contact number:	
Signature: _____ Date: _____	
I. Projects that protect decentralized wastewater treatment systems from rising waters and other extreme rain event issues	
	a. Increase elevation of any/all components of septic system.
	b. Increase distance of any/all components of septic system from stream, river, etc.
	c. Change the landscape position to a better landscape position. 1. System moved from flood plain to toe slope. 2. System moved from toe slope to side slope. 3. System moved from concave slope to a convex slope.
	d. Anchor all buoyant components (e.g., fiberglass tanks, air-filled textile filters, pump basins, etc.) to prevent floating during flood events.

	e. Properly grade and slope areas around septic system components to reduce flood scouring. 1. (Re) grade areas to direct flows away from manhole covers, tank lids, or other critical components. 2. Add artificial buffers or swales, curtain drains, and fill caps to protect infrastructure and divert excess stormwater (and groundwater) away from decentralized systems during heavy precipitation events.
	f. Install fibrous netting products over drainfields.
	g. Brace septic system components to withstand saturated soil conditions.
	h. Plant resilient native plants with shallow root systems to hold soil and prevent erosion near drainfields. Contact DEQ's DWI team for further consultation about this measure before planning to take on this activity.
	i. Elevate all electrical components above base flood elevation.
	j. (Re) route gutters, downspouts, and other stormwater sources away from the drainfield.
	k. Add gasketed bolt down covers to prevent infiltration into underground structures.
II. Projects that protect decentralized wastewater treatment systems from power risks associated with flooding	
	a. Install backup power systems/connections to ensure that systems remain operational during power outages.
	b. Install power shutoffs for emergency situations.
	c. Elevate or waterproof electrical components.
III. Projects that reduce the risk of decentralized wastewater treatment system failure associated with flooding	
	a. Install measures that reduce the amount of wastewater entering the decentralized treatment system (e.g., low-flow plumbing fixtures).
	b. Ensure stormwater systems are not connected to the decentralized treatment system (including sump pumps).

IV. Projects that increase decentralized wastewater system capacity to handle flood risks

- a. Install additional wastewater lines, larger and/or additional septic tanks, and holding tanks.
- b. Elevate drainfields to create more vertical separation distance or install alternative dispersion for drainfields (e.g., shallow pressurized drainfields or drip dispersal with applicable back-up power), allowing decentralized systems to return to normal operation more quickly after a flood event.

V. Consolidation of decentralized wastewater treatment systems to reduce flood risk *(only applicable to septic-to-sewer connection projects and cluster systems)*

- a. Install cluster systems to consolidate treatment and dispersal off-lot in a site that is more resilient (e.g., less flood risk, better soil conditions or terrain).
- b. Design and install shared cluster systems to pool financial resources so that resilient features and management practices can be incorporated.
- c. Integrate advanced treatment options into cluster systems to generate treated wastewater for reuse (e.g., membrane technologies).
- d. Connect homes served by decentralized wastewater treatment systems to a centralized wastewater treatment system.

Detailed description of resiliency measure (e.g., specific equipment, flood elevation, description of grading, etc.):

Instructions for New Resiliency Measure Approval Request Form:

To request approval for a new resiliency measure not included in DEQ's checklist, please fill out the form below and submit it with your project application for review. Provide as much detail as possible regarding what is proposed and how it will improve the resiliency of the DWTS. Additionally, please include any drawings, equipment, cut sheets, or other information that may be helpful in the review.

New Resiliency Measure Approval Request Form	
Project name:	
Address:	
County:	
Applicant name:	
Contact name:	
Contact number:	
Signature:	Date:
Detailed description of proposed resiliency measure:	
Explain how it increases resiliency of the DWTS:	

Attach any additional information necessary to review the request (drawings, equipment cut sheets, etc.).

Resiliency Requests Not Receiving Approval

a. Example of Resiliency Measure Request that did not receive approval and why
(xx/xx/2026)

b.

c.

d.

e.

f.