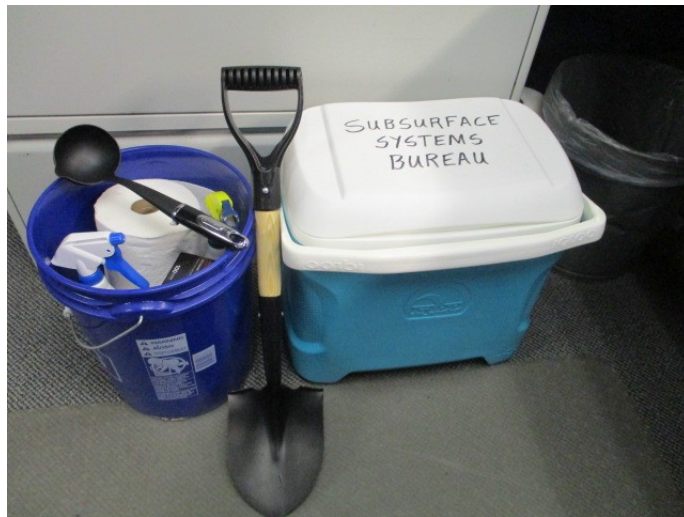


HOW TO TEST SEPTIC SYSTEMS FOR FAILURE AS A HEALTH OFFICER

1. Upon receipt of knowledge of a potential failure, contact the Property owner and notify them of your intentions to determine whether their individual sewage disposal system (ISDS) is in a state of failure. If needed, notify them of your statutory authority to inspect under RSA 147:3. Have the expectation of assessing and documenting conditions of the entire ISDS/s and focus your investigation in the location of the effluent disposal area (EDA), as this is the area that would trigger a requirement for a replacement ISDS, if necessary.
2. Gather all preliminary information related to the Property prior to the inspection in the form of Site contact information, field-cards, and approved ISDS design plans. Secure sampling tools as necessary to help you assess the Site conditions.
3. Some helpful materials include:
 - a. A templated inspection checklist (available from NH DES) and ball point pen.
 - b. A digital camera (preferably) or phone camera.
 - c. Sampling equipment, nitrile gloves, and decontamination (bleach/distilled) supplies.
 - d. Laboratory prepared sample containers with appropriate preservative.
 - e. SOP sampling instructions, labels, and a chain of custody.
 - f. Clean cooler that contains ice which is secured in a zip lock bag.
 - g. Extra laboratory prepared sample containers with appropriate preservative.
 - h. A container of test dye (if necessary).



4. Inspect the Property and look for obvious signs of a failed system, record field conditions with photographs, and fully complete your inspection checklist. State law defines failure as “the condition produced when a subsurface sewage or waste disposal system does not properly contain or treat sewage or causes the discharge of sewage on the ground surface or directly into surface waters, or the effluent disposal area is located in the seasonal high groundwater table.”

Signs of ISDS failure include:

- ✓ Confirmation that a cesspool exists and there is no septic tank.
- ✓ Surficial breakout in the location of the effluent disposal area (EDA).
- ✓ Black-stained soils or obvious discoloration from that of natural conditions.
- ✓ Standing water or damp spots near the septic tank.
- ✓ Bright green, spongy, or lush grass over the EDA, especially during dry weather.
- ✓ Water and sewage from toilets, drains, and sinks are backing up into the building.
- ✓ Bathtubs, showers, and sinks drain very slowly after they have been plunged.
- ✓ Olfactory evidence of septage around the septic tank or EDA.
- ✓ Wetland areas in close proximity to and of similar elevation to that of EDA.

Other signs of chronic failure include:

- ✓ Algal blooms/Eutrophication documented in nearby ponds or lakes.
- ✓ High levels of nitrates, e. coli or coliform bacteria in nearby water wells.



5. With respect to the specific section of the definition that refers to “the discharge of sewage on the ground surface or directly into surface waters,” Health Officers can feel confident that visual observations alone, documented by several photographs from multiple vantage points, are enough to deem an ISDS to be in a state of failure. The other two sections of the statutory definition may be a bit more difficult to interpret based on field observations. Representatives from the NHDES Subsurface Systems Bureau are available at (603) 271-3501 should you have any questions regarding your field observations. Additionally, the opinions of a permitted designer are recognized by the NHDES in determining whether an ISDS is failing.
6. If necessary and in order to confirm visual observations, take a liquid sample of the suspected effluent. Utilize the appropriate sampling equipment (dig a hole, then allow accumulation), collect a representative sample, place it in a laboratory prepared container, store it in a cooler with ice, and have it analyzed at a state-certified laboratory for the presence of ammonia, nitrate,

and E. coli. If laboratory analyses indicate the presence of sewage, (greater than 300 most probable number/mpn of E. coli bacteria per 100 milliliters/ml) the system is likely in failure. Retain a copy of any laboratory results in the Property file.

7. If necessary and as needed, add colored dye to the water in the toilets, flush repeatedly and/or run the water in the tub, and inspect the EDA to observe if the same-colored sewage from the house is surfacing in the location of the suspected effluent breakout. Be prepared that this process may take several minutes to several hours. It is always recommended that a follow-up inspection is performed the next day to observe Site conditions should visual observations on the first day not reveal positive results. Take several photographs of any evidence of dye leakage from several vantage points.
8. If the ISDS is in failure, take the following steps:
 - a. Post the area and block access with signs or tape.
 - b. Advise the building owner to immediately pump the septic tank.
 - c. Advise occupants to reduce water use and avoid the area of impact/breakout.
 - d. Notify the NH DES at 271-3501 of your intent to order the Property owner to bring the Site back into a proper sanitary condition.
 - e. Prepare and deliver a Letter of Deficiency (LOD) stating that the Property must be brought back into a proper sanitary condition. Send LOD regular mail and certified mail. An LOD template is available at NH DES Sub Surface Bureau (SSB) website below.
 - f. Give the owner a defined time (e.g. 30 days) to submit an Application for review and approval after receipt of LOD. SSB expects that once the construction approval (CA) is issued, the replacement ISDS will be installed within 90 days. It is common that the SSB will extend a one-time extension of an additional 90 days for installation.
9. If the ISDS is not replaced within the required time (max. 180 days), the health officer should issue an Order to Remove the Nuisance under RSA 147. See sample order in the Health Officers Manual: <https://www.dhhs.nh.gov/dphs/holu/documents/hom-septicorder.pdf>
10. If the ISDS is still not replaced, the town may take legal action and have its attorney present the case in Superior Court.
11. The town may elect to appropriate funds, correct the problem at the town's expense, and then recover costs as per RSA 147:17-b and RSA 147:7b. In order to protect the town, a lien would be placed against the property deed.

Available NHDES SSB template documents can be retained by contacting Kevin J. Kaveny, SSB Compliance Supervisor at (603) 271-3442 or Kevin.Kaveny@des.nh.gov

For more information, visit the NH DES Subsurface Systems Bureau website.
<https://www.des.nh.gov/organization/divisions/water/ssb/index.htm>

Notes: Need to update the chapter on septic in health officer manual.