“Septic 101” Inspections, Failures & Rule Changes

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New Hampshire Department of Environmental Services
TYPICAL SEPTIC TANK
PUMPS
DISTRIBUTION BOXES

CONCRETE D-BOX

PLASTIC D-BOX
B dox compacted and level
OUT OF LEVEL?

FLOW EQUALIZER

SPEED LEVELER
TYPE OF SYSTEMS IN NH

- STONE AND PIPE
- ENVIRO-SEPTIC
- CONCRETE CHAMBERS
- PLASTIC CHAMBERS
- ELJEN IN DRAINS
- DRYWELLS
COMPLETED PIPE AND STONE
CONCRETE CHAMBERS
Infiltrator Chambers
VENTS

PROPER GRAVITY SYSTEM VENT CONFIGURATION

FLOW OF AIR CREATED BY THIS CIRCUIT CIRCUMVENTS THE LEACH FIELD.

VENTING IS ESTABLISHED THROUGH SUCTION CREATED BY THE DRAW OF AIR FROM THE LOW VENT, THROUGH THE LEACH FIELD, THROUGH THE SEPTIC TANK, AND EXHAUSTED THROUGH THE (HIGH) ROOF VENT.
PUMP SYSTEM DIFFERENTIAL VENTING

ROOF VENT
EXHAUST STACK
VENTS SEPTIC TANK AND PUMP CHAMBER.
CLOSED VENT CIRCUIT (1).

HIGH VENT - (EXHAUST)
CREATES SUCTION. PULLS
AIR FROM LOW VENT,
THROUGH FIELD, AND OUT
HIGH VENT.
CLOSED VENT CIRCUIT (2).

LOW VENT -
DRAWS AIR IN.

AIR FLOW IS CUT OFF
AT PRESSURE LINE.

PROFILE OF PROPER PUMP SYSTEM VENTING

IN A PUMP SITUATION, THE PRESSURE LINE CUTS OFF THE FLOW OF AIR BETWEEN THE LOW VENT AND THE ROOF VENT. A SECOND VENTING CIRCUIT MUST BE CREATED THROUGH DIFFERENTIAL VENTING.

DIFFERENTIALLY VENTING THE SYSTEM TREATMENT AREA (FIELD) IS CREATED BY THE ADDITION OF A HIGH VENT THROUGH THE D-BOX.

THE 10' MINIMUM ELEVATION DIFFERENCE BETWEEN LOW AND HIGH VENT IS TO ENSURE ENOUGH ENERGY IS CREATED TO PROVIDE A STRONG ENOUGH DRAFT EFFECT TO PULL THE AIR THROUGH THE FIELD.
DIFFERENTIAL VENTING – CONNECTING HIGH VENT TO ROOF VENT DETAIL
N.T.S.
REFER TO MANUFACTURERS GUIDELINES
LOCAL REGULATIONS

TITLE X
PUBLIC HEALTH
CHAPTER 147
NUISANCES; TOILETS; DRAINS;
EXPECTORATION; RUBBISH AND WASTE
• 147:1 Local Regulations. –

1. The health officers of towns may make regulations for the prevention and removal of nuisances, and such other regulations relating to the public health as in their judgment the health and safety of the people require…
• 147:4 Removal, Notice. –

The health officers may notify the owner or occupant of any building, vessel, premises, or property to remove or destroy any nuisance or other thing therein deemed by them, on examination, to be injurious to the public health,.....the health officers may forcibly enter and cause the nuisance or other thing to be removed or destroyed.
They may employ such assistants and laborers as may be necessary, and if resisted shall have the same powers as sheriffs have to command assistance; and any person willfully resisting them or their assistants or laborers, in making the search or removing the nuisance or other thing, shall be guilty of a misdemeanor if a natural person, or guilty of a felony if any other person.
147:6 Removal Without Notice. – When the owner of a building, vessel or enclosure is unknown to the health officers, or does not reside in town, and the same is unoccupied, or the occupant is, in their opinion, unable to remove the same, they may, without previous notice, immediately cause the nuisance or other thing by them deemed injurious to the public health found therein to be removed or destroyed.
• **147:7 Expenses.** –

The owner or occupant of a building, vessel or enclosure shall be liable to pay the expense of the removal or destruction of the nuisance or other thing, including the fees of the health officers who order or cause the same to be removed; and the same may be recovered by action brought by the health officers in the name of the town.
• 147:7-b Collection of Nuisance Abatement Costs. –

…enforceable in the same manner as real estate taxes, including possible loss of the property for nonpayment…
No person shall occupy, lease to any other person, or permit any other person to occupy, a building or any part of a building as a dwelling house, office, store, shop, theater, public hall, sleeping apartment or tourist cabin, unless such building shall have readily accessible adequate toilet and lavatory facilities...
No privy, toilet, sink, drain, cesspool, septic tank, or the discharges from such facilities, and no pen or sty for swine, shall be erected or continued in such place or condition as, in the judgment of the health officers, to be a nuisance or injurious to the public health.
FAILURE

• FAILURE IS DEFINED IN RSA 485-A:2, IV AS:

“Failure” means 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.
II-a. Any person submitting an application and plans for construction approval to replace a subsurface sewage disposal system in failure as defined in RSA 485-A:2, IV shall be exempt from presenting a certification of compliance with local government requirements as required by paragraph II.
“NEW” RULES

KNOW THE RULES!
ENV-WQ 1004.20: If the system being replaced has not received construction and operational approval the new system must be installed.

Previously replacement systems needed to be installed only when the existing system is in failure.
1008.01: The existing exemption from lot size requirements when replacing an existing ISDS serving the ISDS owners domicile would be replaced with provisions that allow replacement of (1) any state-approved ISDS if there is no increase in loading, and (2) any other existing ISDS to serve the existing use if the existing use can be documented as of September 1, 1989;
1010.01(f): The minimum septic tank volume would have to increase by 375 gallons for a studio apartment or 1-bedroom in-law apartment associated with a private residence.

This is an effort to state in rule the requirement for extra tank volume for studio/in-law apartments.
1021.04: The fill extension has been reduced from 5 feet to 3 feet. Also, the side slopes can be 2:1 if necessary to maintain side slopes on-lot or to avoid and existing permanent structure; the slope changed currently is allowed by waiver.

This is an effort to reduce the number of waiver requests received for these standards.
NEW RULES
1002.78: A new definition of “when land is exchanged between abutters” would result in the exemption from needing subdivision approval (RSA 485-A:33, II) applying only to situations where no lot is reduced below the size needed for the approved loading/existing use.

This is an effort to clarify the difference between a subdivision and a lot line adjustment.
1008.04, Table 1008-2: Set-back distances have been added for storm water ponds, geothermal wells, and up gradient swales.

This is an effort to address setbacks to structures not considered during the previous rule writing effort.
## SETBACKS

**Table 1008-2: Minimum Separation Distances (in Feet)**

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Component</th>
<th>Septic Tank</th>
<th>Bed</th>
<th>Sewer Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Water</td>
<td></td>
<td>75</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Poorly Drained Jurisdictional Wetland</td>
<td></td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Very Poorly Drained Jurisdictional Wetland</td>
<td></td>
<td>75</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Open Drainage</td>
<td></td>
<td>75</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Culvert, Tight Pipe</td>
<td></td>
<td>10</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Catch Basin</td>
<td></td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Reservoir</td>
<td></td>
<td>75</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Water Lines, pressure</td>
<td></td>
<td>10</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>Water lines, suction</td>
<td></td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Property lines</td>
<td></td>
<td>5</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Foundation, any type, with Foundation Drains</td>
<td></td>
<td>5</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Foundation, full cellar, without Foundation Drains</td>
<td></td>
<td>5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Foundation, slab, without Foundation Drains</td>
<td></td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Foundation Drains Outfall Pipe (Solid)</td>
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<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Foundation Drain Outfall (Discharge)</td>
<td></td>
<td>25</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Top of Natural Embankment or Natural Steep Slope</td>
<td></td>
<td>5</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Stormwater Pond intercepting SHWT</td>
<td></td>
<td>50</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Stormwater Pond not intercepting SHWT</td>
<td></td>
<td>25</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Geothermal well, open loop</td>
<td></td>
<td>75</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Geothermal well, closed loop</td>
<td></td>
<td>25</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Upgradient swale to divert surface water from EDA not intercepting SHWT, below finished grade of EDA</td>
<td></td>
<td>10</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>
1009.01: Requires all sewer lines that are not subject to the plumbing code to be SDR 35 or stronger.

This is an effort to address concerns regarding potential deformation of thin walled pipe.
1013.04: All wiring for pumps and alarms are required to be done by a licensed electrician.

This is an effort to address and put into rule who is legally able to wire pump stations.
QUESTIONS?