

# **Liability Issues for Title 5 System Inspection**

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# Legal Considerations Pre-Inspection Activity



# Reasonable Professional Efforts

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- The inspector shall make reasonable professional efforts to determine the location and condition of all system components and relevant physical features. If any component cannot be located or inspected, or any determination cannot be made, the inspector shall state on the inspection form the reasons and the steps taken to complete the inspection. At a minimum, reasonable professional efforts require compliance with the inspection requirements and protocol in 310 CMR 15.302(4) (Groundwater Determination) and (5) (Location of System).

# Reasonable Professional Efforts

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- Violation of accepted trade practices is evidence of unreasonableness.
- One is not reasonable if he takes greater risks than a man of ordinary prudence would take in a like situation.
- Violation of regulations is evidence of unreasonableness.

### Criteria for Inspection

- (1) The intent of 310 CMR 15.302 is to provide reasonable guidance for the inspection of existing systems in as non-intrusive a manner as possible, set forth the requirements for conducting an inspection, and to avoid damage to the system and any unnecessary disturbance of the surrounding soil area which is related to the treatment process. At a minimum, the septic tank and distribution box, if present, or cesspool, if present, shall be located, uncovered and inspected, and reasonable professional efforts shall be made to locate and identify other components and features, as described in 310 CMR 15.302(2) and (3). The inspection is not designed to provide information to demonstrate that the system will adequately serve the use to be placed upon it by the new owner. The inspection criteria are intended to allow for timely inspection to avoid undue delay in the transfer of property.

(2) An inspection shall consist of the collection and recording of the following information:

(a) a general description of the system components and layout:

(b) quantification of the source/type of sanitary sewage. This should include type of use (domestic or commercial/industrial) as well as the design flow and whether or not the facility being served is occupied at the time of the inspection;

(c) an analysis of the factors set forth in 310 CMR 15.303 (failure criteria) and, if the system has a design flow of 10,000 gpd or greater, 15.304 (threats to public health and environment);

(d) water use records for the previous two years for facilities served by public water supply, if available from the supplier;

(e) a description of the septic tank including:

1. approximate age, size, and condition of the tank;
2. distance between bottom of grease/scum layer and the bottom of the outlet baffle;
3. distance between the top of the scum layer and the top of the outlet tee;
4. thickness of the grease/scum layer;
5. depth of the sludge layer and distance from sludge to outlet tee;
6. physical condition of inlet and outlet tees;
7. any evidence of leakage into or out of tank; and
8. any evidence of backup of effluent.
9. a characterization of the distribution box, and of dosing tanks with pumps, if any, including:
  - a. any evidence of solids carryover;
  - b. leakage into or out of the distribution box;
  - c. whether the flow is equally divided; and
  - d. any evidence of backup.
10. a description of the condition of the soil absorption system including:
  - a. any signs of hydraulic failure;
  - b. condition of surface vegetation;
  - c. level of ponding within disposal area;
  - d. encroachments into disposal area; and
  - e. other sources of hydraulic loading.
11. the location of private water supply well (if any) in relation to system components; and
12. a copy of pump-out records on file with the local Approving Authority.

# Contract Provisions

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- “The inspection will be performed in accordance with title 5 (310 CMR 15.300 et seq.).”
- “The contractor does not guarantee the system will pass. The testing results will state the condition of the system at the time of the inspection.”
- “Even if the system inspection is determined to pass, such “pass inspection” does not guarantee the system will operate properly after the testing is completed.”
- “The results of any testing do not create a relationship with any party other than the homeowner.”

# Minimizing Your Potential Liability

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- Some of the various ways to do this are:
  - Obtain the information from Homeowner (See Homeowner Questions which may assist you in obtaining the necessary information from the Homeowner);
  - Create an Inspection Authorization to be signed by the Homeowner before you begin the testing/work which requires Homeowner to answer questions under oath and states that you will be relying upon the answers;
  - Include in the Inspection Authorization that Completion of testing does not guarantee conclusion of “system pass”



# Homeowner Questions

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1. Were any of the system components pumped out in the previous two weeks?
2. When was the system last pumped?
3. Has the system received normal flows in the previous two week period?
4. Have large volumes of water been introduced to the system recently or as part of the inspection
5. Number of bedrooms:
6. Does residence have a garbage grinder?
7. Is laundry on a separate sewage system?

# Homeowner Questions

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8. What is the age of the house?
9. Is there a well?
10. When did you acquire the property?
11. Number of people currently residing in the home?
12. Do you have water in the basement?
13. Is there a sump pump in the home?
14. Do you have an underground sprinkler?

# Pre-Inspection Research



## ***Pre-Inspection Research ...***

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**It's more than just digging up the Septic Tank and D-Box ...**

- ✓ Researching Board of Health records
- ✓ Check Assessor's Information
- ✓ Obtain water records if on a municipal water system
- ✓ Review location of public water supplies
- ✓ Call Dig Safe



# ***Pre-Inspection Research ...***

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## **Board of Health Research**

### As-Built Plan

- Location of system components
- Well locations

### Design Plan

- Design flow
- Groundwater information

### Pumping Records

### Previous Title 5 Inspection Reports

### Other Interesting Information

- Complaints
- Variances or Upgrade Waivers
- Deed Restrictions



# ***Pre-Inspection Research ...***

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## **Sampling of Local Board of Health Regulations**

*Upon submission of the Report, a fee as determined by the Board shall also be submitted.*

*Reports for vacant properties shall be considered as Requiring Further Evaluation by the Board and may require additional inspections.*

*The Board has determined that groundwater levels shall be determined by a Soils Evaluator, as part of the Inspection, if the septic system was installed prior to 1996 or no record of groundwater determination was made by a Soil Evaluator.*

*All seepage pits must be inspected. Pits will fail an inspection when the liquid depth in a seepage pit is less than six inches from the inlet pipe invert or the remaining volume within the leaching system above the liquid depth is less than ½ of one day's design flow.*

*All cesspool systems shall constitute an automatic failure.*

*At the time of the inspection of a septic system for title transfer, soil absorption systems documented by the Septic Inspector to have less than 4 feet of naturally occurring pervious material between the bottom of the soil absorption systems and estimated seasonal high groundwater shall be considered as "failed" by regulation.*

# ***Groundwater Determination ...***

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## **Caution when relying on pre-1995 Soil Testing**

**Post 1995  
Design Groundwater**

**Pre-1995  
Design Groundwater**



**When relying on something other than a post 1995 soil evaluation,  
use multiple sources of information to corroborate your conclusion**



# Soil Based Groundwater Conditions ...

Soil type can give indication of groundwater depth

General soil description provided by USDA

Gives indication of where you might find groundwater at your site

Middlesex County, Massachusetts

**106C—Narragansett-Hollis-Rock outcrop complex, 3 to 15 percent slopes**

**Map Unit Setting**  
*Elevation:* 0 to 1,000 feet  
*Mean annual precipitation:* 45 to 54 inches  
*Mean annual air temperature:* 43 to 54 degrees F  
*Frost-free period:* 110 to 240 days

**Map Unit Composition**  
*Narragansett and similar soils:* 45 percent  
*Hollis and similar soils:* 20 percent  
*Rock outcrop:* 10 percent  
*Minor components:* 25 percent

**Description of Narragansett**

**Setting**  
*Landform:* Ridges, hills  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex  
*Parent material:* Friable silty eolian deposits and/or friable loamy eolian deposits over loose sandy glaciofluvial deposits derived from metamorphic rock and/or friable sandy basal till derived from metamorphic rock

**Properties and qualities**  
*Slope:* 3 to 15 percent  
*Surface area covered with cobbles, stones or boulders:* 1.6 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 6.00 in/hr)  
**Depth to water table:** More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Moderate (about 7.9 inches)

**Interpretive groups**  
*Land capability (nonirrigated):* 6s

**Typical profile**  
*0 to 2 inches:* Slightly decomposed plant material  
*2 to 7 inches:* Silt loam  
*7 to 35 inches:* Silt loam  
*35 to 60 inches:* Very gravelly loamy sand  
*60 to 65 inches:* Very gravelly loamy sand

<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

# State Groundwater Conditions ...

Groundwater determination can also be affected by the time of year  
Review groundwater information prior to field inspection

<http://groundwaterwatch.usgs.gov/StateMaps/MA.html>



## ***Setbacks ...***

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Need to determine if lot is in vicinity of:

- ✓ Surface water supply or tributary to a surface water supply
- ✓ Zone 1 of a public water supply
- ✓ Wetlands
- ✓ Surface waters

These setbacks could trigger:

- ✓ Failure criteria
- ✓ Further Review by the Board of Health

Knowing this before field inspection will assist in field checking setbacks

- ✓ Inspection time of year may affect ability to observe wetlands
- ✓ Avoids telling homeowner system passes and then find out you have a setback issue

## ***Setbacks ...***

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### **Failure**

#### Cesspools

- Within 100 feet of surface water supply or its tributary
- In Zone 1 of a public well
- Within 50 feet of a private well
- Within 50 to 100 feet of a private well with no acceptable water quality analysis

#### Note

For wells within 50 to 100 feet of a cesspool, the well test report and chain of custody may be provided to show 0 ppm coliform and <5 ppm nitrogen to pass inspection

# *Setbacks ...*

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## **Further Review by BOH**

### Septic Tanks & Soil Absorption Systems

- Within 100 feet of surface water supply or its tributary
- In Zone 1 of a public water supply
- Within 50 feet of a private well
- Within 50 to 100 feet of a private well unless well test meets 0 ppm coliform and <5 ppm nitrogen

### Cesspools

- Within 50 feet of surface water
- Within 50 feet of wetland or salt marsh

## ***On Line Tools ...***

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**On-Line Information is available to assist the Inspector**

Title 5 Setbacks

<http://maps.massgis.state.ma.us/images/dep/omv/t5viewer.htm>

Wetlands

<http://maps.massgis.state.ma.us/images/dep/omv/wetviewer.htm>

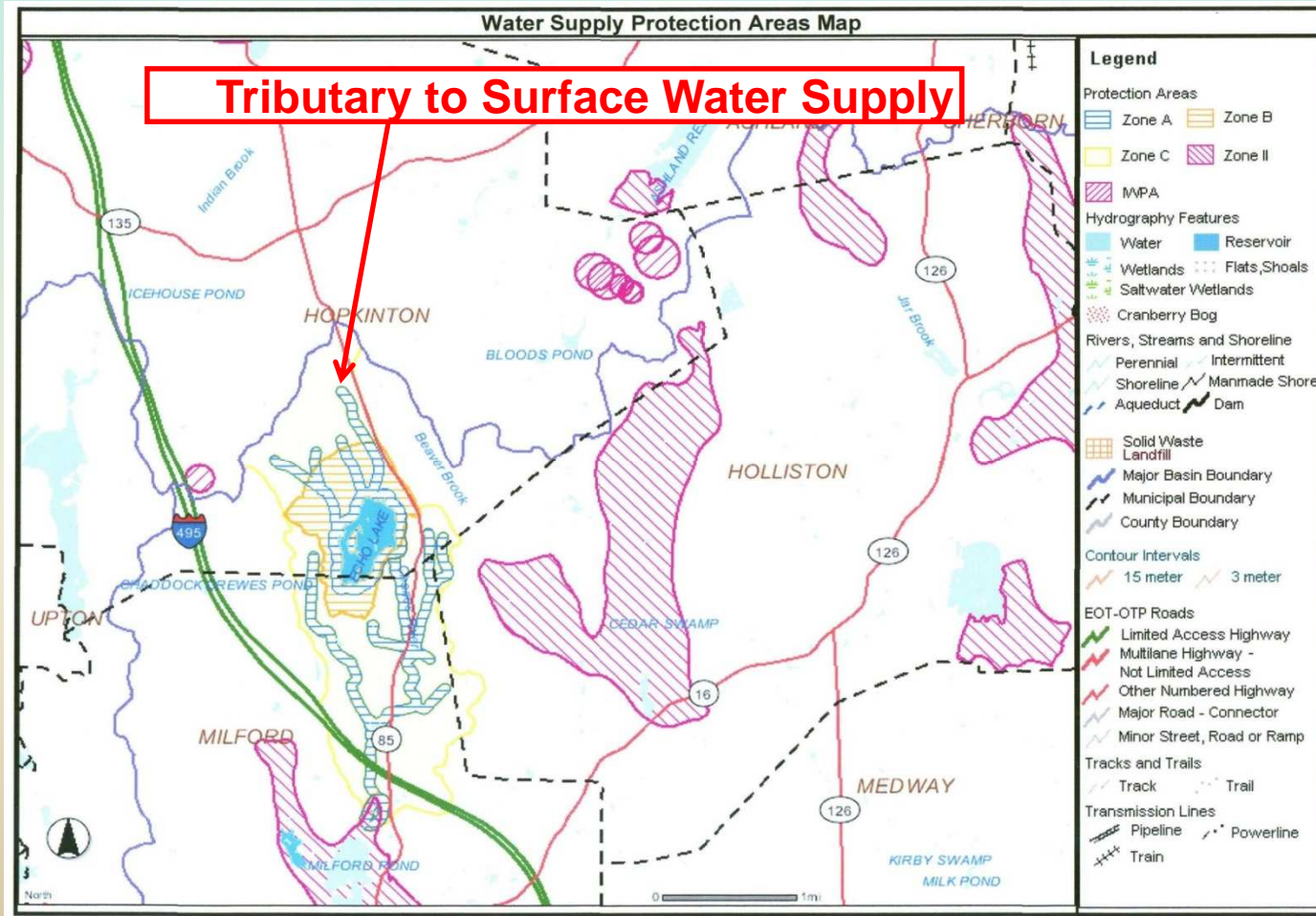
Public Water Supplies

<http://maps.massgis.state.ma.us/images/dep/omv/wspviewer.htm>

# On Line Tools ...

On-line mapping not a substitute for field checking

Towns may have more up to date mapping





# ***Pre-Inspection Research ...***

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**Even with research you may come across the un-expected**





# Legal considerations On-Site Inspection Activity and Completion of Report



# Reasonable Professional Efforts

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# Reasonable Professional Efforts

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# Liability

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## ➤ **Pass:**

- Valid Inspection (Reasonable Judgment - Best Professional Judgment)
- Ok for all parties

## ➤ **Fail:**

- Valid Inspection (Reasonable Judgment - Best Professional Judgment)
- Ok for all parties

## ➤ **Fail:**

- Invalid Inspection
  - Liable to Seller for repairs.
  - Recovery Remote Proof Questionable
  - Once – Error – Ok – no Regulatory Action.
  - Repeated – Proven - Suspension

# Liability Continued

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## ➤ **Pass – Invalid Inspection:**

- Defendant in lawsuit.
  - Joinder of all Parties.
- Question of proof.
  - Report contradicts information or observations.
    - i.e. water table.
- State Penalty – False Reporting
  - Fine – Min. \$100.00 – Max of \$25,000.00
  - Suspension
  - Reinstatement – Pass test.

# Conditionally Passes

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- System Component Needs – repair or replacement.
  - Metal tank – over 20 years – no leaking.
  - Risk – one year after leaks – Liability as with invalid inspection
  - No Regulatory Liability.
- Back up or breakout.
  - System repaired with approval of Board.
  - No liability.
- Excessive pumping – repair with approval of Board.
  - No liability.
- Other Action / Inspection Required
  - Board of Health determination.
  - Proximity to surface water or well.

# Location of System

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## What should an Inspector do?

### ➤ As-Built Plan Confirmation

- Tank.
- D-Box.
- Soil Absorption.



### ➤ Soil Absorption System – Location & Condition

- Topography consistent with As-Built.
- Snake lines.

# Condition of System

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## **INSIDE:**

- Observation of sewage backup in dwelling.
- Sump pump.
- Garbage grinder.
- Bedrooms.
- Functioning of Disposal System.
- Odors.



# **Ground Water Determination Best Professional Judgment**

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Determination of High Groundwater Elevation.

A deep hole observation test is not required to determine high groundwater elevation during an inspection.

High groundwater elevation shall be estimated by the inspector, using best professional judgment, based on the methods described in 310 CMR 15.302(3)(a) 1 through 3.

# Ground Water Determination

## Best Professional Judgment

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- The inspector shall review local maps and records of groundwater elevation (previous deep hole observation tests or groundwater monitoring results) on the site and nearby properties, if available.
- If the system includes a cesspool, the cesspool shall be pumped during the inspection and then examined to determine whether ground water flows into the cesspool, indicating that the cesspool is below high groundwater elevation.
- If the system includes a septic tank and distribution box, the condition of these components and the surrounding soil shall be observed for indications that groundwater has infiltrated the system. Care should be taken not to destabilize the distribution box or the piping to or from the box.

# Ground Water Determination Best Professional Judgment

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These minimum requirements shall not prevent the use of additional methods.

The elevation of nearby water bodies, or evidence of groundwater infiltration in other subsurface structures (for example, cellars), or hand auguring to determine depth may aid in determining whether the system is located in the groundwater. The methods used to determine high groundwater elevation shall be described in the inspection report.

A system owner may choose to have the high groundwater elevation determined by an observation well or deep hold observation test to confirm or disprove the results obtained by the minimum requirements of 310 CMR 15.302, or in place of the minimum requirements.

# Ground Water Determination

## What Should An Inspector Do?

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- Plans.
- Observation – grades beyond breakout.
- Observations of Tank and D-Box.
- Hand Auger.
- Board of Health Groundwater Records for area.
- Past Inspection & Plans.
- FEMA Maps.
- History of springtime pumping.
- USGS ground water records.

# Inspection Activity



# ***Minimum Inspection Requirements ...***

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## **Minimum Requirements**

1. General inspection of property for signs of failure
  - Backup into facility
  - Ponding to ground surface
  - Breakout
2. Locate and inspect all system components
3. Determine high groundwater

**However DEP qualifies its inspection guidance .....**

**Meeting minimum requirements may not always be considered  
as an acceptable inspection**

# ***Title 5 Inspection Guidance Document ...***

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**Important to follow all rules:**

## ***Guidance for the Inspection of On-site Sewage Disposal Systems***

**Can be found at:**

**<https://www.mass.gov/guides/guidance-for-the-inspection-of-on-site-sewage-disposal-systems>**

# ***Title 5 Inspection Guidance Document ...***

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**However meeting minimum requirements may not be acceptable:**

## **Minimum Requirements for an Inspection**

The following are the minimum requirements necessary to complete an inspection. Meeting these minimum criteria, however, should not be construed as completion of an acceptable inspection if through reasonable effort, a complete inspection of all components of the system is feasible. Furthermore, if a complete inspection cannot be performed, the inspector must provide adequate documentation of the specific conditions that prevented a complete inspection and should indicate on the inspection form what was done to try to locate components, determine high ground water, etc.

1. The inspector must note the general conditions of the property to identify any obvious signs of failure. These would include but not be limited to backup of sewage to the facility, effluent ponding, breakout to the surface of the ground or to surface waters, and other occurrences which professional judgment would deem indications of failure.
2. All components prior to the leaching facility must be located and inspected. In a conventional component system, this would generally require inspection of the septic tank and distribution box. If a cesspool system, all cesspools in the system must be exposed for inspection.
3. Determine high ground water elevation at the site.

***"Professional Judgment"***

***"Reasonable Efforts"***



# ***Title 5 Inspections ...***

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**Potential Areas Requiring Professional Judgment & Reasonable Efforts**

***Unoccupied Homes***

***Staining***

***Groundwater***

# ***Best Professional Judgment ...***

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## **Unoccupied Home**

From our pre-inspection research we know ....

- Vacant for 6 months
- No records of any pumping
- Constructed 1982



Liquid level below invert

**Conditional Pass - Replace D-Box?**

# ***Best Professional Judgment ...***

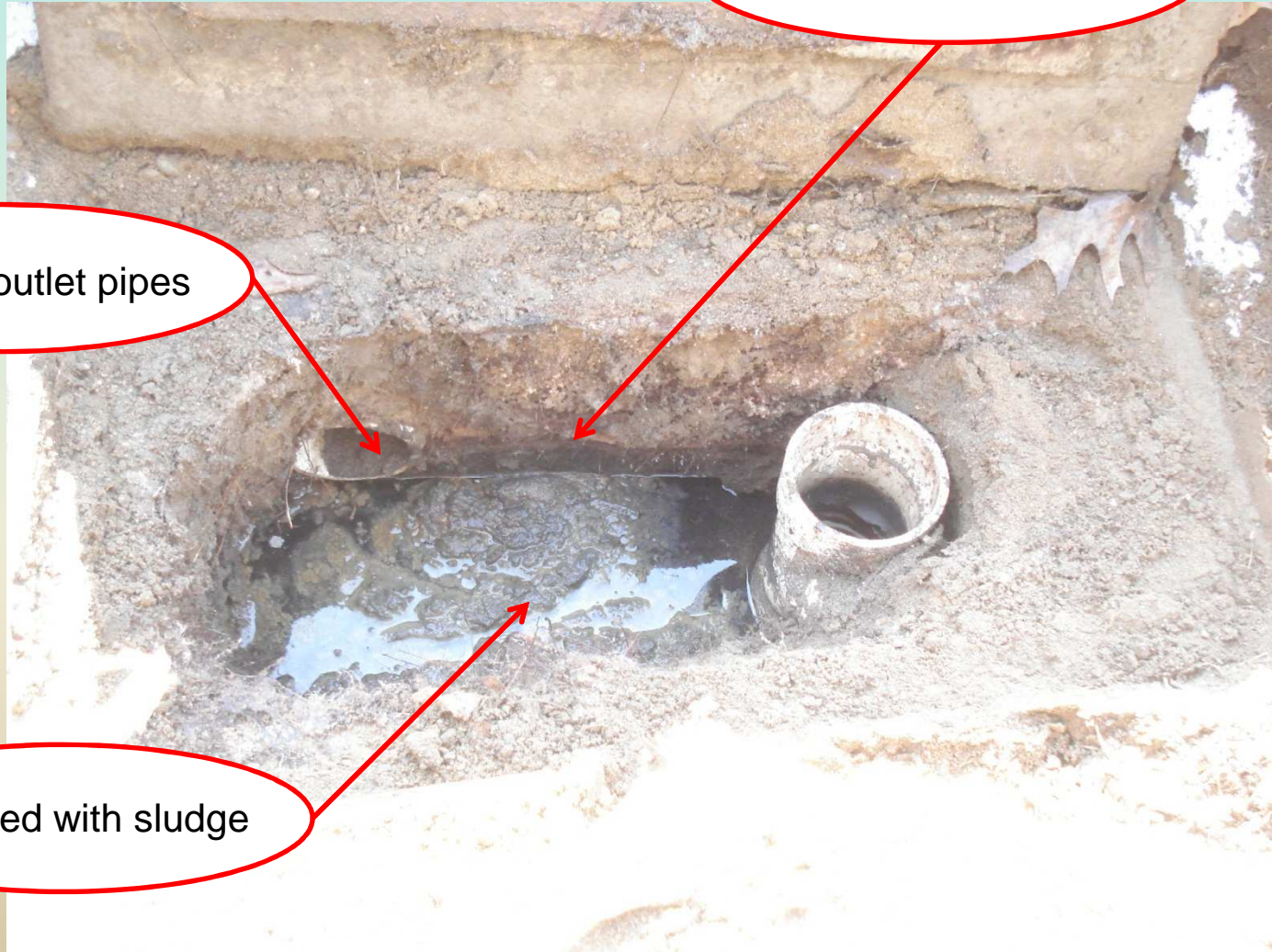
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**Upon Closer Examination ....**

Staining well above inverts

Sludge in outlet pipes

Sump filled with sludge



## ***Best Professional Judgment ...***

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- 1. Conditional Pass. Effluent level not above inverts. D-Box not watertight. Just replace D-box.**
- 2. Fail. Evidence of past surcharging. System is 36 years old.**
- 3. Recommend to Owner that inspection should be expanded to use more invasive procedures to investigate S.A.S.**
- 4. Refuse inspection. Recommend re-inspection after house is occupied again and receiving normal flows.**



# ***Best Professional Judgment ...***

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## **Liquid level above inverts – Automatic Failure?**

From our pre-inspection research we know ....

- Constructed 1998
- Pumped every 3 yrs.
- One owner, 4 people
- No garbage grinder



Slightly above  
all 4 outlets

## ***Reasonable Efforts ...***

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### **Per DEP Inspection Guidance Document .....**

If the liquid level is above the outlet and there is no outflow, either the outlet pipes are clogged or the leaching area is surcharged and in failure. **The inspector must determine the cause.** The system may qualify for a conditional pass if the high liquid level is due to broken or obstructed pipes, broken distribution box or if the distribution box is uneven or settled.

### **Possible techniques .....**

- Snake the lines for evidence of surcharging
- Probe or auger into leaching trenches
- Camera the lines
- Excavate test pit into system (last resort)

## ***Reasonable Efforts ...***

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**Test pit revealed system is in working order**





# ***Best Professional Judgment ...***

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## **Component Replacement or Repair**

**Pass and recommend repair?**

**Conditional Pass?**

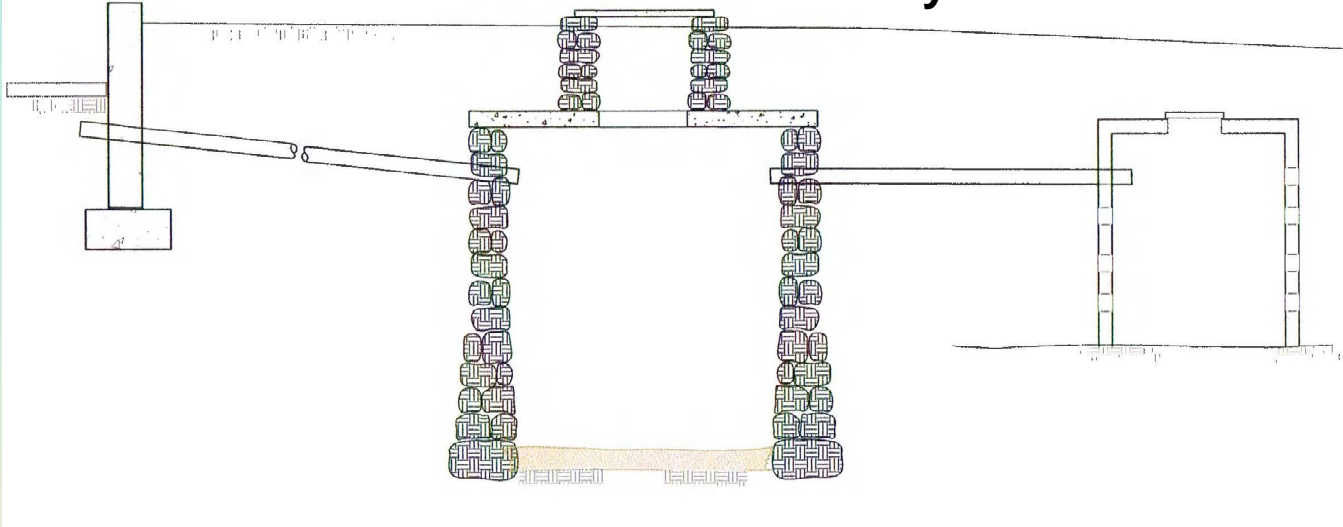
**Repair and Pass?**





# ***Best Professional Judgment ...***

## **Groundwater Determination - Case Study #1**



### **System Information:**

- Overflow Cesspool
- First cesspool is 7' deep
- Overflow cesspool 5' deep
- House vacant for 4 months
- Both cesspools dry
- House on slab; no basement
- Site located on top of a hill
- Inspection conducted in August

### **Inspector's Conclusion:**

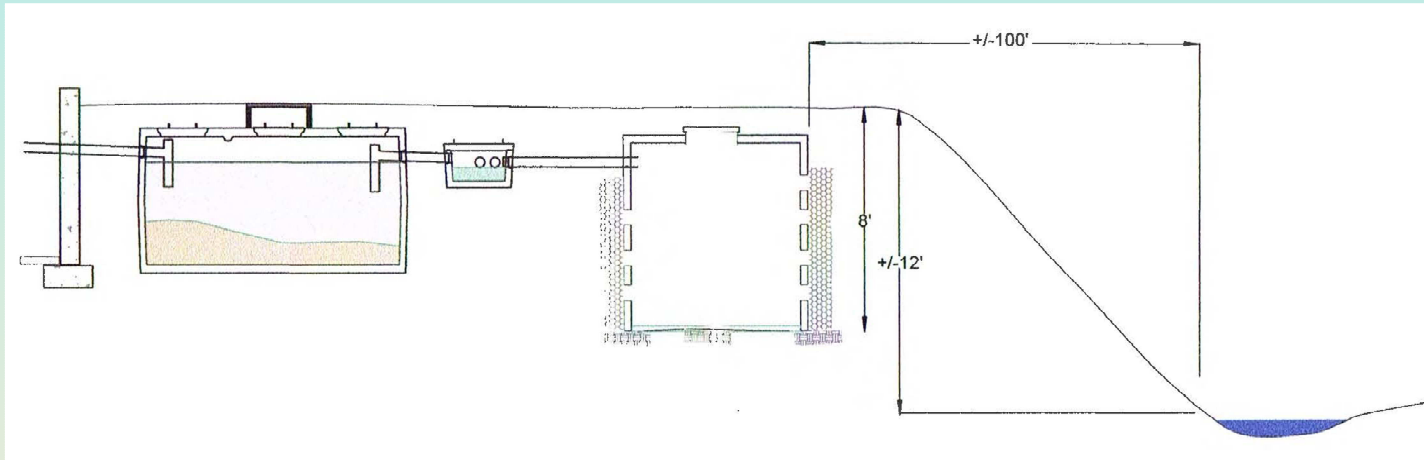
System passes, not in groundwater

### Groundwater Justification

- Inspector is a Soil Evaluator
- Site is on a hilltop
- Cesspool dry
- USDA Website indicated groundwater deeper than 6' for these soils

# ***Best Professional Judgment ...***

## **Groundwater Determination - Case Study #2**



- 1979 design plan – no groundwater
- Adjacent stream
- Basement dry
- D-box levels at invert
- Pit wet at the bottom

**System OK overall but need to evaluate groundwater**

# ***Best Professional Judgment ...***

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## **Groundwater Determination - Case Study #2**

### **Possible Option:**

- 1. Bottom of pit not in groundwater based on:**
  - **Vertical distance to stream**
  - **1979 design plan showing no water**
  - **Dry basement**
  - **Pit essentially dry and no inflow into pit sidewalls**

**Could be a reasonable justification depending on time of year inspection was conducted**

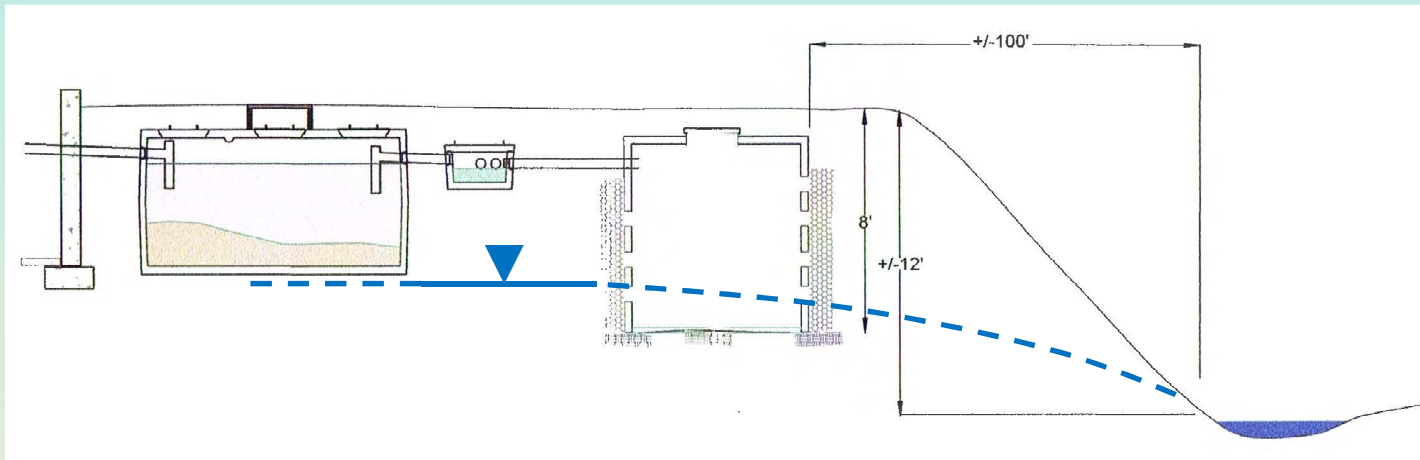
### **What the Inspector did:**

**Recommended a Soil Evaluator be engaged to verify GW based on:**

- **Staining on pit walls above current liquid level**
- **Inspection conducted in August**

# ***Best Professional Judgment ...***

## **Groundwater Determination - Case Study #2**



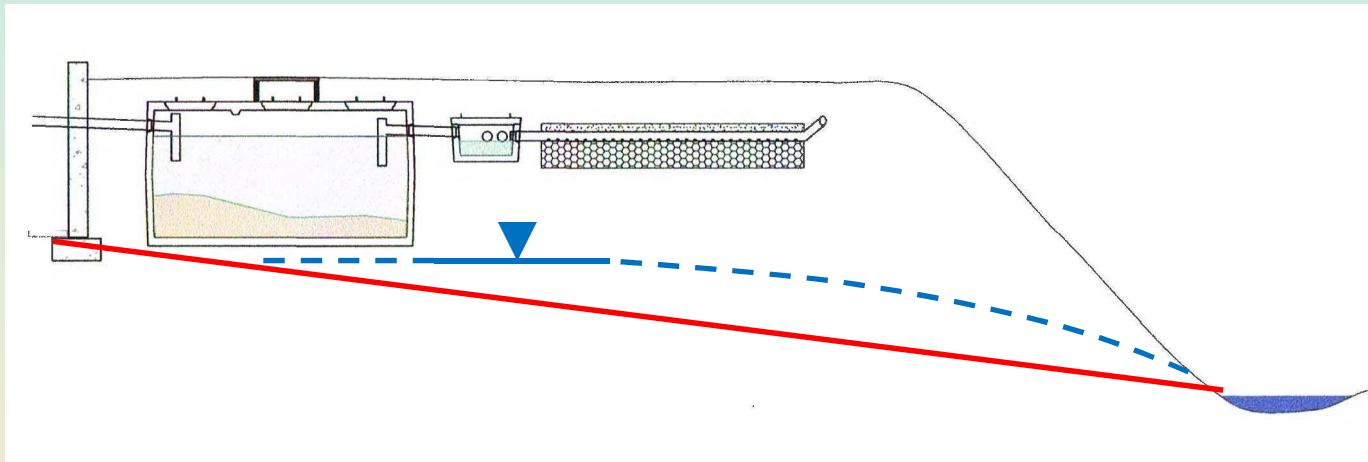
- Distinct mottling at 6 feet
- System failed inspection

**Inspector used good judgement**

## ***Groundwater Determination ...***

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If this were a shallow soil absorption system; Inspector may have felt more comfortable determining that the system is above groundwater without soil evaluation



# ***Reasonable Care ...***

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## **Conflicting Inspections**

- Over 20 years of Title 5 Inspections
- Housing turnover has same system inspected by multiple inspectors
- A 10 year old system will certainly function different than a 20 year old system subject to different use habits
- Does a homeowner have recourse for a system at a house they bought 10 years ago is now:
  - ... in groundwater, or
  - ... closer to a well



# Have Questions? Ask!

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