Regulatory Based Septic Inspections, (RBSI), for Bucks County Real Estate

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A - Purpose :

- To attempt to satisfy the requirements of governmental lending agencies, (I.e. FHA, VA, and USDA), private lending institutions, and local governmental U& O inspections.
- To provide a new simplified and transparent inspection protocol that may be useful inspection for some real estate transfer situations.
- To provide obvious and easy to understand inspection results.
- To provide a written inspection protocol available for review before hiring an inspector.
- To provide some type of governmental sourced septic inspection protocol, since none presently exists

B - Source :

- Pennsylvania Code, Title 25, Chapter 73
- Act 537, Sewage Disposal Needs Identification, prepared by the Pa Department of Environmental Protection, (PaDEP)
- Bucks County Department of Health (BCHD) Rules and Regulations, relating to public health nuisances, effective February 21, 2006
- Bucks County Department of Health (BCHD) Rules and Regulations, governing individual and community on-lot sewage disposal systems, effective September 25, 2009
- E.P.A., Large capacity/Class 5 Cesspools

C - Inspection requirements :

- house to which septic system must be occupied for at least 30 days prior the inspection
- septic tank shall have not been pumped forleast 45 days prior the inspection
- septic tank manhole or main access must be available for inspection
- minor hand excavation and ground probing shall be permitted on the property grounds
- water must be turned on in the house and the house accessible

Limits of inspection :

- this inspection only takes into consideration available access structures to the septic system at the time of inspection. It is the homeowners responsibility to have access to the septic tank at the time of inspection. Additional access such as pump tanks, d-box lids, and seepage pits will be inspected if the lid is to grade and available. Observed items will be verified and interpreted for inspection as described in the following section D.

This inspection ***DOES NOT*** involve typical probing of the drainage field. This inspection only involves

1) running 25% PDF

2) observing current conditions based on household occupancy and ground saturation conditions, and conditions while and after running the 25% PDF

If a more detailed inspection or certain location of components are desired, then we would recommend that a PSMA inspection be completed

D - Inspection Generalized Protocol, conventional in-ground, mounds

1) Check technical and background information prior to field inspection
   Ie. BCHD microfilm, site soils mapping, precipitation for past week,
   lot size, previous system repairs, maintenance, present occupancy, etc.
2) Walk property, look for obvious regulatory malfunction, site conditions, slope, surface water & rock, lot vegetation, creeks, wetlands, areas of recent excavation & grading. 3)Look for obvious system components
4) Enter house and inspect inside plumbing as per Chapt. 73
5) Open septic tank manhole and any other accessible manholes, ports, etc.
6) Inspect accessed tank, pits, pump tanks, etc.
7) Locate septic absorption area or portions of absorption area
8) Induce dye tracer into lowest level toilet, flush 2-3 times
9) Check first tank in line from house for dye, place more dye into tank
10) Run 50% of pdf (peak daily flow) as per Chapt. 73.17, into septic tank from house, recommend 3 gallons per minute max flow
10) If pump tank is present, place dye into pump tank, and allow minimum of one full dosage to absorption area
11) Check for any rise in tank liquid level or other accessed tanks.
12) Check seepage/dye to grade at : tanks, absorption areas, cleanouts, surface discharge pipes, surface waters, sump pumps, basement drains, etc., look for areas of new surface seepage after running water.
13) If surface water, ditches, steep slopes, pipes perimeter drains are present on lot, may have to re-visit site in 24-48 hours to check for dye.
14) Pump tanks by licensed pumper, check tank structural conditions
15) Provide report, recommendations, site sketch, & signature with qualifications

E : Cesspools and seepage pits :

BCHD 11.4, (9/25/09) - Liquid wastes, including kitchen and laundry wastes and water softener backwash, shall be discharged to a treatment tank.
BCHD 3.1 Definitions - A treatment tank is a water tight tank designed to retain sewage long enough for satisfactory bacterial decomposition of solids to take place
I.e. : septic tank and aerobic tank.

A cesspool is a porous structure that both holds and dissipates sewage from a house, in the absence of a septic tank. Cesspools are believed to have been never permitted for household usage by the BCHD
Technically, all cesspools should then in reality fail a real estate transaction

A seepage pit is a porous structure that follows a septic tank. Seepage pits are believed to have been discontinued from usage in 1972.
Seepage Pits allow sewage to seep through the side walls into the drier ground and ground water to seep through the side walls and into the structure. These structures are not water tight tanks, and do not meet current regulation.

Inspection Generalized Protocol for seepage pits
1) The structure must be accessed enough for an accurate inspection of walls and slab.
2) Clear flow into the structure must be verified
3) Any outflow pipes should be noted and verified for terminal point, if possible
4) Run steps from Generalized Inspection Protocol from section D
5) If items 1-4 are clear, the structure should be pumped to complete structural inspection

F : Septic Inspection Results

Level 1 Failure - Regulatory Malfunction:

1) Chapter 73.11(c) & BCHD 3.1

- discharge of untreated or partially treated sewage to the waters of the commonwealth
- discharge of untreated or partially treated sewage to the ground surface
- sewage backing up into a structure

2) BCHD, 11.1, Mandatory sewer use
3) BCHD, 11.3, Industrial Waste Discharge
4) BCHD, 11.4, EPA, Cesspools fail by definition,
5) BCHD, 11.6, Improper discharge to absorption areas & tanks
6) 73.11(e) – Roof gutter, sump floor drain discharge.
7) 73.11(f) - Inadequate discharge of an IRSIS

Level 2 Failure : Non-regulatory Failure

These items are beyond the threshold of concern for a real estate septic inspection

1) **Mechanical and structural malfunction:**
- Septic system components not functioning as intended at the time of permitting & construction.

2) **Suspected Malfunction**
- Septic drainage field with abnormally green grass in the vicinity, previous staining.

3) **Potential Malfunction** -
a) "Pre-1974 septic absorptions systems"
Septic systems installed prior to current regulatory requirements and current soils testing methods. Most Seepage pits and sub surface drainage fields were installed beneath a seasonal water table, which could be construed as a 73.11 (c) regulatory malfunction.
b) "Ponded systems"
A ponded drainage field, sand mound, or seepage pit may be considered a stressed system.
A system may be considered ponded when effluent reaches above the top of aggregate and into the soil cover upon exposure to atmospheric pressure. This system is operating in an anaerobic condition with no available holding capacity with-in the aggregate portion. Although retention time of a ponded system may be favorable, surface outbreak and or internal system backup is a pending potential.
- Effluent in a seepage pit above the inlet invert promoting standing water in transfer pipe

Functioning Systems :
If septic systems shows no signs of level 1-2 failure, and passes inspection protocol,
the system would appear to be functioning satisfactorily. These systems were constructed since the implementation of system permitting requirements, and appear to have been constructed in accordance with the permitting requirements in effect at the time of construction.

These systems would have *generally* been permitted under Act 537, effective on May 15, 1972 ***or*** in 1974 upon revision of Chapter 73, the usage of soil mottling as a limiting zone for system placement.

The BM Septic inspection check list :: 9/25/11

1) *Background* :
Current & future occupancy, precipitation for past week, previous system repairs & maintenance, and pumping, system age, permitting info, general site soils, lot size etc. :_____

2) *Basement* :
All plumbing into septic, sump pumps, where does sewer leave house and how many, illegal plumbing as per regulations : dye induction - describe _____

3) *Outside Building sewer* :
- approx. length, any cleanouts, flow into tank when running fixtures, which fixture & how much _____

4) Tanks :
Septic, pump, cesspools - type, general size, structural condition, baffles, shot content, liquid level, staining, root pentretation, depth in ground, flow through septic tank, etc. _____

5) Mechanicals :
Pumps, alarms, floats, blower, if any _____

6) Absorption areas :
Gravity bed/trenches, sand mound, pits, - general type size, saturation content, any d-box ?
Any access into, any potential threat from surface flows, etc. :_____

7) Site sketch :
(on back of this paper)- house, buildings, driveways, well, septic system components, general lot size, look for obvious regulatory malfunction, site conditions, site and drainage system slope, surface water & rock, lot vegetation, creeks, wetlands, areas of recent excavation & grading. Roof down spouts, sumps discharges, site swales, unknown pipes, etc.

Site address : _____ Date : _____

Time of inspection weather : _____
Past 48 hours weather : _____

Status of current & proposed occupancy : _____
Peritant information: _____

Household plumbing : _____
(fixtures run & flows)

Recommendations, (further inspection, repairs, etc :_____