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## **ONSITE SYSTEM INSPECTION PROTOCOL (CONDENSED VERSION)**

### **1. Procedures for preparing and reporting a system inspection**

- (a) Obtain a signed inspection authorization from the owner of the property or its authorized agent before commencing any of the following.
- (b) Contact NJ ONE CALL at 1-800-272-1000 to delineate subsurface utilities.
- (c) Conduct a file review of the administrative authority's records.
- (d) Obtain the following minimum preliminary information regarding the subject system from the homeowner prior to the inspection:
  - i. Statistics regarding the type, age, number and use of onsite system(s) and structure(s) being inspected.
  - ii. The presence of garbage grinding equipment.
  - iii. The date of last treatment tank pumping and frequency.
  - iv. Any sanitary sewage discharges that bypass the system.
  - v. The summarized results of previous inspections conducted on the system.

### **2. Procedures for conducting the preliminary field investigation**

- (a) Record the weather at the time of inspection.
- (b) Walk the entire interior of the structure(s) and examine for unexpected fixtures, plumbing or discharges.
- (c) Walk the exterior property looking for abnormally lush vegetation or other indications of discharges on or through the surface of the ground, streams, road ditches, storm drains or unexpected pipes.
- (d) Note and record if vegetation with invasive root systems have been located above any system component or within ten (10) feet of the perimeter of the disposal area.
- (e) Note and record the presence of any structures or heavy objects placed above any of the system components. Include any evidence of heavy objects, such as tire tracks from vehicles, being previously present.
- (f) Create a site sketch of all relevant onsite wastewater treatment system components and water supply wells.
- (g) Locate and gain access to the treatment tank(s) and determine their composition.
- (h) Check for surface leakage into tanks and then locate other system components.

(i) Compare the information obtained onsite to the information gathered previously and identify any discrepancies.

### **3. Procedures for inspecting the internal plumbing**

(a) Confirm the number, size and general exit point(s) of the waste lines.

(b) Determine if any sanitary sewage generating fixture cannot reasonably be piped to the observed exit point.

(c) Confirm that the discharge points of all sump pumps are separate from sanitary sewage lines and that the sanitary sewage is not directed to this equipment.

### **4. Procedures for inspecting treatment**

(a) Confirm liquid level is below the inlet invert and equal to the height of the outlet invert.

(b) Evaluate and record scum thickness and sludge depth through the main access port.

(c) Do not pump any treatment tank until the disposal field area has been investigated.

(d) Pump all treatment tanks and compartments using the main access (largest opening).

Sanitary sewage must be removed, at a minimum, to within two inches of the tank bottom.

(e) Identify sanitary sewage flows into the tank or defective septic system components and deficiencies including the tank bottom.

(f) Verify that all fixtures discharge to the treatment tank.

(g) Check for continuous flow through the building sewer and into the treatment tank.

(h) Determine treatment tank construction, composition (material), and condition of the tank, the baffles, and the cover by accessing the interior of the tank.

(i) Aerobic treatment tanks must be checked by observing the electrical and mechanical operation of the pumps and compressors in operation.

(j) No inspection may be considered complete until every tank is pumped and its condition evaluated.

### **5. Procedures for inspecting holding tanks**

(a) Identify that the holding tank has audible and visual alarms.

(b) Determine the tank's capacity.

(c) Measure and record the liquid level; then pump all tanks and compartments. Examine for any defects, including the tank bottom.

(d) Determine the tank does not leak and is watertight.

(e) Recommend specific actions of ongoing maintenance.

### **6. Procedures for inspecting dosing and lift pumps/tanks and siphon tanks**

(a) Check the disposal field area before turning on any pump.

(b) Check the condition and integrity of all pump and siphon tanks, using the tank inspection procedures described previously, including the alarm system.

(c) If the system has a pump, verify the operation of every pump and control system.

(d) Visually inspect all electrical components. Verify that the alarm and pump are on separate circuits.

(e) Verify that pumps are elevated above the tank bottom and resting on a concrete block.

(f) For siphon pressurized systems, open the observation port and check for continuous trickling.

(g) Measure and record the liquid level; then pump the tanks using the main access.

### **7. Procedures for inspecting effluent delivery and distribution systems**

(a) If the liquid level in the distribution system is above the lowest point of the outlet of the treatment tank, further investigation is needed.

(b) If a distribution box is found and exposed, it must be evaluated; if a distribution box is not found, the absorption area investigation should proceed. If known to exist, the location of the distribution box (D-box) shall be noted on the site sketch or a notation that further investigation would be needed to locate the D-box.

(c) Evaluate the structural integrity of the D-box and check for the presence of solids, which must be removed. D-boxes must be watertight. Confirm the D-box is level and that effluent is equally distributed to the laterals.

### **8. Procedures for inspecting subsurface systems: seepage pits**

(a) Determine the structure's capacity; then measure the distance from the water level to the bottom of the inlet pipe.

(b) Determine total design volume using the design criteria in N.J.A.C. 7:9A-7.4.

(c) Determine the available storage capacity below the bottom of the inlet pipe.

(d) Confirm there is one day's storage capacity below the bottom of the inlet pipe.

(e) Evaluate the liquid, scum and sludge levels; then pump the seepage pit. Note all deficiencies and excessive inflow.

### **9. Procedures for inspecting disposal fields: beds or trenches**

(a) Determine the type, location and size of the disposal field.

(b) Determine if there is standing liquid in the disposal field by probing or other means available. Measure the depth of the effluent throughout the disposal field. Measure the difference between the liquid's depth and the invert of the laterals at the distribution box/manifold or the base of a lateral as best determined by the inspector. This depth (distance) is called the dry aggregate. Inspection ports may not be used for this evaluation.

(c) If there are six (6) or more inches dry aggregate below the invert of the laterals, the disposal field is satisfactory. If there are less than six (6) inches of dry aggregate, a high water condition must be noted.

(d) When liquid is present in the disposal field, it should be of an equal depth and evenly distributed throughout the entire bed.

(e) If the disposal field is completely saturated, do not pump the treatment tank.

### **10. Additional inspection criteria for trench systems**

(a) In serial distribution systems, confirm that higher trenches are saturated prior to lower trenches.

(b) In gravity supplied trenches, confirm that trenches receive effluent equally from the D-box.

### **11. Additional inspection criteria for mounded systems**

(a) Probe the aggregate in mound systems. Note any standing liquid.

(b) Examine the mound for leakage on the top, side slopes, and toe of the slope; sufficient depth of soil cover at the top edges, animal burrows, deeply rooted vegetation and erosion.

### **12. Procedures for conducting hydraulic load testing**

(a) When a hydraulic load test is determined to be necessary, describe why the recommendation is being made and what the test will entail.

(b) All hydraulic load test which does not follow the methodology in the Department's inspection protocol technical manual, must be designed and sealed by a septic system designer to evaluate how liquid levels in a disposal field respond to an appropriate volume of introduced clean water.

(c) Whenever possible, water from a public supply or brought in from off-site should be used to conduct hydraulic load testing. Permission to use water supplied from a private well for conducting hydraulic tests on systems must be obtained from the current well owner, in writing, prior to use. In no

case shall the use of the well exceed its design yield. Volume of withdrawal from a private well shall be limited to no more than two (2) gallons per minute.

**13. Procedures for inspecting advanced wastewater pretreatment components and drip dispersal systems**

(a) Any advanced wastewater pretreatment device and drip dispersal systems may only be inspected by personnel trained or otherwise familiar with the specific technology. A review of the homeowner's service records, contacting the maintenance provider and the manufacturer of the equipment must be conducted. An estimate of the annual cost of operating the system and maintenance agreements must be provided.