

Checklist for plans to Construct, Alter or Repair An Individual Subsurface Sewage Disposal System

An application for the construction or alteration of an individual subsurface sewage disposal system shall consist of one copy of the application form supplied by Harding Township Health Department and three copies of plans and appropriate supporting documents. The plan shall meet the following requirements:

Item	Yes	No	Comment
1. The plan view of the system shall be at a minimum scale of one-inch equals thirty feet (1"=30').			
2. A key map showing the location of the lot on a tax map shall be provided			
3. The block and lot of the site, as well as the street address, shall appear in the plan title block.			
4. An appropriate permanent benchmark, located on the property, shall be placed on the plan with elevation datum reference			
5. Ground contours at two foot intervals within one hundred fifty feet of the proposed soil disturbance shall be shown on the plan to adequately show the direction of slope.			
6. The soil type boundaries, as defined by the Soil Conservation District, shall be shown on the plan view. Alternately a separate soils map of the site shall be provided.			
7. All known easements shall be shown on the site plan. If there are no easements, a statement to that affect shall appear on the plan.			
8. The boundary lines of wetland areas and wetland transition areas shall be shown on the plan. Lines must be verified by NJDEP. A GP-25 is required for repairs in a wetland or transition area.			
9. The boundary lines of flood hazard areas, as shown on the FEMA flood insurance rate maps, shall be shown on the plan. All riparian zones shall be shown as required by the NJDEP, or a statement that none exist shall appear on the plan.			
10. When a septic tank is installed below or partially below the level of the seasonally high water table, the design engineer shall show by means of appropriate calculations that the tank is of sufficient weight or will be otherwise secured or anchored so that it will not shift or float if emptied during the time of seasonally high groundwater.			
11. The total number of bedrooms, including expansion attics, is to be stated on each building on the site plan.			
12. The dimensions of the primary and reserve disposal areas shall be shown on the site plan.			
13. The area reserved for future expansion or replacement disposal area shall be shown.			
14. The location of all soil logs and permeability tests performed on the lot shall be shown.			
15. The location of all roof drain dry wells, and the overflow pipe, shall be shown. If none, or unknown, a statement to that affect shall appear on the plan.			

16. All pipe inverts for house sewer, septic tanks, dosing tanks and distribution boxes shall be shown.			
17. The volume of each septic tank (including pump tanks), in gallons, shall be shown.			
18. The type of fuel used to heat the dwelling(s) shall be shown on the plan as well as the location of the gas line, oil tank and oil line, electric line, water supply line, propane tank and propane line, as appropriate.			
19. All trees larger than six inches diameter, within twenty feet of the disposal bed, shall be shown on the plan. Alternately, a statement that no such tree exists shall be placed on the plan.			
20. A scaled elevation view of the house and all septic system components including existing grade and proposed grade shall be shown on the plan. Different horizontal and vertical scales are acceptable.			
21. All wells on the subject property and any within one hundred fifty feet of the proposed disposal system shall be shown on the plan.			
22. All components of septic system, including reserve area, on the subject property and any within one hundred fifty feet of the proposed disposal system shall be shown on the plan.			
23. All sanitary sewer ejector pumps shall be shown on the plan. If there are none, a statement to that effect shall appear on the plan.			
24. If a sanitary sewer ejector pump is proposed, it must be discharged into at least a 1000 gallon surge tank and the disposal field sizing shall be increased by a factor of 50 percent as per N.J.A.C. 7:9A-10.2(d).			
25. An NSF certified septic solids retainer or septic effluent filter, a minimum of 6 inches in diameter, shall be installed and maintained as per N.J.A.C. 7:9A-8.2(j)3.			
ADVANCED TREATMENT SYSTEMS			
26. A letter signed by the advanced treatment system manufacturer stating that the plan meets their design requirements shall be submitted to the Health Department.			
27. Systems using a drip irrigation system shall provide the drip irrigation design calculations on the plan. The system settings for the drip dispersal controllers (duration of dosage in minutes and dosage interval in minutes) shall also be shown on the plan.			
28. Prior to approval, a copy of a signed, by the property owner, service contract for the required mandatory maintenance inspection shall be provided to the Health Department.			
29. A deed restriction filed with the County Clerk's Office relating to the long-term maintenance and monitoring of the system shall be in place on the property. A copy of which must be provided to the Health Department prior to issuance of Certificate of Compliance for the system.			
30. A certification that the system designer is sufficiently knowledgeable of the technology(ies) to design the system, as per N.J.A.C 7:9A 8.3 (b) 1.			

The following text must appear, verbatim, on the plan and be reflected in drawings:

Note	Yes	No	Comment
1. System installer to locate buried utilities on site prior to construction.			
2. Locations of disposal bed, septic tanks, pump pit, and water supply well(s) to be located by design engineer prior to construction.			
3. Edges of adjacent sheets of filter fabric shall overlap 6".			
4. Grade area to divert surface water away from disposal area.			
5. Filter material shall be washed gravel or crushed stone, minimum ¾" and maximum 1½" in size, free of fines, dust, ashes, or clay.			
6. Garbage disposals are prohibited by ordinance.			
7. No sprinklers or irrigation system installation allowed over disposal bed area after construction.			
8. No pool or spa water or backwash shall be discharged into the septic system.			
9. Water softener backwash is not recommended to be discharged into the septic system.			
10. No heavy machinery (rubber tire) allowed on bed area during or after construction.			
11. All abandoned septic tanks, pump tanks, drywells, and cesspools shall be pumped out by a licensed waste hauler. The tanks shall be disposed of at an approved facility or left on site, crushed and filled with granular soil. The Health Department shall witness the abandonment process. Receipts for the pumping and proper disposal of the tanks shall be provided to the Health Department.			
12. Any smeared or compacted soil surface which have been produced on the bottom or sidewalls of the excavation shall be removed to expose a fresh soil surface (rough and uneven).			
13. Backfill shall be of earth similar to that found at the site and shall be free of large stones, broken masonry, stumps and other waste materials. Berm material to be clay rich.			
SETBACKS			
14. Proposed disposal bed is to be 100 feet from streams and adjacent wells, twenty-five feet from property line and fifty feet from adjacent disposal systems.			
15. Maintain dry wells a minimum of 50' from all disposal system components.			
INSPECTION SCHEDULE AND AS-BUILTS			

<p>16. In order to prepare an as-built drawing in compliance with local and state requirements, the design engineer or his authorized agent and health department must observe the following phases of construction:</p> <ul style="list-style-type: none"> • Curtain drain installation (if applicable) • Open excavation(s), • Engineer shall inspect the disposal bed excavation and demonstrate to the satisfaction of the administrative authority that it meets the criteria of the design. • Engineer shall perform permeability or percolation tests in fill material in 2 foot lifts • Septic tank(s), distribution box, sewer lines and disposal bed piping prior to backfilling. • Testing of all pressure lines and force main • Operation of pumps and alarm system • Top of fill before placement of filter material • Water tightness testing of all tanks, including risers and inspection ports. • Final grading, including seeding and mulching of disturbed ground and corner markings of bed. <p>The contractor shall provide 48 hours notice to the engineer and health department for each phase of work.</p>			
<p>SUITABLE FILL</p>			
<p>17. Suitable fill material, in zone of treatment and zone of disposal, shall comply with the following:</p> <ul style="list-style-type: none"> • Coarse fragment content (greater than a No. 8 sieve) less than 15 percent by volume or less than 20 percent by weight; • Textural analysis (composition, by weight, of size fraction passing the particular sieve as stated below in this subparagraph) between 80 and 100 percent must pass a No. 8 sieve (2.36 mm); between 50 and 85 percent must pass a No. 16 sieve (1.18 mm); between 25 and 60 percent must pass a No. 30 sieve (0.6 mm); between 10 and 30 percent must pass a No. 50 sieve (0.3 mm); and between two and 10 percent must pass a No. 100 sieve (0.15 mm); • Permeability for this material is established in this chapter at the range of 6 to 20 inches per hour for design purposes. 			
<p>18. The suitable fill shall be installed in lifts no thicker than 12 inches and compacted lightly with tracked vehicle.</p>			
<p>19. The suitable fill shall be sampled and tested by an engineer and be shown to be in compliance with New Jersey Department of Environmental Protection specifications. A composite sample shall be obtained by sampling an on-site stockpile at two locations or by sampling material from two locations in the disposal bed with a minimum of 2 feet of suitable fill installed.</p>			
<p>20. A copy of the signed and sealed laboratory test report shall be furnished to the Department of Health, prior to the installation of suitable fill.</p>			

SEWER LINES/DISTRIBUTION LINES/FORCE-MAINS			
21. Building sewer pipe to be 4" schedule 40 PVC pipe installed with 4" dense graded aggregate all around, the bed shall be tamped prior to installation of the pipe.			
22. The force main is to be pressure tested at 1½ times the designed pressure head for 30 minutes. Design engineer and/or health department to observe test.			
23. Four-inch PVC inspection ports, capped and perforated to the level of the gravel filter material shall be installed in each corner of the disposal bed or at each end of the disposal trenches.			
24. Force mains to be backfilled with impervious soil from edge of bed to limit of fill area.			
25. Force mains shall be maintained 48 inches below grade.			
PUMP NOTES			
26. Contractor must contact Department of Health prior to electrical wiring and installation of components.			
27. Contractor shall obtain an electrical permit from the Harding Township Building Department			
28. The dosing tank shall be tested for water tightness in accordance with ASTM C-1227 or NPCA procedures			
29. A gas tight seal shall be provided between the electrical wires and the inside of the electrical conduit			
30. Provide high water alarm (bell and light) inside building with manual reset silencing switch on separate dedicated circuit.			
31. Electrical connections for pump to be made outside of the pump pit in a NEMA 3 enclosure mounted on adjacent post. Wire connections inside of the junction box shall be waterproof and corrosion resistant.			
32. Provide each pump and alarm system with separate, dedicated circuit			
TANKS AND DISTRIBUTION BOXES			
33. All inside concrete surfaces of septic tanks, distribution boxes, pump pits and riser sections shall be sealed with two coatings of an appropriate inert coating to minimize corrosion. Coating of pre-cast tank shall be applied by the manufacturer prior to delivery to the job site.			
34. Tank pipe connections shall be sealed with an expanding grout or a manufactured water-proof pipe coupling which is incorporated into the wall of the tank.			
35. The septic tank(s) installation shall be such that the high seasonal water table shall be no higher than 1' below the outlet or any joints of the septic tank(s).			
36. The installation of all septic tanks shall prevent flotation.			
37. An inspection port extending to finished grade shall be provided over each tank or compartment inlet or outlet, not directly below a manhole, except for those outlets where a septic solid retainer is used. Inspection ports shall extend to finished grade and shall be constructed			

of 4" cast iron or 4" schedule 40 PVC pipe with a locked or bolted cap.			
38. All tanks shall be tested for water tightness in accordance with ASTM C-1227 or NPCA procedures and criteria.			
39. A permanent non-corrosive marker of six square inches in size, containing the following information, will be attached to the manhole cover or riser immediately below the cover: <ul style="list-style-type: none"> • The administrative authority name and permit number under which system was installed • Date of installation • Type of system • The total design criteria in gallons per day 			
40. It is the homeowner's responsibility that the effluent filter is removed and cleaned every six (6) months or as necessary.			
41. (For Advanced Treatment Systems) The advanced treatment system installer shall possess a valid Certified Installer of Onsite Waste Water Treatment System (CIOWTS) Advanced Level certification from the National Environmental Health Association (NEHA). A copy of which shall be provided to the Health Department prior to issuance of permit to commence work.			

The following tables must be completed, as applicable, and appear on the plan and be reflected in drawings:

Design data

↑ Residential	↑ Commercial
Number of dwelling units:	Total square footage:
Number of bedrooms:	Design flow, gallons per day:
Design flow, gallons per day:	Design flow based on Table in 7.9A-7.4 _____ gpd
Disposal bed size _____ gpd x _____ sq.ft./gpd = _____ sq.ft. _____ sq.ft. (design area)	

Pump information

Pump Number	1	2
Manufacturer		
Model Number		
Voltage		
Phase		
Horsepower		
Discharge size		
Total dynamic head		
Delivery, gpm @ tdh		
Force main test pressure, psi		

Alternator information

Manufacturer	
Model Number	

Control Information

Component	Elevation	Distance from tank bottom (inches)	Gallons from bottom
Tank Inlet			
Alarm on			
Lag Pump on			
Lag Pump off			
Lead Pump on			
Lead Pump off			
Pump Inlet			
Tank Bottom			