



Onsite Wastewater Treatment System (OWTS) Plan Review Checklist

OWTS Location (Owner): (C,V,T) _____ County _____	Prepared by (professional engineer or registered architect): _____
Brief description of system:	Reviewed by: _____ Date: _____ EHIPS facility #: _____ Plan log: _____

Item	S	U	NA	Comments
General				
Plans submitted by design professional (PE, RA or exempt LLS)				
Engineer's Report, if necessary				
Other agency review (NYCDEP, APA , watersheds, etc.), if necessary				
Local codes applied, if necessary				
Site location details (e.g., dwelling, roads, property lines, easements etc.)				
Site physical features (e.g., watercourses, wetlands, rock outcrops etc.)				
Not Located within an area subject to flooding				
Test pit(s) – observations/locations/date/ performed by				
Percolation tests – results/locations/date/performed by				
Site Contours, existing and proposed, (min 2-ft intervals recommended)				
Slopes indicated by arrows and/or spot elevations ($\leq 15\%$)				
Elevations shown for OWTS parts (e.g., house sewer/tank/d-box/trenches)				
Separation distances (onsite and neighboring- owts, wells, watercourses, etc.)				
At least 50% expansion/reserve area shown				
Daily design flow rates (e.g., 110-gpd/bedroom)				
Non-wastewater flows (e.g., sumps, roof drains) not added to system				
Surface water diverted from system area with berm or ditch, if necessary				
Septic Tank (see Appendix 75-A.6 for detailed review)				
House sewer: 1/4" per foot, ≥ 10 ft to tank, clean-out, vented through roof, etc				
Material, liquid capacity, surface area, baffles, etc.				
Eff. Filter or Gas deflection baffle when required (sand filter, garbage grinder)				
Dual-compartment design when required (sand filter, garbage grinder)				
250 gal. capacity and 7-ft ² surface area added for garbage grinder or spa tub				
Distribution				
Gravity				
Distribution pipe ≤ 60 -feet long per line				
Distribution pipes sloped at 1/32" to 1/16" per foot (about 2-4" drop/60' line) (note: trench bottom should be level)				
Dosing (pump or siphon)				
Distribution Pipe ≤ 100 feet long per line				
75-85% of the perforated pipe volume per dose + force main volume				
Siphon chamber details (dimensions, alarm, vent, overflow connection)				
Pump chamber (capacity w/ 1-day storage above alarm, alarm, vent.)				
Pump details (designed for wastewater discharge, gpm, head calculations)				
Force main protection (insulation, weep hole, sandy backfill, etc.)				
Pressure Distribution				
Distribution Pipe ≤ 100 feet per line				
Pipe diameter (1-3 inches)				
Maintains 1-psi at end of each distribution pipe (e.g., 5-10 times pipe volume)				
Pump details (designed for wastewater discharge, gpm, head calculations)				
Delivery line protection (insulation, weep hole, sandy backfill, etc.)				
Plans for cleaning pressure distribution lines (e.g., valved at end of lines)				



Onsite Wastewater Treatment System (OWTS) Plan Review Checklist

Drop Boxes				
Note: preferred over serial distribution for sloped sites				
Typically used on $\geq 10\%$ slopes				
Materials, dimensions, inlet/outlet heights, baffles, levelers, etc				
Serial Distribution				
Note: least desirable distribution method				
Typically used on $\geq 10\%$ slopes				
Must be dosed				
Connections between successive dist. lines are offset and non-perforated				
Maximize distance between successive distribution lines				
Distribution lines run parallel to contours				
Absorption Area				
Conventional Trench Systems				
Correct total trench length based on perc rate (see Table 4A or 4B)				
Equal distribution to all lines (e.g., distribution box w/ speed levelers)				
Trench bottoms are at least 2-feet above limiting condition (water/clay/rock)				
At least 4-feet of soil between trench walls				
Trench depth, 18-30-inches w/ pipe at no more than 24-inches bgs				
Distribution lines installed parallel to site contours				
Acceptable washed aggregate (e.g., typically NYSDOT #2 stone)				
Gravelless Systems				
Product approved by NYSDOH				
At least 4-feet of soil between trench walls				
Same trench lengths as a conventional system, Exception: Linear feet reductions for some products (25%), see 11/24/2004 Field Memo				
Shallow trenches				
At least 2-ft of in-situ useable soil above limiting condition (water/clay/rock)				
Fill has similar perc rate as natural soils				
Surface water diversion ditch/berm on sloped sites				
Cut and Fill (poor soil over useable soil)				
Trench bottoms are at least 2-feet above limiting condition (water/clay/rock)				
Excavation extends to at least 5-feet from outer trench walls (water/clay/rock)				
Fill has similar perc rate as in-situ useable soils				
Absorption Bed				
Note: best suited for sites with long contours				
Must have 4-feet of in-situ useable soil				
In-situ soil perc rate is 1-30 min/inch				
Slope is less than or equal to 8%				
Must use pressure distribution (LHDs can allow dosing)				
Installed parallel to contours				
Bottom area calculation (Appendix 75-A, Table 5)				
Max width of 20-feet in all cases				
Laterals separated by no more than 5-feet on centers				
Max lateral length w/ dosing of 75-feet (w/ end manifold)				
Max lateral length w/ pressure distribution of 100-feet (w/ end manifold)				
Max lateral length w/ dosing of 150-feet (w/center manifold)				
Max lateral length w/ pressure distribution of 200-feet (w/center manifold)				
2.5 feet between the distribution pipes and the sidewalls				
Entire bed is covered by geotextile				
Seepage Pit				
Note: Shall not be used if absorption trenches can be used				
3-foot separation between pit bottom and limiting condition (water/clay/rock)				
Effective pit(s) area calculation (Appendix 75-A, Tables 6 and 7)				
Effective depth based upon invert to floor minus and impervious layers				
Effective area based upon annular ring of aggregate				



**Onsite Wastewater Treatment System (OWTS)
Plan Review Checklist**

Separation between pits is 3-times effective diameter of largest pit				
d-box used - Serial distribution is not allowed				
Raised System				
At least 1-foot of in-situ useable soil				
Perc rate of the fill between 5-30min/inch				
Basal area calculated by 0.2-gpd/sf				
Minimum of 20-feet tapers at no more than a 1:3 slope				
Fill stabilized through freeze-thaw or compaction by 6" lifts of "sandy" fill				
Enough fill to maintain 2-feet between trench bottom and limiting factor				
Must be dosed or use pressure distribution. Exception: Gravity feed can be used if: 1. Site Evaluation/Design approval <u>and</u> construction cert. is by LHD <u>and</u> 2. 2-feet of fill is placed between the trench bottom and ground surface				
Mound (Refer to Design Handbook for detailed review and calculations)				
Slope is less than or equal to 12% w/o site modification				
High groundwater is at least 1-foot below ground surface				
Bedrock is at least 2-feet below surface				
Soil perc rate is faster than 120min/in				
Basal area calculation for 1-60min/in in-situ soil perc rates: see Table 4B				
Basal area calculation for 61-120min/in in-situ soil perc rates: 0.2-gpd/sf				
Sandy fill material perc rate of 5-30min/in (see App 75-A.9(c)(2)(iii))				
Must have pressure distribution				
Silty/clay cover over distribution lines				
Dual-chamber septic tank with gas deflection baffle and/or filter				
Intermittent Sand Filter (Refer to Design Handbook for detailed review)				
Note: Large lots only w/ max possible separation provided from residences and property lines due to predicted mound/trench weeping				
Pressure distribution or dosing required. Exception: Gravity distribution is allowed if: <900-ft ² of surface area or <300-feet of distribution piping)				
Dual-chamber septic tank with gas deflection baffle and/or filter				
Collection pipes at least 2-feet above high groundwater				
Application rate to the Sand Filter of 1.15gpd/sf (If gravity : Application rate of 1.0-gpd/sf)				
Receiving absorption mound or shallow trench designed with an application rate: 1.2gpd/sf				
Enhanced Treatment Units (ETU) (e.g., ATU, packed filter bed, peat filter)				
NSF Class I Standard 40 Certified				
Rated capacity is ≥ daily flow design				
Maintained by a RME				
Service contract required by a local sanitary code				
Installed/maintained in accordance with manufacturer's specifications				
Equipped with appropriate alarm system				
Site Modifications				
Fast Soils: all soils replaced with useable soil including reserve area				
Very shallow/slow soil: see DOH guidance (import fill material in quantities sufficient for a conventional system)				
Other Systems (these systems also need local approval)				
Holding Tanks: not permitted unless OWTS or sewer is being constructed				
Composters: NSF Standard 41 Certification w/ greywater treatment				
Chemical and Recirculating toilets: no discharge - must be pumped				
Incinerator toilets: ash disposal plan				
Greywater: 1,000-gal septic tank and 75-gpd/bedroom design flow				