

ADDENDUM TO SUBDIVISION AND SEWAGE DISPOSAL SYSTEM CHECKLISTS

OCHD DESIGN POLICY & STANDARDS – Appendix 75-A & 2012 Design Handbook (Originally issued February 1997)

Note: Use only for realty subdivisions & individual residential/non-residential lots & other properties with less than 1,000 gpd flow (without the addition of industrial wastes, etc.) that are to be submitted to the Orange County Health Department.

APPENDIX 75-A **WASTEWATER TREATMENT STANDARDS** **INDIVIDUAL SEWAGE TREATMENT SYSTEMS**

Section 75-A.3 (b) Accepted as Orange County Health Department policy and standard, except as follows:

1. Designs shall be based on the minimum flows shown in Table 1 with no design based on less than 110 GPD per bedroom.
2. Waterless toilets (e.g., composters) with new standard fixtures are generally not acceptable for new construction.
3. Other miscellaneous flows that are not accounted for, such as water softener or other treatment wastes and hot tubs/spas over 100 gal. that are discharged to the sewage disposal system, shall be added in total to the daily flow.

Section 75-A.4 (a-1) Accepted as Orange County Health Department policy and standard and as follows:

1. The ten (10) year flood level does not require predictive analysis. Determination shall be by visual observation, historical fact and professional judgment. In any event, the ten (10) year flood level determination shall be jointly agreed upon by the design professional and Orange County Health Department review engineer prior to the submission of plans. In general, an area susceptible to flooding shall not be used for subsurface sewage disposal.
2. Lots to be located within the 100-year flood level shall have the top of a well casing 2' minimum above the level.
3. See "Design Handbook – Residential Onsite Wastewater Treatment Systems" and Orange County Health Department "Addendum to Design Policy and Standards" (Re: Design Handbook) for slopes greater than (fifteen) 15%.

Section 75-A.4 (a-2) Accepted as Orange County Health Department policy and standard. A minimum of 4 feet of usable soil is required for individual sewage disposal systems for new realty subdivisions, except as detailed in Section 75-A.8 (4) of the Design Policy and Standards regarding shallow absorption trenches.

Section 75-A.4 (a-3) Accepted as Orange County Health Department policy and standard and as follows:

1. If percolation tests below the bottom of a trench or pit demonstrate a minimum 2-foot stratum with percolation rate slower than one minute per inch, the site need not necessarily be modified by blending with a less permeable soil.
2. Blending with a less permeable soil, if needed, shall be performed to a depth of twenty four (24") inches below the anticipated bottom of the trench or pit. Percolation tests shall be required.

Section 75-A.4 (a-4) Accepted as Orange County Health Department policy and standard, except as follows:

1. Reduced separation distances shall not be permitted on new realty subdivisions. Reduced separation distances may be approved upon request in accordance with the requirements of this section for replacement of failing systems and on individual lots after site evaluation by a design professional or soil scientist. An enhanced treatment (e.g. aerobic) unit shall be provided as at least part of the mitigative measures necessary to reduce horizontal separation. Relocation of potentially impacted wells and/or installation of disinfection systems may also be requested if adequate separation distances cannot be provided.

Section 75-A.4 (a-5) Accepted as Orange County Health Department policy and standard, except as follows:

1. An additional usable area of 50-100 percent shall be set aside for future expansion or replacement for all new construction. If the area of the presently proposed disposal site requires modification, such as any cut or fill, regrading or blending the expansion area must also be modified prior to approval unless permitted otherwise. (Note: 100% expansion area required for commercial projects in accordance with NYSDEC Standards).

Section 75-A.4 (b) Accepted as Orange County Health Department policy and standard with the following additions:

1. Separation: well to swale, stream or watercourse - 25'.
2. Separation: absorption field to the high water line of a wet pond – 100'.
3. Separation: absorption field to intermittent stream, dry well, culvert or storm sewer (non-gasketed pipe), or catch basin - 50'.
4. Separation: absorption field to culvert or storm sewer (gasketed, tight pipe) - 35'.
5. Separation: absorption field to curtain drain - 15'.
6. Separation: absorption field, pits, expansion area, to top of embankment or steep (1 on 3) slope - 25'.
7. Separation: Absorption field to solid curtain drain, roof or footing pipes, snow storage easement – 10'.
8. Drainage pipes within 25' of any well must be watertight.
9. Separation: well to cemetery property line - 100'.
10. Separation: well to subdivision boundary – 50'.

Section 75-A.4 (c-1) Accepted as Orange County Health Department policy and standard, and shall be indicated on the plan by the design professional.

Section 75-A.4 (c-2) Accepted as Orange County Health Department policy and standard except as follows:

1. At least two (2) deep test pits, widely spaced, to a depth of eight (8) feet (or until refusal), shall be dug within or preferably immediately adjacent to the proposed leaching area to insure that uniform soil and site conditions prevail.

Section 75-A.4 (d) Accepted as Orange County Health Department policy and standard except as follows:

1. Designs shall be based on the slowest percolation rate found within the area of the system.

Section 75-A.5 Accepted as Orange County Health Department policy and standard with the following addition:

1. House sewer and sewer runs shall not exceed 75' between points of possible cleanout.

Section 75-A.6 Accepted as Orange County Health Department policy and standard with the following additions:

1. The use of garbage grinders, hot tubs/spas over 100 gal., and/or water conditioners shall be specifically addressed and designed for on the plans by the design professional. Also see "Design Handbook – Residential Onsite Wastewater Treatment Systems" and Orange County Health Department Design Policy and Standard (Re: Design Handbook).
2. Septic tanks shall have a **maximum** earth cover of 12". Any covers at grade shall be lockable and watertight.
3. A copy of the manufacturer's installation instructions shall be furnished with all submissions using fiberglass or polyethylene septic tanks or any tanks delivered to the site in sections. All pertinent information from these instructions shall be indicated on the plans.
4. The design professional shall include on the plans that in the certification of construction compliance to the Orange County Health Department and the local code enforcement officer that any joints have been sealed and tested for water tightness and that the tank was installed in accordance with Appendix 75-A and the manufacturer's instructions.
5. All systems incorporating enhanced treatment units submitted for the approval of the Orange County Health Department shall include a copy of the required service contract. It shall be clearly indicated in the contract and on the plans that a service contract is required for the life of the unit.

Section 75-A.7 Accepted as Orange County Health Department policy and standard, and as follows:

1. All distribution boxes shall be baffled at the inlet side.
2. Use of fiberglass boxes, or plastic boxes or manholes shall carry the same requirements as items 2 and 3 of the Orange County Health Department policy and standards listed under Section 75-A.6.
3. Serial distribution is not acceptable for new construction.
4. The invert of the outlet from a drop manhole to the next drop manhole shall be 1” to 1 ½” above the invert of the lateral outlets.
5. Distribution boxes must have a sufficient number of outlets to supply the expansion area if it is ever needed.

Section 75-A.8 Accepted as Orange County Health Department policy and standard, and as follows:

1. Heavy equipment shall be kept off the area of the tile field except for the actual construction of the field. There shall be no unnecessary movement of construction equipment in the area of the proposed field, before, during and after construction. Extreme care must be taken during the actual construction so as to avoid any undue compaction that could result in a change of the absorption capacity of the soil on which the design was based. A note to this effect shall be indicated on the plans.
2. The following instructions shall be placed on the plans:
 - i. Trenches shall not be constructed in wet soil.
 - ii. Sides and bottom of trenches shall be raked immediately prior to placing gravel.
 - iii. The end of all distributor pipes shall be plugged.
3. Other acceptable absorption designs (e.g. gravelless systems) shall be limited to those approved by the NYSDOH with the exception of systems including large diameter corrugated perforated pipe surrounded by permeable geotextile fabric which are excluded (75-A(c-3-ii)). A copy of the manufacturer’s installation instructions shall be furnished with all submissions. All pertinent information from these instructions shall be indicated on the plans. The design professional shall include a statement on the plans that in the certification of construction compliance a licensed professional will supervise the installation of the absorption system and that it will be installed in strict compliance with the approved plans, Appendix 75-A, and the manufacturer’s installation instructions.
4. On subdivisions, the use of shallow absorption trenches shall be limited to no more than 25% of the lots. In all cases, fill shall be in place prior to approval and clearly demonstrated to the satisfaction of this department that the materials have been installed in accordance with the requirements of 75-A and the following conditions:
 - i. The absorption trenches must extend into the existing natural soil by at least 6” and the minimum two (2) foot separation must be maintained between the bottom of each trench and all boundary conditions.

- ii. Prior to the installation of fill, two (2) percolation tests at a depth of 24” must stabilize in less than 60 minutes to demonstrate that adequate usable soil is present. The fill can be matched to the longest of the 24” deep tests or the longest of two (2) percolation tests, 6” deep in native soil. The fill will be tested by two (2) 12” percolation tests after it is placed and stabilized.
- iii. The fill material bed shall extend at least 10’ horizontally beyond the trench walls. Material of the same permeability as the underlying original soil (as determined by the level of percolation rate found in Table 6B of the “Design Handbook” or 4B of 75-A) shall be used as the fill bed material. Fill more permeable than the on-site permeable soil shall not be utilized. The fill shall have a maximum slope of one (1) vertical to three (3) horizontal at the edge to intersect with the original ground surface. Topsoil shall be applied in accordance with Appendix 75-A, Section 75-A.9 (b-4-iv).
- iv. If testing indicates that the in place fill material is more permeable than the underlying original soil, the following additional criteria will be followed.
 - 1. The fill can only be one (1) level faster percolation rate than the on-site permeable soil as determined by Table 6B of the “Design Handbook or 4B of 75-A”. If it is faster than one (1) level, the fill will not be acceptable.
 - 2. The final 2’ width of soil shall be impervious with a maximum slope of one (1) vertical to three (3) horizontal. The toe of the slope shall extend into the virgin soil 6” deep and 24” wide.
 - 3. All horizontal separations shall be measured from the toe of slope of the fill.

NOTE: SURFACE OF FILL MUST BE GRADED OR SLOPED TO PROMOTE PROPER DRAINAGE.

- v. The area to be filled shall be prepared in accordance with Appendix 75-A, Section 75-A.9 (c-4-ii). No existing soil shall be removed.
- vi. All fill must be stabilized to the satisfaction of the design engineer and the OCHD’s field engineer.
- 5. All washed concrete sand used in gravelless absorption systems must meet ASTM sand specification C33.
- 6. Cut and fill systems shall be limited to sites where the underlying usable soil has a percolation rate between one and 30 minutes per inch and preferably where the soils are sands and gravels with little or no fines and not easily compacted. In all cases, fill shall be in place prior to approval and clearly demonstrated to the satisfaction of this department that the materials have been installed in accordance with the requirements of Appendix 75-A and the above condition.
- 7. The use of absorption bed systems shall be limited to sites with slopes no greater than 5%.
- 8. Cesspools are not permitted.

Section 75-A.9 Accepted as Orange County Health Department policy and standard, except as follows:

1. Alternative systems are generally not to be considered for new construction but may be permitted in an individual situation because of demonstrated hardship or other circumstances.
2. Alternative systems shall receive conceptual approval prior to the submission of plans.
3. Evapotranspiration (ET) and Evapo-Transpiration Absorption (ETA) Systems are not acceptable.

Section 75-A.10 Accepted as Orange County Health Department policy and standard, except as follows:

1. Other systems are generally not acceptable for new construction but may be permitted only in an individual situation because of hardship or other circumstances which make it impractical to comply with generally accepted standards and this policy and standard.
2. Other systems shall receive conceptual approval prior to the submission of plans.
3. Holding tanks are not approvable by the Orange County Health Department as permanent systems.

**2012 DESIGN HANDBOOK
RESIDENTIAL ONSITE WASTEWATER TREATMENT SYSTEMS**

Note that the “Design Handbook – Residential Onsite Wastewater Treatment Systems” is accepted as Orange County Health Department policy and standards unless otherwise excepted, clarified or addressed as follows:

- Pages 59,60
- (a) In lieu of grading, absorption field trenches may be constructed in areas with slopes between 15 and 20% provided all conditions on pages 23, 59, and 60 are met.
 - (b) Regrading by cutting to meet 15% slope requirements shall only be permitted on sites with in situ permeable granular material (sand or sandy loam, gravelly loam) having a percolation rate ≤ 30 minutes per inch.
 - (c) Fill design and construction to meet 15% slope requirements shall be in accordance with the Design Handbook and the Orange County Health Department Design Policy and Standards on fill for Shallow Absorption Trenches Section 75-A.8, 4ii-vi starting on page A5.
 - (d) Sites in excess of 20% slope are not acceptable for development using individual treatment systems.
 - (e) Steep slopes, greater than 1 on 3, shall be at least 25 feet from toe of fill or edge of any expansion area.
 - (f) Design of any fill areas must consider and prevent any possible leaching of effluent onto the ground surface.
- Pages 29,30
- Percolation tests will be considered stabilized when the last two (2) runs are within:
- a. 10% of each other for 0-10 minute tests.
 - b. One minute for 11-30 minute tests.
 - c. Two minutes for 31-60 minute tests.
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- When clay soils are encountered, brine backwash from water softening equipment should be discharged to a separate disposal absorption facility. If it is not, a note must be provided on the plans to indicate that the life of the sanitary absorption field may be shortened with softener backwash discharged to it.

- Page 35 Unless specifically designed for a garbage grinder or hot tub/spa or a water conditioner, the following note shall be provided on the plans, “This system was not designed to accommodate garbage grinders, hot tub/spas over 100 gallons, or water conditioners. As such, these items shall not be installed unless the system is redesigned to account for them, and reapproved by the Orange County Health Department.”
- Pages 43-45 When available horizontal separation distances for absorption facilities do not meet Appendix 75-A Table 2, or Orange County Health Department Design Policy and Standards values, an aerobic unit shall be provided as at least part of the mitigative measures necessary to reduce horizontal separations.
- Pages 47,48 The use of flow equalization/leveling devices is required on distribution boxes.
- Page 48 All distribution boxes and drop manholes shall be provided with a 2” minimum sump.
- Pages 55,56 Whenever subsurface drainage facilities are proposed, the design shall be detailed on the plans and discussed in an accompanying engineer’s report. Short circuiting and construction materials must be addressed in the report. Invert elevations must be shown on the plans.
- Page 57 If a system is designed with multiple absorption beds, a minimum separation of ten feet shall be provided between the sidewalls of the beds (i.e., ten feet of undisturbed soil).
- Page 65 See Section 75-A.8 item 3 (page A4) for additional limitations and design criteria of Gravelless Systems.
- Pages 68,69 See Section 75-A.8 item 4 (pages A4 & A5) for additional limitations and design criteria of Shallow Absorption Trenches.
- Pages 69,70 See Section 75-A.8 item 6 (page A5) for additional limitations and design criteria of Cut and Fill Systems.
- Pages 71,72 See Section 75-A.8 item 7 (page A5) for additional limitations and design criteria of Absorption Bed Systems.
- Pages 77-90 See Section 75-A.9 (page A6) for additional limitations and design criteria of Alternative Systems.
- Pages 91-93 See Section 75-A.10 (page A6) for additional limitations and design criteria of Other Systems.

Pages 94-96

A septic tank outlet filter shall be required for all systems designed for garbage grinders and/or hot tub/spas over 100 gallons.

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In keeping with Design Policy and Standards, no design shall be for less than 110 gpd per bedroom.