



Public Health
Prevent. Promote. Protect.

Clinton County Health Department - Environmental Health & Safety Division
135 Margaret Street, Plattsburgh, NY, 12901 Phone: (518) 565-4870

**INDIVIDUAL SEWAGE TREATMENT SYSTEM (ISTS) PERMIT APPLICATION
INSTRUCTIONS AND STANDARD DETAILS**

This packet contains all the information needed to obtain a construction permit and Certificate of Acceptance from the Clinton County Health Department (CCHD) as required by Article IX of the Clinton County Sanitary Code and Appendix 75-A of the New York State Sanitary Code.

***** CONSTRUCTION PERMITS ARE REVIEWED BY APPOINTMENT
ONLY *** Please email applications to septic@clintoncountygov.com**

MONDAY – FRIDAY (Please call this office at 518-565-4870 to schedule an appt.)

Refer to CCHD Fee Schedule for application fees

PLEASE MAKE CHECKS PAYABLE TO: CLINTON COUNTY TREASURER

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INSTRUCTIONS

1. Refer to the flow chart to determine whether the sewage system is a new or a replacement system.
2. Fill out the Permit Application Form. Please include all the relevant information about your proposed or existing home.
3. If your lot is in a Realty Subdivision approved by CCHD, your soil evaluation may have already been done for you. Please inquire with the CCHD to determine if the current soil evaluation is acceptable.

If your lot is not in a Realty Subdivision, you will need a Design Professional to conduct the soil tests on your site. Make arrangements for the Design Professional to come to your site and perform the tests. Inform the Design Professional of the location of the proposed system, and have them complete the Permit Application.

DESIGN PROFESSIONAL RESPONSIBILITIES⁽²⁾

1. Conduct all soil & site evaluations according to NYS Sanitary Code, Appendix 75-A Standards.
2. Conduct deep-hole test and use test data to determine proper depth for percolation tests.
3. Conduct percolation tests.
4. Complete Permit Application.

(1) An alternative system will be considered any system that is not a gravity conventional system (i.e., pump station, mound, etc.). Consult with CCHD for determination. All alternative systems will be reviewed by a CCHD Engineer.

(2) CCHD shall reserve the right to be present at any soil and site evaluation.

CONSTRUCTION PERMIT INSTRUCTIONS (Cont.)

4. Before any construction, complete and submit the Construction Permit Application Form, along with the Soil & Site Data Sheets to CCHD. For lots in an approved subdivision, the Soil & Site Data Sheets may not be necessary as the soil and site information may be taken from the approved subdivision plan on file with CCHD.

If the soil test and the plot plan are satisfactory, the Construction Permit will be approved by CCHD and you will be given a copy of your approved permit. (NOTE: The Construction Permit is valid for a two-year period from the date of approval).

5. **ALTERNATIVE TYPES OF SYSTEMS:** If soil and site evaluation reveals that there is less than 2' of usable soil on a site, then an ALTERNATIVE type of sewage treatment systems such as modified sites, mounds, etc. may be used. The plans for these systems must be designed and submitted by a Design Professional. The Design Professional that you choose may reserve the right to base their decision on their own deep-hole and percolation tests. Plans for alternative systems must be submitted to the CCHD. Please allow adequate time for the review process.
6. Only with an approved Construction Permit in your possession may you proceed with the installation of the sewage treatment system. You should also contact any other agencies that may have jurisdiction to insure compliance with their regulations. The system must be installed as specified on the Construction Permit. If, in the course of installing the system, field changes become necessary, CCHD must be notified. CCHD must approve the proposed changes, and revise the approved Construction Permit before changes can be made to the system.
7. When the sewage treatment system has been completed, but not covered with soil, notify CCHD at least 24 hours in advance that you are ready for final inspection. An inspector will visit the site during business hours to verify the system is in compliance with the approved Construction Permit. If an Alternative System has been approved, the Design Professional shall be onsite during the CCHD inspection and prepare a "Certificate of Completed Works". The Certificate of Completed Works is required to be submitted to the CCHD.
8. If the final inspection is satisfactory, a Certificate of Acceptance for the Individual Sewage Treatment System will be issued to the Owner. Possession of a copy of the Certificate of Acceptance is your assurance that the system has been installed in accordance with New York State Standards, and if well maintained, should function properly.

CONSTRUCTION SAFETY FOR DEEP-HOLE TESTS AND SEPTIC SYSTEM INSTALLATIONS

Excavations, such as deep-hole tests, may create safety hazards. Depths as shallow as five (5) feet below ground level have caused injury and loss of life. It is the contractor's and the soil evaluator's responsibility to ensure that working conditions on the work site are not hazardous to workers or to the public. Federal OSHA Construction Standards are applicable to excavations and trenches.

Homeowner's constructing / repairing their own systems should be especially careful when working in or near excavations. Excavations should not be left open and unattended. Excavations should be covered, lighted and barricaded or fenced to prevent injury to the public.

Dig Safely New York (#811) is required to be contacted prior to any excavation to determine the location of any underground utilities in the area.

It is important to remember that not every utility is registered with this service. It may be necessary to do a private investigation of the site to identify all the potential hazards that may lie underground there.

Call 811 to contact Dig Safe New York

PERCOLATION TEST INSTRUCTION SHEET

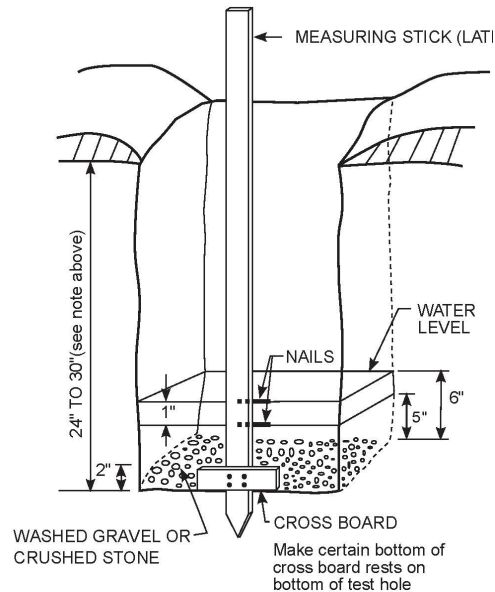
Once the deep-hole test has been completed, dig two percolation test holes in the existing soil, in the area of the proposed leaching system.

NOTE: Percolation test holes must be **dug to the depth of the proposed absorption trenches**. If the trench bottoms are to be installed at grade or less than 6" into grade, the percolation tests must be conducted 6" into the original soil. The depth of the proposed absorption trenches is determined by the deep-hole test, as trench bottoms must be a minimum of 2 ft. above any limiting factors (seasonal high groundwater, bedrock, or impermeable soils) that may be found during a deep-hole test. For on-site soil testing, please follow the sequence below:

1. Conduct deep-hole test
2. Determine limiting factors from deep-hole test results
3. Determine type of septic system allowed by limiting factors
4. Conduct percolation tests at the depth of the proposed system

FOR EACH HOLE:

1. Holes must be 12" x 12" square (or 12" in diameter for circular holes) and spaced at least 20 ft. apart within the proposed leach field area.
2. Scrape the sides of the hole and remove any loose soil from the bottom.
3. Line the bottom of the hole with 2" of crushed stone.
4. Pre-soak the soil (Thoroughly saturate the hole by filling with water).
5. After pre-soaking, fill the hole with 6" of water.
6. Count the number of minutes it takes the water to drop a distance of 1", from the 6" mark down to the 5" mark. Enter the times on the percolation test data sheet.
7. Fill the hole back up to the 6" mark and repeat the test. Run the test at **least 3** times in each hole until percolation times **stabilize** (time trials should be within 1 minute of each other for 1-30 min. soil; within 2 minutes for 31-60 min. soil).
8. Mark the location where each hole was dug (P1 & P2) on the Plot Plan.



CONSTRUCTION REQUIREMENTS

REQUIRED SEPARATION DISTANCES FROM WASTEWATER TREATMENT SYSTEM COMPONENTS (FEET)					
System Components	Well or Suction Line (e)(g)	Stream, Lake, Watercourse (b), or Wetland	Dwelling	Property Line	Drainage Ditch or Rain Gardens (h)
House Sewer Drain (watertight joints)	25 if cast iron, 50 otherwise	25	3	10	10
Septic Tank, Dosing Tank or watertight ETU	50	50	10	10	10
Effluent Line to Distribution Box/Drop Box	50	50	10	10	10
Distribution Box/Drop Box	100	100	20	10	20
Absorption Field (c)(d)	100 (a)	100	20	10	20
Seepage Pit(d)	150 (a)	100	20	10	20
Raised System or Mound (c)(d)	100 (a)	100	20	10	20
Intermittent Sand Filter (d)	100 (a)(f)	100 (f)	20	10	20
Non-Waterborne Systems with offsite residual disposal	50	50	20	10	10
Non-Waterborne Systems with onsite discharge	100	50	20	10	20

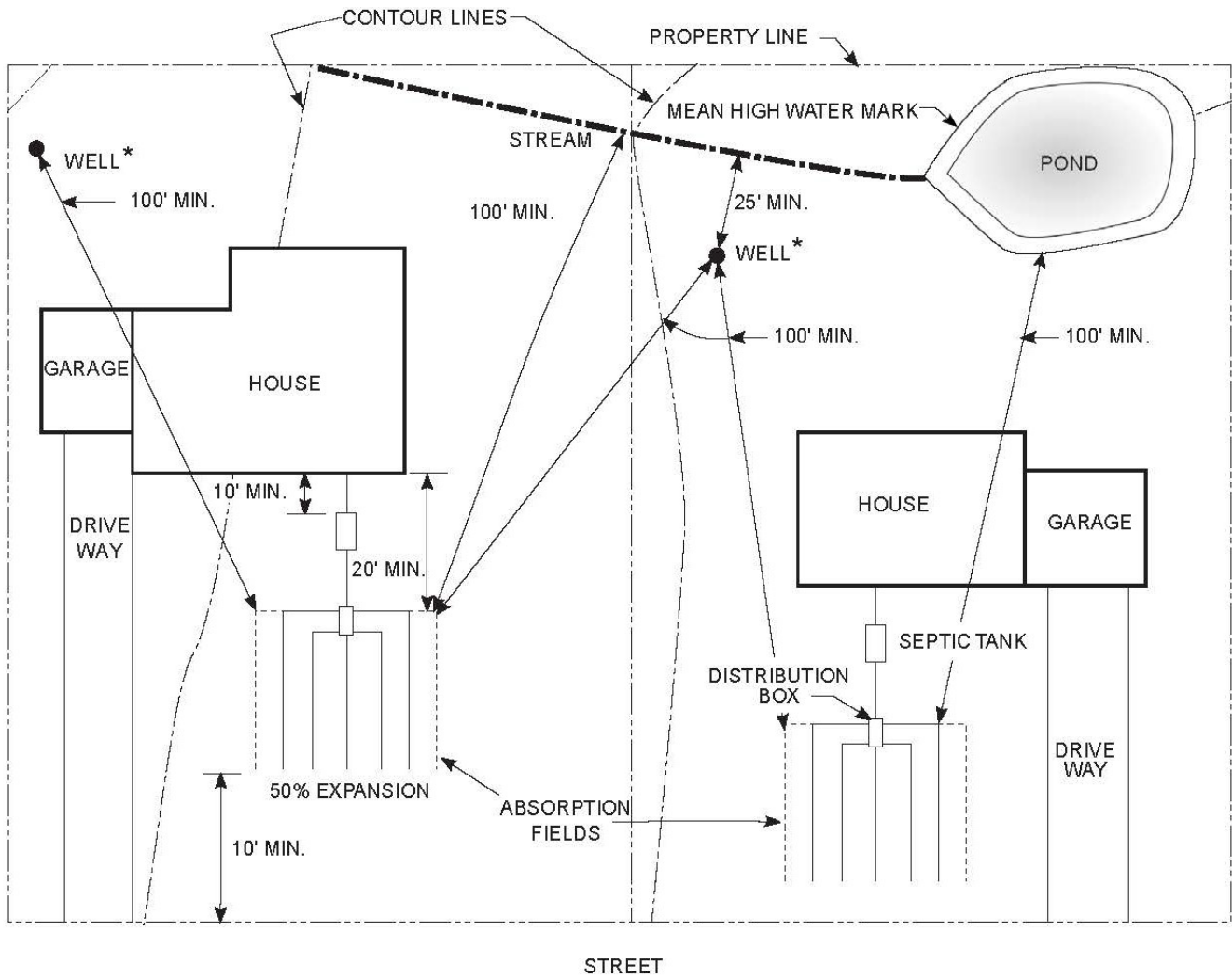
Notes:

- a) When wastewater treatment systems are located upgrade and in the direct path of surface water drainage to a well, the closest part of the treatment system shall be at least 200 feet away from the well.
- b) Mean high water mark. Wetland or watercourse determinations should be addressed with the LHD or other agency having jurisdiction and the applicable NYSDEC regional office.
- c) For all systems involving the placement of fill material, separation distances are measured from the toe of the slope of the fill, except for some shallow absorption trench systems as described in Section 9.12.2 of this Handbook.
- d) Separation distances shall also be measured from the edge of the designated additional useable area (i.e., reserve area), when available.
- e) The closest part of the wastewater treatment system shall be located at least ten (10) feet from any water service line (e.g., public water supply main, public water service line or residential well water service line).
- f) When intermittent sand filters are designed to be watertight and collect all effluent, the separation distance can be reduced to 50 feet.
- g) The listed water well separation distances from contaminant sources shall be increased by 50% whenever aquifer water enters the water well at less than 50-feet below grade. If a 50% increase cannot be achieved, then the greatest possible increase in separation distance shall be provided with such additional measures as needed to prevent contamination.
- h) Recommended; use site evaluation to avoid OWTS short-circuiting to the surface or groundwater and to minimize impacts on OWTS functionality.

Embankment or very steep slope: It is recommended that system components be located a minimum of 25 feet and the absorption field be located a minimum of 50 feet from an embankment or very steep slope. Maximize separation distances and use site evaluation to avoid short-circuiting to surface (breakout or seepage).

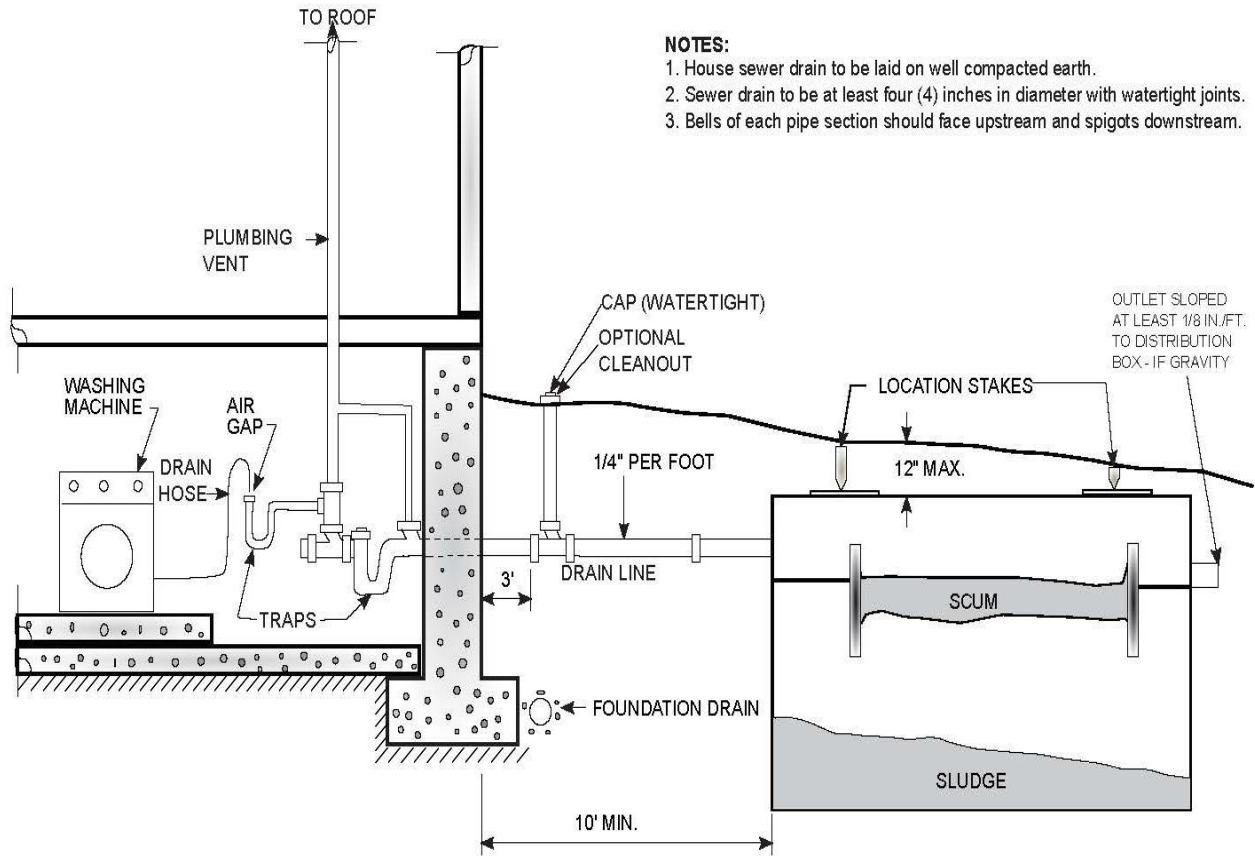
Swimming pools (above or below ground): It is recommended that system components be located a minimum of 20 feet and the absorption field be located a minimum of 35 feet from swimming pools. Maximize separation distances and use site evaluation to minimize impacts on OWTS accessibility and functionality.

CONSTRUCTION REQUIREMENTS (Cont'd)



* The listed water well separation distances from contaminant sources shall be increased by 50% whenever aquifer water enters the water well at less than 50-feet below grade. If a 50% increase cannot be achieved, then the greatest possible increase in separation distance shall be provided with such additional measures as needed to prevent contamination

SEPTIC TANK SEWER PIPE REQUIREMENTS



NOTES:

1. House sewer drain to be laid on well compacted earth.
2. Sewer drain to be at least four (4) inches in diameter with watertight joints.
3. Bells of each pipe section should face upstream and spigots downstream.

STRUCTURE TO SEPTIC TANK

1. Tank Inlet pipe must extend approximately one inch inside the tank wall.
2. If pipe must be under a vehicle pathway; a method of protection must be approved.
3. All tanks must be level on a firm foundation of soil, with sealed connections, and open cleared vents.
4. Pipe must be 1/4" thick pipe or equivalent from house to tank and from tank to distribution box.

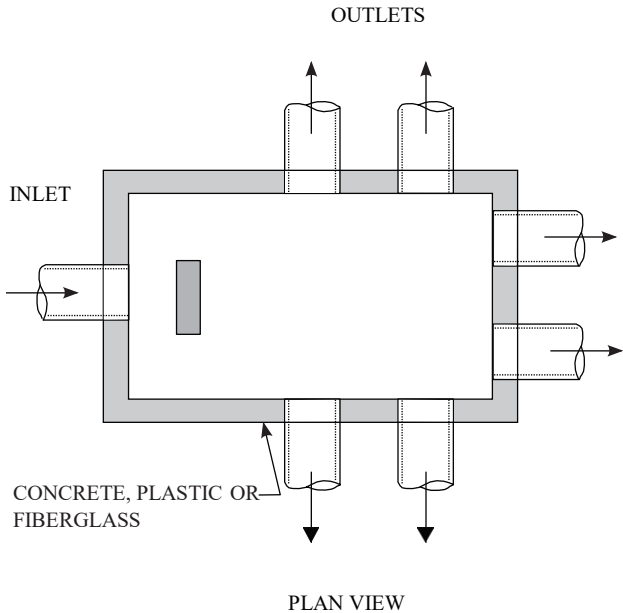
SEPTIC TANK REQUIREMENTS

# Bedrooms	Without Accessories	With Garbage Disposal	With Hot Tub/Spa	Garbage Disposal & Hot Tub/Spa
1-2	1,000	1,000 DC*	1,000	1,250 DC*
3	1,000	1,250 DC*	1,250	1,500 DC*
4	1,250	1,500 DC*	1,500	1,750 DC*
5	1,500	1,750 DC*	1,750	2,000 DC*

(*)DC = Dual Compartment Septic Tank Required. Dual compartment tanks must meet Appendix 75-A specifications, and may include a gas deflection baffle, effluent filter, or other outlet modification.

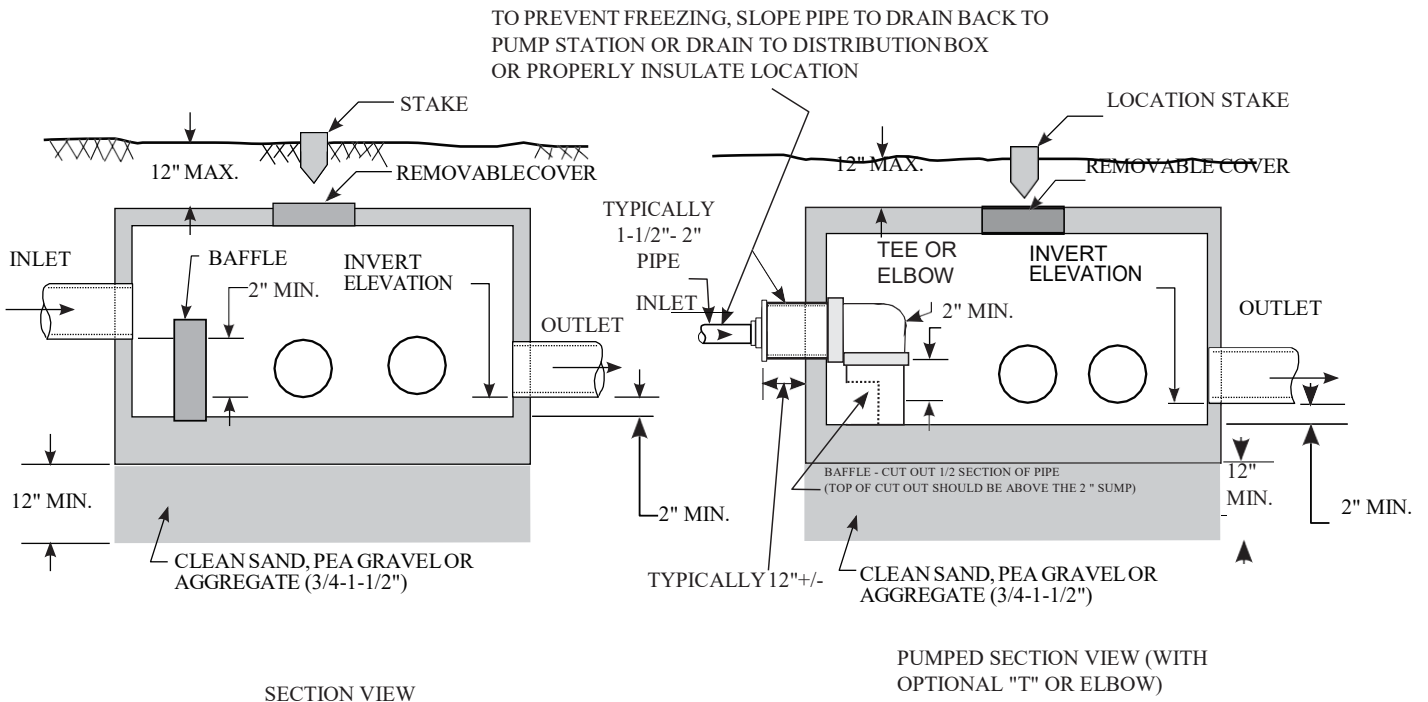
PLASTIC SEPTIC TANKS ARE NOT TYPICAL! Requirements for Plastic Septic Tanks cannot be properly evaluated with simple measurements and observations. The MANUFACTURER'S SPECIFICATIONS should be provided as part of the Permit Application for review and MUST also be provided at the inspection.

DISTRIBUTION BOX REQUIREMENTS



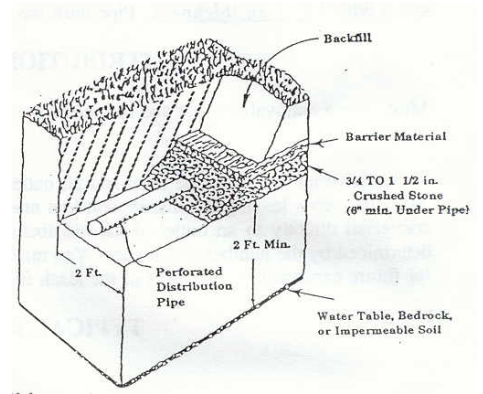
NOTES:

1. Pipe Joints to be sealed with asphaltic material or equivalent.
2. Invert elevations of all outlet pipes must be equal.
Use of flow equalization devices is recommended.
3. The pipe from the septic tank to the distribution box inlet, sloped at least 1/8" per foot - gravity.
4. The slope of outlet pipes (header pipes) between the distribution box and distributor laterals should be at least 1/32" per foot.
5. Baffle required for siphon or automatic dosing or if inlet pipe slope exceeds 1/2" per foot.
6. Baffle can be built in or a pipe elbow or tee ("T").
7. The boxes shall be installed in conformance with manufacturer's instructions.
8. Outlet pipes connect directly to an individual trench. No "Tee's" from one pipe to multiple trenches.



CONVENTIONAL STONE ABSORPTION TRENCH REQUIREMENTS

1. If fill is required, the fill must have similar percolation rate as undisturbed soils, and be placed before excavation.
2. Trenches are to be a minimum of 24-inches wide, and installed parallel to ground contours. The undisturbed soil between adjacent trenches must be 4 feet.
3. Trench bottoms must be level, and at least 2-feet above limiting factor. Trench bottoms do not need to be at the same elevation.
4. All minimum separation distances apply.
5. All trenches are to be similar length and less than 60 feet.
6. Trench bottoms are to be on undisturbed soil and not on top of fill.
7. Sides and bottoms of trenches must be raked prior to placement of crushed stone.
8. The aggregate must be washed gravel or crushed stone 3/4" to 1-1/2" in diameter. Larger diameter material, finer substances, or run of bank gravel are unacceptable.
9. Perforated pipe is to be sloped between 1/16" and 1/32" per foot within the crushed stone. This requires the start of the trenches to have 14" of crushed stone; with 8" below perforated pipe.
10. Minimum depth of crushed stone at end of trenches must be 12" with 6" below the 4" perforated pipe and 2" above the perforate pipe. Pipe ends must be capped, sealed, and visible at inspection.
11. Perforated pipe/stone can start after a 5-foot radius from D-box. D-box solid outlet pipes must connect directly to an individual trench. Solid pipes can have various slopes allowing trench bottoms to be at equal depths on a slope.
12. Finished trenches must have square top corners (not rounded) and are to be covered with permeable paper, fabric, or 4" thick layer of hay.
13. The intended backfill (including topsoil) over the trench cover should be 6 to 12 inches.



LINEAR FEET OF ABSORPTION TRENCH NEEDED (based on 2 feet wide trench)

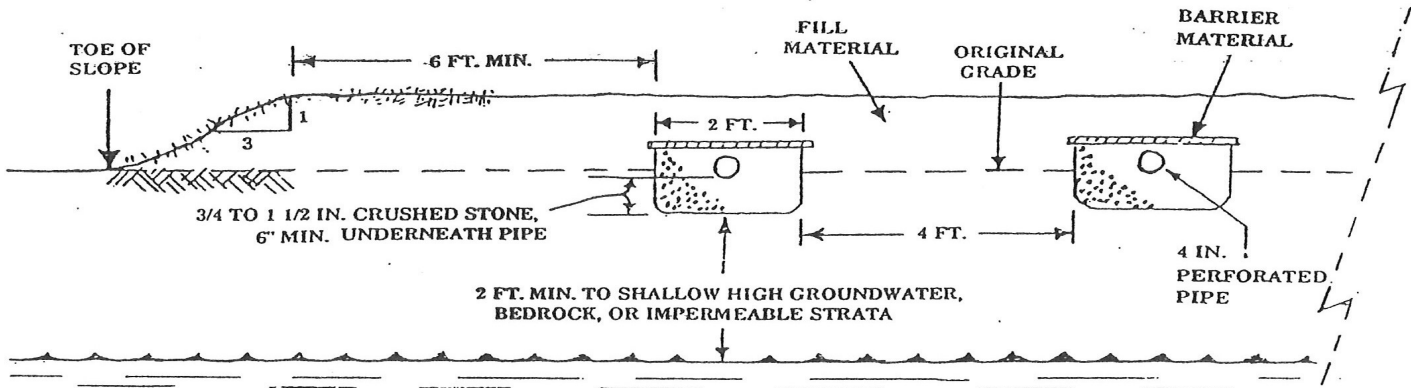
Percolation Rate (min/inch)	2 BR HOME	3 BR HOME	4 BR HOME	5 BR HOME
	NEW - LOW-FLOW FIXTURES / OLD-STANDARD FIXTURES			
1 - 5	92 / 125	138 / 187	184 / 250	230 / 312
6 - 7	110 / 150	165 / 225	220 / 300	275 / 375
8 - 10	123 / 167	184 / 250	245 / 333	306 / 417
11 - 15	138 / 188	207 / 281	275 / 375	344 / 469
16 - 20	158 / 214	236 / 321	315 / 429	393 / *
21 - 30	184 / 250	275 / 375	367 / 500	459 / *
31 - 45	220 / 300	330 / 450	440 / *	* / *
46 - 60	245 / 333	367 / 500	489 / *	* / *

NOTE – (*) MORE THAN 500 LINEAR FEET OF TRENCHES REQUIRES DOSING / SPECIAL DESIGN

CONSTRUCTION REQUIREMENTS - SHALLOW ABSORPTION TRENCHES

(Required when the usable soil is 2 to 3 feet deep)

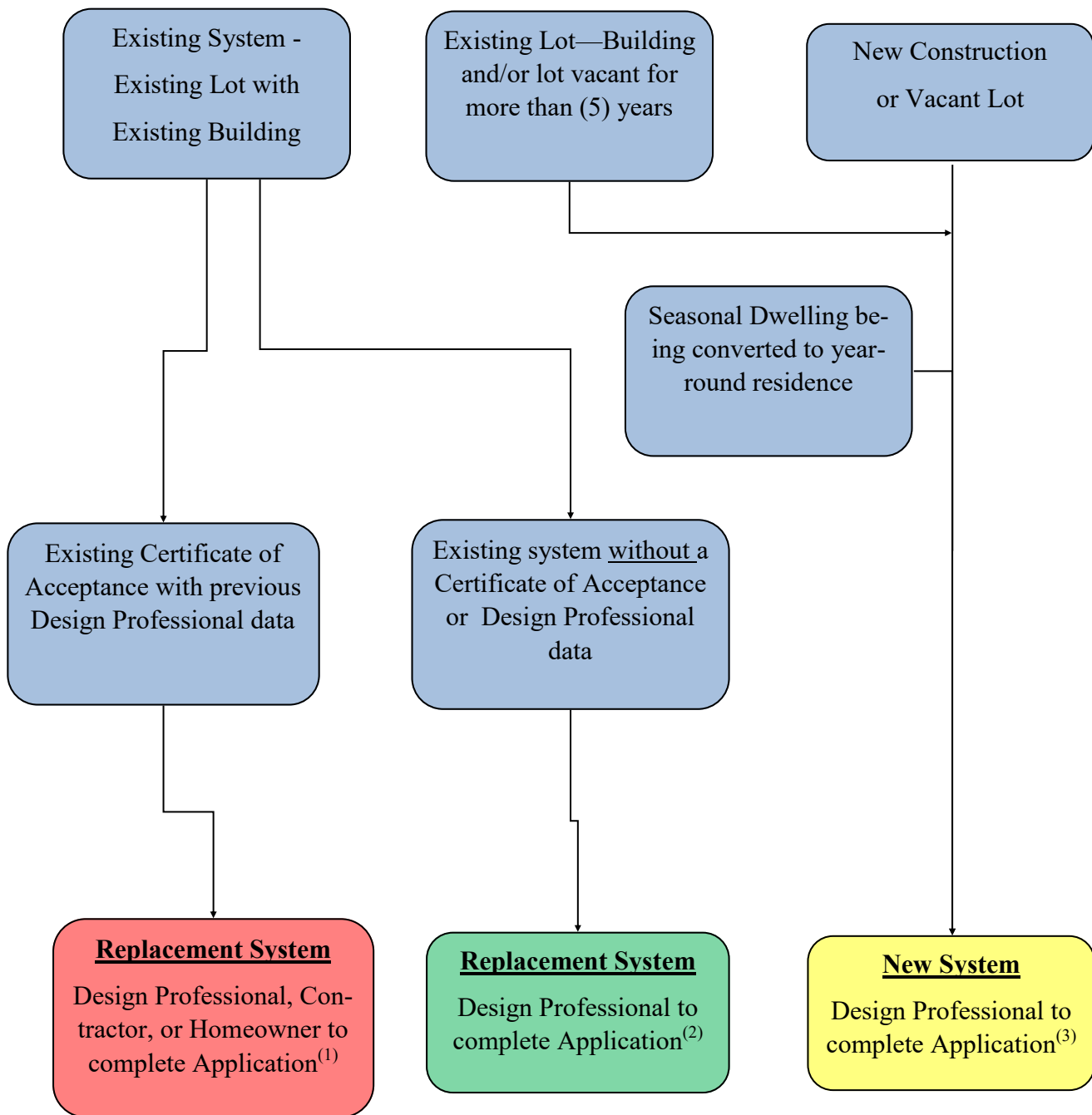
SHALLOW TRENCH SYSTEM – END VIEW



TRENCHES ARE INSTALLED AS DESCRIBED UNDER “CONVENTIONAL TRENCHES” WITH THE FOLLOWING ADDITIONAL CONSIDERATIONS:

1. Usable fill shall have a percolation rate similar to, but not faster than, the usable soil percolation rate, and the fill must be placed **prior** to excavating the trenches.
2. The depth of the fill shall not be greater than 30” (including 6” of topsoil).
3. Fill shall extend at least 6 feet beyond edges of trenches (in all directions) before starting the tapered edge.
4. The edge of the fill material shall be tapered at a slope of no greater than one vertical to three horizontal.
5. Bottoms of all trenches must be on undisturbed soil.
6. Trench bottoms shall be level and be parallel to ground contours.
7. All separation distances noted in the diagram above must be met. All separation distances are to be measured from the “toe of the slope” (see diagram).
8. On sloped sites, a diversion ditch must be constructed uphill from the fill to prevent surface runoff from entering the fill.

Design Professional Requirements



- (1) Based on soil data, CCHD may require a Design Professional to prepare the Application. Replacement System shall meet all separation distances to the maximum extent practical.
- (2) Replacement System shall meet all separation distances to the maximum extent practical.
- (3) New system must meet all separation distances. A waiver form to reduce separation distances may be submitted to CCHD. A waiver is not guaranteed. Please consult with CCHD Engineer.

DESIGN PROFESSIONAL LIST (updated 07/05/2023)

The Clinton County Health Department has compiled this list for informative purposes only; it should not be interpreted as a recommendation. Unless the individual sewage treatment system has been previously designed by a Design Professional (see flow chart), the CCHD requires the Permit Application to be completed by a Design Professional.

DESIGN PROFESSIONALS

Adirondack Professional Services Contact: Mark Buckley, P.E. P.O. Box 401 Willsboro, NY 12996 (518) 963-4467	AEDA, P.C. Contact: James A. Abdallah, P.E. 1246 Rt 3, P.O. Box 762 Plattsburgh, NY 12901 (518) 562-1800 jaa@aedapc.com	AES Northeast, PLLC 10-12 City Hall Place Plattsburgh, NY 12901 (518) 561-1598
Earth Science Engineering, P.C. Contact: Douglas R. Ferris, P.E. P.O. Box 2412 Plattsburgh, NY 12901 (518) 572-3036 dferris@zebratechllc.com	Moser Engineering Contact: James Moser, P.E. 73 Bugby Road Chazy, NY 12921 (518) 846-3160 moserengineering@yahoo.com	North Woods Engineering Contact: Cindy Garso, P.E. 348 Lake Street Saranac Lake, NY 12983 (518) 891-4975
RMS, P.C. Contact: Aaron Ovios, P.E. 11 MacDonough Street Plattsburgh, NY 12901 (518) 561-6145	Upstate Design Associates, LLC Contact: Ryan Burns, P.E. P. O. Box 65 Port Kent, NY 12975 (518) 834-9898 upstatedesign@charter.net	

PRIVATE WATER WELLS

Before the well is installed:

Establish a site for the well that will protect it from contamination;

- ❖ Where possible, the well should be located uphill and a maximum possible distance from any potential sources of contaminants, such as septic systems, pesticide or fertilizer storage areas, road salt storage, gasoline and fuel oil tanks.
- ❖ Surface water should drain away from the area of the well.
- ❖ Maintain the following minimum separation distances:
 - 10 ft to any building
 - 15 ft to property lines
 - 50 ft to septic tank
 - 100 ft to sewage system
 - 50 ft to stream, lake, or wetland

Hire a well driller who is registered with the New York State Department of Environmental Conservation (NYSDEC). A list of registered drillers can be obtained from the Clinton County Health Department (CCHD).

Determine if there are any existing unused wells on the property. These wells should be properly abandoned to protect your groundwater source from contamination. Please contact the CCHD for information on proper well abandonment procedures.

After installation:

- ✓ The well casing should extend at least 18 inches **ABOVE** the ground surface (at least 2 feet above the 100 year flood elevation).
- ✓ The well casing should extend at least 50 feet **BELOW** the ground surface.
- ✓ The ground surface immediately around the well should be graded to direct surface water away from the well.
- ✓ The new well should be shock-disinfected. This procedure is often performed by the well driller at the time of installation. The CCHD can also provide directions on how to shock-disinfect the well.
- ✓ Make sure the well is protected with a tight fitting, vermin-proof well cap or sanitary seal that is properly vented. The vent should face downward, be screened, and be at least 1 foot above the ground surface.
- ✓ The water should be tested to establish safety of the new water source. This should be done after shock-disinfection, when there is no longer any chlorine present in the water. Please refer to Table 1 for tests recommended by the CCHD.
- ✓ Get a complete well log, receipt and results of any tests from your well driller and keep these records in a safe place!
- ✓ Please note that the CCHD does not recommend dug wells as potable water supplies

Table 1: Individual Residential Well Water Supply Quality Testing	
Test	Maximum Contaminant Level (MCL)
Coliform Bacteria	Any positive result is unsatisfactory
Chloride	250.0
Lead	0.015 mg/L
Nitrates	10 mg/L at Nitrogen
Nitrites	1 mg/L as Nitrogen
Iron	0.3 mg/L
Manganese	0.3 mg/L
Sodium	No designated limit**
pH	No designated limit
Hardness	No designated limit
Alkalinity	No designated limit
Turbidity	5 NTU

mg/L- milligrams per liter

MCL- defines the highest concentrations of contaminants allowed in public water supplies as set by the New York State Health Department and the Environmental Protection Agency (EPA).

NTU- Nephelometric Turbidity Units

More than 20mg/L of sodium should not be used for drinking by people on severely restricted sodium diets. More than 270 mg/L should not be consumed by people on moderately restricted sodium diets.

Also test for contaminants that might be located in your area. For example: Test for volatile organic chemicals (VOCs) if oil, petroleum, or solvents are stored nearby; if there has been a spill; or for pesticides and herbicides if a well is located close to an area used for agriculture. Contact the CCHD if you have any questions.

Maintaining your well:

- Protect the well from animal, chemical and groundwater contamination.
- Occasionally check the condition of the well cap or seal to ensure it is not cracked or loose. Also check the casing for cracks or holes and make sure that surface water is diverted away from the well.
- Prevent backflow of contaminated water into your water supply by installing backflow prevention devices (check valves or vacuum breakers) on all faucets with hose connections. An air gap should also be maintained between water supply lines and a potential source of contamination (For example: a hose and water in a swimming pool or puddle).
- Test for coliform bacteria and nitrate annually. You should test more frequently if there is a change in water taste, odor, color or clarity; if your neighbors find a particular contaminant in their water; or if there is a pregnancy or unexplained illness in the household. Under these circumstances, you may also contact the CCHD for assistance and advice.
- Disinfection of a well should be performed any time the well is exposed to the environment. For example: if the well cap is removed and/or repairs are made to the well or submersible pump. Contact the CCHD for technical advice.
- Have your well inspected every 10-20 years by a qualified well driller or pump installer.
- Keep good records on your well!