



# CLINTON COUNTY HEALTH DEPARTMENT

135 Margaret Street, Plattsburgh, NY, 12901 Phone: (518) 565-4870 Fax: (518) 565-4843

## SEWAGE TREATMENT SYSTEM PERMIT APPLICATION

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. Enter appointment date and time here \_\_\_\_\_

**\*\*\* CONSTRUCTION PERMITS ARE REVIEWED BY APPOINTMENT ONLY \*\*\***

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

NEW SYSTEM on a PRIVATE LOT ( <i>Conventional</i> )	-	\$ 70.00
NEW in a CCHD APPROVED SUBDIVISION	-	\$ 50.00
REPLACEMENT SYSTEM ( <i>Conventional</i> )	-	\$ 55.00
NEW ENGINEERED SYSTEM ( <i>Alternative</i> )	-	\$170.00
REPLACEMENT ENGINEERED SYSTEM ( <i>Alternative</i> )	-	\$ 75.00
REPLACEMENT COPY OF CERTIFICATE OF ACCEPTANCE	-	\$ 10.00

*Consult the CCHD to determine whether the septic system is a new or a replacement system*

**PLEASE MAKE CHECKS PAYABLE TO: CLINTON COUNTY TREASURER**

### INSTRUCTIONS for NEW CONSTRUCTION on Undeveloped Property

*If a replacement system, skip to NEXT page.*

1. If property is a lot within a Clinton County Health Department (CCHD) **Realty Subdivision**, complete Permit Application - *App. Page 1 (Design Criteria)*.
2. Obtain soil test and system location requirements from CCHD approved Realty Subdivision plans. This will allow proper drawing on *App. Page 2* - Complete *App. Page 2* and schedule a review for approval.

If proposing a NEW System, NOT in an approved CCHD subdivision:

1. Complete information on Permit Application – *App. Page 1 (Design Criteria)*;
2. Obtain the services of a Soil Professional, recognized on attached referral list;
3. Schedule a Soil Professional to complete "*Site Description, Deep- Hole, and Percolation Data*."
4. If soil tests are within acceptable ranges for a conventional system, continue; ***if not, consult CCHD.***
5. Complete *App. Page 2* Plot Drawing using checklist and generic drawing as a guide.
6. Owner reviews all pages of submission (with signature on *App. Page 1*) and then schedule a *System Permit Application Review* with the CCHD (*See above space for recording your appointment date/time*).

### SOIL PROFESSIONALS - MINIMUM RESPONSIBILITIES

1. Complete "*Site Description and Deep- Hole Test Data*". Determine intended depth of leach area considering limitations and owners intentions. Perform percolation tests at that depth. Complete "*Percolation Test Data*."
2. Complete *App. Page 2 "Plot Plan Sketch"*. Establish and use a Scale; Label downward slope of grade (ground slope) and north direction; draw property lines, show soil test locations; Indicate nearby water bodies, inhibiting/problem vegetation; recent fill placed, grading/ add fill to intended leach-area.

**HOMEOWNERS RESPONSIBILITIES:** Complete/finalize the drawing with the intended property layout and Septic System specific components [*Many soil professionals complete the drawing; ask when hiring*]. Make plan with soil professional to have all needed equipment (i.e., backhoe) on-site.

## **REPLACEMENT SYSTEM INSTRUCTIONS**

**Page 2**

1. Fill out the attached "**REPLACEMENT SYSTEM STATUS REVIEW FORM**" (*next page*) and have it reviewed by CCHD. Once the CCHD determines that the system is a *Replacement System*, you may continue with the replacement system instructions; otherwise follow the instructions for a *New System*.
2. You will need to have **SOIL TESTS** conducted on your site/property: For *Replacement Systems*, soils tests may be completed by either: (i) a *Soils Professional* (See attached *Soil Test Referral List*); (ii) *your contractor*, or; (iii) *yourself*.
3. The person completing the soils test **MUST** complete: (a) the *Site Description Information*; (b) the *Deep-Hole Test Data*; and (c) the *Percolation Test Data*.
4. Complete Permit Application - *App. Page 1 "Design Criteria"*; except signature (last step).
5. Obtain the services of a qualified septic system installation contractor. Some contractors WILL complete the permitting process FOR YOU [Ask when hiring].
6. If soil tests are within acceptable ranges for a Conventional System, continue, **if not, consult CCHD**.
7. Complete Plot Drawing (*Permit Application – App. Page 2*) - Use checklist, requirements, generic drawing as guide.
8. The Owner shall review all pages of the Permit Application, sign *App. Page 1*, and schedule appointment for CCHD approval review [See *Front Page - Enter appointment date and time*].

## **INSTRUCTIONS and CRITERIA for REPLACEMENT SYSTEMS USING AN EXISTING SEPTIC TANK**

1. An approved leach-field will fail if the septic tank is insufficient. A final "*Certificate of Acceptance*" (CA) requires confirmation of an adequate septic tank. A septic tank with less than 1,000 gallons volume OR with insufficient baffling will not be accepted.
2. Existing tanks will be acceptable if they meet all current standards and are confirmed at an inspection. Determine and state all septic tank components and septic tank size on the Permit Application.
3. If all components are known; schedule pumping of the septic tank to coincide with the system construction and inspection. Contractors and inspectors cannot work with an active system.
4. If all components are not known; pumping of the tank must be completed before Permit Application Review appointment to determine septic tank specifics stated in Permit Application and tank condition.

## **CONSTRUCTION INSPECTION POLICY and PROCEDURE**

### **If permit requirements CANNOT be achieved, CALL the CCHD before continuing construction!**

1. All components specified in attached "*Construction Requirements*" must be in place. For example (Conventional Systems); fabric cover should be placed over leach-field pipe stone - Immediately placing fabric cover over stone protects the pore space from being filled with dirt/debris from wind/rain and trench collapse. Do not backfill trenches with soil - Leave top, sides, and ends visible for all components. Manholes and covers must be accessible. Tank vents must be cleared.
2. Request an inspection by CCHD staff using the Permit Number and Town where property is located - Indicate what date and hour the system will be completed and ready for inspection. Requests for inspection should be made at least one business day before completion. Requests for special circumstances can be accommodated with sufficient notification.
3. If the final inspection is satisfactory, a CCHD completed "*Construction Inspection Form*" will be left on-site for the Contractor and/or the Home Owner.
4. The CCHD will mail a "*Certificate of Acceptance*" (CA) for the individual sewage treatment system to the owner. Possession of a copy of the *Certificate of Acceptance* is your assurance that the system has been installed in accordance with NYS Standards, and if well maintained, should function properly.

*This page NOT required for NEW SYSTEMS*

**REPLACEMENT SYSTEM STATUS REVIEW FORM**

For: (Tax Map ID#): \_\_\_\_\_ at (911 Address): \_\_\_\_\_

**Please answer the following questions with best known information:**

1. Why is the current septic system being replaced? \_\_\_\_\_
2. If system is failing; explain DETAILS (what, when, and where): \_\_\_\_\_
3. Is this system to be installed associated with any ongoing complaint? **NO** \_\_. **YES** \_\_. If yes; Who is the person enforcing the complaint? \_\_\_\_\_. This person must be consulted before CCHD approval. They may require a soil professional based on the setting.

	CHECK	YES (or) NO
Is this system for a <i>NEW</i> home, residence, or camp structure? <b><i>IF YES, STOP</i></b> ; This project is <b><i>NOT</i></b> a <b><i>REPLACEMENT SYSTEM</i></b> .	<input type="checkbox"/>	<input type="checkbox"/>
Is this a <b><u>seasonal dwelling</u></b> being converted to <b><u>year-round use residence</u></b> . If <b><u>YES</u></b> , it is a <b><u>NEW System</u></b> , <b><u>NOT</u></b> a Replacement System. A soil professional and all separation distances are required.	<input type="checkbox"/>	<input type="checkbox"/>
Will there be an additional bedroom, change in buildings purpose, or increase in waste water generated? If <b><u>YES</u></b> ; this would be a <b><u>New System</u></b> requiring new soil tests, <b><i>UNLESS the original permit has professional soil tests for the specific leach-field area. If not in same area, a soil professional is required</i></b> . If <b><u>NO</u></b> ; continue to <b><u>PRIOR (Existing) SYSTEM</u></b> , below.	<input type="checkbox"/>	<input type="checkbox"/>
<b><u>PRIOR (Existing)SYSTEM:</u></b>		
Was there a previous septic system installed on this lot? If so; When _____ by Who _____ What year was the house built/structure placed on this lot? _____	<input type="checkbox"/>	<input type="checkbox"/>
Do you have a copy of Original Certificate of Approval from the CCHD?	<input type="checkbox"/>	<input type="checkbox"/>
Do you have a copy of the Original Permit Application (w/ soil test data) from the CCHD?	<input type="checkbox"/>	<input type="checkbox"/>
How long has the existing system been in use? _____ Years; Has system been continuously used? Explain your ownership history: _____	<input type="checkbox"/>	<input type="checkbox"/>
If <b><u>YES</u></b> for the above four (4) questions; the system is <b><i>Replacement Status</i></b> .		

***Incorrect information may revoke permit. I HEREBY CERTIFY THAT THE ABOVE INFORMATION IS TRUE:***

\_\_\_\_\_  
CURRENT PROPERTY OWNER'S SIGNATURE                      DATE

<b><u>HEALTH DEPARTMENT USE ONLY</u></b>	
BASED ON THE ABOVE CRITERIA, this Septic System is considered a _____ SYSTEM.	
Reviewing Sanitarian _____	DATE _____

**SOIL EVALUATORS GENERAL NOTES/COMMENTS (Page 4):**

Please add any information not requested which may improve understanding for CCHD Permit Reviewer and/or Contractor

---

---

---

---

---

**Sewage Treatment System Planning Worksheet**

**IMPORTANT RECOMMENDATION NOTES TO HOMEOWNERS:** When planning a new home or a replacement sewage treatment system for your existing home, it is very important that you (the homeowner) ALSO evaluate your property soil conditions AND identify your intended system component elevations.

**ALTHOUGH NOT REQUIRED,** pre-planning the following specific items (listed in Worksheet format) in accordance with your specific property layout and soils can help you, your home designer, professional engineer/architect and/or contractor design and construct a properly operating sewage treatment system. Improperly planned systems often fail CCHD inspection because the system is constructed too deep. The below listed items can be very important for all systems, but are especially important in cases where only a minimal thickness of usable soils is available.

Sewer line Pipe (Invert) elevation at foundation wall: \_\_\_\_\_ inches  
Distance from home to tank: \_\_\_\_\_ feet  
Intended slope: \_\_\_\_\_ inch/foot  
Tank inlet Pipe (Invert) elevation: \_\_\_\_\_ inches  
Tank outlet Pipe (Invert) elevation: \_\_\_\_\_ inches  
Tank bottom elevation: \_\_\_\_\_ Inches

Distance from Tank to D-box: \_\_\_\_\_ feet  
Intended slope: \_\_\_\_\_ inch/foot  
D-Box inlet Pipe (Invert) elevation: \_\_\_\_\_ inches  
D-Box outlets Pipe (Invert) elevation: \_\_\_\_\_ inches  
D-box bottom elevation: \_\_\_\_\_ inches

Distance to 1<sup>st</sup> Trench: \_\_\_\_\_ feet Intended depth: \_\_\_\_\_ inches, &/or elevation: \_\_\_\_\_ inches  
Distance to 2<sup>nd</sup> Trench: \_\_\_\_\_ feet Intended depth: \_\_\_\_\_ inches, &/or elevation: \_\_\_\_\_ inches

**If Additional Trenches are Needed**

Distance to 3<sup>rd</sup> Trench: \_\_\_\_\_ feet Intended depth: \_\_\_\_\_ inches, &/or elevation: \_\_\_\_\_ inches  
Distance to 4<sup>th</sup> Trench: \_\_\_\_\_ feet Intended depth: \_\_\_\_\_ inches, &/or elevation: \_\_\_\_\_ inches  
Distance to 5<sup>th</sup> Trench: \_\_\_\_\_ feet Intended depth: \_\_\_\_\_ inches, &/or elevation: \_\_\_\_\_ inches  
Distance to 6<sup>th</sup> Trench: \_\_\_\_\_ feet Intended depth: \_\_\_\_\_ inches, &/or elevation: \_\_\_\_\_ inches

**Note:** Remember, the Depth of Level Trenches does not have to be at same elevations; The end of level trenches need to be about 2-3 inches deeper than the start of trenches to accommodate a slight slope in the perforated pipe; Use below space to sketch an elevation profile drawing and ensure end of trenches will not be too deep.

**PERMIT #:**20\_\_\_\_ - \_\_\_\_\_

SEWAGE TREATMENT SYSTEM CONSTRUCTION PERMIT APPLICATION [App. Page 1]

Instructions: Fill in all blanks and CIRCLE correct information

Owner Name \_\_\_\_\_ Telephone (H) \_\_\_\_\_ (C) \_\_\_\_\_

Mailing Address: \_\_\_\_\_

DESIGN CRITERIA

Tax Map ID# \_\_\_\_\_ [Lots <1 acre MUST attach a COPY of your TAX MAP;

Real Property phone number is 565-4760]. Township \_\_\_\_\_ Legislative District \_\_\_\_\_

911 Address or distance and direction from an identifiable 911 address: \_\_\_\_\_

Exact Directions to Site: \_\_\_\_\_

If lot is in the APA, Is a permit required? Yes / No (if yes, please contact the APA first for coordination of soil tests).

Lot Type: Private Lot OR CCHD Approved Subdivision (5 lots or more) OR Local (Minor) Subdivision (4 lots or less)

Subdivision Name: \_\_\_\_\_ Lot # \_\_\_\_\_ [Contact CCHD Re: Subdivision Requirements]

System Type: Conventional (New / Replacement) OR Engineered New / Replacement [If Replacement, see Page 3]

Building Information: Residential? (Number of Bedrooms \_\_\_\_\_) OR Other use? \_\_\_\_\_ -GPD Demand \_\_\_\_\_

Foundation: Full Basement / Half-Basement / Slab / Block Supports / Other \_\_\_\_\_

Water Supply: Public Water / Drilled Well / Dug Well / Surface water; Describe \_\_\_\_\_

Private water - Water Pump Type: Submersible in well / Siphon-Jet (Suction-Show pump location on plot drawing)

Plumbing fixtures: NEW-Low Flow or OTHER \_\_\_\_\_; \*Indoor hot tub/spa (w/ filter & backwash): YES / NO

\*Kitchen Sink Garbage Disposal: YES / NO; \*Grinder Pump (basement toilet to feed sewer main): YES / NO

Tank Type /Size: Concrete OR Plastic; Gallons: \_\_\_\_\_; Dual Compartment? \*Gas Deflection Baffle?

Leach Field Type: Crushed Stone Trenches / Plastic Chambers / Eljen Units / Other \_\_\_\_\_

System To be installed by: Contactor \_\_\_\_\_; Phone \_\_\_\_\_ OR Homeowner

Homeowner installations require OWNER to confirm/know all attached construction specifics - Read such before CCHD review;

Attached Requirements understood by Owner/Contractor? \_\_\_\_\_ (Note: (\*) Septic tank size will relate to asterisk items)

Owner's Signature \_\_\_\_\_; Date \_\_\_\_\_ Owners' signature is REQUIRED!

[Do not sign until all above information and Plot Plan Drawing are complete and confirmed to be your intentions.]

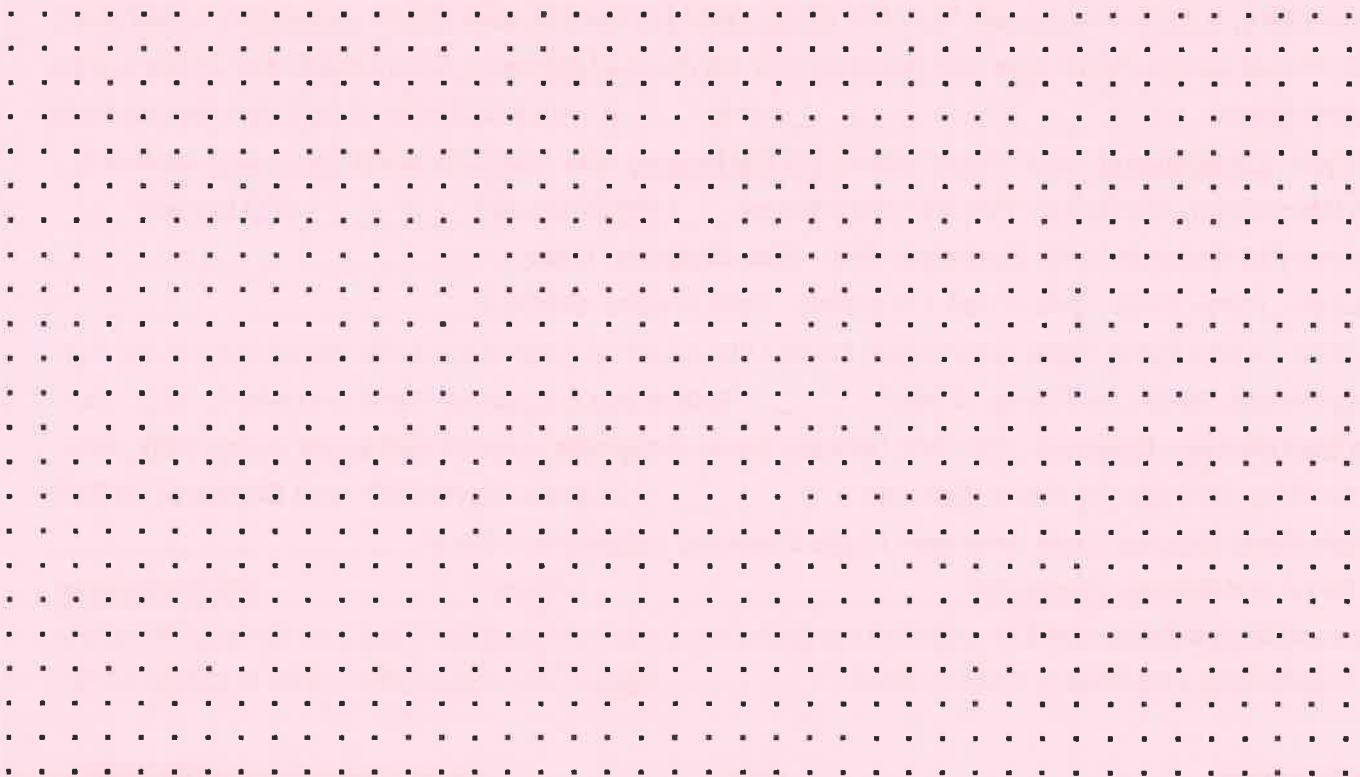
HEALTH DEPARTMENT USE ONLY
Fee Paid \_\_\_\_\_ Receipt # \_\_\_\_\_
Permit Approved by \_\_\_\_\_ Approval Date \_\_\_\_\_
Permit expires 2 years from the date of approval

HEALTH DEPARTMENT USE ONLY
Final Construction Approval By \_\_\_\_\_
Date \_\_\_\_\_

Use "Construction Requirements" (Req. Page 1) drawing as a guide to complete a drawing showing all separation distances. **Check item when drawn and distance labelled OR write N/A if not present or not intended.**

Property Lines (location or distance + direction)	Access Roads
Drainage: ditches/swales /buried collection pipes	Driveways
Public Water lines & Connection to Home (+10')	Home- show shape incl.: porches, decks, etc.
Water Supply Line from Well to Home	Other structures- garages, sheds, pools, etc.
Septic Tank – show orientation of inlet and outlet	Distance from Well to Septic Tank (+50')
Proposed D-Box and Leach lines	Well suction pump location(s); yours/ neighbors
50% Leach expansion area (All distances apply)	Suction Water line(s) to leach-field (+100')
Distance from Proposed Well (PW )	Distance from Leach field - Property Line (+10' )
Neighbor's Well (NW) to leach area (+100')	Distance from Existing Well
Distance from Leach Field (+100') & Tank (+50') to Nearby Stream, Lake or Wetland Boundaries	

**SOILS EVALUATOR must show** deep-hole and percolation test locations orientation to property lines; North direction; Downward slope direction and establish a **SCALE: Each 4-dot square on grid is (circle) 10'x10' OR 5'x5' OR     x    .**  
**DH = Deep-Hole Test Location    P1 = Percolation Test #1 Location    P2 = Percolation Test #2 Location**



**SYSTEM SPECIFIC REQUIREMENTS (To be completed by Health Department Personnel)**

Leach-field type of trenches: *Crushed Stone / Plastic Chambers / Eljen Units / Other* \_\_\_\_\_  
 Septic tank: *Concrete OR Plastic Minimum Tank Size (gallons): 1,000 / 1,250 / 1,500 / 1,750 / 2,000*  
 Required Tank Components: *Dual-Compartment / Gas Deflection Baffle / Effluent Filter*  
 Bottoms of trenches are to be no deeper than \* \_\_\_\_\_ inches below the grade (Determined at deep-hole test);  
 Additional Fill to be placed in area prior to Trench Build; *18-inches(-) Available Usable Soil (inches)= \_\_\_\_\_ (inches);*  
 Minimum Total Trench Length: \_\_\_\_\_ feet; Minimum # of Eljen Units: \_\_\_\_\_; Sand Source \_\_\_\_\_  
**NOTE: Replacement Systems using Existing Tank require prior PUMPING - MUST be empty for inspection.**

**ALL CONSTRUCTION MUST BE INSPECTED PRIOR TO BACK-FILLING; REVIEW "CONSTRUCTION INSPECTION POLICY and PROCEDURE;" THEN CALL 565-4870 to REQUEST an INSPECTION**

## SOIL TEST REFERRAL LIST (updated 02/06/2015)

---

Clinton County Health Department requires percolation and deep hole tests for all NEW Individual Sewage Treatment (IST) Systems to be conducted by one of the following: PROFESSIONAL ENGINEER, REGISTERED ARCHITECT, LICENSED LAND SURVEYOR, SOIL SCIENTIST OR CERTIFIED GEOLOGIST. This Department recommends contacting several of the firms on this referral list since prices and types of services vary. If your building site requires an ALTERNATIVE SYSTEM, engineered plans must be submitted by a Design Professional, who reserve the right to base the design on his/her may own percolation and deep hole test data. Therefore, if you determine that a Design Professional may be required, you may want to have him/her conduct the initial percolation and deep-hole tests.

---

### **ARCHITECTURAL & ENGINEERING DESIGN ASSOCIATES – DESIGN PROFESSIONAL**

1246 Rt. 3, P.O. Box 762  
Plattsburgh, NY 12901  
(518) 562-1800

### **ARCHITECTURE, ENGINEERING & LAND SURVEYING NORTHEAST, PLLC**

10-12 City Hall Place, Suite 201  
Plattsburgh, NY 12901  
(518) 561-1598

### **PAUL AGNEW – GEOLOGISTS**

51 Agnew Road  
Morrisonville, NY 12962  
(518) 534-0122  
(518) 566-6554      [pcagnew@gmail.com](mailto:pcagnew@gmail.com)

### **MARK BUCKLEY (ADIRONDACK PROFESSIONAL SERVICES) – DESIGN PROFESSIONAL**

P.O. Box 401  
Willsboro, NY 12996  
(518) 963-4467

### **RYAN BURNS, P.E. – UPSTATE DESIGN ASSOCIATES, LLC – DESIGN PROFESSIONAL**

P. O. Box 60  
Port Kent, NY 12975  
(518) 834-9898

### **EARTH SCIENCE ENGINEERING, P.C.**

#### **DOUGLAS R. FERRIS, P.E. – DESIGN PROFESSIONAL**

P.O. Box 2412  
Plattsburgh, NY 12901  
(518) 572-3036      [dferris@zebratechllc.com](mailto:dferris@zebratechllc.com)

### **ALFRED SWEENOR, P.E., NORTH COUNTRY ENGINEERING & PLANNING – DESIGN PROFESSIONAL**

2136 NYS Route 22B  
Morrisonville, NY 12962  
(518) 561-7560      [NCEP@charter.net](mailto:NCEP@charter.net)

## **SOIL TEST REFERRAL LIST, cont. (updated 02/06/2015)**

### **THOMAS J. LABOMBARD, P.E., DESIGN PROFESSIONAL**

1778 A Main Street  
Keeseville, NY 12944  
(518) 834-7729      toml@tjlpe.com

### **MICHAEL OLIVER, P.E., DESIGN PROFESSIONAL**

170 Trombley Ln  
Chazy, NY 12921  
(518) 420-5566      oliver1465@gmail.com

### **MARK PETRASHUNE – LICENSED LAND SURVEYOR**

P.O. Box 821  
Dannemora, NY 12929  
(518) 492-2215

### **CINDY GARSO P.E., NORTH WOODS ENGINEERING**

348 Lake Street  
Saranac Lake, NY 12983  
(518) 891-4975

### **PETER E. GIBBS, P.E. – ENGINEERING VENTURES, INC.**

208 Flynn Street  
Burlington, VT 05401  
(802) 863-6225

### **ROBERT M. SUTHERLAND, P.E., DESIGN PROFESSIONAL**

11 MacDonough Street  
Plattsburgh, NY 12901  
(518) 561-6145

### **DEAN LASHWAY, L.L.S**

2788 Miner Farm Road  
Altona, NY 12910  
(518) 236-9333      dhlsurveying@aol.com

### **JAMES MOSER, P.E., MOSER ENGINEERING**

73 Bugby Road  
Chazy, NY 12921  
(518) 846-3160      moserengineering@yahoo.com

### **MATHEW S. STOWE – SOIL SCIENTIST**

62 Bart Merrill Rd.  
Cadyville, NY 12918  
(518) 578-2413



## **CONSTRUCTION SAFETY FOR DEEP-HOLE TESTS AND SEPTIC SYSTEM INSTALLATIONS**

**SAFETY WARNINGS:** Excavations, such as for deep-hole tests and septic tanks, may create safety hazards. Experience should warn us that 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.

It is recommended that the Underground Facilities Protection Corporation (UFPO) be contacted **PRIOR TO ANY EXCAVATION** to determine the location of any underground utilities in the area and thereby, avoiding potential hazards and disruption of utility service.

**THE UFPO TELEPHONE NUMBER FOR UPSTATE NEW YORK IS:  
1 (800) 962-7962**

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

**“DIG- SAFE”  
CAN BE CONTACTED BY DIALING “8-1-1”**

**DIG-SAFE is required to be called 2 – 10 days before digging.**

Called on: \_\_\_\_\_ Confirmation Ticket Number: \_\_\_\_\_

## SITE DESCRIPTION

TAX MAP NUMER OR ADDRESS: \_\_\_\_\_ PERMIT #:20\_\_\_\_ - \_\_\_\_\_

**SLOPE** in the area of proposed leach-field: Flat (<1%) / Slight (1-5%) / Steep (> 15%)

Describe downward slope direction and label the slope on "Plot Plan Sketch": \_\_\_\_\_

Are there **ANY** nearby streams, wetlands, or waterbodies? YES / NO – Describe \_\_\_\_\_

**VEGETATION:** Dense Woods / Sparse Trees / Open Field / Lawn / Other. Label limitations on drawing.

**GRADING:** Will any original soil be removed from the proposed leach-field area? YES / NO

If yes, how many inches? \_\_\_\_\_; WHY? \_\_\_\_\_

**FILL MATERIAL:** Has any been placed on the intended leach area within the recent past? YES / NO

If yes, how many inches? \_\_\_\_\_; WHY? \_\_\_\_\_

### DEEP-HOLE TEST DATA

**INSTRUCTIONS:**

At least **ONE (1)** deep-hole test must be performed in the area of the proposed leaching system. The hole must be at least 6-feet (72-inches) deep. The Health Department recommends that the deep-hole test be completed during the high groundwater season (*in the spring before June 30<sup>th</sup>*). **Safety and caution must be exercised** when examining the hole in order to obtain the following information:

#### DESCRPTION OF SOIL LAYERS

DEPTH	SOIL HORIZON	COLOR	TEXTURE	MOTTLING
0 " to _____ "				
_____ " to _____ "				
_____ " to _____ "				
_____ " to _____ "				
_____ " to _____ "				
_____ " to _____ "				

Depth of hole: (If under 72" explain why? \_\_\_\_\_) equals \_\_\_\_\_ inches

Was bedrock encountered? YES / NO ..... at \_\_\_\_\_ inches

Was an impermeable till or clay layer encountered? YES / NO ..... at \_\_\_\_\_ inches

Was groundwater seepage observed? YES / NO ..... at \_\_\_\_\_ inches

Soil mottling - Evidence of seasonal high groundwater? YES / NO ..... at \_\_\_\_\_ inches

**A** - Total depth of useable soil (\*): (*smallest # above*)..... is \_\_\_\_\_ inches

**B** - Minimum Separation to Limiting Factor (*i.e., Water Table, Clay Soil, Bedrock*): .... = 24 inches

Maximum Trench Bottom Depth (**A – B**): ..... = \_\_\_\_\_ inches

(\* ) Above Limiting Factor (*i.e., bedrock, impermeable soil layer, seasonal high groundwater; smallest above #*)

**I CERTIFY THAT THE DEEP-HOLE TEST RESULTS and Site DESCRIPTION ARE TRUE, and ACCURATE with Location of deep-hole test (DH) labelled on plot plan sketch.**

\_\_\_\_\_  
SIGNATURE OF PERSON CONDUCTING TESTS

\_\_\_\_\_  
TEST DATE

\_\_\_\_\_  
STAMP/CERT. #

Circle Title: P.E. / L.L.S / R. A. / AIPG Geologist / Certified Soil Scientist / Contractor / Homeowner

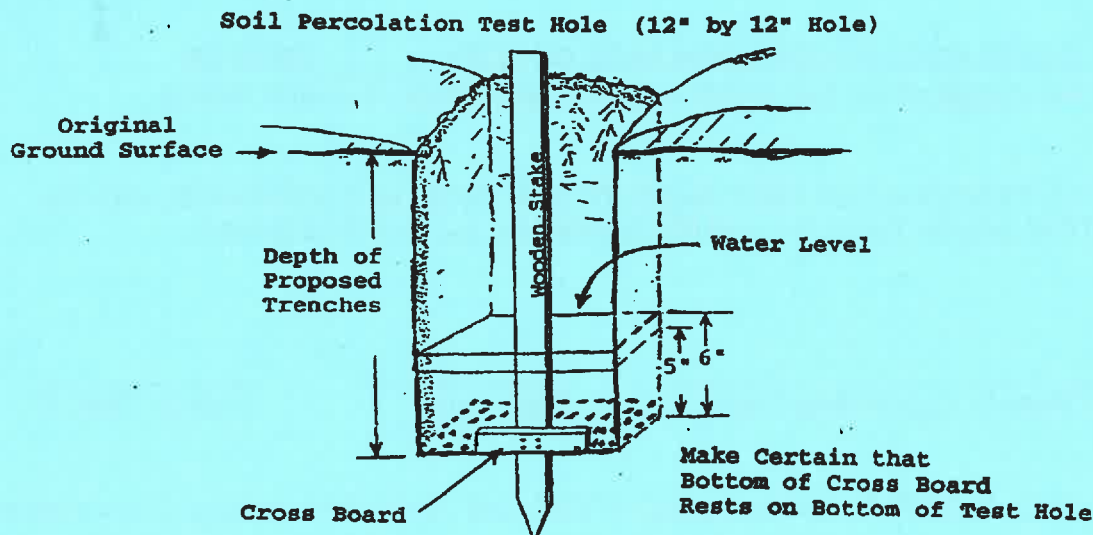
# PERCOLATION TESTS INSTRUCTION SHEET

## INSTRUCTIONS:

- After the deep-hole test determines depth limitation, and owner has determined final grading intentions; dig two (2) percolation test holes in the existing soil, representing the proposed trench area and depth.
- **NOTE: Percolation test holes must be dug in the area of, and 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 in the soil layer represented at 6".
- The depth of the proposed absorption trenches is determined by the Deep-Hole Test, as trench bottoms must be a minimum of 2-feet 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 (to prevent situation on the bottom of the hole).
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!** Stabilize means the 1-inch drop times are within 10% of each other for the same hole [*i.e., for 10 minute soil percolation – test results yield 9 min., 10 min., 30 sec., or 11 min.*]
8. Mark the location where each hole was dug (P1 & P2) on the "Plot Plan Sketch".



## PERCOLATION TEST DATA

TAX MAP NUMER OR ADDRESS: \_\_\_\_\_ PERMIT #:20\_\_\_\_ - \_\_\_\_\_

### PERCOLATION TEST RESULTS – HOLE 1 (P1)

TEST	START TIME	FINISH TIME	TOTAL TIME
#1			
#2			
#3			
#4			
#5			
#6			
#7			

Depth of Hole 1: \_\_\_\_\_ inches

Stabilized percolation rate for Hole 1: \_\_\_\_\_ min. (longest time).

.....

### PERCOLATION TEST RESULTS – HOLE 2 (P2)

TEST	START TIME	FINISH TIME	TOTAL TIME
#1			
#2			
#3			
#4			
#5			
#6			
#7			

Depth of Hole 1: \_\_\_\_\_ inches

Stabilized percolation rate for Hole 1: \_\_\_\_\_ min. (longest time).

**STABILIZED PERCOLATION RATE OF SOIL: \_\_\_\_\_ MINUTES**  
 (The longer of the two stabilized percolation times for both holes)

I CERTIFY THAT THE PERCOLATION TEST RESULTS ARE TRUE, and ACCURATE, with the locations of Percolation Tests (P1 and P2) labelled on the Plot Plan Sketch.

\_\_\_\_\_  
 Signature of Person Conducting Tests

\_\_\_\_\_  
 Test Date

\_\_\_\_\_  
 Stamp / Cert. #

**CIRCLE TITLE:** P. E. / L. L. S / R. A. / AIPG Geologist / Cert. Soil Scientist / Contractor / Homeowner

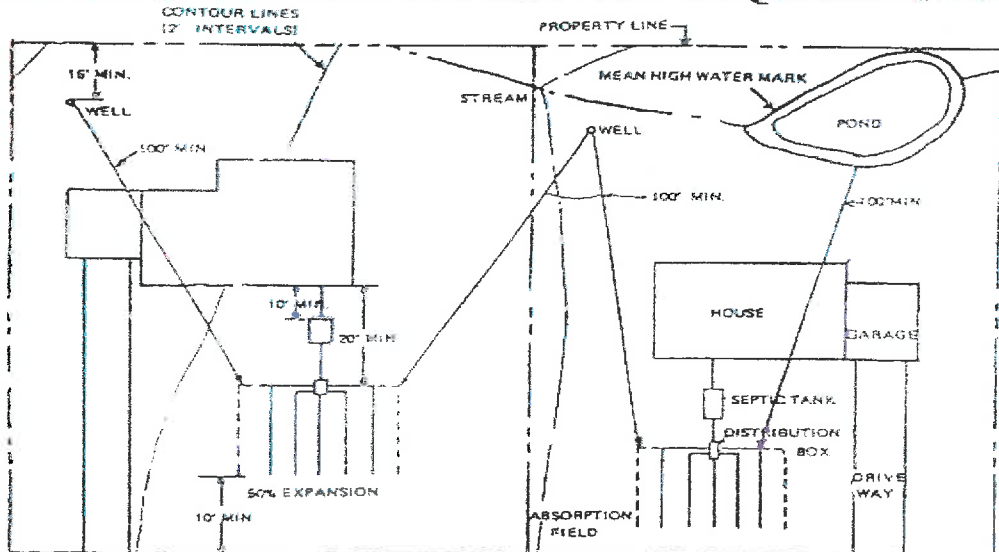
**CONSTRUCTION REQUIREMENTS (Req. Page 1)**

**REQUIRED SEPARATION DISTANCES FROM WASTEWATER SYSTEM COMPONENTS**

System Components	Well (d) or Suction Line	To Stream, Lake Watercourse (b) or Wetland	Dwelling	Property Line	Drainage Ditch
House Sewer (Watertight Joints)	25' if cast iron or PVC w/0-ring joints; 50' if not	25'	3'	10'	.....
Septic Tank	50'	50'	10'	10'	10'
Effluent Line to D-Box	50'	50'	10'	10'	10'
Distribution Box	100'	100'	20'	10'	20'
Absorption Field (c) (Incl. replacement area)	100' (a)	100'	20'	10'	20'
Dry Well (Roof & Footing)	50'	25'	20'	10'	10'
Sanitary Privy Pit	100'	50'	20'	10'	20'
Privy, Watertight Vault	50'	50'	20'	10'	10'

- (a) When sewage treatment systems are located in coarse gravel or upgrade and in the general path of drainage to a well, the closest part of the treatment system shall be at least 200' away from the well. The leach field must also be 200' away from any **public** water supply wells.
- (b) Mean high water mark.
- (c) For all systems involving the placement of fill material, separation distances are measured from the toe of slope of the fill.
- (d) Any water service under pressure located within 10' of any absorption field, seepage pit or sanitary privy shall be installed inside a larger diameter water main to protect the potable water supply.

**ABSORPTION FIELD SEPARATION REQUIREMENTS**



**SEWER PIPE REQUIREMENTS – STRUCTURE TO SEPTIC TANK (Req. Page 2)**

1. Four inch (4") minimum diameter ridged pipe laid on a firm foundation of soil.
2. Pipe should have no less than 1/4" per foot slope.
3. All connections must be sealed watertight.
4. Pipe must have no sharp bends (angles of more than 45°). If a sharp turn is needed; consider tank rotation and/or side entry **OR** separate 45° fittings with 5-10 feet separation.
5. Tank Inlet pipe must extend approximately one inch inside the tank wall.
6. Pipe must have a clean-out fitting in the basement or crawl space.
7. If pipe must be under a vehicle pathway; a method of protection must be approved.

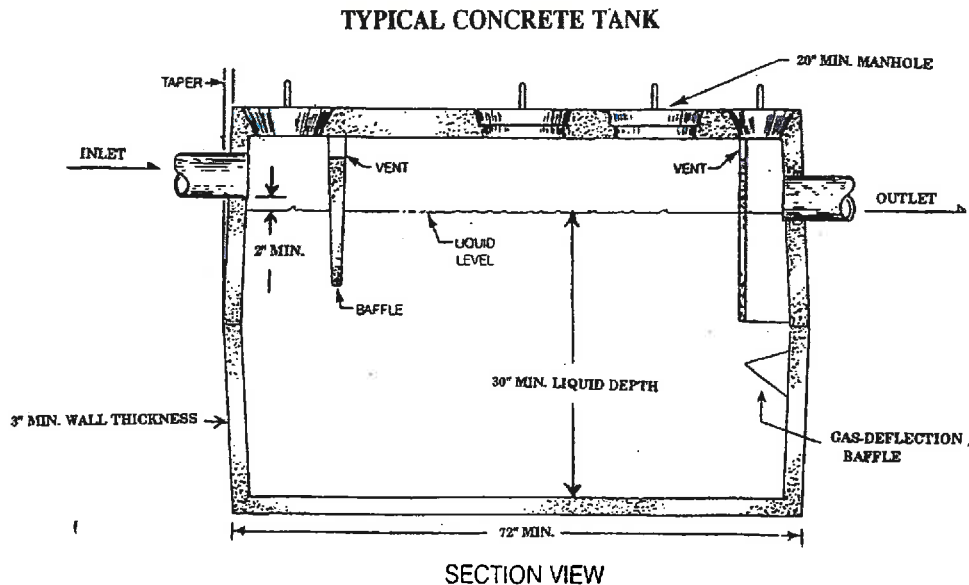
**SEPTIC TANK REQUIREMENTS  
Minimum Tank Size**

# Bedrooms	W/O 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 HEALTH DEPARTMENT SPECIFICATIONS, AND MAY INCLUDE A GAS DEFLECTION BAFFLE 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** be also be provided at the inspection.

All tanks must be level on a firm foundation of soil, with sealed connections, and open cleared vents.



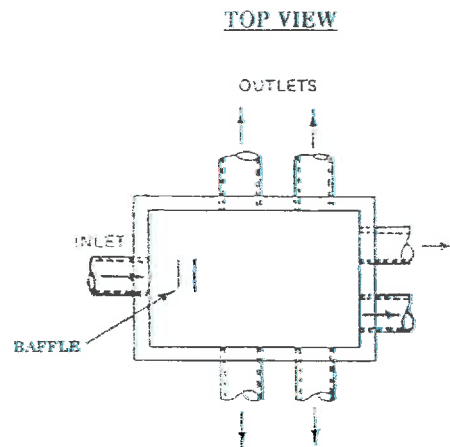
## SEWER PIPE REQUIREMENTS – SEPTIC TANK TO DISTRIBUTION BOX (Req. Page 3)

1. Four inch (4") minimum diameter ridged pipe laid on a firm foundation of soil.
2. Pipe should have no less than 1/8 inch per foot slope.
3. All connections must be sealed watertight.
4. Pipe must have no sharp bends (angles of more than 45°). If a sharp turn is needed; consider tank rotation and/or side entry **OR** separate 45° fittings with 5-10 feet separation.
5. Pipe must extend approximately one inch inside the tank and D-box walls.
6. If pipe must be under a vehicle pathway; a method of protection must be approved.

### DISTRIBUTION BOX REQUIREMENTS

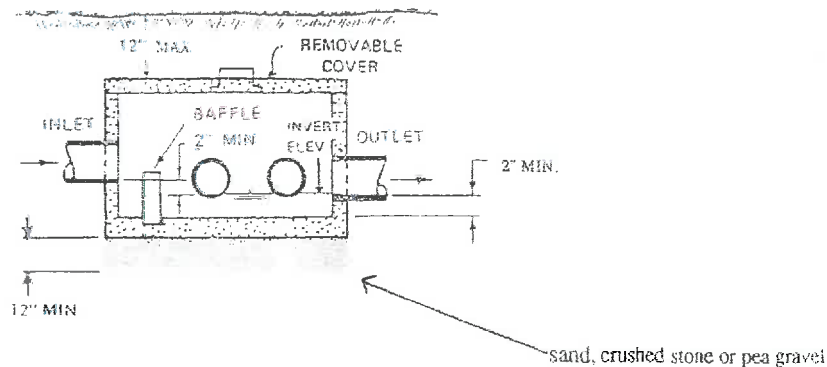
1. A removable cover not located more than 12" below final grade.
2. Level on firm foundation of sand, crushed stone or pea gravel.
3. Outlet pipes **MUST** be solid, not perforated. Perforated pipe/stone can start after 5-feet from D-box.
4. Outlet pipes connect directly to an individual trench. No "T's" from one pipe to multiple trenches.
5. All outlet pipes must be with the same angle, trim, and level to insure even flow distribution.

#### TYPICAL DISTRIBUTION BOX



All outlet pipes must be solid (non-perforated) for at least the first 5' from the d-box.

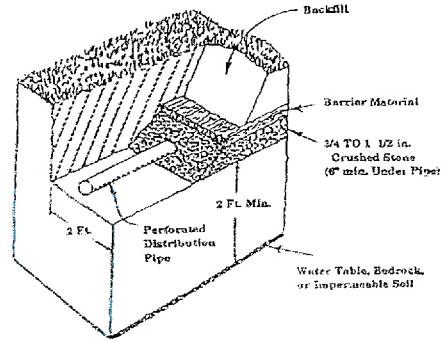
SIDE VIEW



**CONSTRUCTION REQUIREMENTS (Req. Page 4)**

**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 (*Across Slope*). The undisturbed soil between adjacent trenches must be at least 2-times the trench width (typically 4-feet required).
3. Trench bottoms must be **level**, and at least 2-feet above limiting factor determined on permit. **Trench bottoms do not need to be at the same elevation.**
4. All minimum separation distances on *Req. Page 1* apply.
5. All trenches are to be similar length; and less than 60 feet length.
6. Trench bottoms are to be on undisturbed soil; **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. Place this cover as the stone is placed.
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)**

Time for water to drop 1-inch in Test Hole	2 BR HOME	3 BR HOME	4 BR HOME	5 BR HOME
<b>NEW - LOW-FLOW FIXTURES / OLD-STANDARD FIXTURES</b>				
1-5 minutes	92 / 125	140 / 190	185 / 250	230 / 315
6-7 minutes	110 / 150	165 / 225	220 / 300	275 / 375
8-10 minutes	125 / 170	185 / 250	245 / 335	310 / 420
11-15 minutes	140 / 190	210 / 285	275 / 375	345 / 470
16-20 minutes	160 / 215	240 / 325	315 / 430	395 / *
21-30 minutes	185 / 250	275 / 375	370 / 500	460 / *
31-45 minutes	220 / 300	330 / 450	440 / *	* / *
46-60 minutes	245 / 335	370 / 500	490 / *	* / *

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

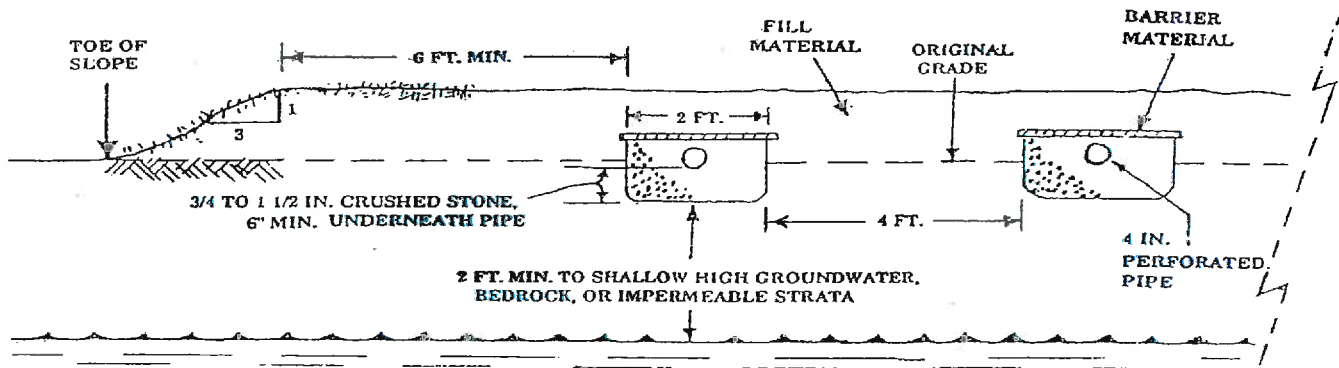


## CONSTRUCTION REQUIREMENTS (Req. Page 5)

### **SHALLOW ABSORPTION TRENCHES** **(Required when the usable soil is 2 to 3 feet deep)**

Shallow trenches are constructed in fill material, extending into the existing natural soil.

#### **SHALLOW TRENCH SYSTEM – END VIEW**



#### **CONSTRUCTION SPECIFIC'S**

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' 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 trenches shall be parallel to ground contours.
7. All separation distances noted in the diagram above must be met. If trench bottoms are to be at grade, 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.

**SYSTEMS THAT REQUIRE A PROFESSIONAL ENGINEER:** When Usable soil is LESS than 2-feet OR other separation distance cannot be achieved, a NYS Licensed Professional Engineer is needed to complete system design. In these cases, a pump station is typically required to pump post-septic tank wastewater to the absorption system.

**The following procedure is used for the approval of non-conventional alternative systems.**

1. Engineered plans for alternative (non-conventional) systems must be submitted by NYS Licensed Professional Engineer.
2. The Professional Engineer must contact CCHD for engineered submission instructions. All further instructions will be stated in CCHD approval letter.
3. While the system is being installed, the Design Engineer **MUST** inspect all components to make sure they were installed according to their plan, and applicable code requirements; and submit a "Letter of Completed Works" to CCHD. **Inspection of the system by CCHD staff prior to backfill may also be required (Check with CCHD staff during Permit Application review OR see CCHD Letter of Approval).**
4. Once the Health Department receives the "Letter of Completed Works" from the Design Engineer, a "Certificate of Approval" will be issued by the CCHD.



**CLINTON COUNTY HEALTH DEPARTMENT  
ENVIRONMENTAL DIVISION  
133 Margaret Street  
Plattsburgh, NY 12901  
Telephone (518) 565-4870      Fax (518) 565-4843**

## **YOUR PRIVATE WATER WELL**

### **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

<b>Table 1: Individual Residential Well Water Supply Quality Testing</b>	
<b>Test</b>	<b>Maximum Contaminant Level (MCL)</b>
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!



## INDIVIDUAL WATER SUPPLY WELLS - FACT SHEET #7

### Testing, Operation, and Maintenance of Residential Wells

#### Background

Over one million homes (and several million residents and visitors) throughout New York State are served by individual (residential) water supply (IWS) wells. While public water supplies are regularly tested for a variety of contaminants, inspected, and maintained, these same activities are left to the homeowner in the case of an IWS. To protect the safety and health of residents and visitors, it is *recommended* that IWS owners:

- Regularly test the well water for contaminants;
- Know how the well system operates and be familiar with the function of each system component; and
- Perform regular maintenance on the well, well system components, and the area surrounding the well.

To help ensure a potable and adequate water supply, this fact sheet and attached checklist describe when to perform recommended testing, the components of an IWS, and how an IWS should be maintained. Homeowners should keep records of all maintenance and testing performed on their wells.

This Fact Sheet focuses on testing, operation, and maintenance of a drilled well, which, when properly located and constructed, is the well type recommended for an IWS (see Appendix 5-B "Standards for Water Wells"). Other types of wells including well points, dug wells, springs and shore wells are more susceptible to drought and contamination from pathogens and chemical spills (see Fact Sheet 5). Surface water supplies (lakes, streams, etc.) should not be used for residential water use because they are more likely to be contaminated (see Surface Water Fact Sheet).

#### Well Water Testing

- **Homeowners should have their water tested whenever a change in color, taste, or odor occurs. Water from a public water supply or NYS certified bottler should be used until test results are obtained.**
- **Recommended testing schedule:** Test for coliform bacteria at least annually. Also test for coliform bacteria whenever a well modification or repair occurs, when any change in gastrointestinal health occurs, or when an aesthetic change in the water occurs. Test for other contaminants every three to five years (see p. 2 of the attached checklist and Fact Sheet 3 for a list of contaminants). Homeowners should contact their Local Health Department (LHD) to determine whether or not the LHD has its own required testing schedule. LHD contact information can be found at the following link: local health department contacts.
  - **Steps to take when contaminants are found:** If test results confirm the presence of a contaminant above the applicable standard, homeowners should contact their LHD for further guidance. Corrective actions and/or treatment may be necessary.
  - **How to collect and test samples:** Testing of well water should be conducted at a laboratory certified for testing potable water by the Environmental Laboratory Approval Program (ELAP). A list of labs can be found at: [www.wadsworth.org/labcert/elap/comm.html](http://www.wadsworth.org/labcert/elap/comm.html) or by contacting your LHD. Sample collection procedures will be outlined by the laboratory. It is recommended not to rely on in-home tests performed by water treatment vendors or test kits purchased at stores because these tests do not meet ELAP standards.

#### Well Operation

**How a well system operates:** Typical well systems consist of a well, pump, pressure tank, pressure switch, piping, and sometimes a storage tank containing a few hundred gallons of water. When a water fixture is opened, compressed air in the pressure tank forces water from the tank into the piping to the fixture. When the pressure in the tank drops due to the lowered water level, the pressure switch (located on or near the pressure tank) turns the pump on. The pump forces water from the well through the piping to the pressure tank. When the water level in the tank reaches a pre - set level, the pressure switch shuts the pump off.

## Well Maintenance

**Do not exceed your experience or knowledge when performing well maintenance tasks. If you are unsure about how to perform a task, contact a well driller, plumber, or electrician.**

- **Maintenance of well:** Homeowners should inspect the well casing, well cap, and well area at least annually to make sure that the well is protected from potential sources of contamination (see Figures 1 and 2 and the attached checklist for descriptions of which items to inspect). Unacceptable well caps should be replaced with an acceptable cap (see Figure 2 below).
- **Maintenance of wellhead area:** Homeowners should avoid mixing, using, storing and disposing of pesticides, fertilizers, manure, herbicides, cleaners, degreasers, fuels and other pollutants near the well. These substances should be stored at least 100 feet from the well casing in original, sealed, labeled containers on an impervious surface such as concrete. Dispose of these substances properly and NEVER dispose of them down a well, or into a sink or toilet leading to the septic system.
- **Maintenance of Well Components:**
  - **Well pump** - submersible pumps require very little maintenance. Jet pumps and suction pumps should be kept in a dry area free from flooding. They also may occasionally have to be primed.
  - **Pressure tank** - pressure tanks maintain pressure inside the household plumbing and prevent the well pump from running every time water is needed. This leads to prolonged pump life. Symptoms of an improperly operating pressure tank include the water pump running more frequently, surging water pressure, and taste and odor issues. If you suspect pressure tank problems contact a plumber or well driller. Keep the area around the tank clear for maintenance.
  - **Pressure switch** - pressure switches ensure that the pressure in the tank remains in a specified range, typically 30 - 50 psi or 40 - 60 psi. Pressure switches normally operate on higher than normal electrical voltage. Contact a well driller or electrician for switch maintenance to avoid the risk of electrical shock.
  - **Pressure gauge** - check to make sure the gauge is operating properly and replace if needed. Normal operating pressure should be between 30 and 60 psi.
  - **Electric shutoff box** - keep dry and keep the surrounding area clear for maintenance.
  - **Additional Treatment Devices** - maintenance should be performed according to the manufacturer.
  - **Shock chlorination of well** - If the well has been flooded or well maintenance has been performed, follow the instructions found at: [www.health.ny.gov/environmental/water/drinking/boilwater/](http://www.health.ny.gov/environmental/water/drinking/boilwater/). Select the tab, "Disinfecting Water at Home," and then follow all instructions under "Well Contamination".

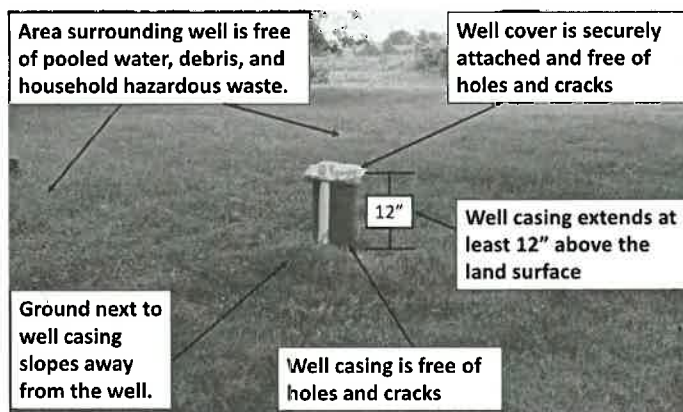


Figure 1: Photo of a properly constructed well.

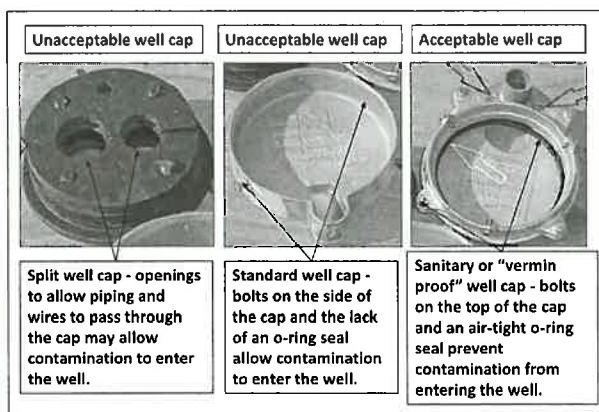


Figure 2: Photos of acceptable and unacceptable well caps

Copies of this Fact Sheet, Appendix 5-B, and other Fact Sheets can be found at:

<http://www.health.ny.gov/environmental/water/drinking/regulations/>. A list of DEC registered well drillers can be found at: <http://www.dec.ny.gov/lands/33317.html>. For questions contact:

Your Local Health Department  
([http://www.health.ny.gov/environmental/water/drinking/doh\\_pub\\_contacts\\_map.htm](http://www.health.ny.gov/environmental/water/drinking/doh_pub_contacts_map.htm))

or

Residential Sanitation Section  
Bureau of Water Supply Protection  
New York State Department of Health  
(518) 402-7650  
E-mail: [bpwsp@health.ny.gov](mailto:bpwsp@health.ny.gov)



## INDIVIDUAL WATER SUPPLY WELLS - FACT SHEET #7: CHECKLIST

### Checklist for Testing, Operation, and Maintenance of Residential Wells

Click on the following link to open Fact Sheet 7: [Fact Sheet 7](#)

The following are *recommended* items that should be checked regularly to ensure that your private well is adequately protected against contamination and is operating properly. Completed checklists should be kept with other well maintenance and testing records. **Do not exceed your experience or knowledge when performing well maintenance tasks. If you are unsure about how to perform a task, contact a well driller, plumber, or electrician.** Please note that the checklist is continued on the reverse side of this sheet.

Item to Check	Check <u>Annually</u>	Date Checked/By Whom	Notes
Water Quality	Test water sample for coliform bacteria; sample sent to ELAP certified lab: <a href="http://www.wadsworth.org/labcert/elap/comm.html">www.wadsworth.org/labcert/elap/comm.html</a> (or contact your LHD)		
Well Casing	Well casing is free of holes and cracks		
	Well casing extends at least 12" above the surrounding land surface		
Well Cap	Well cap is free of holes and cracks		
	Well cap is securely attached, is bolted on top of the cap, and the vent is screened (use a mirror to check for screened vent under the cap)		
	The next time the well cap is removed or replaced, check to ensure the cap is sealed with an O-ring or gasket. Do NOT remove the well cap unless performing maintenance activities (such as <u>shock chlorination of well</u> )		
Pressure Tanks	Pressure gauges checked to ensure they are operating properly, showing pressure in the tank remains in a specified range (typically between 30 – 60 psi)		
	Pressure tank has been flushed (if necessary)		
	Valves have been exercised to ensure they are operating properly and can be fully opened and closed		
Surrounding Ground	Ground surrounding well casing slopes away from the casing		
	Ground surrounding well casing is free of pooled water and debris (leaves, branches, etc.)		
Property	No household hazardous materials or animal wastes located/stored within 100 feet of well casing		
	Any household hazardous materials present on property are stored in original, sealed, labeled containers and on an impervious surface (not on the lawn)		
	Aboveground oil tanks on property are in good condition and at low risk for leakage. When refilling oil tanks, someone watches to ensure overflow does not occur		
Septic	Septic system visually inspected to check for breakouts, failures, etc.		

Checklist Continued on Other Side



<b>Item to Check</b>	<b>Check – <u>Every Three to Five Years</u></b>	<b>Date Checked/By Whom</b>	<b>Notes</b>
Water Quality	Well water tested for lead, nitrates/nitrites, turbidity, arsenic, iron, manganese, iron plus manganese, hardness, alkalinity, pH, and sodium (see <u>Fact Sheet 3</u> )		
Septic	Septic tank pumped out/inspected every 2-3 years by a NYSDEC permitted Waste Transporter to avoid failure of septic system and potential contamination of well		
<b>Item to Check</b>	<b>Check - As Specified for Your Equipment</b>	<b>Date Checked/By Whom</b>	<b>Notes</b>
Water Softener	If water softener present, exhausted resin has been replaced or regenerated (if needed)		
Filter	Cartridge filter (if present) checked and replaced if necessary		
Tank	Aeration system storage tank (if present) has been flushed and cleaned		
UV	Lamp in the UV disinfection system (if present) has been replaced (if needed)		
	Housing and lamp in the UV disinfection system (if present) have been cleaned		
Other	Other treatment units maintained on schedule		





# NEW YORK STATE DEPARTMENT OF HEALTH

*Bureau of Water Supply Protection*

*Flanigan Square, 547 River Street, Troy, New York 12180-2216*

## INDIVIDUAL WATER SUPPLY WELLS - FACT SHEET #5

### SUSCEPTIBLE WATER SOURCES

(Well Points, Dug Wells, Springs and Shore Wells)

Individual (residential) water supplies (IWS) need to provide adequate quantities of water fit for consumption and intended uses. A drilled well, located and constructed in accordance with 10NYCRR Appendix 5-B “Standards for Water Wells”, should routinely be the water supply option selected. Well points, dug wells, springs and shore wells are susceptible to contamination from pathogens, spills, etc. and the effects from drought. These water sources may be considered only as a last resort with proper protective measures and, in most cases, will require approval by County or State health department officials through issuance of a specific waiver pursuant to Part 75 of the State Health Department’s Administrative Rules and Regulations or via a county sanitary code waiver provision.

#### **SPECIFIC INFORMATION FOR SUSCEPTIBLE WATER SOURCE TYPES**

The following types of water sources typically utilize surface water bodies or shallow groundwater sources. Surface waters can contain bacteria, parasites, viruses and possibly other contaminants and shallow groundwater sources are also at significant risk of contamination. These water sources typically have distinguishing construction characteristics which do not comply with Appendix 5-B requirements and would therefore require a specific waiver or other county approval if utilized.

#### **Well Points**

A well point (or “driven point”) is a special type of well installed using a drive point with a built-in screen fastened to the end of a small diameter pipe (usually 1-1/4 to 2 inches) and without a protective outer casing. Well points are installed by pounding, driving or excavating down to the water table. These wells are usually constructed in shallow aquifers with sandy soils, within 10 to 30 feet of the ground surface and use a suction pump to draw water. Single pipe driven point wells under suction are not in compliance with Appendix 5-B and should be avoided.

#### **Dug Wells**

A dug well is constructed by making a large diameter excavation into a shallow aquifer, by hand digging or backhoe and shoring the excavation with large diameter concrete rings. (Shoring constructed with stone or brick are not in compliance with Appendix 5-B and should be avoided.) Dug wells are typically less than 15 feet deep and usually use a suction pump to draw water.

#### **Springs**

Springs occur where an aquifer discharges naturally at or near the ground surface, and are broadly classified as either rock or earth springs. It is often difficult to determine the true source of a spring (that is, whether it truly has the natural protection against contamination that a groundwater aquifer typically has.) Even if the source is a good aquifer, it is difficult to develop a collection device (e.g., “spring box”) that reliably protects against entry of contaminants under all weather conditions. (The term “spring box” varies, and, depending on its construction, would be equivalent to, and treated the same, as either a spring, well point or shore well.) Increased yield and turbidity during rain events are indications of the source being under the direct influence of surface water.

#### **Shore Wells**

“Shore wells” (also known as “infiltration galleries” or “cassion wells”) are shallow wells influenced by surface water and are installed near a waterbody in a shallow aquifer that is directly connected to surface water. Shore wells can also be shallow subsurface devices adjacent to a water body, installed to collect water through a covered stone-filled trench or similar arrangement that drains surface water to a “storage” well or tank. Soils surrounding shore wells provide minimal filtration. The risk of contamination of these water sources can be similar to those of surface water sources.

## ADDITIONAL CONSIDERATIONS AND RECOMMENDATIONS

The use of susceptible sources as described above is discouraged. A properly installed drilled well should be considered first before considering the use of a susceptible source. As a last resort, when the use of a susceptible source is considered, the following is recommended:

### Well Points, Dug Wells and Springs

Where shallow ground water aquifers exist, well points, dug wells and springs can be allowed if they are installed by a certified New York State Department of Environmental Conservation (NYS DEC) registered water well contractor and, in most cases, require issuance of a specific waiver by the LHD or county sanitary code approval as needed. For these sources, installation of appropriate treatment should be considered (e.g., continuous disinfection). For springs, an engineering report, which may include a hydrogeologic study, should also be provided to assure that the water source is satisfactory.

### Shore Wells

In cases where satisfactory groundwater cannot be developed according to Appendix 5-B standards, a specific waiver or approvals via county sanitary code can be requested for development of a shore well. All such requests should demonstrate unsatisfactory availability of groundwater via an engineering report or other evidence (such as a hydrogeologic study) deemed acceptable by the approval authority. Since shore wells provide minimal natural filtration of surface water, all requests should include proposed design, treatment (including filtration and continuous disinfection) and an operation, maintenance and monitoring plan developed by a professional engineer. After health department approval, the shore well needs to be installed by a certified NYS DEC registered water well contractor. Inclusion of a deed amendment as a condition on the specific waiver approval should also be considered. A professional engineer should certify that the construction and installation of treatment has been provided according to plans.

## WATER QUALITY TESTING

Water quality testing is important for all drinking water wells to identify water characteristics and determine treatment needs. See NYS DOH Fact Sheet #3, "Recommended Residential Water Quality Testing" for a recommended minimum list of parameters to test for. It is recommended to test for coliform bacteria every year and to periodically re-test water quality; this is particularly important for water supplies susceptible to contamination.

## COUNTY OR STATE HEALTH DEPARTMENT APPROVAL PROCESS REQUIRING A SPECIFIC WAIVER FROM PART 75 OR A COUNTY SANITARY CODE PROVISION

The local health official (see below) for the geographic area where the property that will utilize the water source is located should be contacted for information about how to apply for a specific waiver or other county sanitary code approval. **It is recommended that, before an application for a waiver or other approval is submitted, the local health official be contacted regarding conceptual acceptability of the proposal.** A specific waiver or other approval IS NOT intended as a device for routinely approving individual water sources that do not meet state standards. It is intended to provide administrative flexibility to address rare cases when hardships exist and/or other circumstances that make it impractical to meet Appendix 5-B standards.

### ADDITIONAL INFORMATION:

Appendix 5-B can be found at:

<http://www.health.state.ny.us/environmental/water/drinking/part5/appendix5b.htm>

NYSDEC registered well drillers can be found at: <http://www.dec.ny.gov/cfm/xtapps/WaterWell/index.cfm>

For a copy of Appendix 5-B or other Fact Sheets or questions concerning this Fact Sheet:

Contact Your Local Health Department  
Official  
(look for environmental health contacts)  
[www.nyscho.org/Directory/directory.html](http://www.nyscho.org/Directory/directory.html)

or

Residential Sanitation Section  
Bureau of Water Supply Protection  
New York State Department of Health  
(518) 402-7650 or FAX (518)  
402-7659



# NEW YORK STATE DEPARTMENT OF HEALTH

Bureau of Water Supply Protection

Flanigan Square, 547 River Street, Troy, New York 12180-2216

## INDIVIDUAL WATER SUPPLY WELLS - FACT SHEET #3 RECOMMENDED RESIDENTIAL WATER QUALITY TESTING

Water quality testing is important for new drinking water wells in addition to periodic evaluation of existing wells. The table below lists the recommended testing parameters for new individual residential water supply wells. These tests should be performed following proper well installation and development, and prior to homeowner use. Beyond these initial tests it is recommended to test for coliform bacteria every year and to periodically re-test water quality for other well-specific constituents of concern.

All samples should be analyzed by a laboratory certified by the NYSDOH Environmental Laboratory Approval Program (ELAP) for testing potable water. A current listing of ELAP laboratories may be accessed at <http://www.wadsworth.org/labcert/elap/elap.html> or by contacting your Local Health Department (LHD).

Analysis *	Recommended MCL (1)(2)	Concerns
Coliform Bacteria	Any positive result is unsatisfactory	Indicator of possible disease causing contamination, e.g. Gastro-intestinal illness
Lead	0.015 mg/l	Brain, nerve and kidney damage (especially in children)
Nitrate	10 mg/l as N	Methemoglobinemia ("blue baby syndrome")
Nitrite	1 mg/l as N	Methemoglobinemia ("blue baby syndrome")
Iron	0.3 mg/l	Rust-colored staining of fixtures or clothes
Manganese	0.3 mg/l	Black staining of fixtures or clothes
Iron plus manganese	0.5 mg/l	Rusty or black staining of fixtures or clothes
Sodium	No designated limit (3)	Effects on individuals with high blood pressure
pH	No designated limit	Pipe corrosion (lead and copper), metallic-bitter taste
Hardness	No designated limit	Mineral and soap deposits, detergents are less effective
Alkalinity	No designated limit	Inhibits chlorine effectiveness, metallic-bitter taste
Turbidity	5 NTU	Cloudy, "piggybacking" of contaminants, interferes with chlorine and UV-light disinfection

(1) MCL means maximum contaminant level. The MCLs listed are based upon requirements for Public Water Supply systems and are also recommended for use on individual residential systems.

(2) mg/l means milligram per liter (parts per million); NTU means Nephelometric Turbidity Units.

(3) Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used by people on moderately restricted sodium diets.

\*Individual Residential Well Water Supply Quality Testing/HUD Mortgage Requirements (July 27,1995)

Additional tests are recommended for naturally occurring constituents that appear on a regional basis such as: arsenic, barium, fluoride, methane, radium, radon, and uranium. Additional tests may also be appropriate for contaminants associated with potential sources such as: oil storage facilities, junkyards, gasoline stations, landfills, industry, and active or historic agricultural use. Water samples from older existing residences or residences with corrosive water (i.e., pH less than 6.5) should be tested for lead and copper.

Some LHD's may have their own residential water quality testing requirements. Contact the LHD to determine their required analyses and procedures, and to inquire about any local water quality concerns.

The table below, Reasons to test your Water, is based upon the United States Environmental Protection Agency's (USEPA) publication: "Drinking Water From Household Wells", January 2002. This table may also be used as a reference for determining additional testing.

Conditions or Nearby Activities:	Test for:
Recurring gastro-intestinal illness <sup>1</sup>	Coliform bacteria, e-coli
Household plumbing contains lead (older homes)	pH, lead, copper
Radon in indoor air or region is radon rich	Radon
Corrosion of pipes, plumbing	pH, lead, copper
Nearby areas of intensive agriculture	Nitrate, pesticides, arsenic, coliform bacteria
Coal or other mining operations nearby	Metals, pH
Gas drilling operations nearby	Sodium, chloride, barium, strontium
Dump, junkyard, landfill, factory, gas station, or dry-cleaning operation nearby	Volatile organic compounds, total dissolved solids, pH, sulfate, chloride, metals
Odor of gasoline or fuel oil, and near gas station or buried fuel tanks	Volatile organic compounds
Objectionable taste or smell	Hydrogen sulfide, pH, metals
Stained plumbing fixtures, toilet tanks or laundry	Iron, copper, manganese, hardness
Salty taste and seawater, or a heavily salted roadway nearby	Sodium, chloride, total dissolved solids
Scaly residues, soaps don't lather	Hardness
Rapid wear of water treatment equipment	pH
Water softener needed to treat hardness	Hardness, manganese, iron
Water appears cloudy, frothy, or colored	Color, detergents, turbidity, total dissolved solids
Reddish-brown films on fixtures or toilet tanks	Iron bacteria, iron, manganese

<sup>1</sup> Individuals with symptoms of gastro-intestinal illness should seek the attention of a medical physician.

### Sampling and Treatment

1. Sampling for lead and coliform may give false results if sampling is not done properly. Please contact your Local Health Department for guidance on sampling and interpreting results.
2. If testing shows any level above the recommended MCL, a new water source and/or treatment may be necessary. Please contact your Local Health Department for guidance.

### Other sources of information that may be helpful:

**American Groundwater Trust**, [www.agwt.org](http://www.agwt.org)

**American Water Works Association**, [www.awwa.org](http://www.awwa.org)

**Water Systems Council**, [www.watersystemscouncil.org](http://www.watersystemscouncil.org)

**Wellowner**, [www.wellowner.org](http://www.wellowner.org)

**United States Environmental Protection Agency**, [www.epa.gov](http://www.epa.gov)

**New York Rural Water Association**, [www.nyruralwater.org](http://www.nyruralwater.org)

**Appendix 5-B**, <http://www.health.state.ny.us/nysdoh/water/part5/appendix5b.htm>

### For questions concerning this Fact Sheet or a copy of Appendix 5-B:

New York State Department of Health

Saranac Lake District Office

41 St. Bernard Street

Saranac Lake, NY 12983

(518) 891-1800 or FAX (518) 891-5895

or

Residential Sanitation Section

Bureau of Water Supply Protection

New York State Department of Health

(518) 402-7650 or FAX (518) 402-7659

E-mail: [bpwsp@health.state.ny.us](mailto:bpwsp@health.state.ny.us)

March 1, 2006

## Concerns About Surface Water as a Drinking Water Source



---

The New York State Department of Health wants to remind people that there are risks from using water from any surface water source as drinking water, unless that water is properly filtered and disinfected. Water from rivers, lakes, ponds and streams can contain bacteria, parasites, viruses and possibly other contaminants. To make surface water fit to drink, treatment is required.

Remember, we use our drinking water in many different ways. We use it as a beverage, but also make ice cubes, mix baby formula, wash fruits and vegetables, and brush our teeth. If the water is contaminated, this may put you at risk. Depending on the kind of contamination, it may also be a concern to wash dishes, wash hands, shower or bathe.

Public water systems are required to treat, disinfect and monitor water quality for their customers. A public water treatment system is well designed and employs trained technicians to test and maintain water quality. If you are not on a public water system and use surface water as your water supply source, please contact your local health department\* for advice. They can talk to you about developing another source of drinking water in your area. If there are no other choices, then they can discuss the treatment options for your surface water source. In the meantime, avoid the use of surface water for your drinking water needs. You should use bottled water or disinfect small batches of water by bringing it to a rolling boil for one – two minutes.

Although the New York State Health Department cannot recommend specific treatment systems or businesses that install them, we would be glad to talk to you about options. For general questions regarding drinking water, call 1-800-458-1158, extension 27650.

\*You can find the number for the local health department in your phone book, or call the toll-free number listed above for help in locating the office nearest to you.



# NEW YORK STATE DEPARTMENT OF HEALTH

*Bureau of Water Supply Protection*

*Room 1110, Corning Tower, Empire State Plaza, Albany, New York 12237*

## Residential Onsite Wastewater Treatment Systems FACT SHEET #1

### Need for Licensed Design Professionals - Residential Onsite Wastewater Treatment Systems

**Purpose:** Provide guidance to regulatory officials and interested parties regarding the need for a licensed professional engineer or architect to design residential (individual) onsite wastewater treatment systems (OWTSs). The State Education Department has reviewed this document with the State Department of Health and offers the following as guidance in applying the requirements of the New York State Education Law relating to the design of OWTSs.

**Licensed Design Professional:** The Department of Health and the State Education Department recognize that, generally, OWTS design activities come within the definition of the practice of professional engineering or architecture under [Article 145](#) or [Article 147](#) of Title VIII of the New York State Education Law and that OWTS designs must be prepared by a design professional appropriately licensed by and currently registered with the State Education Department or otherwise authorized under such law. In addition, [10NYCRR Part 75](#) (Part 75) defines a design professional as "...a person licensed to practice engineering or architecture in New York State by the State Education Department in accordance with Article 145 or Article 147 of Title VIII of the New York State Education Law, respectively, and who is currently registered with the New York State Education Department". Part 75 also states that "Plans for the design of individual onsite wastewater treatment systems shall be prepared directly by or under the supervision of a design professional." Please be advised that licensees providing OWTS design services must be qualified to provide those services based upon education, training, and experience. Any licensee providing services that they are not qualified to provide may be subject to professional misconduct charges.

OWTS design activities include the evaluation of surface and subsurface site conditions at a defined parcel of land, which may include the investigation of soil characteristics, the performance of soil percolation tests, the determination of subsurface boundary condition and depths, the measurement and recording of existing surface features both natural and manmade, and the subsequent application of these data and the data related to proposed wastewater generation to design an OWTS. These activities generally fall within the scope of practice of professional engineering or architecture.

**New Residential Construction:** The design of all new residential OWTSs (including conventional systems) shall be performed by an appropriately licensed design professional, as defined above. The design may also be issued/approved by county health departments where such issuance/approval is performed and authorized by an appropriately licensed design professional on staff. Private practice engineers and architects, and engineering and architectural firms with appropriately licensed design professionals may also provide such services.

**Additions or Alterations:** An OWTS evaluation shall be performed and submitted by a licensed design professional for home alterations resulting in an increase in the number of bedrooms, for complete home replacements (including those resulting in the same number of bedrooms) and for alterations resulting in significant increases in wastewater generation. The evaluation must document if the existing OWTS complies with applicable State and local design standards, if the OWTS and its components are in satisfactory condition and functioning properly and if the existing OWTS can properly treat the proposed increase in wastewater generation. If the existing OWTS does not comply with regulatory design standards or needs significant modification, the licensed design professional shall prepare plans and oversee the installation of the alterations to the OWTS. This may include incorporating appropriate mitigative measures and/or designs as such ordinarily come within the scope of practice of professional engineering.

**Repairs and Replacements:** The repair or replacement of OWTS components "in kind" or "like-for-like" may not require the involvement of a licensed design professional. However, repair or replacement of any type of absorption field that involves relocating or extending an absorption area to a location not previously approved for such, does require a licensed design professional. A licensed design professional is required when repair or replacement involves installation of a new subsurface treatment system at the same location or the use of an alternative system (i.e., raised system, mounds, or sand filter) or innovative system design or technology.

**Note:** In all cases: 1) local government, watershed protection agencies or other jurisdictional agency rules and regulations may also apply; 2) All OWTS design plans must be prepared by a design professional licensed to practice in New York State; 3) When no regulatory agency is responsible for inspection of a constructed OWTS, it is recommended that a written certificate of compliance be submitted by a New York State licensed professional engineer or architect prior to occupancy.

**For questions concerning this Fact Sheet:**

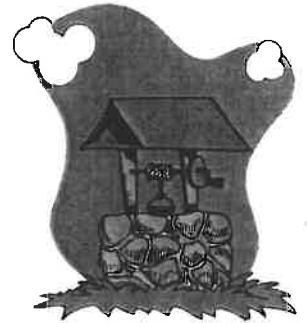
Residential Sanitation Section  
Bureau of Water Supply Protection  
New York State Department of Health  
(518) 402-7650 or FAX (518) 402-7659  
E-mail: [bpwsp@health.state.ny.us](mailto:bpwsp@health.state.ny.us)



# WELL DISINFECTION INSTRUCTIONS

**PLEASE read the entire instructions before beginning well disinfection.**

**MATERIALS NEEDED:** Unscented bleach; wrench to remove well cap, and hose with correct thread fitting to reach from the well to closest outside faucet after pressure tank.



- (1) Bypass water treatment equipment, if any.
- (2) Try to determine the depth of the water in the well and use the table below to determine the volume of bleach to use.
- (1) Remove the well cap and determine if there is an unobstructed path from the top of the well to the water level. If there are no obstructions, add the amount of bleach calculated in Step 2 to the well.
- (2) In order to mix the chlorine thoroughly throughout the entire system, it is necessary to circulate the water in the well. This can be accomplished by connecting a hose to an outside faucet that is located after the pressure tank. Use the hose to run water back down to the well. From time to time, move the hose so that the chlorinated water bathes the sidewalls of the well casing.
- (3) Run all faucets in the house, one at a time, until you smell chlorine at the faucet. Don't forget outside faucets, washing machine, icemaker, and both hot and cold water taps.
- (4) Allow the chlorinated water to stand in the system for at least six (6) hours; preferably overnight. After this, connect a hose to an outside faucet and flush the water to an area where the chlorinated water will not cause environmental damage or affect the water supply of others. Flush until chlorine can no longer be smelled. Repeat flushing at each faucet in the system. For a typical well, this will take 3—4 hours. **NOTE:** To avoid pump overheating and possible damage, turn off the water when flow is a trickle and wait at least 15 minutes before turning pump on again.
- (5) After the system is flushed, put any water treatment equipment back into service. You may perform a bacterial analysis after you are sure no chlorine is left.
- (6) In some cases, one treatment **WILL NOT** be sufficient. Repeat disinfecting procedures as needed.

**IF YOUR WELL DEPTH IS:**

**ADD THIS MUCH LIQUID HOUSEHOLD BLEACH:**

Up to 150 feet.....	1 Quart
151 to 300 feet.....	2 Quarts
301 feet and over.....	At least 1 gallon and 1 cup crushed swimming pool tablets

**NOTE: The above table is for wells with a casing 6 inches in diameter.**

- (1) Multiply the well diameter in feet by itself (square for diameter).
- (2) Multiply this result by the depth (in feet).
- (3) Multiply the final number by 0.0302.



This will give you the **NUMBER OF QUARTS** of bleach required for disinfection. Round up the number to the nearest **HIGHER** whole number to be absolutely safe. It is better to over-chlorinate than to under-chlorinate.

**NOTES:**

- (1) **DO NOT** use Ammonia in fixtures before flushing with chlorine; a poisonous gas will form.
- (2) Chlorine may break loose iron deposits, slime, and organic material. This material will make the water run colored.
- (3) The high level of chlorine required to sanitize a water system is corrosive to most metals; therefore, do not allow chlorinated water to stand in lines more than 36 hours before being flushed.

**IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT:  
CLINTON COUNTY HEALTH DEPARTMENT, ENVIRONMENTAL UNIT (518) 565-4870**





# Clinton County Health Department

Jerie Reid, Director of Public Health  
133 Margaret Street, Plattsburgh, New York 12901-2968

**"Working Together for a Healthier Community"**

Website: [www.ClintonHealth.org](http://www.ClintonHealth.org)



**Public Health**  
Prevent. Promote. Protect.

**Administration Division**

**Phone: (518) 565-4840**

**Fax: (518) 565-4717**

## News Release

Date: March 28, 2017  
For Immediate Release  
Contact: 518-565-4840

### Lead Lurks in Older Homes

Health Department Program Helps Families Protect against Lead Poisoning

**Plattsburgh, March 27, 2017. Whether you rent or buy, you should know that many older homes in New York State (NYS) may have a layer of lead based paint. Lead is a toxic heavy metal that can cause serious health problems.** Young children are especially at risk because they are still growing. Symptoms of lead poisoning may include developmental delays, abdominal pain, neurologic changes, and irritability. At very high levels, lead can be fatal.

The Clinton County Health Department follows the recommendations of the CDC's *Advisory Committee on Childhood Lead Poisoning Prevention*, to identify and treat all children with an elevated lead level. When a child is identified with an elevated lead level, a public health sanitarian and nurse case manager will work with the family to identify the source of lead. They will also complete an environmental, medical, developmental and nutritional assessment and assist families with referrals to community programs when needed.

"All children should be tested at age one and again at age two. Children at this young age may spend time crawling on the floor, where chipped or peeling paint tends to accumulate along with lead dust" notes Darwyna Facticeau, Director of Health Care Services. Health care providers routinely assess lead levels by testing at ages one and two years. The test can be done by capillary (finger pick) or venous blood draw. Elevated levels are referred to the Health Department for further investigation. For children with pica (eating non-food items), testing may also be recommended at older ages. Additionally, all pregnant women should be tested for lead.

Depending on the amount of lead found in the child's blood, a representative of the Health Department's Environmental Health & Safety Division may conduct a visit to the home of the child to complete a lead risk assessment. This assessment includes an inspection of the home's interior and exterior and collection of paint samples for testing at a NYS approved laboratory. If the test is positive for lead, the homeowner or the landlord and residents are quickly informed about risks and the particular locations where the lead based paint was found. The Health Department establishes a compliance schedule with the landlord or homeowner to make short-term immediate changes that minimize exposure to the lead based paint, as well as long-term corrective measures that the landlord or homeowner need to implement to more permanently abate (remove) the hazard.

-more-



"Persons who have any physical mobility or other needs, call the telephone number above to arrange for accommodations"

Education for parents or caregivers is also a key component of the program. Tips such as regularly washing children's hands and toys, wet-cleaning floors and window frames and removing shoes when entering the house, help reduce lead dust. More information is available at: <http://www.clintonhealth.org/leadpoisoning> or <https://www.cdc.gov/nceh/lead/tips.htm> .

Lead based paint production ended in 1978 by order of the Federal Government. However, due to the excess stock of lead paint, homes continued to be painted with paint containing lead until the 1990's. For many older homes, layers of previous LBP inside or on the outside of the home, may be adequately covered (and protected from contact) by typical latex or oil based paint. If, however, peeling or chipping paint exists within or outside the home, the potential for contact with LBP and the dust it creates will exist. If you plan to buy or rent an older home, it is important that you: 1) inquire to the realtor or owner about such potential hazard and 2) make an effort to look for any peeling or chipping paint when looking over the prospective residence. Federal regulations require that the home seller provide lead disclosure to prospective buyers who are buying a home built before 1978.

**About the Clinton County Health Department:**

**The Health Department is an accredited full service department serving the residents of Clinton County. The Health Department's Mission is to improve and protect the health, well-being and environment of the people of Clinton County. Visit [www.ClintonHealth.org](http://www.ClintonHealth.org) for more information.**

###



***"Working Together for a Healthier Community"***



**Public Health**  
Prevent. Promote. Protect.

**CLINTON COUNTY HEALTH DEPARTMENT  
NEW! WATER SYSTEM DISINFECTION APPLICATION PACKET**

- All PUBLIC WATER SYSTEMS MUST DISINFECT THEIR WATER SUPPLY!
- This Department recommends that a design professional; i.e., professional engineer or registered architect be engaged to prepare plans for installation of a water supply disinfection system. However, if an owner agrees to undertake all responsibility for the design and installation of relatively uncomplicated systems costing less than \$5,000, a design professional may not be required if disinfection of a ground water source is the sole treatment and all acceptance conditions are met.
- You have 2 choices: **(1) ULTRAVIOLET LIGHT** or **(2) CHLORINATION**
- **You must provide source water background information on Page 3 (yellow sheet)**
- A 4-log inactivation of viruses is required by the Surface Water Treatment Rule. Under the Groundwater Rule, 4-log inactivation of viruses is required based upon raw water quality. The 4-log inactivation is calculated the same for both rules. **Due to the new Groundwater Rule (12/1/2009), all NEW water systems using chlorine for disinfection must meet 4-log virus inactivation/removal.**

**Pros and Cons of UV Light versus Chlorination:**

**UV LIGHT**

<b>ADVANTAGES</b>	<b>DISADVANTAGES</b>
No contact tanks required	May need pre-treatment of water
No chemicals to mix or handle	<b>Not for use with an external distribution system</b>
No disinfection by-products created	No residual disinfection provided
No effect on water taste or odor	Automatic solenoid shut-off valve required
Requires less space	Start-up costs may be expensive
	Additional water sampling required prior to approval
	<b>Does not meet 99.99% removal/inactivation of viruses (as may be required by the Ground Water Rule)</b>
	When things go wrong – water shuts off!

**CHLORINATION**

<b>ADVANTAGES</b>	<b>DISADVANTAGES</b>
Provides residual disinfection	Requires chemical handling and mixing
Inexpensive to operate	Contact tank(s) required
OK to use with external (underground) distribution system	Causes disinfection by-product formation
Usually no need for pre-treatment	May impart taste and odors to water
	Requires <b>DAILY</b> chlorine measurement

**CONSIDERATIONS:**

If you choose **ULTRAVIOLET LIGHT**, you must have a raw water sample collected and tested by a certified laboratory for the parameters listed on Page 5. The results must be attached to this application for review. If the results indicate that pre-treatment is necessary, your proposal must also include additional information on the type of pre-treatment proposed. After completing the water tests, refer to Pages 5-9 (purple sheets).

If you choose **CHLORINATION**, at least 90% of all microbiological samples of raw water during the previous six months from the source(s) in question must not exceed 20 fecal coliform per 100 milliliters or 100 total coliform per 100 milliliters. If both fecal and total coliform analyses are performed, the fecal coliform results will take precedence. The treated water quality must meet the drinking water standards. The results must be attached to this application. After completing the water tests, refer to Pages 11-12 (light blue sheets).

Lt. green

# WATER SOURCE INFORMATION FOR CHLORINE OR UV DISINFECTION

1. Facility Name \_\_\_\_\_ PWS ID# NY09 \_\_\_\_\_  
Source Description \_\_\_\_\_  
Well Casing Diameter \_\_\_\_\_ Total Well Depth \_\_\_\_\_ Casing Depth \_\_\_\_\_  
Static Water Level in Well \_\_\_\_\_ (feet below ground level).  
Dynamic (pumping) Water Level in Well \_\_\_\_\_ Feet Below Ground Level.

***For all source types a groundwater under direct influence (GUDI) determination may be required.***

\_\_\_\_\_ Well Log Attached  
\_\_\_\_\_ Plot Plan Attached (required – see Page 4)

2. Water Pump (may be in the well)  
Manufacturer \_\_\_\_\_ Model \_\_\_\_\_ Type \_\_\_\_\_  
Pump Rating \_\_\_\_\_ gpm at \_\_\_\_\_ psi pressure.  
Pressure switch setting: **ON** at \_\_\_\_\_ psi. **OFF** at \_\_\_\_\_ psi.

A minimum pressure of 20 psi is needed at user taps and fixtures.

3. Totalizing water meter location \_\_\_\_\_, (daily records should be maintained when the water system is in use).  
4. Pressure tank equipped with a pressure gauge. Capacity in gallons \_\_\_\_\_.  
5. Raw water sampling tap location \_\_\_\_\_.  
6. Treated water sampling tap location \_\_\_\_\_. (If chlorinating, free chlorine residual reading should be a minimum of 0.5 mg/L).

### UV LIGHT TESTING PARAMETERS\*\*\*

#### Raw Water (before any treatment) quality data:

- Total Coliform
- Fecal Coliform
- Heterotrophic plate count
- And the following inorganic and physical constituents:

#### PARAMETER

#### UPPER GUIDANCE LEVELS\*

Iron	0.3 mg/L
Manganese	0.05 mg/L
Hardness (calcium)	120 mg/L
Hydrogen Sulfide	Non-detect
Turbidity	1 NTU
Color	15 APHA units
Suspended Solids	10 mg/L
UV Absorbance or UV Transmittance	0.155 cm <sup>-1</sup> or 70% (lower limit)

**IF ANY** of these levels are exceeded, then pre-treatment will be required and re-testing of the water will be required to show parameter is met after installation of pre-treatment equipment.

All testing must be conducted by a New York State Certified Laboratory

\*\* UV light disinfection system alone does NOT provide 4-log (99.99%) virus removal/inactivation\*\*\*\*

**\*RESULTS OF ALL TESTING MUST BE SUBMITTED WITH THIS APPLICATION\*\***

CLINTON COUNTY HEALTH DEPARTMENT

ULTRAVIOLET DISINFECTION UNIT SCHEMATIC (GENERIC)

Facility Name \_\_\_\_\_ PWS ID# NY \_\_\_\_\_

- Fill in manufacturers and model numbers for all components
- Enclose manufacturer's specifications for ALL components of the UV system with this application
- UV light disinfection does NOT provide 4-log removal/inactivation of viruses. As a result of the Groundwater Rule, should you be required to meet 4-log virus removal/inactivation, you will be required to install additional treatment.

Manufacturer \_\_\_\_\_ UV Model# \_\_\_\_\_

NSF or Equivalent Approved \_\_\_\_\_ UV Intensity & Dosage \_\_\_\_\_

Flow Rate (mfg) \_\_\_\_\_ Intensity Meter \_\_\_\_\_

Automatic Shut-off Valve \_\_\_\_\_ Micron Filter Provided\* \_\_\_\_\_

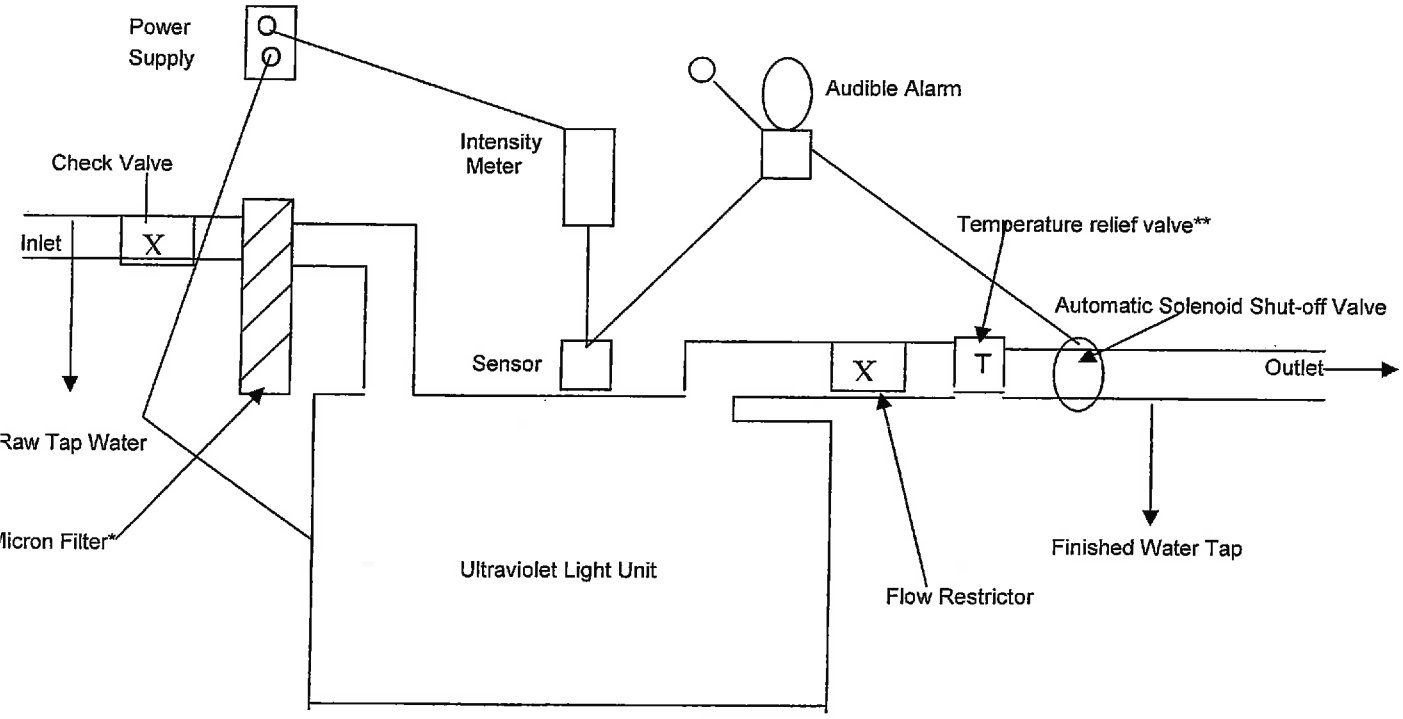
Alarm: Audible \_\_\_\_\_ Visible \_\_\_\_\_ Location to be Installed \_\_\_\_\_

Temperature relief valve Y/N Manufacturer \_\_\_\_\_ Minimum system flow \_\_\_\_\_ gpm

Water Softener Needed: Yes / No \_\_\_\_\_ Flow Restrictor \_\_\_\_\_ gpm

Manufacturer \_\_\_\_\_ Model # \_\_\_\_\_

A partial schematic of an acceptable **UV LIGHT** installation is shown below. It may be used as a guide for the proposed installation of the above-noted facility. Please provide a **complete** water train schematic, showing **ALL** components of the water train such as softeners, filters or other treatment from well to distribution system (See Page ). All information requested in this application must be completed and all construction must be in accordance with the accepted application.



The 5 micron filter is required. \*\*Temperature relief valve is required for low-flow situations



**CLINTON COUNTY HEALTH DEPARTMENT**

**Chlorination Schematic REFER TO CT WORKSHEET FOR DETERMINING CONTACT VOLUME REQUIRED TO MEET the GROUNDWATER RULE**

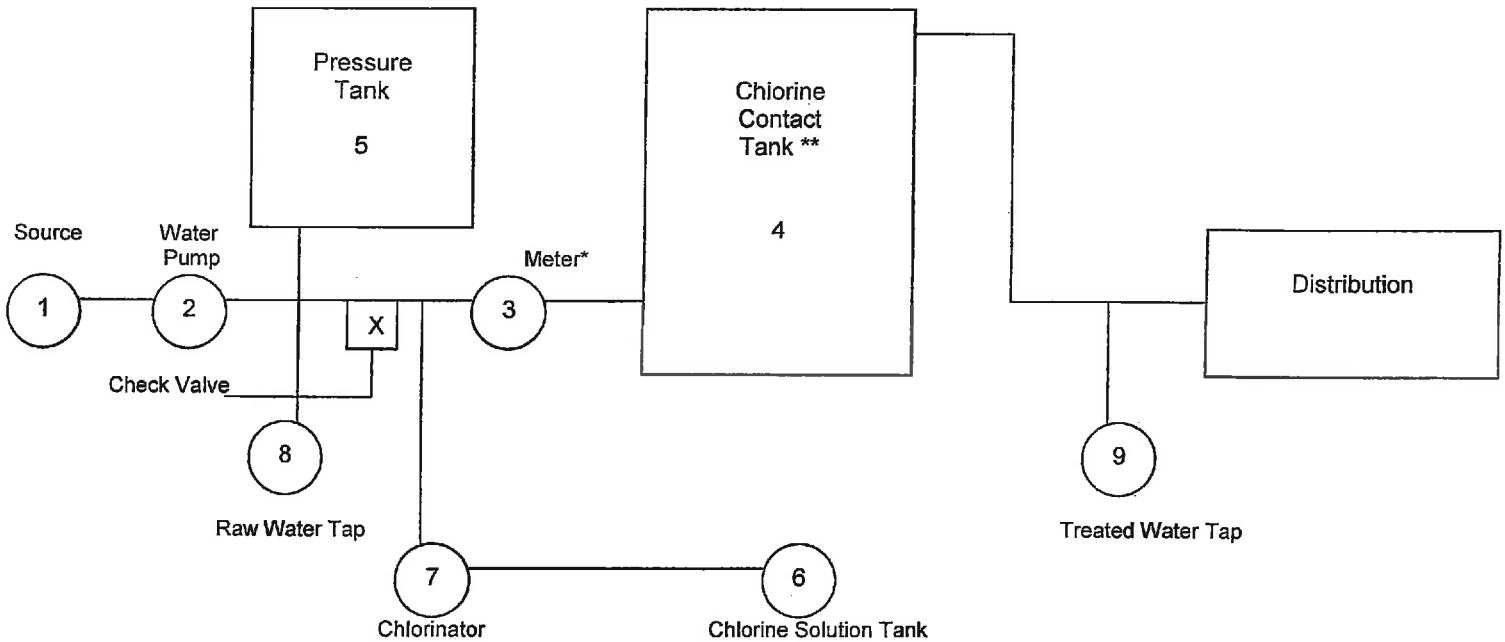
Facility Name \_\_\_\_\_ Facility PWS ID # \_\_\_\_\_

**Chlorine contact tank:** Capacity in gallons \_\_\_\_\_. This tank must be plumbed so the entire capacity is utilized (i.e., water enters at the bottom and exits at the top). A minimum of 30 minutes chlorine contact shall be provided. Multiply the pump rating on Page 3 by 30 to size the tank in gallons. If more than one source is used, the total of the pump ratings of all sources shall be multiplied by 30. **Example:** A 10 gpm pump requires a 300-gallon contact tank (i.e., 10 gpm x 30 minutes = 300 gallons).

**Chlorine solution tank:** Capacity in gallons \_\_\_\_\_. A 20 to 30 gallon plastic tank with cover manufactured for water treatment use is generally used. Venting of the tank to the outdoors is desirable.

**Hypochlorinator:** A positive displacement chemical metering pump equipped with an anti-siphon 4 in 1 valve. Manufacturer \_\_\_\_\_ Model \_\_\_\_\_. Rating (gallons per day) \_\_\_\_\_ at \_\_\_\_\_ psi. The chlorinator must be electrically interconnected with the well pump so both start and stop simultaneously. Each well pump needs its own chlorinator unless the chlorinator is meter-driven.

A schematic of an acceptable chlorinator installation is shown below. It may be used as a guide for the proposed chlorination installation at the above-noted facility. **\* Please modify the schematic below to show YOUR system including any additional treatment such as softeners or filters.** All information requested in this application must be completed and all construction must be in accordance with the accepted application.



\*Meters should be installed **horizontally** with at least 2 feet of pipe on either side.

\*\*See CT worksheet for estimating size.



## Maintain Your System

**Regularly pump-out your septic tank** when needed.

**Keep a record** of pumping, inspections, maintenance and repairs.

**Map out septic tank and other system components.** Either have a map or locate components with permanent stakes. This is useful for accessing the system and will prevent damaging system components when doing home maintenance or yard work.

**Don't park or drive heavy vehicles or equipment over the septic system** or any of its components.

**Don't build structures**, such as decks, patios or swimming pools, that would cover the absorption field or limit access to the septic tank and distribution box.

**Don't flush or use strong chemicals** and bacteria-destroying products, such as drain cleaners, solvents, paint, paint thinners, floor cleaners, sink cleaners, motor oil, antifreeze, pesticides, and photo chemicals. These may disrupt septic tank or absorption system operation. Household bleach, disinfectants, cleansers, antibacterial soaps, when used in normal household applications should not affect system operations.

**Don't flush materials that don't easily degrade**, such as paper towels, cotton swabs, personal hygiene products, condoms, medications, disposable diapers, coffee grounds, cat litter, cooking fats/oils, facial tissues, dental floss, cigarette butts, plastics, grease or bones.

**Avoid septic tank additives.** A septic tank that is properly sized and maintained will adequately manage household wastewater without the use of additives.

**Avoid garbage disposals or grinders** because these substantially increase the accumulation

of solids in the septic tank and in the absorption field. If they are used, the septic tank size should be increased and pumped-out more often.

**Direct water treatment system discharges to a separate soil absorption system, if possible**, to minimize discharges to the septic system. However, as long as the system is well maintained and can accommodate the additional flow, water treatment system discharges can be directed to the septic tank in many cases.

**Direct drainage away from the septic system** from roof, cellar/footing (sump pump) and surface water run-off.

**Plant grass and other shallow-rooted plants over the absorption field.** Keep trees and long-rooted plants and shrubs away from the immediate area of the absorption area. Roots can grow into the pipes and clog the system.

**Conserve water.** Check for defective toilet tank valves, repair leaky fixtures, and install appliances and fixtures that use less water and avoid wasteful practices.

**Regularly inspect and maintain any effluent pumps and alarms** that may be part of your septic system.

## Find Out More

### New York State Department of Health

[health.ny.gov/environmental/outdoors/septic](http://health.ny.gov/environmental/outdoors/septic)  
Residential Sanitation & Recreational Engineering  
Section, Bureau of Water Supply Protection  
ph: (518) 402-7650, E-mail: [bpwsp@health.state.ny.us](mailto:bpwsp@health.state.ny.us)

### Contact Your Local Health Department

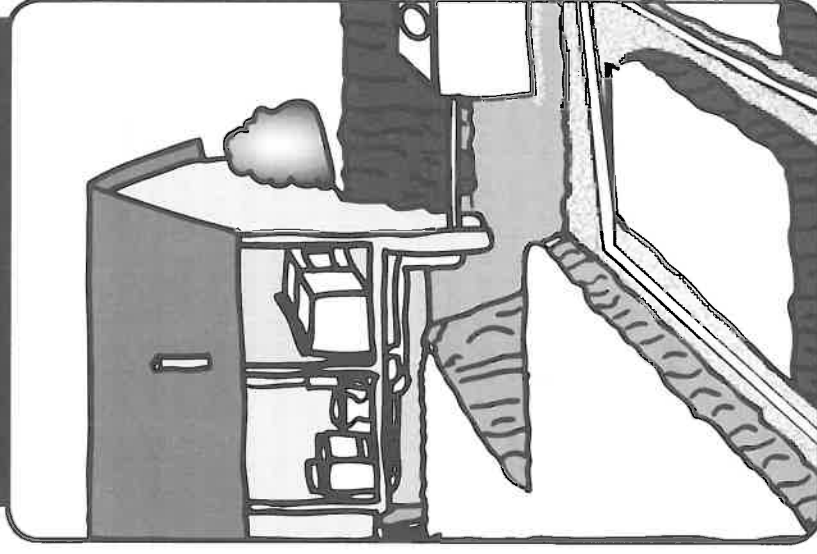
[health.ny.gov/environmental/water/drinking/doh\\_pub\\_contacts\\_map.htm](http://health.ny.gov/environmental/water/drinking/doh_pub_contacts_map.htm)



Follow us on:

[health.ny.gov](http://health.ny.gov) | [facebook.com/NYSDOH](https://www.facebook.com/NYSDOH) | [twitter.com/HealthNYGov](https://twitter.com/HealthNYGov) | [youtube.com/NYSDOH](https://www.youtube.com/NYSDOH)

# Septic System Operation and Maintenance



A septic system will serve a home for a long time if it is properly located, designed, constructed and maintained. However, even the best designed and installed septic system will eventually fail without periodic maintenance. This guide briefly describes septic system components and how they should be maintained.

## Septic System Components

A septic system, also called an onsite wastewater treatment system (OWTS), is made up of a **house sewer drain, septic tank, distribution box and soil absorption (leach) field** (see *Typical Septic System diagram, right*).

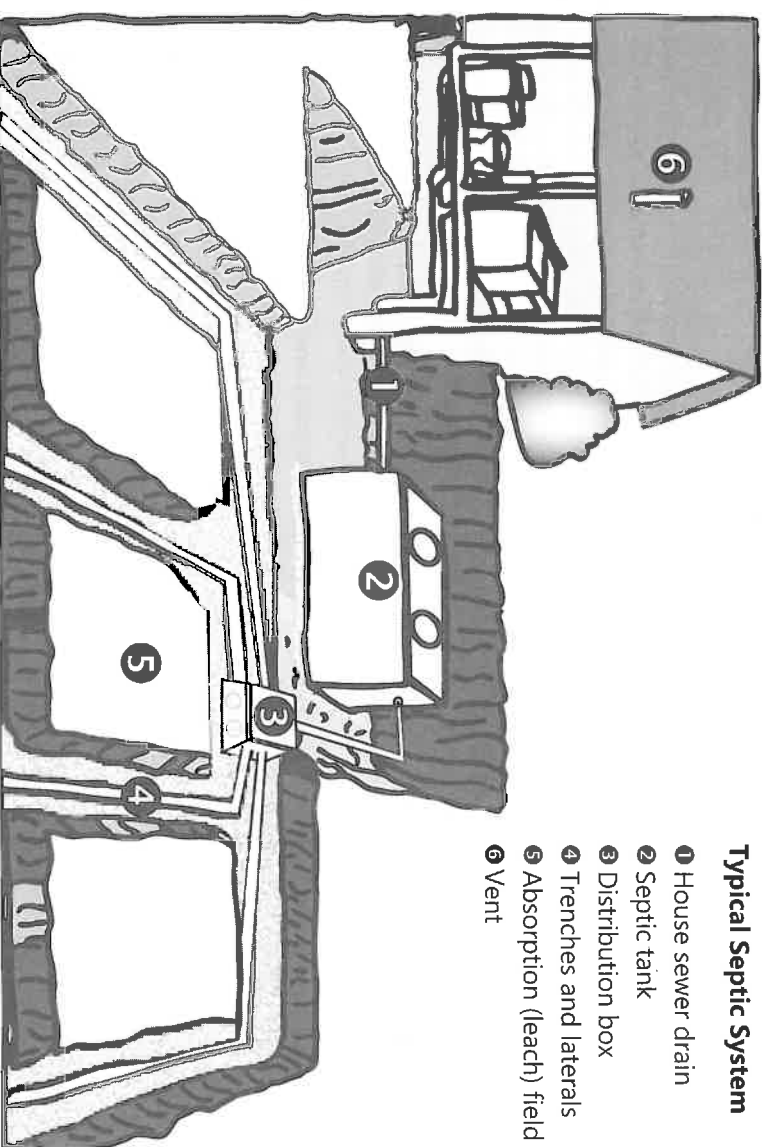
- ➊ **The house sewer drain** collects all the discharge from home fixtures, such as toilets, sinks, showers and laundry and connects to the septic tank.
- ➋ **The septic tank** collects all the discharges from household plumbing and provides the needed time for wastes to settle or float. The heavy solids settle to the bottom of the tank where they are broken down by bacteria to form sludge. The lighter solids, fats and grease, partially decompose and rise to the surface to form a layer of scum. This process allows the partially treated wastewater to be released to the absorption field.
- ➌ **The distribution box** evenly distributes

wastewater from the septic tank to pipes in the trenches of the absorption field. It is important that each trench receives an equal amount of flow to prevent overloading to one part of the absorption field.

➍ **Trenches** receive partially treated sewage.

➎ **The absorption (leach) field** is a system of trenches and distribution pipes where wastewater is biologically treated by the surrounding soil. The system is partially filled with washed gravel, stone or a gravelless product. The absorption field must be properly sized, constructed and maintained to assure satisfactory operation and long life.

➏ **The vent** permits gases that build up in the plumbing to exit the system.



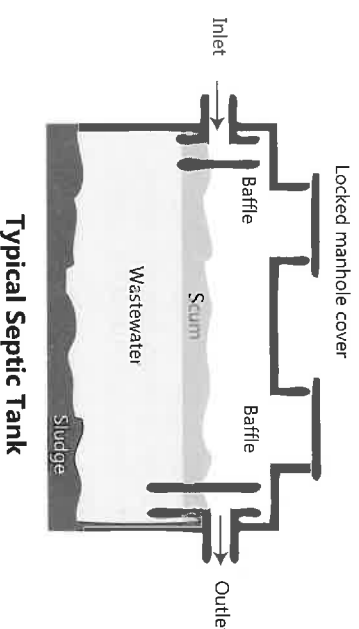
**Typical Septic System**

- ➊ House sewer drain
- ➋ Septic tank
- ➌ Distribution box
- ➍ Trenches and laterals
- ➎ Absorption (leach) field
- ➏ Vent

## Septic Tank Maintenance

**A septic tank should be pumped out every two to three years.**

A septage waste transporter (septic tank pumper) that is licensed by the New York State Department of Environmental Conservation can inspect, measure tank layers and pump out the tank when necessary.



**Typical Septic Tank**

**CAUTION!** Never enter a septic tank because it contains toxic gases that can be deadly.