



**The Village of Barrington Hills
112 Algonquin Road
Barrington Hills, Illinois 60010-5199**

GHA Percolation test procedures- Village of Barrington Hills

1. General Requirements
 - a. A percolation test witnessed by the Village is required for any new septic system or for any modification or repair to an existing septic system. In addition, a building permit is also required for any new, modified, or repaired system.
 - b. The percolation test must be performed by or under the direction of an Illinois licensed professional engineer.
 - c. The “Percolation Test Witness Fee” must be paid to the Village Treasurer prior to scheduling the test. Tests are to be scheduled through April Garrett of Gewalt Hamilton Associates, Inc. (847-855-1100).
 - d. Tests may not be conducted in frozen ground or in areas of fill.
 - e. The pre-soak period begins at Noon on the first day. The percolation test begins at 10:00 AM on the second day.
2. Preparation for Percolation Test
 - a. Test holes shall be placed in an area and pattern that will reflect the proposed system location. Each test hole must be a minimum of 50’ away from the next closest test hole.
 - b. Individual lots require a minimum of six (6) holes; proposed subdivisions require a minimum of one (1) hole per acre.
 - c. Test Hole Standards
 - i. Hole diameter shall be a minimum of 4”, maximum of 6”.
 - ii. Hole depth to be a minimum of 18”, maximum of 36” (Actual depth must be noted on the percolation test report form and should reflect depth of proposed seepage field).
 - iii. The sides and bottom of the hole shall be scratched to provide a natural soil interface and all loose material removed.
 - iv. Two inches (2”) of coarse gravel (1/4”-3/4” in size) shall be placed in the bottom of the hole.
 - d. Determination of Water table
 - i. Each individual lot and every lot in a subdivision shall contain one test hole to determine the groundwater table at the time of the test.
 - ii. One hole, a minimum of six feet (6’) deep shall be excavated prior to the start of the pre-soak period. The deep hole shall be located in the lowest area of the field.
 - iii. Care shall be taken to prevent this hole from filling with surface water.
3. Pre-Soak Period
 - a. All test holes shall have a pre-soak period for a minimum of 22 hours.



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- b. All test holes shall be filled with at least 12” of water during the first four hours, from Noon to 4 PM on the first day, and again from 6:00 AM to 10:00 AM on the second day.
 - c. Record the depth to ground water (if any) in 6’ hole at end of first day. The seasonal groundwater table may also be noted by qualified personnel based on observation or measurement of mottling in the deep hole.
4. Percolation Test
- a. At the start of the test, all holes shall be filled with 12” of water above the gravel.
 - b. Allow the water level in each hole to drop to a point 6” above the gravel. If the water does not fall from twelve inches to six inches in six hours, the subject test hole is considered to have failed. If three or more holes fail the percolation test shall be terminated.
 - c. Measure the last six inch drop in water level at thirty minute intervals until all the water has seeped away. *(Warning: Under no conditions shall measurements be taken from water filled to the top of the hole or on water twelve inches deep in the hole. Such results are completely invalid and will not be accepted. Results from the last six inches of drop in water are the only results that will be accepted.)*
 - d. Record the depth to ground water (if any) in the deep hole after completion of the percolation test.
5. Village Witness
- a. The pre-soaking period will be inspected sometime during the first four hours and the last four hours of the 22-hour period. During these inspections, all holes shall contain the correct amount of water for approval of the per-soak period.
 - b. The actual percolation test readings will be witnessed by the Village during the last hour of the test. The tester shall coordinate with the Village representative to ensure that the last hour of the test is witnessed by the Village. If the test is completed before the Village representative can witness the test, all holes shall be refilled to six inches above the gravel and monitored for one hour to confirm general conformance to the measured values.
 - c. The water table readings will be witnessed during the pre-soak period and the percolation test.
6. Percolation Test Results
- a. Add the total minutes required for the last six inches of water to fall from each hole and divide by 6. Each hole with a result more than 180 minutes lower than the highest result shall be adjusted to be within 180 minutes of the maximum result. (e.g., results of 300, 240, 180, 180, 100, and 60 would be adjusted to 300, 240, 180, 180, 120, and 120.)
 - b. Use the average percolation rate and Appendix G to size the proposed septic system.