

Matthew Cordone Architect PLLC

DESIGN + PRESERVATION + PLANNING

March 14, 2023

Mr. Dan Roemer
Building Inspector
Village of Dobbs Ferry
112 Main Street
Dobbs Ferry, NY 10522

Re: 29 Osceola Avenue – Percolation Test

Dear Mr. Roemer,

On the morning of Friday, March 3, 2023, I performed a percolation test on the property at 29 Osceola Avenue in Dobbs Ferry, NY. A test hole was previously dug in the approximate location where we plan to install Cultec dry wells to alleviate water run-off from the proposed new pool, spa, and patio project on the property (see submitted plans for exact test hole location). The hole was approximately 20" in diameter and dug down to approximately 4'-0" below current grade level. The soil consists of silty sand with clay. The soil was observed to be fully saturated on the morning of the percolation test, after overnight rain and three previous days of snow melt in the yard.

To perform the percolation tests, a marked stake was placed in the hole and the hole was filled with approximately 3'-0" of water. The starting water level in the hole was measured to the top mark on the stake. Then, water level measurements were taken from the top mark on the stake at 15 minute intervals over the course of 1 hour. The measurements taken from the top mark on the stake to the top of the water level, along with the associated percolation rates, are as follows:

Percolation Test				
Countdown Time (Start 1:00:00)	Time Delta (mins)	Water Level From Top of Stake (in)	Water Level Delta (in)	Percolation Rate (in/hr)
1:00:00	0.0	5.38	0.000	N/A
0:45:00	15.0	5.75	0.375	1.50
0:30:00	15.0	6.00	0.250	1.00
0:15:00	15.0	6.375	0.375	1.50
0:00:00	15.0	6.625	0.250	1.00
Average Percolation Rate =				1.25 in/hr

The planned work on site includes a new pool, hot tub spa, patio, stepping stone walkways, and concrete pads for a generator and pool equipment. These added areas of impervious surface will require a drainage and new drywells on the property to alleviate the increased water run-off. The proposed drainage plan includes the installation of four (4) Cultec Recharger 330XLHD drywell units, which will be installed over 12" of gravel per the manufacturer's specifications. The depth of the Recharger 330XLHD units is 30.5". Given the percolation test results and the drainage calculations for the drywells (provided on the associated project plans), I am of the opinion that we should not encounter any drainage issues with the proposed construction on this site

Please see the pictures of the percolation tests on the following pages, and refer to the project submission plans, which include drywell capacity calculations.

Matthew Cordone Architect, PLLC

92 North Broadway, Irvington, NY 10533

Telephone: 917 749 8071 – Email: mcordone@mcaplpc.net

If you require anything further, please contact me as soon as possible.

Kind regards,

Laurel C Gaffney

Laurel C. Gaffney, P.E.
NYS Professional Engineer, License #085505

lgaffney@mcapllic.net

Cell: (347) 665-7828

Associate

Matthew Cordone Architect, PLLC

92 North Broadway

Irvington, NY 10533



Photos of Percolation Test:



Percolation test initial conditions (fully saturated)



Filling hole with water



Start of timed percolation test.



End of timed percolation test.