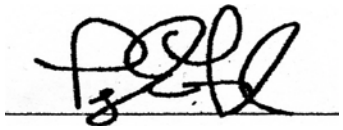
SEEPAGE PIT DESIGN

REDA AWAD
490 VANCE AVENUE
BLOCK 337 - LOT 14
TOWNSHIP OF WYCKOFF
BERGEN COUNTY, NEW JERSEY
FILE #10877

June 15, 2020
Revised: November 24, 2020
January 29, 2021

AZZOLINA & FEURY ENGINEERING, INC.
CONSULTING ENGINEERS
PARAMUS, NEW JERSEY



Perry E. Frenzel, P.E.
Professional Engineer
N. J. Lic. #28190

REDA AWAD
Block 337 - Lot 14
490 Vance Avenue
Township of Wyckoff
Bergen County, New Jersey

Prepared by: CDD
Checked by: PEF
Date: June 15, 2020
Last revised: January 29, 2021
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SEEPAGE PIT SYSTEM DESIGN

Drainage Area: 8,852 ft^2 (Total Impervious Area) C=0.98

Design Storm: 10 Year – 60 minute
2.0 in./hr. Intensity
2.0 in. of Total Rainfall

Volume of Runoff: {2.0 in. / (12 in./ft.)} x 8,852 ft^2 x 0.98 = **1,446 ft^3**

SEEPAGE PIT SYSTEM VOLUME

(2 Pits)
8 ft. Diameter, 3'-6" Deep
2.25' Stone Around, 3.5' Under
(See Plan for Detail)

Pit Volume: $2(\pi R^2H) = 2\{\pi(3.67^2)(3.0')\}$ = **254 ft^3**

Stone Volume around Pit: $\{(V_{Stone}) - (V_{2eepage\ Pit})\}$ x 40% Voids
$\{(WxLxH) - (\pi R^2_{outer}H)\}$ x 40% Voids
$\{(12.5'x25.0'x3.67') - 2(\pi(4.0)^2(3.67')\}$ x 0.40 = **311 ft^3**

Volume of Stone under Pit: (WxLxH) x 40% Voids = (12.5'x25.0'x3.5') x 0.40 = **438 ft^3**

Total Volume of Pit: 254 + 311 + 438 = **1,003 ft^3**

(1 Pit)
8 ft. Diameter, 3'-6" Deep
2.0' Stone Around, 3.5' Under
(See Plan for Detail)

Pit Volume: $(\pi R^2H) = \{\pi(3.67^2)(3.0')\}$ = **127 ft^3**

Stone Volume around Pit: $\{(V_{Stone}) - (V_{2eepage\ Pit})\}$ x 40% Voids
$\{(WxLxH) - (\pi R^2_{outer}H)\}$ x 40% Voids
$\{(12.0'x12.0'x3.67') - (\pi(4.0)^2(3.67')\}$ x 0.40 = **143 ft^3**

Volume of Stone under Pit: (WxLxH) x 40% Voids = (12.0'x12.0'x3.5') x 0.40 = **202 ft^3**

Total Volume of Pit: 127 + 143 + 202 = **472 ft^3**

Total Volume of All Pits = 1,003 + 472 = 1,475 ft^3

Storage Provided 1,475 ft^3 > 1,446 ft^3 Storage Required

This statement is to certify that the proposed stormwater management design shall result in a zero net increase in stormwater runoff from the developed site.