

Soil Testing Data
Block 4201.01 Lot 33.03
Grovers Mill Road & Mall Access Road
Township of Lawrence
Mercer County, New Jersey

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Test pit location plan	

Wham Engineering Services, Inc.

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BK Wham
 #240815/03164300
 5/5/23

FIELD NOTES: SOIL LOGS: March 29, 2023 by Barry K. Wham, P.E.
 LOCATION: Grovers Mill Road, Lawrence Township, Lot 33.03: Block 4201.01
 #1-32923

0- 12"	Topsoil, root mat
12" - 34"	10YR7/6 yellow silt loam, subangular blocky (SAB) firm
34" - 48"	7.5YR5/4 brown, sandy loam, weak SAB, firm, 5% gravel
48" - 88"	7.5YR4/6 strong brown, loamy sand, loose, single grain, very friable, moist to saturated at 5 ft. 7.5YR6/6 at 66". Good water movement
88" - 100"	2.5 YR6/4 light reddish brown, silt loam + shale, firm massive, moist. No water movement
	Estimated (Est)SHWT 48"

#2-32923

0 - 17"	Topsoil, root mat
17" - 44"	7.5YR7/4 pink, SAB, friable, moist
44" - 113"	7.5YR5/4 brown loamy sand weak SAB, friable, No water
113" - 120"+	2.5YR4/4 reddish brown, massive, firm, silt loam + shale
	Est SHWT > 10 ft.

#3-32923

0 - 14"	Topsoil, root mat
14" - 36"	7.5YR4/3 brown, loam, firm, SAB, moist
36" - 120"	7.5YR5/6 strong brown, loamy sand, weak SAB, moist. 58" 7.5YR5/4 brown. No water
120"+	Silt loam, few fragments of shale, firm, moist, SAB, stratified layers of 7.5YR5/8, 4/1, 7/6. No water
	Est SHWT > 10 ft.

#4-32923

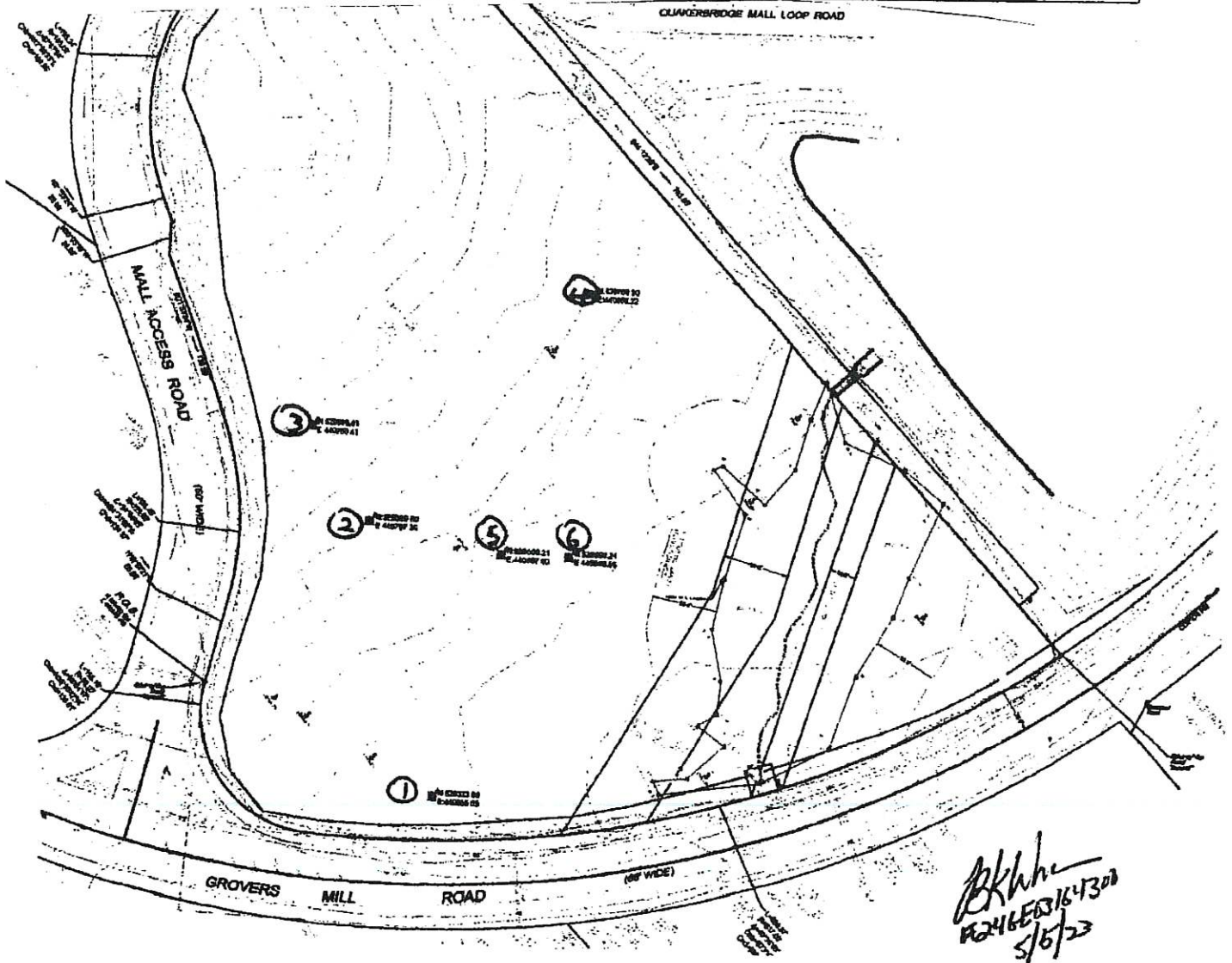
0 - 12"	Topsoil, root mat
12" - 32"	7.5YR5/6 strong brown loam, firm, friable, SAB
32" - 52"	7.5YR4/3 brown, loamy sand, weak SAB, 5% gravel, friable
52" - 108"	7.5YR5/6 strong brown loamy sand, WSAB, friable
108" -	Compacted sandy loam, firm, friable, SAB, No water, mottled, 7.5YR6/8, 2.5/2, 2.5Y8/1, 5YR5/8 Iron stone fragments
	Est SHWT 9 ft.

#5-32923

0 - 10"	Topsoil, root mat
10" - 40"	7.5YR4/4 brown, loam, firm, friable, SAB
40" - 64"	7.5YR5/6 strong brown, sandy loam WSAB, friable
64" - 84"	2.5YR4/4 reddish brown, silt loam, shale fragments
84" - 109"	2.5YR8/1 + 7.5YR6/6 silt loam, white + brown, SAB, firm moist, mottled
109"	Loamy sand, mix iron stone, stratify layers of mottled loamy sands, moist, no water
	Est SHWT 7 ft.

#6-32923

0 - 18"	Topsoil, root mat
18" - 26"	7.5YR4/4 brown, sandy loam, compacted SAB, firm
26" - 45"	Silt loam, white, mottled at 40"
45" - 64"	7.5 YR4/6 strong brown, loamy sand, 10% gravel, friable
64" - 108"	Fractured shale + sandy loam 60%. Water @ 90"
	Est SHWT 6 ft.



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August 16, 2023

Soil logs -Grover Mill Road, Lawrence Township, NJ -Dated 8/2/2023

B1	B2	B3
0 – 12” Root mat, topsoil	0 -12” Topsoil, root mat	0 - 12” Root mat
12”-36” Compacted loam Very firm, 30% shale 7.5YR7/6	12” -48” Loam 7.5YR7/6- reddish yellow Firm	12” – 60” Sand, loose single grain 7.5YR5/6 Reddish yellow
36”-58” Silty loam firm 7.5YR5/6	48” – 60” Loamy sand Coarse 10YR8/4-very pale brown	60” – 120” Sand, loose, single grain, white 7.5YR8/1
58” – 84” Sandy loam 7.5YR8/6 friable	60” -108” Silty sand 10YR8/2 very pale brown	120” Iron stone
84” -90” Med. Loamy sand Friable, 7.5YR8/4	108” – 126” Silty soil pink 10R8/4	
90”-96” Iron stone mottled Loam, moist		
96” Loam 5 YR6/8 108” Silt loam 7.5YR8/4 120” Silt loam 5YR3/4, 10YR7/6		

Wham Engineering Services, Inc.

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June 10, 2024—Soil Logs

Location: Grover Mills Road and Mall Access Road
Lawrence Township, Mercer County, NJ
Block 4201.01 Lot 33.03

TP-#1A

0-7"	Topsoil, root mat
7"-20"	10YR5/4 loam, firm, strong subangular blocky, few common roots
20"-60"	10YR6/2 silt loam, firm, strong subangular blocky, few fine mottles
60"-96"	7.5YR5/6 loamy sand, very friable, weak subangular blocky, no mottles Sample at 5'

TP-#2A

0-10"	Topsoil, root mat
10"-26"	7.5YR5/6 loam, subangular blocky, firm
26"-58"	10YR6/4 loamy sand, singular grain, loose
58"-120"	Sandy loam with iron stone fragments, subangular blocky, friable, 2.5YR3/2, 7.5YR6/6, mottled Sample at 8'
120"-132"	10YR6/6, compacted sandy loam, blocky, very firm, no mottles

TP-#4A

0-6"	Topsoil, root mat
6"-43"	Loam, firm, strong subangular blocky, 10YR5/4
43"-78"	Medium- coarse loamy sand 5YR4/6, weak subangular blocky, friable
78"-99"	Loamy sand 7.5 YR6/4, single grain Sample at 8.5 ft.
99"-144"	Fractured shale, cobble size fragments No water

TP#7

0-10"	Topsoil, root mat
10"-32"	Loamy 10YR5/4, firm
32"- 12'-6"	Medium coarse loamy sand, weak subangular blocky, firm 10YR8/3
12'-6"-15'	Coarse sand and gravel, hard iron stone, moist, very firm at 13' Sample at 14'
15'-16'	Boulder size iron stone, silt loam No water

TP#7A

0-15"	Topsoil, root mat
15"-66"	Loam, 10YR5/4, firm, strong subangular blocky
66"-18'	Loamy sand 7.5YR 10YR8/8 Stratified layers of iron stone and coarse sand 20% gravel Mottles 2.5YR4/6, 2.5YR8/2, Sample at 16'



CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Wham Engineering Services, Inc.
114 Windsor Road
Robbinsville, New Jersey 08691

DATE: 6/13/24

LAB NO: B-2310-24

PROJECT: Grover Mill Road & Mall Access Road
Lawrence, New Jersey

REPORT NO: AG-3

ON SAMPLE OF: Soil Material

SAMPLED BY: Client

RECEIVED: 6/11/24

MARKED: TP-1A Depth: 5'0"

EXAMINED WITH THE FOLLOWING RESULTS:

1. Grain size Analysis (ASTM D422), Material finer than the #200 (ASTM D-1140).

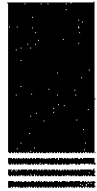
<u>Sieve Size</u>	<u>% Passing</u>
2"	100
1"	100
3/4"	100
3/8"	99.6
#4	99.5
#10	99.1
#40	78.2
#60	26.3
#100	9.5
#200	7.6
#270	7.0

2. Permeability of Granular Soils (ASTM D2434): 23.0 in/hr. (K-5)

Respectfully Submitted,
Certified Testing Laboratories, Inc.

Terry Kifer, General Manager

TK/KD



CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Wham Engineering Services, Inc.
114 Windsor Road
Robbinsville, New Jersey 08691

LAB NO.: B-2310-24

REPORT NO.: PM-3

PROJECT: Grover Mill Road & Mall Access Road
Lawrence, New Jersey

Reference: New Jersey Department of Environmental Protection – Form 3C – Soil Permeability Class Rating Data

1. Test Number: TP-1A Replicate (letter): -
2. Sample Depth: 5'0" Soil Pit Number: - Date Collected: 6/11/24
3. Coarse Fragment Content:
 - Total Weight of Sample, WT, Grams: 733.8
 - Weight of Material Retained on 2mm sieve, WCF Grams: 6.5
 - Weight % Coarse Fragment (WCF/WT x 100): 0.9
4. Oven Dry Weight (24 hrs., 105°C) of 40 Gram Air Dried Sample, Grams WT: 39.90
5. Hydrometer Calibration, Rc: 3.0 @ 68°F
6. Hydrometer Reading @ 40 Seconds, R1: 6.2
Temperature of Suspension: 71°F
7. Corrected Hydrometer Reading, R1': 6.2-3.0+0.6=3.8
8. Hydrometer Reading @ 2 Hours, R2: 5.0
Temperature of Suspension: 71°F
9. Corrected Hydrometer Reading, R2': 5.0-3.0+0.7=2.7
10. % Sand = (WT - R1') / WT x 100 = (39.90 - 3.80) / 39.90 x 100 = 90.5
11. % Clay = R2' / WT x 100 = 2.7 / 39.90 x 100 = 6.8
12. Sieve Analysis:
 - a. Oven Dry Weight (2 hrs., 105°C) Total Sand Fraction
(Soil Retained in 0.047mm Sieve), Grams: 37.1
 - b. WT of Fine Plus Very Fine Sand Fraction
(Sand Passing 0.25mm Sieve), Grams: 7.7
 - c. % Fine Plus Very Fine Sand (b/a): 20.8
13. Soil Morphology (Natural Soil Samples Only)
Structure of Soil Horizon Tested: -
Consistency of Soil Horizon Tested Dry: - Moist: -
14. Soil Permeability Class Rating (Based Upon Average Textural Analysis of This Replicate and Other Replicate Samples: K-5
15. I hereby certify that the information furnished on Form 3C of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (NJSA 58: 10A-1Et seq.) And is subject to penalties as prescribed in NJAC 7: 14-8.

All information listed in this report as to Test No., Depth, Locations, Sample/Collection Dates and Project are as represented to us by the client. Results indicated reflect laboratory test data only on samples submitted by client.

Signature of Laboratory Technician: *B. Singh*

Date: 6/13/24



CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Wham Engineering Services, Inc.
114 Windsor Road
Robbinsville, New Jersey 08691

DATE: 6/13/24

LAB NO: B-2310-24

PROJECT: Grover Mill Road & Mall Access Road
Lawrence, New Jersey

REPORT NO: AG-5

ON SAMPLE OF: Soil Material

SAMPLED BY: Client

RECEIVED: 6/11/24

MARKED: TP-2A Depth: 8'0"

EXAMINED WITH THE FOLLOWING RESULTS:

1. Grain size Analysis (ASTM D422), Material finer than the #200 (ASTM D-1140).

<u>Sieve Size</u>	<u>% Passing</u>
2"	100
1"	100
3/4"	100
3/8"	91.9
#4	75.5
#10	68.2
#40	35.7
#60	26.5
#100	20.1
#200	16.9
#270	15.9

2. Permeability of Granular Soils (ASTM D2434): 6.2 in/hr. (K-3)

Respectfully Submitted,
Certified Testing Laboratories, Inc.

Terry Kifer, General Manager

TK/KD



CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Wham Engineering Services, Inc.
114 Windsor Road
Robbinsville, New Jersey 08691

LAB NO.: B-2310-24

REPORT NO.: PM-5

PROJECT: Grover Mill Road & Mall Access Road
Lawrence, New Jersey

Reference: New Jersey Department of Environmental Protection – Form 3C – Soil Permeability Class Rating Data

1. Test Number: TP-2A Replicate (letter): -
2. Sample Depth: 8'0" Soil Pit Number: - Date Collected: 6/11/24
3. Coarse Fragment Content:
 - Total Weight of Sample, WT, Grams: **808.3**
 - Weight of Material Retained on 2mm sieve, WCF Grams: **257.2**
 - Weight % Coarse Fragment (WCF/WT x 100): **31.8**
4. Oven Dry Weight (24 hrs., 105°C) of 40 Gram Air Dried Sample, Grams WT: **39.70**
5. Hydrometer Calibration, Rc: **3.0 @ 68°F**
6. Hydrometer Reading @ 40 Seconds, R1: **11.8**
Temperature of Suspension: **70°F**
7. Corrected Hydrometer Reading, R1': **11.8-3.6+0.4=9.2**
8. Hydrometer Reading @ 2 Hours, R2: **7.3**
Temperature of Suspension: **71°F**
9. Corrected Hydrometer Reading, R2': **7.3-3.0+0.6=4.9**
10. % Sand = $(WT - R1') / WT \times 100 = (39.70 - 9.20) / 39.70 \times 100 = 76.8$
11. % Clay = $R2' / WT \times 100 = 4.9 / 39.70 \times 100 = 12.3$
12. Sieve Analysis:
 - a. Oven Dry Weight (2 hrs., 105°C) Total Sand Fraction
(Soil Retained in 0.047mm Sieve), Grams: **33.4**
 - b. WT of Fine Plus Very Fine Sand Fraction
(Sand Passing 0.25mm Sieve), Grams: **4.2**
 - c. % Fine Plus Very Fine Sand (b/a): **12.6**
13. Soil Morphology (Natural Soil Samples Only)
Structure of Soil Horizon Tested: -
Consistency of Soil Horizon Tested Dry: - Moist: -
14. Soil Permeability Class Rating (Based Upon Average Textural Analysis of This Replicate and Other Replicate Samples: **K-3**)
15. I hereby certify that the information furnished on Form 3C of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (NJSA 58: 10A-1Et seq.) And is subject to penalties as prescribed in NJAC 7: 14-8.

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Signature of Laboratory Technician: *B. Singh*

Date: 6/13/24



CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Wham Engineering Services, Inc.
114 Windsor Road
Robbinsville, New Jersey 08691

DATE: 6/13/24

LAB NO: B-2310-24

PROJECT: Grover Mill Road & Mall Access Road
Lawrence, New Jersey

REPORT NO: AG-4

ON SAMPLE OF: Soil Material

SAMPLED BY: Client

RECEIVED: 6/11/24

MARKED: TP-4A Depth: 8'6"

EXAMINED WITH THE FOLLOWING RESULTS:

1. Grain size Analysis (ASTM D422), Material finer than the #200 (ASTM D-1140).

<u>Sieve Size</u>	<u>% Passing</u>
2"	100
1"	100
3/4"	100
3/8"	100
#4	99.2
#10	97.5
#40	74.3
#60	29.2
#100	8.9
#200	5.7
#270	5.1

2. Permeability of Granular Soils (ASTM D2434): 23.0 in/hr. (K-5)

Respectfully Submitted,
Certified Testing Laboratories, Inc.

Terry Kifer, General Manager

TK/KD



CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Wham Engineering Services, Inc.
114 Windsor Road
Robbinsville, New Jersey 08691

LAB NO.: B-2310-24

REPORT NO.: PM-4

PROJECT: Grover Mill Road & Mall Access Road
Lawrence, New Jersey

Reference: New Jersey Department of Environmental Protection – Form 3C – Soil Permeability Class Rating Data

1. Test Number: TP-4A Replicate (letter): -
2. Sample Depth: 8'6" Soil Pit Number: - Date Collected: 6/11/24
3. Coarse Fragment Content:
 - Total Weight of Sample, WT, Grams: 544.2
 - Weight of Material Retained on 2mm sieve, WCF Grams: 13.8
 - Weight % Coarse Fragment (WCF/WT x 100): 2.5
4. Oven Dry Weight (24 hrs., 105°C) of 40 Gram Air Dried Sample, Grams WT: 39.90
5. Hydrometer Calibration, Rc: 3.0 @ 68°F
6. Hydrometer Reading @ 40 Seconds, R1: 7.0
Temperature of Suspension: 68°F
7. Corrected Hydrometer Reading, R1': 7.0-3.0+0.0=4.0
8. Hydrometer Reading @ 2 Hours, R2: 5.0
Temperature of Suspension: 71°F
9. Corrected Hydrometer Reading, R2': 5.0-3.0+0.6=2.6
10. % Sand = (WT - R1') / WT x 100 = (39.90 - 4.0) / 39.90 x 100 = 90.0
11. % Clay = R2' / WT x 100 = 2.6 / 39.90 x 100 = 6.5
12. Sieve Analysis:
 - a. Oven Dry Weight (2 hrs., 105°C) Total Sand Fraction
(Soil Retained in 0.047mm Sieve), Grams: 37.9
 - b. WT of Fine Plus Very Fine Sand Fraction
(Sand Passing 0.25mm Sieve), Grams: 9.6
 - c. % Fine Plus Very Fine Sand (b/a): 25.3
13. Soil Morphology (Natural Soil Samples Only)
Structure of Soil Horizon Tested: -
Consistency of Soil Horizon Tested Dry: - Moist: -
14. Soil Permeability Class Rating (Based Upon Average Textural Analysis of This Replicate and Other Replicate Samples: K-5
15. I hereby certify that the information furnished on Form 3C of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (NJSA 58: 10A-1Et seq.) And is subject to penalties as prescribed in NJAC 7: 14-8.

All information listed in this report as to Test No., Depth, Locations, Sample/Collection Dates and Project are as represented to us by the client. Results indicated reflect laboratory test data only on samples submitted by client.

Signature of Laboratory Technician: *B. Singh*

Date: 6/13/24



CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Wham Engineering Services, Inc.
114 Windsor Road
Robbinsville, New Jersey 08691

DATE: 6/13/24

LAB NO: B-2310-24

PROJECT: Grover Mill Road & Mall Access Road
Lawrence, New Jersey

REPORT NO: AG-2

ON SAMPLE OF: Soil Material

SAMPLED BY: Client

RECEIVED: 6/11/24

MARKED: TP-7 Depth: 14'0"

EXAMINED WITH THE FOLLOWING RESULTS:

1. Grain size Analysis (ASTM D422), Material finer than the #200 (ASTM D-1140).

<u>Sieve Size</u>	<u>% Passing</u>
2"	100
1"	100
3/4"	86.5
3/8"	63.9
#4	50.6
#10	36.7
#40	12.3
#60	9.0
#100	7.1
#200	5.7
#270	5.1

2. Permeability of Granular Soils (ASTM D2434): 18.5 in/hr. (K-4)

Respectfully Submitted,
Certified Testing Laboratories, Inc.

Terry Kifer, General Manager

TK/KD



CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Wham Engineering Services, Inc.
114 Windsor Road
Robbinsville, New Jersey 08691

LAB NO.: B-2310-24

REPORT NO.: PM-2

PROJECT: Grover Mill Road & Mall Access Road
Lawrence, New Jersey

Reference: New Jersey Department of Environmental Protection – Form 3C – Soil Permeability Class Rating Data

1. Test Number: TP-7 Replicate (letter): -
2. Sample Depth: 14'0" Soil Pit Number: - Date Collected: 6/11/24
3. Coarse Fragment Content:
 Total Weight of Sample, WT, Grams: 845.8
 Weight of Material Retained on 2mm sieve, WCF Grams: 535.6
 Weight % Coarse Fragment (WCF/WT x 100): 63.3
4. Oven Dry Weight (24 hrs., 105°C) of 40 Gram Air Dried Sample, Grams WT: 39.80
5. Hydrometer Calibration, R_c: 3.0 @ 68°F
6. Hydrometer Reading @ 40 Seconds, R₁: 8.4
 Temperature of Suspension: 68°F
7. Corrected Hydrometer Reading, R₁': 8.4-3.0+0.0=5.4
8. Hydrometer Reading @ 2 Hours, R₂: 5.9
 Temperature of Suspension: 72°F
9. Corrected Hydrometer Reading, R₂': 5.9-3.0+0.8=3.7
10. % Sand = (WT - R₁') / WT x 100 = (39.80 - 5.40) / 39.80 x 100 = 86.4
11. % Clay = R₂' / WT x 100 = 3.7 / 39.80 x 100 = 9.3
12. Sieve Analysis:
 - a. Oven Dry Weight (2 hrs., 105°C) Total Sand Fraction
 (Soil Retained in 0.047mm Sieve), Grams: 37.8
 - b. WT of Fine Plus Very Fine Sand Fraction
 (Sand Passing 0.25mm Sieve), Grams: 1.6
 - c. % Fine Plus Very Fine Sand (b/a): 4.2
13. Soil Morphology (Natural Soil Samples Only)
 Structure of Soil Horizon Tested: -
 Consistency of Soil Horizon Tested Dry: - Moist: -
14. Soil Permeability Class Rating (Based Upon Average Textural Analysis of This Replicate and Other Replicate Samples: K-4
15. I hereby certify that the information furnished on Form 3C of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (NJSA 58: 10A-1Et seq.) And is subject to penalties as prescribed in NJAC 7: 14-8.

All information listed in this report as to Test No., Depth, Locations, Sample/Collection Dates and Project are as represented to us by the client. Results indicated reflect laboratory test data only on samples submitted by client.

Signature of Laboratory Technician: *B. Singh*

Date: 6/13/24



CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Wham Engineering Services, Inc.
114 Windsor Road
Robbinsville, New Jersey 08691

DATE: 6/13/24

LAB NO: B-2310-24

PROJECT: Grover Mill Road & Mall Access Road
Lawrence, New Jersey

REPORT NO: AG-1

ON SAMPLE OF: Soil Material

SAMPLED BY: Client

RECEIVED: 6/11/24

MARKED: TP-7A Depth: 16'0"

EXAMINED WITH THE FOLLOWING RESULTS:

1. Grain size Analysis (ASTM D422), Material finer than the #200 (ASTM D-1140).

<u>Sieve Size</u>	<u>% Passing</u>
2"	100
1"	100
3/4"	100
3/8"	94.6
#4	89.7
#10	82.9
#40	30.2
#60	19.5
#100	14.9
#200	12.0
#270	11.1

2. Permeability of Granular Soils (ASTM D2434): 18.0 in/hr. (K-4)

Respectfully Submitted,
Certified Testing Laboratories, Inc.

Terry Kifer, General Manager

TK/KD



CTL

CERTIFIED TESTING LABORATORIES, INC.

CLIENT: Wham Engineering Services, Inc.
114 Windsor Road
Robbinsville, New Jersey 08691

LAB NO.: B-2310-24

REPORT NO.: PM-1

PROJECT: Grover Mill Road & Mall Access Road
Lawrence, New Jersey

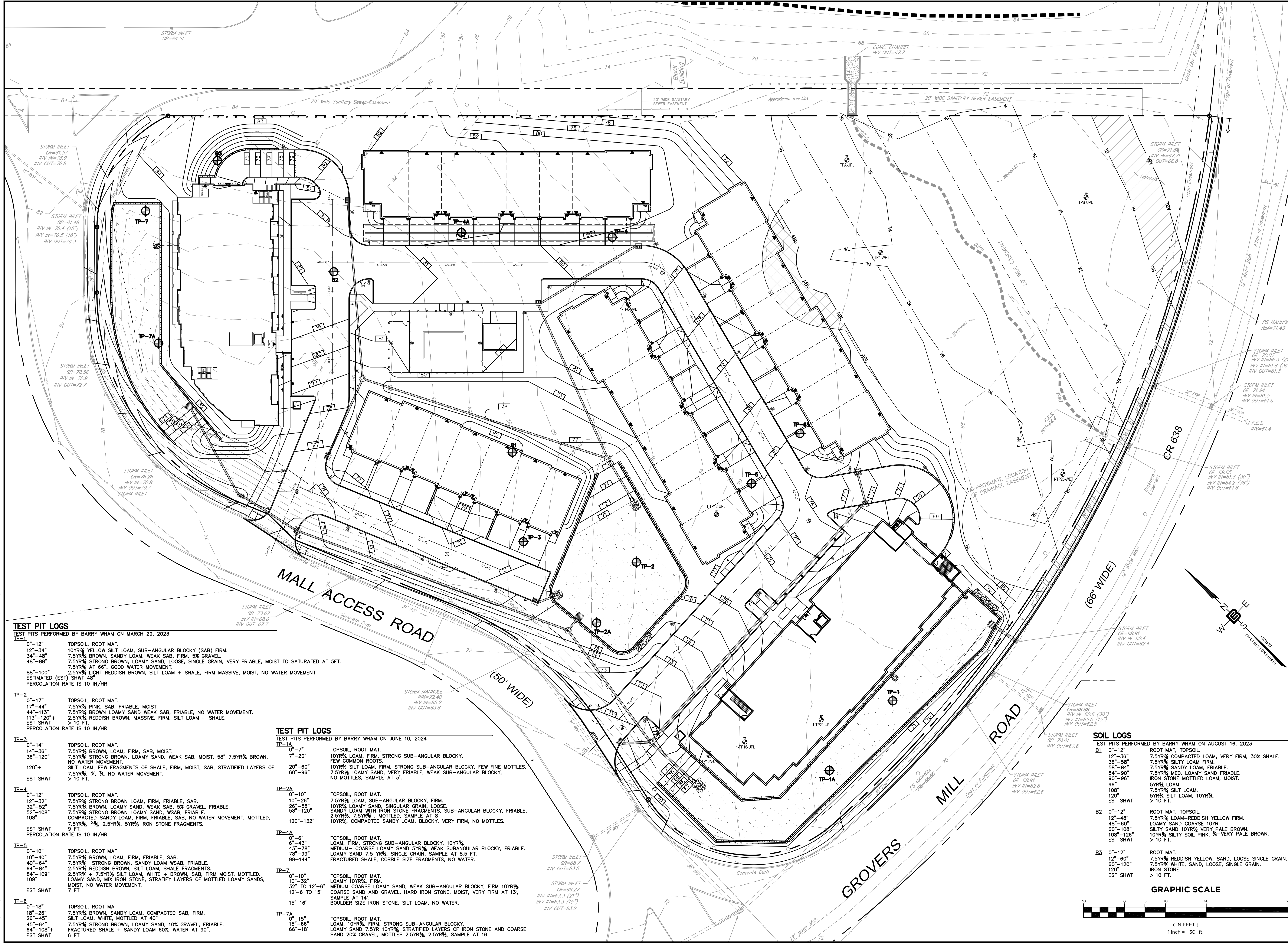
Reference: New Jersey Department of Environmental Protection -- Form 3C -- Soil Permeability Class Rating Data

1. Test Number: TP-7A Replicate (letter): -
2. Sample Depth: **16'0"** Soil Pit Number: - Date Collected: 6/11/24
3. Coarse Fragment Content:
 - Total Weight of Sample, WT, Grams: **681.4**
 - Weight of Material Retained on 2mm sieve, WCF Grams: **116.7**
 - Weight % Coarse Fragment (WCF/WT x 100): **17.1**
4. Oven Dry Weight (24 hrs., 105°C) of 40 Gram Air Dried Sample, Grams WT: **39.80**
5. Hydrometer Calibration, Rc: **3.0 @ 68°F**
6. Hydrometer Reading @ 40 Seconds, R1: **8.4**
Temperature of Suspension: **68°F**
7. Corrected Hydrometer Reading, R1': **8.4-3.0+0.0=5.4**
8. Hydrometer Reading @ 2 Hours, R2: **6.3**
Temperature of Suspension: **72°F**
9. Corrected Hydrometer Reading, R2': **6.3-3.0+0.8=4.1**
10. % Sand = $(WT - R1') / WT \times 100 = (39.80 - 5.40) / 39.80 \times 100 = 86.4$
11. % Clay = $R2' / WT \times 100 = 4.1 / 39.80 \times 100 = 10.3$
12. Sieve Analysis:
 - a. Oven Dry Weight (2 hrs., 105°C) Total Sand Fraction
(Soil Retained in 0.047mm Sieve), Grams: **35.4**
 - b. WT of Fine Plus Very Fine Sand Fraction
(Sand Passing 0.25mm Sieve), Grams: **3.3**
 - c. % Fine Plus Very Fine Sand (b/a): **9.3**
13. Soil Morphology (Natural Soil Samples Only)
Structure of Soil Horizon Tested: -
Consistency of Soil Horizon Tested Dry: - Moist: -
14. Soil Permeability Class Rating (Based Upon Average Textural Analysis of This Replicate and Other Replicate Samples: **K-4**)
15. I hereby certify that the information furnished on Form 3C of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (NJSA 58: 10A-1Et seq.) And is subject to penalties as prescribed in NJAC 7: 14-8.

All information listed in this report as to Test No., Depth, Locations, Sample/Collection Dates and Project are as represented to us by the client. Results indicated reflect laboratory test data only on samples submitted by client.

Signature of Laboratory Technician: *B. Singh*

Date: 6/13/24



TEST PIT LOGS
TEST PITS PERFORMED BY BARRY WHAM ON MARCH 29, 2023

TP-1
0'-12" TOPSOIL, ROOT MAT.
12"-34" 10YR% YELLOW SILT LOAM, SUB-ANGULAR BLOCKY (SAB) FIRM.
34"-48" 7.5YR% BROWN SANDY LOAM, WEAK SAB, FIRM, 5% GRAVEL.
48"-88" 7.5YR% STRONG BROWN, LOAMY SAND, LOOSE, SINGLE GRAIN, VERY FRIABLE, MOIST TO SATURATED AT 5 FT.
88"-100" 7.5YR% AT 66", GOOD WATER MOVEMENT.
ESTIMATED (EST) SHWT 48"
PERCOLATION RATE IS 10 IN/HR

TP-2
0'-17" TOPSOIL, ROOT MAT.
17"-44" 7.5YR% PINK, SAB, FRIABLE, MOIST.
44"-113" 7.5YR% BROWN LOAMY SAND WEAK SAB, FRIABLE, NO WATER MOVEMENT.
113"-120"+ 2.5YR% REDDISH BROWN, MASSIVE, FIRM, SILT LOAM + SHALE.
EST SHWT
PERCOLATION RATE IS 10 IN/HR

TP-3
0'-14" TOPSOIL, ROOT MAT.
14"-36" 7.5YR% BROWN, LOAM, FIRM, SAB, MOIST.
36"-120" 7.5YR% STRONG BROWN, LOAMY SAND, WEAK SAB, MOIST, 58" 7.5YR% BROWN, NO WATER MOVEMENT.
120"+ SILT LOAM, FEW FRAGMENTS OF SHALE, FIRM, MOIST, SAB, STRATIFIED LAYERS OF
7.5YR% 1/4" NO WATER MOVEMENT.
EST SHWT
PERCOLATION RATE IS 10 IN/HR

TP-4
0'-12" TOPSOIL, ROOT MAT.
12"-32" 7.5YR% STRONG BROWN LOAM, FIRM, FRIABLE, SAB.
32"-52" 7.5YR% BROWN, LOAMY SAND, WEAK SAB, 5% GRAVEL, FRIABLE.
52"-108" 7.5YR% STRONG BROWN LOAMY SAND, WSAB, FRIABLE.
108" COMPACTED SANDY LOAM, FIRM, FRIABLE, SAB, NO WATER MOVEMENT, MOTTLED.
EST SHWT 9 FT.
PERCOLATION RATE IS 10 IN/HR

TP-5
0'-10" TOPSOIL, ROOT MAT
10"-40" 7.5YR% BROWN, LOAM, FIRM, FRIABLE, SAB.
40"-64" 7.5YR% STRONG BROWN, SANDY LOAM WSAB, FRIABLE.
64"-84" 2.5YR% REDDISH BROWN, SILT LOAM, SHALE FRAGMENTS.
84"-109" 2.5YR% + 7.5YR% SILT LOAM, WHITE + BROWN, SAB, FIRM MOIST, MOTTLED.
109" LOAMY SAND, MIX IRON STONE, STRATIFY LAYERS OF MOTTLED LOAMY SANDS,
MOIST, NO WATER MOVEMENT.
EST SHWT 7 FT.

TP-6
0'-18" TOPSOIL, ROOT MAT
18"-26" 7.5YR% BROWN, SANDY LOAM, COMPACTED SAB, FIRM.
26"-45" SILT LOAM, WHITE, MOTTLED AT 40"
45"-64" 7.5YR% STRONG BROWN, LOAMY SAND, 10% GRAVEL, FRIABLE.
64"-108"+ FRACTURED SHALE + SANDY LOAM 60%, WATER AT 90".
EST SHWT 6 FT

TEST PIT LOGS
TEST PITS PERFORMED BY BARRY WHAM ON JUNE 10, 2024

TP-1A
0'-7" TOPSOIL, ROOT MAT.
7"-20" 10YR% LOAM, FIRM, STRONG SUB-ANGULAR BLOCKY, FEW COMMON ROOTS.
20"-60" 10YR% SILT LOAM, FIRM, STRONG SUB-ANGULAR BLOCKY, FEW FINE MOTTLES.
60"-96" 7.5YR% LOAMY SAND, VERY FRIABLE, WEAK SUB-ANGULAR BLOCKY, NO MOTTLES, SAMPLE AT 5'.

TP-2A
0'-10" TOPSOIL, ROOT MAT.
10"-26" 7.5YR% LOAM, SUB-ANGULAR BLOCKY, FIRM.
26"-58" 10YR% LOAMY SAND, SINGULAR GRAIN, LOOSE.
58"-120" SANDY LOAM WITH IRON STONE FRAGMENTS, SUB-ANGULAR BLOCKY, FRIABLE.
120"-132" 2.5YR% 7.5YR% MOTTLED, SAMPLE AT 8'.
10YR% COMPACTED SANDY LOAM, BLOCKY, VERY FIRM, NO MOTTLES.

TP-4A
0'-6" TOPSOIL, ROOT MAT.
6"-43" LOAM, FIRM, STRONG SUB-ANGULAR BLOCKY, 10YR%.
43"-78" MEDIUM-COARSE LOAMY SAND 5YR%, WEAK SUBANGULAR BLOCKY, FRIABLE.
78"-99" LOAMY SAND 7.5 YR%, SINGLE GRAIN, SAMPLE AT 8.5 FT.
99"-144" FRACTURED SHALE, COBBLE SIZE FRAGMENTS, NO WATER.

TP-7
0'-10" TOPSOIL, ROOT MAT.
10"-32" LOAMY 10YR% FIRM.
32" TO 12'-6" MEDIUM COARSE LOAMY SAND, WEAK SUB-ANGULAR BLOCKY, FIRM 10YR%.
12'-6" TO 15' COARSE SAND AND GRAVEL, HARD IRON STONE, MOIST, VERY FIRM AT 15'.
SAMPLE AT 14'.
BOULDER SIZE IRON STONE, SILT LOAM, NO WATER.

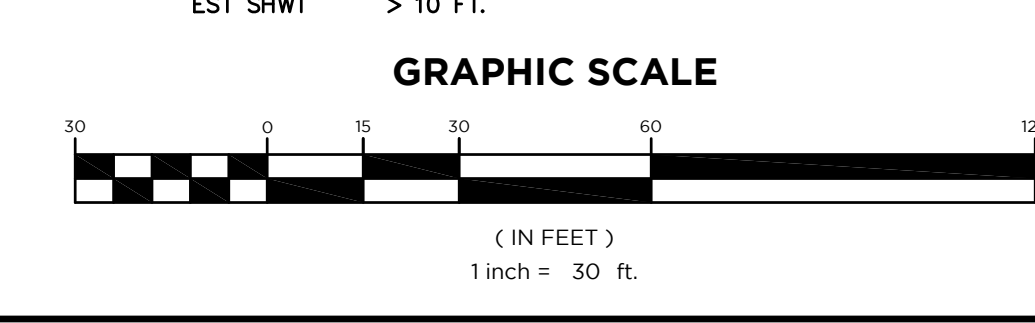
TP-7A
0'-15" TOPSOIL, ROOT MAT.
15"-66" LOAM, 10YR% FIRM, STRONG SUB-ANGULAR BLOCKY.
66"-18" LOAMY SAND 7.5YR 10YR%, STRATIFIED LAYERS OF IRON STONE AND COARSE SAND 20% GRAVEL, MOTTLES 2.5YR%, 2.5YR%, SAMPLE AT 16'.

SOIL LOGS
TEST PITS PERFORMED BY BARRY WHAM ON AUGUST 16, 2023

B1
0'-12" ROOT MAT, TOPSOIL.
12"-36" 7.5YR% COMPACTED LOAM, VERY FIRM, 30% SHALE.
36"-58" 7.5YR% SILTY LOAM FIRM.
58"-84" 7.5YR% SANDY LOAM, FRIABLE.
84"-90" 7.5YR% MED. LOAMY SAND FRIABLE.
90"-98" IRON STONE MOTTLED LOAM, MOIST.
98" 5YR% LOAM.
108" 7.5YR% SILT LOAM.
120" 5YR% SILT LOAM, 10YR%.
EST SHWT > 10 FT.

B2
0'-12" ROOT MAT, TOPSOIL.
12"-48" 7.5YR% LOAM-REDDISH YELLOW FIRM.
48"-60" LOAMY SAND COARSE 10YR%.
60"-108" SILTY SAND 10YR% VERY PALE BROWN.
108"-126" 10YR% SILTY SOIL PINK 1/4"-VERY PALE BROWN.
EST SHWT > 10 FT.

B3
0'-12" ROOT MAT.
12"-60" 7.5YR% REDDISH YELLOW, SAND, LOOSE SINGLE GRAIN.
60"-120" 7.5YR% WHITE, SAND, LOOSE, SINGLE GRAIN.
120" IRON STONE.
EST SHWT > 10 FT.



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PROFESSIONAL ENGINEER
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DRAWING TITLE
TEST PIT LOCATON PLAN

PROJECT
RESIDENTIAL DEVELOPMENT
BLOCK 420101, LOT 33.03
GROVERS MILL ROAD & MALL ACCESS ROAD
TOWNSHIP OF LAWRENCE
MERCER COUNTY, NEW JERSEY

CLIENT
TRICONE
2525 US-130 SUITE B4
CRANBURY, NJ 08512

CERTIFICATE OF AUTHORIZATION
24GA28068900 / 21MH00002800

DRAWN BY C.B.JR. CHECKED BY C.J.B.
SCALE 1" = 30' PROJECT NO. 21-210
DATE 6-10-24 REVISION NO. 0
DRAWING NO. TP

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