



MAP Engineering

170 Kinnelon Road – Suite 36
Kinnelon, NJ 07405
www.MAPEngineering.net

Phone: 973-492-0345
Fax: 973-492-6472
Staff@MAPEngineering.net

1. Type of Permit Needed - (Check Applicable Categories)

- ☐ New Construction
- ☒ Alteration/No Expansion or Change in Use
- ☐ Alteration/Expansion or Change in Use
- ☐ Alteration/Malfunctioning System
- ☐ Repair (in-kind replacement)/ Malfunctioning system
- ☐ Repair (in-kind replacement) System is not malfunctioning
- ☒ Deviation From Standards
- ☒ New system installed (existing structure)

2. Location of Project

Municipality: West Milford Block: 3705 Lot: 3
Street Address: 1902 Greenwood Lake Turnpike Zip: 07421

3. Name of Applicant: Terry Wiley

4. Applicants Present Address: 1902 Greenwood Lake Turnpike, Hewitt, NJ 07421

5. Applicants Telephone Number: [REDACTED]

6. Type of Facility:

- ☒ Residential
- ☐ Commercial/Industrial

7. Type of Waste to be Discharged

- ☒ Sanitary Sewage
- ☐ Industrial Waste
- ☐ Other - Specify

8. If d. or e. in 1. above are checked, indicate the type of malfunction and its cause (check all that apply)

- ☐ Contamination of nearby wells or surface water bodies by sanitary sewage or effluent
- ☐ Ponding or breakout of sanitary sewage or effluent onto the surface of the ground
- ☐ Seepage of sanitary sewage or effluent into portions of building below ground
- ☐ Back-up of sanitary sewage into the building served, which is not caused by a physical blockage of the internal plumbing
- ☐ Any manner of leakage observed from components that are not designed to emit sanitary sewage or effluent.
- ☐ Direct discharges to ground water (no zone of treatment)

9. Please expand on Question #1, above, by checking if any of the following apply:

- ☐ A privy, outhouse, latrine or pit toilet is present, a system must be installed,
- ☐ A system must be upgraded as part of a real property transfer,
- ☐ A cesspool has been identified during a real property transfer and a conforming system must be installed,
- ☐ A malfunctioning cesspool has been identified and a conforming system must be installed.

REC 14051
CK 1695 \$185-
JUL 18 2024
POSTED TO THE RECORDS
OF THE TOWNSHIP OF WEST MILFORD
NJ

10. Other Approvals/Certification/Waivers/Exemptions (Attach to Application):

Pinelands Commission

Highlands Water Protection and Planning Act

11. I hereby certify that the information furnished on Form 1 Of this application is true. I am aware that False Swearing is a crime in this State and is subject to prosecution.

Signature of Applicant

Theresa Wiley

Date:

12/06/24

FOR AGENCY USE ONLY

Application Denied - Reason for Denial/Citation of Rules Violated

Application Approved

Application Approved Subject to Approval by NJDEP

Date of Action

Signature of Authorized Agent

Name and Title

Form 2a.-General Site Evaluation DataCounty/Municipality: Passaic / West MilfordBlock: 3705 Lot: 3

1. Name of Site Evaluator MAP Engineering
2. Business Address of Site Evaluator 170 Kinneelon Road, Kinneelon, NJ 07405
3. Business Phone Number of Site Evaluator 973-492-0345

4. Special Site Limitations Identified (Check Appropriate Categories)

☐ Flood Plains	☐ Disturbed Ground	☐ Sand Dunes
☐ Excessively Stony	☐ Steep Slopes	☐ Sink Holes
☐ Wetlands	☐ Rock Outcrops	☐ Other

5. Soil Logs - Enter on Form 2b

6. Considerations Relating to Disturbed Ground

a. Type of disturbance (Check Appropriate Categories)

☐ Filled Area	☐ Surface Drains	☐ Regraded Areas
☐ Excavated Area	☐ Other - Specify	☐ Method of Ident.

b. Pre-existing Natural Ground Surface

☐ Elevation Relative to Existing Ground Surface

c. Suitability of Disturbed Ground

☐ Unsuitable: Objects Subject to Disintegration or Change in Volume
☐ Proctor Test Performed - % Standard Proctor Density

7. Hydraulic Head Test

a. Hydraulically Restrictive Horizon: Depth to Top

b. Piezometer A; Depth to Bottom

c. Piezometer B; Depth to Bottom

d. Witnessed By

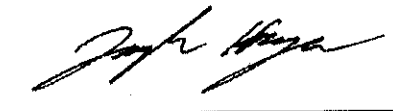
☐	Depth of Water Level (24hrs)
☐	Depth of Water Level (24hrs)
☐	Signature

8. Attachments (Check Items Included):

☒ X	Site Plan
☒ X	Key Map Showing Location of USGS Quadrangle or other Accurate Map
☒ X	Key Map Showing Location of Site on USDA Soil Survey Map
	Other - Specify

9. I hereby certify that the information furnished on Form 2a. Of this application is true and accurate. I am aware that falsification of data is a violation of the water Pollution Control Act (N.J.S.A. 58:10 A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator

Date: 12/06/24

Signature of Professional Engineer

Lic. No. 54457

Form 2b. - Soil Log & Interpretation

County/Municipality: Passaic / West Milford Block: 3705 Lot: 3

1. Log No. 1 Method X Profile Pit Boring
(Check One)

2. Soil Log
NO TESTHOLE PERFORMED DUE TO LACK OF ACCESS. TESTHOLE TO BE PERFORMED AND SOIL CONDITIONS TO BE VERIFIED AT TIME OF CONSTRUCTION

3. Ground Water Observations:
Seepage - Depth
Mottling - Depth

4. Soil Limiting Zones (Check Appropriate Categories)
 Fractured Rock Substratum - Depth to Top
 Massive Rock Substratum - Depth to Top
 Excessively Coarse Horizon
 Excessively Coarse Substratum
 Hydraulically Restrictive Horizon - Depth to Bottom
 Hydraulically Restrictive Substratum - Depth to Top
 Perched Zone of Saturation - Depth to Bottom
 Regional Zone of Saturation - Depth to Top

5. Soil Suitability Classification III Wr

6. I hereby Certify that the information furnished on Form 2b. Of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator



Date: 12/06/24

Signature of Professional Engineer



Lic. No. 54457

Form 3a. - Soil Permeability Class Rating

County/Municipality: Passaic / West Milford Block: 3705 Lot: 3

Assign a number for each test and a letter for each test replicate. Show test data and calculations on Form 3b, 3c, 3d, 3e, 3f, or eg. Use one sheet for each separate test or test replicate.

1. Summary of Data-Enter data for each test replicate on separate line

Type of Test	Test number	Replicate letter	Depth inches	Results
--------------	-------------	------------------	--------------	---------

(see attached analysis)

* For tube permeameter, pit-bailing, and piezometer tests, reports results in inches/hour. For Soil Permeability Class Rating, give soil permeability class number. For Percolation Test, Report result in minutes/inches. For Basin Flooding Test, report result as positive if basin drains completely within 24 hours after second filling, negative otherwise.

2. Design Permeability/Percolation Rate: Specify Test Number

_____ Average of Test Replicates	_____ Single Replicate
_____ Slowest of Replicates	_____ Test Number

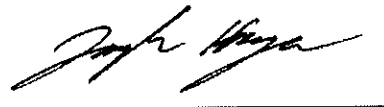
3. Type of Limiting Zone Identified

4. Attachments (Check items included):

_____ Form 3b - Tube Permeameter Test Data -	Number of Sheets	_____
_____ Form 3c - Soil Permeability Class Rating Data -	Number of Sheets	_____
_____ Form 3d - Percolation Test Data -	Number of Sheets	_____
_____ Form 3e - Pit Bailing Test Data -	Number of Sheets	_____
_____ Form 3f - Piezometer Flooding Test Data -	Number of Sheets	_____
_____ Form 3g - Basin Flooding Test Data -	Number of Sheets	_____

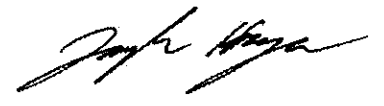
5. I hereby certify that the information furnished on Form 3c of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator



Date: 12/06/24

Signature of Professional Engineer



Lic. No. 54457

NO SOIL LOG COMPLETED DUE TO LACK OF SITE ACCESS

Form 4. - General Design Data

Block:

3705

Lot:

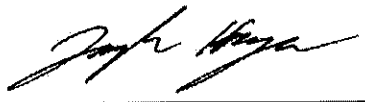
3

1. Vol. Of Sanitary Sewage, gal 500
X Res.: No. of Dwelling Units 1 Number of Bedrooms 3
Commercial/Institutional - Indicate type of establishment and show method of calculation. If based on water meter data, indicate source of data, frequency of reading, average daily flow and maximum recorded daily reading.
2. Alteration of Repairs:
a. Reasons for Alterations or Repair (Check appropriate categories):
X Expansion or Change in Use Upgrade Existing Facilities
X Correct Malfunctioning System Other - Specify
b. Describe the nature of Alterations or Repair
Proposes re-use of the existing 1000 gallon septic tank, followed by an AquaKlear AK500C pre-treatment unit, and a 1000 gallon pump tank, discharging to a 479 SF pressure dosed stone and pipe disposal field.
3. System Components:
a. Grease Trap Capacity, gals Show Calculations Used:
b. Septic Tank Capacity, gals 1708 First Compartment
Second Compartment
Third Compartment
c. Effluent Dist. Method: Gravity Flow Gravity Dosing X Pres. Dosing
Dosing Device: Pump X Siphon
d. Dosing Tank Capacity: Total Capacity 1000
Dosing Volume 125.00 Reserve Capacity 648 gallons
e. Laterals: Number 4 Length 21.75 Pipe Size 1 Spacing 45 in.
f. Connecting Pipe: 26 ft. Size 2.00 inches
g. Manifold: 11.25 ft. Size 2.00 inches
h. Disposal Field: Type of Installation MSR
Design Permeability (per rate) K-4
Trenches: Width Length Bed: Area 479 sq. ft.
i. Seepage Pits: Design Percolation Rate
Number of Pits Total Percolation Area Provided
4. Attachments (Check if items included):
X General Plan of System Showing Location of All Components
X X-Section of Each System Component Including Grease Trap, Septic Tank, Dosing Tank
Disposal Field, Seepage Pits and Interceptor Drains
X Pump Performance Curves
 Other-Specify
5. I hereby certify that the information furnished on Form 4 of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator

Date: 12/06/24

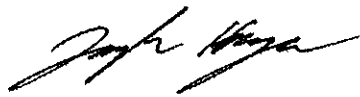
Signature of Professional Engineer

Lic. No. 54457

Form 5. Design of Pressure Dosing System

1. Configuration of Distribution Network:
- | | | | | | |
|-------------------------------|------|---|------------|-------|----------------|
| Type of Manifold: | End | X | Central | | |
| Distribution Laterals: Number | | 4 | Length, ft | 21.75 | Spacing, in 45 |
| Hole Diameter, ins | 0.25 | | | | |
| Hole Spacing, ins | 36.0 | | | | |
| Diameter of Laterals, ins | 1.0 | | | | |
2. Lateral Discharge Rate:
- | | | |
|--|------|-----|
| Design Pressure Head at Supply End of Laterals, Hp, ft | | 2.5 |
| Hole Discharge Rate, Q, gpm | 1.18 | |
| Number of Holes per Lateral, n | 7.0 | |
| Lateral Discharge Rate, (Q x n) gpm | 8.3 | |
3. Manifold Length, ft 11.25
Manifold Diameter, ins 2.0
4. System Discharge Rate, gpm 33.2
5. Dose Volume:
- | | | |
|---|-------|-----|
| Design Volume of Sewage, gal/day | 500.0 | |
| Design Permeability, in/hr | K-4 | |
| Internal Volume of Distribution Network, gals | | 9.6 |
| Dose Volume, gals | 125.0 | |
6. Pump Selection:
- | | | |
|-----------------------------------|------|--|
| Diameter of Delivery Pipe, inches | 2.0 | |
| Length of Delivery Pipe, ft. | 26.0 | |
7. Friction Loss in Delivery Pipe, Hf, ft 0.5
Elevation of Dosing Tank Low Water Level 95.8
Elevation of Lateral Invert 100.0
Elevation Head, He, ft 4.2
Total Operating Head, Ht (Hp + Hf + He), ft 7.2
Pump Model _ Rated Horsepower WE0311M-1/3HP
Pump Discharge Rate at Total Operating Head, gpm 63.00
8. I hereby certify that the information furnished on Form 5 of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator



Date: 12/06/24

Signature of Professional Engineer



Lic. No. 54457



Submersible Effluent Pump

MODEL

3885

PROSURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS

Specifically designed for the following uses:

- Homes
- Farms
- Trailer courts
- Motels
- Schools
- Hospitals
- Industry
- Effluent systems

SPECIFICATIONS

Pump

- Solids handling capabilities: $\frac{1}{4}$ " maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 128 feet TDH.
- Temperature: 104°F (40°C) continuous 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

FEATURES

- **Impeller:** Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.
- **Casing:** Cast iron volute type for maximum efficiency. 2" NPT discharge.
- **Mechanical Seal:** SILICON CARBIDE VS. SILICON CARBIDE sealing faces. Stainless steel metal parts. BUNA-N elastomers.

- **Shaft:** Corrosion-resistant, stainless steel. Threaded design. Locknut on three phase models to guard against component damage on accidental reverse rotation.

- **Fasteners:** 300 series stainless steel.

- Capable of running dry without damage to components.

- Designed for continuous operation when fully submerged.

MOTORS

- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation.

Single phase:

- Built-in overload with automatic reset.
- All single phase models feature capacitor start motors for maximum starting torque.
- $\frac{1}{2}$ and $\frac{1}{4}$ HP – 16/3 SITOW with 115, 208 and 230 Volt three prong plug.
- $\frac{1}{4}$ -2 HP – 14/3 STOW with bare leads.

Three phase:

- Overload protection must be provided in starter unit.
- $\frac{1}{2}$ -2 HP – 14/4 STOW with bare leads.

- **Designed for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.

- **Bearings:** Upper and lower heavy duty ball bearing construction.

- **Power Cable:** Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.

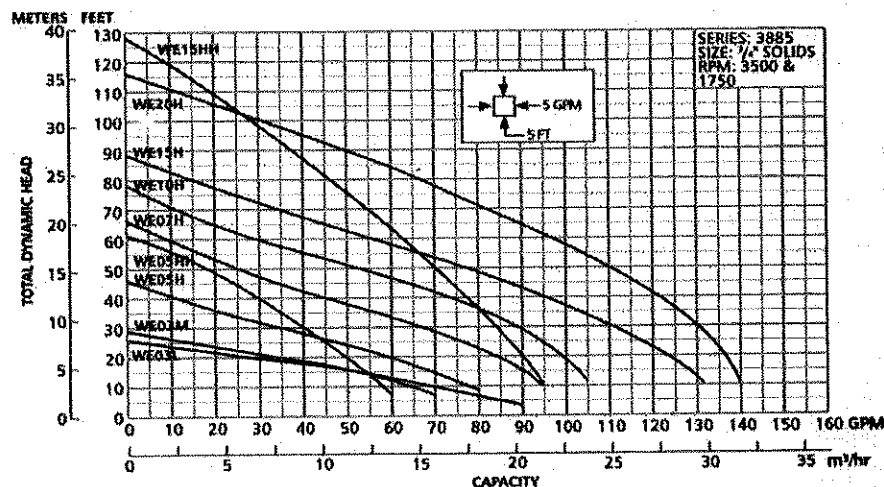
- **O-ring:** Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS



Tested to UL 778 and CSA 22.2 108 Standards By Canadian Standards Association File #LR3548

Goulds Pumps is ISO 9001 Registered.



Goulds Pumps

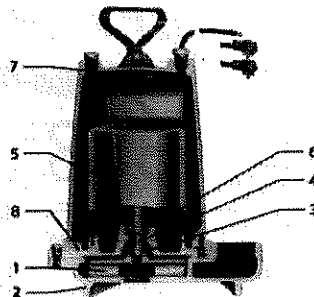


ITT Industries



COMPONENTS

Item No.	Description
1	Impeller
2	Casing
3	Silicon carbide vs. silicon carbide Mechanical seal
4	Shaft
5	Motor
6	All Ball bearing heavy duty design
7	Power cable
8	O-ring



Submersible Effluent Pump

MODEL

3885

MODELS

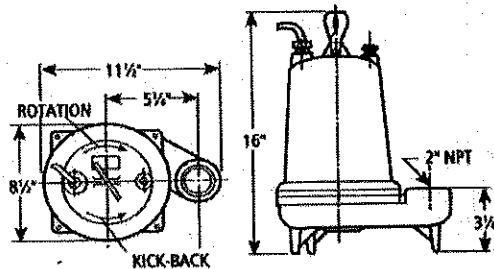
Order No.	HP	Volts	Phase	Max. Amp.	RPM	Solids	Wt. (lbs.)
WE0311L		115		9.8			
WE0318L		200		6.8			
WE0312L		230		4.9			
WE0311M	1/2	115		9.8	1750		56
WE0318M		200		6.8			
WE0312M		230		4.9			
WE0511H		115		14.5			
WE0518H		200		8.1			
WE0512H		230		7.3			
WE0538H		200		4.1			
WE0532H		230		3.3			
WE0534H	1/2	460		1.7			
WE0511HH		115		14.5			
WE0518HH		200		8.1			
WE0512HH		230		7.3			
WE0538HH		200		4.1			
WE0532HH		230		3.6			
WE0534HH		460		1.8			
WE0718H		200		11.0			
WE0712H		230		10.0			
WE0738H	1/2	200		6.2			
WE0732H		230		5.4			
WE0734H		460		2.7			
WE1018H		200		14.0			
WE1012H		230		12.5			
WE1038H	1	200		8.1			
WE1032H		230		7.0			
WE1034H		460		3.5			
WE1518H		200		17.5			
WE1512H		230		15.7			
WE1538H		200		10.6			
WE1532H		230		9.2			
WE1534H	1 1/2	460		4.6			
WE1518HH		200		17.5			
WE1512HH		230		15.7			
WE1538HH		200		10.6			
WE1532HH		230		9.2			
WE1534HH		460		4.6			
WE2012H		230		18.0			
WE2038H		200		12.0			
WE2032H	2	230		11.6			
WE2034H		460		5.8			
WE0537H	1/2			1.4			
WE0537HH				1.5			
WE0737H	1/2			2.2			
WE1037H	1	575		2.8			
WE1537H	1 1/2			3.7			
WE1537HH				3.7			
WE2037H	2			4.7			

PERFORMANCE RATINGS (gallons per minute)

Order No.	WE03L	WE03M	WE03H	WE07H	WE10H	WE15H	WE05HH	WE15HH	WE20H
HP	1/2	1/2	1/2	1/2	1	1 1/2	1/2	1 1/2	2
RPM	1750	1750	3500	3500	3500	3500	3500	3500	3500
5	86	—	—	—	—	—	—	—	—
10	70	63	78	—	—	—	58	—	—
15	52	50	70	90	—	—	53	—	—
20	27	35	60	83	98	123	49	90	136
25	—	—	48	76	94	117	45	87	133
30	—	—	35	67	88	110	40	83	130
35	—	—	20	57	82	103	35	80	126
40	—	—	—	45	74	95	30	77	121
45	—	—	—	35	64	86	25	74	116
50	—	—	—	25	53	77	—	70	110
55	—	—	—	—	40	67	—	66	103
60	—	—	—	—	30	56	—	63	96
65	—	—	—	—	20	45	—	58	89
70	—	—	—	—	—	35	—	55	81
75	—	—	—	—	—	25	—	51	74
80	—	—	—	—	—	—	—	47	66
90	—	—	—	—	—	—	—	37	49
100	—	—	—	—	—	—	—	28	30

DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



Goulds Pumps and the ITT Engineered Blocks Symbol are registered trademarks and tradenames of ITT Industries.

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SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Goulds Pumps



AQUAKLEAR OF NEW JERSEY

206 MAIN STREET
ANDOVER, NJ 07821

Phone: 973-786-0367

Fax: 973-786-0031

VIA ELECTRONIC MAIL

December 9, 2024

Joseph E. Hogan, P.E.
Map Engineering, Inc.
170 Kinnelon Road
Suite 36
Kinnelon, NJ 07405

Dear Mr. Hogan:

Re: Wiley Property
1902 Greenwood Lake Turnpike
Block 3705, Lot 3
Township of West Milford, Passaic County, NJ

The referenced design utilizing the AK500 by AquaKlear has been reviewed and meets the recommendations of AquaKlear for estimated waste water loading of 500 gpd. Pursuant to N.J.A.C. 7:9A-8.3(a), a pre-treatment tank has been incorporated into the site design and is acceptable to AquaKlear.

The AquaKlear AK500 that will be utilized for the project is comprised of a 520 gallon aeration chamber and 188 gallon clarifying chamber and skimmer, along with necessary control panel. All AquaKlear AK500 units sold and installed in New Jersey include the necessary WiFi for telemetry monitoring designated control panel AKNJ for operation in New Jersey.

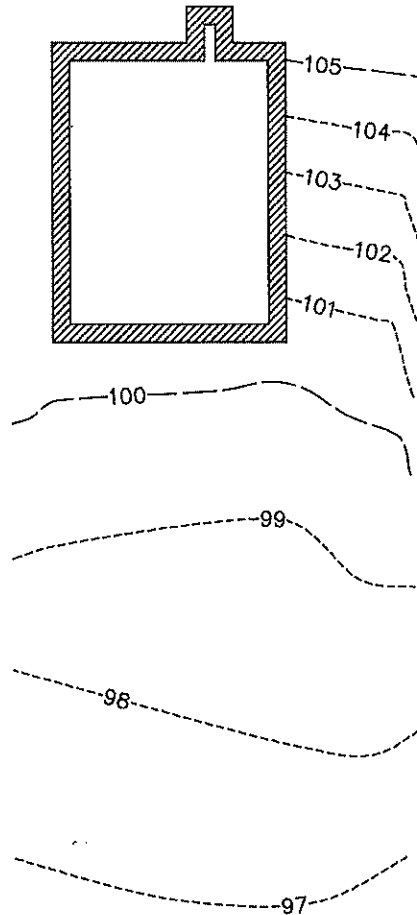
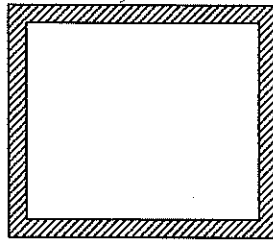
Very truly yours,



Glenn Wisniewski,
AquaKlear of New Jersey

GW

C: Grady Tucker, AquaKlear, Inc.
File



NOTE:
VERTICAL DATUM ASSUMED

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AREA TOPOGRAPHY

1902 GREENWOOD LAKE TURNPIKE
BLOCK 3705 ~ LOT 3
TOWNSHIP OF WEST MILFORD
PASSAIC COUNTY, NEW JERSEY

SCALE: 1"=20' NOV. 19, 2024 REFERENCES: EVIDENCE IN THE FIELD.
973-838-4792 FAX 283-1655



SURVEYING INC.
170 KINNELON ROAD
SUITE 25
KINNELON, NJ 07405
CERTIFICATION OF AUTHORIZATION
24GA27953100

CERTIFIED TO:

PROJECT NUMBER 2024 11 0415

DOUGLAS B. SMITH PROFESSIONAL LAND SURVEYOR N.J. LIC. 43234