

# VARIANCE

## SITE GRADING PLAN

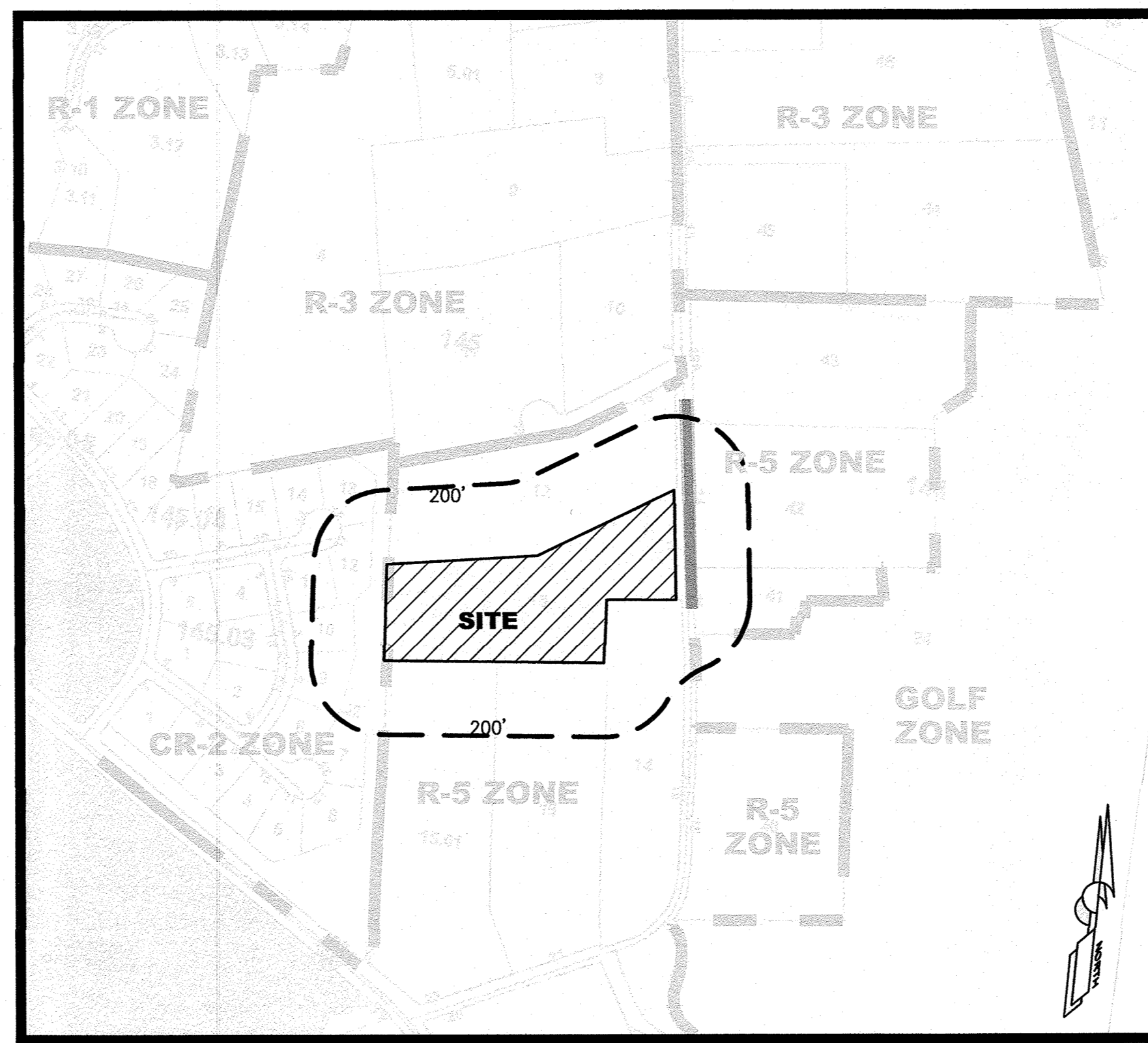
### LOT 13 BLOCK 145

### 17 KENNADAY ROAD

### SITUATED IN:

## TOWNSHIP OF MENDHAM

## MORRIS COUNTY, NEW JERSEY



### KEY PLAN

1" = 200'±  
PROJECT SITE IS SHOWN ON TOWNSHIP OF MENDHAM TAX MAP SHEET NO. 29.

#### LIST OF REQUIRED GOVERNMENTAL APPROVALS

- (BEFORE THE COMMENCEMENT OF ANY CONSTRUCTION)
- 1) MENDHAM TOWNSHIP ZONING BOARD OF ADJUSTMENT
  - 2) MORRIS COUNTY SOIL CONSERVATION DISTRICT
  - 3) MENDHAM TOWNSHIP BUILDING DEPARTMENT
  - 4) MENDHAM TOWNSHIP HEALTH DEPARTMENT

#### APPROVALS

APPROVED BY MENDHAM TOWNSHIP ZONING BOARD OF ADJUSTMENT AT A MEETING ON \_\_\_\_\_ 2024

BOARD CHAIRPERSON \_\_\_\_\_ DATE \_\_\_\_\_  
BOARD SECRETARY \_\_\_\_\_ DATE \_\_\_\_\_  
TOWNSHIP ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

#### OWNER / APPLICANT

JEFFREY & COLLEEN GANGL  
17 KENNADAY ROAD  
MENDHAM, N.J. 07945  
PH.# (646)509-6464

#### CIVIL ENGINEERING, INC.

CAREAGA ENGINEERING, INC.  
382 ROUTE 46 WEST, SUITE 5  
BUDD LAKE, NEW JERSEY 07828  
(973) 448-0651

NO.	DATE	DESCRIPTION	BY
3.	12/20/23	REV. FPA COMPLETENESS (REV LTR.11/03/23)	LF
2.	9/20/23	REVISED - SUBMIT FOR COMPLETENESS	LF
1.	7/18/23	REVISED BARN SIZE & POOL AREA	LF

CLIENT: **JEFFREY & COLLEEN GANGL**  
17 KENNADAY ROAD  
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Careaga engineering inc.  
382 Route 46 West, Equity Plaza Suite 5, Budd Lake NJ 07828  
www.CareagaEngineering.com - Fax: (973) 448-0652 Tel: (973) 448-0651  
State Board of Professional Engineers and Land Surveyors  
NJ C.O.P.A.# 24622009000  
JEFFREY J. CAREAGA  
PROFESSIONAL ENGINEER - N.J. LIC. NO. 35973

**COVER SHEET**  
17 KENNADAY ROAD  
(TAX MAP SHEET 29.)  
**LOT 13 BLOCK 145**  
SITUATED IN:  
**TOWNSHIP OF MENDHAM**  
MORRIS COUNTY NEW JERSEY  
DATE: 9/19/23 AS SHOWN PROJECT NUMBER: 14051  
DRAWN BY: LF CHECKED BY: JJC SHEET: 1 OF 4

#### LIST OF PROPERTY OWNERS

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION
144	24		4A	MENDHAM GOLF & TENNIS CLUB 2 GOLF LN MENDHAM, NJ 07945	GOLF LN
144	41		2	VAN RENSSELAER, ROBERT M & ALANA H 16 KENNADAY RD MENDHAM NJ 07945	16 KENNADAY RD
144	42	QFARM	3B	MOORE, DAVID F 14 KENNADAY RD MENDHAM, NJ 07945	14 KENNADAY RD
144	43	QFARM	3B	MOORE, DAVID F 14 KENNADAY RD MENDHAM, NJ 07945	12A KENNADAY RD
145	12		2	ILIFF, HENRY A & LESLIE, LISA M 15 KENNADAY RD MENDHAM, NJ 07945	15 KENNADAY RD
145	13		2	GANGL, JEFFREY/COLLEEN 17 KENNADAY RD MENDHAM, NJ 07945	17 KENNADAY RD
145	14		2	MORAN, LINDA 19 KENNADAY RD MENDHAM NJ 07945	19 KENNADAY RD
145	15		2	WALSH, BRIAN/KRISTEN 21 KENNADAY RD MENDHAM, NJ 07945	21 KENNADAY RD
145	15.01		2	RUIZ, JAMES & CARNAHAN, MICHELLE L 23 KENNADAY RD MENDHAM, NJ 07945	23 KENNADAY RD
145.04	9		2	WILLIAMS, GEORGE & MICHELE 5 WAINWRIGHT RD MENDHAM, NJ 07945	5 WAINWRIGHT RD
145.04	10		2	BERNT, STEPHEN T/SUSANNE V 9 WAINWRIGHT RD MENDHAM NJ 07945	9 WAINWRIGHT RD
145.04	11		2	TRINKOFF, DAVID A & LAURA D 15 PENDER HILL RD MENDHAM, NJ 07945	15 PENDER HILL RD
145.04	12		2	SKORONSKI, THEODORE I/ALEXANDRA S 17 PENDER HILL RD MENDHAM, NJ 07945	17 PENDER HILL RD
145.04	13		2	PALLUBO, ROBERT/ATHENA 16 PENDER HILL RD MENDHAM, NJ 07945	16 PENDER HILL RD
145.04	42		1	DRAKEWICK HOMEOWNERS ASSN P.O. BOX 23 MENDHAM, NJ 07945	TEMPE WICK RD

#### LIST OF UTILITIES TO NOTICE

Utilities Companies:	Contact Information:
• PSE&G	P.O. Box 490, Cranford NJ 07016
• JCP&L c/o First Energy	76 South Main St, Akron OH 44308
• Comcast	One Comcast Ctr., Philadelphia PA 19103
• Verizon FIOS	P.O. Box 4830, Trenton NJ 08650-4830
• Southeast Morris Cty MUA	19 Saddle Rd, Cedar Knolls NJ 07927
• Morris Cty Municipal Utilities Authority	214A Center Grove Rd, Randolph, NJ 07869
• NJ American Water	1025 Laurel Oak Rd, Voorhees, NJ 08043

#### LOT COVERAGE:

EXISTING LOT COVERAGE:	EXISTING DWELLING	EXISTING BARN	FRONT STOOP/WALK	EX. PAVER PATIO	EXISTING PORCH/STEPS	EXISTING DRIVEWAY	TOTAL
	4,490.6 S.F.	1,460.0 S.F.	179.3 S.F.	979.3 S.F.	296.3 S.F.	9,612.6 S.F.	17,018 S.F.

PROPOSED LOT COVERAGE:	PROP. POOL HOUSE w/O.H.	PROP. POOL & SPA SURFACE	PROP. PAVER PATIO/WALK	PROPOSED EQUIPT. PAD	PROPOSED SLATE WALK	TOTAL
	519.7 S.F.	1,233.5 S.F.	2,831.5 S.F.	32.0 S.F.	97.4 S.F.	4,714.1 S.F.

#### BUILDING COVERAGE:

EXISTING BUILDING COVERAGE:	EXISTING DWELLING	EXISTING BARN w/O.H.	TOTAL
	4,490.6 S.F.	1,460.0 S.F.	5,950.6 S.F.

PROPOSED BUILDING COVERAGE:	PROP. POOL HOUSE w/O.H.	PROP. BARN w/O.H.	TOTAL
	519.7 S.F.	1,475.1 S.F.	1,994.8 S.F.

TOTAL BUILDING COVERAGE:	TOTAL LOT COVERAGE:
7,945.4 SF / 224,334 SF. x 100 = 3.54%	21,732 SF / 224,334 SF. x 100 = 9.68%

#### SHEET INDEX

COVER SHEET	1
EXISTING CONDITIONS - PREVAILING SETBACK	2
SITE/GRADING PLAN/LANDSCAPE PLAN	3
SOIL EROSION & SEDIMENT CONTROL PLAN	4
WATER MANAGEMENT PLAN	

#### ZONING TABLE

THE SUBJECT PROPERTY IS LOCATED IN THE R-5 ZONE AND IS SUBJECT TO THE FOLLOWING REQUIREMENTS:

MINIMUM LOT REQUIREMENTS	REQUIRED/ PERMITTED	EXISTING	PROPOSED
MIN. LOT AREA (ACRES)	5 AC.	5.15 AC.	5.15 AC.
MIN. NET BLDG. ENVELOPE (S.F.)	80,000 S.F.	115,726 S.F.	
MIN. LOT FRONTAGE (FT)			
MIN. DIA. L.G.C. (FT)	300'	N/C	N/C
MIN. DIA. B.E.C. (FT)	200'	N/C	N/C
YARD REQUIREMENTS			
PRINCIPAL BUILDING			
MIN. SIDE YARD (FT)	50'	54.8'	54.8'
MIN. FRONT YARD (FT)	60'	365.1'	365.1'
MIN. REAR YARD (FT)	50'	372.0'	372.0'
MAX. PRINCIPAL BLDG HT (FT/STORIES)	35	<35	<35
YARD REQUIREMENTS			
ACCESSORY BUILDING (BARN)			
MIN. SIDE YARD (FT) PER 21-4.9	64'	72.2'	73.8'
MIN. REAR YARD (FT)	50'	>50'	>50'
MAX. ACCESSORY BLDG HT (FT)	30'	13.2'±	27.78'
YARD REQUIREMENTS			
ACCESSORY BUILDING (POOL HOUSE)			
MIN. SIDE YARD (FT) PER 21-4.9	52'	N/A	56.4'
MIN. REAR YARD (FT)	50'	N/A	232.5'
MAX. ACCESSORY BLDG HT (FT)	30'	N/A	21.11'

#### (V) VARIANCE REQUIRED:

- 21-6.4d: NO ACCESSORY STRUCTURE SHALL BE LOCATED CLOSER TO A STREET THAN THE PRINCIPAL BUILDING.
- 21-6.2e: ENLARGEMENT OF NON-CONFORMING STRUCTURES NON-CONFORMING BUILDING SHALL NOT ENLARGE, EXTENDED OR INCREASED, EXCEPT THAT IN RESIDENTIAL ZONES, A NON-CONFORMING SINGLE-FAMILY DWELLING OR A SINGLE FAMILY DWELLING ON A NON-CONFORMING LOT MAY BE ENLARGED, EXTENDED OR INCREASED, IF..

AND ANY OTHER VARIANCES THE MENDHAM TOWNSHIP ZONING BOARD OF ADJUSTMENTS DEEMS NECESSARY.

#### TOWNSHIP NOTES:

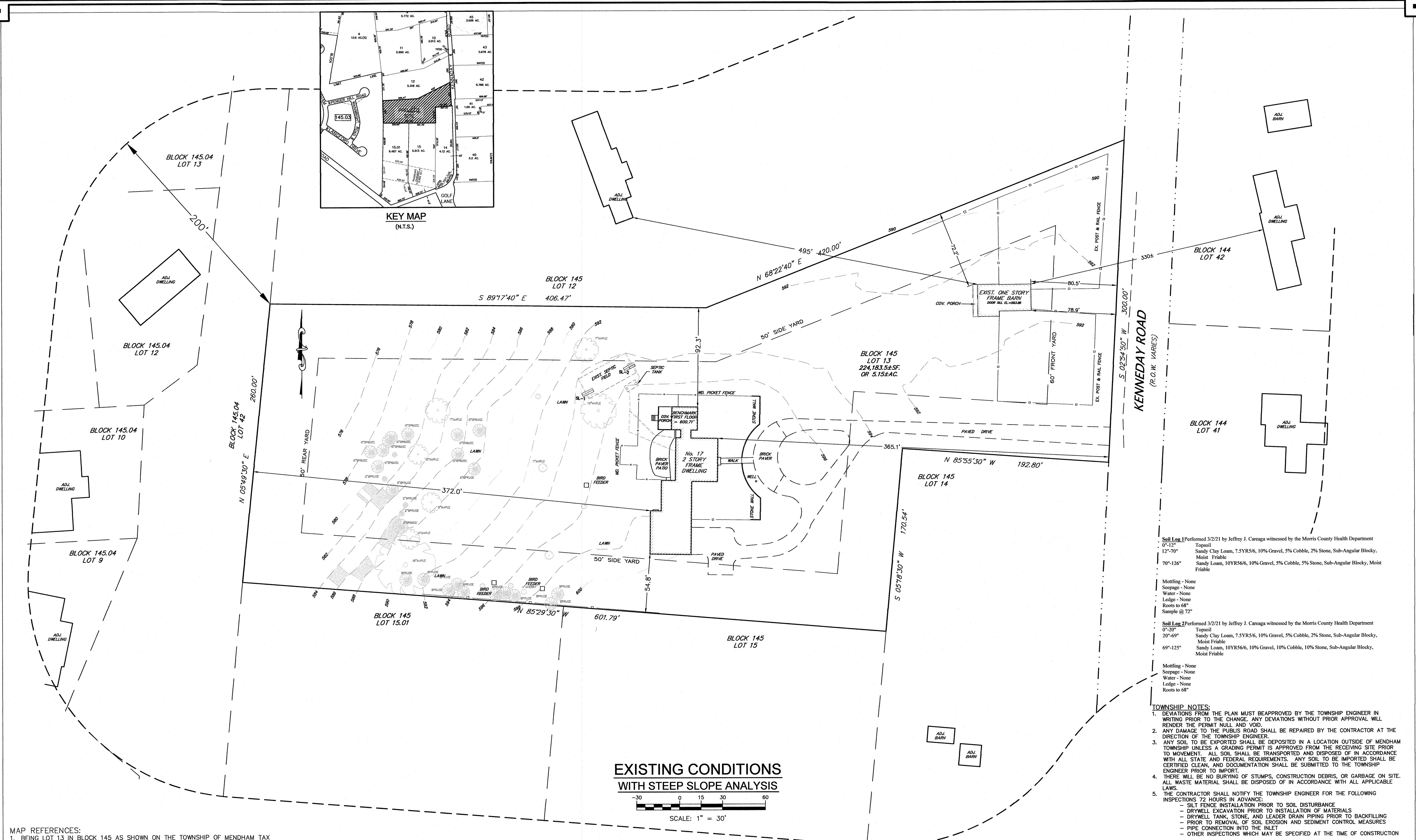
1. DEVIATIONS FROM THE PLAN MUST BE APPROVED BY THE TOWNSHIP ENGINEER IN WRITING PRIOR TO THE CHANGE. ANY DEVIATIONS WITHOUT PRIOR APPROVAL WILL RENDER THE PERMIT NULL AND VOID.
2. ANY DAMAGE TO THE PUBLIC ROAD SHALL BE REPAIRED BY THE CONTRACTOR AT THE DIRECTION OF THE TOWNSHIP ENGINEER.
3. ANY SOIL TO BE EXPORTED SHALL BE DEPOSITED IN A LOCATION OUTSIDE OF MENDHAM TOWNSHIP UNLESS A GRADING PERMIT IS APPROVED FROM THE RECEIVING SITE PRIOR TO MOVEMENT. ALL SOIL SHALL BE TRANSPORTED AND DISPOSED OF IN ACCORDANCE WITH ALL STATE AND FEDERAL REQUIREMENTS. ANY SOIL TO BE IMPORTED SHALL BE CERTIFIED CLEAN, AND DOCUMENTATION SHALL BE SUBMITTED TO THE TOWNSHIP ENGINEER PRIOR TO IMPORT.
4. THERE WILL BE NO BURYING OF STUMPS, CONSTRUCTION DEBRIS, OR GARBAGE ON SITE. ALL WASTE MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LAWS.
5. THE CONTRACTOR SHALL NOTIFY THE TOWNSHIP ENGINEER FOR THE FOLLOWING INSPECTIONS 72 HOURS IN ADVANCE:
  - SILT FENCE INSTALLATION PRIOR TO SOIL DISTURBANCE
  - DRYWELL EXCAVATION PRIOR TO INSTALLATION OF MATERIALS
  - DRYWELL TANK, STONE, AND LEADER DRAIN PIPING PRIOR TO BACKFILLING
  - PRIOR TO REMOVAL OF SOIL EROSION AND SEDIMENT CONTROL MEASURES
  - PIPE CONNECTION INTO THE INLET
  - OTHER INSPECTIONS WHICH MAY BE SPECIFIED AT THE TIME OF CONSTRUCTION

#### GENERAL NOTES:

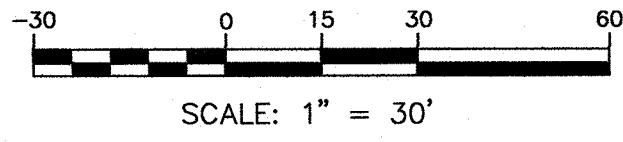
1. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSE OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL ONLY. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED.
2. ALL OSHA REGULATIONS MUST BE FOLLOWED DURING THE COURSE OF CONSTRUCTION INCLUDING BUT NOT LIMITED TO POTENTIAL SHEETING AND SHORING OF EXCAVATIONS. THESE ENGINEERING DRAWINGS ARE NOT INTENDED TO ILLUSTRATE METHODS OF CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EVALUATE THE SITE CONDITIONS AND COMPLY WITH APPLICABLE SAFETY REGULATIONS.
3. CONTRACTOR TO HAVE ALL UTILITIES MARKED OUT PRIOR TO ANY LOT DISTURBANCE.
4. POOL STRUCTURAL PLAN AS PER JDU EGARIAN & ASSOCIATES, INC. DATED DECEMBER 1, 2021 AND SIGNED BY DAVID J. EGARIAN, PE NJ LIC. # 2460282900.
5. BARN PLAN AS PER PLYMOUTH CARRIAGE BARN KIT FOR JEFF & COLLEEN GANGL, BY THE BARN YARD DATED AUGUST 29, 2022.
6. POOL HOUSE AS PER PLYMOUTH CARRIAGE BARN KIT FOR JEFF & COLLEEN GANGL, BY THE BARN YARD DATED AUGUST 29, 2022.

SEPTIC DESIGN • SITE PLANS • WATER SUPPLY • CONSTRUCTION AND INSPECTION SERVICES • FOUNDATION REPAIR • SUBDIVISIONS  
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**EXISTING CONDITIONS  
WITH STEEP SLOPE ANALYSIS**



- MAP REFERENCES:**
1. BEING LOT 13 IN BLOCK 145 AS SHOWN ON THE TOWNSHIP OF MENDHAM TAX MAP #29.
  2. SUBJECT TO ALL EASEMENTS AND RIGHT OF WAY OF RECORD THAT A FULL TITLE EARCH MAY DISCLOSE. NO SUCH SEARCH WAS PROVIDED TO THIS OFFICE.
  3. THIS MAP IS NOT A BOUNDARY SURVEY. THE DWELLING LOCATION AND BOUNDARY GEOMETRY WERE TAKEN FROM "SURVEY OF LOT 13, BLOCK 145 IN THE TOWNSHIP OF MENDHAM, MORRIS COUNTY, NEW JERSEY" DATED FEBRUARY 18, 1992, PREPARED BY TITUS SURVEYING & ENGINEERING AND SIGNED BY WILLIAM H. TITUS, NJPLS LIC. NO. 12350. THIS TOPOGRAPHY HAS BEEN GRAPHICALLY TIED TO THE GEOMETRY SHOWN ON THAT SURVEY.
  4. PARTIAL TOPOGRAPHIC STUDY DONE BY THIS FIRM, CHARLES WORTHINGTON, NJPLS LIC. NO. 34026 DATED JANUARY 25, 2023. CONTOURS HAVE BEEN GENERATED FROM FIELD WORK PERFORMED ON JANUARY 25, 2023. VERTICAL DATUM OF THIS TOPOGRAPHIC STUDY IS BASED UPON BENCHMARK FIRST FLOOR = 600.71'.
  5. SEPTIC LOCATION AS PER SEPTIC AS-BUILT DONE BY THIS FIRM, JEFFREY J. CAREAGA, NJPE LIC. NO. 35973 DATED MAY 7, 2021.

NOTE: THERE ARE NO STEEP SLOPES WITHIN THE LIMIT OF DISTURBACNE

STEEP SLOPE CATEGORAY	AREA (ACRES)	DISTURBED AREAS (ACRES)		TOTAL DISTURBED AREAS (ACRES)	PERCENT DISTURBED	MAXIMUM ALLOWED % DISTURBED
		PUBLIC IMPROVEMENTS	HOUSE, YARD SEPTIC & DRIVEWAY			
0-10%	5.12 AC	XX	XX	XX	XX	NO LIMIT
10-15%	0.026 AC	0	0	0	0.0%	25.0%
15-25%	0 AC	0	0	0	0.0%	15.0%
OVER 25%	0 AC	0	0	0	0.0%	5.0%

**Soil Log 1** Performed 3/2/21 by Jeffrey J. Careaga witnessed by the Morris County Health Department  
 0'-12"  
 Topsoil  
 Sandy Clay Loam, 7.5YR5/6, 10% Gravel, 5% Cobble, 2% Stone, Sub-Angular Blocky, Moist Friable  
 12"-70"  
 Moist Friable  
 Sandy Loam, 10YR5/6, 10% Gravel, 5% Cobble, 5% Stone, Sub-Angular Blocky, Moist Friable  
 70"-126"  
 Moist Friable

**Soil Log 2** Performed 3/2/21 by Jeffrey J. Careaga witnessed by the Morris County Health Department  
 0'-20"  
 Topsoil  
 Sandy Clay Loam, 7.5YR5/6, 10% Gravel, 5% Cobble, 2% Stone, Sub-Angular Blocky, Moist Friable  
 20"-69"  
 Moist Friable  
 Sandy Loam, 10YR5/6, 10% Gravel, 10% Cobble, 10% Stone, Sub-Angular Blocky, Moist Friable  
 69"-125"  
 Moist Friable

Mottling - None  
 Seepage - None  
 Water - None  
 Ledge - None  
 Roots to 68"  
 Sample @ 72"

Mottling - None  
 Seepage - None  
 Water - None  
 Ledge - None  
 Roots to 68"

- TOWNSHIP NOTES:**
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    - PIPE CONNECTION INTO THE INLET
    - OTHER INSPECTIONS WHICH MAY BE SPECIFIED AT THE TIME OF CONSTRUCTION

CLIENT:  
**JEFFREY & COLLEEN GANGL**  
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**JEFFREY J. CAREAGA**  
 PROFESSIONAL ENGINEER, N.J. LIC. NO. 35973

**SITE GRADING PLAN  
EXISTING CONDITION**  
 17 KENNADAY ROAD  
**LOT 13 BLOCK 145**  
 SITUATED IN:  
**TOWNSHIP OF MENDHAM**  
 MORRIS COUNTY NEW JERSEY

DATE: 2/21/23 SCALE: SHOWN PROJECT NUMBER: 14051  
 DRAWN BY: RS CHECKED BY: JJC SHEET: 2 OF 4

**DRYWELL SIZING CALCULATIONS - POOL AREA**

4737 SF Proposed Roof Impervious Area  
0.11 Acres

Modified Rational Method  
C = 0.99  
Duration = 60 min  
Rainfall Intensity i = 3.2 in/hr 100 YR Storm Event

Rate of Runoff:  
Q = C \* I \* A  
Q = 0.34 cfs

Design Criteria:  
V<sub>1</sub> = 33 % Stone Void Ratio  
OD<sub>max</sub> = 8 FT Tank Outside Diameter  
H<sub>max</sub> = 5.2 FT Tank Height below invert  
T<sub>wall</sub> = 4 IN Tank Wall Thickness  
A<sub>pool</sub> = 50 SF Area of Tank  
A<sub>exc</sub> = 121 SF Area of Excavation Per Tank  
D<sub>stone</sub> = 1.0 FT Depth of Stone Under Tank  
P<sub>perm</sub> = 0 IN/HR Vert. Permeability Rate

Unit Storage Volume:  
Tank Volume = 3.14/4 x ID<sub>max</sub><sup>2</sup> x H<sub>max</sub> (FT) x H<sub>max</sub> (FT) = 0.785 x 7.33 x 7.33 x 6.0 = 253 CF  
Stone Volume Around Tank = (A<sub>exc</sub> - A<sub>pool</sub>) x H<sub>max</sub> x V<sub>1</sub>  
= (121.0 - 50.2) x 5.2 x 0.33 = 121 CF  
Stone Volume Under Tank = A<sub>exc</sub> x D<sub>stone</sub> x V<sub>1</sub>  
= 121.0 x 1.0 x 0.33 = 40 CF  
Total Unit Storage Volume = 415 CF

Quantity of Drywell Units = Req'd Storage Volume / (Unit Storage Volume + Unit Infiltration Volume)  
= 1240 / 415 = 3.0 Drywells Required

**DRYWELL SIZING CALCULATIONS - BARN**

1516 SF Proposed Roof Impervious Area  
0.03 Acres

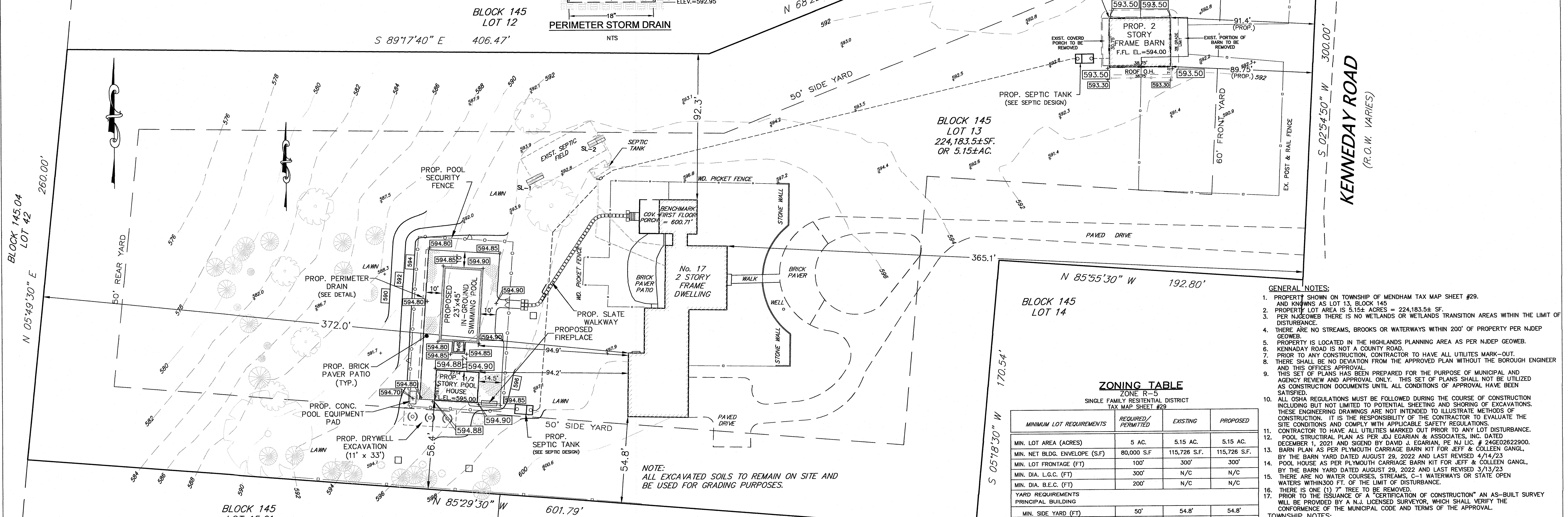
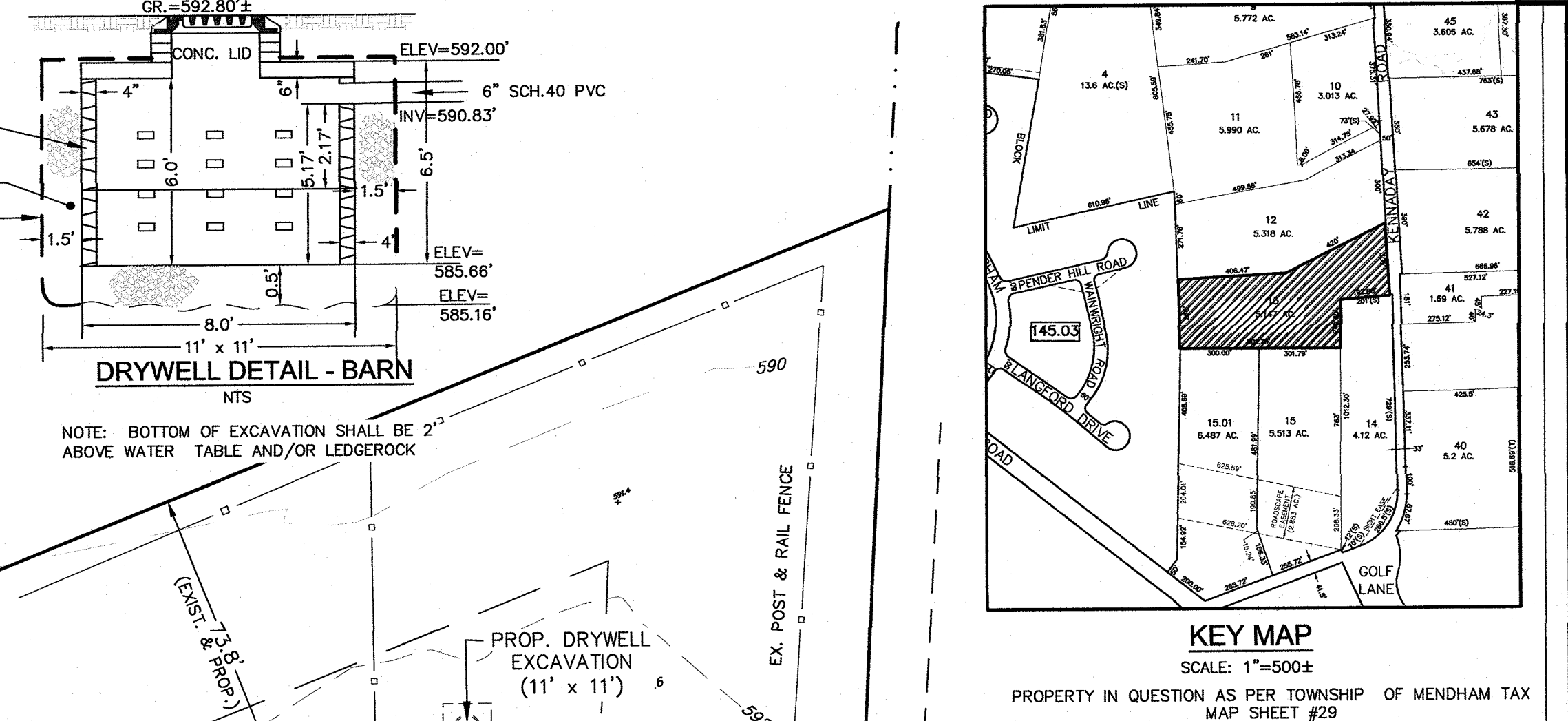
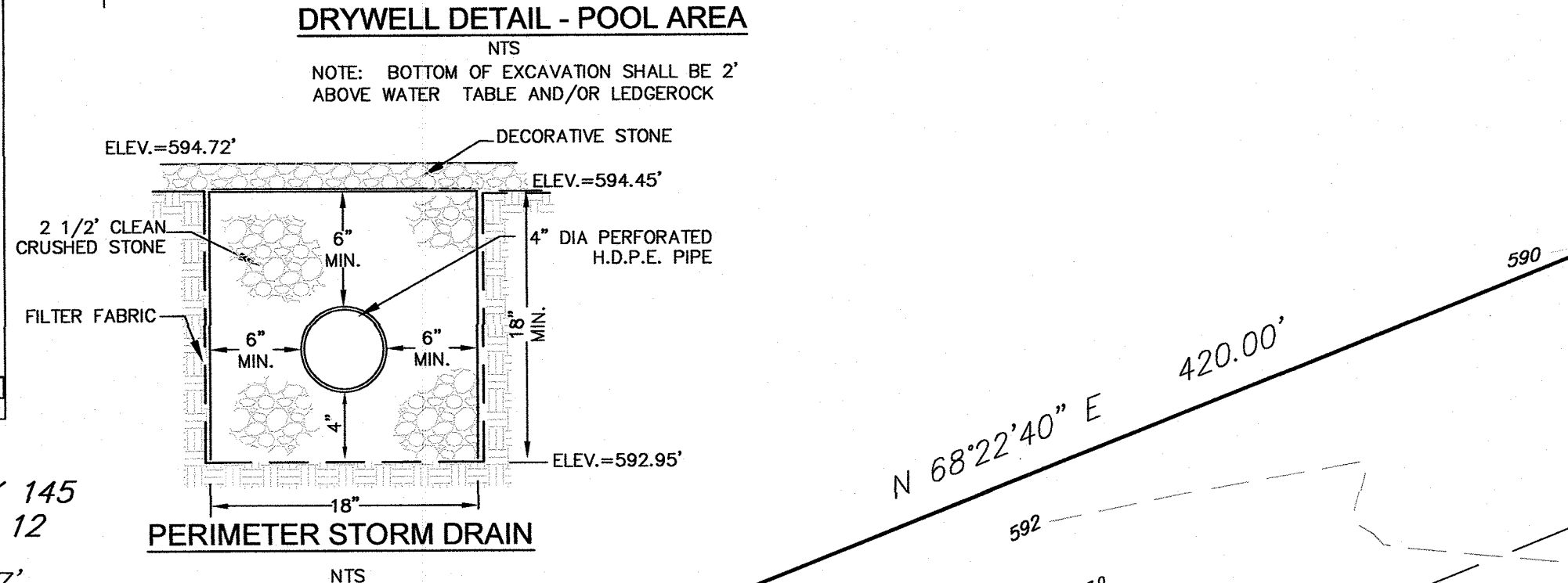
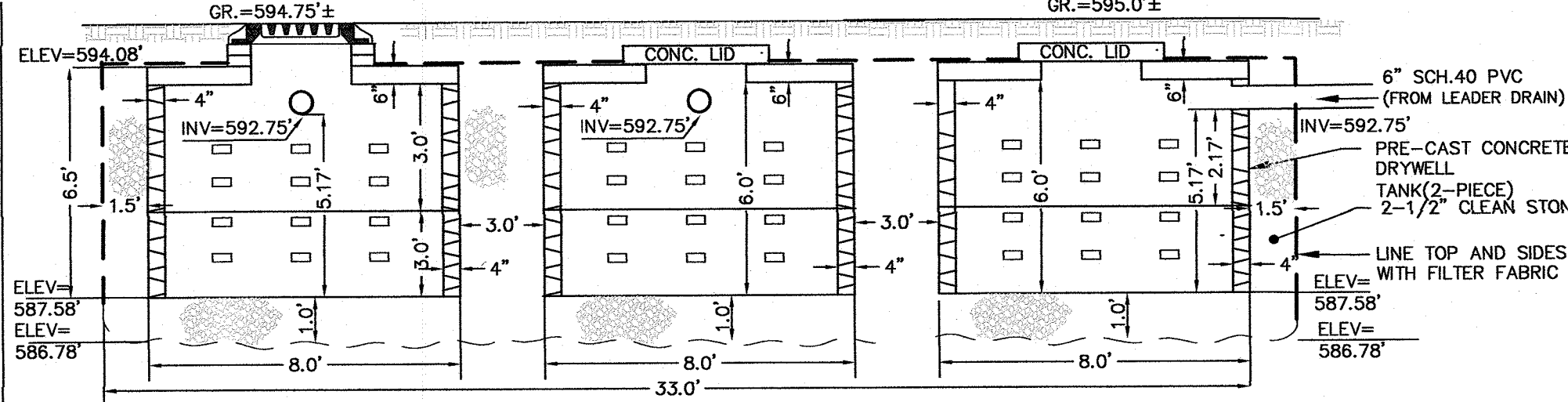
Modified Rational Method  
C = 0.99  
Duration = 60 min  
Rainfall Intensity i = 3.2 in/hr 100 YR Storm Event

Rate of Runoff:  
Q = C \* I \* A  
Q = 0.11 cfs

Design Criteria:  
V<sub>1</sub> = 33 % Stone Void Ratio  
OD<sub>max</sub> = 8 FT Tank Outside Diameter  
H<sub>max</sub> = 5.2 FT Tank Height below invert  
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Unit Storage Volume:  
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Stone Volume Around Tank = (A<sub>exc</sub> - A<sub>pool</sub>) x H<sub>max</sub> x V<sub>1</sub>  
= (121.0 - 50.2) x 5.2 x 0.33 = 121 CF  
Stone Volume Under Tank = A<sub>exc</sub> x D<sub>stone</sub> x V<sub>1</sub>  
= 121.0 x 1.0 x 0.33 = 40 CF  
Total Unit Storage Volume = 395 CF

Quantity of Drywell Units = Req'd Storage Volume / (Unit Storage Volume + Unit Infiltration Volume)  
= 397 / 395 = 1.0 Drywells Required



**LEGEND**

EXISTING SPOT GRADE: 798.65 x

PROPOSED SPOT GRADE: 788.40 x

EXISTING 2' CONTOUR: 804

EXISTING 10' CONTOUR: 810

PROPOSED CONTOUR: 798

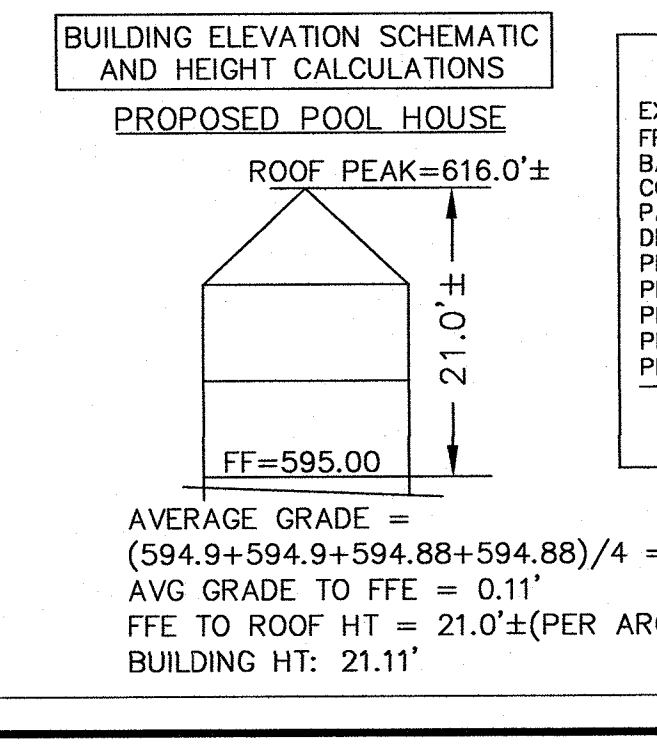
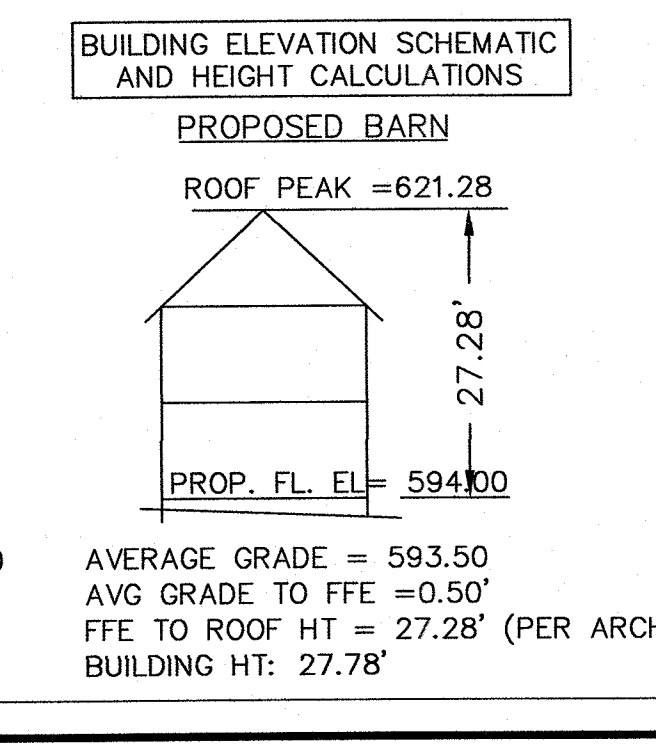
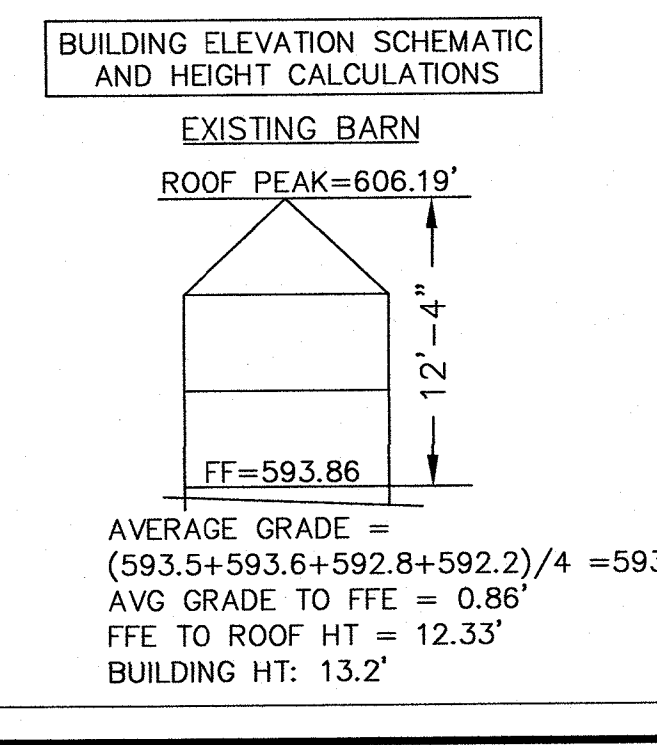
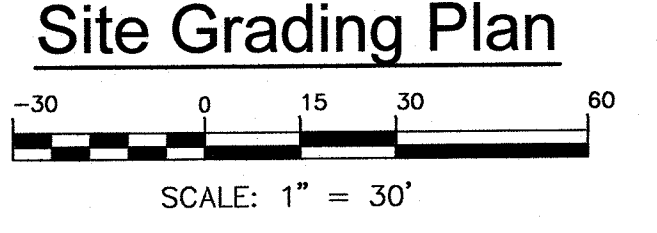
SOIL EROSION FENCE: - - - - -

LIMIT OF DISTURBANCE: - - - - -

PROPOSED SWALE: - - - - -

**MAP REFERENCES:**

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- THIS MAP IS NOT A BOUNDARY SURVEY. THE DWELLING LOCATION AND BOUNDARY GEOMETRY WERE TAKEN FROM "SURVEY OF LOT 13, BLOCK 145 IN THE TOWNSHIP OF MENDHAM, MORRIS COUNTY, NEW JERSEY" DATED FEBRUARY 18, 1992, PREPARED BY TITUS SURVEYING & ENGINEERING AND SIGNED BY WILLIAM H. TITUS, N.J.P.L.S. LIC. NO. 12350. THIS TOPOGRAPHY HAS BEEN GRAPHICALLY TIED TO THE GEOMETRY SHOWN ON THAT SURVEY.
- PARTIAL TOPOGRAPHIC STUDY DONE BY THIS FIRM, CHARLES WORTHINGTON, N.J.P.L.S. LIC. NO. 34026 DATED JANUARY 25, 2023. CONTOURS HAVE BEEN GENERATED FROM FIELD WORK PERFORMED ON JANUARY 25, 2023. VERTICAL DATUM OF THIS TOPOGRAPHIC STUDY IS BASED UPON BENCHMARK FIRST FLOOR = 800.71'.
- SEPTIC LOCATION AS PER SEPTIC AS-BUILT DONE BY THIS FIRM, JEFFREY J. CAREAGA, N.J.P.E. LIC. NO. 35973 DATED MAY 7, 2021.



**LOT COVERAGE CALCULATIONS**

	EXISTING (SF)	PROPOSED (SF)
EXIST. DWELLING	4,490.6	4,490.6
FRONT STOOP & WALK	179.3	179.3
BARN & OVERHANG	1,460.0	1,475.1
COV. PORCH W/STEPS	296.3	296.3
PATIO/CONC. LANDING	979.3	979.3
DRIVEWAY	9,612.6	9,612.6
PROP. POOL HOUSE W/O/H		519.7
PROP. POOL & SPA SURFACE		1,233.5
PROP. POOL EQUIP PAD		32.0
PROP. POOL PATIO & WALK		2,831.5
PROP. STEP STONES		97.4
TOTAL	17,018	21,732.1
INCREASE IN IMPERVIOUS = 4,714.1SF		

**OWNER/APPLICANT**  
JEFFREY 7 COLLEEN GANGL  
17 KENNADAY ROAD  
MENDHAM, N.J. 07945  
PH.# (646)509-6464

**ZONING TABLE**  
ZONE R-5  
SINGLE FAMILY RESIDENTIAL DISTRICT  
TAX MAP SHEET #29

MINIMUM LOT REQUIREMENTS	REQUIRED/PERMITTED	EXISTING	PROPOSED
MIN. LOT AREA (ACRES)	5 AC.	5.15 AC.	5.15 AC.
MIN. NET BLDG. ENVELOPE (S.F.)	80,000 S.F.	115,726 S.F.	115,726 S.F.
MIN. LOT FRONTAGE (FT)	100'	300'	300'
MIN. DIA. L.G.C. (FT)	300'	N/C	N/C
MIN. DIA. B.E.C. (FT)	200'	N/C	N/C
<b>YARD REQUIREMENTS PRINCIPAL BUILDING</b>			
MIN. SIDE YARD (FT)	50'	54.8'	54.8'
MIN. FRONT YARD (FT)	60'	365.1'	365.1'
MIN. REAR YARD (FT)	50'	372.0'	372.0'
MAX. PRINCIPAL BLDG HT (FT)	35	<35	<35
MAX. ACCESSORY BLDG HT (FT)	2-1/2 STORIES	2 STORIES	2 STORIES
<b>YARD REQUIREMENTS ACCESSORY BUILDING (POOL HOUSE)</b>			
MIN. SIDE YARD (FT) PER 21-49	52'	N/A	56.4'
MIN. REAR YARD (FT)	50'	N/A	232.5'
MAX. ACCESSORY BLDG HT (FT)	30'	N/A	21.11'

N/C = NO CHANGE

- GENERAL NOTES:**
- PROPERTY SHOWN ON TOWNSHIP OF MENDHAM TAX MAP SHEET #29, AND KNOWN AS LOT 13, BLOCK 145.
  - PROPERTY LOT AREA IS 5.15± ACRES ± 224,183.5± SF.
  - PER N.J.A.C. 17:27 THERE IS NO WETLANDS OR WETLANDS TRANSITION AREAS WITHIN THE LIMIT OF DISTURBANCE.
  - THERE ARE NO STREAMS, BROOKS OR WATERWAYS WITHIN 200' OF PROPERTY PER N.J.A.C. 17:27.
  - PROPERTY IS LOCATED IN THE HIGHLANDS PLANNING AREA AS PER N.J.A.C. 17:27.
  - KENNADAY ROAD IS NOT A COUNTY ROAD.
  - PRIOR TO ANY CONSTRUCTION, CONTRACTOR TO HAVE ALL UTILITIES MARK-OUT.
  - THERE SHALL BE NO DEVIATION FROM THE APPROVED PLAN WITHOUT THE BOROUGH ENGINEER AND THIS OFFICE APPROVAL.
  - THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSE OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL ONLY. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED.
  - ALL OSHA REGULATIONS MUST BE FOLLOWED DURING THE COURSE OF CONSTRUCTION INCLUDING BUT NOT LIMITED TO POTENTIAL SHEETING AND SHORING OF EXCAVATIONS. THESE ENGINEERING DRAWINGS ARE NOT INTENDED TO ILLUSTRATE METHODS OF CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EVALUATE THE SITE CONDITIONS AND COMPLY WITH APPLICABLE SAFETY REGULATIONS.
  - CONTRACTOR TO HAVE ALL UTILITIES MARKED OUT PRIOR TO ANY LOT DISTURBANCE.
  - POOL STRUCTURAL PLAN AS PER J.D. EGARIAN & ASSOCIATES, INC. DATED DECEMBER 1, 2021 AND SIGNED BY DAVID J. EGARIAN, PE, N.J. LIC. # 24602622900.
  - BARN PLAN AS PER PLYMOUTH CARRIAGE BARN KIT FOR JEFF & COLLEEN GANGL, BY THE BARN YARD DATED AUGUST 29, 2022 AND LAST REVISED 4/14/23.
  - POOL HOUSE AS PER PLYMOUTH CARRIAGE BARN KIT FOR JEFF & COLLEEN GANGL, BY THE BARN YARD DATED AUGUST 29, 2022 AND LAST REVISED 3/13/23.
  - THERE ARE NO WATER COURSES, STREAMS, C-1 WATERWAYS OR STATE OPEN WATERS WITHIN 300 FT. OF THE LIMIT OF DISTURBANCE.
  - THERE IS ONE (1) 7" TREE TO BE REMOVED.
  - PRIOR TO THE ISSUANCE OF A "CERTIFICATION OF CONSTRUCTION" AN AS-BUILT SURVEY WILL BE PROVIDED BY A N.J. LICENSED SURVEYOR, WHICH SHALL VERIFY THE CONFORMANCE OF THE MUNICIPAL CODE AND TERMS OF THE APPROVAL.
- TOWNSHIP NOTES:**
- DEVIATIONS FROM THE PLAN MUST BE APPROVED BY THE TOWNSHIP ENGINEER IN WRITING PRIOR TO THE CHANGE. ANY DEVIATIONS WITHOUT PRIOR APPROVAL WILL RENDER THE PERMIT NULL AND VOID.
  - ANY DAMAGE TO THE PUBLIC ROAD SHALL BE REPAIRED BY THE CONTRACTOR AT THE DIRECTION OF THE TOWNSHIP ENGINEER.
  - ANY SOIL TO BE EXPORTED SHALL BE DEPOSITED IN A LOCATION OUTSIDE OF MENDHAM TOWNSHIP UNLESS A GRADING PERMIT IS APPROVED FROM THE RECEIVING SITE PRIOR TO MOVEMENT. ALL SOIL SHALL BE TRANSPORTED AND DISPOSED OF IN ACCORDANCE WITH ALL STATE AND FEDERAL REQUIREMENTS. ANY SOIL TO BE IMPORTED SHALL BE CERTIFIED CLEAN, AND DOCUMENTATION SHALL BE SUBMITTED TO THE TOWNSHIP ENGINEER PRIOR TO IMPORT.
  - THERE WILL BE NO BURYING OF STUMPS, CONSTRUCTION DEBRIS, OR GARBAGE ON SITE. ALL WASTE MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LAWS. THE CONTRACTOR SHALL NOTIFY THE TOWNSHIP ENGINEER FOR THE FOLLOWING INSPECTIONS 72 HOURS IN ADVANCE:  
- SOIL FENCE INSTALLATION PRIOR TO SOIL DISTURBANCE  
- DRYWELL EXCAVATION PRIOR TO INSTALLATION OF MATERIALS  
- DRYWELL TANK, STONE, AND LEADER DRAIN PIPING PRIOR TO BACKFILLING  
- PRIOR TO REMOVAL OF SOIL EROSION AND SEDIMENT CONTROL MEASURES  
- PIPE CONNECTION INTO THE INLET  
- OTHER INSPECTIONS WHICH MAY BE SPECIFIED AT THE TIME OF CONSTRUCTION

**engineering inc. careaga**

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State Board of Professional Engineers and Land Surveyors  
N.J.C.O.F.A. # 24622089000

**SITE GRADING PLAN**  
17 KENNADAY ROAD  
LOT 13 BLOCK 145  
SITUATED IN:  
TOWNSHIP OF MENDHAM  
MORRIS COUNTY NEW JERSEY

DATE: 1/26/23 SCALE: SHOWN  
DRAWN BY: RS CHECKED BY: JJC SHEET: 3 OF 4

**CLIENT:** JEFFREY & COLLEEN GANGL  
17 KENNADAY ROAD  
MENDHAM, NJ 07945  
PH.#(646) 509-6464

**OWNER/APPLICANT:** JEFFREY 7 COLLEEN GANGL  
17 KENNADAY ROAD  
MENDHAM, N.J. 07945  
PH.# (646)509-6464

**PROFESSIONAL ENGINEER:** JEFFREY J. CAREAGA  
N.J. LIC. NO. 35973

**MORRIS COUNTY SOIL CONSERVATION DISTRICT  
SOIL EROSION AND SEDIMENT CONTROL NOTES**

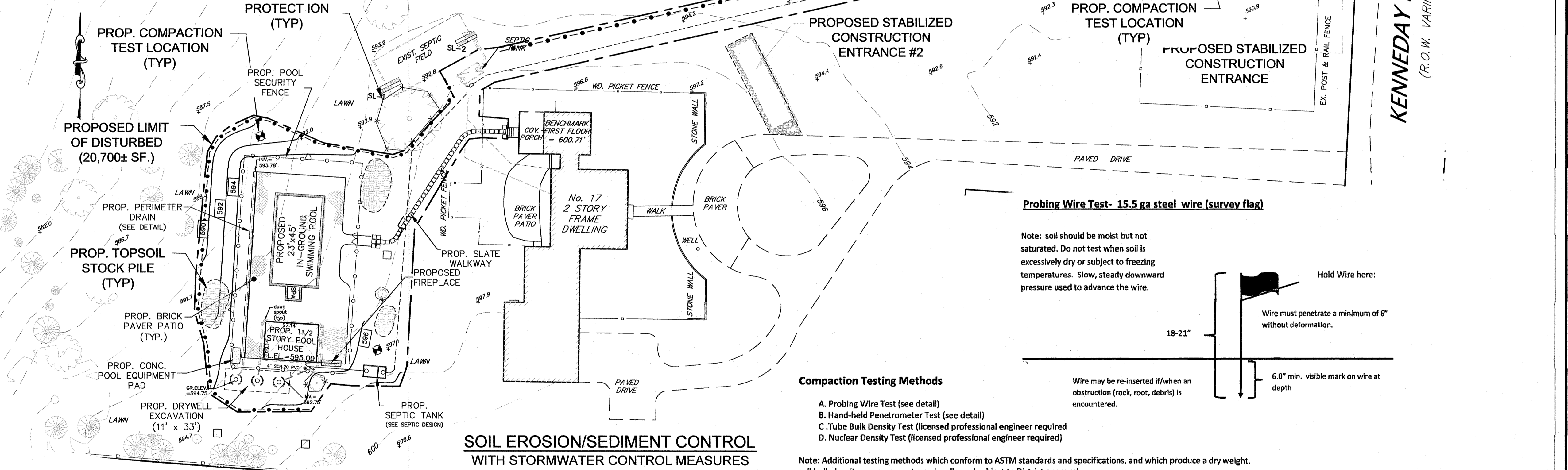
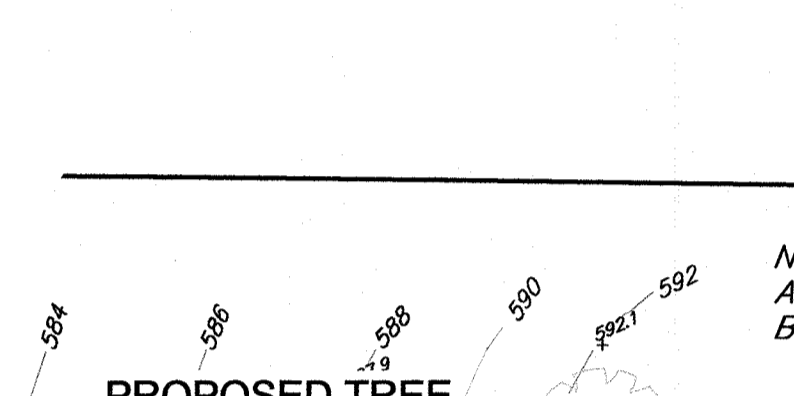
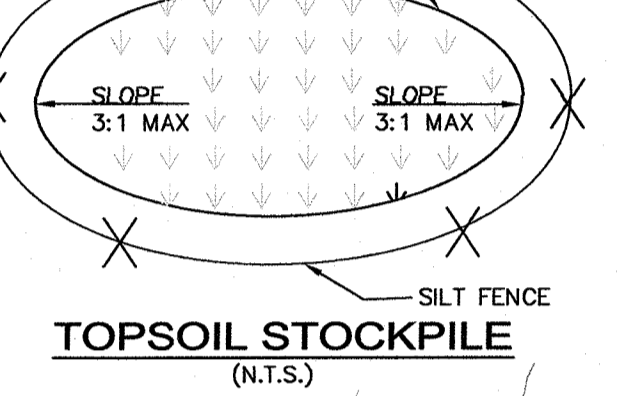
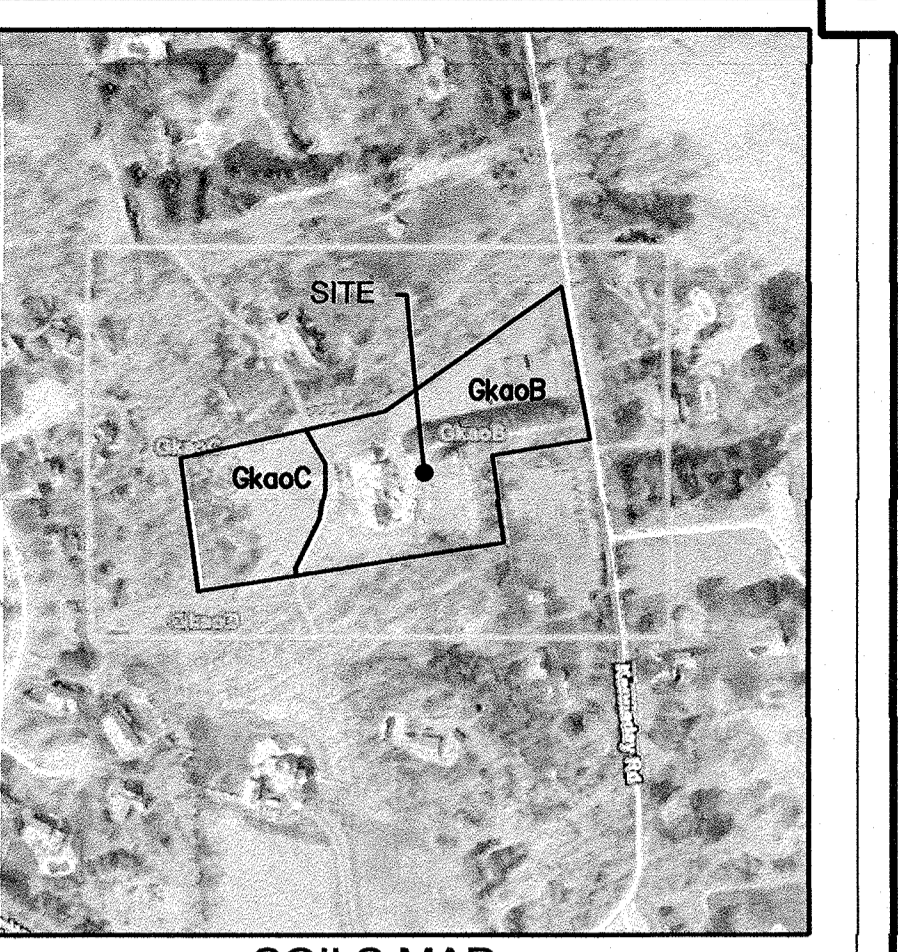
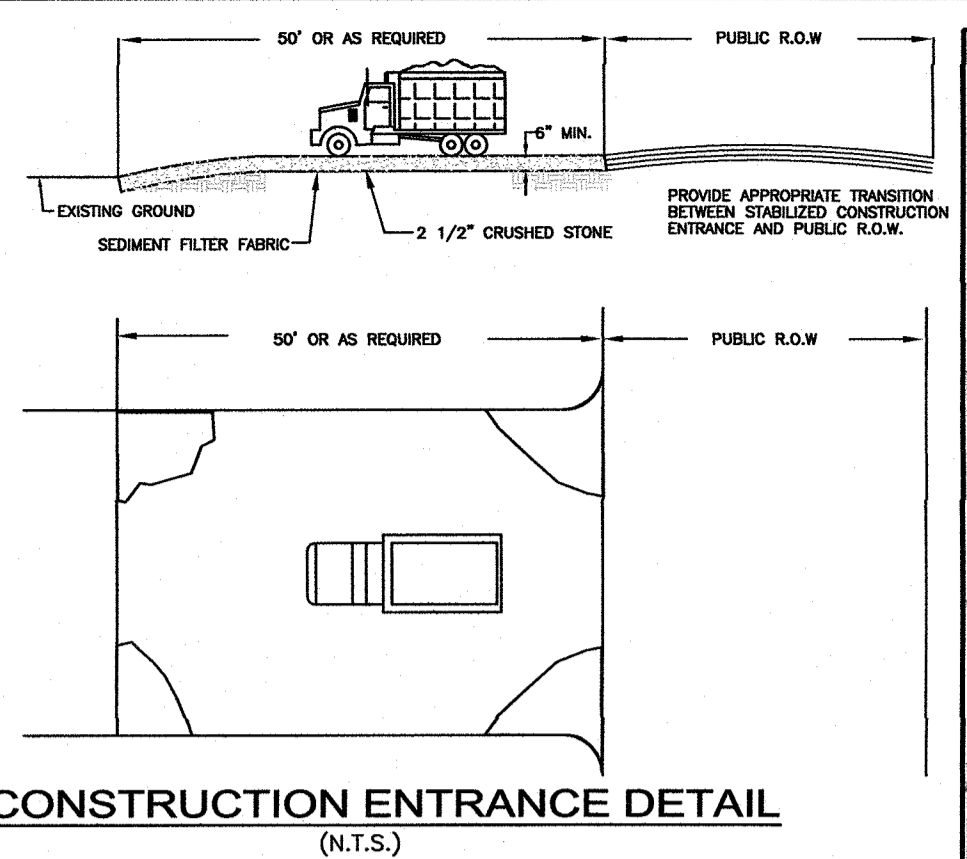
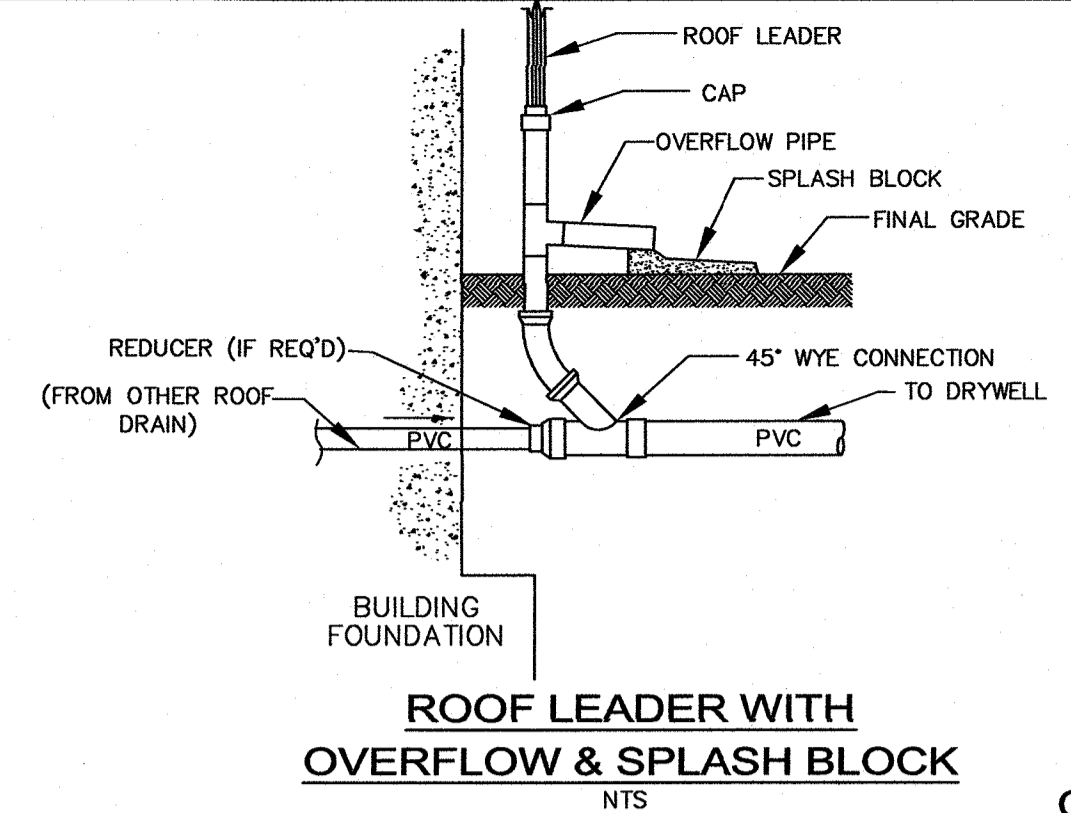
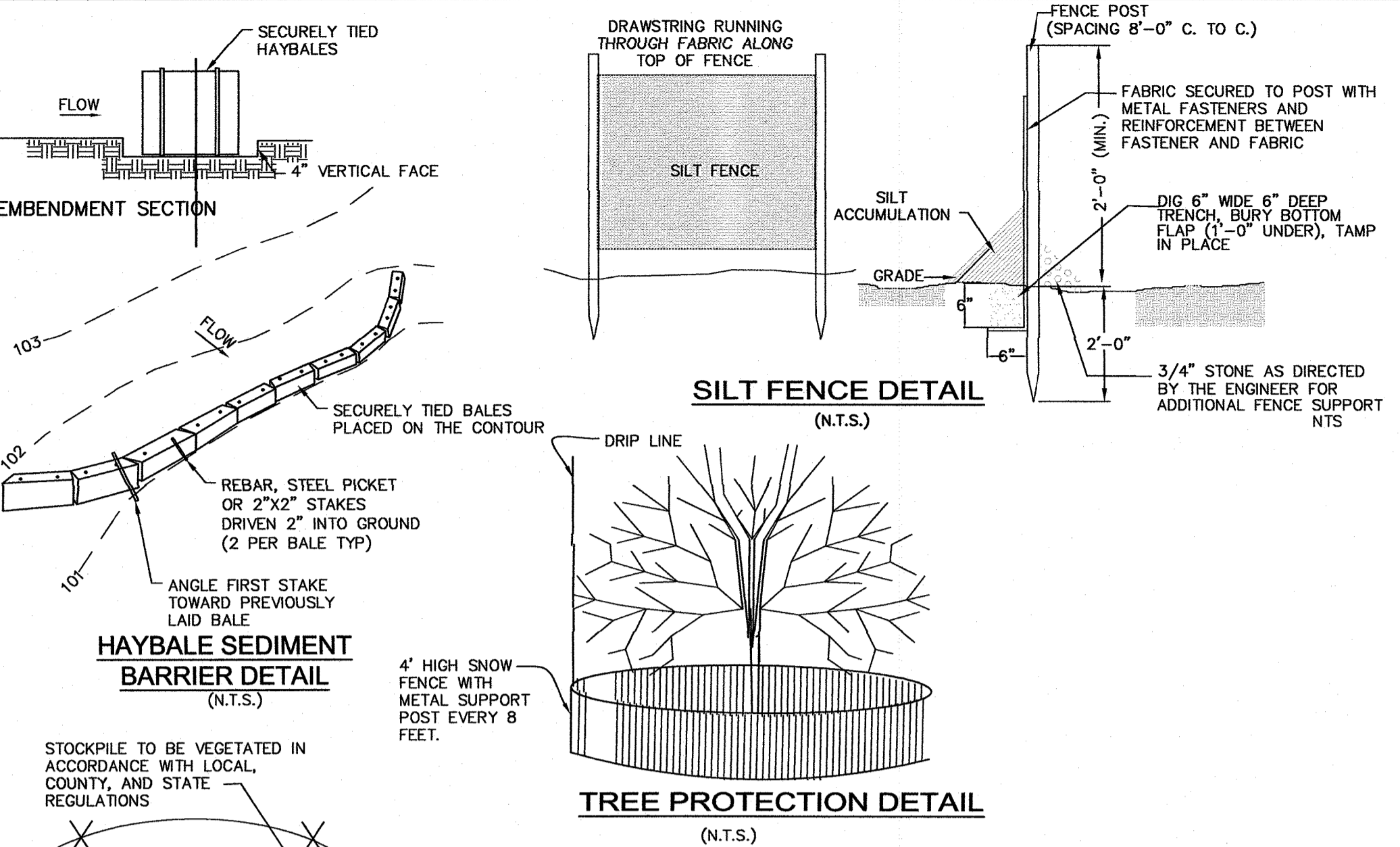
- ALL SOIL EROSION AND SEDIMENT CONTROL NOTES WILL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, AND WILL BE IN PLACE PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ANY DISTURBED AREA THAT WILL BE LEFT EXPOSED FOR MORE THAN THIRTY (30) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREA WILL BE MULCHED WITH STRAW OR HAY AND TACKED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS. SEE NOTE 21 BELOW.
- PERMANENT VEGETATION IS TO BE ESTABLISHED ON EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH IS TO BE USED FOR PROTECTION UNTIL VEGETATION IS ESTABLISHED. SEE NOTE 22 BELOW.
- IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS (STEEP SLOPES, SANDY SOILS, WET CONDITIONS) SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN ACCORDANCE WITH NOTE 21 BELOW.
- TEMPORARY DIVERSION BERMS ARE TO BE INSTALLED ON ALL CLEARED ROADWAY AND EASEMENT AREAS. SEE THE DIVERSION DETAIL.
- PERMANENT SEEDING AND STABILIZATION TO BE IN ACCORDANCE WITH THE "STANDARDS FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION COVER". SPECIFIED RATES AND LOCATION SHALL BE ON THE APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN.
- THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SO THAT ALL STORM WATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
- ALL SEDIMENTATION STRUCTURES (SILT FENCE, INLET FILTERS, AND SEDIMENT BASINS) WILL BE INSPECTED AND MAINTAINED DAILY.
- STOCKPILES SHALL NOT BE LOCATED WITHIN 50' OF A FLOODPLAIN, SLOPE, DRAINAGE FACILITY, OR ROADWAY. ALL STOCKPILE BASES SHALL HAVE A SILT FENCE PROPERLY ENTRENCHED AT THE TOE OF SLOPE.
- A STABILIZED CONSTRUCTION ACCESS WILL BE INSTALLED, WHENEVER AN EARTHEN ROAD INTERSECTS WITH A PAVED ROAD. SEE THE STABILIZED CONSTRUCTION ACCESS DETAIL AND CHART FOR DIMENSIONS.
- ALL NEW ROADWAYS WILL BE TREATED WITH A SUITABLE SUBBASE UPON ESTABLISHMENT OF FINAL GRADE ELEVATIONS.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
- BEFORE DISCHARGE POINTS BECOME OPERATIONAL, ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED AS REQUIRED.
- ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA. THE FILTER SHOULD BE COMPOSED OF A FABRIC OR APPROVED MATERIAL. SEE THE DEWATERING DETAIL.
- ALL SEDIMENTATION BASINS WILL BE CLEARED WHEN THE CAPACITY HAS BEEN REDUCED BY 50%. A CLEAN OUT ELEVATION WILL BE IDENTIFIED ON THE PLAN AND A MARKER INSTALLED ON THE SITE.
- DURING AND AFTER CONSTRUCTION, THE APPLICANT WILL BE RESPONSIBLE FOR THE MAINTENANCE AND UPKEEP OF THE DRAINAGE STRUCTURES, VEGETATIVE COVER, AND ANY OTHER MEASURES DEEMED APPROPRIATE BY THE DISTRICT. SAID RESPONSIBILITY WILL END WHEN COMPLETED WORK IS APPROVED BY THE MORRIS COUNTY SOIL CONSERVATION DISTRICT.
- ALL TREES OUTSIDE THE DISTURBANCE LIMIT INDICATED ON THE SUBJECT PLAN OR THOSE TREES WITHIN THE DISTURBANCE AREA WHICH ARE DESIGNATED TO REMAIN AFTER CONSTRUCTION ARE TO BE PROTECTED WITH TREE PROTECTION DEVICES. SEE THE TREE PROTECTION DETAIL.
- THE MORRIS COUNTY SOIL CONSERVATION DISTRICT MAY REQUEST ADDITIONAL MEASURES TO MINIMIZE ON SITE OR OFF SITE PROBLEMS DURING CONSTRUCTION.
- THE MORRIS COUNTY SOIL CONSERVATION DISTRICT MUST BE NOTIFIED, IN WRITING, AT LEAST 72 HOURS PRIOR TO ANY LAND DISTURBANCE, AND A PRE-CONSTRUCTION MEETING HELD. CONTRACTOR TO SET UP A MEETING WITH THE INSPECTOR FOR PERIODIC INSPECTIONS OF THE TEMPORARY SEDIMENT BASIN PRIOR TO AND DURING ITS CONSTRUCTION.
- TOPSOIL STOCKPILE PROTECTION**
  - APPLY GROUND LIMESTONE AT A RATE OF 90 LBS. PER 1000 SQ. FT.
  - APPLY FERTILIZER (10-20-10) AT A RATE 11 LBS. PER 1000 SQ. FT.
  - APPLY PERENNIAL RYEGRASS SEED AT 1 LB. PER 1000 SQ. FT. AND ANNUAL RYEGRASS AT 1 LB. PER 1000 SQ. FT.
  - MULCH STOCKPILE WITH STRAW OR HAY AT A RATE OF 90 LBS. PER 1000 SQ. FT.
  - APPLY A LIQUID MULCH BINDER OR TACK TO STRAW OR HAY MULCH.
  - PROPERLY ENTRENCH A SILT FENCE AT THE BOTTOM OF THE STOCKPILE.
- TEMPORARY STABILIZATION SPECIFICATIONS**
  - APPLY GROUND LIMESTONE AT A RATE OF 90 LBS. PER 1000 SQ. FT.
  - APPLY FERTILIZER (10-20-10) AT A RATE OF 14 LBS. PER 1000 SQ. FT.
  - APPLY PERENNIAL RYEGRASS AT 1 LB. PER 1000 SQ. FT. AND ANNUAL RYEGRASS AT 1 LB. PER 1000 SQ. FT.
  - MULCH STOCKPILE WITH STRAW OR HAY AT A RATE OF 90 LBS. PER 1000 SQ. FT.
  - APPLY A LIQUID MULCH BINDER OR TACK TO STRAW OR HAY MULCH.
- PERMANENT STABILIZATION SPECIFICATIONS**
  - APPLY TOPSOIL TO A DEPTH OF 5" (UNSETTLED).
  - APPLY GROUND LIMESTONE AT A RATE OF 90 LBS PER 1000 SQ. FT. AND WORK FOUR INCHES INTO SOIL.
  - APPLY FERTILIZER (10-20-10) AT A RATE OF 11 LBS PER 1000 SQ. FT.
  - APPLY HARD FESCUE SEED AT 2.7 LBS. PER 1000 SQ. FT. AND CREEPING RED FESCUE SEED AT 0.7 LB. PER 1000 SQ. FT. AND PERENNIAL RYEGRASS SEED AT 0.25 LBS. PER 1000 SQ. FT.
  - MULCH STOCKPILE WITH STRAW OR HAY AT A RATE OF 90 LB. PER 1000 SQ. FT.
  - APPLY A LIQUID MULCH BINDER OR TACK TO STRAW OR HAY MULCH.

- \* NOTE 48 HOURS PRIOR TO ANY SOIL DISTURBANCE, NOTICE IN WRITING, SHALL BE GIVEN TO THE MORRIS COUNTY SOIL CONSERVATION DISTRICT AND PRE-CONSTRUCTION MEETING HELD.

**SEQUENCE OF CONSTRUCTION**

1. INSTALL EROSION CONTROL MEASURES	1 DAY
2. STRIP AND STOCKPILE TOPSOIL, TEMPORARY SEEDING	2 DAY
3. ROUGH GRADING AND DRAINAGE	14 DAYS
5. CONSTRUCTION OF BARN, POOL & POOL HOUSE	75 DAYS
6. INSTALL UTILITIES	5 DAYS
7. FINE GRADE & COMPACTION TEST	5 DAYS
8. TOPSOIL, PERMANENT SEEDING & HAY	5 DAYS
9. LANDSCAPING	5 DAYS
10. REMOVE TEMPORARY SEDIMENT CONTROL MEASURES	2 DAYS
	TOTAL 114 DAYS

NOTE: SEQUENCE OF CONSTRUCTION IS APPROXIMATE AND IS SUBJECT TO WEATHER CONDITIONS, LABOR AND MATERIAL AVAILABILITY.



**SOIL EROSION/SEDIMENT CONTROL WITH STORMWATER CONTROL MEASURES**

- DUST CONTROL NOTES**
- ALL DUST CONTROL MEASURES ARE SUBJECT TO F.A.A. APPROVAL/REGULATIONS.
  - MULCHES-SEE STANDARD FOR STABILIZATION WITH MULCHES ONLY. NOT RECOMMENDED FOR AIRPORT APPLICATIONS.
  - VEGETATIVE COVER - SEE STANDARD FOR TEMPORARY VEGETATIVE COVER, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION AND PERMANENT STABILIZATION WITH SOIL.
  - SPRAY-ON-ADHESIVES-ON MINERAL SOILS. NOT EFFECTIVE ON MUCK SOILS. KEEP TRAFFIC OFF THESE AREAS.

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLY GAL./AC.
ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1200
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN IN WATER	4:1	FINE SPRAY	300
POLYACRYLAMIDE (PAM)			
SPRAY ON OR DRY SPREAD			
APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS. MAY ALSO BE USED AS AN ADDITIVE TO SEDIMENT BASINS TO FLOCCULATE AND PRECIPITATE SUSPENDED COLLOIDS. SEE SEDIMENT BASIN STANDARD (PG. 26-1)			
ADJULATED SOY BEAN SOAP STICK	NONE	COARSE SPRAY	1200

- UTILIZE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS A TEMPORARY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE.
- SEEDING - SITE IS SPRINKLED UNTIL SURFACE IS WET.
- BARBERS - SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIALS CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.
- CALCIUM CHLORIDE - SHALL BE IN THE FORM OF LOOSE, DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP SURFACE MOST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. IF USED ON STEEPER SLOPES, THEN USE OTHER PRACTICES TO PREVENT WASHING INTO STREAMS OR ACCUMULATION AROUND PLANTS.
- STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

**Soil De-compaction and Testing Requirements**

**Soil Compaction Testing Requirements**

- Subgrade soils prior to the application of topsoil (see permanent seeding and stabilization notes for topsoil requirements) shall be free of excessive compaction to a depth of 6.0 inches to enhance the establishment of permanent vegetative cover.
- Areas of the site which are subject to compaction testing and/or mitigation are graphically denoted on the certified soil erosion control plan.
- Compaction testing locations are denoted on the plan. A copy of the plan or portion of the plan shall be used to mark locations of tests, and attached to the compaction remediation form, available from the local soil conservation district. This form must be filled out and submitted prior to receiving a certificate of compliance from the district.
- In the event that testing indicates compaction in excess of the maximum thresholds indicated for the simplified testing methods (see details below), the contractor/owner shall have the option to perform either (1) compaction mitigation over the entire mitigation area denoted on the plan (excluding exempt areas), or (2) perform additional, more detailed testing to establish the limits of excessive compaction whereupon only the excessively compacted areas would require compaction mitigation. Additional detailed testing shall be performed by a trained, licensed professional.

**Compaction Testing Methods**

- Probing Wire Test (see detail)
- Hand-held Penetrometer Test (see detail)
- Tube Bulk Density Test (licensed professional engineer required)
- Nuclear Density Test (licensed professional engineer required)

Note: Additional testing methods which conform to ASTM standards and specifications, and which produce a dry weight, soil bulk density measurement may be allowed subject to District approval.

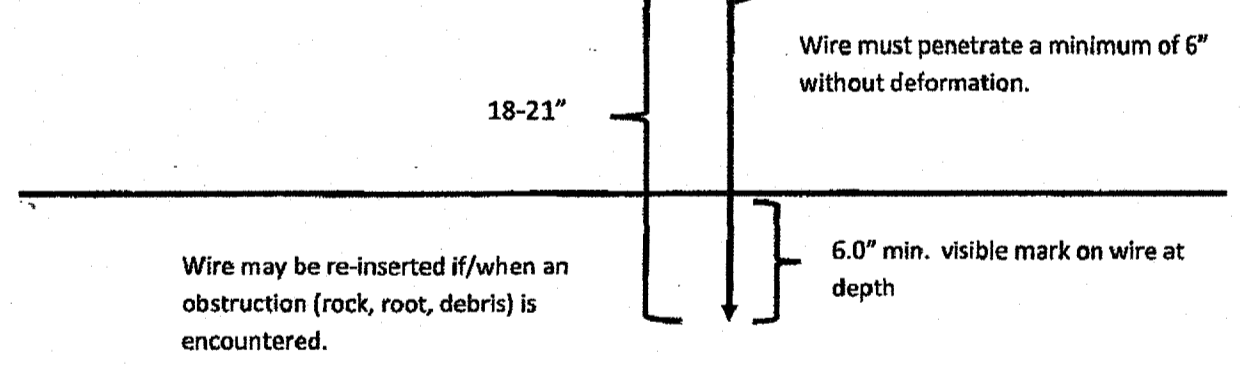
Soil compaction testing is not required if/when subsoil compaction remediation (scarification/tilage [6" minimum depth] or similar) is proposed as part of the sequence of construction.

**Procedures for Soil Compaction Mitigation**

Procedures shall be used to mitigate excessive soil compaction prior to placement of topsoil and establishment of permanent vegetative cover. Restoration of compacted soils shall be through deep scarification/tilage [6" minimum depth] where there is no danger to underground utilities (cables, irrigation systems, etc.). In the alternative, another method as specified by a New Jersey Licensed Professional Engineer may be substituted subject to District Approval.

**Probing Wire Test- 15.5 ga steel wire (survey flag)**

Note: soil should be moist but not saturated. Do not test when soil is excessively dry or subject to freezing temperatures. Slow, steady downward pressure used to advance the wire.



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 State Board of Professional Engineers and Land Surveyors  
 NJ C OF A # 24GA28089000  
**JEFFREY J. CAREAGA**  
 PROFESSIONAL ENGINEER, N.J. LIC. NO. 35973

**SOIL EROSION/SEDIMENT CONTROL PLAN**  
 17 KENNADAY ROAD  
 LOT 13 BLOCK 145  
 SITUATED IN:  
**TOWNSHIP OF MENDHAM**  
 MORRIS COUNTY NEW JERSEY  
 DATE: 1/26/23 SCALE: SHOWN PROJECT NUMBER: 14051  
 DRAWN BY: RS CHECKED BY: JJC SHEET: 4 OF 4