[illegible]

1. Applicant  
White & Blue, LLC  
James Cannon  
3215 Main Road  
Franklinville, NJ 08322  
Phone: 609-381-0295
- Project Location  
2174 S. Black Horse Pike  
Williamstown, NJ 08094
2. The project site is known as Block 3901 , Lot 29, as shown on the Monroe Township Tax Map, Sheet #39.
3. The project site is located in the (RG-C) Regional Growth Commercial District.
4. The project site is currently wooded and consists of 404,780.1 SF (9.29 ± AC).
5. It is the intent of the applicant to construct two commercial buildings on the property. The first building is 16,000 SF and will consist of 10- 1,600 SF office/warehouses, each with 1,700 SF of outdoor storage space. The second building is 32,000 SF and will consist of a 4,000 SF office and a 28,000 SF warehouse, with 90,000 SF of outdoor storage space.
6. The proposed offices will be serviced from an on-site septic system and well.
7. All concrete curb, sidewalk, pavement disturbed in kind within road right-of-ways are to be repaired in kind.
8. All traffic signs, other signs, mailboxes, poles and/or safety devices that will be removed during construction are to be reinstalled at the proper location.
9. Stormwater Calculations are submitted under separate cover. Calculations were prepared by Engineering Design Associates and dated June 2019 & revised August 2019.
10. The proposed application will require approvals from the following agencies:

Outbound and topographic information taken from a plan entitled "Topographic Survey" 2174 South Black Horse Pike situated in Township of Monroe, County of Gloucester, New Jersey prepared by Ewing Associates, Bruce A. Ewing, NJPLS #35835 & dated 3/16/19. Vertical datum referenced NAVD 1988.

## SURVEY INFORMATION

| SCHEDULE OF SHEETS                        | SHEET<br>NUMBER | ORIGINAL<br>DATE | LAST<br>REVISION<br>DATE |
|---|-----------------|------------------|--------------------------|
| COVER SHEET .....                         | 1 OF 10         | 6/19/19          | 12/18/19                 |
| EXISTING CONDITIONS/ DEMOLITION PLAN..... | 2 OF 10         | 6/19/19          | 12/18/19                 |
| SITE PLAN.....                            | 3 OF 10         | 6/19/19          | 12/18/19                 |
| GRADING & DRAINAGE PLAN.....              | 4 OF 10         | 6/19/19          | 12/18/19                 |
| SOIL EROSION & SEDIMENT CONTROL PLAN..... | 5 OF 10         | 6/19/19          | 12/18/19                 |
| LANDSCAPING & LIGHTING PLAN.....          | 6 OF 10         | 6/19/19          | 12/18/19                 |
| NJDOT PLAN.....                           | 7 OF 10         | 6/19/19          | 12/18/19                 |
| ENGINEERING DETAILS PLAN.....             | 8 OF 10         | 6/19/19          | 12/18/19                 |
| ENGINEERING DETAILS PLAN.....             | 9 OF 10         | 6/19/19          | 12/18/19                 |
| SOIL EROSION & SEDIMENT CONTROL PLAN..... | 10 OF 10        | 6/19/19          | 12/18/19                 |

I HEREBY CONSENT TO THE FILING OF THESE PLANS

1-17-2020

JAMES CANNON DATE

1-17-2020

SANDY CANNON DATE

| (RG-C) REGIONAL GROWTH COMMERCIAL DISTRICT   |           |               |          |
|--|-----------|---------------|----------|
| COMMUNITY COMMERCIAL                         |           |               |          |
| Requirement                                  | Required  | Proposed      | Variance |
| Lot Area                                     | 20,000 SF | 404,780.10 SF | No       |
| Lot Width                                    | 100'      | 318.53'       | No       |
| Lot Frontage                                 | 100'      | 319.52'       | No       |
| Front Yard Setback                           | 75'       | 81.3'         | No       |
| Side Yard Setback                            | 20'       | 93.0', 185.4' | No       |
| Rear Yard Setback                            | 50'       | 367.3'        | No       |
| Lot Coverage (max)                           | 70%       | 58.87%        | No       |
| Buffers                                      | 25'       | 25', 60.5'    | No       |
| Building Height (max)                        | 35'       | <35'          | No       |
| Parking                                      |           |               |          |
| 16,000 SF Building (Front)                   |           |               |          |
| 10- 600 SF Offices & 10- 1,000 SF Warehouses |           |               |          |
| 32,000 SF Building (Back)                    |           |               |          |
| 4,000 SF Office & 28,000 SF Warehouse        |           |               |          |
| Offices- 1 space/ 200 SF                     | 50        | 50            | No       |
| Warehouse- 1 space/ 1500 SF                  | 25.34     | 26            | No       |
| TOTAL  | 75.34     | 76            | No       |

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|                                     |          |     |
|-------------------------------------|----------|-----|
| REV. PER TWP & COUNTY<br>SUBMISSION | 12/18/19 | MAJ |
| REV. PER NJ PINELANDS<br>COMMISSION | 10/2/19  | MAJ |
| REV. PER NJ PINELANDS<br>COMMISSION | 8/7/19   | MAJ |
| REVISION                            | DATE     | BY  |

**JOSEPH H. MAFFEI**  
PROFESSIONAL ENGINEER  
N.J.P.E. LIC. #37894

# PRELIMINARY PLAT - SITE PLAN

**EDA** Engineering  
Design  
Associates, P.A.

Engineers, Environmental Planners, Landscape Architects

**COVER SHEET**  
BLOCK 3901, LOT 29  
MONROE TOWNSHIP  
GLOUCESTER COUNTY, NEW JERSEY

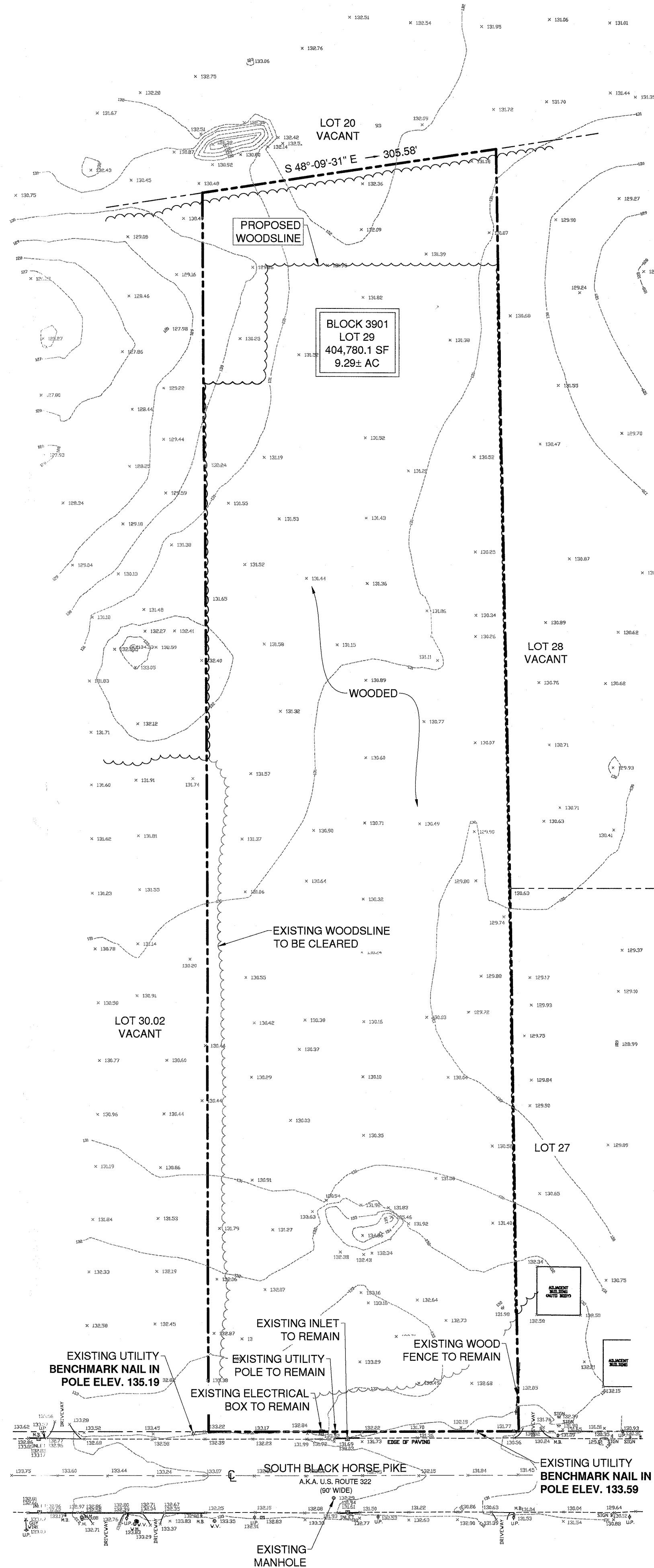
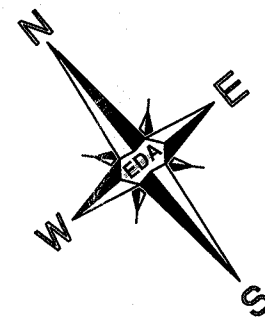
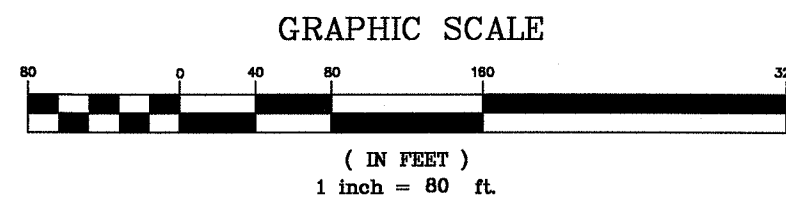
# EDA

Engineers - Landscape Architects - Planners

**SITE PLAN FOR  
WHITE & BLUE, LLC  
BLOCK 3901, LOT 29  
MONROE TOWNSHIP  
GLOUCESTER COUNTY, NJ**



# DEMOLITION PLAN



PRELIMINARY PLAT - SITE PLAN

**EDA** Engineering Design Associates, P.A.  
Environmental Planners Landscape Architects  
CAMBRIDGE PROFESSIONAL OFFICES  
5 Cambridge Drive Ocean View, New Jersey 08230  
(609) 390-0332 • Fax (609) 390-9204  
CERTIFICATE OF AUTHORIZATION: 2654279330

**DEMOLITION PLAN**  
BLOCK 3901, LOT 29  
MONROE TOWNSHIP  
GLOUCESTER COUNTY, NEW JERSEY

**JOSEPH H. MAFFEI**

PROFESSIONAL ENGINEER  
N.J.P.E. LIC. #37894

*Joseph H. Maffei*

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REV. PER TWP & COUNTY  
SUBMISSION

DATE

BY

**EDA**

DATE: 6/19/19

DRAWN BY: MAJ

SCALE: 1" = 80'

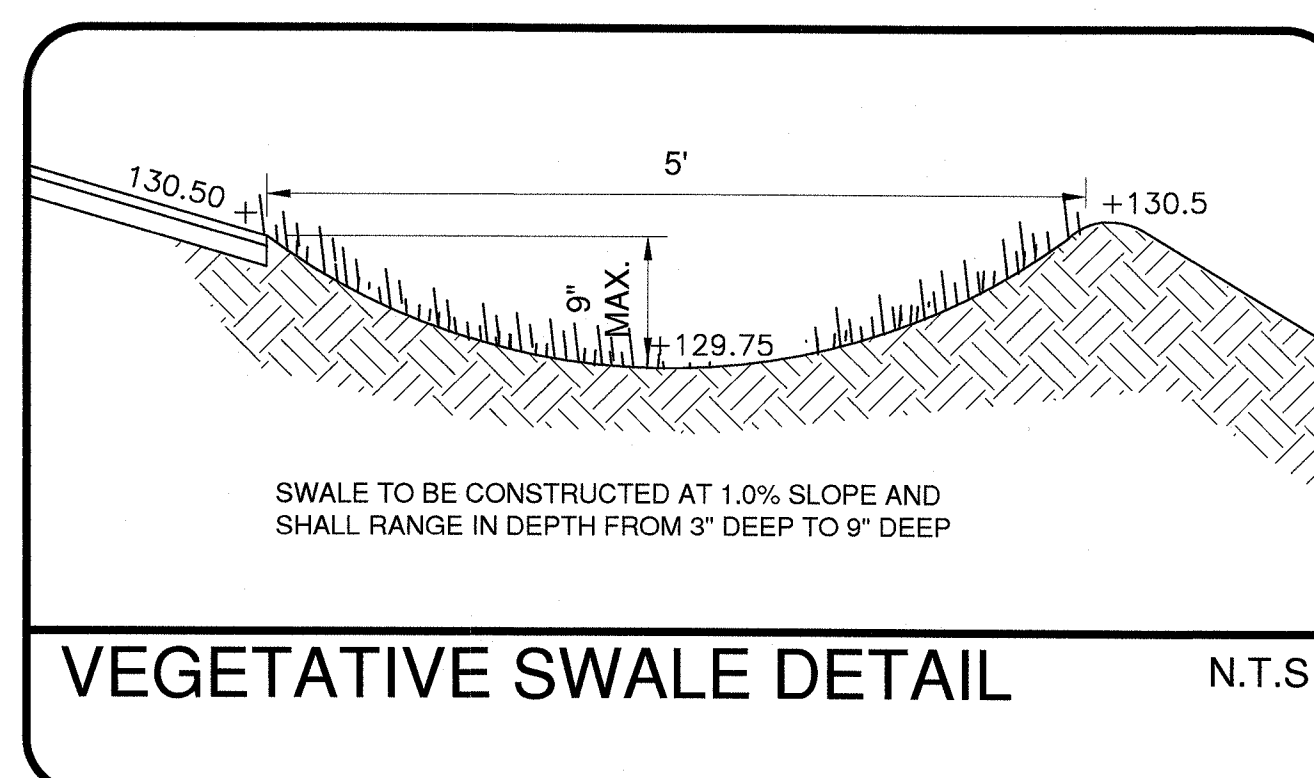
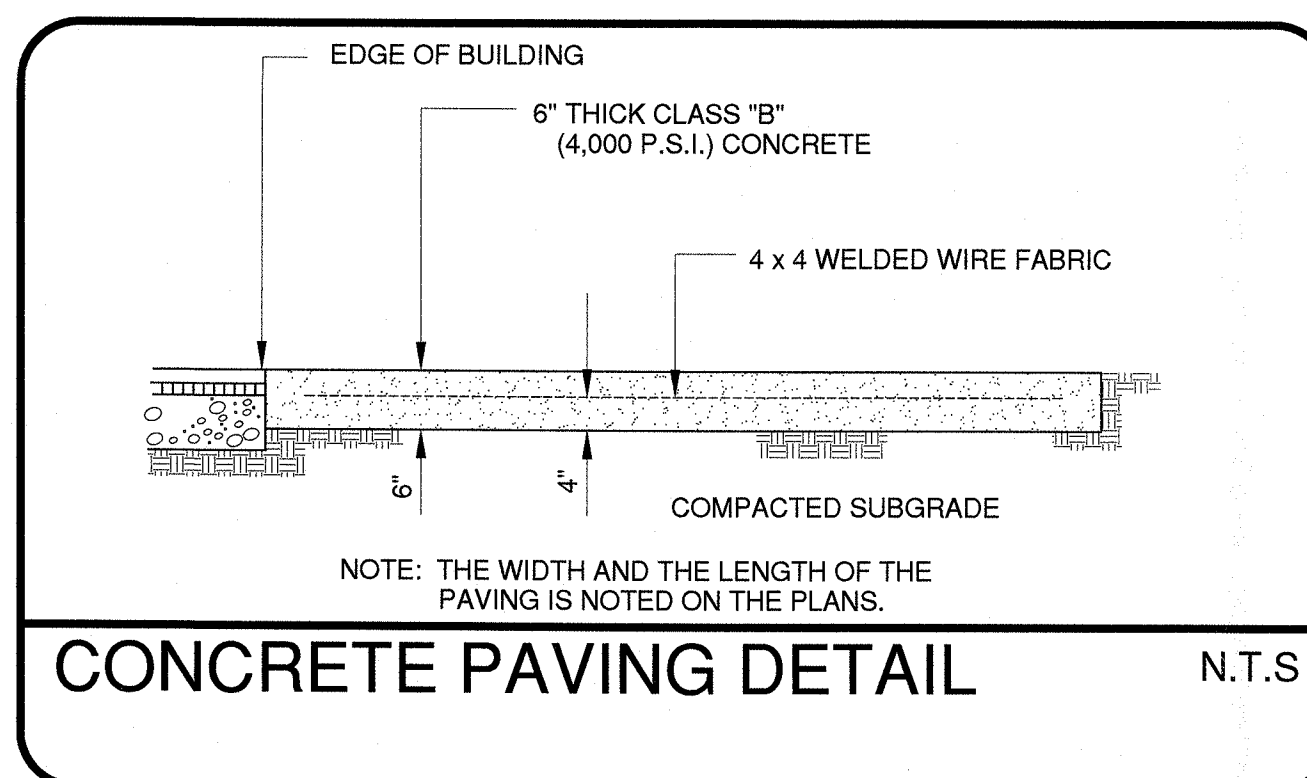
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PROJECT #: 8146

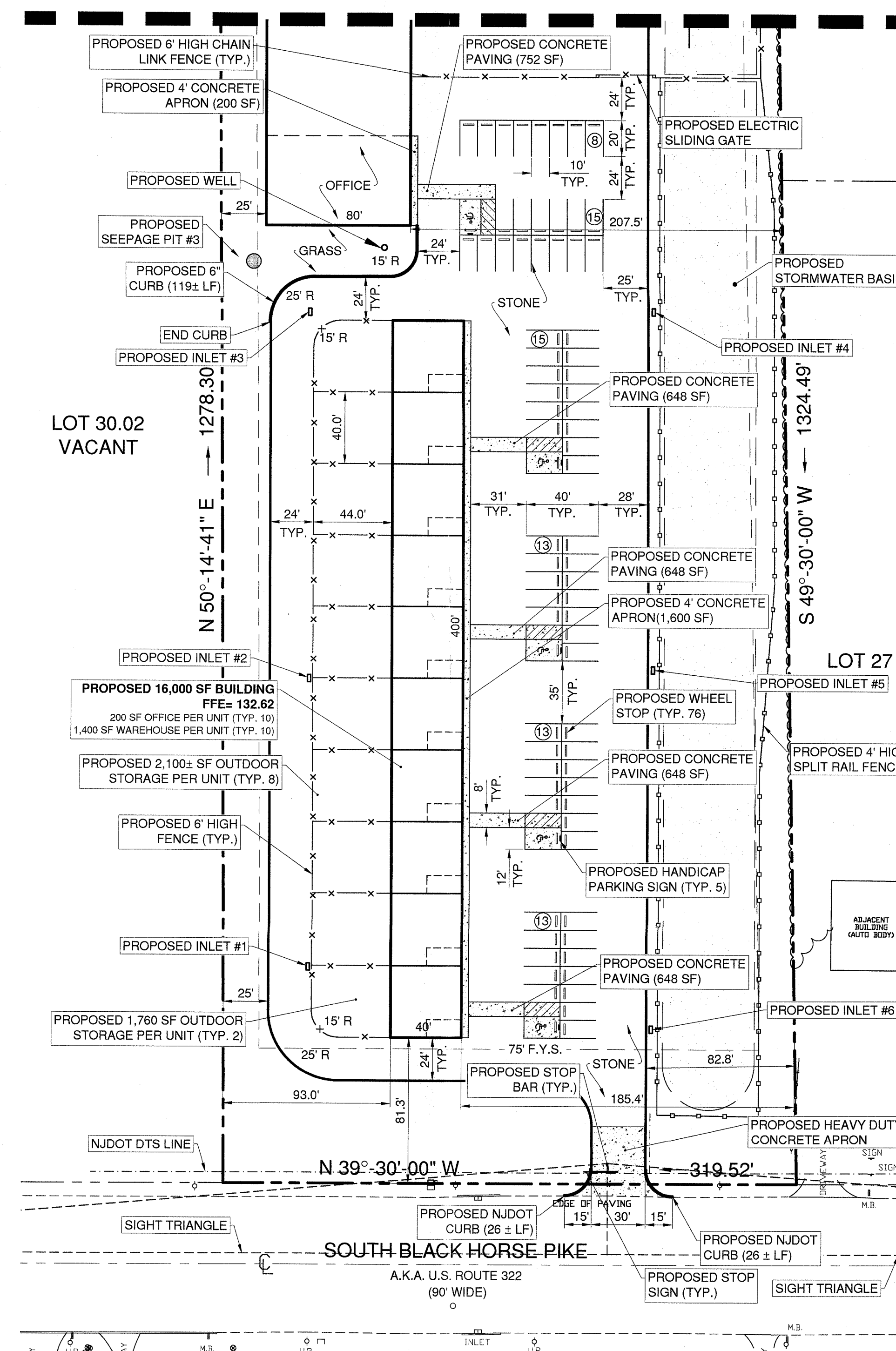
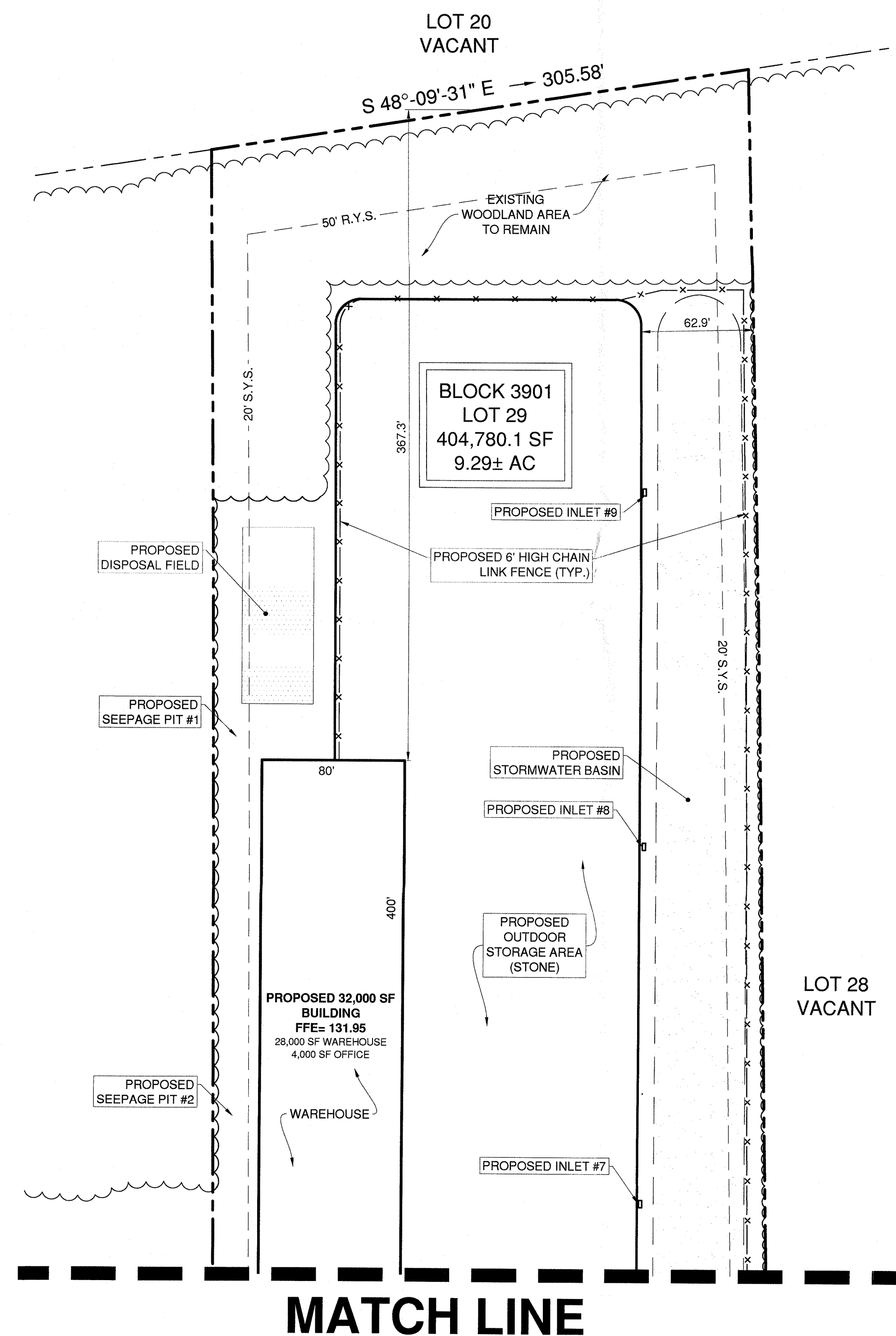
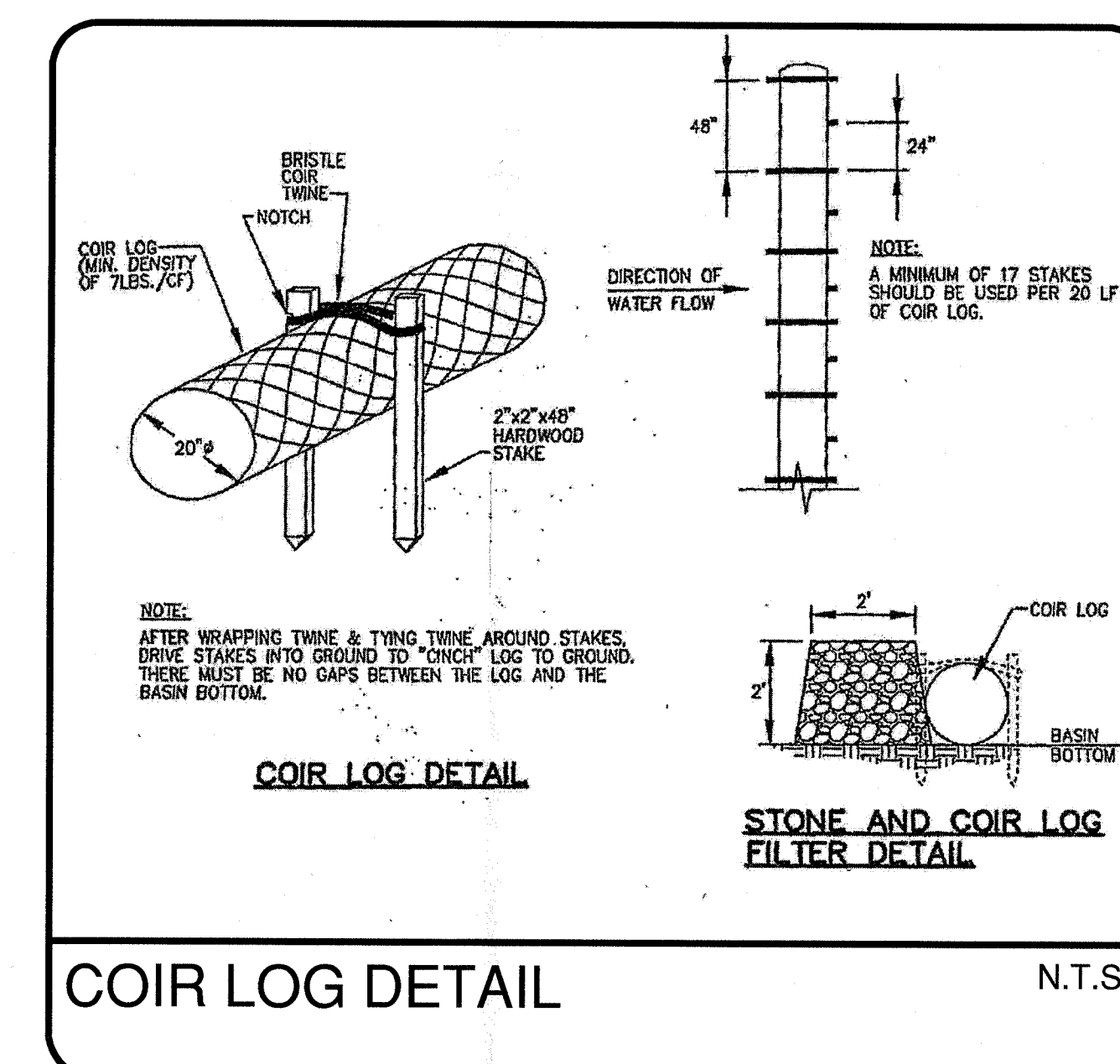
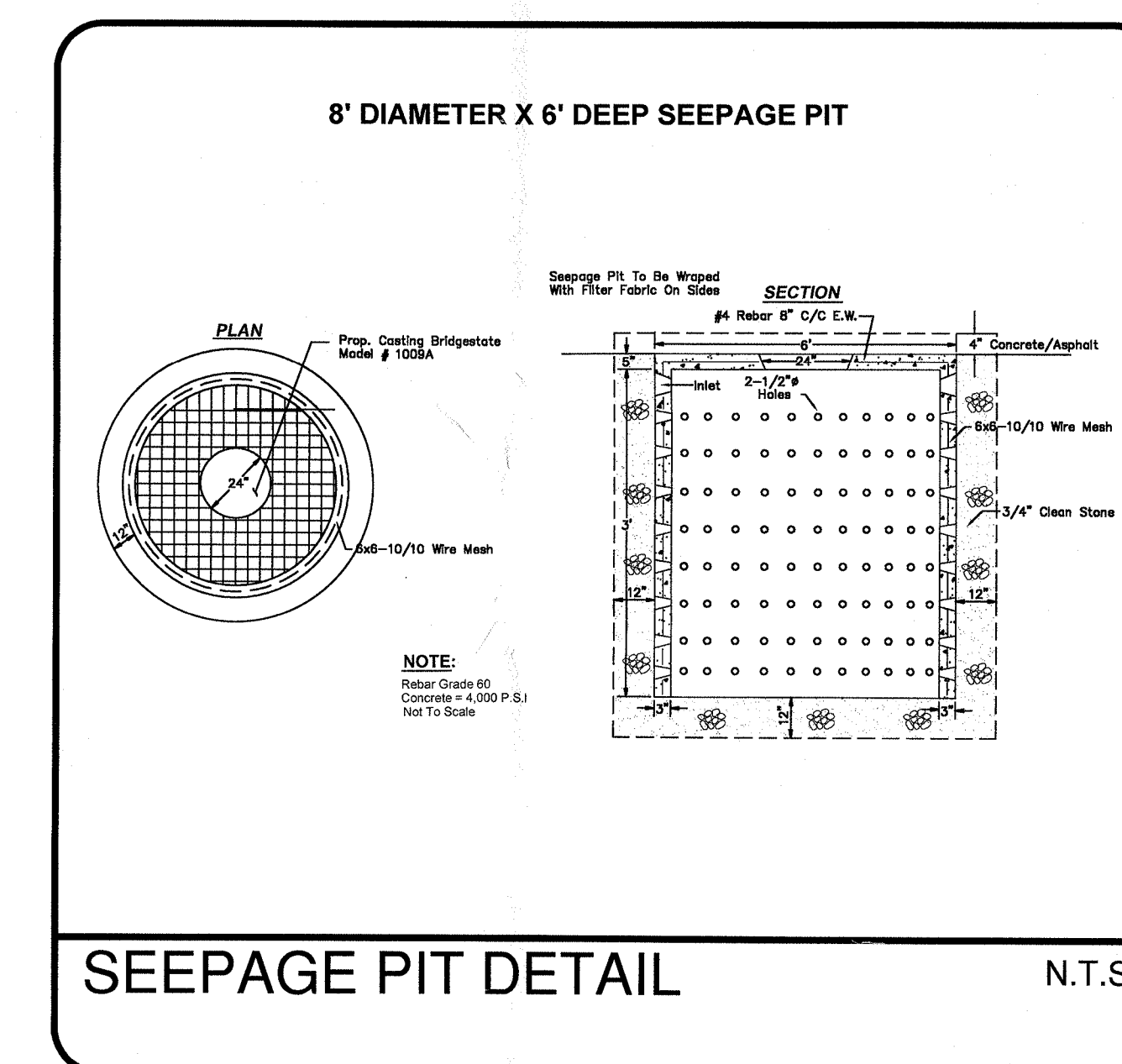
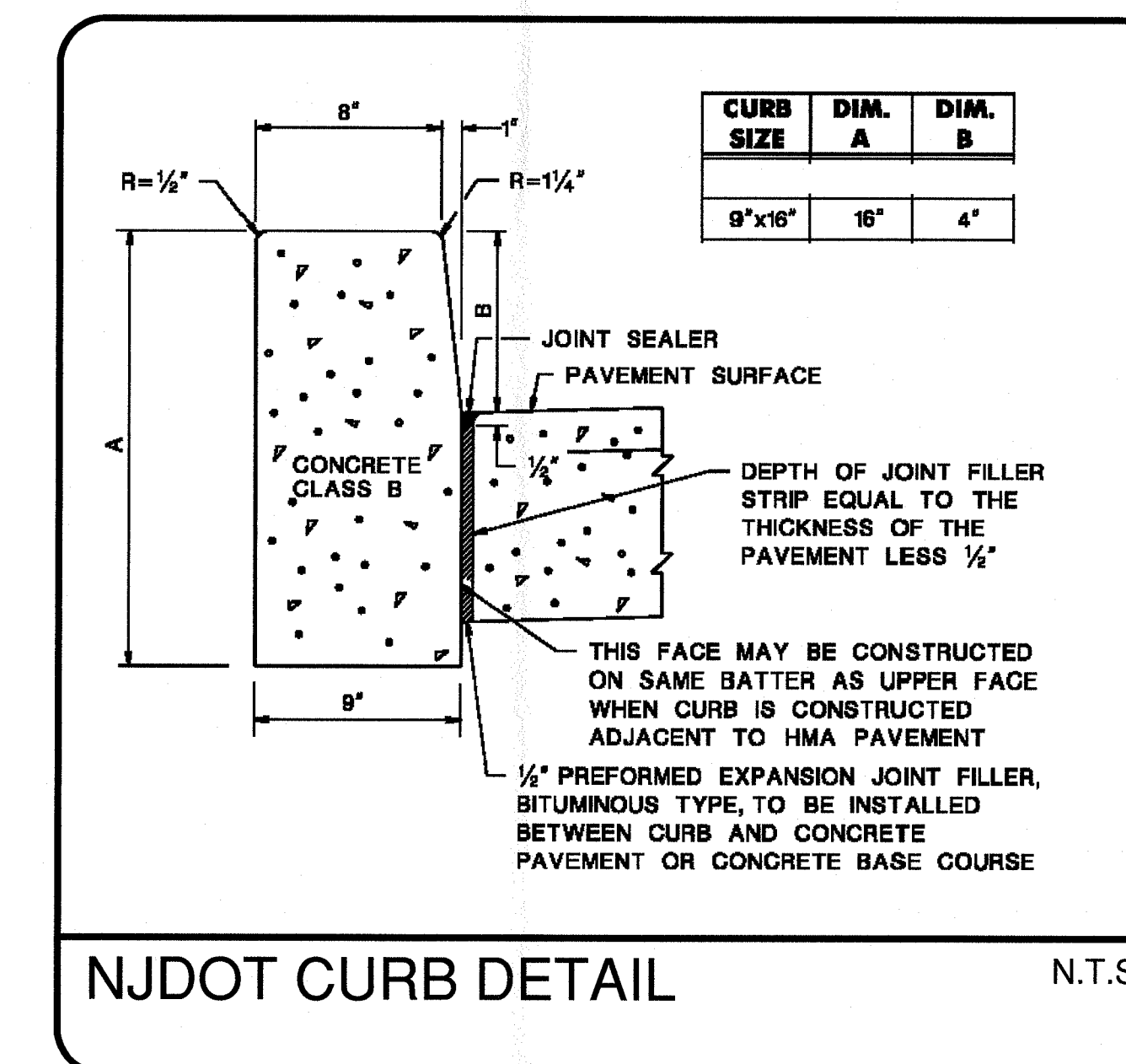
SHEET: 2 OF 10



Engineers - Landscape Architects - Planners



## MATCH LINE



NOTE: SEE NJDOT PLAN (SHEET 7)  
FOR FULL SIGHT TRIANGLE



Engineers - Landscape Architects - Planners

PRELIMINARY PLAT - SITE PLAN



**EDA** Engineering Design Associates, P.A.

**Engineers Environmental Planners Landscape Architects**

**CAMBRIDGE PROFESSIONAL OFFICES**  
5 Cambridge Drive Ocean View New Jersey 08230  
(609) 390-0332 • Fax (609) 390-9204  
CERTIFICATE OF AUTHORIZATION#: 24C927970300

## SITE PLAN

**WILEY-INTERSCIENCE**  
**BLACK 3901 LOT 20**

MONROE TOWNSHIP, LOUISIANA

PROFESSIONAL ENGINEER

N.J.P.E. LIC. #37894

W. L. G. M.

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|                                     |          |     |
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| REV. PER NJ PINELANDS<br>COMMISSION | 10/2/19  | MAJ |
| REV. PER NJ PINELANDS<br>COMMISSION | 8/7/19   | MAJ |
| REVISION                            | DATE     | BY  |



|                 |                 |
|-----------------|-----------------|
| DATE: 6/19/19   | DRAWN BY: MAJ   |
| SCALE: AS NOTED | CHECKED BY: JHM |
| PROJECT #: 8146 | SHEET: 3 OF 10  |



| <b><u>DEPTH</u></b> | <b><u>DESCRIPTION</u></b>   |
|---------------------|---|
| 0" - 4"             | 10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable   |
| 4" - 33"            | 10YR 6/6 Brownish Yellow, Sandy Clay Loam, Subangular Blocky, Friable |
| 33" - 70"           | 7.5YR 6/8 Reddish Yellow, Sandy Clay Loam, Subangular Blocky, Friable |
| 70" - 99"           | 7.5YR 6/6 Reddish Yellow, Loamy Sand, Subangular Blocky, Friable      |

| DEPTH      | DESCRIPTION   |
|------------|---|
| 0"- 3"     | 10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable   |
| 3"- 23"    | 10YR 6/6 Brownish Yellow, Sandy Clay Loam, Subangular Blocky, Friable   |
| 23"- 42"   | 7.5YR 6/6 Reddish Yellow, Sandy Clay Loam, Subangular Blocky, Friable   |
| 42"- 53"   | 10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable  |
| 53"- 68"   | 10YR 6/6 Brownish Yellow, Sandy Clay Loam, Subangular Blocky, Friable   |
| 68"- 79"   | 7YR 6/6 Yellow, Sandy Loam, Subangular Blocky, Friable  |
| 79"- 111"  | 10YR 7/4 Very Pale Brown, Loamy Sand, Subangular Blocky, Friable  |
| 111"- 132" | 10YR 7/3 Very Pale Brown, Loamy Sand, Subangular Blocky, Friable<br>w/mottles of 10YR 8/1 White, Feo, Fine & Faint & layers of<br>5YR 6/5 Yellowish Brown, Sandy Loam, Subangular Blocky, Friable |

| <u>DEPTH</u> | <u>DESCRIPTION</u>  |
|--------------|---|
| 0"- 5"       | 10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable   |
| 5"- 30"      | 10YR 6/6 Brownish Yellow, Sandy Clay Loam, Subangular Blocky, Friable                                       |
| 30"- 68"     | 7.5YR 6/8 Reddish Yellow, Sandy Clay Loam, Subangular Blocky, Friable                                       |
| 68"- 105"    | 7.5YR 6/6 Reddish Yellow, Loamy Sand, Subangular Blocky, Friable  |
| 105"- 123"   | 10YR 7/6 Yellow, Loamy Sand, Subangular Blocky, Friable w/mottles of 10YR 7/1 Light Gray, Few, Fine & Faint |

| <u>DEPTH</u> | <u>DESCRIPTION</u>  |
|--------------|---|
| 0" - 3"      | 10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable                               |
| 3" - 28"     | 10YR 6/4 Light Yellowish Brown, Sandy Clay Loam, Subangular Blocky, Friable                       |
| 28" - 47"    | 10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable                                  |
| 47" - 72"    | 10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable                                  |
| 72" - 80"    | 10YR 7/6 Yellow, Loamy Sand, Subangular Blocky, Friable   |
| 80" - 110"   | 10YR 7/6 Yellow, Sand, Single Grain, Loose  |
| 110" - 125"  | 10YR 7/6 Yellow, Sand, Single Grain, Loose w/mottles of<br>10YR 7/1 Light Gray, Few, Fine & Faint |

| TEST PIT #4 |   |
|-------------|---|
| DEPTH       | DESCRIPTION   |
| 0" - 5"     | 10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable   |
| 5" - 24"    | 10YR 6/4 Light Yellowish Brown, Sandy Clay Loam, Subangular Blocky, Friable   |
| 24" - 67"   | 10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable<br>w/40% Coarse Fragments                            |
| 67" - 104"  | 10YR 7/6 Yellow, Loamy Sand, Subangular Blocky, Friable   |
| 104" - 120" | 10YR 7/4 Very Pale Brown, Loamy Sand, Subangular Blocky, Friable<br>w/mottles of 10YR 8/1 White, Fine, Faint & Coarse |
| 80" - 110"  | 10YR 7/6 Yellow, Sand, Single Grain, Loose  |
| 110" - 125" | 10YR 7/6 Yellow, Sand, Single Grain, Loose w/mottles of<br>10YR 7/1 Light Gray, Fine, Faint & Coarse                  |

| <b><u>DEPTH</u></b> | <b><u>DESCRIPTION</u></b>  |
|---------------------|--|
| 0"- 7"              | 10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable  |
| 7"- 42"             | 10YR 6/4 Light Yellowish Brown, Sandy Clay, Massive & Firm   |
| 42"- 65"            | 7.5YR 6/0 Reddish Yellow, Sandy Loam, Subangular Blocky, Friable   |
| 65"- 84"            | 7.5YR 7/6 Reddish Yellow, Loamy Sand, Subangular Blocky, Friable   |
| 84"- 96"            | 10YR 7/6 Yellow, Loamy Sand, Subangular Blocky, Friable  |
| 96"- 120"           | 10YR 6/4 Light Yellowish Brown, Loamy Sand, Subangular Blocky, Friable<br>w/mottles of 1/1 White, Few, Fine & Fair |

| <b><u>DEPTH</u></b> | <b><u>DESCRIPTION</u></b>   |
|---------------------|---|
| 0"- 6"              | 10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable   |
| 6"- 26"             | 10YR 6/6 Brownish Yellow, Sandy Clay Loam, Subangular Blocky, Friable   |
| 26"- 35"            | 10YR 6/4 Light Yellowish Brown, Sandy Loam, Subangular Blocky, Friable  |
| 35"- 80"            | 10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable  |
| 80"- 108"           | 10YR 7/4 Very Pale Brown, Loamy Sand, Subangular Blocky, Friable  |
| 108"- 135"          | 10YR 7/3 Very Pale Brown, Loamy Sand, Subangular Blocky, Friable<br>w/mottles of 8/1 White, Common, Medium & Distinct |

| <b><u>DEPTH</u></b> | <b><u>DESCRIPTION</u></b>   |
|---------------------|---|
| 0"- 5"              | 10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable   |
| 5"- 24"             | 10YR 6/6 Brownish Yellow, Sandy Clay Loam, Subangular Blocky, Friable   |
| 24"- 88"            | 7.5YR 6/6 Reddish Yellow, Sandy Clay Loam, Subangular Blocky, Friable   |
| 88"- 120"           | 10YR 6/6 Brownish Yellow, Sandy Clay Loam, Subangular Blocky, Friable   |
| 120"- 132"          | 10YR 7/4 Very Pale Brown, Loamy Sand, Subangular Blocky, Friable<br>w/mottles of 10YR 7/1 Light Gray, Few, Fine & Faint |

| <b><u>DEPTH</u></b> | <b><u>DESCRIPTION</u></b>  |
|---------------------|--|
| 0"- 5"              | 10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable    |
| 5"- 10"             | 10YR 6/4 Light Yellowish Brown, Sandy Loam, Subangular Blocky, Friable |
| 40"- 43"            | 7.5YR 6/6 Reddish Yellow, Sandy Clay Loam, Subangular Blocky, Friable  |
| 83"- 116"           | 7.5YR 6/4 Light Brown, Sandy Loam, Subangular Blocky, Friable          |
| 116"- 130"          | 10YR 7/3 Very Pale Brown, Loamy Sand, Subangular Blocky, Friable       |

w/mottles of 10YR 8/1 White, Common, Medium & Distinct

| <b><u>DEPTH</u></b> | <b><u>DESCRIPTION</u></b>  |
|---------------------|--|
| 0"- 7"              | 10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable  |
| 7"- 25"             | 10YR 6/4 Light Yellowish Brown, Sandy Clay Loam, Subangular Blocky, Friable  |
| 25"- 87"            | 7.5YR 6/8 Reddish Yellow, Sandy Clay Loam, Subangular Blocky, Friable  |
| 87"- 119"           | 7.5YR 5/4 Brown, Sandy Loam, Subangular Blocky, Friable  |
| 119"- 133"          | 10YR 6/4 Light Yellowish Brown, Loamy Sand, Subangular Blocky, Friable<br>w/mottles of 10YR 8/1 White, Common, Medium & Distinct |

| <b><u>DEPTH</u></b> | <b><u>DESCRIPTION</u></b>   |
|---------------------|---|
| 0" - 5"             | 10YR 4/2 Dark Grayish Brown, Sandy Loam, Subangular Blocky, Friable   |
| 5" - 28"            | 10YR 6/4 Light Yellowish Brown, Sandy Clay Loam, Subangular Blocky, Friable   |
| 28" - 49"           | 10YR 6/6 Brownish Yellow, Sandy Loam, Subangular Blocky, Friable  |
| 49" - 79"           | 7.5YR 6/6 Reddish Yellow, Sandy Clay Loam, Subangular Blocky, Friable   |
| 79" - 112"          | 10YR 6/4 Light Yellowish Brown, Loamy Sand, Subangular Blocky, Friable  |
| 112" - 128"         | 10YR 6/3 Pale Brown, Loamy Sand, Subangular Blocky, Friable w/mottles of 10YR 7/1 Light Gray, Common, Medium & Distinct |

**EDA** Engineering  
Design  
Associates, P.A.  
Engineers Environmental Planners Landscape Architects

PROFESSIONAL ENGINEER  
N I P E I C #37894

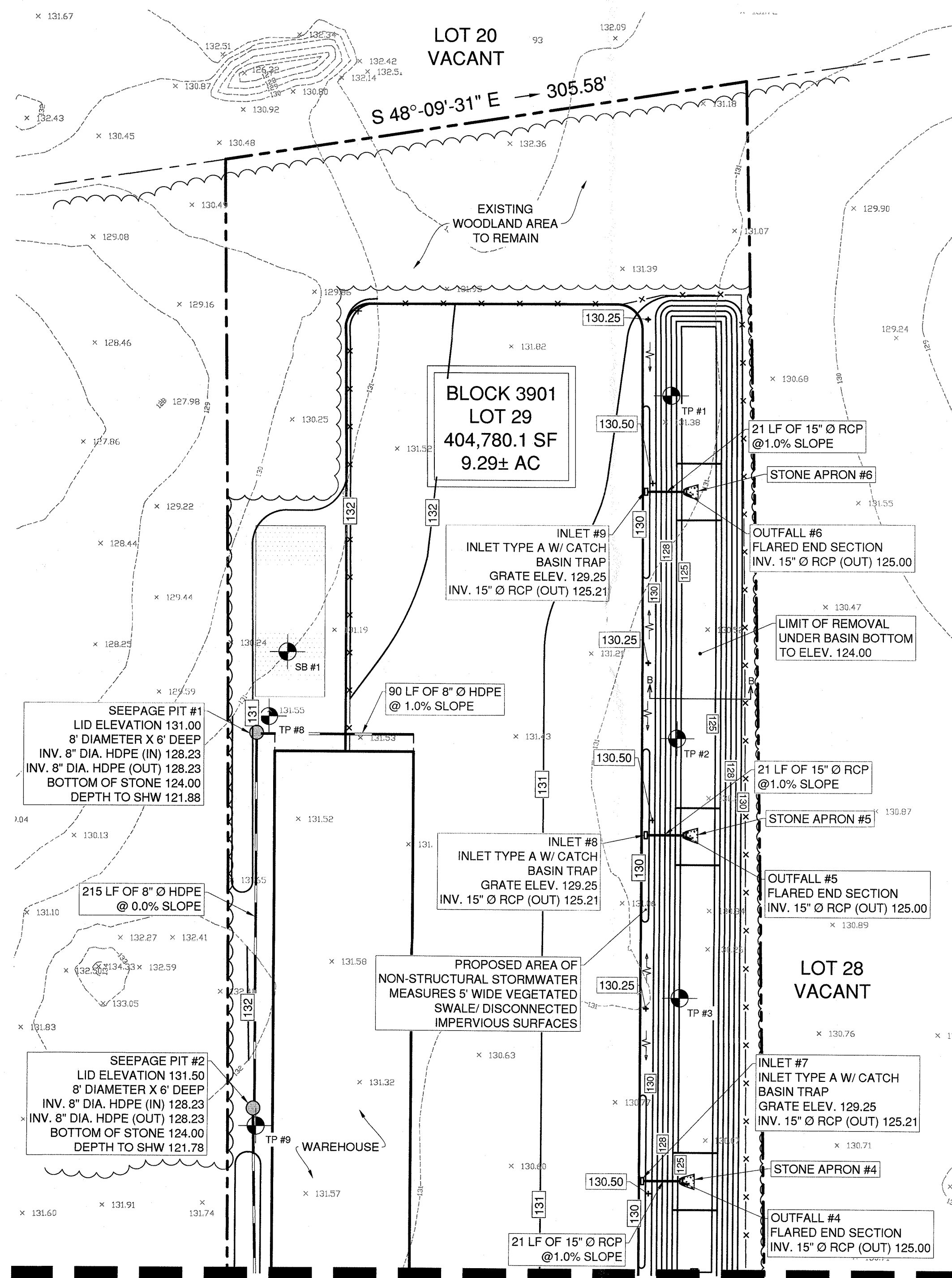
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N BEARING THE NAME AND  
OF THE ABOVE SIGNED  
NOT BE AN AUTHORIZED  
DOCUMENT AND MAY HAVE  
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SSOCIATES, P.A.

|                                     |          |     |
|-------------------------------------|----------|-----|
| REV. PER TWP & COUNTY<br>SUBMISSION | 12/18/19 | MAJ |
| REV. PER NJ PINELANDS<br>COMMISSION | 10/2/19  | MAJ |
| REV. PER NJ PINELANDS<br>COMMISSION | 8/7/19   | MAJ |
| REVISION                            | DATE     | BY  |

# EDA

|                 |                 |
|-----------------|-----------------|
| DATE: 6/19/19   | DRAWN BY: MAJ   |
| SCALE: 1" = 50' | CHECKED BY: JHM |
| PROJECT #: 8146 | SHEET: 4 OF 10  |



225 LF OF 8" Ø HDPE @ 0.0% SLOPE

40 LF OF 15" Ø RCP @ 1.0% SLOPE

SEEPAGE PIT #3  
LID ELEVATION 131.00  
8" DIAMETER X 6" DEEP  
INV. 8" DIA. HDPE (IN) 128.23  
INV. 8" DIA. HDPE (OUT) 127.65  
BOTTOM OF STONE 124.00  
DEPTH TO SHW 121.32

INLET #3  
INLET TYPE A W/ CATCH BASIN TRAP  
GRATE ELEV. 130.15  
INV. 15" Ø RCP (IN) 127.25  
INV. 15" Ø RCP (OUT) 127.25

201 LF OF 15" Ø RCP @ 0.5% SLOPE

LOT 30.02  
VACANT

190 LF OF 15" Ø RCP @ 1% SLOPE

INLET #2  
INLET TYPE A W/ CATCH BASIN TRAP  
GRATE ELEV. 131.13  
INV. 15" Ø RCP (IN) 128.26  
INV. 15" Ø RCP (OUT) 128.26

PROPOSED AREA OF NON-STRUCTURAL STORMWATER MEASURES 5' WIDE VEGETATED SWALE/ DISCONNECTED IMPERVIOUS SURFACES

157 LF OF 15" Ø RCP @ 0.5% SLOPE

INLET #1  
INLET TYPE A W/ CATCH BASIN TRAP  
GRATE ELEV. 131.80  
INV. 15" Ø RCP (OUT) 129.05

WAREHOUSE

OFFICE

90 LF OF 8" Ø HDPE @ 1.0% SLOPE

34 LF OF 18" Ø HDPE @ 0.0% SLOPE

FLARED END SECTION (TYP. 2)

PROPOSED COIR LOGS AND 2' X 2' CLEAN STONE CHECK DAM (TYP. 11)

21 LF OF 18" Ø RCP @ 1.6% SLOPE

STONE APRON #1

BROAD CRESTED WEIR  
ELEV. 129.25  
LENGTH 10'

OUTFALL #1  
FLARED END SECTION  
INV. 18" Ø RCP (OUT) 125.00

INLET #4  
INLET TYPE A W/ CATCH BASIN TRAP  
GRATE ELEV. 129.25  
INV. 15" Ø RCP (IN) 125.35  
INV. 15" Ø RCP (OUT) 125.35

21 LF OF 15" Ø RCP @ 1.0% SLOPE

PROPOSED SEDIMENT FOREBAY (TYP.)

OUTFALL #2  
FLARED END SECTION  
INV. 15" Ø RCP (OUT) 125.00

STONE APRON #2

INLET #5  
INLET TYPE A W/ CATCH BASIN TRAP  
GRATE ELEV. 129.25  
INV. 15" Ø RCP (OUT) 125.21

BASIN BOTTOM SHALL CONSIST OF K-4 SAND MATERIAL 6" DEEP

LIMIT OF REMOVAL UNDER BASIN BOTTOM TO ELEV. 122.20

INLET #6  
INLET TYPE A W/ CATCH BASIN TRAP  
GRATE ELEV. 129.25  
INV. 15" Ø RCP (OUT) 125.21

STONE APRON #3

OUTFALL #3  
FLARED END SECTION  
INV. 15" Ø RCP (OUT) 125.00

21 LF OF 15" Ø RCP @ 1.0% SLOPE

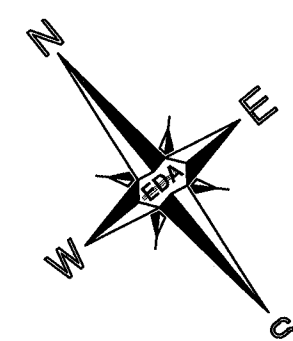
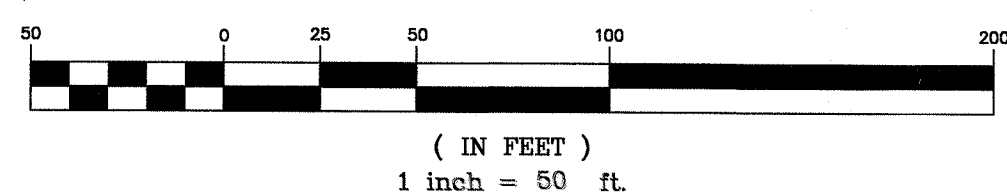
BENCHMARK NAIL IN POLE ELEV. 133.59

SOUTH BLACK HORSE PIKE  
A.K.A. U.S. ROUTE 322  
(90' WIDE)

# GRADING PLAN

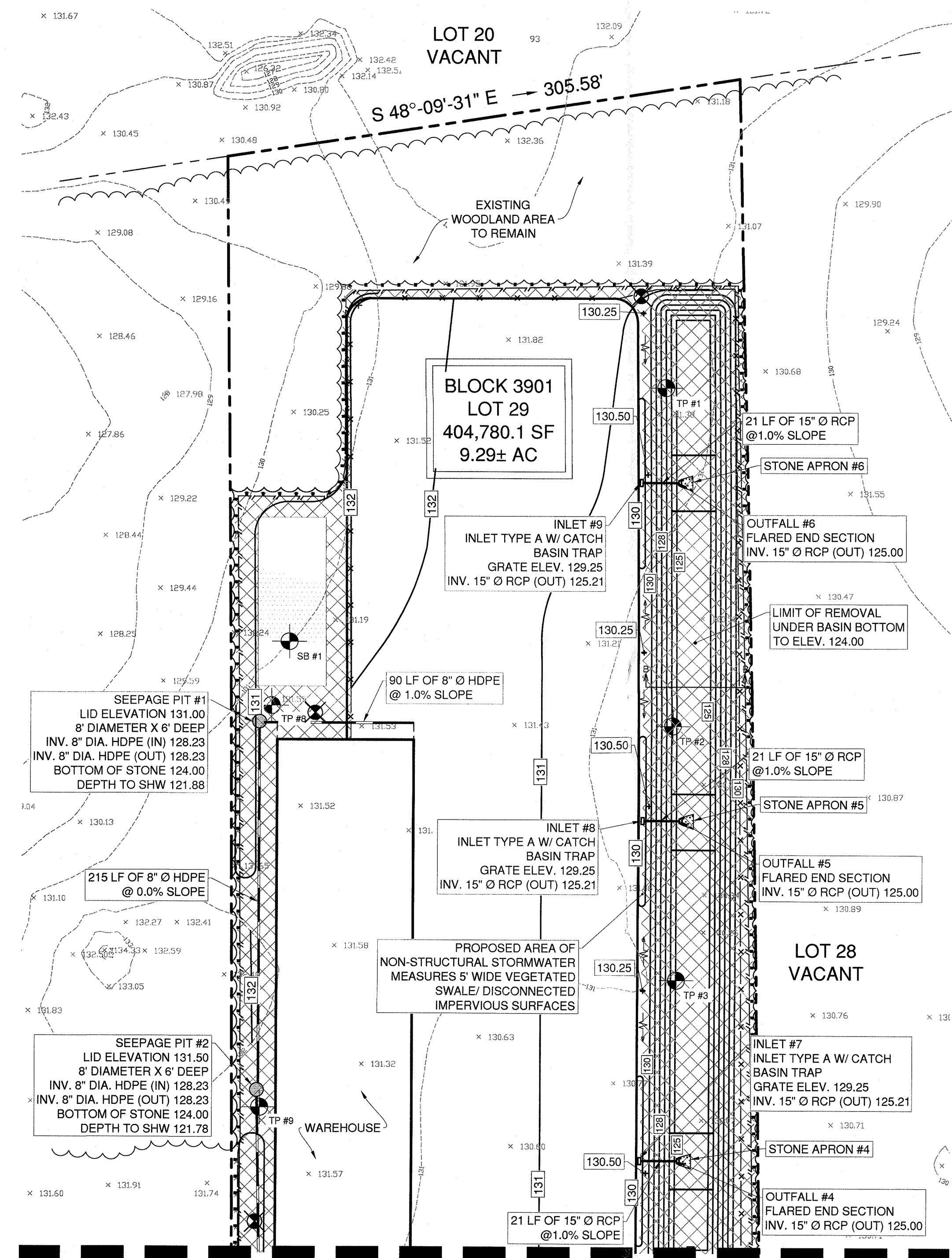


Engineers - Landscape Architects - Planners

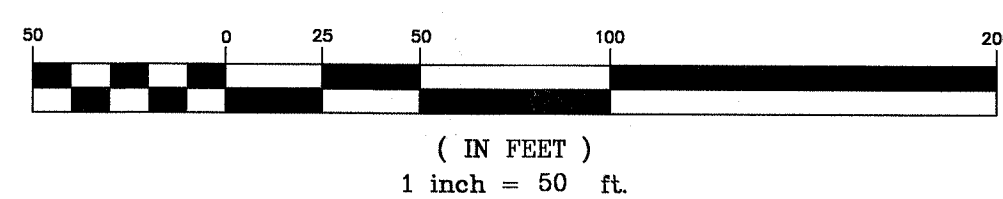
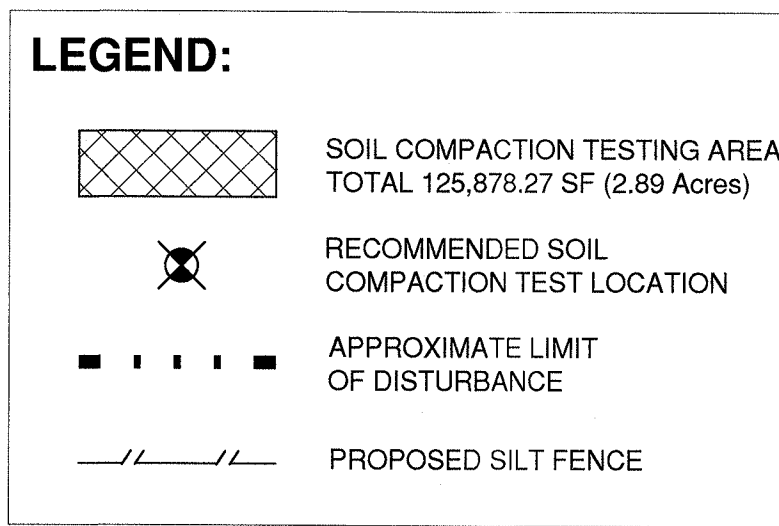
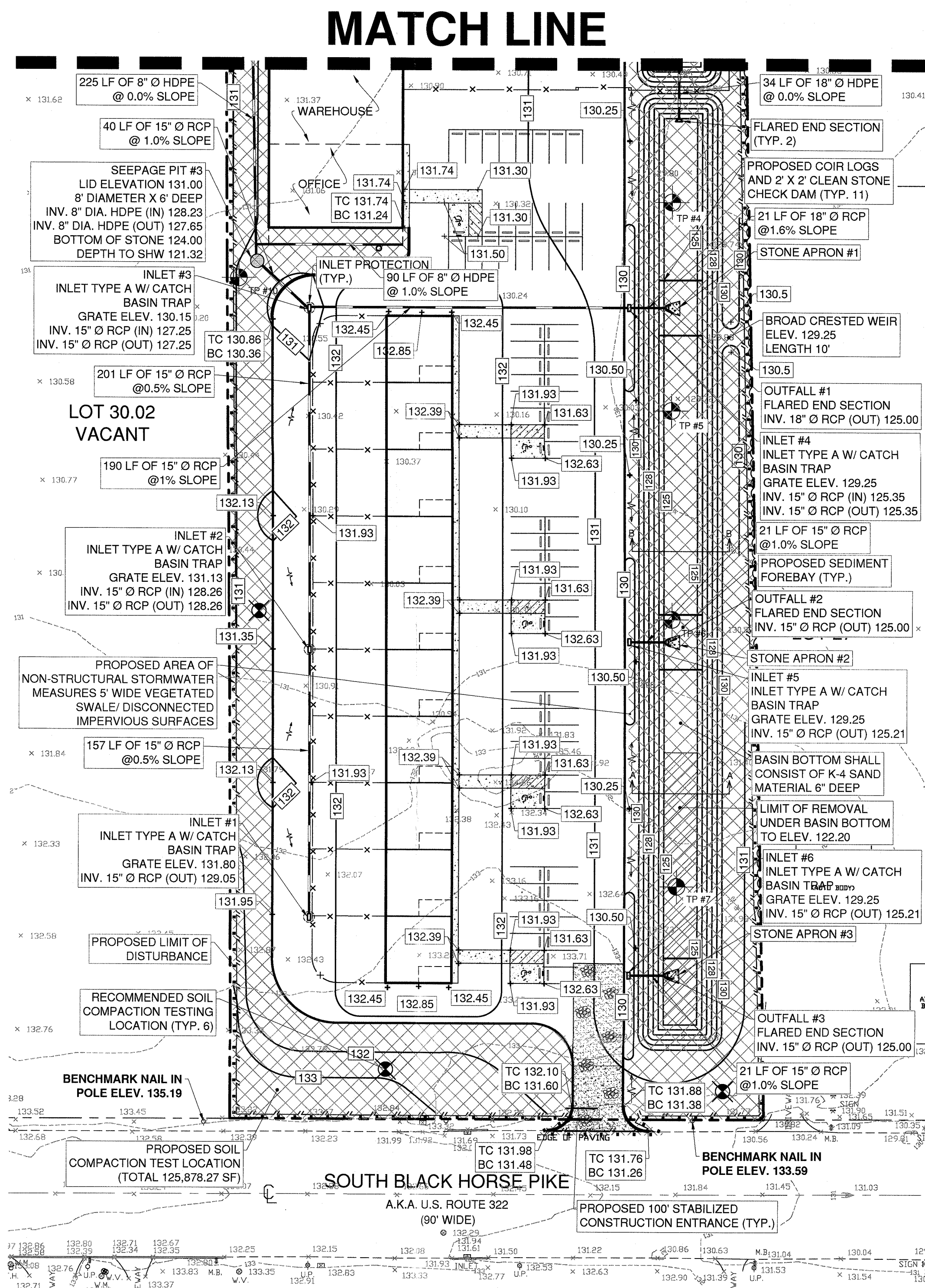


Depth of Seasonal High Water: 112"  
 Depth of Groundwater: >128"  
 Date Performed: 9/25/19  
 Performed By: Christopher J. Carey, LLA





MATCH LINE



# SOIL EROSION & SEDIMENT CONTROL PLAN



Engineers - Landscape Architects - Planners

## 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/tillage (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/tillage (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 maybe substituted subject to District Approval.

## SOIL EROSION NOTES:

A REPORT OF COMPLIANCE MUST BE OBTAINED FROM THE DISTRICT PRIOR TO RECEIVING A CERTIFICATE OF OCCUPANCY FROM THE MUNICIPALITY. A REQUEST FOR A DISTRICT INSPECTION FOR THE RELEASE OF A REPORT OF COMPLIANCE MUST BE MADE 5 WORKING DAYS IN ADVANCE. THIS APPLIES TO BOTH COMPLETE (FINAL) AND CONDITIONAL (TEMPORARY) CERTIFICATES. ALL STREETS AND UNITS MUST BE PROPERLY IDENTIFIED. A REPORT OF COMPLIANCE WILL NOT BE RELEASED FOR A UNIT IF IT CAN NOT BE IDENTIFIED. IDENTIFY ALL UNITS AT THE SITE BY BLOCK, LOT AND STREET ADDRESS.

REMOVE ALL SEDIMENT THAT MAY BE SPILLED, DROPPED OR TRACKED OFF THE PROJECT SITE. ALL PAVED RIGHTS OF WAY ADJACENT TO THE PROJECT SITE MUST BE MAINTAINED IN A CLEAN, SWEEP CONDITION THROUGHOUT CONSTRUCTION. IT MAY BE NECESSARY TO INSTALL CRUSHED STONE PAD(S) TO HELP REDUCE OFF SITE TRACKING OF SEDIMENT.

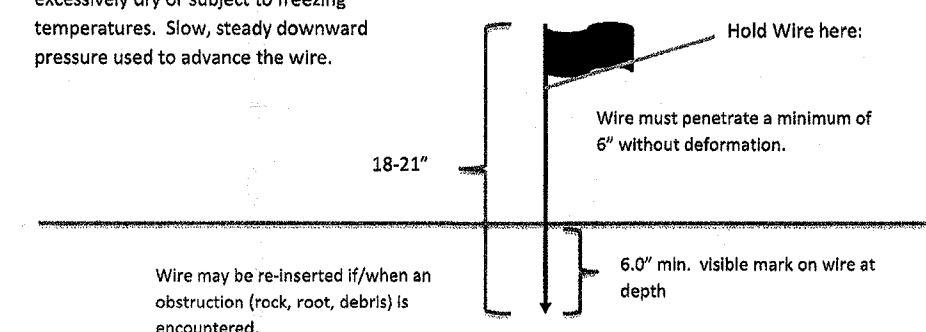
THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORM WATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

## TOPSOIL & SOIL DE-COMPACTION REQUIREMENTS

- A minimum of 5 inches of topsoil is required on areas to be vegetated to improve the soil medium for plant establishment and maintenance per Chapter 8 of the "Standards for Soil Erosion and Sediment Control in New Jersey" dated July 2017.
- Subgrade soils shall be free of excessive compaction to a depth of 6 inches to enhance the establishment of permanent vegetative cover per Chapter 19 of the "Standards for Soil Erosion and Sediment Control in New Jersey" dated July 2017.
- Subsoils are to be proactively de-compacted or soil compaction tested prior to the application of topsoil. Compaction testing method/procedure shall be performed per Chapter 19 by the contractor or other project owner's representative. If the testing indicates subsoil compaction, the subsoil shall be de-compacted to a depth of 6 inches prior to the application of topsoil.
- If compaction testing is not performed, subsoils shall be scarified/tilled to a minimum depth of 6 inches as part of the sequence of construction 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 maybe substituted subject to District approval.

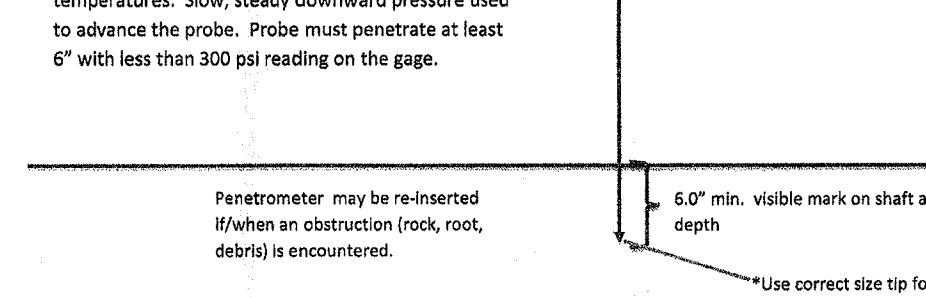
### Probing Wire Test: 15.5 ga steel wire (survey flag)

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.



### Handheld Soil Penetrometer Test

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 probe. Probe must penetrate at least 6 inches with less than 300 psi reading on the gage.



PRELIMINARY PLAT - SITE PLAN



SOIL EROSION & SEDIMENT CONTROL  
BLOCK 3901, LOT 29  
MONROE TOWNSHIP  
GLOUCESTER COUNTY, NEW JERSEY

JOSEPH H. MAFFEI

PROFESSIONAL ENGINEER  
N.J.P.E. LIC. #37894

*Joseph H. Maffei*

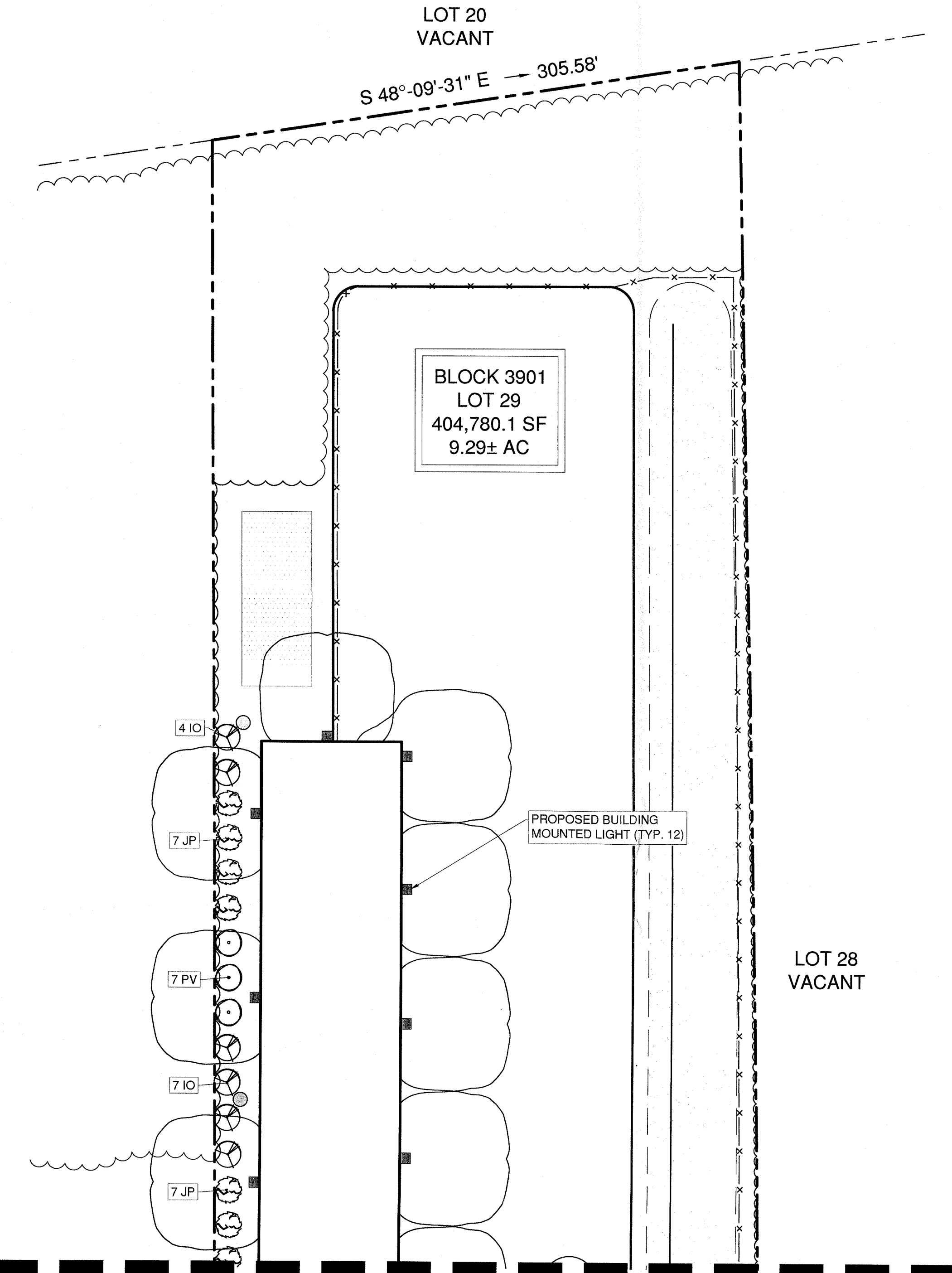
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| REV. PER TWP & COUNTY SUBMISSION | 12/18/19 | MAJ |
| REV. PER NJ PINELANDS COMMISSION | 10/2/19  | MAJ |
| REV. PER NJ PINELANDS COMMISSION | 8/7/19   | MAJ |
| REVISION                         | DATE     | BY  |

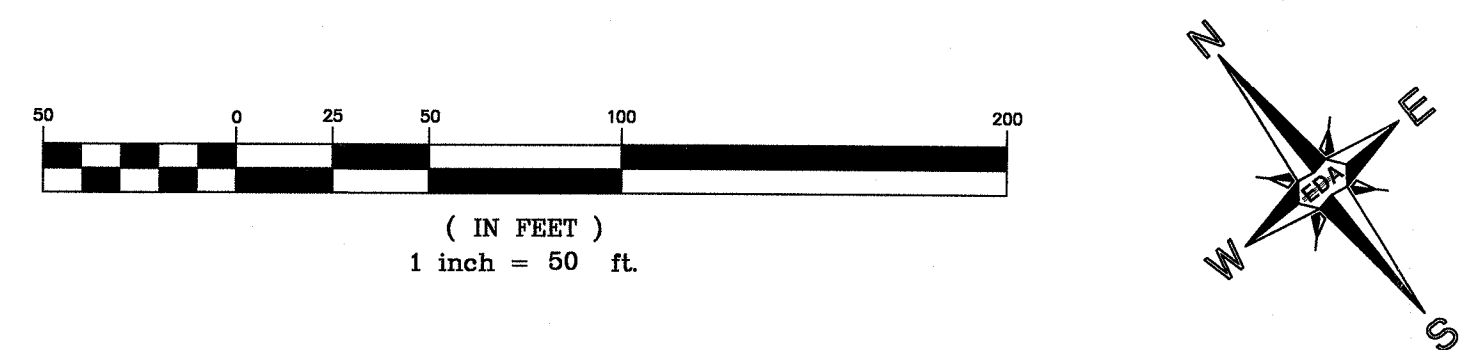


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| SCALE: 1" = 50' | CHECKED BY: JHM |
| PROJECT #: 8146 | SHEET: 5 OF 10  |





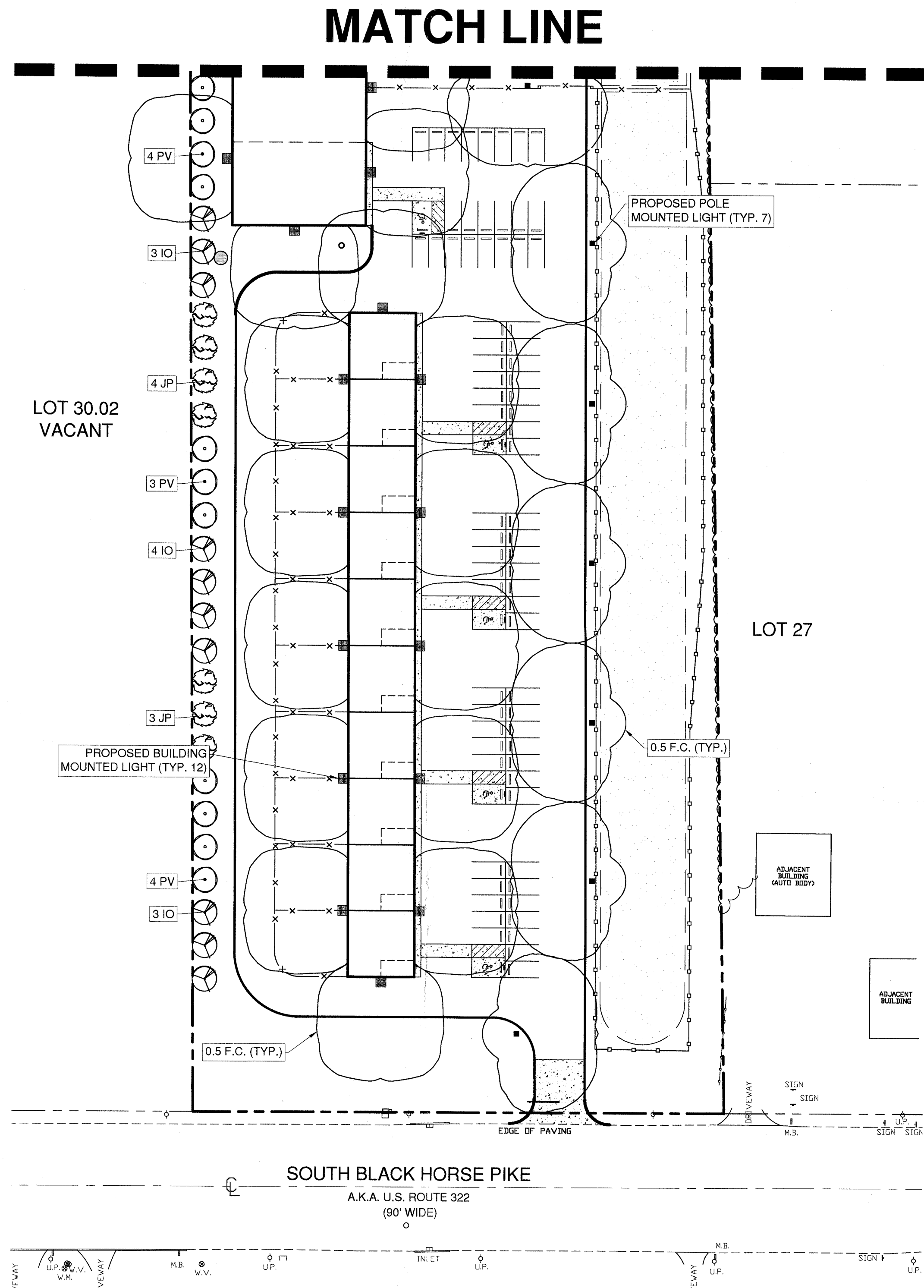
MATCH LINE



# LIGHTING & LANDSCAPING PLAN



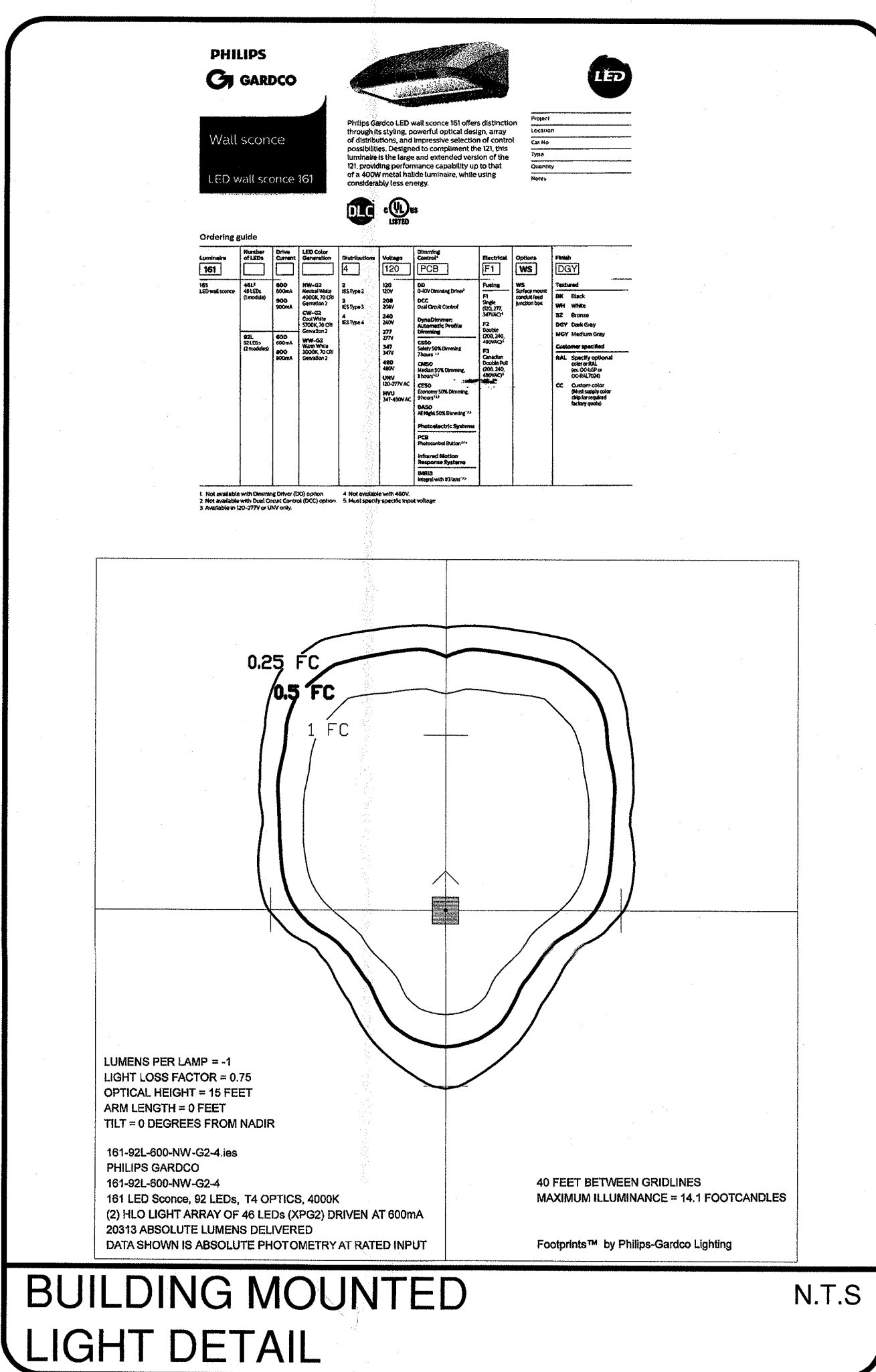
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MATCH LINE

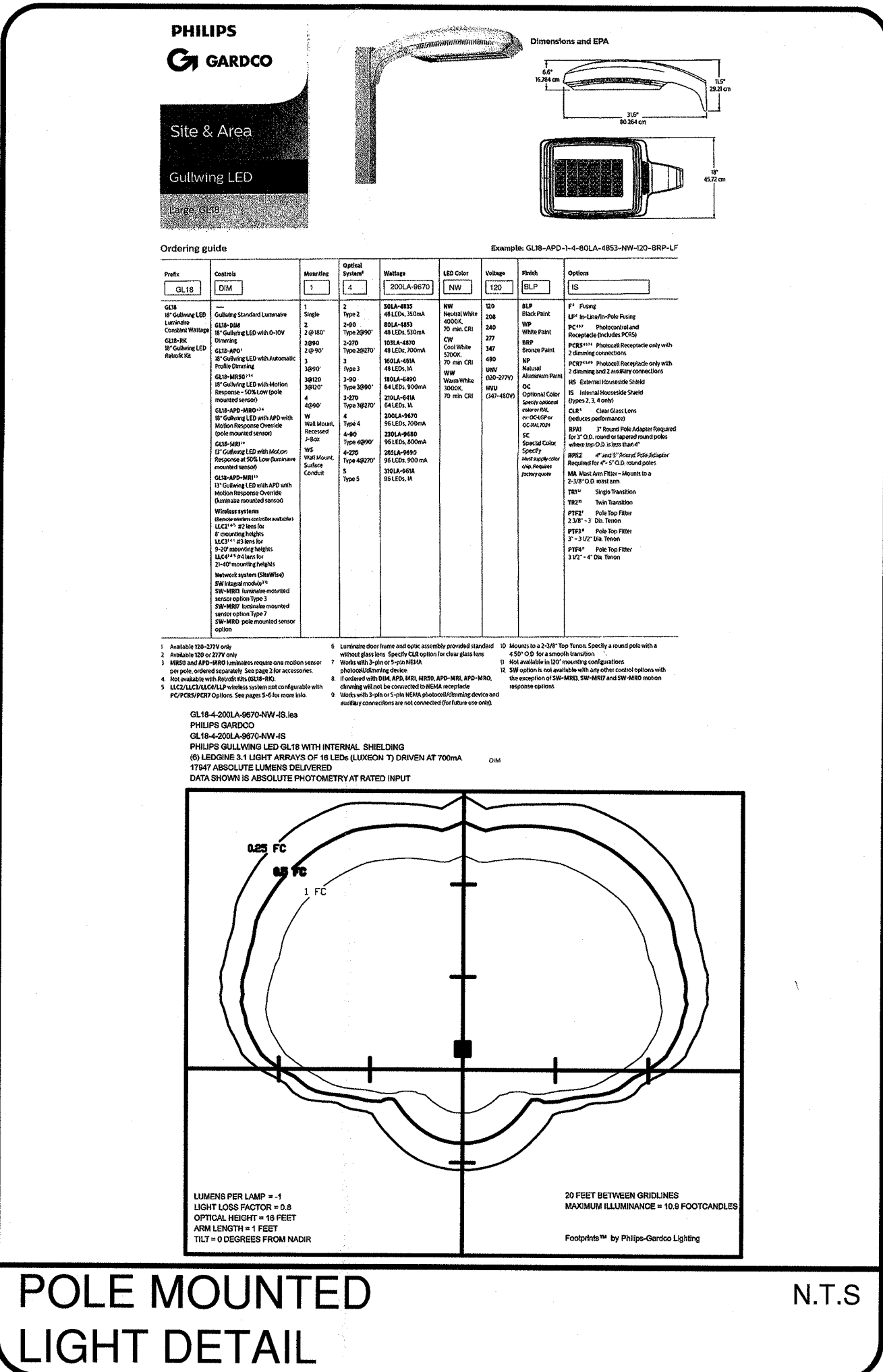
## PLANT SCHEDULE

| Abbr          | Botanical Name                         | Common Name       | Quantity | Size    | Comment |
|---------------|--|-------------------|----------|---------|---------|
| <b>TREES</b>  |  |                   |          |         |         |
| IO            | <i>Ilex opaca</i>                      | American Holly    | 16       | 40'-50' | B & B   |
| PV            | <i>Pinus virginiana</i>                | Virginia Pine     | 14       | To 40'  | B & B   |
| JP            | <i>Juniperus virginiana</i>            | Red Cedar         | 14       | 40'-50' | B & B   |
| <b>SHRUBS</b> |  |                   |          |         |         |
| IG            | <i>Ilex glabra</i> 'Compacta'          | Inkberry Holly    | 8        | 30"-36" | 7 Gal.  |
| CA            | <i>Clethra alnifolia</i> 'Hummingbird' | Sweet pepperbush  | 18       | 15"-18" | 3 Gal.  |
| MP            | <i>Myrica pensylvanica</i>             | Northern Bayberry | 2        | 4'-5'   | 7 Gal.  |



BUILDING MOUNTED LIGHT DETAIL


N.T.S



POLE MOUNTED LIGHT DETAIL

N.T.S

PRELIMINARY PLAT - SITE PLAN



Engineers - Landscape Architects - Planners

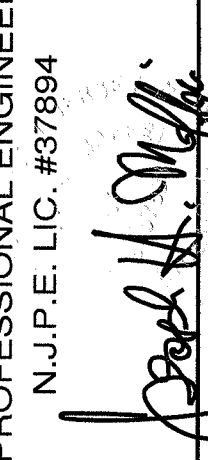
Cambridge Professional Offices  
5 Cambridge Drive Ocean View New Jersey 08230  
(609) 390-0332 • Fax (609) 390-0204  
CERTIFICATE OF AUTHORIZATION: 2654270330

**LIGHTING & LANDSCAPING PLAN**

BLOCK 3901, LOT 29  
MONROE TOWNSHIP  
GLOUCESTER COUNTY, NEW JERSEY

**JOSEPH H. MAFFEI**

PROFESSIONAL ENGINEER  
N.J.P.E. LIC. #37894



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| REV. PER NJ PINELANDS COMMISSION | 8/7/19   | MAJ |
| REVISION                         | DATE     | BY  |



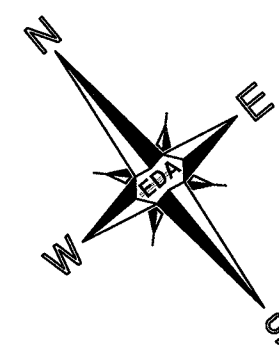
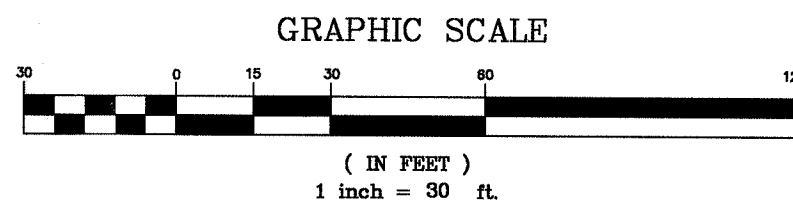
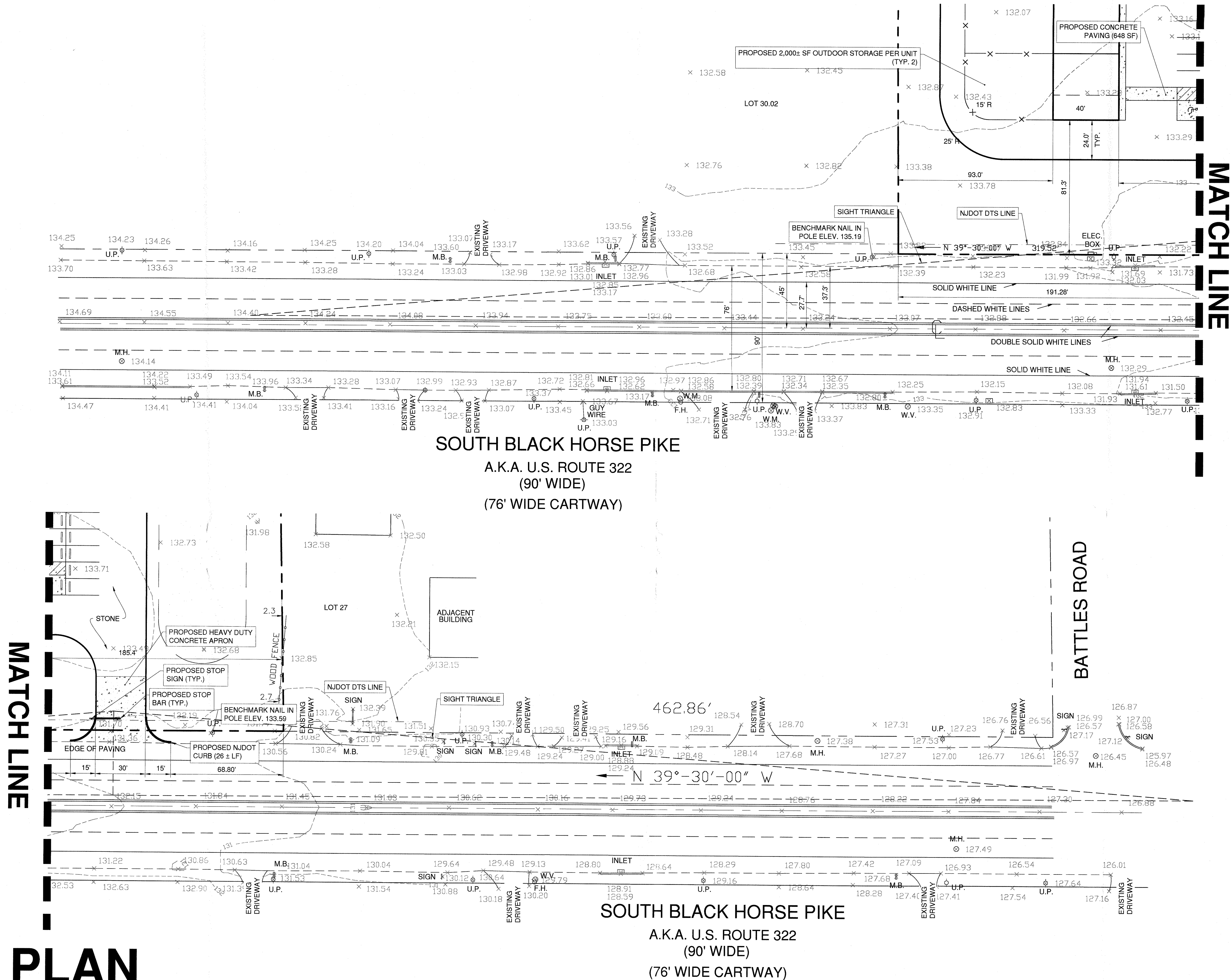
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| DATE: 6/19/19   | DRAWN BY: MAJ   |
| SCALE: AS NOTED | CHECKED BY: JHM |
| PROJECT #: 8146 | SHEET: 6 OF 10  |



# NJDOT PLAN S. BLACK HORSE PIKE



Engineers - Landscape Architects - Planners



PRELIMINARY PLAT - SITE PLAN



Engineering  
Design  
Associates, P.A.  
Environmental Planners Landscape Architects

CAMBRIDGE PROFESSIONAL OFFICES  
5 Cambridge Drive Ocean View New Jersey 08230  
(609) 390-0332 • Fax (609) 390-9204  
CERTIFICATE OF AUTHORIZATION #242729300

**NJDOT PLAN**  
**SOUTH BLACK HORSE PIKE**  
**BLOCK 3901, LOT 29**  
**MONROE TOWNSHIP**  
**GLoucester COUNTY, NEW JERSEY**

**JOSEPH H. MAFFEI**

PROFESSIONAL ENGINEER  
N.J.P.E. LIC. #37894

*Joseph H. Maffei*

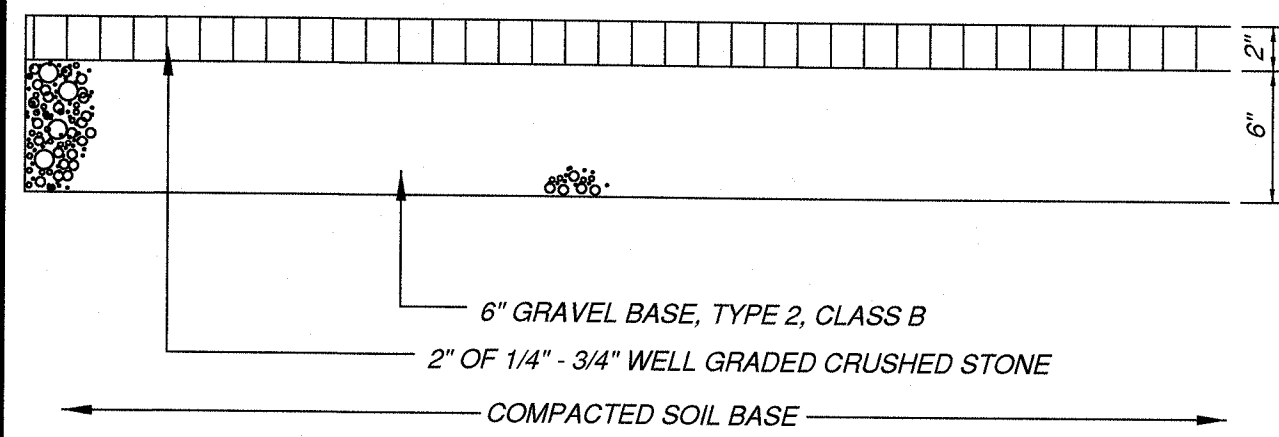
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| REV. PER NJ PINELANDS COMMISSION | 8/7/19   | MAJ |
| REVISION                         | DATE     | BY  |



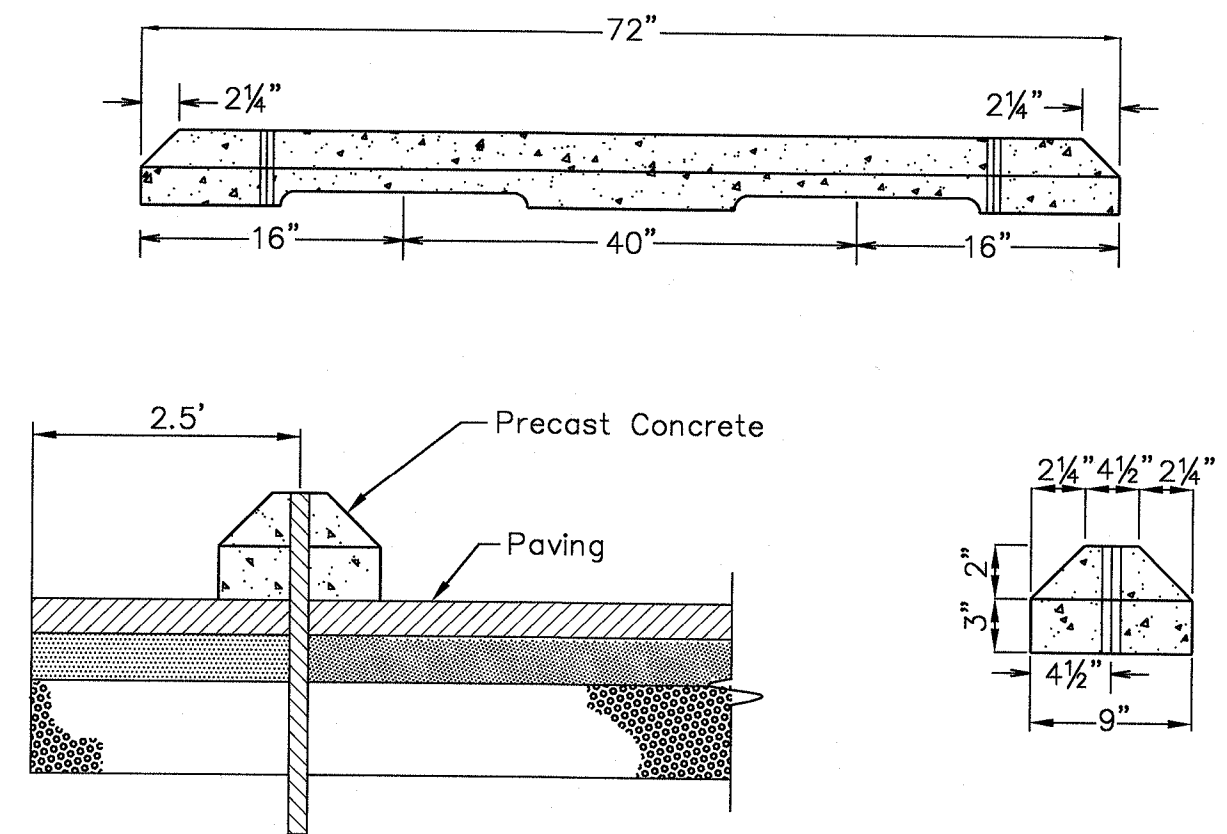
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| SCALE: 1" = 30' | CHECKED BY: JHM |
| PROJECT #: 8146 | SHEET: 7 OF 10  |





STONE PAVING DETAIL

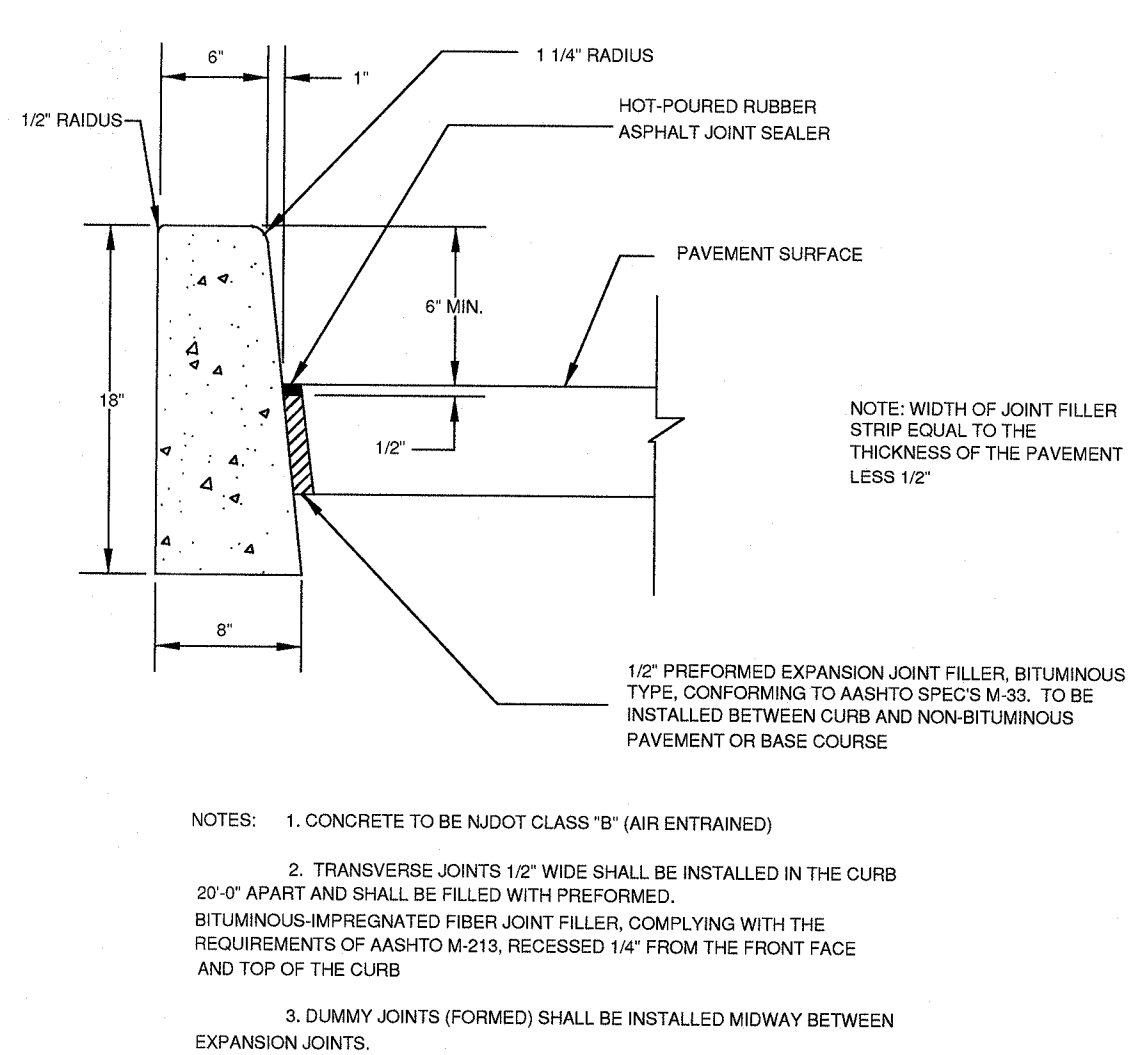
N.T.S



**NOTE:**  
Designed to give optimum stopping power with maximum resistance to tipping.  
Approx. Weight = 216 lbs.

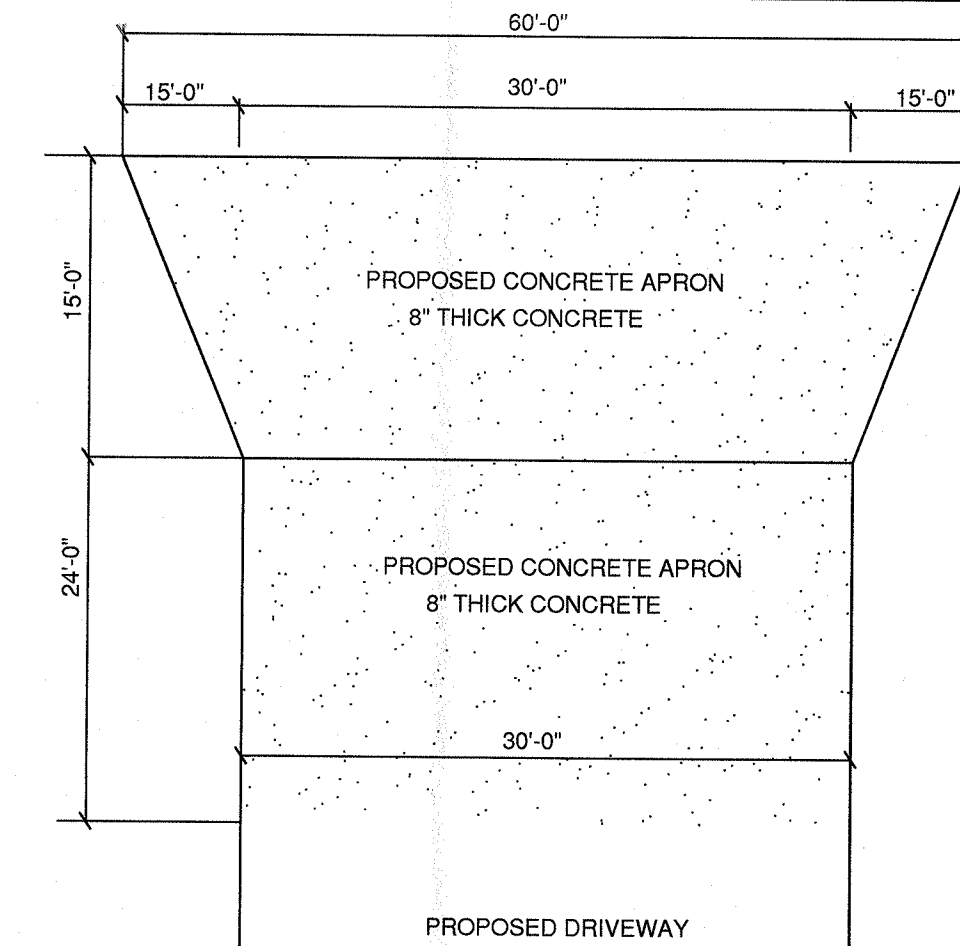
WHEEL STOP DETAIL

N.T.S



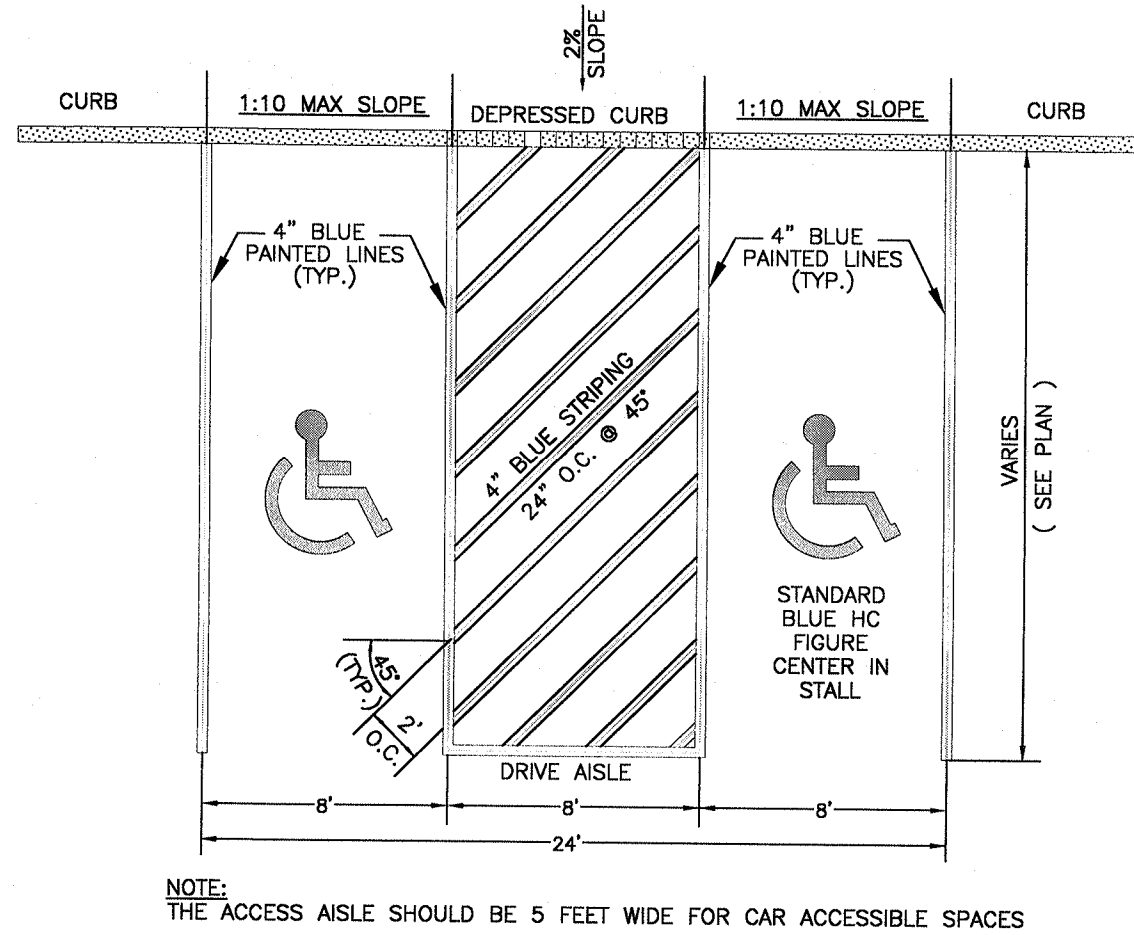
CONCRETE CURB DETAIL

N.T.S



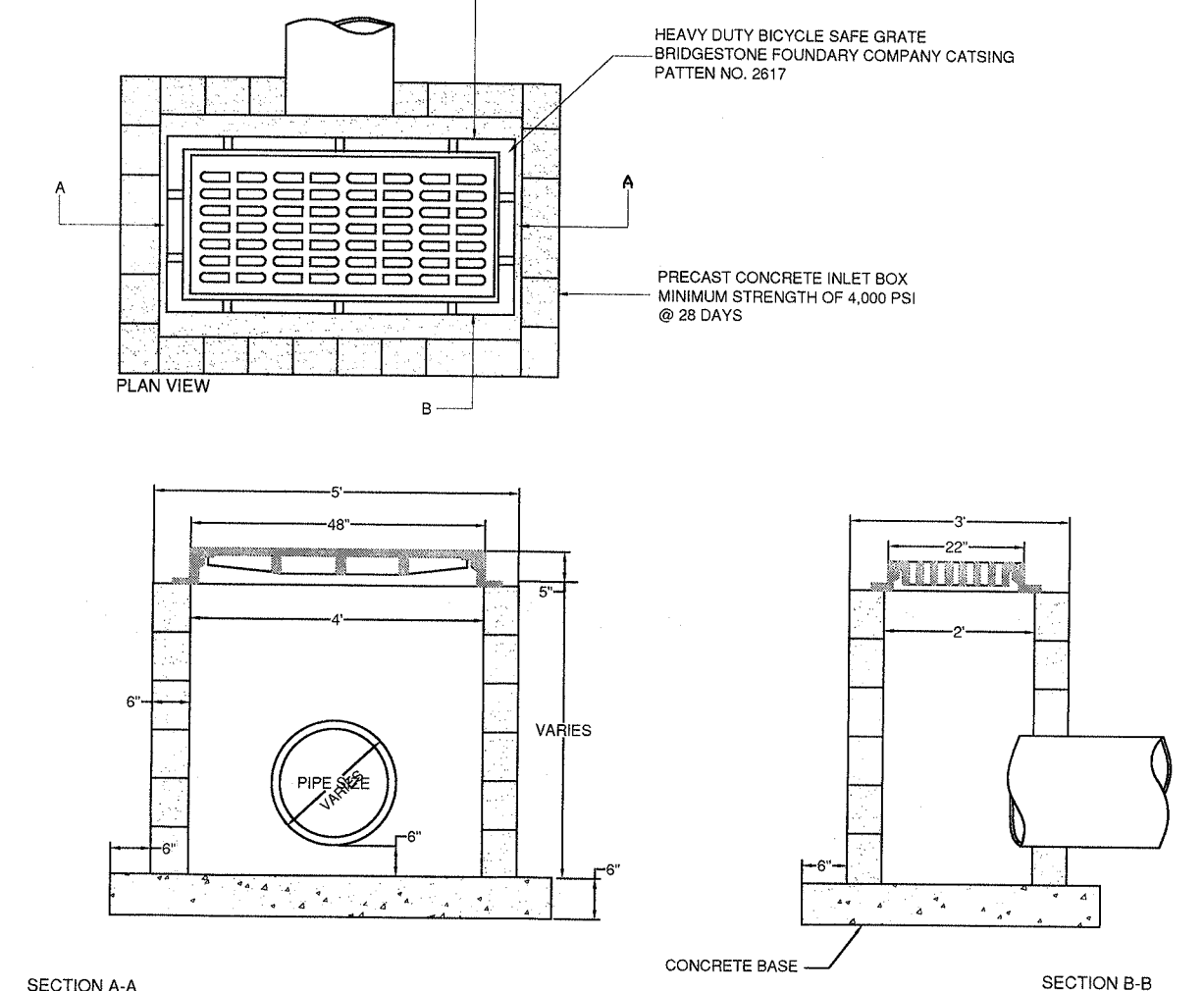
CONCRETE APRON DETAIL

N.T.S



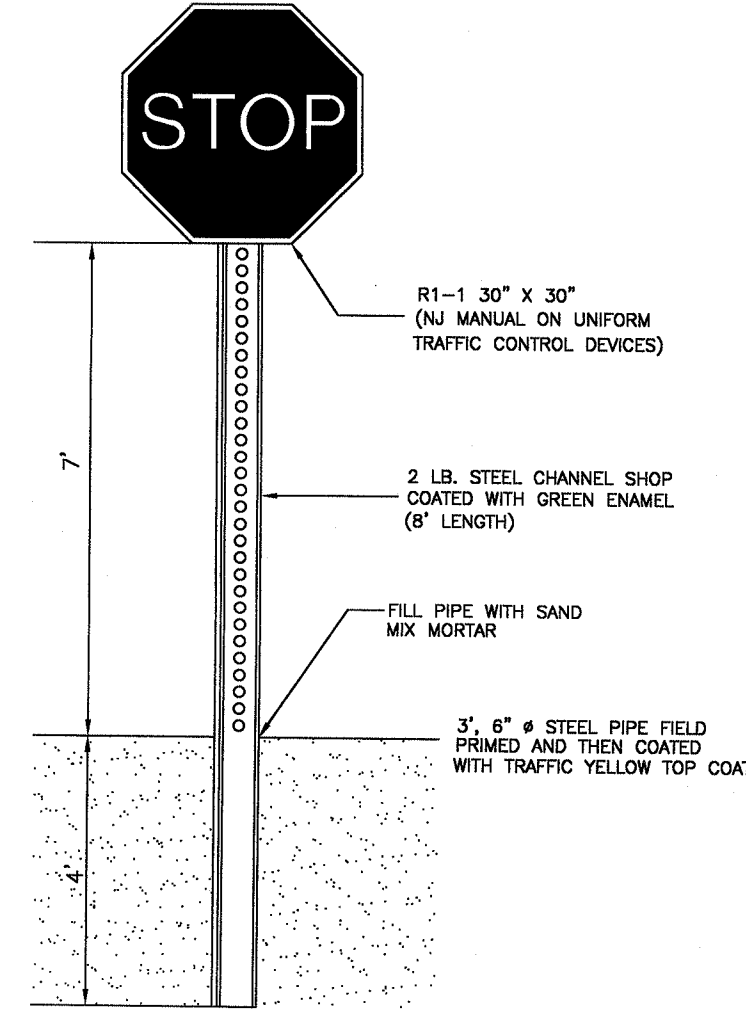
HANDICAP PARKING SPACE DETAIL

N.T.S



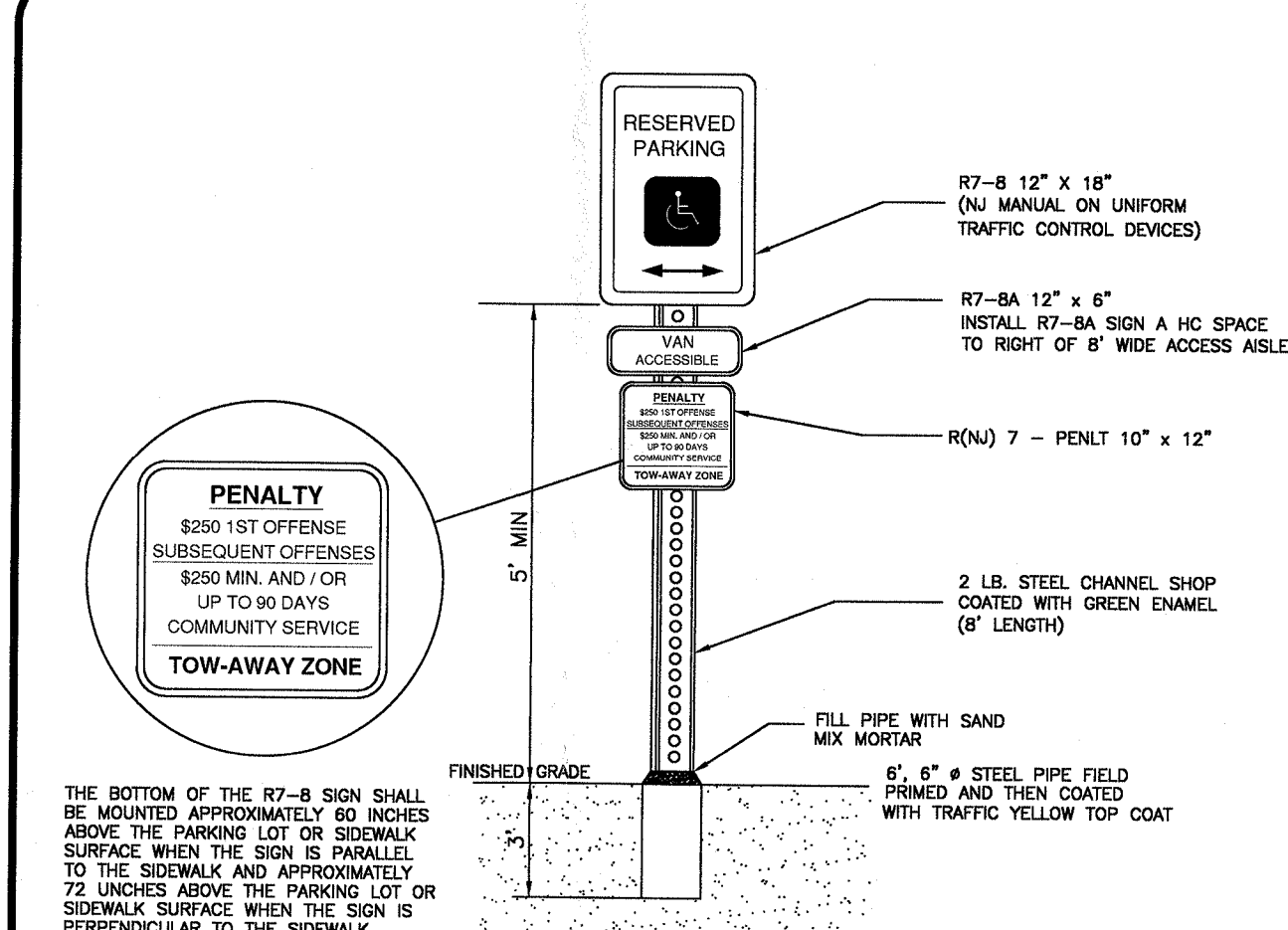
INLET TYPE A DETAIL

N.T.S



STOP SIGN DETAIL

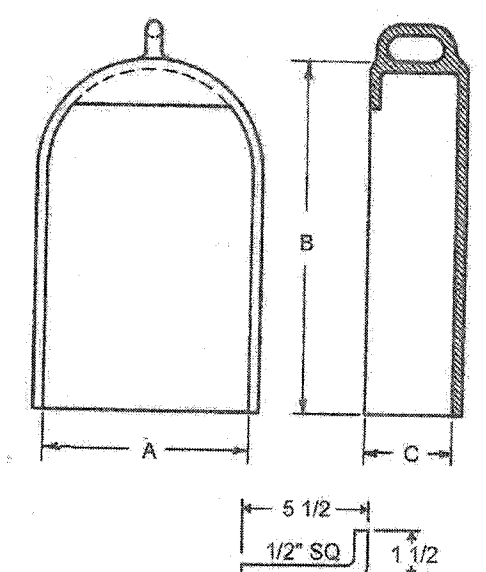
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HANDICAP SIGN DETAIL

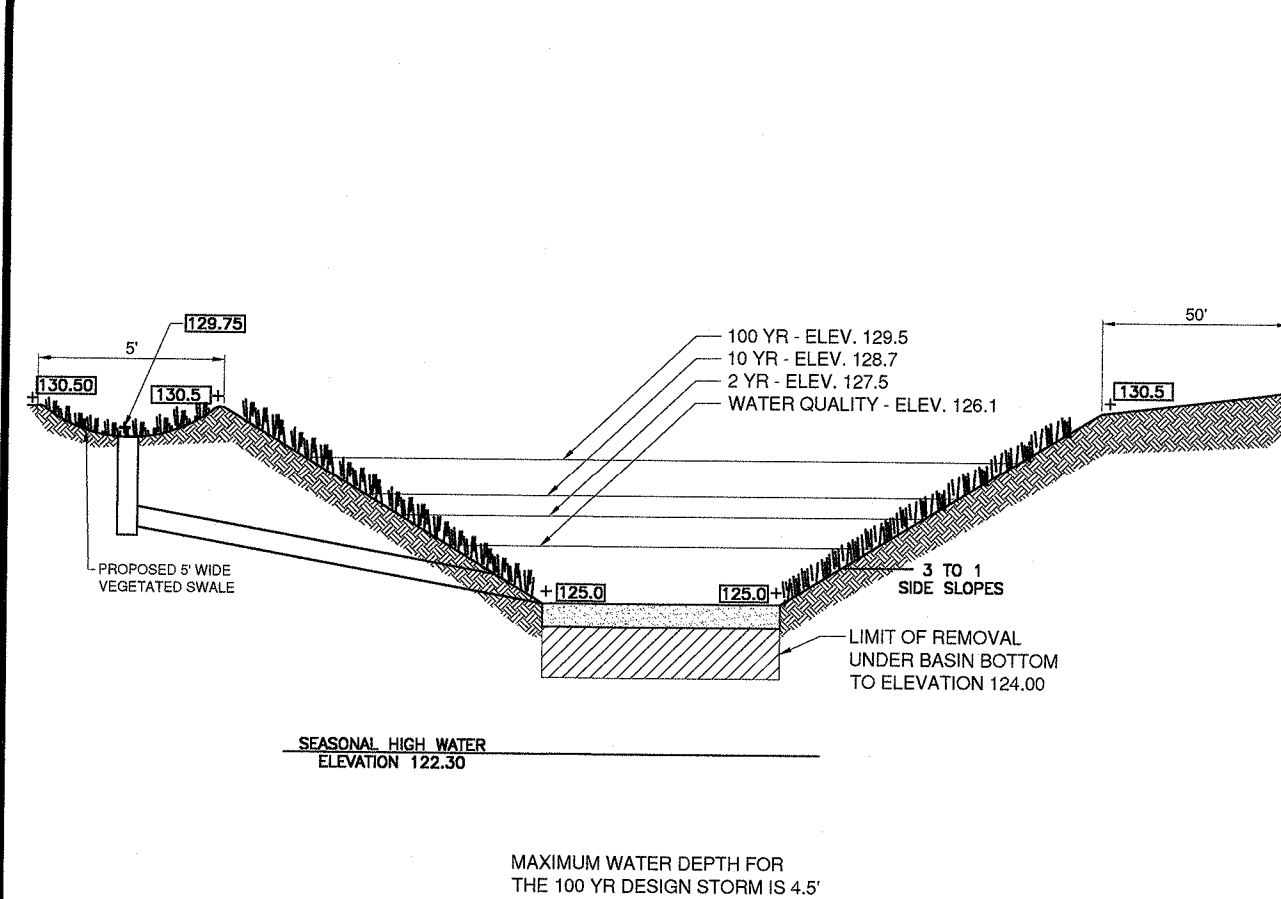
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STANDARD TRAP



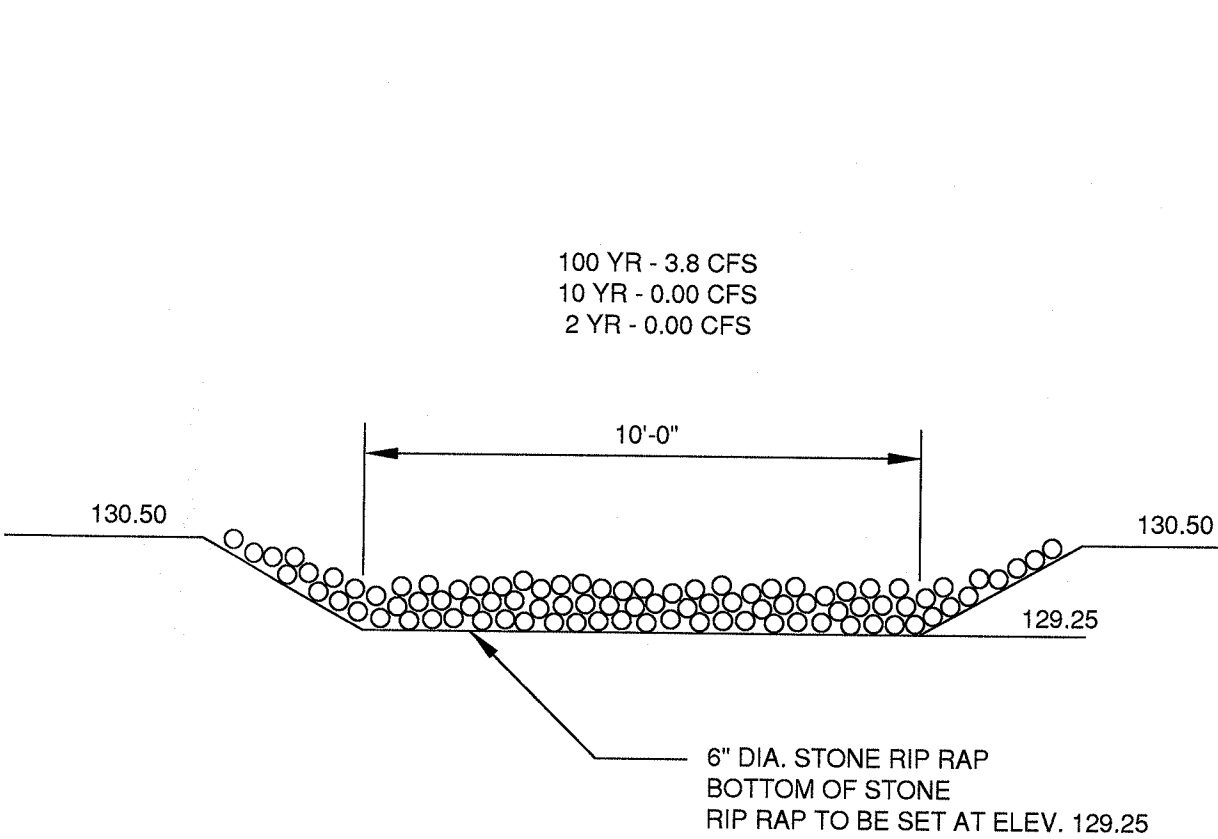
CATCH BASIN TRAP DETAIL

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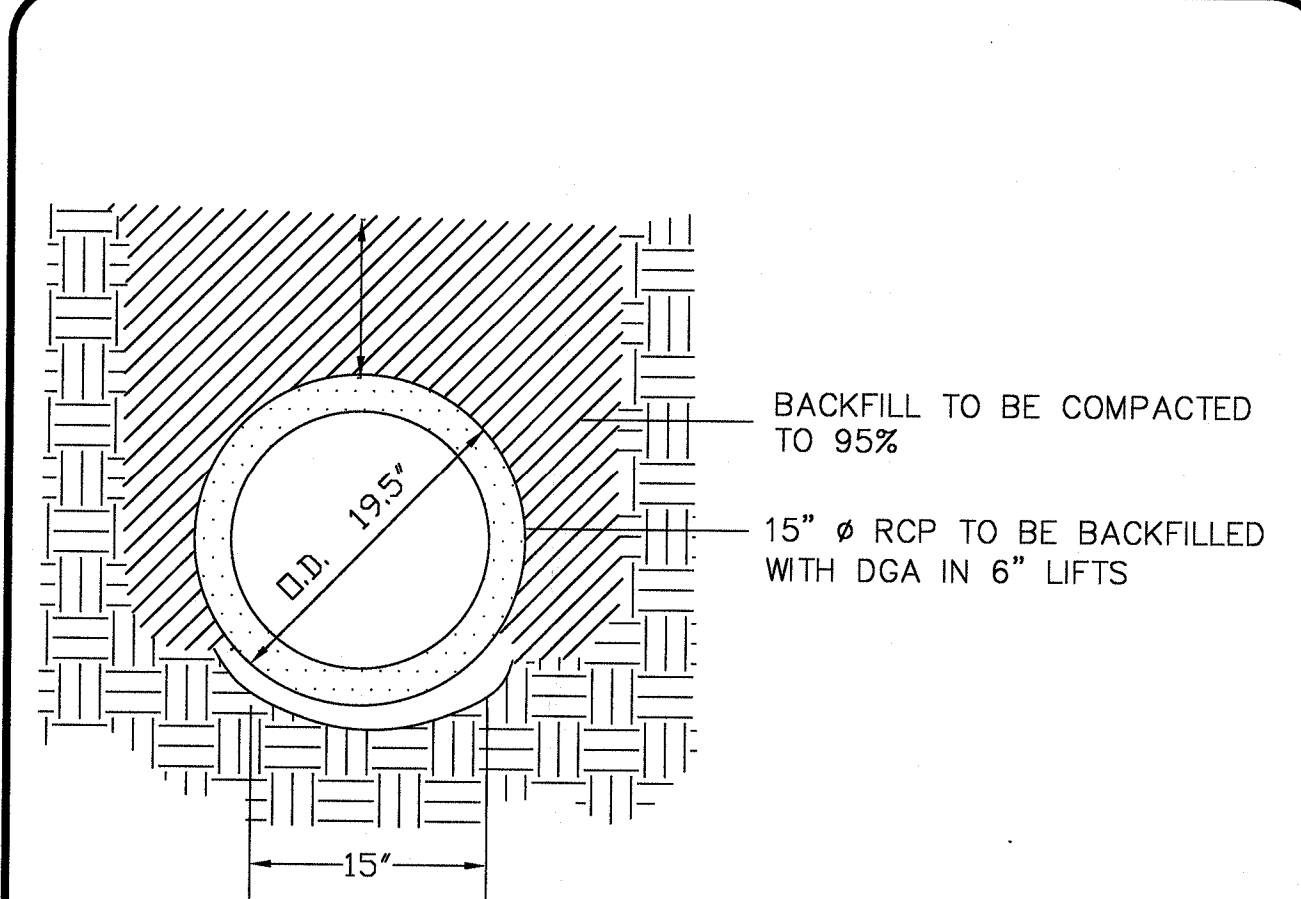
STORMWATER BASIN DETAIL  
SECTION B-B

N.T.S



WEIR DETAIL

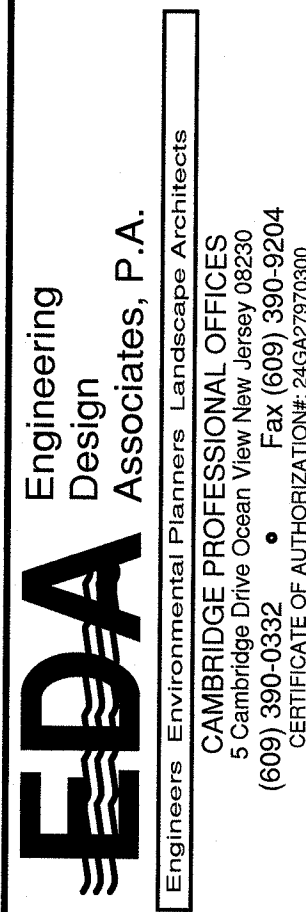
N.T.S



PIPE BEDDING DETAIL

N.T.S

PRELIMINARY PLAT - SITE PLAN



**ENGINEERING DETAILS**  
BLOCK 3901, LOT 29  
MONROE TOWNSHIP  
GLOUCESTER COUNTY, NEW JERSEY

**JOSEPH H. MAFFEI**

PROFESSIONAL ENGINEER  
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| REV. PER NJ PINELANDS COMMISSION | 8/7/19   | MAJ |
| REVISION                         | DATE     | BY  |

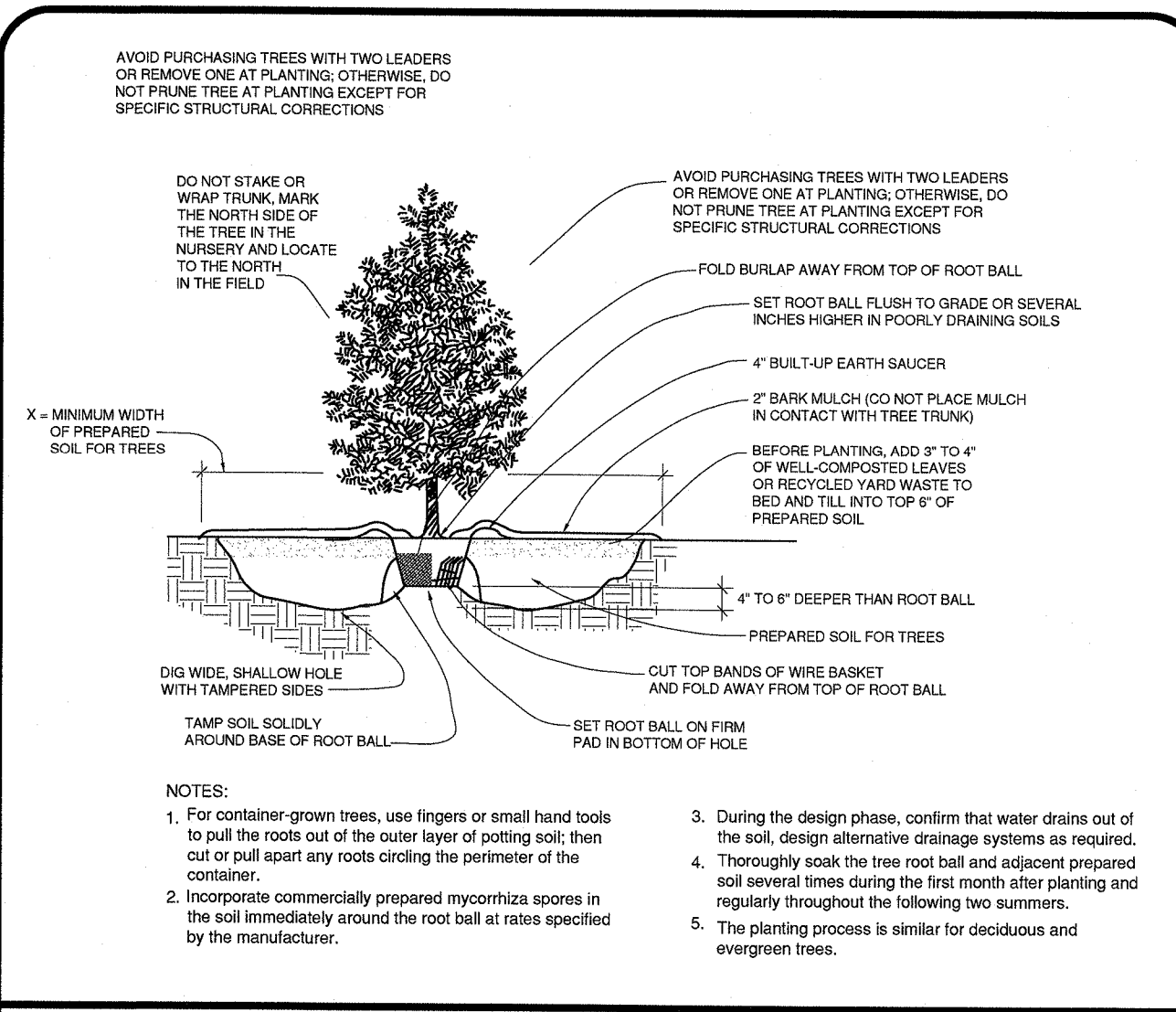


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| DATE: 6/19/19   | DRAWN BY: MAJ   |
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| PROJECT #: 8146 | SHEET: 8 OF 10  |

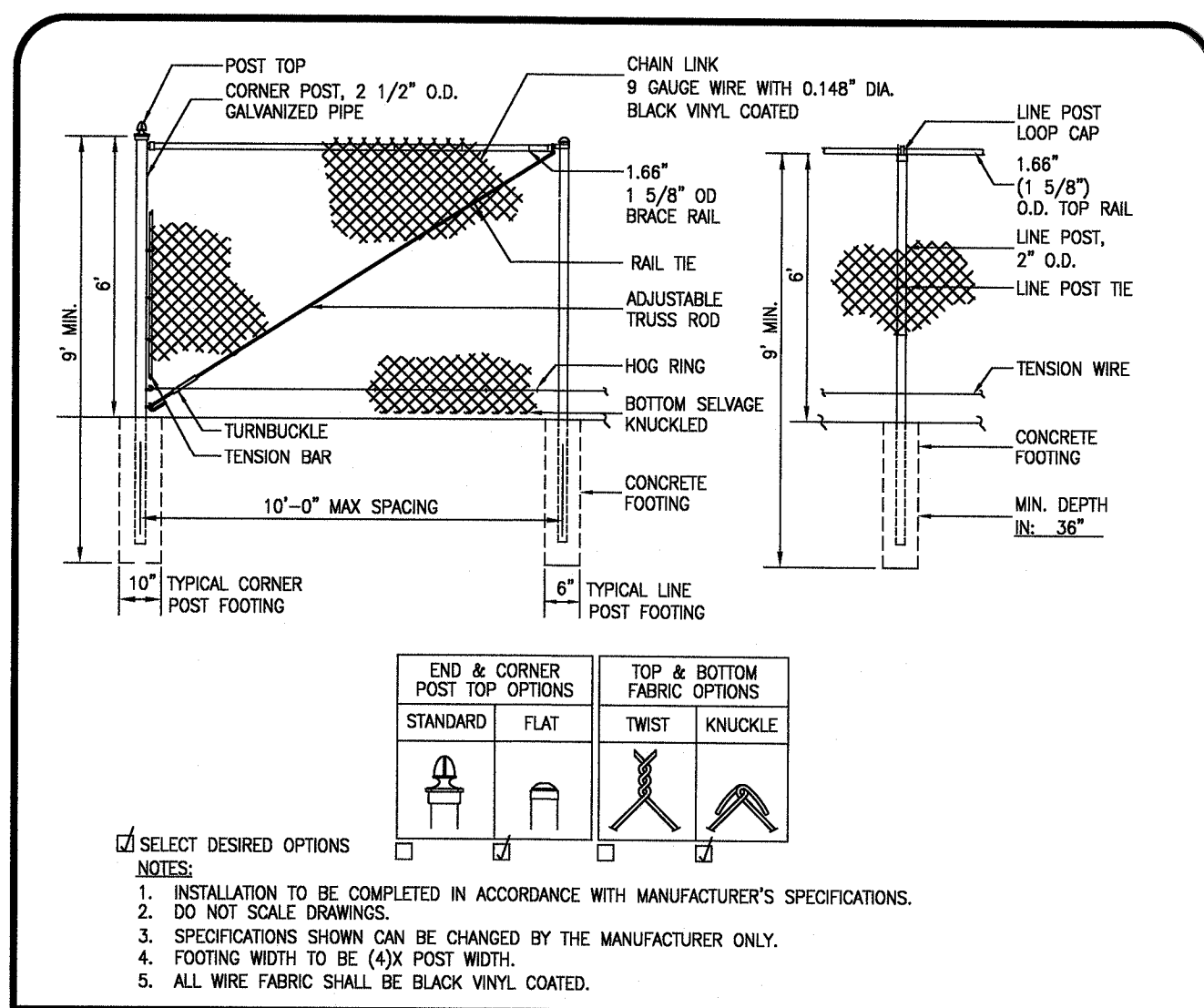


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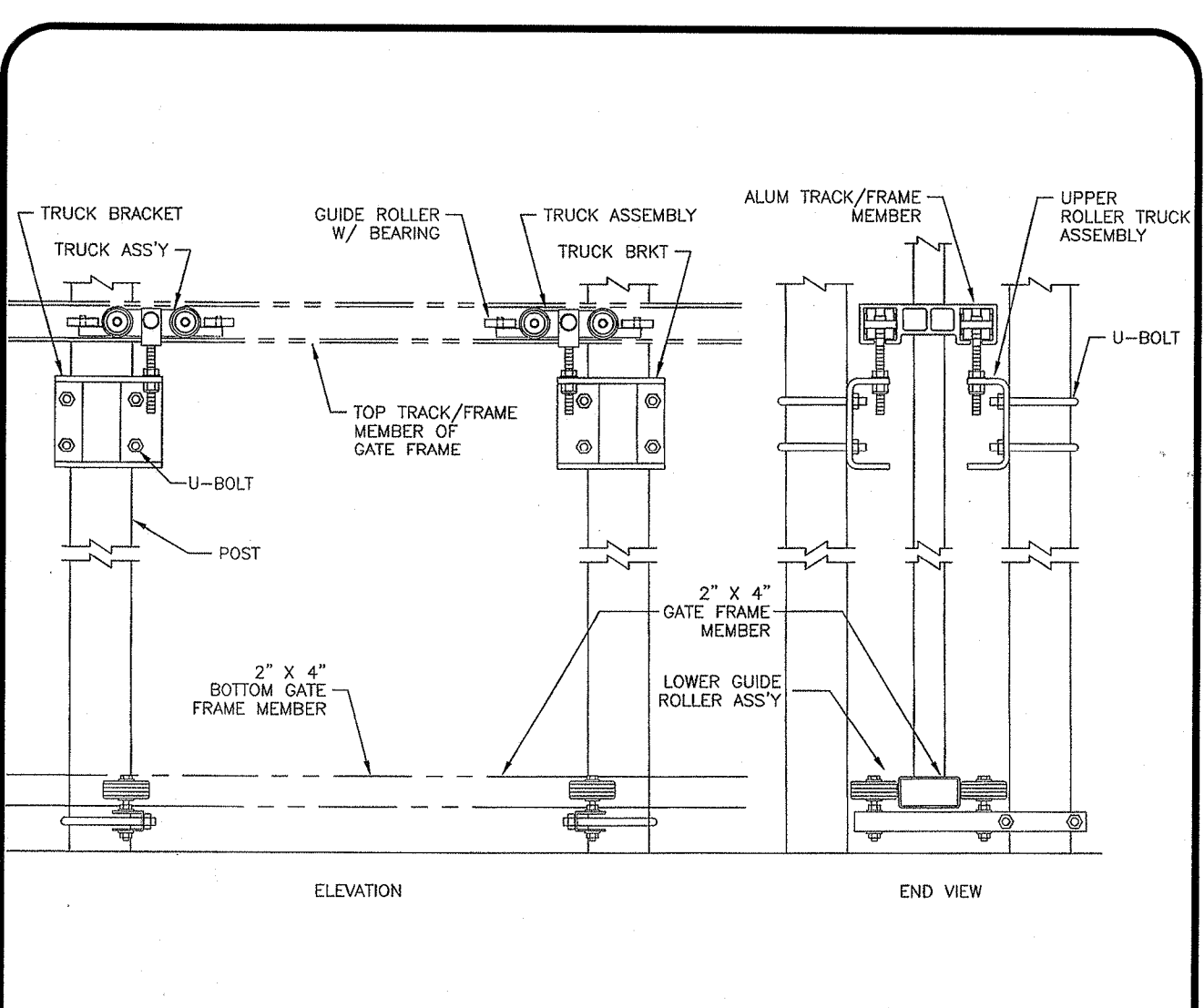




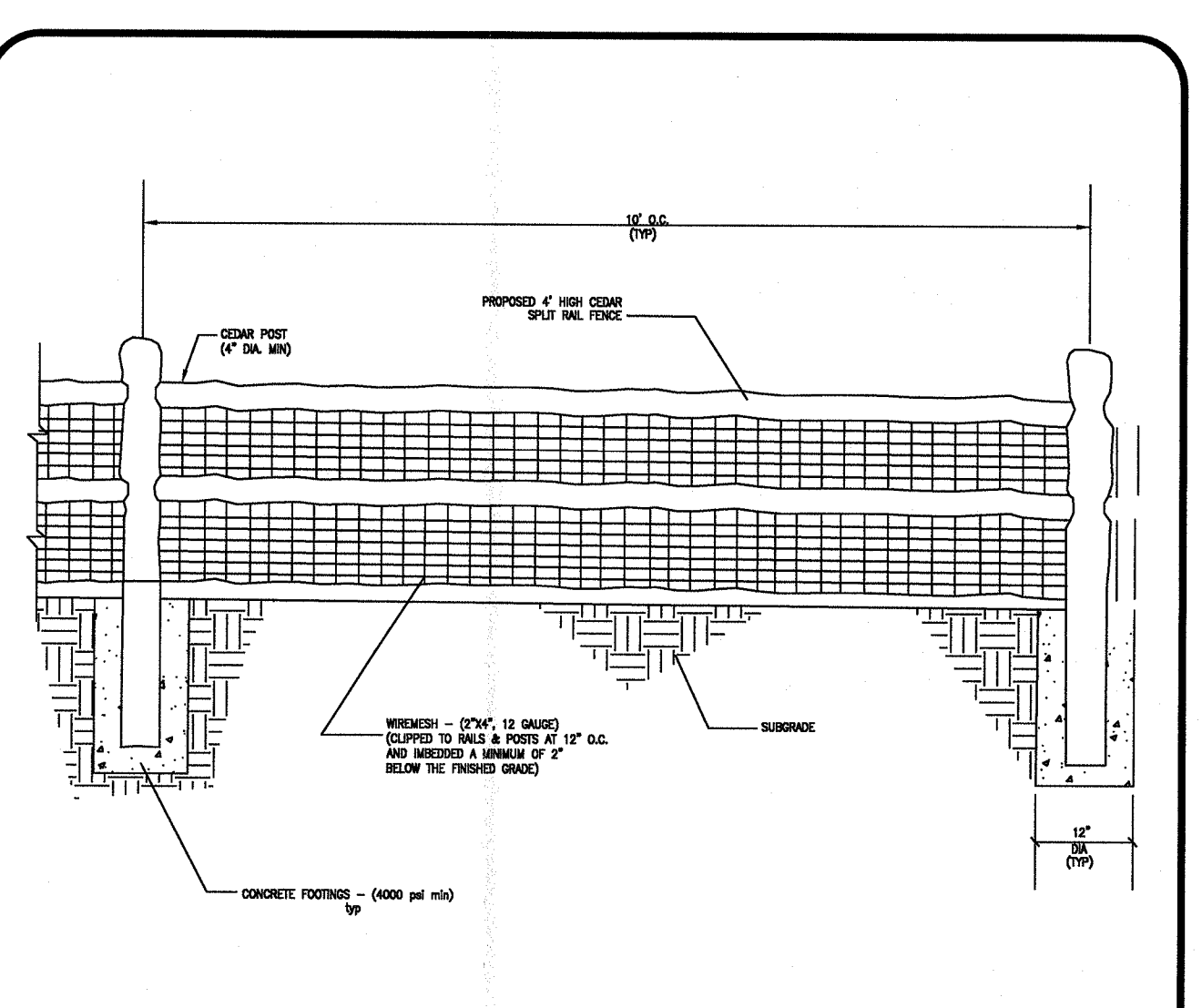
TREE PLANTING DETAIL N.T.S



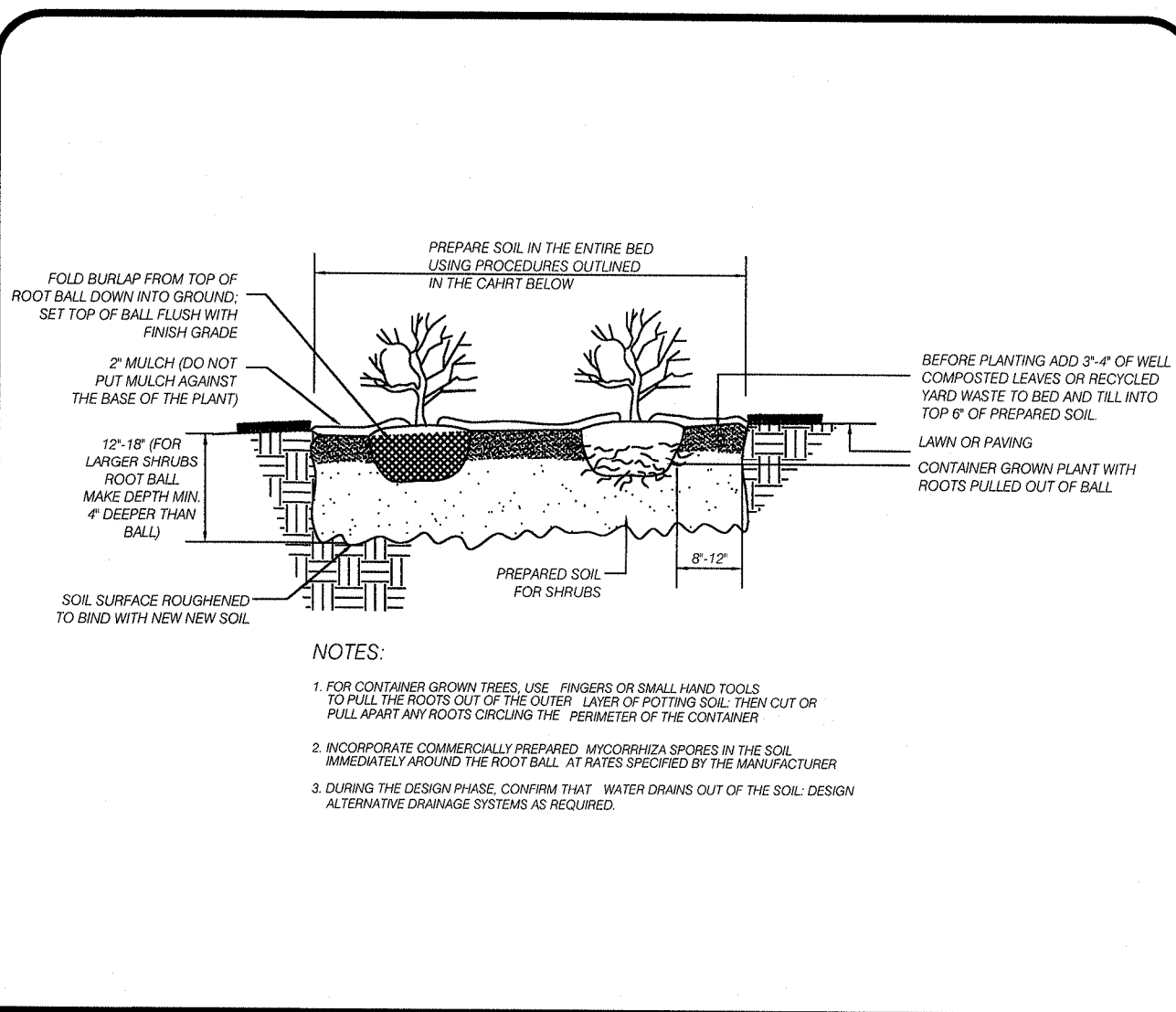
CHAIN LINK FENCE DETAIL N.T.S



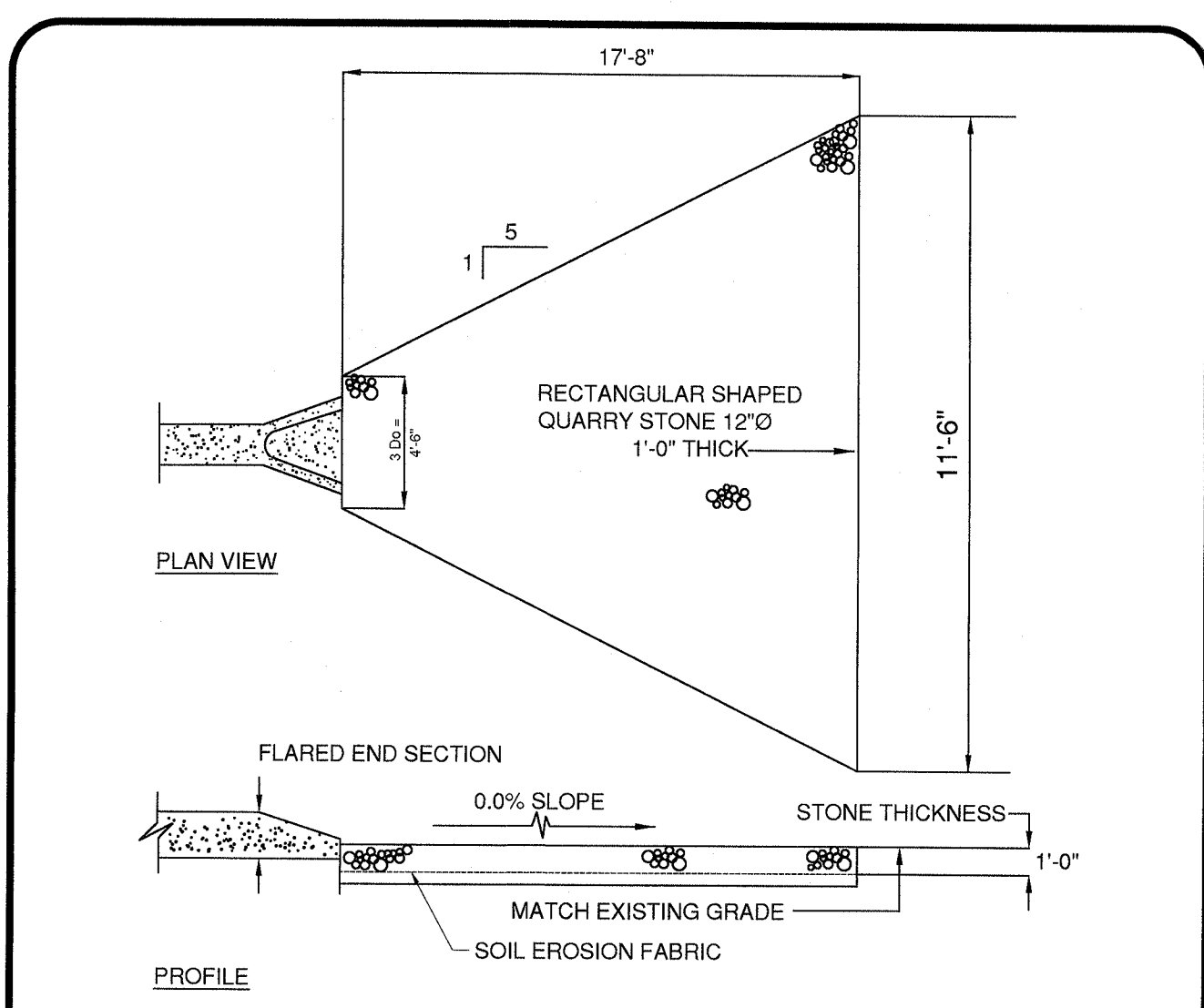
SLIDING GATE DETAIL N.T.S



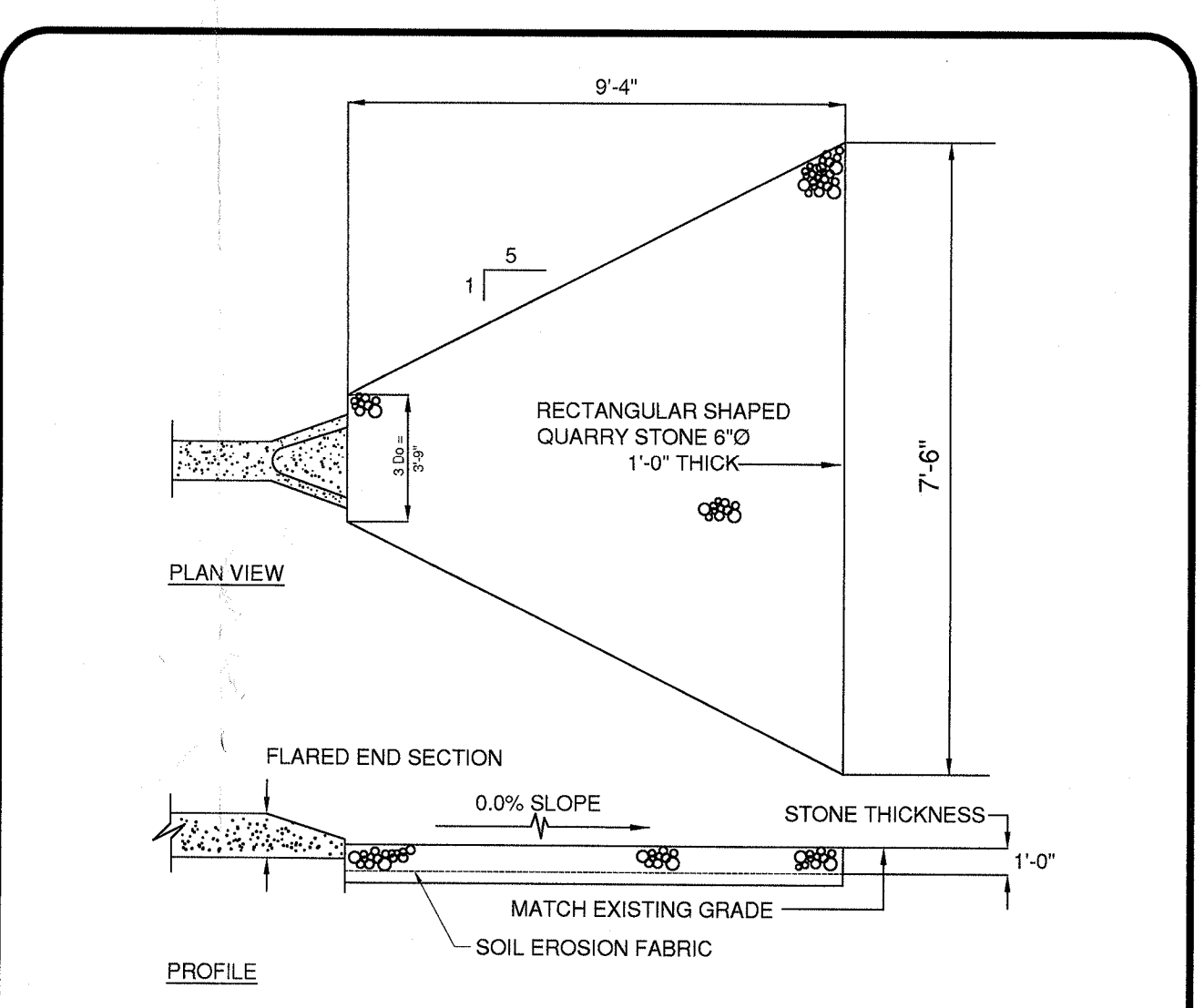
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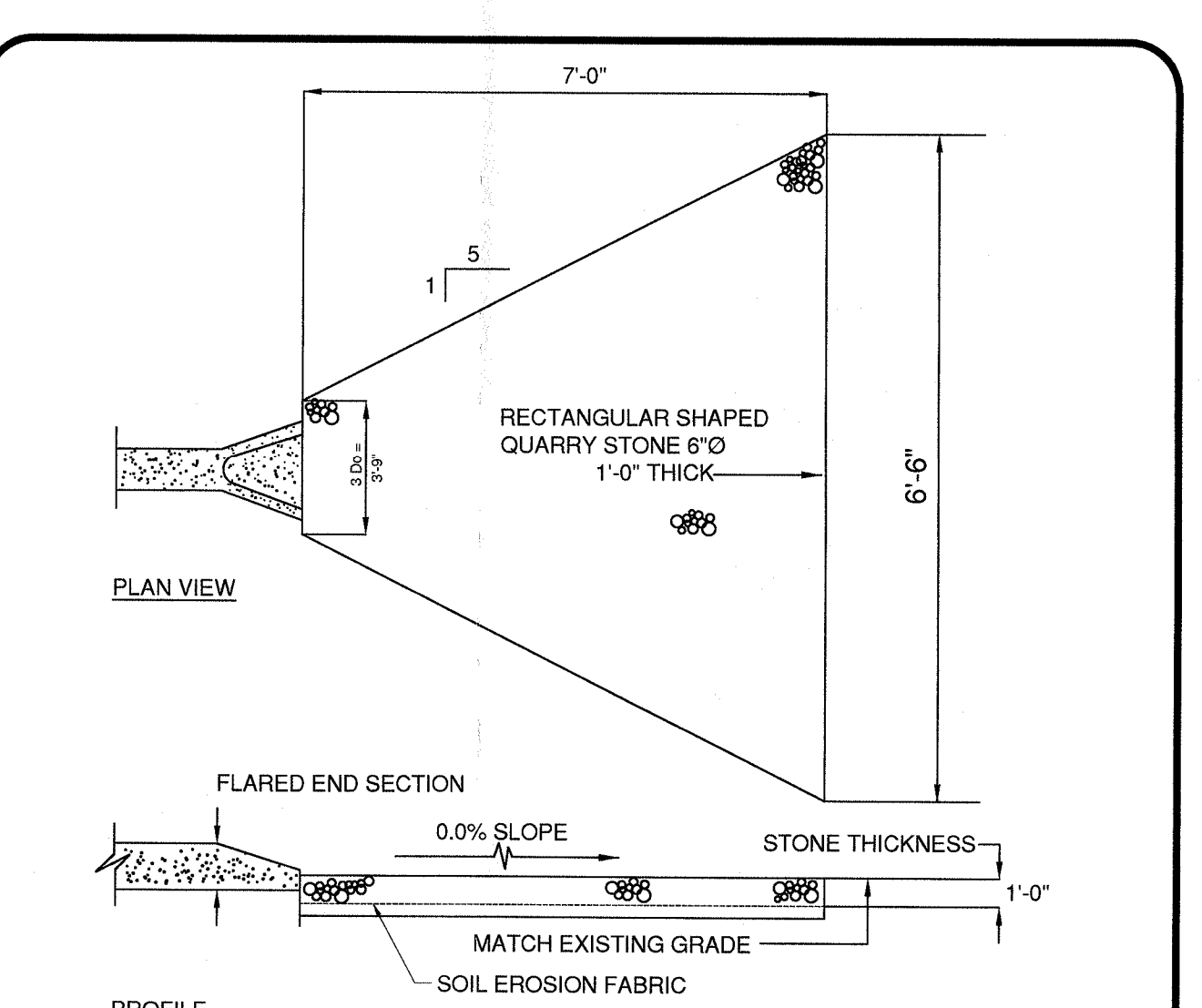
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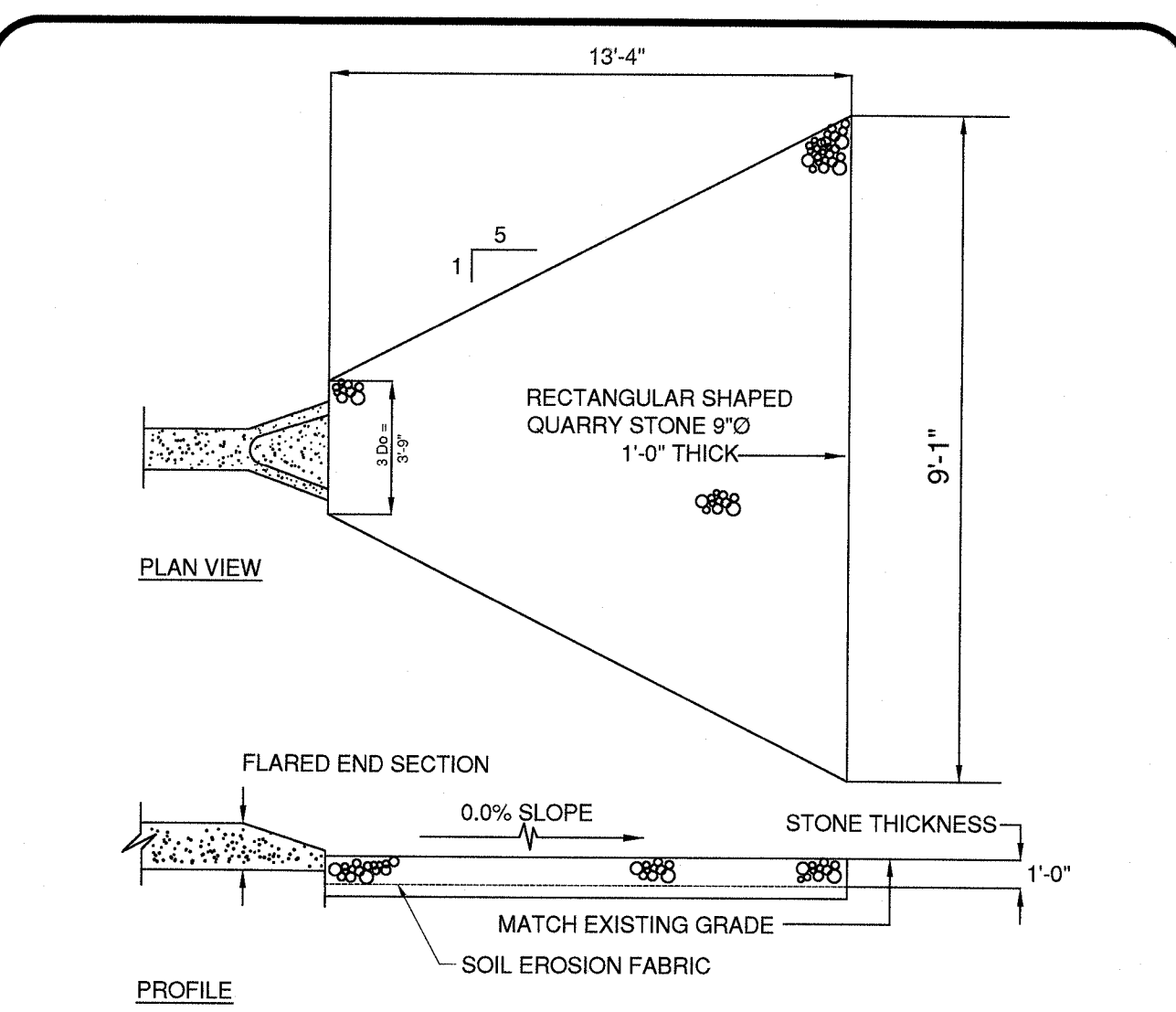
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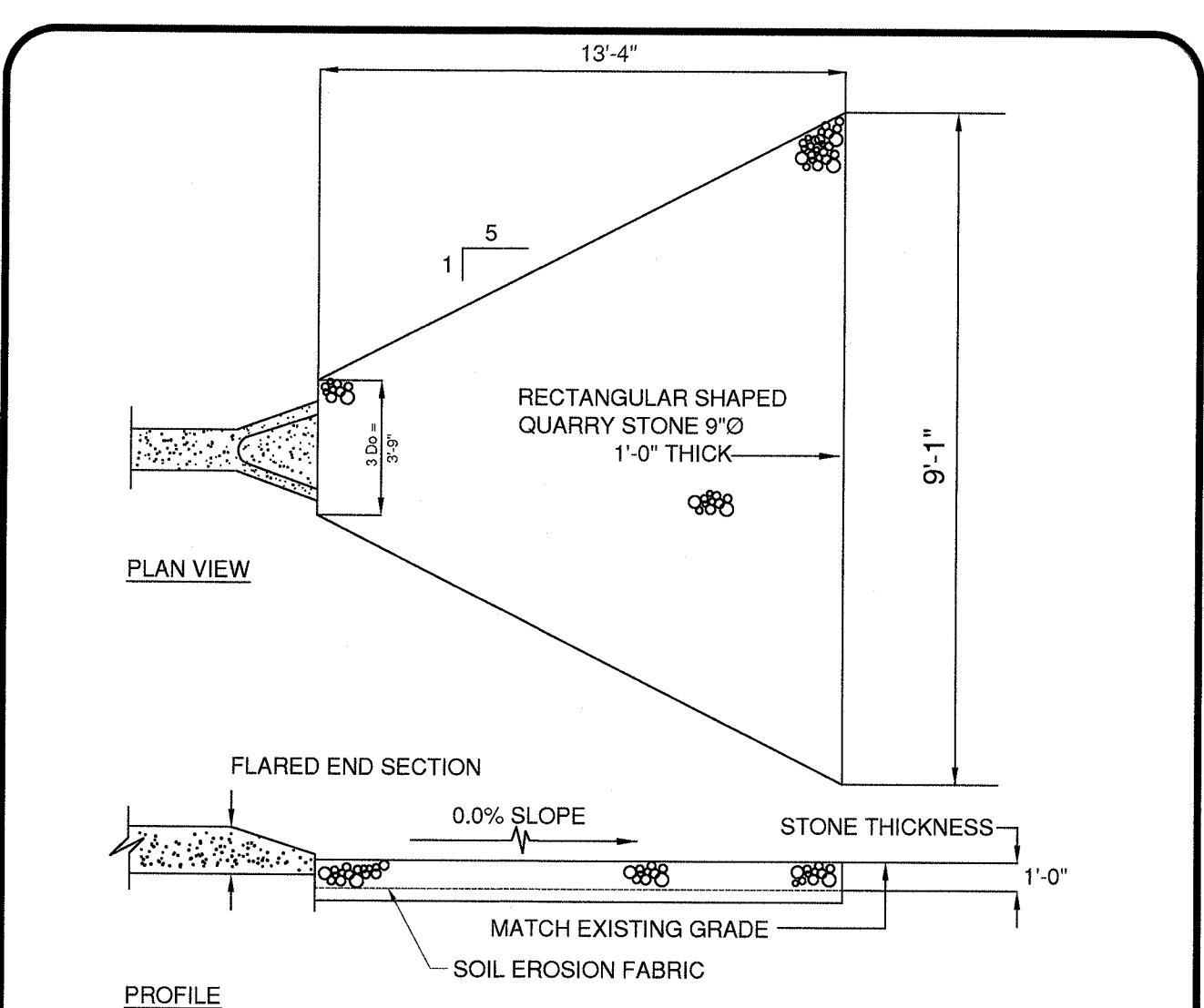
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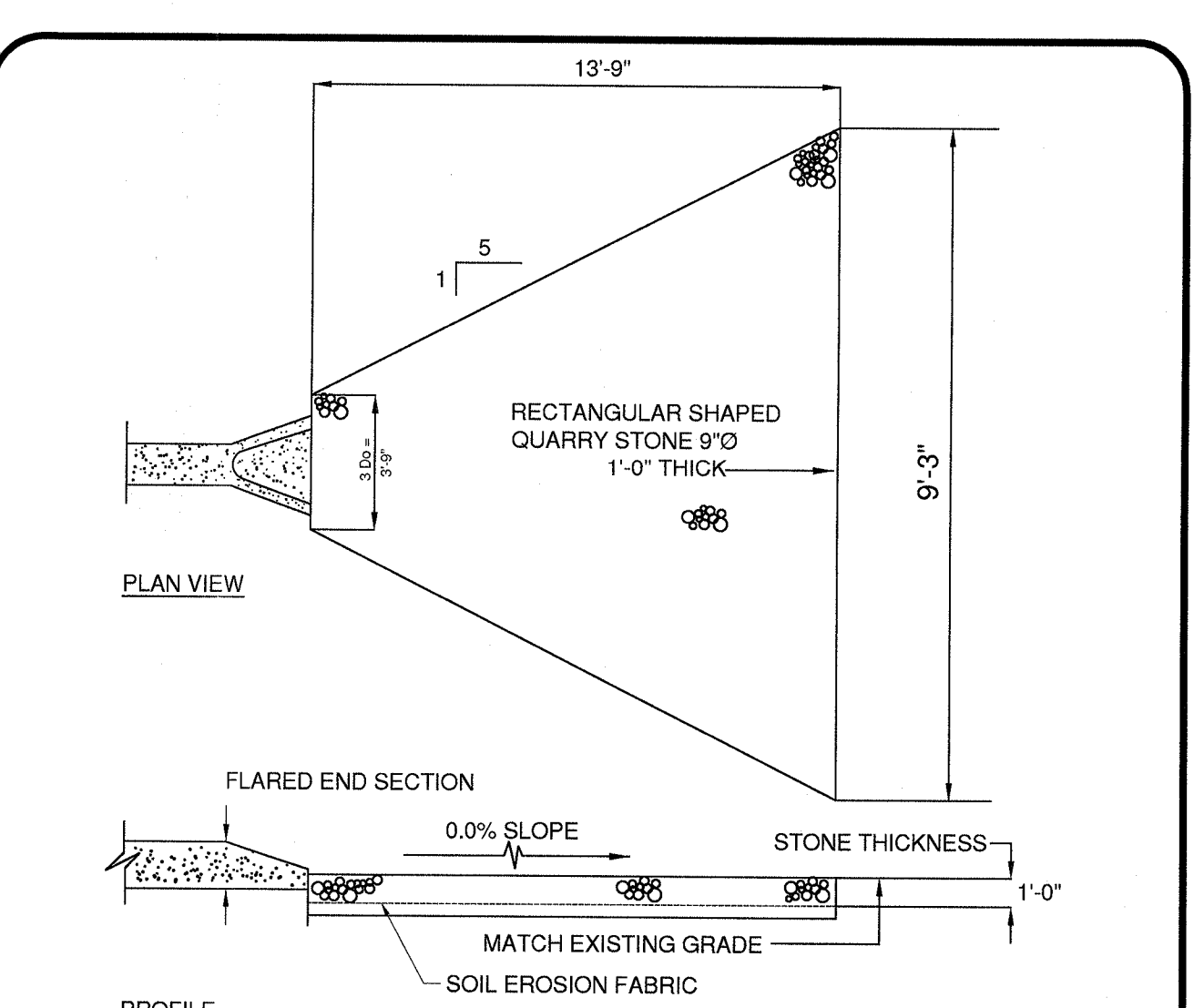
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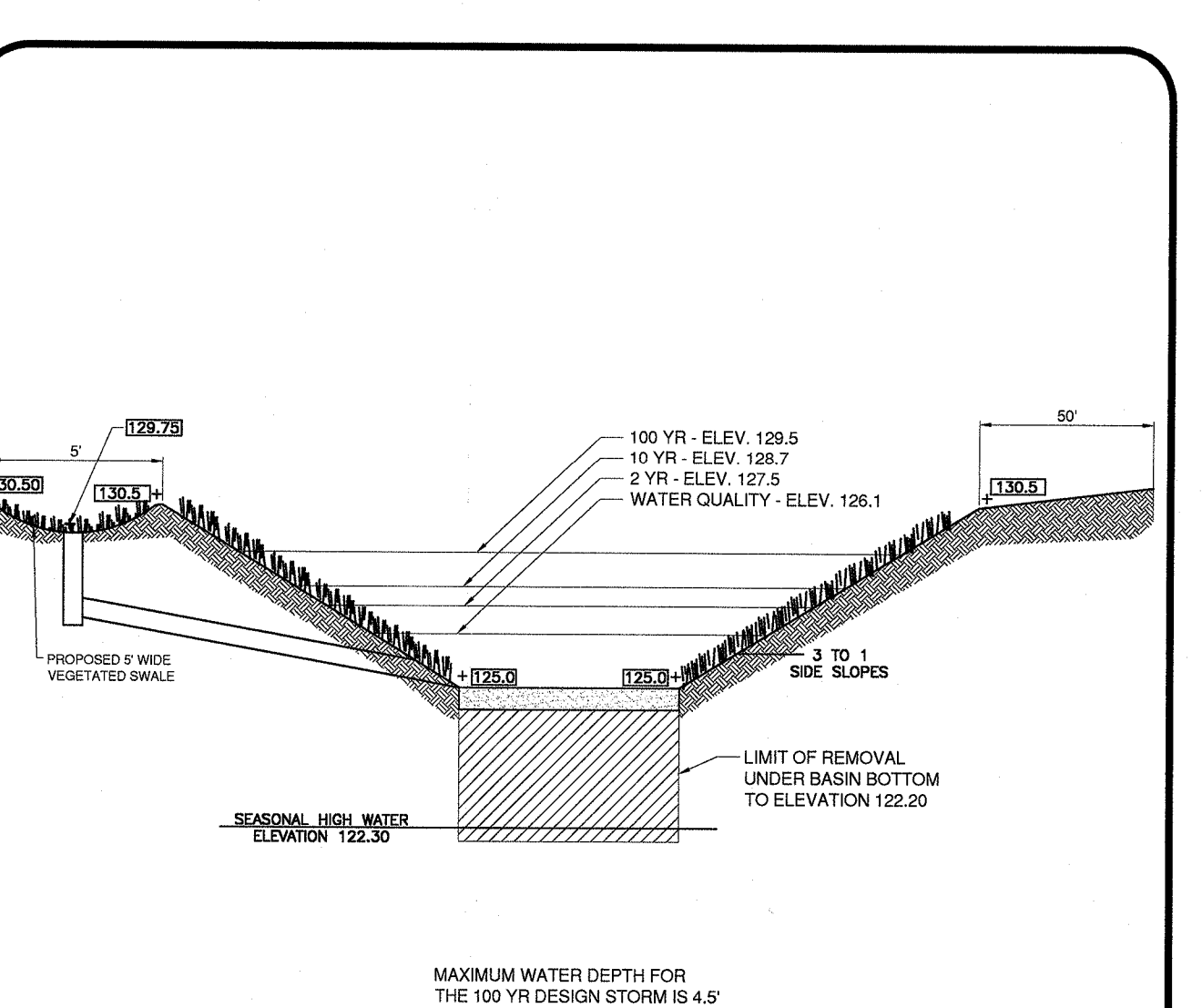
STONE APRON #4 DETAIL N.T.S



STONE APRON #5 DETAIL N.T.S



STONE APRON #6 DETAIL N.T.S



STORMWATER BASIN DETAIL SECTION A-A N.T.S

**PRELIMINARY PLAT - SITE PLAN**

**EDA** Engineering Design Associates, P.A.  
Engineers, Environmental Planners, Landscape Architects  
CAMBRIDGE PROFESSIONAL OFFICES  
5 Cambridge Drive Ocean View, New Jersey 08220  
(609) 390-0332 • Fax: (609) 390-9204  
CERTIFICATE OF AUTHORIZATION: 26542770300

**ENGINEERING DETAILS**  
BLOCK 3901, LOT 29  
MONROE TOWNSHIP  
GLOUCESTER COUNTY, NEW JERSEY

**JOSEPH H. MAFFEI**  
PROFESSIONAL ENGINEER  
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| 12/18/19                         | MAJ  |    |
| 10/2/19                          | MAJ  |    |
| 9/7/19                           | MAJ  |    |
| REVISION                         | DATE | BY |

**EDA**

| DATE: 6/19/19   | DRAWN BY: MAJ   |
|-----------------|-----------------|
| SCALE: N.T.S.   | CHECKED BY: JHM |
| PROJECT #: 8146 | SHEET: 9 OF 10  |



SOIL EROSION AND SEDIMENT CONTROL PLAN

1. All applicable erosion and sediment control practices shall be in place prior to any grading or installation of proposed structures or utilities.

2. Soil Erosion and Sediment Control practices on this plan shall be constructed in accordance with the standards for Soil Erosion and Sediment Control in New Jersey.

3. Applicable erosion and sediment control practices shall be left in place until construction is completed and/or the area is stabilized.

4. The contractor shall perform all work, furnish all materials and install all measures required to reasonably control soil erosion resulting from construction operations and prevent excessive flow of sediment from the construction site.

5. Any disturbed area that is to be left exposed for more than thirty (30) days and not subject to construction traffic shall immediately receive a temporary seeding and fertilization in accordance with the New Jersey Standards and their rates should be included in the narrative. If the season prohibits temporary seeding, the disturbed areas will be mulched with salt hay or equivalent in accordance with the New Jersey Standards (i.e. peg and twine, mulch netting or liquid mulch binder).

6. It shall be the responsibility of the developer to provide confirmation of time, fertilizer and seed and seed application and rates of application at the request of the Cape Atlantic Soil Conservation District.

7. All critical areas subject to erosion will receive a temporary seeding in combination with straw mulch at a rate of 2 tons per acre, according to the New Jersey Standards immediately following rough grading.

8. The site shall at all times be graded and maintained such that all storm water runoff is diverted to soil erosion and sediment control facilities.

9. All sedimentation structures will be inspected and maintained on a regular basis and after every storm event.

10. A crushed stone, tire cleaning pad will be installed whenever a construction access exists. The stabilized pad will be installed according to the standards for stabilized construction access.

11. All driveways must be stabilized with 2 1/2" crushed stone or subbase prior to individual lot construction.

12. All paved areas must be kept clean at all times.

13. All catch basin inlets will be protected according to the certified plan.

14. All storm drainage outlets will be stabilized, as required, before the discharge points become operational.

15. All dewatering operations must discharge directly into a sediment filter area. The sediment filter must be composed of a suitable sediment filter fabric (see detail). The basin must be dewatered to normal pool within 10 days of the design storm.

16. NJSEA 4-24-39, Est Seq, requires that no certification of occupancy be issued before all provisions of the certified soil erosion and sediment control plan have been complied with for permanent measures. All site work for the project must be completed prior to the district issuing a report of compliance as a prerequisite to the issuance of a certificate of occupancy by the municipality.

17. Mulching is required on all seeded areas to insure against erosion before grass is established to promote earlier vegetation cover.

18. Offsite sediment disturbances may require additional control measures to be determined by the district erosion control inspector.

19. A copy of the certified Soil Erosion and Sediment Control Plan must be maintained on the project site during construction.

20. The Cape Atlantic Soil Conservation District shall be notified 48 hours prior to any land disturbance.

21. Any conveyance of this project prior to its completion will transfer full responsibility for compliance with the certified plan to any subsequent owners.

22. Immediately after the completion of stripping and stockpiling of topsoil, the stockpile must be stabilized according to the standard for temporary vegetative cover. Stabilize topsoil with straw mulch for protection if the season does not permit the application and establishment of temporary seeding. All soil stockpiles are not to be located within fifty (50) feet of a floodplain, slope, roadway or drainage facility and the base must be protected with a sediment barrier.

23. Any changes to the site plan will require the submission of a revised Soil Erosion and Sediment Control Plan to the Cumberland Soil Conservation District. The revised plan must be in accordance with the current New Jersey Standards and their rates should be included in the narrative.

24. Methods for the management of high acid producing soils shall be in accordance with the standards. High acid producing soils are those found to contain iron sulfides or have a pH of 4 or less.

25. Temporary and permanent seeding measures must be applied according to the New Jersey Standards, and mulched with salt hay or equivalent and anchored in accordance with the New Jersey Standards (i.e. peg and twine, mulch netting or liquid mulch binder).

26. Minimum side slopes of all exposed surfaces shall not be constructed steeper than 3:1 unless otherwise approved by the district.

27. Dust is to be controlled by an approved method according to the New Jersey Standards and may include watering with a solution of calcium chloride and water.

28. Adjoining properties shall be protected from excavation and land filling operations on the proposed site.

29. Use staged construction methods to minimize exposed surfaces, where applicable.

30. All vegetative material shall be selected in accordance with American Standards for Nursery Stock of the American Association of the Nurseryman and in accordance with the New Jersey Standards.

31. Natural vegetation and species shall be retained where specified on the Landscaping Plan.

32. The soil erosion inspector may require additional soil erosion measures to be installed, as directed by the district inspector.

STORMWATER MANAGEMENT MAINTENANCE PROGRAM

In order to ensure that all retention and detention basins function properly, a maintenance program must be followed. The following are the minimum requirements for the maintenance of the basins.

1. Annual visual inspection of outlet structures and basins.

2. Inspection of outlet structures to include checking for obstructions of outfall pipe and the accumulation of silts and sediments.

3. Inspection of basins to include the removal of debris and accumulated particles such as silts and sediments.

4. For maintenance of vegetated basins:

a. Mowing of grass is required regularly to ensure the aesthetic quality of the site. All clippings shall be raked and bagged to avoid thatch buildup.

b. A dense turf, with extensive root growth, is encouraged to reduce erosion and enhance infiltration throughout the bottom and the side of the basin. Well-established turf of the floor and sides will grow through sediment deposits, thus forming a porous turf and preventing the formation of an impermeable layer.

c. Grasses of the fescue family are recommended for seeding, primarily due to their adaptability to dry sandy soils, drought resistance, hardiness, and ability to withstand brief inundations. Fescues will also permit longer intervals between mowings.

d. Seed type: A mixture of different species water-tolerant seed will ensure a high quality grass for retention basins.

INGREDIENTS

SEEDING RATE

Fescue2.1Lbs./1,000 SF

Perennial Ryegrass0.25Lbs./1,000 SF

Kentucky Bluegrass0.25Lbs./1,000 SF

White Clover0.10Lbs./1,000 SF

6. Fertilizing and liming: Bi-annually

Fertilize with 10-20-10 at a rate of 11lbs./1,000 SF

Limn with pulverized dolomite limestone at a rate of 90lbs./1,000 SF

3. Long term Maintenance

In order to ensure proper function of all basins, every seven years each basin bottom shall be scarified to a depth of 4" to remove sediments and silts. Then, 4" of topsoil must be added and reseeded.

STORM WATER STRUCTURE MAINTENANCE

Maintenance is the work required to keep structures in practice, or restore them to their original physical and functional condition. Maintenance as it applies to this situation shall be divided into two stages: that which is necessary to allow for continuing performance of storm water controls during the construction period and long term maintenance following construction. Both stages are necessary for the life of the storm water structures and systems.

1. MINIMUM REQUIREMENTS FOR MAINTENANCE

a. TRENCHES/WALES

Trenches/Wales to be inspected for rubbish or channel obstructions, bank failure, accumulation of silts and sediments, undesirable vegetation growth, rodents, and overall system failure.

b. OUTLET STRUCTURE/CONDUIT

Inspection of outlet structures and conduit to include checking for obstruction of pipe, accumulation of silts and sediments, cracking, corrosion, deterioration from freezing, salt or chemicals, excessive wear or damage from settling.

c. SPILLWAYS/INLETS/MANHOLES

Inspection to include checking for cracking, rodents, obstructions (silt, sediment, trash or other). Check any gates, racks, or grates, for damage from corrosion, ice debris. Check for unauthorized modifications, tampering or vandalism.

2. LONG TERM MAINTENANCE

As noted, any basin, pipe, pit, trench or inlet not functioning as designed will be thoroughly as prescribed. Any system that continues to remain inoperable after thorough clearing must be removed and replaced.

RESPONSIBILITY

All on-site retention facilities shall be the sole responsibility of the developer/owner, his assigns and/or heir. The responsibility shall include but not be limited to installation, inspection, and maintenance.

DETENTION FACILITY MAINTENANCE

The primary mechanical equipment used in the Annual Maintenance of the Basins will be for lawn cutting. The exact type and size of this equipment is to be determined by the maintenance service under contract for the project.

MULCHING

Mulching is required on all seeding. It is defined as stabilizing exposed soils with non-vegetative materials. The purpose is to protect exposed soil surfaces from erosion damage and to reduce offsite environmental damage. Mulching provides temporary mechanical protection against wind or rainfall induced soil erosion until permanent vegetative cover may be established. This practice is applicable to areas subject to erosion, where the season and other conditions may not be suitable for growing. An erosion-resistant cover or where stabilization is needed for a short period until more suitable protection can be applied.

SITE PREPARATION

a. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standards for Land Grading, pg 19-1.

b. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42.

PROTECTIVE MATERIALS

a. Mulch materials should be unrouted small grain straw, hay free of seeds, or salt hay to be applied at the rate of 2.0 to 2.5 tons per acre (90 to 115 pounds per 1,000 square feet.)

• Asphalt emulsion is recommended at the rate of 600 to 1,200 gallons per acres. This is suitable for a limited period of time where travel by people, animals, or machines is not a problem.

• Synthetic or organic soil stabilizers may be used under suitable conditions and in quantities as recommended by the manufacturer.

• Wood fiber or paper fiber mulch at a rate of 1,500 pounds per acre may be applied by a hydroseeder.

• Mulch netting such as paper, jute, excelsior, cotton, or plastic, may be used.

• Woodchips applied uniformly to a minimum depth of 2 inches may not be used on areas where flowing water could wash them into an inlet and plug it.

• Gravel, crushed stone, or slag at the rate of 9 cubic yards per 1,000 SF applied uniformly to a minimum depth of 3 inches may be used. Size 2 or 3 (ASTM C-33) is recommended.

b. Mulch anchoring should be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs depending upon the size of the area, steepness of slopes, and costs.

• Peg and Twine - Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a cross-criss and a square pattern. Secure twine with two or more round turns.

• Mulch Netting - Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.

• Crimper (mulch anchoring tool) - A tractor-drawn implement, somewhat like a disc-harrow, especially designed to push or customer of the broadcast long mulch mat 3 to 4 inches into the soil as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.

Liquid Mulch-Blenders - May be used to anchor salt hay, hay, or straw mulches

Applications should be heavier at edges where wind catches the mulch, in valleys, and at crests of banks. Remainder of area should be uniform in appearance.

Use one of the following:

(1) Emulsified asphalt - (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, and CRS-2). Apply 0.04 gals./yd. or 194 gal./acre on flat slopes less than 5 feet high. On slopes 5 feet or more high, use 0.075 gal./sq.yd. or 353 gal./acre.

Materials may be difficult to apply uniformly and will discolor surfaces.

(2) Organic and Vegetable Based Binders - Naturally occurring, power based, hydrophilic materials that mixed with formulates a gel and when applied to mulch under satisfactory curing conditions will form membrane retardants of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turfgrasses. Vegetable based gels shall be applied at rates and weather conditions recommended by the manufacturer.

(3) High polymer synthetic emulsion, with water-soluble and anchoring following application to mulch, drying and curing shall no longer be soluble or dispersed in water. It shall be applied at rates weather conditions recommended by the manufacturer and remain tacky until germination of grass.

STANDARDS FOR TOPSOILING

Topsoil should be friable 1, loamy2, free of debris, objectionable weeds and stones, and contain no toxic substance or adverse chemical or physical condition that may be harmful to plant growth. Soluble salts should not be excessive (conductivity less than 0.5 millimhos per centimeter. More than 0.5 millimhos may indicate seedlings and adversely impact growth). Imported topsoil shall have a minimum organic matter content of 2.75 percent. Organic matter content may be raised by additives.

Topsoil substitute is a soil material which may have been amended with sand, silt, clay, organic matter, fertilizer or lime and has the appearance of topsoil. Topsoil substitutes may be utilized on sites with insufficient topsoil for establishing permanent vegetation. All topsoil substitute materials shall meet the requirements of topsoil noted above. Soil tests shall be performed to determine the components of sand, silt, clay, organic matter, soluble salts and pH level.

METHODS AND MATERIALS

2. Stripping and Stockpiling

a. Field exploration should be made to determine whether quantity and/or quality of surface soil justifies stripping.

b. Stripping shall be confined to the immediate construction area.

c. Where feasible, lime may be applied before stripping at a rate determined by soil test to bring the soil pH to approximately 6.5.

d. A 4-6 inch stripping depth is common, but may vary depending on the particular soil.

e. Stockpiles of topsoil should be situated so as not to obstruct natural drainage or cause off-site environmental damage.

f. Stockpiles should be vegetated in accordance with standards previously described herein; see standards for Permanent (pg. 4-1) or Temporary (pg. 7-1) Vegetative Cover for Soil Stabilization. Weeds should not be allowed to grow on stockpiles.

3. Site Preparation

a. Grade at the onset of the optimal seeding period so as to minimize the duration and area of exposure of disturbed soil to erosion.

b. Immediately proceed to establish vegetative cover in accordance with the specified seed mixture. Time is of the essence.

c. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring, and maintenance.

d. As guidance for ideal conditions, subsoil should be tested for lime requirement. Limestone, if needed, should be applied to bring soil to a pH of approximately 6.5 and incorporated into the soil as nearly as practical to a depth of 4 inches.

e. Prior to topsoiling, the subsoil shall be in compliance with the Standard for Land Grading, pg. 19-1.

f. Employ needed erosion control practices such as diversions, grade stabilization structures, channel stabilization measures, sedimentation basins, and waterways. See Standards 11 through 42.

4. Applying Topsoil

a. Topsoil should be handled only when it is dry enough to work without damaging soil structure; i.e., less than field capacity (see glossary).

b. A uniform application to an average depth of 5.0 inches, minimum of 4 inches, firmed in place is required. Alternative depths may be considered where special regulatory and/or industry design standards are appropriate such as on golf courses, sports fields, landfill capping, etc.. Soils with a pH of 4.0 or less shall be covered with a minimum depth of 12 inches of soil having a pH of 5.0 or more, in accordance with the Standard for Management of High Acid Producing Soil (pg. 1-1).

c. Pursuant to the requirements in Section 7 of the Standard for Permanent Vegetative Stabilization, the contractor is responsible to ensure that permanent vegetative cover becomes established on at least 80% of the soils to be stabilized with vegetation. Failure to achieve the minimum coverage may require additional work to be performed by the contractor to include some or all of the following: supplemental seeding, re-application of lime and fertilizers, and/or the addition of organic matter (i.e. compost) as a top dressing. Such additional measures shall be based on soil tests such as those offered by Rutgers Cooperative Extension Service or other approved laboratory facilities qualified to test soil samples for agronomic properties.

BASIN MAINTENANCE

In order to ensure that all retention and detention basins function properly, a maintenance program must be followed. The following are the minimum requirements for the maintenance of the basins.

1. Annual visual inspection of outlet structures and basins.

2. Inspection of outlet structures to include checking for obstructions of outfall pipe and the accumulation of silts and sediments.

3. Inspection of basins to include the removal of debris and accumulated particles such as silts and sediments.

4. For maintenance of vegetated basins:

a. Mowing of grass is required regularly to ensure the aesthetic quality of the site. All clippings shall be raked and bagged to avoid thatch buildup.

b. A dense turf, with extensive root growth, is encouraged to reduce erosion and enhance infiltration throughout the bottom and the side of the basin. Well-established turf of the floor and sides will grow through sediment deposits, thus forming a porous turf and preventing the formation of an impermeable layer.

c. Grasses of the fescue family are recommended for seeding, primarily due to their adaptability to dry sandy soils, drought resistance, hardiness, and ability to withstand brief inundations. Fescues will also permit longer intervals between mowings.

d. Seed type: A mixture of different species water-tolerant seed will ensure a high quality grass for retention basins.

DUST CONTROL STANDARDS

The following methods should be considered for dust control at the request of the Township Construction Code Official, or upon inspection by an S.C.D. official.

1. Spray - On Adhesive - On mineral soils (not effective on muck soils). Keep traffic off these areas.

Water Dilution

Type of Nozzle

Apply Gallons/Acre

Antonic asphalt emulsion7:1

Coarse spray1,200

Latex emulsion12:1 to 2:1

Fine spray235

Resin in water4:1

Fine spray300

2. Tillage - To roughen surface and bring clods to the surface. This is a temporary emergency measure which should be used before soil blowing starts. Begin blowing on windward side of the site. Chisel-type plows spaced about 12 inches apart, and spring-tined harrows are examples of equipment which may produce the desired effect.

3. Sprinkling - Silt is sprinkled until the surface is wet.

4. Barriers - Solid board fences, snow fences, burlap fences, crate walls, bales of hay and similar material can be used to crate walls, bales of hay and similar material can be used to control air currents and soil blowing.

5. Calcium Chloride - Shall be in the form of loose dry granules at a rate that will keep surface moist but not cause or flakes fine enough to feed through commonly used spreaders, pollution or plant damage. If used on steeper slopes, then use on steeper slopes. Then use other practices to prevent washing into streams or accumulation around plants.

6. Stone - Cover surface with crushed stone or coarse gravel.

7. Mulch - Stabilization with approved mulches and vegetation cover being temporary of permanent.

SEEDING SPECIFICATIONS

Temporary Seeding

Fertilizer (10-20-10 or equivalent)

Limestone (50% Calcium plus MgO)

Perennial Ryegrass (Lolium multiflorum)

11 Lbs./1,000 SF

90 Lbs./1,000 SF

1 Lb./1,000 SF

Permanent Seeding

Fertilizer (10-20-10 or equivalent)

Limestone (50% Calcium plus MgO)

Switch Grass

Sheep Fescue

Little Bluestem

11 Lbs./1,000 SF

90 Lbs./1,000 SF

0.35 Lbs./1,000 SF

0.45 Lbs./1,000 SF

0.45 Lbs./1,000 SF

FERTILIZER

Work lime and fertilizer into soil as nearly as practical to depth of four inches (4"). Remove from the surface all stones two inches (2") or larger. Roll soil to firm the seed bed where feasible. Use specifications as shown above.

Note: Optimum seeding dates February 1 to April 30 and August 15 to October 30.

STANDARD FOR LAND GRADING

PLANNING CRITERIA

The grading plan and installation shall be based upon adequate topographic surveys and investigations. The plan is to show the location, slope, cut, fill and finish elevation of the surfaces to be graded. The plan should also include auxiliary practices for safe disposal of runoff water, slope stabilization, erosion control and drainage. Facilities such as waterways, ditches, diversions, grade stabilization structures, retaining walls and subsurface drains should be included where necessary.

Erosion control measures shall be designed and installed in accordance with the applicable standard contained herein.

The development and establishment of the plan shall include the following:

1. The cut face of earth excavations and fills shall be no steeper than the safe angle of repose for the materials encountered and flat enough for proper maintenance.

2. The permanently exposed faces of earth cuts and fills shall be vegetated or otherwise protected from erosion.

3. Provisions shall be made to safely conduct surface water to storm drains or suitable water courses and to prevent surface runoff from damaging cut faces and fill slopes.

4. Subsurface drainage is to be provided in areas having a high water table, to intercept seepage that would adversely affect slope stability, building foundations or create undesirable wetness. See Standard for Subsurface Drainage, pg. 32-1.

5. Adjoining property shall be protected from excavation and filling operations.

6. Fill shall not be placed adjacent to the bank of a stream or channel, unless provisions are made to protect the hydraulic, biological, aesthetic and other environmental functions of the stream.

Soil Management and Preparation

Subgrade soils prior to the application of topsoil shall be free of excessive compaction to a depth of 6.0 inches to enhance the establishment of permanent vegetative cover.

This section of this Standard addresses the potential for excessive soil compaction in light of the intended land use, testing for excessive soil compaction where permanent vegetation is to be established and mitigation of excessive soil compaction when appropriate.

Due to use or setting, certain disturbed areas will not require compaction remediation including, but not limited to the following:

1. Within 20 feet of building foundations with basements, 12 feet from slab or crawl space construction.

2. Where soils or gravel surfaces will be required to support post-construction vehicular traffic loads such as roads, parking lots and driveways (including gravel surfaces), bicycle paths or pedestrian walkways (sidewalks) etc.

3. Airports, railways or other transportation facilities.

4. Areas requiring industry or government specified soil conditions, including golf courses, landfills, wetland restoration, septic disposal fields, wellflood ponds, etc.

5. Areas governed or regulated by other local, state or federal regulations which dictate soil conditions.

6. Brownfields (contaminated areas), urban redevelopment, recycling areas, recycling yards, junk yards, quarries and

7. Slopes determined to be inappropriate for safe operation of equipment.

8. Portions of a site where no heavy equipment travel or other disturbance has taken place.

9. Areas receiving temporary vegetative stabilization in accordance with the Standard.

10. Where the area available for remediation practices is 500 square feet or less in size.

11. Locations containing shallow (close to the surface) bedrock conditions.

Areas of the site which are subject to compaction testing and/or mitigation shall be graphically denoted on the certified soil erosion control plan.

Soil compaction remediation or testing to prove remediation is not necessary will be required in areas where permanent vegetation is to be established that are not otherwise exempted above. Testing method shall be selected, and soil compaction testing shall be performed by the contractor or other project owner's representative (e.g. engineer). A minimum of two (2) tests shall be performed for projects with an overall limit of disturbance of up to one (1) acre and at a rate of two (2) tests per acre of the overall limit of disturbance for larger areas which shall be evenly distributed above the area of disturbance subject to testing. Tests shall be performed in areas representative of the construction activity prevailing in the area. In the event this testing indicates compaction in excess of the maximum thresholds indicated for the testing method, the contractor/owner shall have the option to perform compaction mitigation over the entire disturbed area (excluding exempt areas) or to perform additional testing to establish the limits of excessive compaction whereupon only the excessively compacted areas would require compaction remediation.

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

SOIL CONSERVATION NOTES

EDA

Engineers - Landscape Architects - Planners

SOIL CONSERVATION NOTES

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Soil Test Method Options

1. Probing Wire Test Method

This test shall be conducted with a firm wire (15-1/2 gauge steel wire - e.g. survey marker flag, straight wire stock, etc.), 18 to 21 inches in length, with 6" inches from one end visibly marked on the wire. Conduct wire flag test by holding the wire flag near the flag and push it vertically into the soil at several different locations in the field to the lesser of a 6 inch depth or the depth at which it bends due to resistance in the soil. Record the depth at which it bends due to resistance in the soil. The wire should penetrate without bending or deforming at 6" into the ground by hand, without the use of tools. If penetration fails and an obstruction is suspected (rocks, root, debris, etc.) the test can be repeated in the same general area. If the test is successful the soil is not excessively compacted. If the wire is difficult to insert (wire bends or deforms prior to reaching 6 inches in depth) the soil may be excessively compacted and compaction mitigation or further testing via method 3 or 4 below is required, the choice of which is at the contractor/owner's discretion.

2. Handheld Soil Penetrometer Test Method

This test shall be conducted based on the Standard Operation Procedure (SOP) #RCE2010-001, prepared by the Rutgers Cooperative Extension, implemented June 1, 2010, last revised February 28, 2011. A result of less than or equal to 300 psi shall be considered passing. If the result is greater than 300 psi the soil may be excessively compacted and compaction mitigation or further testing via method 3 or 4 below is required, the choice of which is at the contractor/owner's discretion.

3. Tube Bulk Density Test Method

This test shall be certified by a New Jersey Licensed Professional Engineer utilizing only undisturbed samples (reconstitution of the sample not permitted) collected utilizing the procedure for Soil Bulk Density Tests as described in the USDA NRCS Soil Quality Test Kit Guide, Section 1-4, July 2001. When the texture of the soil to be tested is a sand or loamy sand and lack of soil cohesion or the presence of large amounts of coarse fragments, roots or worm channels prevent the taking of undisturbed samples, this test shall not be used.

Where the results of replicate tests differ by more than ten percent (10%), the samples shall be examined for the following defects:

• Cracks, worm channels, large root channels or poor soil tube contact within the samples.

• Large pieces of gravel, roots or other foreign objects

• Smearing or compaction of the upper or lower surface of the sample

If any of the defects described in 3 (4) above are found, the defective core(s) shall be discarded and the test repeated using a new replicate sample for each defective replicate sample. The bulk density (defined as the weight of dry soil per volume) results shall be compared with the Maximum Dry Bulk Densities in Table 19-1. A result of less than or equal to the applicable maximum bulk density shall be considered passing. If the result is greater than the maximum bulk density the soil shall be considered excessively compacted and compaction mitigation is required.

4. Nuclear Density Test Method

This test shall be certified by a New Jersey Licensed Professional Engineer and conducted by a nuclear gauge certified inspector pursuant to ASTM D6938. The bulk density measurement results shall be compared with the Maximum Dry Bulk Densities in Table 19-1. A result of less than or equal to the applicable maximum bulk density shall be considered passing. If the result is greater than the maximum bulk density the soil shall be considered excessively compacted and compaction mitigation is required.

Maximum Dry Bulk Densities (grams/cubic centimeter) by soil type

Soil Type/Texture

Bulk Density (g/cc)

Coarse, Medium and Fine Sands and Loamy Sands1.80

Very Fine Sand and Loamy Very Fine Sand1.77

Sandy Loam1.75

Loam, Sandy Clay Loam1.70

Clay Loam1.65

Sandy Clay1.60

Silt, Silt Loam1.55

Silty Clay Loam1.50

Silty Clay1.45

Clay1.40

Source: USDA Natural Resource Conservation Service, Soil Quality Information Sheet, Soil Quality Resource Concerns: Compaction, April 1996

5. 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.

Procedures for Soil Compaction Mitigation

If subgrade soils are determined to be excessively compacted by testing, as identified above, 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/tillage (6" minimum depth) where there is no danger to underground utilities (cables, irrigation systems, etc.) or in the alternative, another method as specified by a New Jersey Licensed Professional Engineer.

Installation Requirements

• Timber, logs, brush, rubbish, rocks, stumps and vegetative matter which will interfere with the grading operation or affect the planned stability or fill areas shall be removed and disposed of according to the plan.

• Topsoil is to be stripped and stockpiled in amounts necessary to complete final grading of all exposed areas requiring topsoil. See Standard for Topsoiling.

• Fill material is to be free of brush, rubbish, timber, logs, vegetative matter and stumps in amounts that will be detrimental to constructing stable fills.

• All structural fills shall be compacted as determined by structural engineering requirements for their intended purpose and as required to reduce sloping, erosion or excessive saturation.

• All disturbed areas shall be left with a neat and finished appearance and shall be protected from erosion. See Standards for Permanent Vegetative Cover for Soil Stabilization.

• Trees to be retained shall be protected if necessary in accordance with the Standard for Tree Protection During Construction.

## SOIL CONSERVATION NOTES

FENCE POST 6" ON CENTER

DRAWING RUNNING THROUGH FABRIC ALONG TOP OF FENCE

FABRIC SECURED TO POST WITH METAL FASTENERS AND REINFORCEMENT BETWEEN FASTER AND FABRIC

SILT ACCUMULATION

SEDIMENT TRAPPED BY FILTER

INCOMPLETE ROADWAY SUBGRADE

FINISHED GRADE

GRAVEL FILTER TO CONSIST OF 2" - 3" DIA. COARSE AGGREGATE FIED AROUND THE PERIMETER OF THE INLET GRADE, 4" HIGH

WIRE MESH WITH 12" OPENINGS (10 GA) TO BE STRETCHED OVER ENTIRE INLET AS SHOWN. (HARDWARE CLOTH CAN BE UTILIZED IN PLACE OF WIRE)

EXISTING GRADE

EXISTING PAVEMENT

EXISTING GROUND

PROPOSED CONCRETE CURB

NOTE: IF STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED

INLET PROTECTION

CONTRACTOR TO PROVIDE APPROPRIATE TRANSITION BETWEEN THE STABILIZED ENTRY AND THE R.O.W.

MAINTENANCE

The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto roadways. This may require periodic dressing with additional stone or additional length as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed, or tracked onto roadways (public or private) or other impervious surfaces must be removed immediately.

Where accumulation of dust/sediment is inadequately cleaned or removed by conventional methods, a power broom or street sweeper will be required to clean paved or impervious surfaces. All other access points which are not stabilized shall be blocked off.

SOIL CONSERVATION DETAILS

EDA

Engineers - Landscape Architects - Planners

PROJECT SITE

S.C.D. SOILS MAP

1" = 500'

Aurb-Aura sandy loam, 2 to 5 percent slopes

Setting

Slope: Gently sloping

Landscape: North Atlantic Coastal Plain

Landform: Low hills and knolls

Composition

Aura and similar soils: 85 percent

Minor components: 15 percent

Description of the Aura Soil

Typical profile

Soil name: Aura

Asp=0 to 8 inches; sandy loam

Subsoil

Bt=4 to 13 inches; coarse sandy loam

Bt=13 to 22 inches; coarse sandy loam

2Bt=22 to 38 inches; gravelly coarse sandy loam

2Bt=38 to 44 inches; gravelly sandy clay loam

2Bt=44 to 52 inches; gravelly sandy clay loam

Substratum

2C=69 to 90 inches; gravelly loamy coarse sand

Properties and qualities

2 DAY

Parent material: Old glacial alluvium or old gravelly alluvium, or both

Permeability: Moderately slow to moderately rapid

Available water capacity: Moderate

Reaction: Extremely acid and very strongly acid

Depth to a fragipan: 15 to 40 inches

Depth to the seasonal high water table: More than 6 feet

Interpreting groups

Land capability classification: 2a

Hydrologic group: B

Minor Components

• Basaltic soils that do not have a fragipan and have a fine-loamy particle-size control section on the slightly lower parts of similar landforms

• Downer soils that do not have a fragipan on the lower landforms

• The moderately well drained Woodstock soils that have a seasonal high water table at a depth of 18 to 42 inches and do not have a fragipan on the lower landforms

CONSTRUCTION SEQUENCE

PHASE

OPERATION

TIME PERIOD

A. ESTABLISH EROSION CONTROL MEASURES

2 DAYS

B. SITE CLEARING

7 DAYS

C. ROUGH GRADING

5 DAYS

D. CONSTRUCT STORMWATER BASIN INCLUDING VEGETATIVE STABILIZATION

5 DAYS

E. CONSTRUCT SANITARY SEWER SYSTEM & WATER SYSTEM

3 DAYS

F. CONSTRUCT STORM DRAINAGE STRUCTURES

3 DAYS

G. FINE GRADE AND CONSTRUCT STONE BASE

5 DAYS

H. CONSTRUCT DRAINAGE WALES

2 DAYS

I. COMPACTION TESTING

1 DAY

J. PERFORM TEMPORARY SEEDING AS NECESSARY

2 DAYS

K. PERFORM PAVING AND CONSTRUCT SIDEWALKS

5 DAYS

L. LAY BUILDING FOUNDATIONS

90 DAYS

M. PERFORM PERMANENT SEEDING AND LANDSCAPING

2 DAYS

VARIOUS LOT GRADING TO CONTINUE THROUGHOUT CONSTRUCTION SEQUENCE. DURATION OF EACH SEQUENCE WILL VARY DUE TO SECTIONALIZATION AND MARKET CONDITIONS. CONSTRUCTION WILL BEGIN FALL 2019.

LAND COVER

A. Total Area of Site: ..... 8.29 Acres

B. Present Cover: ..... Wooded

C. Total Area of Disturbance: ..... 8.31 Acres

D. Adjacent Site Conditions: ..... Developed

RESPONSIBILITY

All soil erosion and sediment control measures and facilities shall be the sole responsibility of the developer/owner. The responsibility shall include, but not be limited to installation, inspection, and maintenance of conditions during and following construction.

APPLICANT:

White & Blue, LLC

James Cannon

3215 Main Road

Franklinville, NJ 08322

Phone: 609-391-0295

REV. PER TWP & COUNTY SUBMISSION

REV. PER NJ PINELANDS COMMISSION

REVISION

DATE

BY

12/18/19

MAJ

8/7/19

MAJ

DATE: 6/19/19

DRAWN BY: MAJ

SCALE: AS NOTED

CHECKED BY: JHM

PROJECT #: 8146

SHEET: 10 OF 10

PRELIMINARY PLAT - SITE PLAN

EDA

Engineering Design Associates, P.A.

Engineers - Environmental Planners - Landscape Architects

CAMBRIDGE PROFESSIONAL OFFICES

5 Cambridge Drive Ocean View, New Jersey 08230

(609) 390-0332 • Fax: (609) 390-0204

CERTIFICATE OF AUTHORIZATION: 24542970300

SOIL EROSION & SEDIMENT CONTROL

BLOCK 3901, LOT 29

MONROE TOWNSHIP

GLOUCESTER COUNTY, NEW JERSEY

JOSEPH H. MAFFEI

PROFESSIONAL ENGINEER

N.J.P.E. LIC. #37894

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EDA

Engineers - Landscape Architects - Planners

DATE: 6/19/19

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