



BOROUGH OF OCEANPORT PLANNING BOARD

REGULAR MEETING • AGENDA

Clement V. Sommers Municipal Building
910 Oceanport Way, Oceanport, NJ 07757

APRIL 14, 2026 at 7:00 PM

1. **Call to Order**

2. **Open Public Meetings Statement:** In accordance with New Jersey law, Notice of the within meeting has been published in the Asbury Park Press and the Two River Times. Additionally, in accordance with New Jersey Law, Notice of the meeting was also published on the Municipal website and the New Jersey Secretary of State website. The Notice was also placed on the Municipal bulletin board. As a result, the within meeting complies with the prevailing requirements of the Open Public Meetings Act.

3. **Flag Salute**

4. **Board Policy**

- It is Board Policy that no application will be opened after 9:30 PM.
- No new testimony will be taken after 10:00 PM, except at the discretion of the Board.

5. **Roll Call**

6. **Board Business**

7. **Approval of Minutes**

8. **Resolutions**

- 8.1. PR-26-17 Resolution of Denial, 22 Branch Avenue

9. **Old Business**

- 9.1. PB2026-03 Ryan Glubo
Block 52, Lot 2
62 Manito Place
Proposed semi-inground pool and patio
Maximum Impervious Coverage: 37% permitted, 34% existing, 42.4% proposed
Application carried from the March 24, 2026 meeting

10. **New Business**

- 10.1. PB2026-04 Kelly McGowan
Block 108, Lot 5
104 Horseneck Point Road
Proposed 14x30 inground pool and patio
Maximum Impervious Coverage: 37% permitted, 35.4% existing, 42.4% proposed

- 10.2. PB2025-22 Bernard Dowd
Block 105, Lot 4
66 Riverside Avenue

Proposed construction of a single-family home on vacant land
Minimum Lot Width: 120 feet required, 40 feet existing

11. **Petitions from the Public**

12. **Adjournment**

101 Crawfords Corner Road
Suite 3400
Holmdel, New Jersey 07733
Main: 877 627 3772
colliersengineering.com



April 7, 2026

VIA EMAIL

Stephanie Kramer, Planning Board Secretary
Borough of Oceanport Planning Board
910 Oceanport Way
P.O. Box 370
Oceanport, NJ 07757

Review No. 3

Application No. PB2026-03

62 Manitto Place - Block 52, Lot 2
Borough of Oceanport, Monmouth County, New Jersey
Colliers Engineering & Design Project No.: OPP-0386

Dear Board Members,

Our office has received the following information in support of the above-referenced Application:

- Plan entitled "Map of Property Surveyed for Lot 2 in Block 52" prepared by Main Street Surveying, dated August 1, 2025, consisting of one (1) sheet;
- Plans entitled "62 Manito PI Pool" prepared by Home & Land Stewards, LLC, last revised March 31, 2026, consisting of five (5) sheets;
- Report entitled "NRCS Stormwater Analysis - 62 Manitto Plane, Ocean Port, NJ, undated and unsigned, consisting of 8 sheets.

The subject property is situated in the R-3 - Residential Single Family Zone District with 100 feet of frontage on the southern side of the Manito Place, approximately 150 feet east of Itaska Place. Lot 2 is a 10,000 sq. ft. (0.23 ac) lot containing an existing two-story single-family dwelling, deck, patio, concrete walkway, asphalt driveway, and an existing one shed. The applicant proposes installing a semi-inground pool in the rear yard and associated patio surround

Based on our review, we recommend that the Application be deemed **complete** and scheduled for the next available meeting. A planning and engineering review of the application is included below:

A. VARIANCES/DESIGN WAIVERS

We offer the following comments for the Board's consideration:

1. Bulk variances are required for the following:
 - a) Maximum Impervious Coverage – 37% permitted, 34% existing, 42.4% proposed. The site will exceed the coverage limit by 535 square feet.
 - b) Pool Equipment Setback – a minimum 10-foot setback is required (390-31G), the setback from the side yard to the equipment platform scales to be 5.8 feet.
 - c) Fence Height – maximum fence height of six feet is permitted (390-25A(1)). The top of the fence on the platform is approximately 7.5 feet above grade.

The Municipal Land Use Law permits the granting of a hardship variance under either of two (2) following situations (C.40:55D-70c):

1. **Hardship c(1) - Physical Constraints** – Hardship variances may be granted if the strict application of the ordinance would impose peculiar and exceptional practical difficulties to, or exceptional and undue hardship upon, the developer based upon the existence of the following conditions:
 - a. Exceptional narrowness, shallowness, or shape of a specific piece of property;
 - b. Exceptional topographic conditions or physical features uniquely affecting a piece of property; and,
 - c. An extraordinary and exceptional situation uniquely affecting a specific piece of property of the structures lawfully existing thereon.
2. **Flexible “c” or c(2) - Benefits Outweighing Detriments** - A variance may be granted where the purpose of the Municipal Land Use Law would be advanced by the proposed deviation and the benefits of the deviation would substantially outweigh any detriment.

B. GENERAL COMMENTS

1. A signed and sealed copy of the survey shall be provided to the Planning Board Clerk.
2. The applicant has increased the side yard setback to the equipment platform from 1.8 feet to 5.8 feet.
3. Spot grades are needed for the patio at the back of the dwelling to assure positive slope to the trench drain.

Should you have any questions or require any additional information, please do not hesitate to contact me directly.

Sincerely,

Colliers Engineering & Design, Inc.

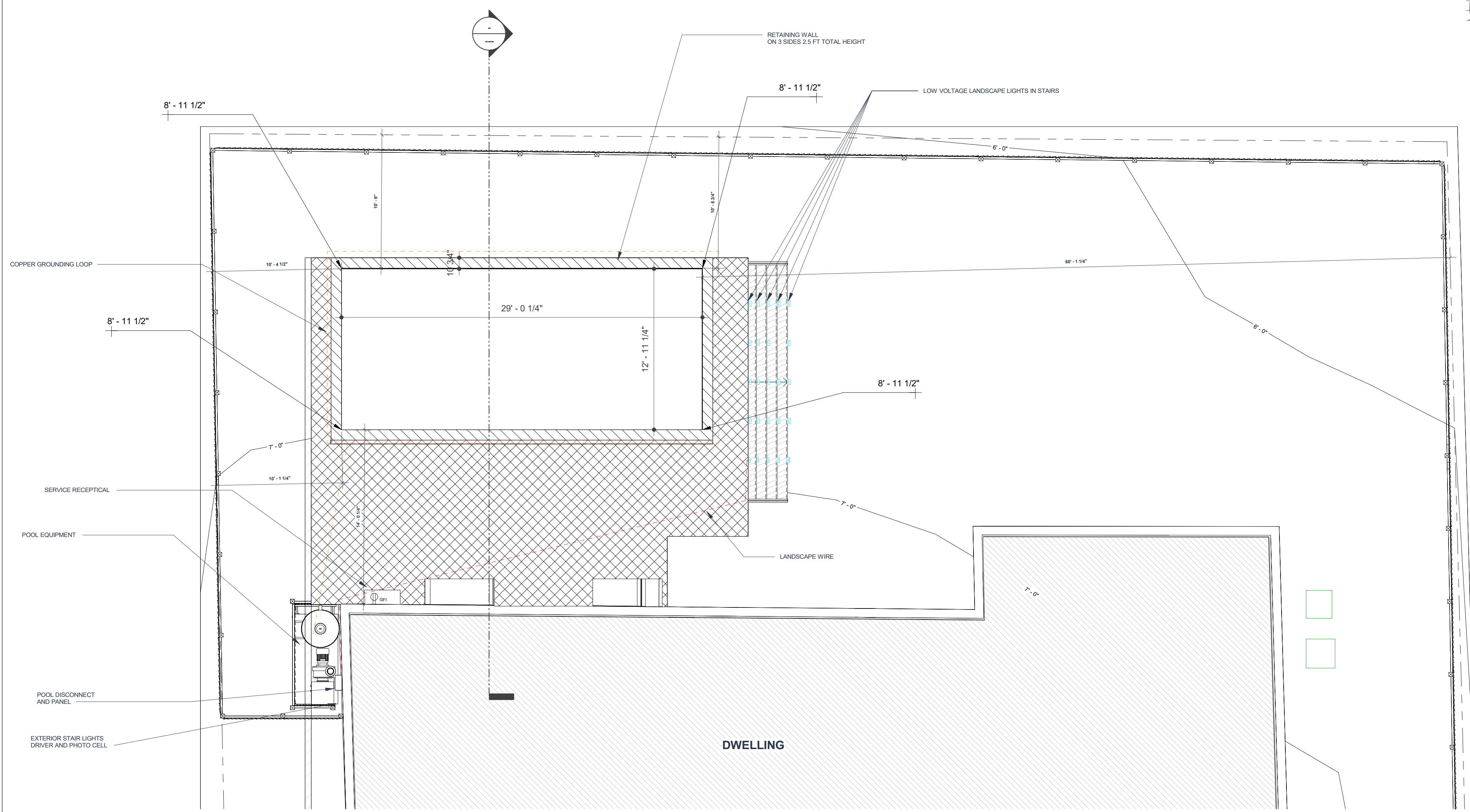
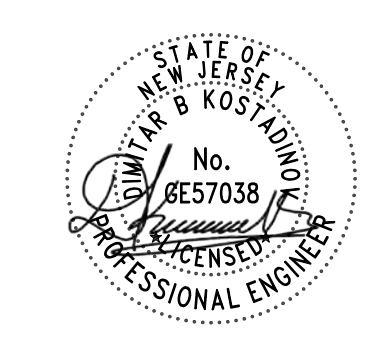


William H.R. White, III, P.E., P.P., CME, CFM
Oceanport Planning Board Engineer and Planner

WHW/rb

cc: Kevin Kennedy, Esq., Board Attorney (via email)
Ryan Glubo, applicant (via email) rlglubo@gmail.com
Dimitar Kostadinov, PE (via email) info@hlstewards.com

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ELECTRICAL NOTES

- PERFORM WORK IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND CODES AND REGULATIONS OF JURISDICTIONAL AUTHORITIES. DO NOT CONSTRUCT ANYTHING ON THESE PLANS AS CONFLICTING WITH ANY LOCAL OR STATE LAW, REGULATION OR ORDINANCE GOVERNING THE WORK. WHERE ANY PORTION OF THE WORK IS NOT INSTALLED IN ACCORDANCE WITH APPLICABLE LAWS, ORDINANCES, REGULATIONS AND CODES, MAKE CHANGES REQUIRED BY THE ENFORCING AUTHORITIES IN A MANNER APPROVED BY THE OWNER WITHOUT ADDITIONAL COST TO THE OWNER. EQUIPMENT IS NOT TO BE INSTALLED IN CONFLICT WITH THE NEC. RESOLVE ANY CONFLICTS BEFORE INSTALLATION AT NO ADDITIONAL COST TO THE OWNER.
- ELECTRICAL EQUIPMENT TO BE NEW, UNDAMAGED, LISTED BY UNDERWRITERS LABORATORY, INC. AND BEAR THE "UL" LABEL. INSTALL EQUIPMENT IN STRICT ACCORD WITH MANUFACTURERS' RECOMMENDATIONS UNLESS THE CONTRACT DOCUMENTS REQUIRE A HIGHER QUALITY INSTALLATION THAN THAT RECOMMENDED BY THE MANUFACTURER.
- TEST ALL SYSTEMS, DEVICES AND RELATED EQUIPMENT ON-SITE WITH EQUIPMENT IN PLACE AS WORK IS COMPLETED. REPLACE ANYTHING FOUND TO BE DEFECTIVE AND RETEST UNTIL SATISFACTORY AT NO ADDITIONAL COST TO THE OWNER.
- SUPPORT AND SECURE ALL LIGHTS IN ACCORDANCE WITH NEC.
- THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND ARE FOR CIRCUIT ALLOCATION ONLY. DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF FIXTURES.
- THE ELECTRICAL INSTALLATION SHALL CONFORM TO APPLICABLE BUILDING CODES. A PERMIT SHALL BE SECURED PRIOR TO COMMENCEMENT OF ANY WORK.
- CONTRACTOR TO PROVIDE PULLBOX EVERY 200 FT DEGREE BENDS SHALL NOT EXCEED 270 DEGREES, PROVIDE PULLBOXES AS NECESSARY
- ALL FIXTURES IN PAVILION AREA TO BE OUTDOOR RATED
- ALL CONDUCTORS EXPOSED TO THE WEATHER SHOULD BE PROPERLY PROTECTED
- POOL AND WATER TO BE PROPERLY GROUNDED
- POOL TO HAVE DEDICATED BREAKER
- ALL WIRE TO BE DIRECT BURRY APPROVED BY MANUFACTURE OR THWN FOR OUT DOOR CONDUIT RUNS
- EQUIPOTENTIAL BONDING RING SHALL BE #8 SOLID CONDUCTOR 18-24 INCHES FROM THE INSIDE WALL OF THE POOL INSTALL BELOW FINAL GRADE 6-8 INCHES AS PE nec 680.26(B) (2) (b)
 - IF METALLIC POOL (ANY PART) YOU MUST ATTACH THE #8 SOLID CONDUCTORS TO FOUR POINTS OFF THE BONDING RING
 - ATTACH WIRING FROM SKIMMER OR WATER INLET PIPING TO POOL FILTER PUMP OR TO BONDING RING
 - BOND ALL DEVICES
- POWER RECEPTACLES FOR THE PUMP AND GENERAL SHALL BE MIN 6' AWAY
- SERVICE OUTLET TO BE MIN 6 FEET AWAY AND NO MORE THEN 20 FEET PERIMETER SURFACES. THE PERIMETER SURFACE SHALL EXTEND FOR 1 M (3 FT) HORIZONTALLY BEYOND THE INSIDE WALLS OF THE POOL AND SHALL INCLUDE UNPAVED SURFACES AS WELL AS POURED CONCRETE AND OTHER TYPES OF PAVING. BONDING TO PERIMETER SURFACES SHALL BE PROVIDED AS SPECIFIED IN 680.26(B)(2)(A) OR (2)(B) AND SHALL BE ATTACHED TO THE POOL REINFORCING STEEL OR COPPER CONDUCTOR GRID AT A MINIMUM OF FOUR (4) POINTS UNIFORMLY SPACED AROUND THE PERIMETER OF THE POOL. FOR NONCONDUCTIVE POOL SHELLS, BONDING AT FOUR POINTS SHALL NOT BE REQUIRED.
- POOL WATER. WHERE NONE OF THE BONDED PARTS IS IN DIRECT CONNECTION WITH THE POOL WATER, THE POOL WATER SHALL BE IN DIRECT CONTACT WITH AN APPROVED CORROSION-RESISTANT CONDUCTIVE SURFACE THAT EXPOSED NOT LESS THAN 5800 MM2 (9 IN^2) OF SURFACE AREA TO THE POOL WATER AT ALL TIMES. THE CONDUCTIVE SURFACE SHALL BE LOCATED WHERE IT IS NOT EXPOSED TO PHYSICAL DAMAGE OR DISLODGEEMENT DURING USUAL POOL ACTIVITIES, AND IT SHALL BE BONDED IN ACCORDANCE WITH 680.26(B).
- ALL LIGHTING TO BE DIRECTED TO OWNERS PROPERTY AND HAVE NO SPILL OVER ONTO NEIGHBORS

ELECTRICAL SYMBOLS

- 240 V RECEPTACLE
- DUPLEX RECEPTACLE
- GFI RECEPTACLE
- GFI RECEPTACLE MOUNT AT 36" A.F.F.
- GFI RECEPTACLE MOUNT AT 42" A.F.F.
- WATERPROOF RECEPTACLE
- RECESSED CAN LIGHTS
- PENDANT LIGHT
- SURFACE MOUNTED LIGHT
- RECESSED STRIP LIGHT
- SURFACE MOUNTED STRIP LIGHT
- UNDER CABINET LIGHT
- WALL LIGHT
- CARBON MONOXIDE DETECTOR
- SMOKE DETECTOR
- EXTERIOR STAIR LANDSCAPE LIGHTS
- WIRE
- BARE GROUND CABLE 8 AWG

1 ELECTRICAL PLAN
3/16" = 1'-0"

62 MANITOO PL POOL

CLIENT NAME: COURTNEY & RYAN GLUBO
PROJECT ADDRESS: 62 MANITTO PL OCEAN PORT NJ 07757

REVISION LOG		
REV #	DATE	DESCRIPTION

STATUS: **PROPOSED**

BUILDING DEPT PERMIT NUMBER: _____

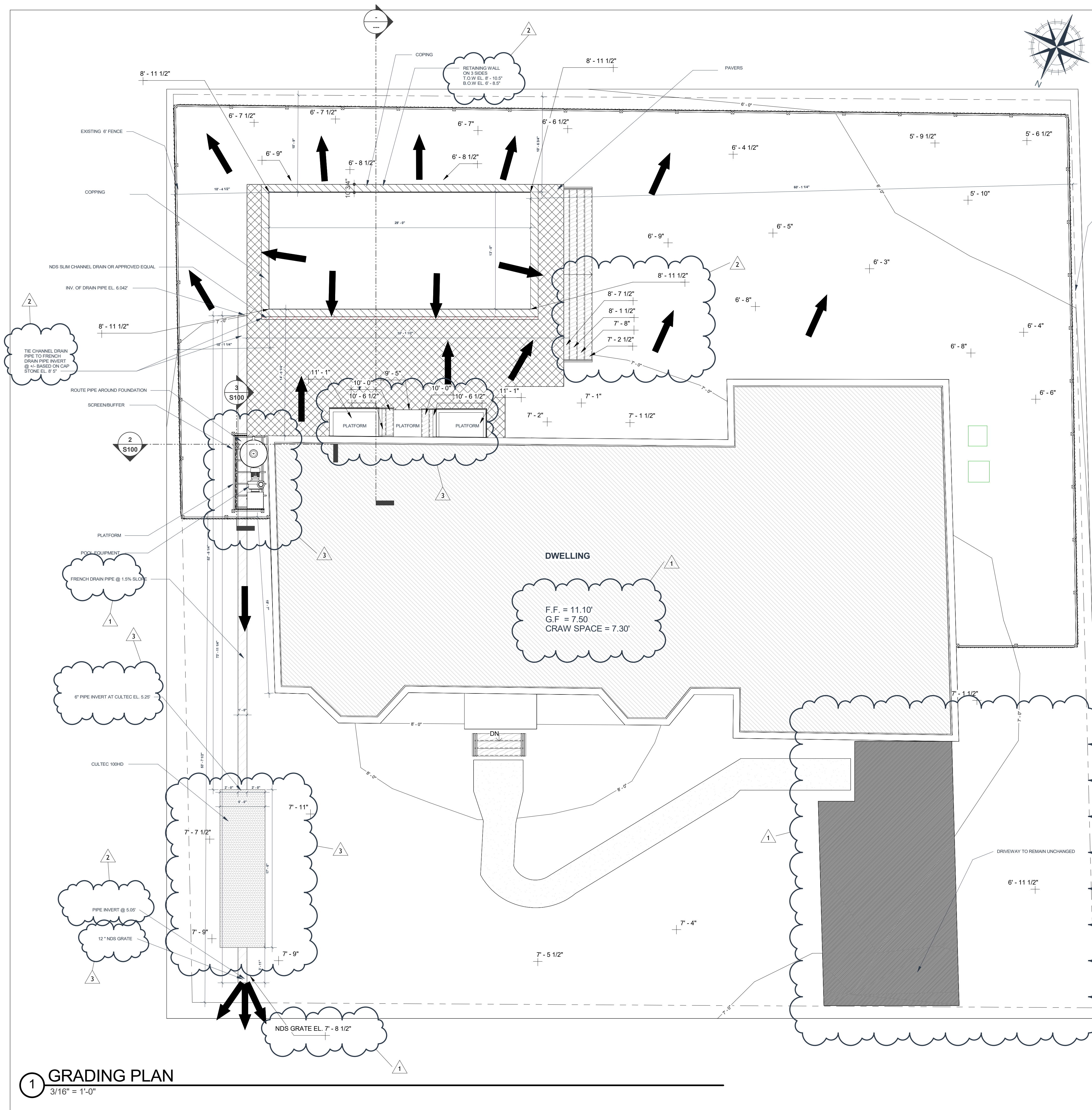
HLS Project number: **202520**

DRAWN BY: **DBK**

SHEET NAME: **ELECTRICAL PLAN**

SHEET NO: **E100**

Scale: **As indicated**



GENERAL NOTES

- DRAINAGE PLAN WAS CREATED BASED ON THE SURVEY BY MAIN STREET SURVEYING DATED 08/01/2025
- CONTRACTOR TO CONFIRM ALL ELEVATIONS BEFORE GRADING
- REFER TO ZONING DRAWING OR SITE PLAN FOR CHANGE IN IMPERVIOUS COVERAGE
- POOL AND PATIO ELEVATIONS TO BE CONFIRMED IN THE FIELD BASED ON SITE CONDITIONS
- EXISTING DRAINAGE PATTERN TO BE MAINTAINED AS MUCH AS POSSIBLE
- FILL AROUND POOL TO BE WELL DRAINING AS PER MANUFACTURE REQUIREMENTS
- IF AN UNFORESEEN INTERFERENCE EXISTS BETWEEN EXISTING AND PROPOSED WORK, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE APPROPRIATE REVISIONS CAN BE MADE
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL NECESSARY PERMITS FROM LOCAL AUTHORITIES AND ANY CONSTRUCTION RIGHTS AND/OR SLOPE RIGHTS AS MAY BE REQUIRED FROM ADJOINING PROPERTY OWNERS
- ALL AREAS OF DISTURBED EARTH SHALL BE STABILIZED BY MULCHING OR OTHER MEANS. SEEDING OF GRASSED AREAS SHALL BE INITIATED AS SOON AS PRACTICAL AS AN EROSION AND SEDIMENT CONTROL MEASURE
- EXISTING DRAINAGE PATTERN MUST BE MAINTAINED DURING & AFTER CONSTRUCTION TO ENSURE NO IMPACT TO OTHER RESIDENTS
- EXCAVATED MATERIAL IS TO BE REMOVED FROM SITE, UNLESS REUSED FOR FINAL GRADING AND DISCUSSED WITH BOROUGH ENGINEER PRIOR TO FINAL GRADING
- CONTRACTOR TO CHECK FOR UNDERGROUND UTILITIES AND OBTAIN ANY MARK OUTS THAT APPLY
- ALL ELEVATIONS ALONG PROPERTY LINE TO BE MAINTAINED AND ALL NEW GRADING TO FEATHER INTO EXISTING PROPERTY LINE GRADE.

DRAINAGE MATERIAL LIST

- PERFORATED 6" PIPE
- NDS DRAIN 90 DEGREE LONG TURN STREET ELBOW
- NDS 4" SQUARE GRATE

DRAINAGE SYSTEM INTENT

- CHANNEL DRAIN TO COLLECT WATER FROM PATIO A POOL COPPING
- CHANNEL DRAIN TO BE CONNECTED TO PERFORATED 6" BURIED DRAIN PIPE
- DRAIN PIPE TO SLOPE 1.5% TO SQUARE GRATE IN FRONT YARD
- COLLECTED WATER TO CONVEY TO DRYWELL SYSTEM THAT IF REACHES CAPACITY LIMIT IT WILL EMIT IN FRONT YARD DUE TO GRAVITY AS A RESULT OF A 8" DELTA BETWEEN PATIO AND FRONT YARD

SOIL

SOIL TYPE: EKAAR
 ELKTON LOAM, 0 TO 2 PERCENT SLOPES, RARELY FLOODED
 TYPICAL PROFILE: AP - 0 TO 8 INCHES: LOAM, Btg - 8 TO 35 INCHES: CLAY LOAM, C - 35 - 60 INCH: CLAY LOAM
 HYDROLOGIC SOIL GROUP: C/D

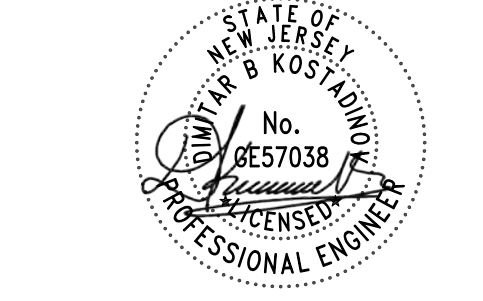
CUT/FILL

CUT: 2.3' X 13' X 29' = 867.1 F³ / 27 = 32.11 CYD
 FILL: 2' X 462.35 FT² = 924.7 F³ / 27 = 34.25 CYD
 NET CUT/FILL = 34.25 - 32.11 = 2.14 CYD FILL



HOME & LAND STEWARDS
 LLC

80 Alcott Rd Mawha NJ 07430 201-389-8749



62 MANITOO PL POOL

CLIENT NAME: COURTNEY & RYAN GLUBO
 PROJECT ADDRESS: 62 MANITOO PL OCEAN PORT NJ 07757
 BUILDER NAME: [blank]
 BUILDER CONTACT: [blank]
 BUILDER ADDRESS: [blank]

REVISION LOG

REV #	DATE	DESCRIPTION
1	3.11.2026	Revision 1
2	3.19.2026	Revision 2
3	3.31.2026	Revision 3

STATUS: PROPOSED

BUILDING DEPT PERMIT NUMBER: [blank]

HLS Project number: 202520

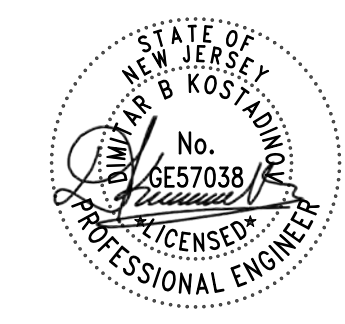
DRAWN BY: DK

SHEET NAME: GRADING PLAN

SHEET NO: GR001

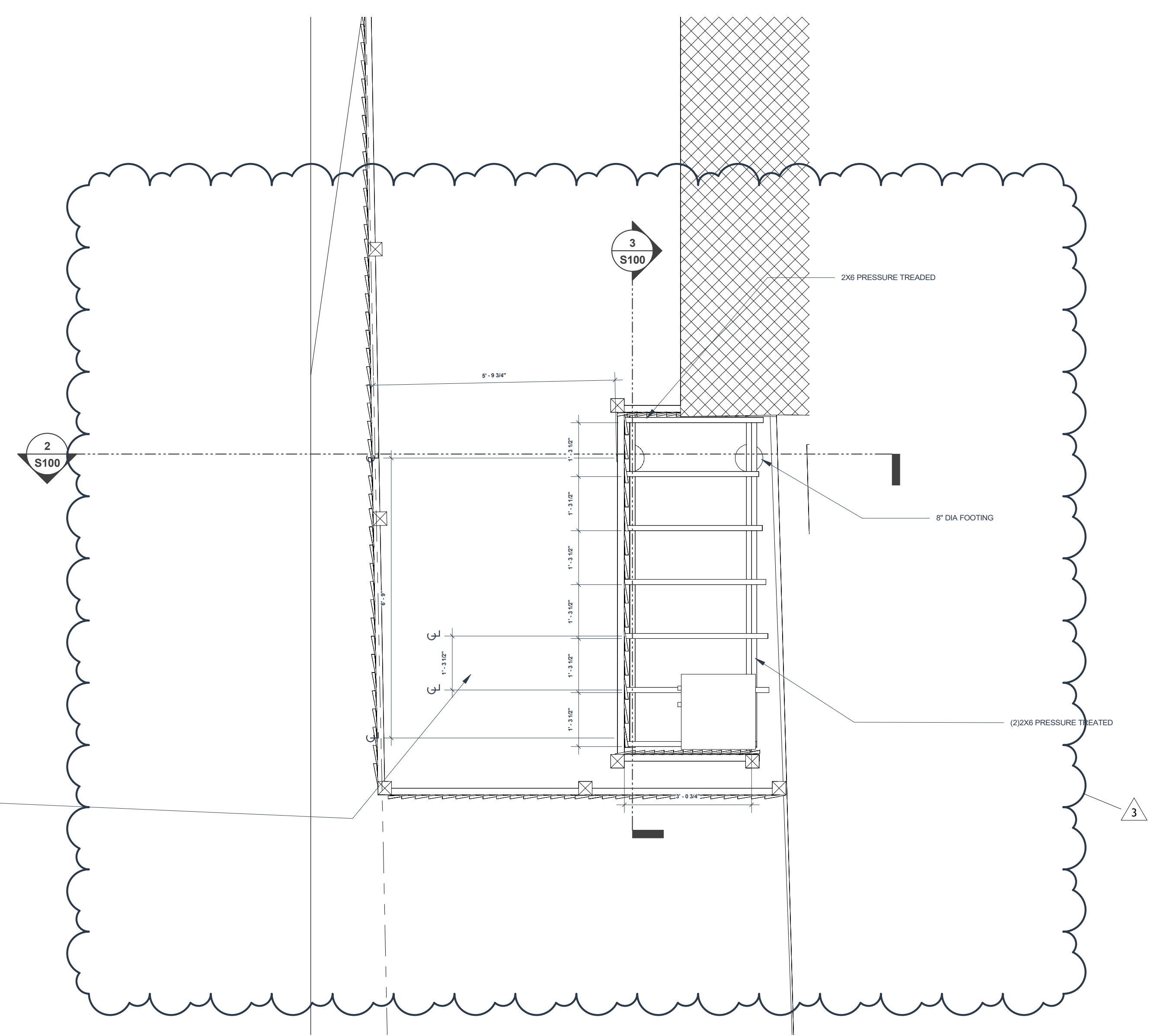
Scale: As indicated

1 GRADING PLAN
 3/16" = 1'-0"

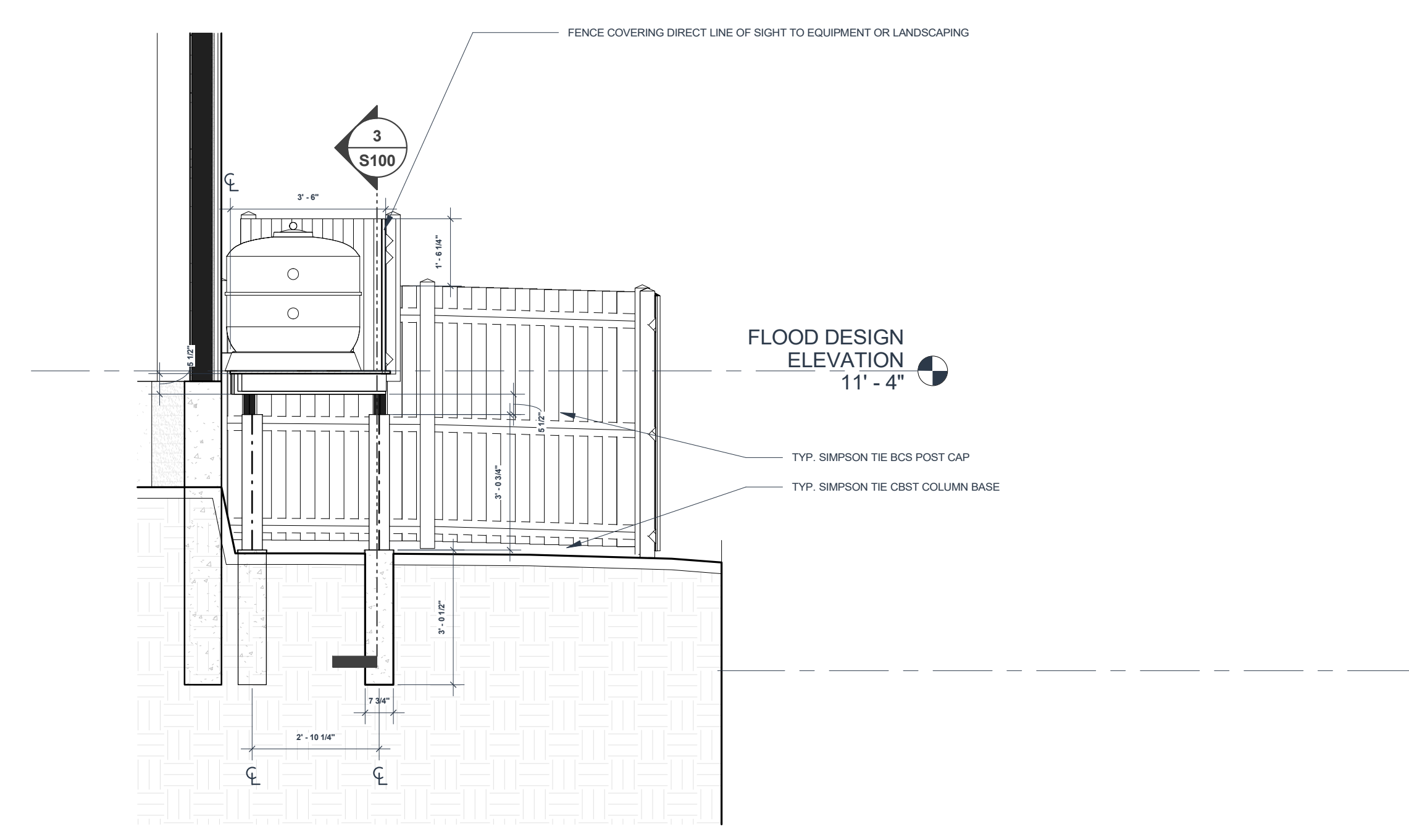


STRUCTURAL NOTES

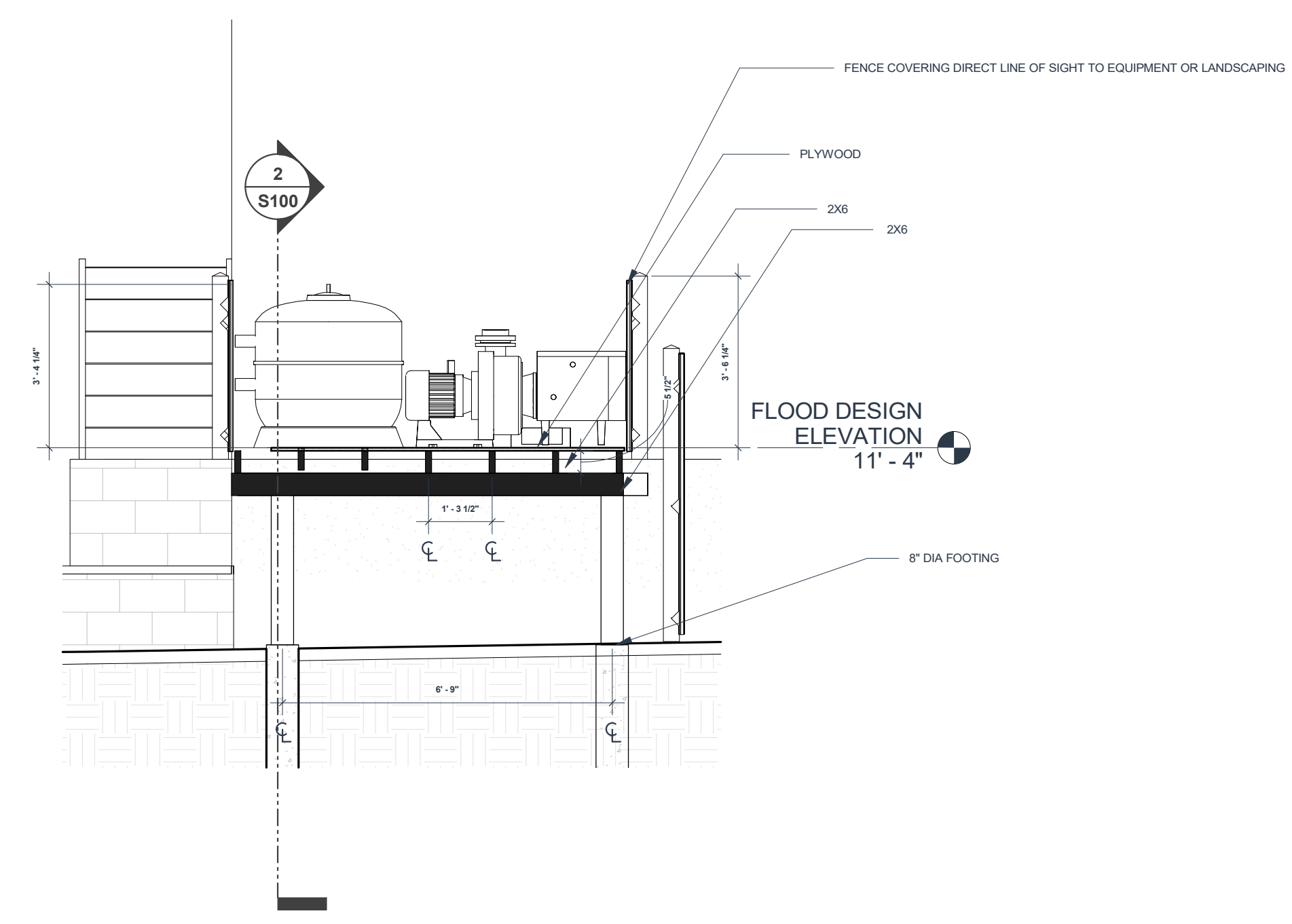
1. THE STRUCTURAL PLANS AND SPECIFICATIONS, TO THE BEST OF OUR KNOWLEDGE, COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE 2021 WITH STATE OF NEW JERSEY AMENDMENTS
2. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE 2021 WITH STATE OF NEW JERSEY AMENDMENTS AND ALL APPLICABLE FEDERAL AND STATE CODES, STANDARDS, REGULATIONS AND LAWS.
3. ALL REFERENCED STANDARDS REFER TO THE EDITION IN FORCE AT THE TIME THESE PLANS AND SPECIFICATIONS ARE ISSUED FOR PERMIT.
4. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED.
5. IN ANY CASE OF CONFLICT BETWEEN THE NOTES, DETAILS AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS SHALL GOVERN. CONTRACTOR SHALL MAKE NO DEVIATION FROM CONTRACT DOCUMENTS WITHOUT WRITTEN APPROVAL OF THE ENGINEER
6. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AND COORDINATE WITH ARCHITECTURAL DRAWINGS, DRAWINGS FROM OTHER CONSULTANTS, PROJECT SHOP DRAWINGS AND FIELD CONDITIONS
7. THE CONTRACTOR SHALL PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITY LINES FROM ALL DAMAGE.
8. JOB SAFETY AND CONSTRUCTION PROCEDURES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
9. THE STRUCTURES ARE DESIGNED FOR THE FOLLOWING UNIFORMLY DISTRIBUTED LIVE LOADS:
A. DEAD LOAD = 15 LBS/SQFT
B. SNOWLOAD= 30 LBS/SQFT
10. WIND LOADS
A. BASIC WIND SPEED (3 SECOND GUST) = 110 MPH.
B. EXPOSURE = "C"
11. ALL SIMPSON CONNECTION ELEMENTS WILL BE FASTENED WITH THE MANUFACTURE RECOMMENDED FASTENERS



1 STRUCTURAL PLAN
1/2" = 1'-0"



2 Section 1
3/8" = 1'-0"



3 Section 2
3/8" = 1'-0"

62 MANITTOO PL POOL

CLIENT NAME: COURTNEY & RYAN GLUBO
PROJECT ADDRESS: 62 MANITTOO PL OCEAN PORT NJ 07757
BUILDER NAME: [blank]
BUILDER CONTACT: [blank]
BUILDER ADDRESS: [blank]

REVISION LOG		
REV #	DATE	DESCRIPTION
3	3.31.2026	Revision 3

STATUS: **PROPOSED**

BUILDING DEPT PERMIT NUMBER: [blank]

HLS Project number: 202520

DRAWN BY: DBK

SHEET NAME: **PLATFORM**

SHEET NO.: **S100**

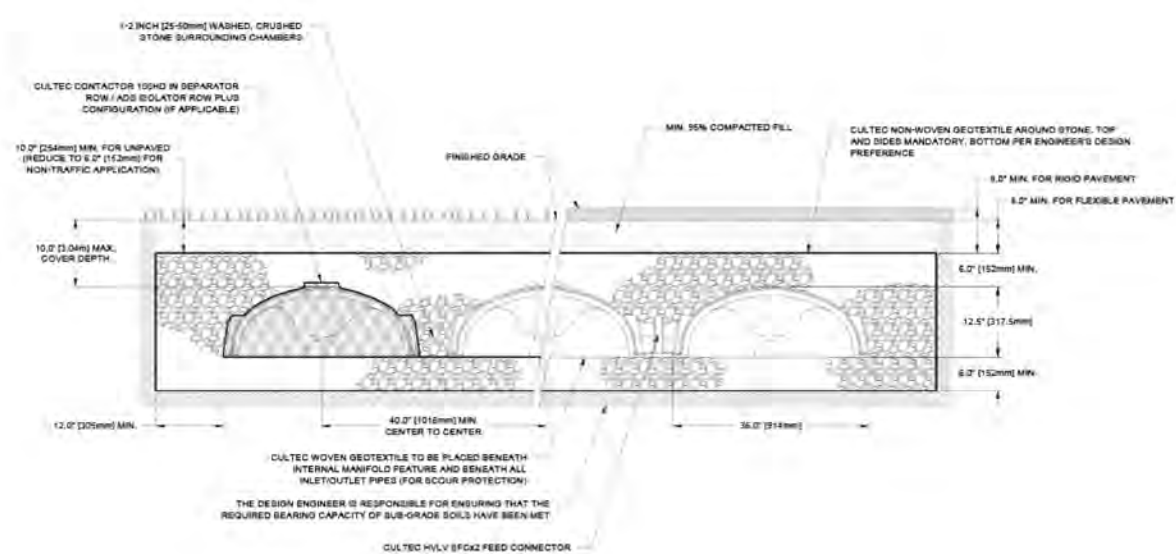
Scale: As indicated



USER INPUTS	
Project Name:	62 MANITTO RD
Engineer:	null null
Project Location:	New Jersey
Measurement Type:	Imperial
Chamber Model:	Contactor 100HD
Required Storage Volume:	157 cf
Available Length:	24 ft
Available Width:	5 ft
Stone Above Chambers:	23 in
Stone Below Chambers:	13 in
Base Stone Elevation:	4.05 ft
Stone Porosity:	40%
Maximum Allowable Finished Grade	17.59 ft
Minimum Allowable Finished Grade	6.76 ft
Outlet Control Structure:	Yes

RESULTS	
Installed Storage Volume:	158.82 cf
Storage Volume Per Chamber:	14 cf
Chamber Rows:	1
Maximum Length:	17.50 ft
Maximum Width:	5 ft
Approx. Bed Area Required:	87.50 sf

SYSTEM COMPONENTS - NOT FOR CONSTRUCTION	
Number of Chambers Required:	2
Number of End Caps Required:	2
Number of Feed Connectors Required:	0
Amount of Stone Required:	13 cy
Volume of Excavation (Not Including Fill):	14 cy
Non-woven Geotextile Required:	63 sy
Woven Geotextile Required (Beneath Internal Manifold):	11 ft
Woven Geotextile Required (Cultec Separator Row / ADS Isolator Row Plus):	20 ft
Total Woven Geotextile Required:	31 ft



ADS, Inc. Drainage Handbook Specifications • 1-19

SINGLE WALL PIPE SPECIFICATION

Scope
This specification describes 3- through 15-inch (75 to 375 mm) single wall high density corrugated polyethylene pipe for use in gravity-flow land drainage applications.

Pipe Requirements
Single wall high density corrugated polyethylene pipe shall have annular interior and exterior corrugations.
• 3- through 15-inch (75 to 375 mm) pipe shall meet ASTM F667.

Joint Performance
Joints for 3- to 15- inch (75 – 375 mm) shall be made with split or snap couplings. Standard connections shall meet the requirements of the ASTM F667. Gasketed connections shall incorporate a closed-cell synthetic expanded rubber gasket meeting the requirements of ASTM D1056 Grade 2A2. Gaskets, when applicable, shall be installed by the pipe manufacturer.

Fittings
Fittings shall conform to ASTM F667.

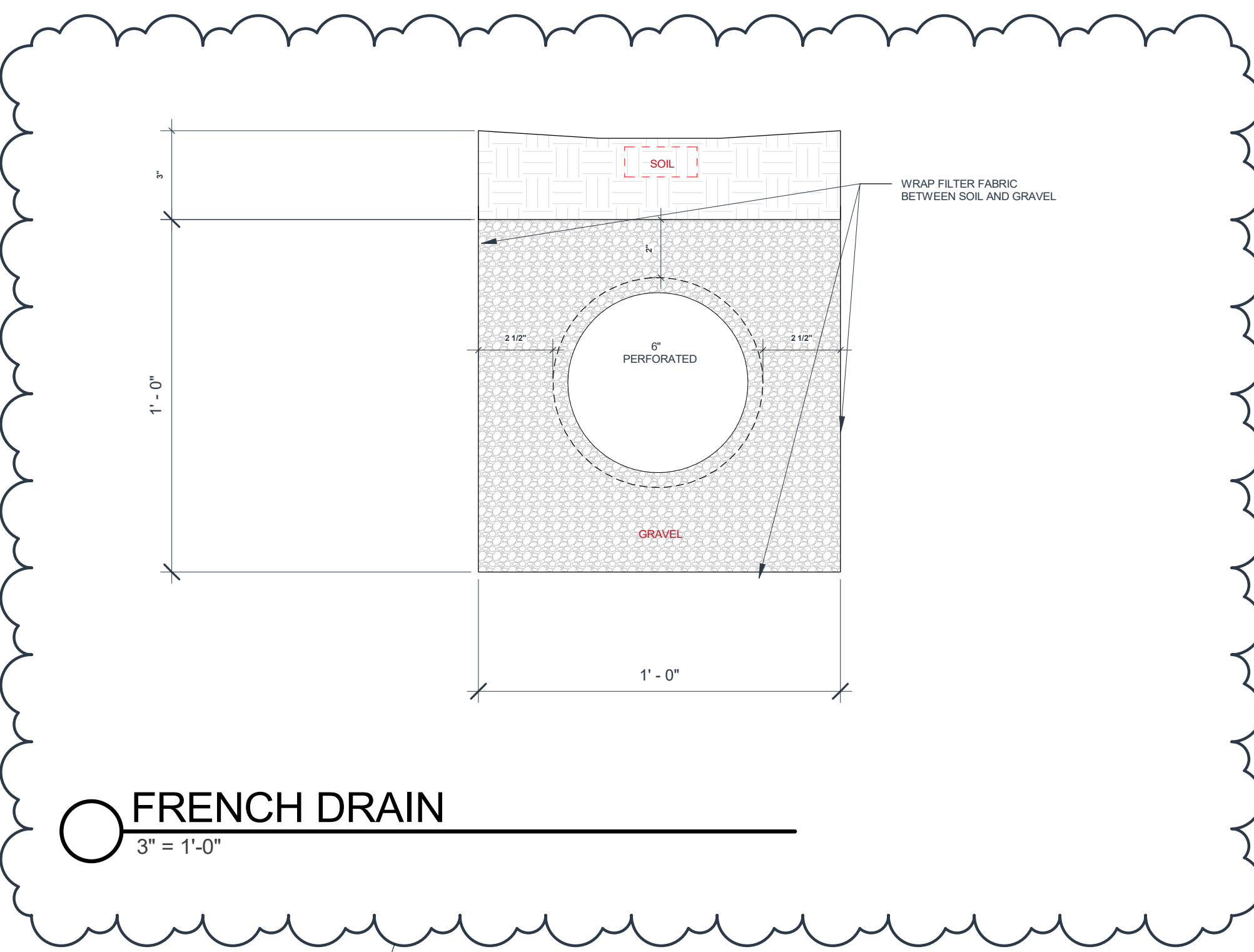
Material Properties
Pipe and fitting material shall be high density polyethylene conforming with the minimum requirements of cell classification 323410C or 333410C as defined and described in the latest version of ASTM D3350.

Installation
Installation shall be in accordance with ASTM D2321 and ADS recommended installation guidelines, with the exception that minimum cover in trafficked areas for 3- through 15-inch (75 to 375 mm) diameters shall be one foot (0.3 m). Maximum fill heights depend on embedment material and compaction level; please refer to Technical Note 2.03. Contact your local ADS representative or visit our website at www.adspipe.com for a copy of the installation guidelines.

Pipe Dimensions

Outside Diameter (in)	3	4	5	6	8	10	12	15
Weight (lb/ft)	3.8	4.8	5.8	7.0	9.5	12.0	14.5	18.0
Volume (cu ft/100 ft)	0.91	1.17	1.47	1.78	2.41	3.05	3.86	4.87

*Pipe O.D. values are provided for reference purposes only, values listed for 12 through 24-inch are ±1 inch. Contact a sales representative for exact values.
**All diameters available with or without perforations.



FRENCH DRAIN
3" = 1'-0"



NDS SLIM CHANNEL GRATES

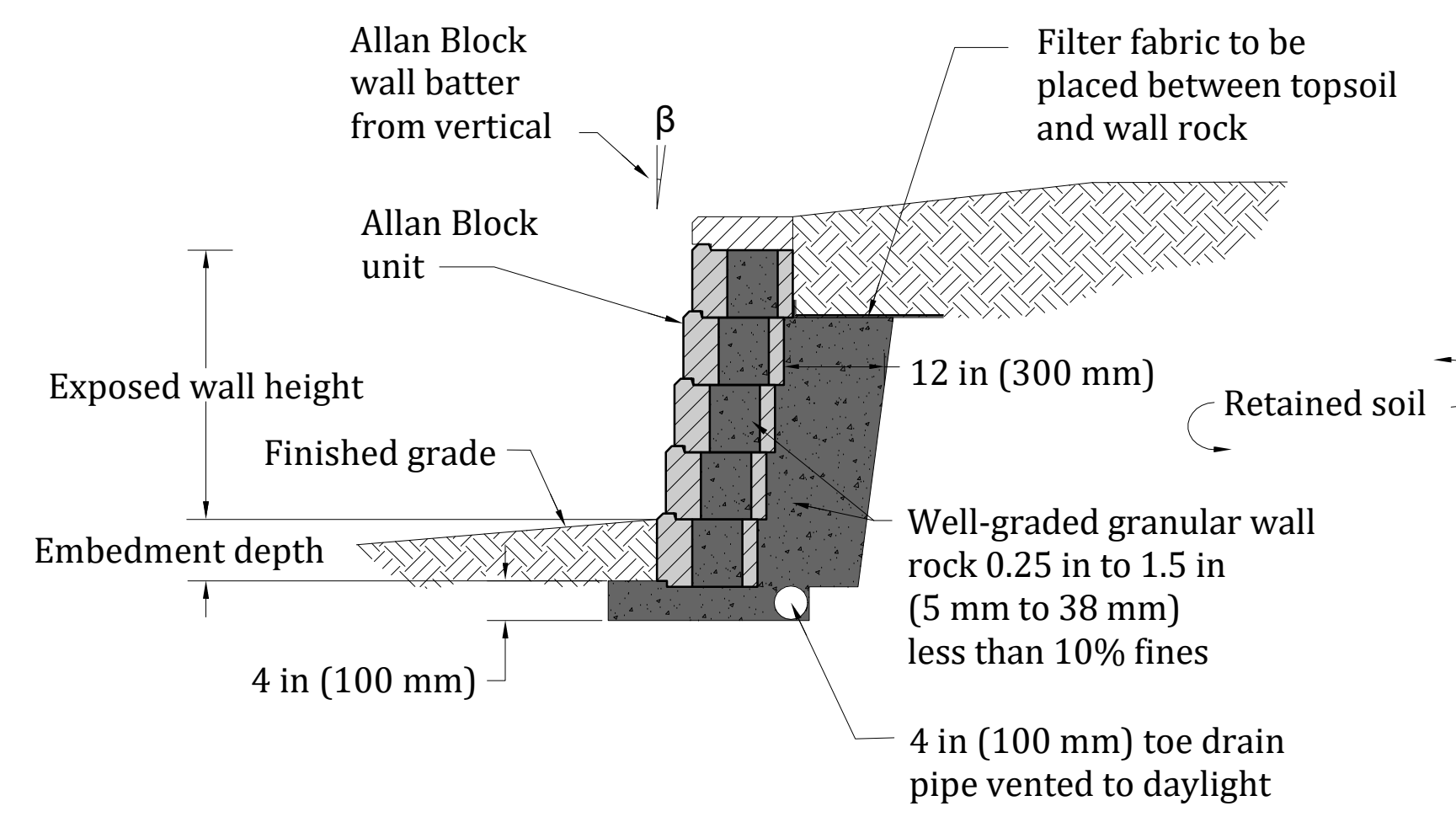
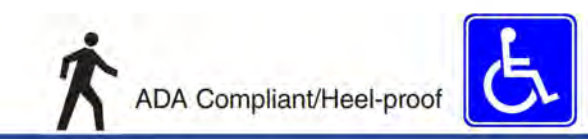


Material: Polypropylene
Colors: White, Gray & Sand come with UV inhibitors
Weight: 0.36 lbs per grate
Fits: NDS Slim Channel Drains
Size: Grates are 3' long x 2 1/4" wide
Overlapping lip is 1/8" thick
Load rating: Pedestrian loads only

Slotted Grate	Opening Size: 0.248"
• White—#9241	Open area: 7.01 sq. in / linear foot
• Sand—#9242	Flow Capacity: 21.44 GPM / linear foot
• Gray—#9243	

Square Deco Grate	Opening Size: 0.246"
• White—#9251	Open area: 5.73 sq. in / linear foot
• Sand—#9252	Flow Capacity: 17.53 GPM / linear foot
• Gray—#9253	

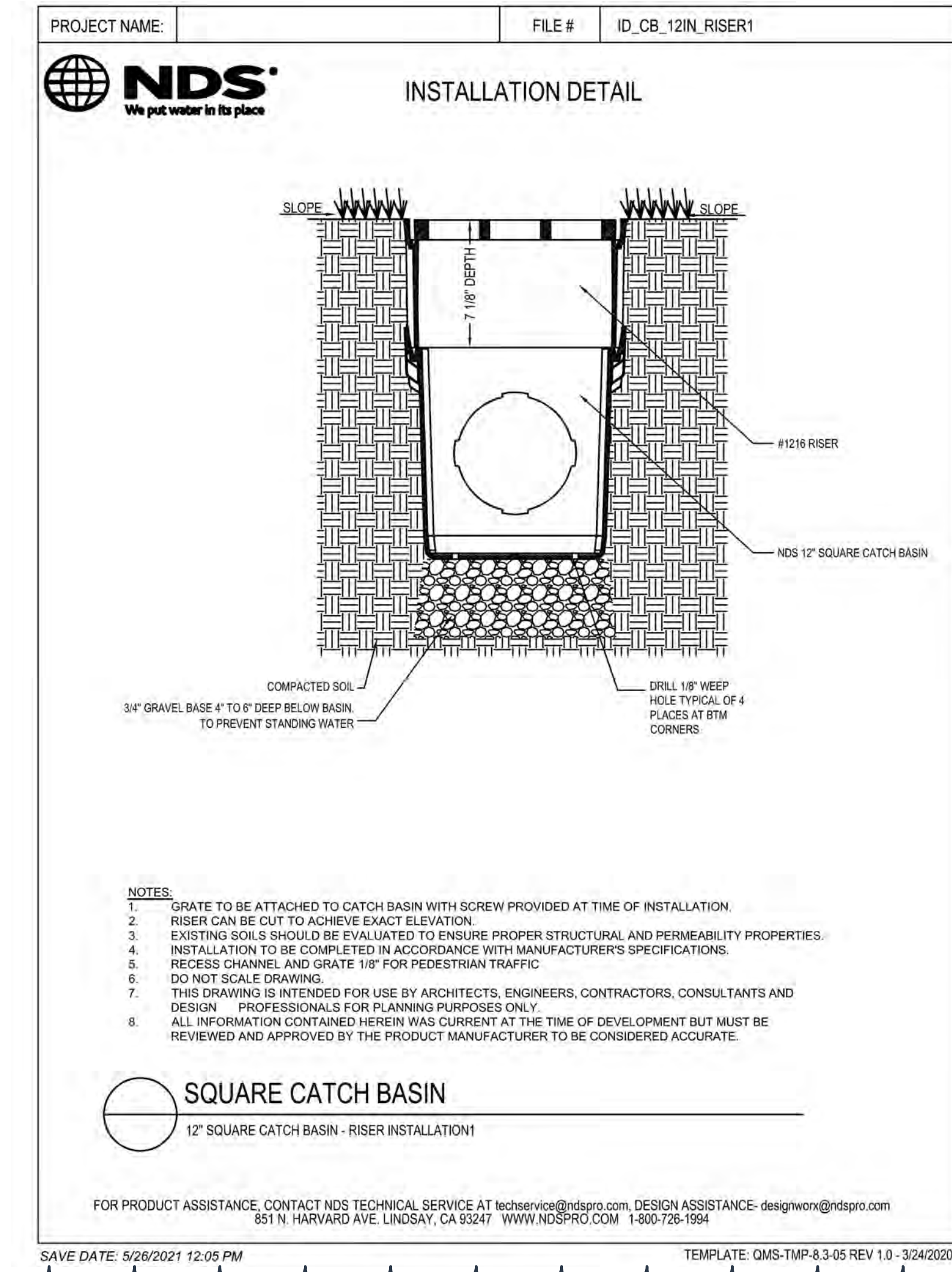
Chain Deco Grate	Opening Size: 0.233"
• White—#9261	Open area: 7.09 sq. in / linear foot
• Sand—#9262	Flow Capacity: 21.69 GPM / linear foot
• Gray—#9263	



TYPICAL ALLEN BLOCK RETAINING WALL DETAIL

© ADS, Inc., August 2023

- ### NOTES
1. ALL MATERIAL AS SHOWN OR APPROVED EQUAL.
 2. RETAINING WALL DRAIN TO TIE TOGETHER AND WEEP OUT ON THE SOUTHEAST WALL.
 3. CONTRACTOR IS TO CHECK ANY PROPOSED MATERIAL CHANGES FOR CONFORMANCE TO TECHNICAL SPEC BEFORE SUBMITTING.
 4. HOME OWNER TO MAINTAIN CHANNEL DRAIN.

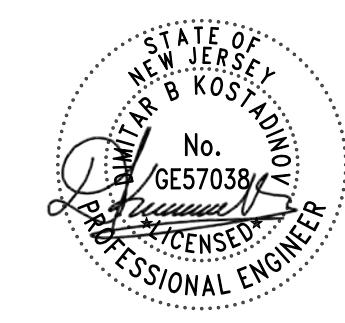


SQUARE CATCH BASIN
12" SQUARE CATCH BASIN - RISER INSTALLATION

- NOTES:**
1. GRATE TO BE ATTACHED TO CATCH BASIN WITH SCREW PROVIDED AT TIME OF INSTALLATION.
 2. RISER CAN BE CUT TO ACHIEVE EXACT ELEVATION.
 3. EXISTING SOILS SHOULD BE EVALUATED TO ENSURE PROPER STRUCTURAL AND PERMEABILITY PROPERTIES.
 4. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 5. RECESS CHANNEL AND GRATE 1/8" FOR PEDESTRIAN TRAFFIC.
 6. DO NOT SCALE DRAWING.
 7. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY.
 8. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.

FOR PRODUCT ASSISTANCE, CONTACT NDS TECHNICAL SERVICE AT techservice@ndspro.com, DESIGN ASSISTANCE: design@ndspro.com
851 N. HARVARD AVE. LINDSAY, CA 95247 WWW.NDSPRO.COM 1-800-726-1994

80 Alcott Rd Mawha NJ 07430 201-389-8749
www.hlstewards.com



62 MANITTOO PL POOL

CLIENT NAME: COURTNEY & RYAN GLUBO
PROJECT ADDRESS: 62 MANITTOO PL OCEAN PORT NJ 07757

BUILDER NAME: [blank]
BUILDER CONTACT: [blank]
BUILDER ADDRESS: [blank]

REVISION LOG		
REV #	DATE	DESCRIPTION
2	3.19.2026	Revision 2
3	3.31.2026	Revision 3

STATUS: PROPOSED

BUILDING DEPT PERMIT NUMBER: [blank]

HLS Project number: 202520

DRAWN BY: Author

SHEET NAME: CUT SHEETS/DETAILS

SHEET NO: T100

Scale: As indicated

NRCS STORMWATER ANALYSIS — 62 Manitto Place, Ocean Port NJ

Tab 1: Site Data, Soil, & Curve Numbers (NJAC 7:8-5.7 / NRCS NEH Part 630)

Description	Value	Unit	Source / Notes
SOIL DATA			
Soil Series	Elkton Loam		GR001 / NRCS Web Soil Survey
Hydrologic Soil Group (HSG)	D		C/D dual — use D (undrained) per NJDEP

CURVE NUMBERS (TR-55 Table 2-2a, HSG D)			
CN — Impervious (concrete, pavers, pool)	98		TR-55: paved/impervious surfaces
CN — Lawn, Good Condition, HSG D	80		TR-55: open space, good condition (>75% grass)

DRAINAGE AREAS			
Total Backyard Analysis Area	3992.09	SF	Topographic survey
Total Area (Acres)	0.09165	ac	
Total Area (Sq Miles)	0.00014320	sq mi	For peak discharge

EXISTING CONDITION			
Existing Impervious (Sheds/Pads)	401.52	SF	Survey
Existing Lawn	3,590.57	SF	
Weighted CN — Existing	81.8		Area-weighted

PROPOSED — CONTAINED BASIN (retaining wall on 3 sides)			
Pool overflow goes over coping on ALL FOUR SIDES. Only the 1/5 nearest the channel drain (~75 SF) is captured. The remaining 4/5 (~300 SF) overflows overland toward neighbors as impervious runoff. ALL patio surface drains to the channel drain — retaining wall contains 3 sides, drain on 4th. DA-1 = remaining lawn + 4/5 pool overflow. DA-2 = all patio + 1/5 pool.			
Patio (ALL captured by drain)	502	SF	Retaining wall contains 3 sides; drain on 4th — 100% patio captured
Pool — 1/5 captured (near drain side)	75	SF	1/5 of pool — only side nearest channel drain
DA-2 TOTAL — Captured by Channel Drain	577.00	SF	All patio + 1/5 pool → piped to front yard
DA-2 (Acres)	0.01325	ac	
DA-2 (Sq Miles)	0.00002070	sq mi	
DA-1 (to neighbors = lawn + 4/5 pool overflow)	3,415.09	SF	Remaining lawn + 4/5 pool overland overflow
DA-1 (Acres)	0.07840	ac	
DA-1 (Sq Miles)	0.00012250	sq mi	
CN — DA-1 (lawn + 4/5 pool overflow)	81.6		
CN — DA-2 (100% impervious)	98.0		Pool + patio CAPTURED BY DRAIN

S AND Ia VALUES			
	$S = (1000/CN) - 10$	$Ia = 0.2 \times S$	
S — Existing	2.223	in	
Ia — Existing	0.445	in	
S — DA-1 (lawn)	2.258	in	
Ia — DA-1	0.452	in	
S — DA-2 (impervious)	0.204	in	
Ia — DA-2	0.041	in	

RAINFALL & SCS RUNOFF DEPTH

Tab 2: NOAA Atlas 14 + NJ PACT factors + SCS Runoff Equation

Description	Value	Unit	Source / Notes
24-HOUR RAINFALL (NOAA Atlas 14, Monmouth County)			
P — 2-Year	3.5	in	NOAA Atlas 14, partial duration
P — 10-Year	5.1	in	NOAA Atlas 14
P — 25-Year	6.45	in	NOAA Atlas 14 (log-linear interpolated)
P — 100-Year	8.5	in	NOAA Atlas 14

S VALUES (from Tab 1 site - CN)			
S_existing	2.223	in	
S_DA1 (lawn + pool over flow)	2.258	in	
S_DA2 (impervious)	0.204	in	

SCS RUNOFF DEPTHS — CURRENT STORMS			
$Q = (P - 0.2S)^2 / (P + 0.8S)$			
Storm	Q_exist (in)	Q_DA1 (in)	Q_DA2 pipe (in)
2-yr	1.768	1.751	3.266
10-yr	3.151	3.129	4.863
25-yr	4.383	4.358	6.211
100-yr	6.313	6.285	8.260

TIME OF CONCENTRATION

Tab 3: TR-55 Sheet Flow + Shallow Concentrated Flow

Description	Value	Unit	Notes
SHEET FLOW (lawn)			
$Tt = 0.007 \times (nL)^{0.8} / (P_2^{0.5} \times S^{0.4})$			
Manning's n (dense grass)	0.24		TR-55 Table 3-1
Flow Length	30	ft	Lawn to lot 10/11
P ₂ (2-yr, 24-hr)	3.50	in	
Surface Slope	0.02	ft/ft	2% lawn slope
T _{t1} (sheet flow)	0.0868	hrs	
SHALLOW CONCENTRATED FLOW (patio)			
Slope	0.015	ft/ft	1.5% patio cross-slope
Velocity	2.5	fps	Paved: $V=20.3282 \times S^{0.5}$
Length	14	ft	Patio width
T _{t2} (shallow conc.)	0.0016	hrs	

PEAK DISCHARGE & BETTERMENT

Tab 4: TR-55 Graphical Peak Discharge — $qp = qu \times Am \times Q \times Fp$

Description	Value	Unit	Notes
qu (Type III, Tc=0.10 hr)	500	csm/in	TR-55 Exhibit 4-III at Ia/P=0.10
Fp (no ponds)	1		
Tc	0.10	hrs	

EXISTING — Peak Discharge (full backyard)

Storm	Q_runoff (in)	qp (CFS)	qp (GPM)
2-yr	1.768	0.1266	56.8
10-yr	3.151	0.2256	101.2
25-yr	4.383	0.3138	140.8
100-yr	6.313	0.4520	202.9

PROPOSED DA-1 — Peak Discharge to Neighbors (lawn only + pool over flow)

Storm	Q_runoff (in)	qp (CFS)	qp (GPM)
2-yr	1.751	0.1073	48.1
10-yr	3.129	0.1916	86.0
25-yr	4.358	0.2669	119.8
100-yr	6.285	0.3850	172.8

PROPOSED DA-2 — Peak Discharge to Pipe System (captured impervious)

Storm	Q_runoff (in)	qp (CFS)	qp (GPM)
2-yr	3.266	0.0338	15.2
10-yr	4.863	0.0503	22.6
25-yr	6.211	0.0643	28.9
100-yr	8.260	0.0855	38.4

BETTERMENT — Pre vs Post Peak Flow to Neighbors

Storm	Existing qp (CFS)	Proposed qp (CFS)	% Reduction
2-yr	0.1266	0.1073	15.3%
10-yr	0.2256	0.1916	15.0%
25-yr	0.3138	0.2669	14.9%
100-yr	0.4520	0.3850	14.8%

RUNOFF VOLUME — Pre vs Post (cubic feet)

Storm	Existing Vol (cf)	Proposed Vol (cf)	% Reduction
2-yr	588.3	498.4	15.3%
10-yr	1048.1	890.4	15.0%
25-yr	1458.0	1240.3	14.9%
100-yr	2100.1	1788.7	14.8%

PIPE CAPACITY

Tab 5: 6" Perforated Pipe at 1.5% Slope

Description	Value	Unit	Notes
PIPE PARAMETERS			
Diameter	6	in	GR001: perforated 6" pipe
Diameter (ft)	0.5000	ft	
Slope	0.015	ft/ft	GR001: 1.5%
Manning's n (perforated corr.)	0.015		Most conservative
Length	74	ft	From Drawings
Area (A)	0.1963	sf	$\pi(D/2)^2$
Hydraulic Radius (R)	0.1250	ft	D/4

FULL PIPE CAPACITY			
$Q = (1.486/n) \times A \times R^{(2/3)} \times S^{(1/2)}$			
Q_full	0.5956	CFS	Manning's equation
Q_full (GPM)	267.3	GPM	
V_full	3.03	fps	Q/A

DESIGN FLOW — FROM NRCS (DA-2 to pipe)			
Q_design (100-yr, NRCS)	0.0855	CFS	From Tab 4 DA-2 peak discharge
Q_design (GPM)	38.4	GPM	
Flow Ratio (Q_design/Q_full)	14.4%		
Pipe Capacity Check	0.5956	CFS	PASS — capacity 267 GPM > design 38 GPM

SYSTEM ENERGY BALANCE

Tab 6: Channel Drain to Outlet Grate — Head Budget

Description	Value	Unit	Notes
SYSTEM ELEVATIONS			
Cap Stone / Patio Surface	8.42	ft	GR001
Grate Surface (outlet)	7.71	ft	GR001
Pipe Invert at Outlet	5.05	ft	GR001
ENERGY BUDGET			
Gross Head (cap stone - grate)	0.710	ft	Total driving energy
Gross Head (inches)	8.5	in	
Total System Losses	0.0317	ft	From Tab 5 pipe h loss
Net Available Head at Grate	0.678	ft	Gross - losses
Net Head (inches)	8.1	in	

CHANNEL DRAIN CAPACITY

Tab 7: NDS Slim Channel — Center Outlet, 0.5% slope

Description	Value	Unit	Notes
CHANNEL CONFIGURATION			
Total Channel Length	36	LF	GR001: 4 × 8'-11.5"
Outlet Location	Center		Slopes from both ends toward middle
Half-Length (each side)	18.0	ft	
Channel Slope	0.005	ft/ft	0.50%
Drop per Side	1.1	in	

CHANNEL BODY			
Width	2	in	NDS Slim Channel
Width (ft)	0.1667	ft	
Depth	3.5	in	Below grate to invert
Depth (ft)	0.2917	ft	
Area	0.0486	sf	$w \times d$
Wetted Perimeter	0.7500	ft	$w + 2d$
Hydraulic Radius	0.0648	ft	A/P
Manning's n	0.01		Smooth plastic

CAPACITY vs DEMAND (each half carries half the flow)			
Channel Capacity (per half)	0.0824	CFS	Manning's
Channel Capacity (GPM)	37.0	GPM	
Velocity at Full	1.70	fps	
Q_demand per half (NRCS 100-yr)	0.0427	CFS	Half of DA-2 peak
Q_demand per half (GPM)	19.2	GPM	
Capacity Ratio	1.93	×	Must be > 1.0
Channel Capacity Check			PASS — 1.9× capacity

DRYWELL SIZING — DA-2 Captured Impervious Area

Design Storm: 2-Year, 24-Hour (SCS Type III)

DESIGN INPUTS

DA-2 Drainage Area	577.00 SF	Patio + 1/5 pool captured by channel drain
DA-2 Curve Number (CN)	98	100% impervious
2-Year, 24-hr Rainfall (P)	3.50 in	NOAA Atlas 14, partial duration
2-Year DA-2 Runoff Depth (Q)	3.2665 in	SCS Curve Number method
Soil Type	Elkton Loam	HSG D (undrained)
Soil Permeability Rate (k_test)	0.50 in/hr	Assumed for HSG D — verify with field perc test
Factor of Safety	1	FOS = 1 (no reduction applied; k_design = k_test)
Design Permeability Rate (k_design)	0.50 in/hr	= k_test / FOS
Stone Fill Void Ratio (n)	0.40	Clean #57 stone, typical 0.38-0.42
Min. Separation to SHWT	2 ft	NJDEP minimum; verify with borings

RUNOFF VOLUME

Runoff Volume (V_runoff)	157.06 CF	= Q × Area / 12
Runoff Volume	1174.9 gallons	× 7.48052 gal/CF

DRYWELL GEOMETRY

Chamber Model	Contactar 100HD	CULTEC product
Bed Length	17.50 ft	CULTEC calculator output
Bed Width	5.00 ft	CULTEC calculator output
Stone Above Chambers	23 in	CULTEC calculator output
Stone Below Chambers	13 in	CULTEC calculator output
Bed Area	87.50 SF	= Bed Length × Bed Width
Total Bed Depth	4.04 ft	= Stone above + Chamber H + Stone below
Installed Storage Volume	158.82 CF	CULTEC calculator output (chambers + stone)
Installed Storage Volume	1188.1 gallons	× 7.48052 gal/CF

VOLUME CHECK

Required Storage (no infiltration credit)	157.06 CF	Conservative: full volume captured
Provided Storage	158.82 CF	= Installed storage from CULTEC calculator
Surplus / (Deficit)	1.76 CF	
Storage Ratio (Provided / Required)	101.1%	
STATUS	OK — ADEQUATE	

DRAIN TIME & INFILTRATION CREDIT

Outflow Rate (bottom only)	3.646 CF/hr	= k_design (ft/hr) × Bed Area
Bed Perimeter Side Wall Area	181.88 SF	= 2 × (L + W) × Total Bed Depth
Conservative Outflow (bottom only)	3.646 CF/hr	Use bottom only — conservative per NJDEP
Storm Duration	24 hr	24-hr design storm

DRAIN TIME

Drain Time (full system)	43.6 hours	= Installed storage / Outflow rate
Drain Time	1.8 days	NJDEP requires ≤72 hours drain time
72-hr Drain Time Compliance	PASS	

101 Crawfords Corner Road
Suite 3400
Holmdel, New Jersey 07733
Main: 877 627 3772
colliersengineering.com



March 10, 2026

VIA EMAIL

Stephanie Kramer, Deputy Planning Board Secretary
Borough of Oceanport Planning Board
910 Oceanport Way
P.O. Box 370
Oceanport, NJ 07757

Review No. 1

Application No. PB2026-04

104 Horseneck Point Road - Block 108, Lot 5
Borough of Oceanport, Monmouth County, New Jersey
Colliers Engineering & Design Project No.: OPP-0387

Dear Board Members,

Our office has received the following information in support of the above-referenced Application:

- Plan entitled "Pool Grading Plan" prepared by James E. Maccariella Jr., last revised December 8, 2025, consisting of one (1) sheet;

The subject property is a 12,500 SF (0.29-acre) parcel is in the R-3 Residential Zone on the south side of Horseneck Point Road approximately 300 feet west of the intersection with Park Avenue. The applicant is seeking relief to install a 14' x 30' pool and associated patio area.

Based on our review, we recommend that the Application be deemed **complete** and scheduled for the next available meeting. A planning and engineering review of the Application is included below:

A. VARIANCES/DESIGN WAIVERS

We offer the following comments for the Board's consideration:

1. Bulk variances are required for the following:
 - a) Maximum Impervious Coverage – 37% permitted, 35.4% existing, 42.4% proposed. The applicant should discuss what measures are being provided to mitigate the additional runoff flowing over the rear property line.

The Municipal Land Use Law permits the granting of a hardship variance under either of two (2) following situations (C.40:55D-70c):

1. **Hardship c(1) - Physical Constraints** – Hardship variances may be granted if the strict application of the ordinance would impose peculiar and exceptional practical difficulties to, or exceptional and undue hardship upon, the developer based upon the existence of the following conditions:
 - a. Exceptional narrowness, shallowness, or shape of a specific piece of property;
 - b. Exceptional topographic conditions or physical features uniquely affecting a piece of property; and,
 - c. An extraordinary and exceptional situation uniquely affecting a specific piece of property of the structures lawfully existing thereon.
2. **Flexible “c” or c(2) - Benefits Outweighing Detriments** - A variance may be granted where the purpose of the Municipal Land Use Law would be advanced by the proposed deviation and the benefits of the deviation would substantially outweigh any detriment.

B. GENERAL COMMENTS

1. A signed and sealed copy of the topographic survey shall be submitted.
2. Testimony shall be provided as to the ownership of the various fences enclosing the pool.
3. The property is in the AE8 Flood Zone. The pool equipment must be installed at or above elevation 10.4. The topographic survey is based on an assumed datum and must be adjusted to NAVD 1988.

Should you have any questions or require any additional information, please do not hesitate to contact me directly.

Sincerely,

Colliers Engineering & Design, Inc.



William H.R. White, III, P.E., P.P., CME, CFM
Oceanport Planning Board Engineer and Planner

WHW/rb

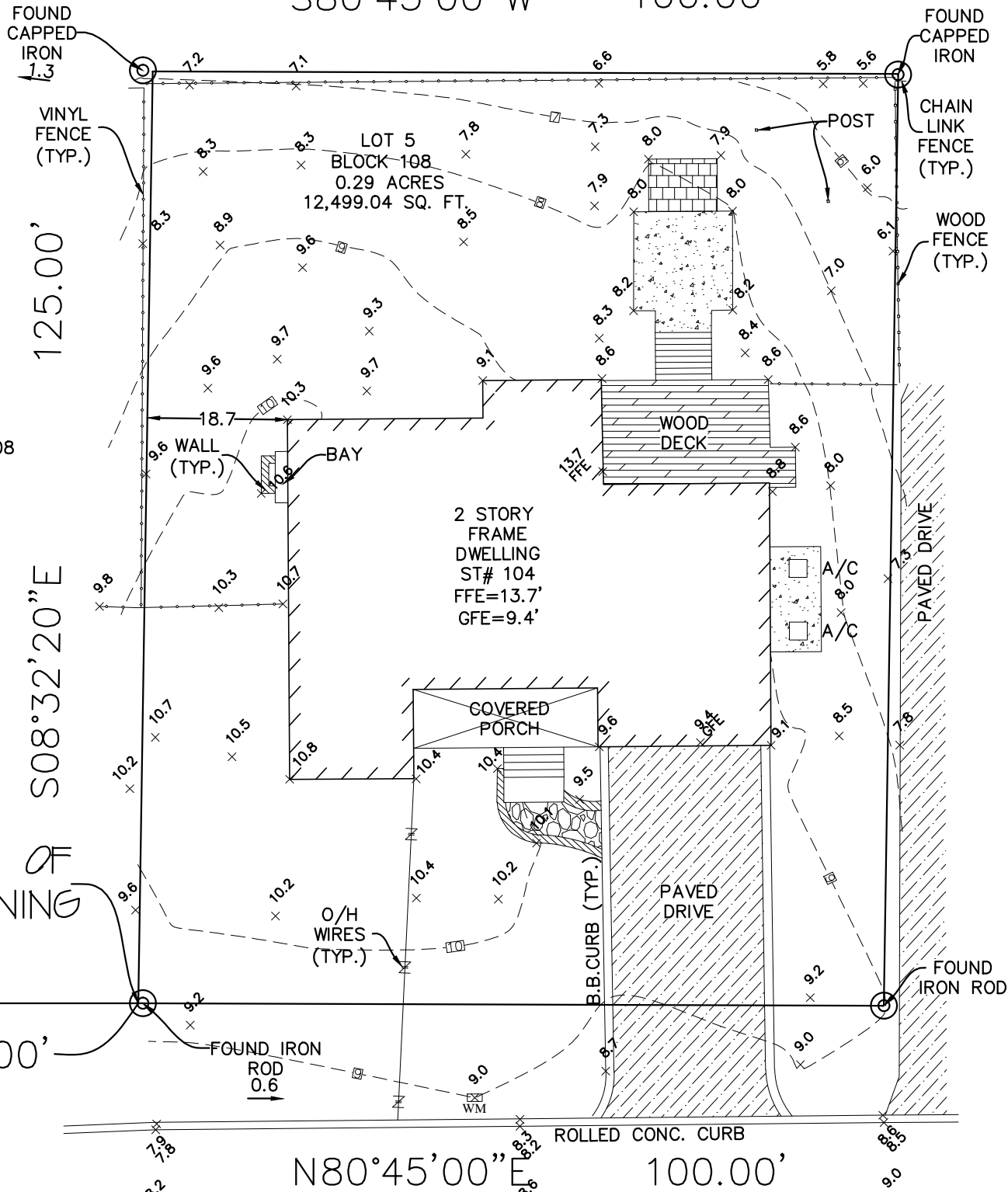
cc: Kevin Kennedy, Esq., Board Attorney (via email)
Kelly McGowan, applicant. (via email) mcgowanfamily5@yahoo.com

\\corp.collierseng.com\files\PROJ\GOV\NJ\IM-P\OPP\OPP0387 - 104 Horseneck\Correspondence\OUT



LOT 9
BLOCK 108

S80°45'00"W 100.00'



LOT 6
BLOCK 108

LOT 4
BLOCK 108

PARK STREET
(50.00')

POINT OF BEGINNING

300.00'

S08°32'20"E

125.00'

N08°32'20"W

N80°45'00"E 100.00'

HORSENECK POINT ROAD

(RIVER VIEW DRIVE)
(50.00')

DEED REFERENCE:

BOOK 9599
PAGE 9674

WARNING:

ANGULAR DISCREPANCIES BETWEEN ADJOINING DEEDS, FILED MAP AND THE PARCEL IN QUESTION DEED RESULTING IN BOUNDARY CONTROL CONFLICT OF APPROXIMATELY 1.5 FEET

WARNING:

AS PER N.J.A.C. 13:40-8.1

CERTIFICATION:

KELLY MCGOWAN
POOLTOWN, INC.

DATUM:

NAVD 88 (COMPUTED USING GEOID 18)

MAP REFERENCE:

LOT 28 BLOCK 3
"MAP OF SHREWSBURY RIVER BUNGALOW COLONY, NEAR LITTLE SILVER, NEW JERSEY"
FILED DATE: 09-16-1908
MAP NUMBER: 13-13

NOTE:

- IF THIS SURVEY DOES NOT REFERENCE A TITLE COMPANY WITH A TITLE NUMBER IN THE CERTIFICATION THAN THIS SURVEY IS SUBJECT TO THE FINDINGS OF A COMPLETE TITLE SEARCH NOT PROVIDED FOR THIS SURVEY
- THIS SURVEY MAKES NO CLAIMS OF RIPARIAN RIGHTS OR A TIDELAND CLAIM
- SURVEY MAY BE SUBJECT TO WETLANDS AND WETLAND BUFFERS
- ONLY VISIBLE UTILITIES WERE LOCATED ON THIS SURVEY, THE LOCATION OF UNDERGROUND UTILITIES AND SEWERS HAVE NOT BEEN LOCATED AND ARE NOT REPRESENTED ON THIS SURVEY
- CALL BEFORE YOU DIG 811 SHOULD BE CALLED BEFORE THE PLANNING OR COMMENCEMENT OF ANY CONSTRUCTION WORK
- SURVEY MAY BE SUBJECT TO POSSIBLE WRITTEN, NECESSITY AND PRESCRIPTION EASEMENTS
- THE USE OF THIS PLAN FOR A "SURVEY AFFIDAVIT" IS NOT PERMISSIBLE AND SAID USE WILL DEEM THIS PLAN INVALID
- THE USE OF THIS SURVEY FOR ANY INDIVIDUAL WHO IS NOT LISTED IN THE "CERTIFICATION" IS NOT PERMISSIBLE AND SAID USE WILL DEEM THIS PLAN INVALID

THIS PLAT REFLECTS CONDITIONS AS OF 09-22-2025 AND MAY NOT SHOW CURRENT CONDITIONS AS OF 03-12-2026

<p>Leeper Land Group, LLC</p> <p>Professional Land Surveyors 767 Brunswick Pike Lambertville N.J. 08530</p> <p>LLG</p> <p>p. 609 571 3955 f. 609 571 9490 www.leepergroup.com</p>	Scale:	Date:	Drawn By:	Job Number:
	1" = 20'	09-22-2025	G.S.	25-1624A
<p>PLAN OF SURVEY & TOPOGRAPHY</p> <p>TAX LOT 5 BLOCK 108 104 HORSENECK POINT ROAD BOROUGH OF OCEANPORT COUNTY OF MONMOUTH STATE OF NEW JERSEY</p>				
CERTIFICATE OF AUTHORIZATION 24GA28232100				
Revision	Date	By		
VERTICAL DATUM CHANGE	03-12-2026	B.R.		
DAREN C. LEEPER N.J. Professional Land Surveyor			DATE 03-12-2026	

NOTE: WAIVER OF SETTING CORNER MARKERS OBTAINED FROM THE ULTIMATE USER PURSUANT TO THE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS REGULATION, N.J.A.C. 13:40-5.2

EXISTING LOT COVERAGE	
BUILDING	2607 SF
DRIVE & WALK	1126 SF
CONC. AT A/C UNITS	96 SF
REAR PATIO	263 SF
REAR DECK	330 SF
TOTAL	4422 SF
PERCENTAGE	35.4%
PROPOSED LOT COVERAGE	
BUILDING	2607 SF
DRIVE & WALK	1126 SF
CONC. AT A/C UNITS	96 SF
REAR PATIO	263 SF
REAR DECK	330 SF
NEW POOL EQUIP.	15 SF
NEW POOL & CONC.	864 SF
TOTAL	5301 SF
PERCENTAGE	42.4%
LOT SIZE	0.29 AC
	12499.04 SF

VERTICAL DATUM: NAVD88

THE PROPOSED GRADING SHALL NOT CHANGE EXISTING DRAINAGE PATTERNS.

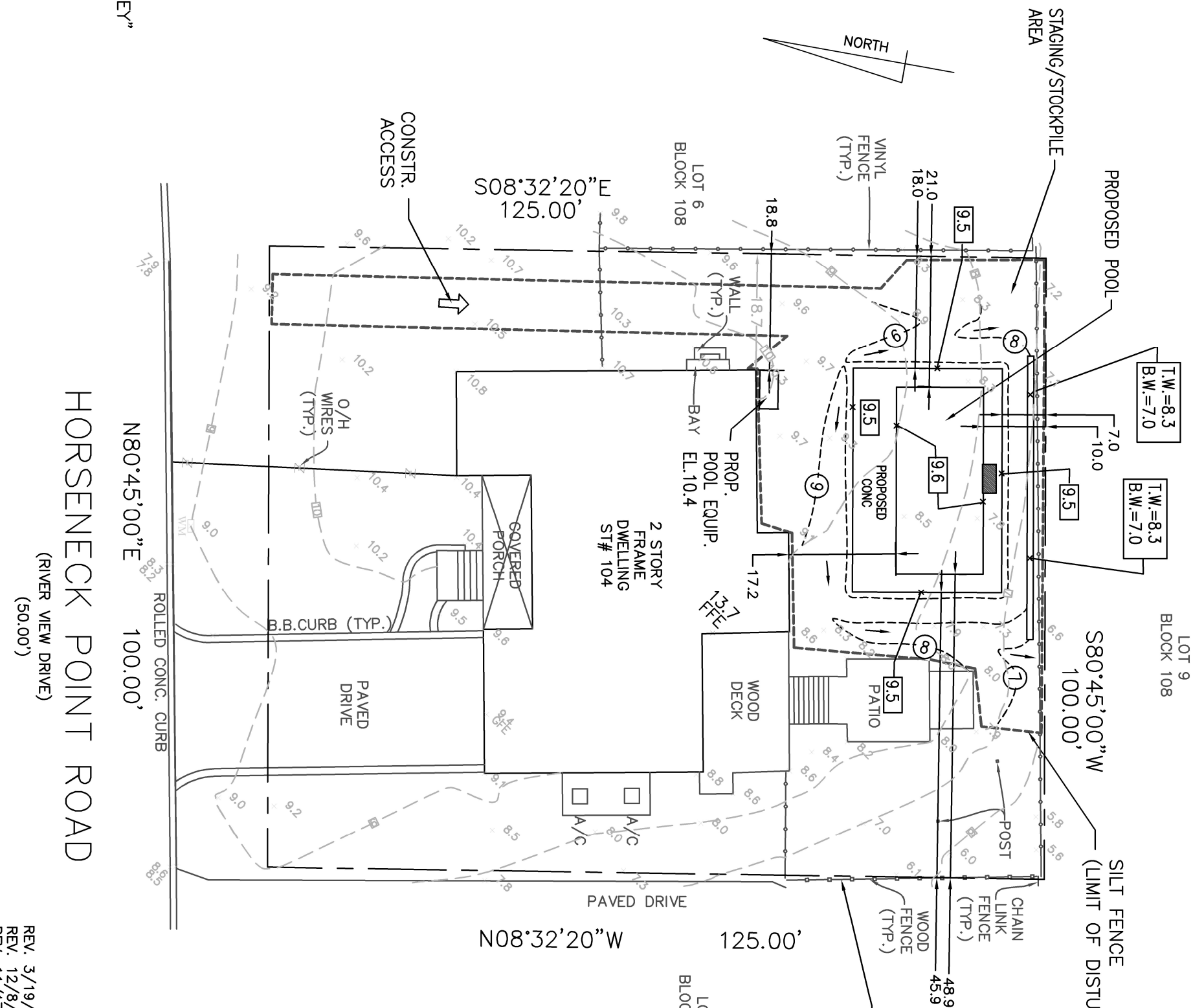
ALL UNDERGROUND FACILITIES TO BE LOCATED AND IDENTIFIED PRIOR TO CONSTRUCTION.

— = SLOPE 1.5% MIN.

GRADE AT BUILDING CORNERS TO REMAIN UNCHANGED.

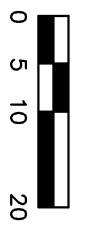
NOTE:
 SURVEY INFORMATION & TOPOGRAPHY OBTAINED FROM "PLAN OF SURVEY & TOPOGRAPHY LOT 5, BLOCK 108 BOROUGH OF OCEANPORT, MONMOUTH COUNTY, NEW JERSEY" AS PREPARED BY DAREN C. LEEPER ON 9/22/25.

THE POOL CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT THE FINAL CONSTRUCTED CONDITIONS CONFORM TO THE INDICATED PROPOSED GRADING.



■ = WATERFALL
 T.W.=TOP OF WALL ELEVATION
 B.W.=BOTTOM OF WALL ELEVATION

EXISTING FENCE WITH SELF CLOSING AND LATCHING GATES TO OPEN OUT, AWAY FROM THE POOL TO MEET ALL POOL CODES (TYP.).



HOMEOWNER:
 MCGOWAN

ADDRESS:
 104 HORSENECK POINT ROAD
 OCEANPORT, NJ 07757

POOL GRADING PLAN

LOT 5, BLOCK 108
 BOROUGH OF OCEANPORT
 MONMOUTH COUNTY, NEW JERSEY
 DATE: 11/5/25 SCALE: 1"=20'

REV. 3/19/26
 REV. 12/8/25
 REV. 11/17/25

James E. Maccariella Jr.
 N.J. PROFESSIONAL ENGINEER LICENSE NO. 39928
 JAMES E. MACCARIELLA JR.
 818 LAUREL BOULEVARD
 LANOKA HARBOR, NJ 08734 609-560-1845

HORSENECK POINT ROAD
 (RIVER VIEW DRIVE)
 (50.00')

January 27, 2026

VIA EMAIL

Stephanie Kramer, Planning Board Secretary
Borough of Oceanport Planning Board
910 Oceanport Way
P.O. Box 370
Oceanport, NJ 07757

Review No. 1

Application No. PB2025-22

66 Riverside Avenue - Block 105, Lot 4
Borough of Oceanport, Monmouth County, New Jersey
Colliers Engineering & Design Project No.: OPP-0383

Dear Board Members,

Our office has received the following information in support of the above-referenced Application:

- Plan entitled "Boundary and Topographic Survey Map of Property Known as Lot 4 in Block 105" prepared by Yorkanis & White, Inc, last revised September 24, 2024, consisting of one (1) sheet;
- Plans entitled "Residential Grading Plan" prepared by Kennedy Consulting Engineers LLC, dated September 26, 2025, consisting of three (3) sheets;
- Plans entitled "New Construction Dowd Residence" prepared by Jeremiah J. Regan, AIA, dated July 3, 2025, consisting of one (1) sheet.

The subject property is a 20,690 SF (0.475-acre) parcel located in the R-3 Residential Zone. The undeveloped parcel has frontage on an unimprovement and unnamed right of way off Riverside Avenue. The applicant proposes to construct a two-story single-family dwelling.

Based on our review, we recommend that the Application be deemed **complete** and scheduled for the next available meeting. A planning and engineering review of the application is included below:

A. VARIANCES/DESIGN WAIVERS

We offer the following comments for the Board's consideration:

1. Bulk variances are required for the following:
 - a) Minimum Lot Width: 120 Feet required, 40 feet existing.

The Municipal Land Use Law permits the granting of a hardship variance under either of two (2) following situations (C.40:55D-70c):

1. **Hardship c(1) - Physical Constraints** – Hardship variances may be granted if the strict application of the ordinance would impose peculiar and exceptional practical difficulties to, or exceptional and undue hardship upon, the developer based upon the existence of the following conditions:
 - a. Exceptional narrowness, shallowness, or shape of a specific piece of property;
 - b. Exceptional topographic conditions or physical features uniquely affecting a piece of property; and,
 - c. An extraordinary and exceptional situation uniquely affecting a specific piece of property of the structures lawfully existing thereon.
2. **Flexible “c” or c(2) - Benefits Outweighing Detriments** - A variance may be granted where the purpose of the Municipal Land Use Law would be advanced by the proposed deviation and the benefits of the deviation would substantially outweigh any detriment.

B. GENERAL COMMENTS

1. The property is in an AE 8 Flood Zone with the Local Design Flood Elevation of 10.4.
2. Mayor and Council approval is required for the construction of a driveway and installation of private utilities in a Borough right of way.
3. The applicant shall provide testimony regarding the drainage patterns for the driveway, as the area is relatively flat and has the potential for ponding of runoff.
4. All roof leader discharge points should be oriented towards the east.
5. The Construction Official cannot issue building permits for a dwelling that does not front on an improved street per NJSA 40:55D-35. The Board must direct the Construction Official to issue Building Permits if this application is approved.
6. The gravel driveway detail shall include filter fabric under the stone and an edge restraint to reduce stone migration.

Additional Agency Approvals

1. This Application is subject, but not limited to, the following outside agency approvals or letter of no jurisdiction:
 - a. NJDEP. (received 3/30/25)
 - b. Freehold Soil Conservation District.
 - c. Oceanport Flood Development Permit.
 - d. Oceanport Fire Marshal.
 - e. Two River Water Reclamation Authority.
 - f. NJAWC
 - g. NJNG
 - h. Borough of Oceanport Road Opening.

Should you have any questions or require any additional information, please do not hesitate to contact me directly.

Sincerely,

Colliers Engineering & Design, Inc.



William H.R. White, III, P.E., P.P., CME, CFM
Oceanport Planning Board Engineer and Planner

WHW/rb

cc: Kevin Kennedy, Esq., Board Attorney (via email)
Rick Brodsky, Esq. (via email) rbrodsky@ansell.law
Anthony Comi, PE (via email) acom@k-c-e.com

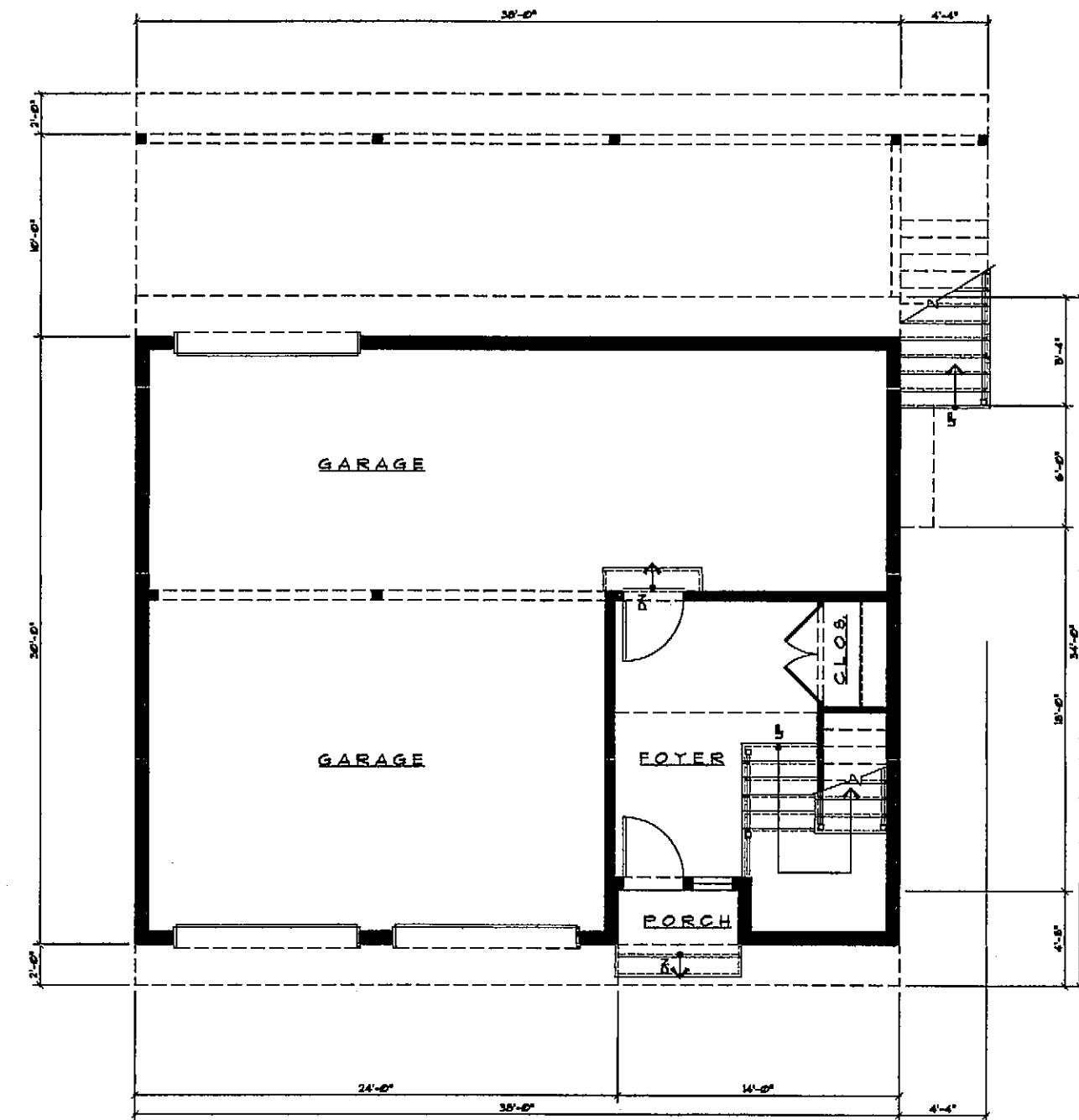
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PROJECT TITLE

DOWD RESIDENCE (OCEANPORT)

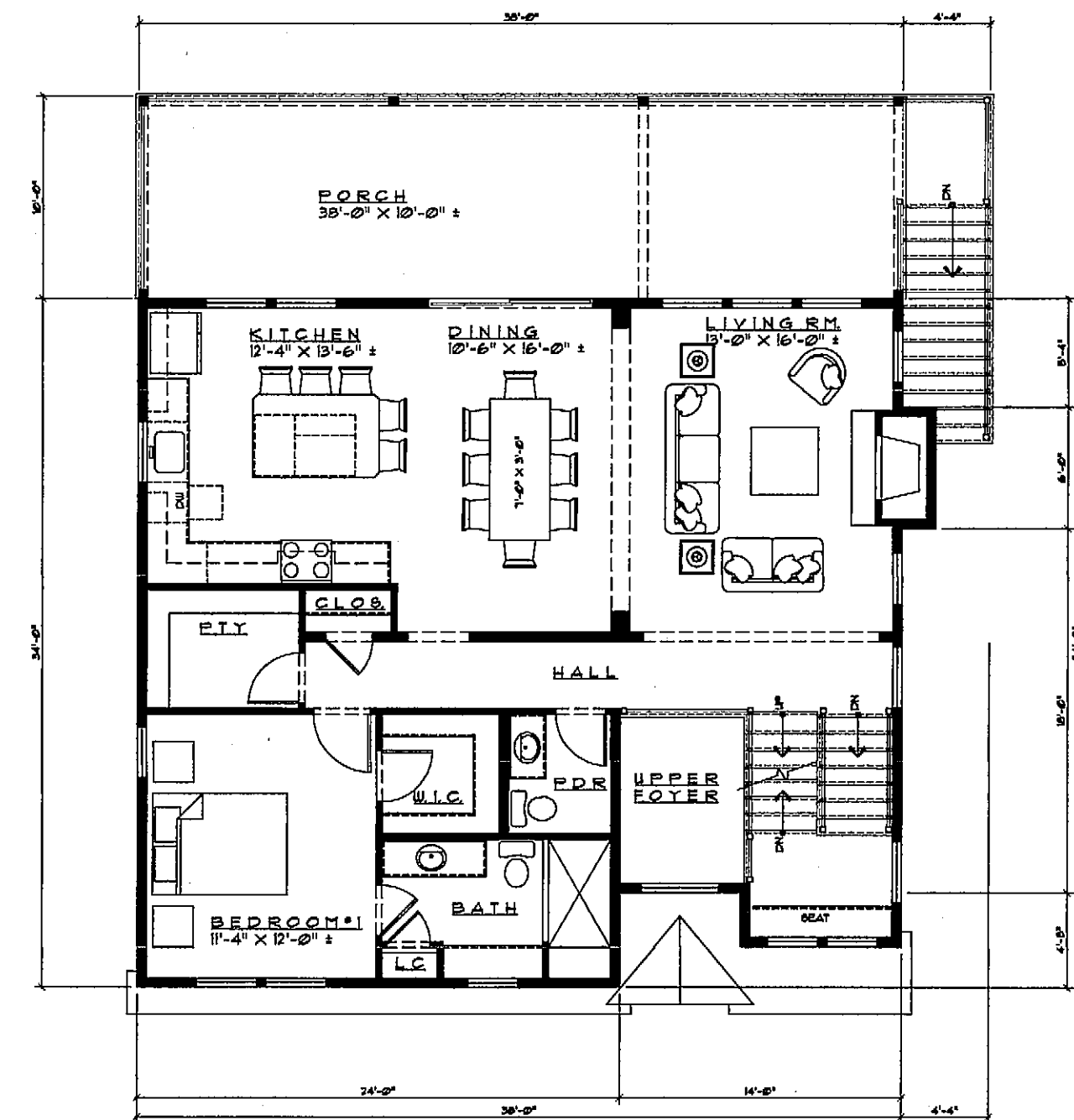
66 RIVERSIDE AVENUE
 OCEANPORT, NJ
 BLOCK-105 LOT-4
 PROJECT-2530 DATE 7/3/25

AREA	
ENTRY LEVEL	243 SF
FIRST FLOOR	1,182 SF
SECOND FLOOR	1,158 SF
2,583 SF	
GARAGE	897 SF
REAR PORCH / STEPS	404 SF / 48 SF
BALCONY	140 SF



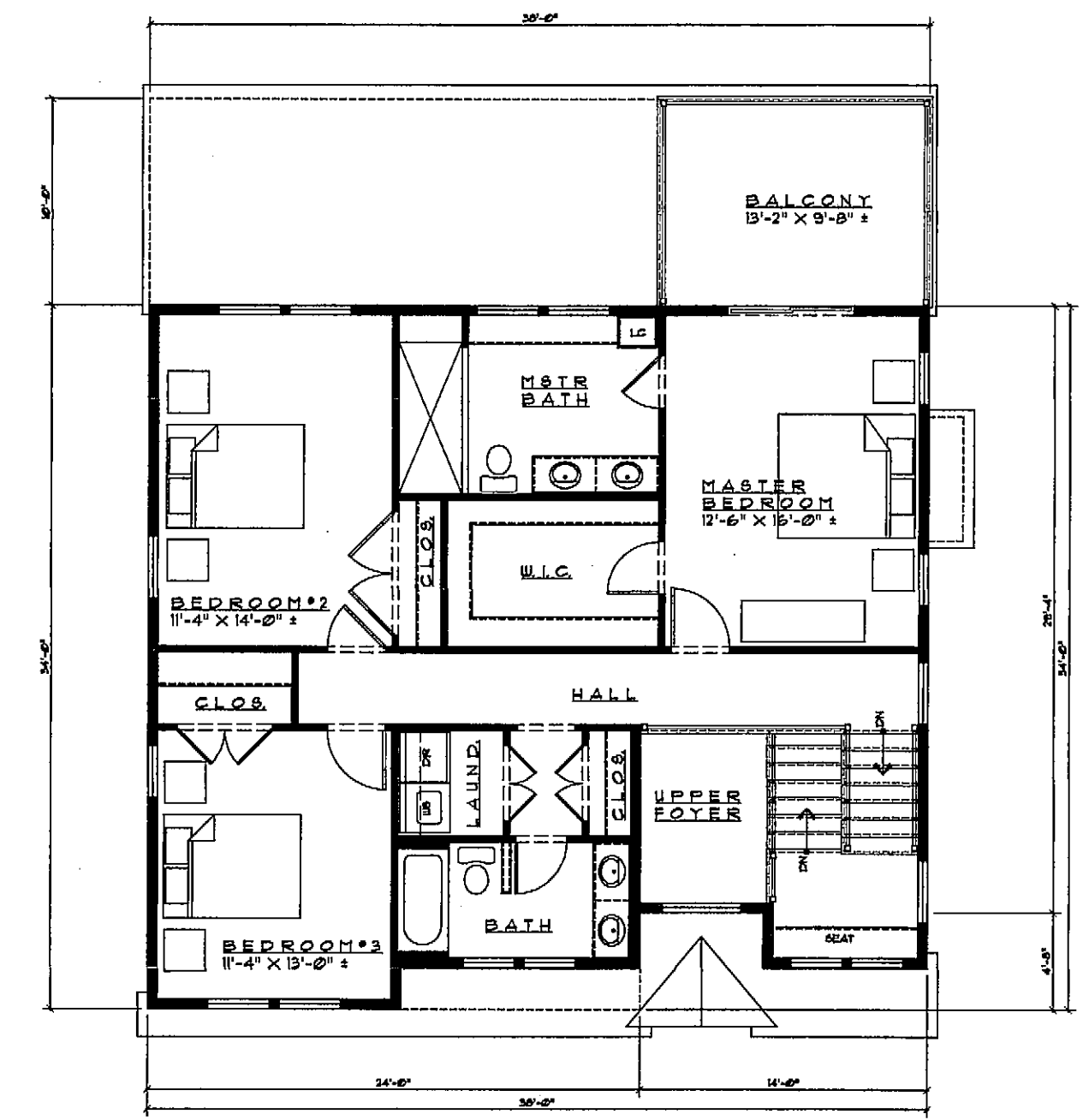
GROUND FLOOR LEVEL PLAN

SCALE: 1/8" = 1'-0"



FIRST FLOOR PLAN

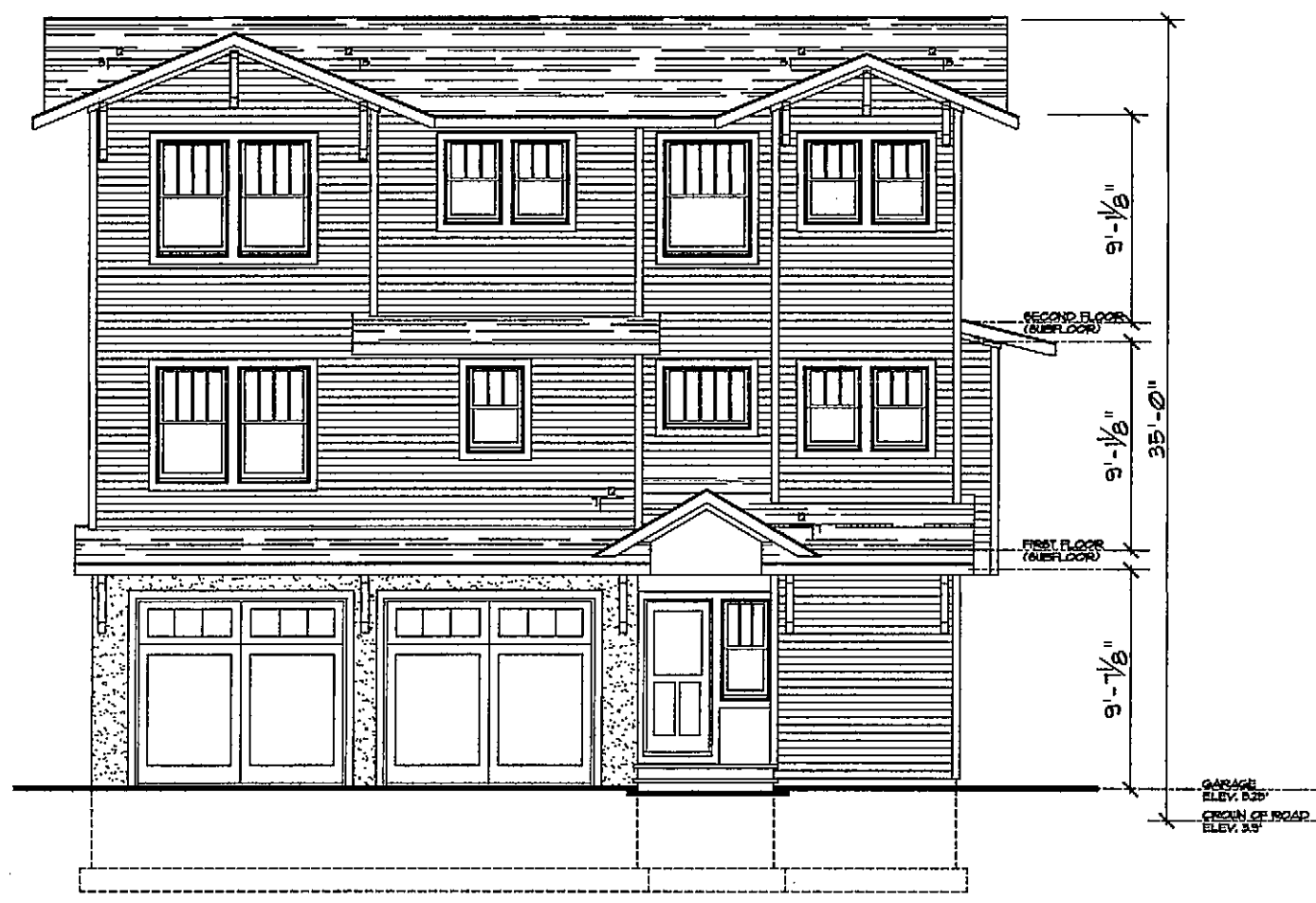
SCALE: 1/8" = 1'-0"



SECOND FLOOR PLAN

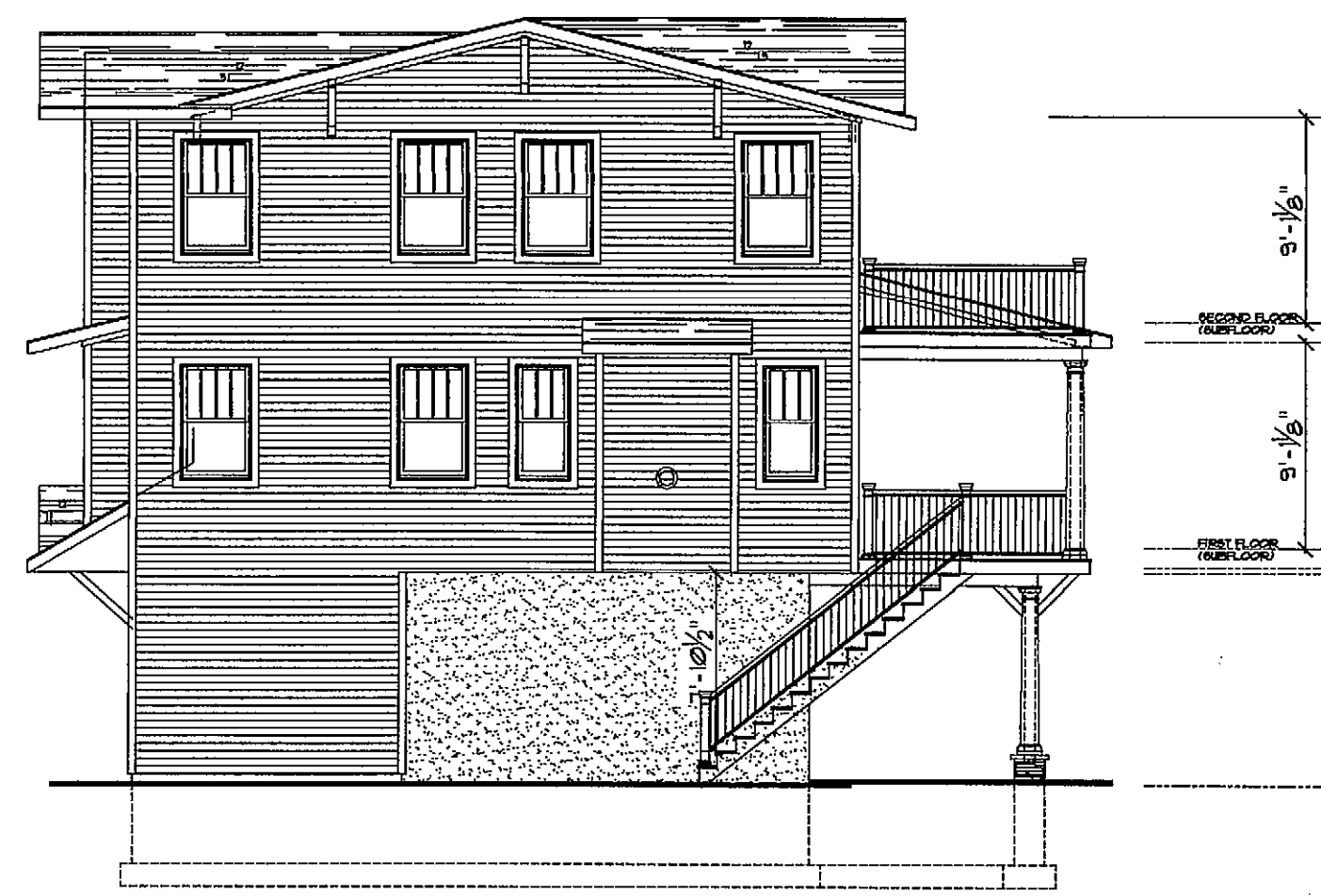
SCALE: 1/4" = 1'-0"

- EXTERIORS**
- BLACK ROOFING
 - SILVER GREY SIDING
 - BLACK WINDOWS
 - WHITE COLUMN
 - BLACK RAILING



FRONT ELEVATION

SCALE: 1/8" = 1'-0"



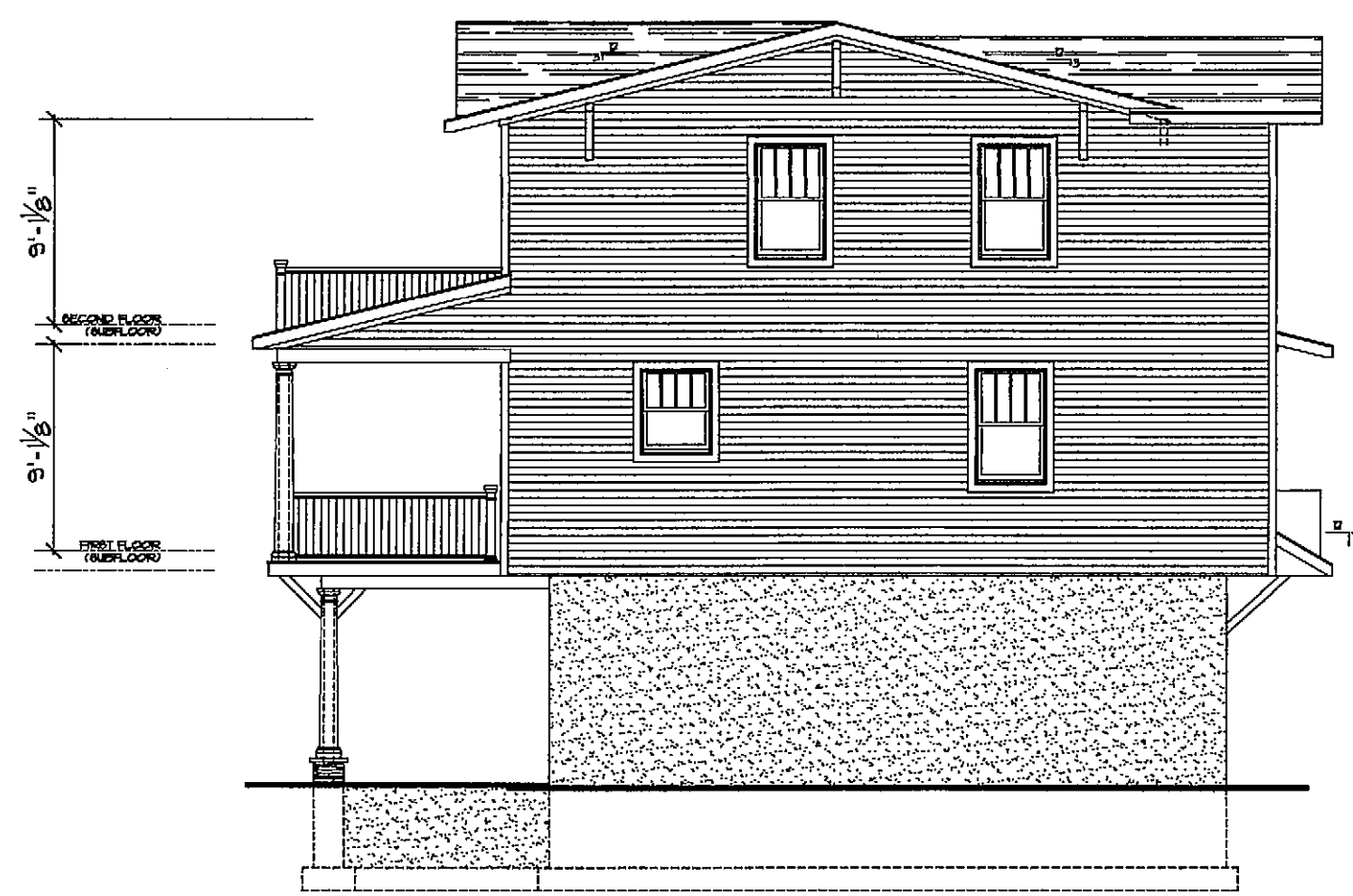
RIGHT ELEVATION

SCALE: 1/8" = 1'-0"



REAR ELEVATION

SCALE: 1/8" = 1'-0"



LEFT ELEVATION

SCALE: 1/8" = 1'-0"

JEREMIAH J. REGAN, A.I.A.
ARCHITECT
 147 BRIGHTON AVENUE • 2ND FLR • LONG BRANCH • NJ • 07740
 PH: (732) 870-2977 • FAX: (732) 870-1213 • EMAIL: jeremiahregan@aol.com
 NEW JERSEY LIC. #A-10726
 MARYLAND LIC. #000-A

PROJECT TITLE
 NEW CONSTRUCTION
 DOWD RESIDENCE (OCEANPORT)
 66 RIVERSIDE AVENUE
 OCEANPORT, NJ
 BLOCK-105 LOT-4

SUBJECT
 CODE DATA
 PLANS
 ELEVATIONS

REVISIONS

NO.	DATE	DESCRIPTION	BY

SCALE AS NOTED	DRAWN BY MH	CHECKED BY JJ
PROJECT NO. 2530	DATE 7/3/25	

DRAWING NO
V=1
 1 OF 1

NOTES:

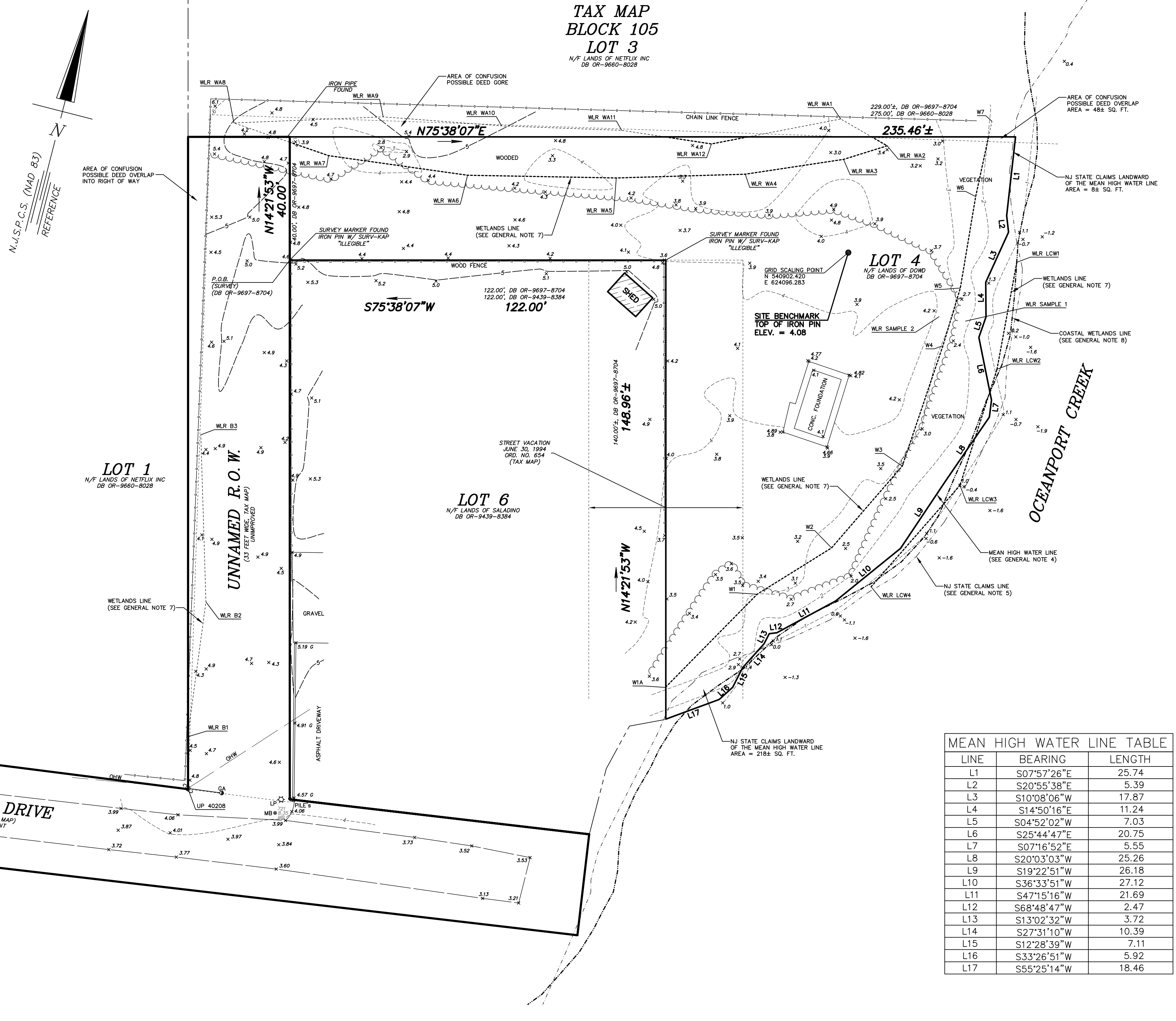
- ONLY COPIES FROM THE ORIGINAL MAP MARKED WITH AN ORIGINAL LAND SURVEYOR'S EMBOSSED SEAL SHALL BE CONSIDERED VALID.
- SIGNATURE AND EMBOSSED SEAL SIGNIFY THAT THIS MAP WAS PREPARED IN ACCORDANCE WITH THE EXISTING CODE OF PRACTICE ADOPTED BY THE N.J. STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS. CERTIFICATION INDICATED HEREON SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED. CERTIFICATIONS ARE NOT TRANSFERABLE TO SUBSEQUENT OWNERS.
- UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS ILLEGAL AND PUNISHABLE BY LAW.
- PROPERTY IS SUBJECT TO DOCUMENTS OF RECORD.
- BY CONTRACTUAL ARRANGEMENT, THIS SURVEY HAS BEEN PERFORMED AND PREPARED WITHOUT THE BENEFIT OF A TITLE POLICY AND WITHOUT A TITLE REPORT FOR THE SUBJECT PROPERTY AND THE ADJOINING PROPERTIES OR ALL DEEDS BACK TO THE MOTHER PARCEL. THE PROPERTY SHOWN HEREON MAY BE SUBJECT TO VARIOUS EASEMENTS AND/OR RIGHT OF OTHERS. THE SURVEY RETRACEMENT IS BASED ON A RECORD COVER DEED SCENARIO AND THE OBSERVED EVIDENCE.
- THIS SURVEY SHALL NOT BE UTILIZED OR INCLUDED AS DOCUMENTATION FOR THE PURPOSE OF EXECUTING AND/OR EXPEDITING A SURVEY AFFIDAVIT AND/OR AFFIDAVIT OF TITLE.
- THIS SURVEY, AND OUR WORK PERFORMED IN ORDER TO PERFORM THIS SURVEY, WAS ONLY PREPARED FOR THE PARTY/PARTIES NOTED IN THE CERTIFICATION SHOWN HEREON. THIS SURVEY IS NOT TO BE UTILIZED BY A DIFFERENT PARTY IN THE FUTURE UNLESS A CONTINUATION SURVEY IS PERFORMED BY OUR COMPANY.
- THE LOCATION OF UNDERGROUND UTILITIES, IF ANY, HAS NOT BEEN MADE UNLESS SHOWN HEREON.
- NORTH MERIDIAN FOR THIS SURVEY IS IN THE NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD 83.
- BY CONTRACTUAL ARRANGEMENT, THIS SURVEY WAS PREPARED USING GPS TECHNOLOGY AND CONVERTED TO NEW JERSEY STATE PLANE COORDINATES VIA LEICA SMARTNET NORTH AMERICA (RTK GPS NETWORK). THE HORIZONTAL DATUM IS ON NAD 83, ADJUSTMENT 2011 (EPOCH 2010) AND IS SHOWN IN FEET. ALL COORDINATES, BEARINGS AND DISTANCES SHOWN HEREON ARE AT SURFACE (GRADE) UNLESS NOTED OTHERWISE. THE SURFACE COORDINATES SHOWN HEREON HAVE BEEN SCALED FROM A POINT HAVING A GRID COORDINATE OF N 540902.420 AND E 624096.283 USING A SCALE FACTOR OF 0.99991991.
- BY CONTRACTUAL ARRANGEMENT, CORNERS MARKERS HAVE NOT BEEN SET AND/OR MARKED AND IDENTIFIED.
- THE PROPERTY LINES SHOWN HEREON REPRESENT OUR RETRACEMENT OF EACH PROPERTY LINE OR RIGHT OF WAY LINE BASED ON THE BEST AVAILABLE EVIDENCE FOUND OR RECOVERED AS OF THE DATE OF THIS SURVEY. YORKANIS & WHITE, INC. RESERVES THE RIGHT, IF BETTER EVIDENCE IS DISCOVERED, TO REVISE THE LINE AND OUR SURVEY ACCORDINGLY.

Property is subject to the following:

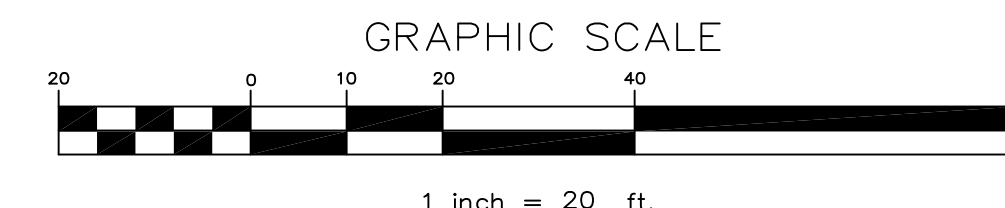
- Rights or claims of parties in possession of the land not shown by the public records.
- Easements, or claims of easements, not shown by the public records.
- Subsurface conditions not disclosed by an instrument of record.
- Rights, public and private, if any, in all road, streets and avenues crossing, bounding or affecting the premises in question.
- Right, title and interest of the State of New Jersey, in fee, in and to so much of the premises in question as is now or was formerly affected by the ebb and flow of the tide.
- Navigational servitude and the right of the United States Government to establish harbor, bulkhead or pierhead lines or to change or alter any such existing lines and to compel the removal of fill or improvements thereon, including buildings or other structures without compensation to the insured.

**TAX MAP
BLOCK 105
LOT 3**

N/F LANDS OF NETFLIX INC
DB OR-9660-8028



LINE	BEARING	LENGTH
L1	S07°57'26"E	25.74
L2	S20°55'38"E	5.39
L3	S10°08'06"W	17.87
L4	S14°50'16"E	11.24
L5	S04°52'02"W	7.03
L6	S25°44'47"E	20.75
L7	S07°16'52"E	5.55
L8	S20°03'03"W	25.26
L9	S19°22'51"W	26.18
L10	S36°33'51"W	27.12
L11	S47°15'16"W	21.69
L12	S68°48'47"W	2.47
L13	S13°02'32"W	3.72
L14	S27°31'10"W	10.39
L15	S12°28'39"W	7.11
L16	S33°26'51"W	5.92
L17	S55°25'14"W	18.46



GENERAL NOTES:

- BY CONTRACTUAL ARRANGEMENT, THE HORIZONTAL DATUM FOR THIS SURVEY IS ON THE NORTH AMERICAN DATUM OF 1983 (NAD 1983), ADJUSTMENT 2011, EPOCH 2010, AND WAS TRANSFERRED TO THE SITE USING GPS REAL TIME KINEMATIC (RTK) TECHNOLOGY WITH THE LEICA GEOSYSTEMS "SMARTNET NORTH AMERICA" REAL TIME NETWORK.
- BY CONTRACTUAL ARRANGEMENT, THE VERTICAL DATUM FOR THIS SURVEY IS ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988), GEOID12A AND WAS TRANSFERRED TO THE SITE USING GPS REAL TIME KINEMATIC (RTK) TECHNOLOGY WITH THE LEICA GEOSYSTEMS "SMARTNET NORTH AMERICA" REAL TIME NETWORK.
- LOCAL SITE BENCHMARK IS THE TOP OF IRON PIN, HAVING AN ELEVATION OF 4.08.
- THE MEAN HIGH WATER ELEVATION SHOWN HEREON HAS BEEN COMPUTED FROM PUBLISHED DATA REFERENCED TO NOAA TIDE GAUGE 853-1925 ON THE SHREWSBURY RIVER AS REFERENCED TO TIDAL BENCHMARK "BLUFF". THE COMPUTED MEAN HIGH WATER ELEVATION IS 1.39 FEET AS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988), GEOID12A.
- THE NEW JERSEY STATE CLAIMS LINE WAS RECONSTRUCTED USING PUBLISHED DATA WITHIN THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF TIDELANDS CD, SERIES 1, VOLUME 4, (TIDE GRID 1539-2178).
- A PORTION OF PROPERTY KNOWN AS LOT 4 IN BLOCK 105 IS SITUATED IN FLOOD ZONE "AE" EL. B, AS SHOWN ON A CERTAIN MAP ENTITLED: "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, MONMOUTH COUNTY, NEW JERSEY (ALL JURISDICTIONS) PANEL 184 OF 457, BOROUGH OF OCEANPORT, COMMUNITY PANEL NUMBER 340320 0184 H, MAP NUMBER 34025C0184H", PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, DATED REVISED JUNE 15, 2022.
- WETLANDS WERE DELINEATED IN THE FIELD BY DONALD DIMARZIO, ENVIRONMENTAL CONSULTANT, ON OR ABOUT AUGUST 26, 2024 AND FIELD SURVEYED BY YORKANIS & WHITE, INC. ON AUGUST 30, 2024.
- THE COASTAL WETLANDS LINE FOR NEW JERSEY WAS DIGITIZED FROM THE 1970 COASTAL WETLANDS BASE MAP AS SUPPLIED BY NUDEP.
- UTILITIES SHOWN HEREON WERE DERIVED FROM MARKOUTS DONE BY THE PROPER UTILITY AUTHORITY AS OF THE DATE OF THIS FIELD SURVEY AND ARE SHOWN HEREON AS APPROXIMATE LOCATIONS TO BE UTILIZED FOR ESTIMATING PURPOSES ONLY. UNDERGROUND UTILITIES THAT HAD NOT BEEN MARKED WERE NOT LOCATED. UTILITIES SUCH AS STORM AND SANITARY SEWER INVERTS WERE DERIVED USING CONVENTIONAL SURVEYING METHODS TO OBSERVE THE INVERT. DUE TO THE CONFIGURATION OF THE DRAINAGE STRUCTURE AND THE GEOMETRY OF THE PIPE, THE OBSERVED INVERTS HAVE A TOLERANCE OF 0.1 FEET.
- IF UTILITIES REFERENCED ARE TO BE USED FOR DESIGN PURPOSES AND ARE OF A CRITICAL NATURE, PRIOR TO CONSTRUCTION OR DESIGN, SAMPLE TEST PITS SHOULD BE MADE TO VERIFY THE EXACT LOCATION PRIOR TO CONSTRUCTION. THE DESIGN PLAN OR THIS SURVEY SHALL BE FORWARDED TO THE APPROPRIATE UTILITY COMPANY FOR VERIFICATION OF UTILITIES.
- THE SPREAD OF TREES, BUSHES, HEDGES, FENCES, ETC. SHOWN ON THIS PLAN ARE FOR GRAPHIC PURPOSES ONLY AND DO NOT REPRESENT THE TRUE SPREAD OR DRIP LINE OR WIDTH.
- THE CONVERSION FACTOR FROM NAVD88 GEODETIC VERTICAL DATUM TO NGVD29 GEODETIC VERTICAL DATUM IS +1.08. IN OTHER WORDS, ANY ELEVATION SHOWN HEREON NEEDS TO BE ADDED BY 1.08 TO BE ON THE NGVD29 DATUM.
- THE AREA OF LOT 4 EQUALS 20,690 MORE OR LESS SQUARE FEET OR 0.475 MORE OR LESS ACRES OF LAND.

TIDE RANGE CHART

Mean Higher High Water (MHHW)	=	+1.65 Feet
Mean High Water (MHW)	=	+1.39 Feet
Mean Tide Level (MTL)	=	+0.11 Feet
Mean Low Water (MLW)	=	-1.18 Feet
Mean Low Low Water (MLLW)	=	-1.33 Feet

The above Tide Range Chart was derived from Gooseneck Bridge, Shrewsbury River Station ID: 8531925, Publication Date 06/28/1988, Tidal Epoch 1960-1978.
The above elevations are on NAVD 1988 Datum.
The above elevations were adjusted to Tidal Epoch 1983-2001 by applying published differences between the two epochs on the Control Station "Sandy Hook".

- DATA FOR SURVEY WAS OBTAINED FROM FIELD WORK AND THE FOLLOWING:
- D1. DEED: BLOCK 105 LOT 4
OP Partners LLC, to Bernard Dowd and Cynthia Thomas Dowd, Husband and Wife, dated July 25, 2024, and recorded in the Monmouth County Clerk's Office on July 31, 2024 in Deed Book OR-9697, Page 8704.
- D2. DEED: BLOCK 105 LOT 6
Jason T Rhodes and Alison Rhodes, Husband and Wife, to Andrea Saladino, Unmarried, dated August 13, 2020, and recorded in the Monmouth County Clerk's Office on September 10, 2020 in Deed Book OR-9439, Page 8384.
- D3. DEED: BLOCK 105 LOTS 1 & 3
Fort Monmouth Economic Revitalization Authority to Netflix, Inc., dated January 13, 2023, and recorded in the Monmouth County Clerk's Office on September 22, 2023 in Deed Book OR-9660, Page 8028.
- M1. Map Entitled:
"The Official Tax Map of the Borough of Oceanport, Monmouth County, New Jersey."
- M2. Map Entitled:
"Site Plan for Lots 4 & 5 Block 105, Borough of Oceanport, Monmouth County, New Jersey", prepared by Thomas P. Santry, P.A., dated July 24, 2000 and revised on August 15, 2000.

**THIS SURVEY MAP IS CERTIFIED TO:
BERNARD DOWD AND CYNTHIA THOMAS DOWD, H&W**

1.	9/24/24	ENVIRONMENTALIST COMMENTS	J.T.L.
NO.	DATE	DESCRIPTION	BY

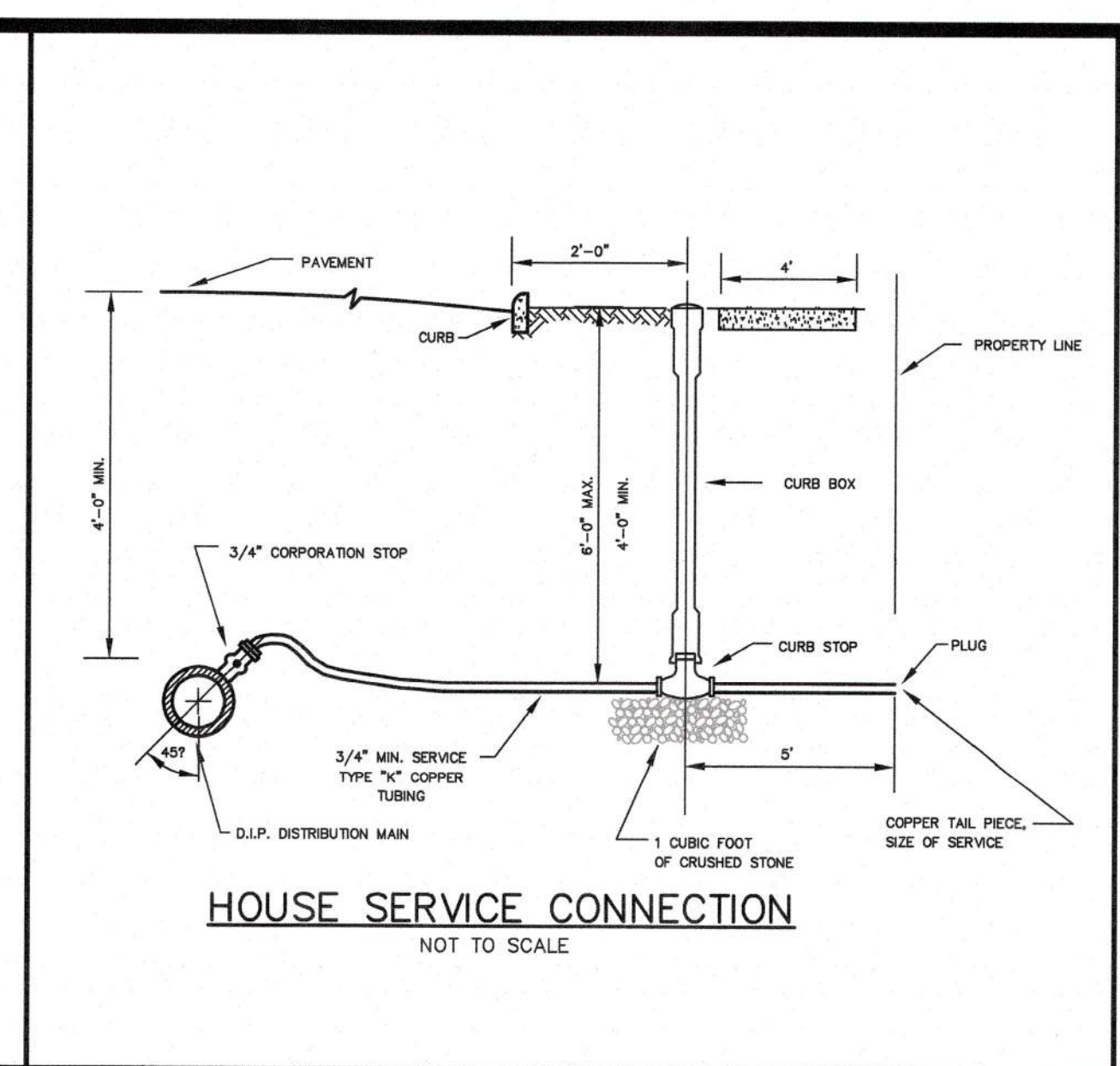
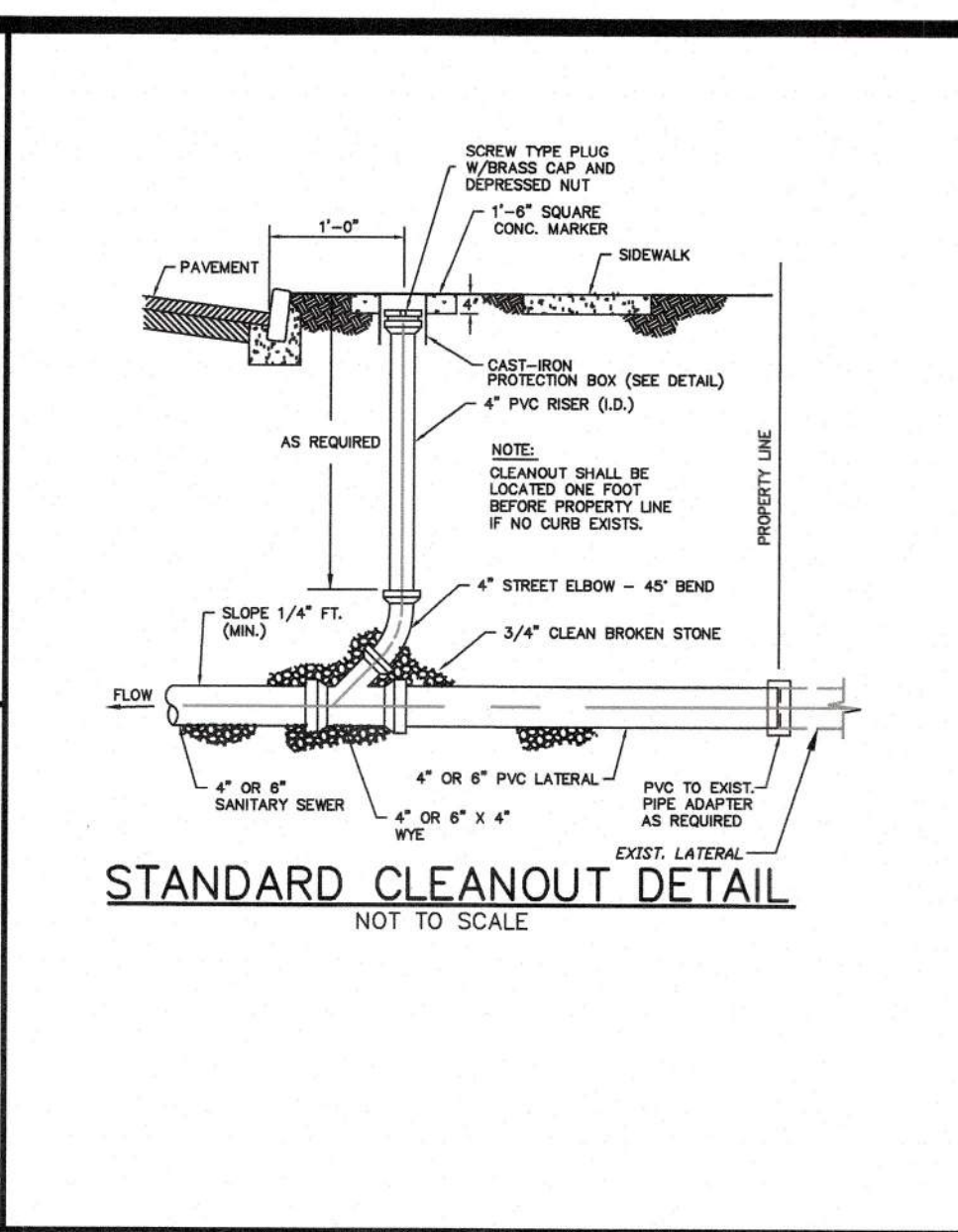
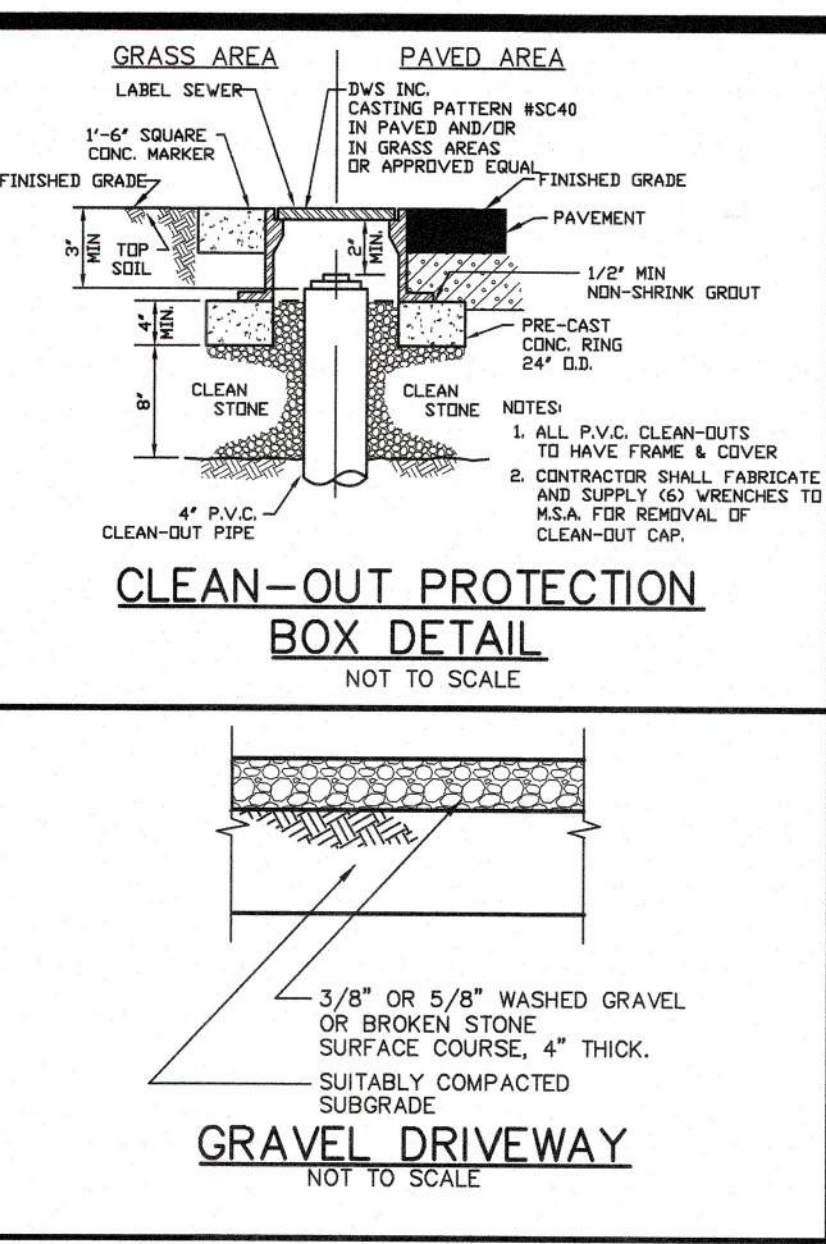
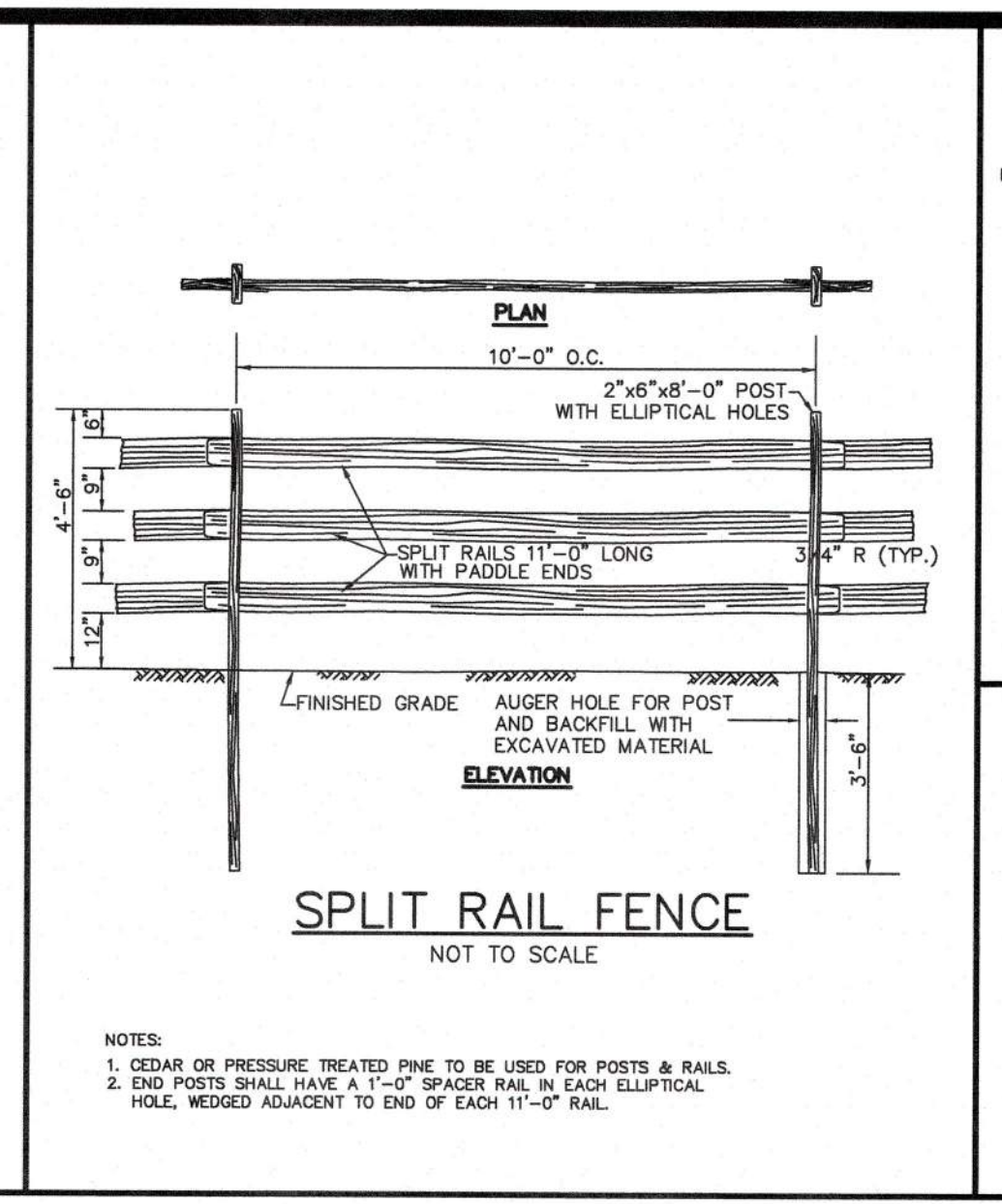
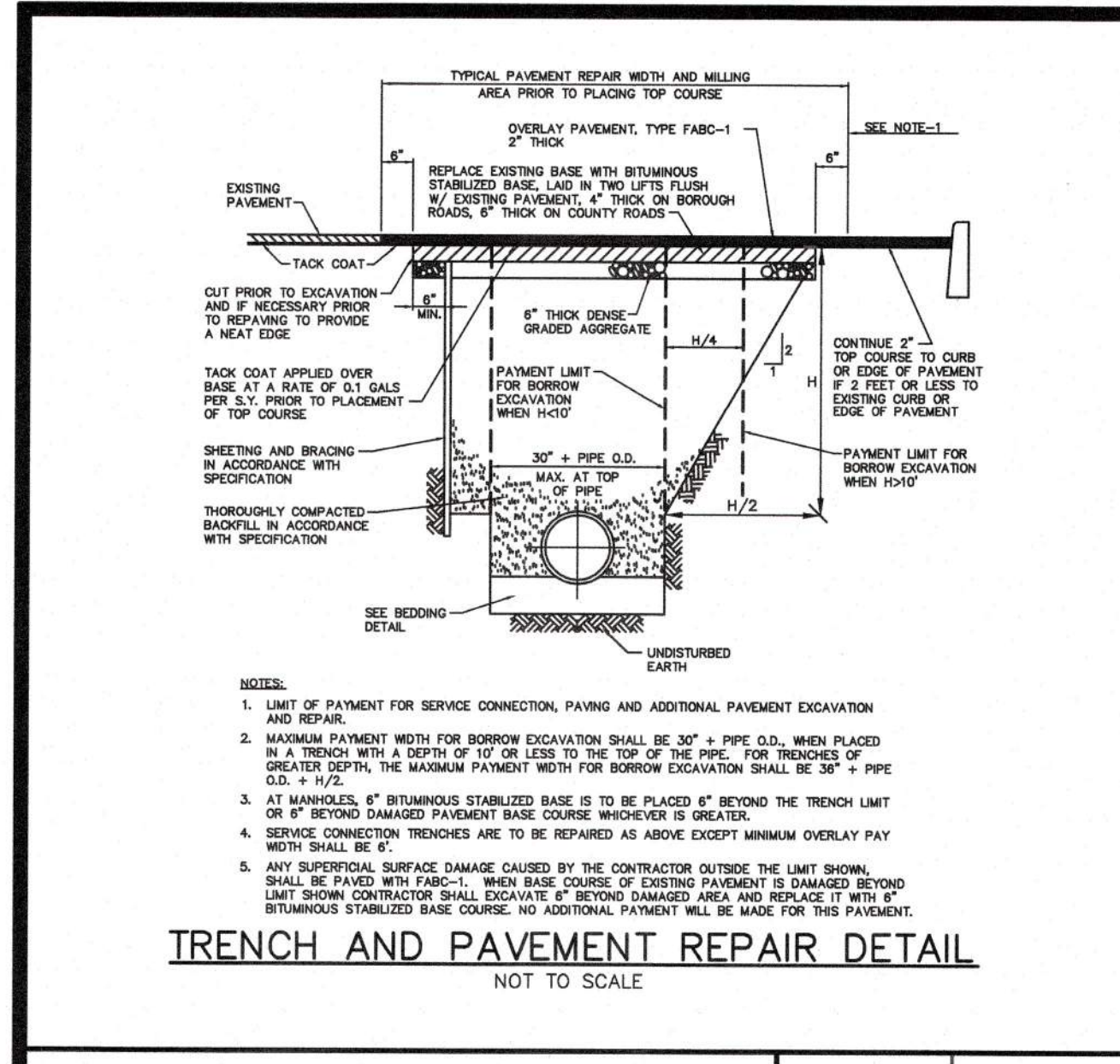
**BOUNDARY & TOPOGRAPHICAL SURVEY MAP OF PROPERTY KNOWN AS
LOT 4 IN BLOCK 105
BOROUGH OF OCEANPORT
MONMOUTH COUNTY - NEW JERSEY**

YORKANIS & WHITE, INC.
PROFESSIONAL LAND SURVEYORS
23 VILLAGE COURT, HAZLET, N. J. 07730 (732-888-3211)
CERTIFICATE OF REGISTRATION NUMBER: 246A27960900

SCALE: 1" = 20'
Dwg. NO.: 24032-BT
DRAWN: K.T.H.
CHKD: J.T.L.

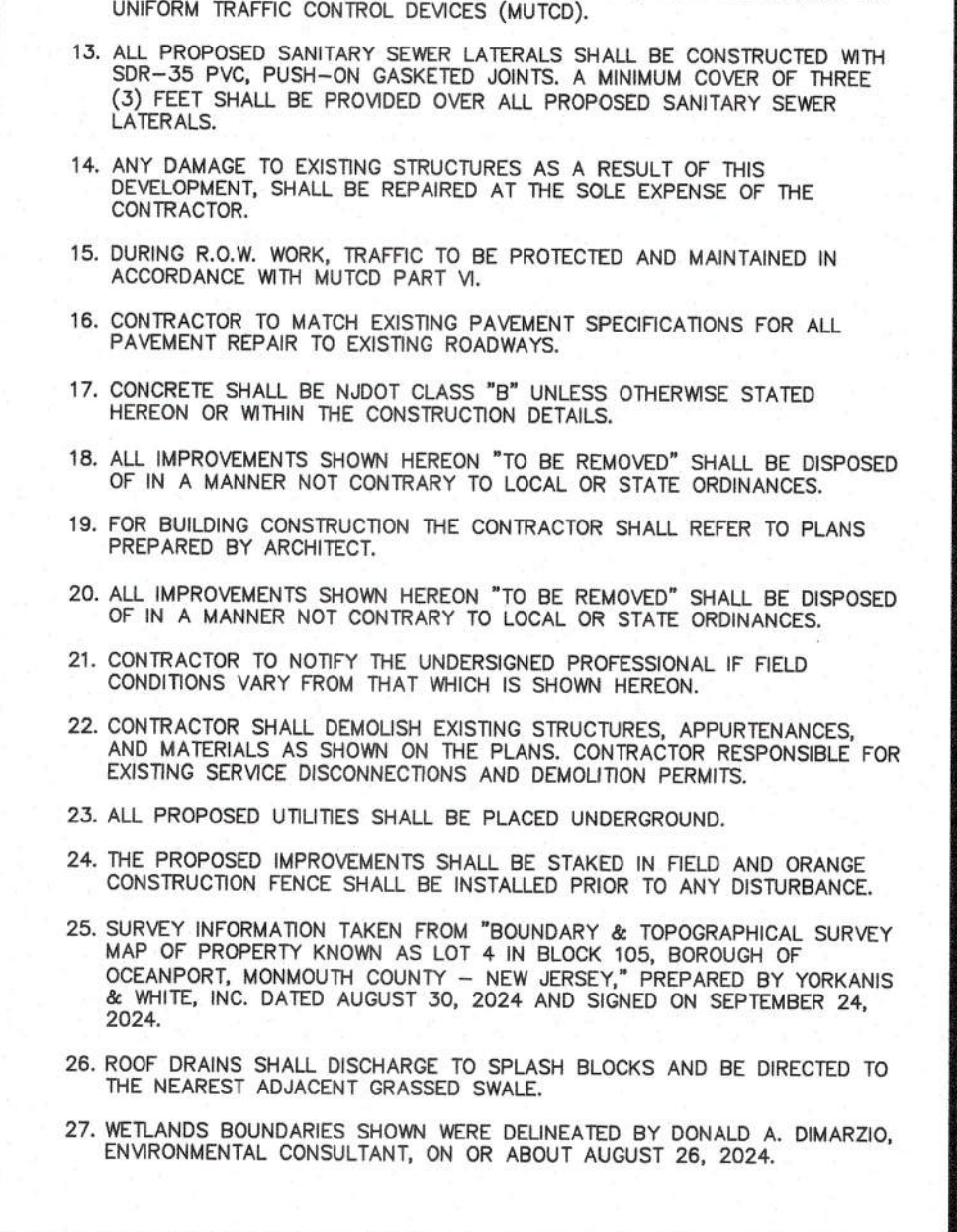
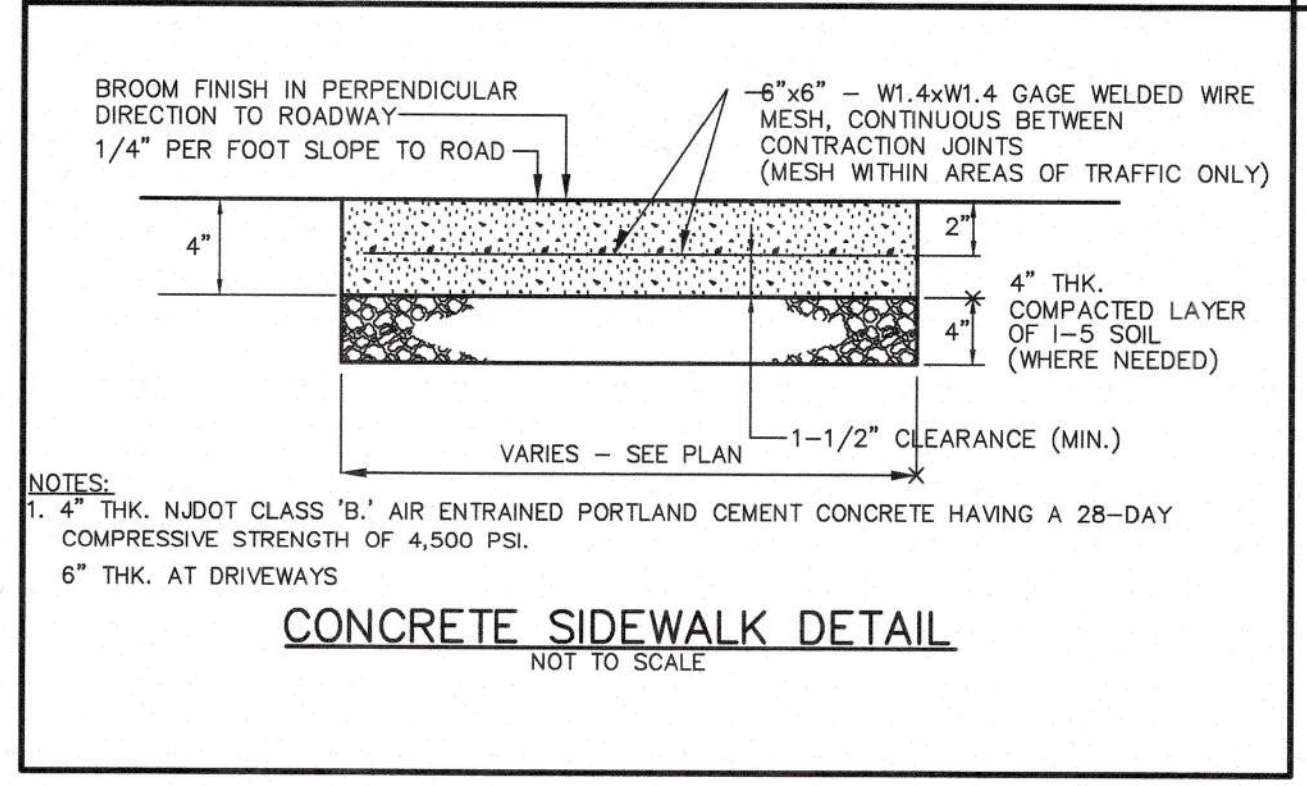
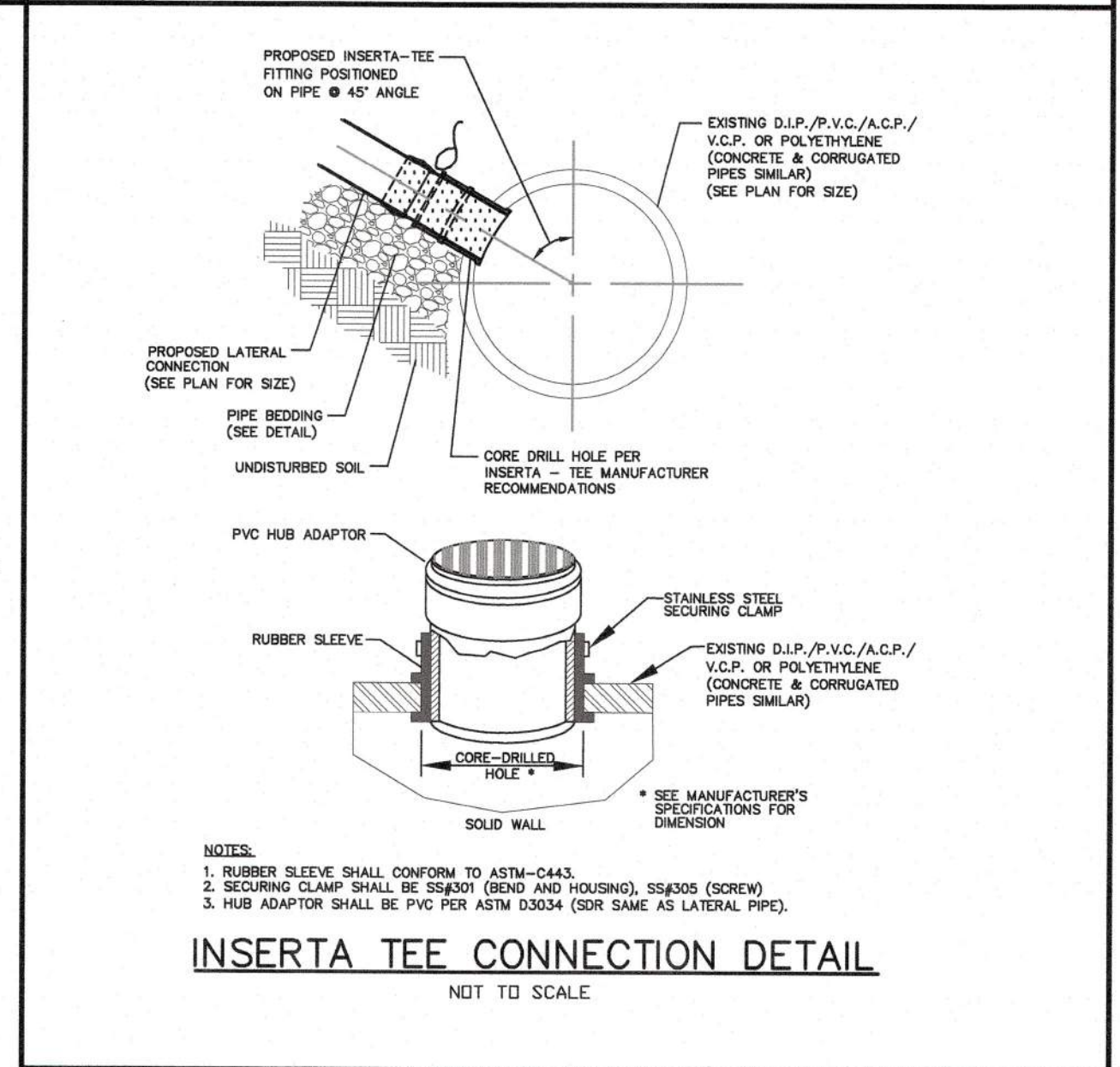
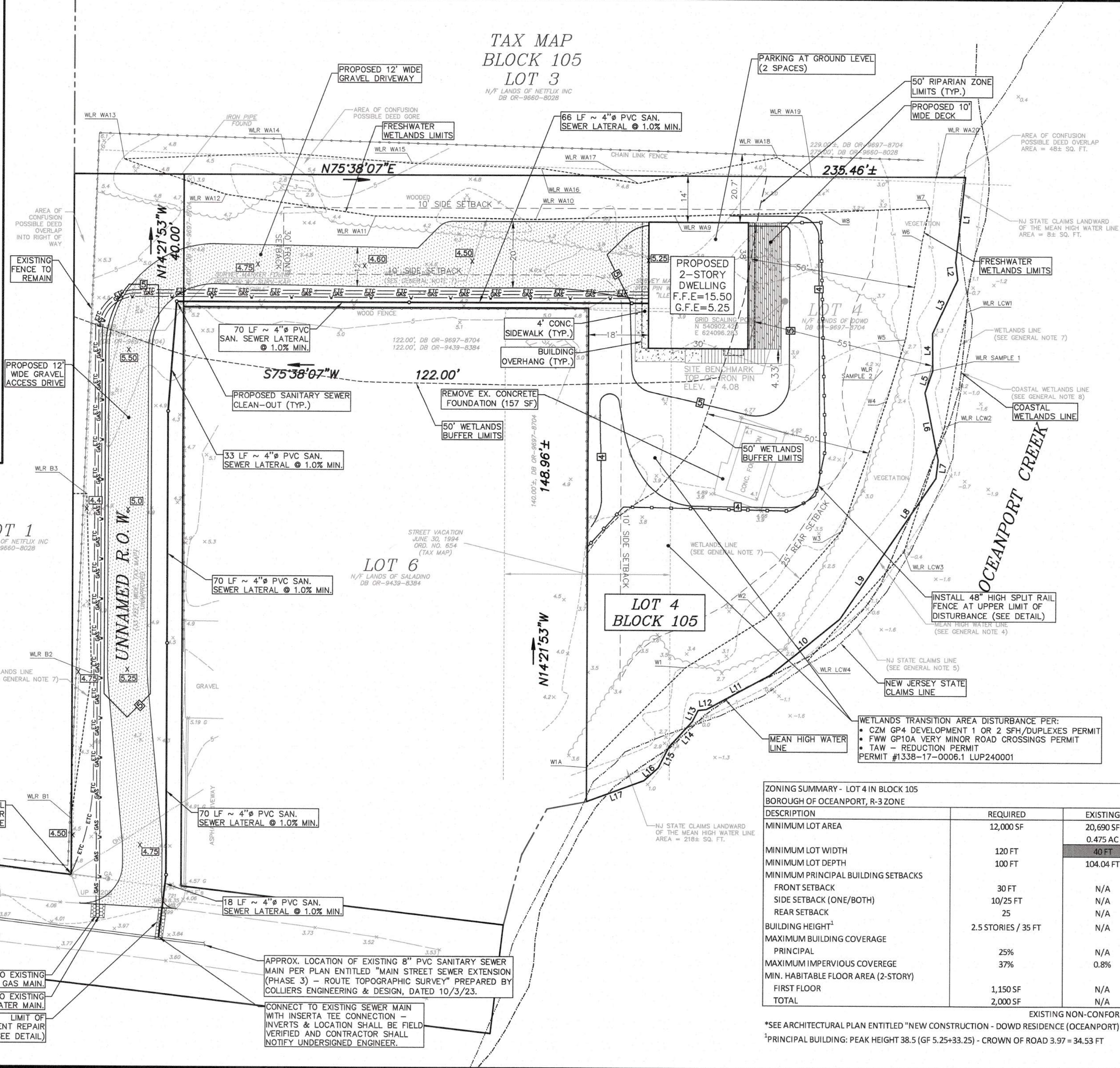
DATE OF SURVEY: 9/24/24
AUGUST 30, 2024
FILE NO: 24032

- LEGEND:
- BB DENOTES BOTTOM OF BANK
 - DB DENOTES DEED BOOK
 - EP DENOTES EDGE OF PAVEMENT
 - G DENOTES GUTTER
 - GA DENOTES GUY ANCHOR
 - UP DENOTES LIGHT POLE
 - MB DENOTES MAILBOX
 - N/F DENOTES NOW OR FORMERLY
 - OHW DENOTES OVERHEAD WIRES
 - PS DENOTES PAVEMENT SHOT
 - RT DENOTES RECORD TITLE
 - TB DENOTES TOP OF BANK
 - TM DENOTES TAX MAP
 - UP DENOTES UTILITY POLE
 - WLR # DENOTES WETLANDS RIBBON NUMBER
 - DENOTES CHAIN LINK FENCE
 - DENOTES WOOD FENCE
 - x.x.x DENOTES EDGE OF WOODS
 - DENOTES SPOT ELEVATION



- General Construction Notes:**
- ALL WORK TO CONFORM WITH THE LATEST EDITION OF THE FOLLOWING:
 - DOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
 - MONMOUTH COUNTY DESIGN STANDARDS - MUNICIPAL DESIGN STANDARDS
 - N.J. RESIDENTIAL SITE IMPROVEMENT STANDARDS (R.S.I.S.)
 - CURRENT MANUFACTURERS SPECIFICATIONS, STANDARDS, AND REQUIREMENTS
 - CURRENT PREVAILING UTILITY COMPANY OR AUTHORITY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS
 - ALL BARRIER FREE CONSTRUCTION TO BE IN ACCORDANCE WITH THE LATEST STANDARDS OF THE NEW JERSEY UNIFORM CONSTRUCTION CODE, SUBCHAPTER 7: BARRIER FREE SUBCODE AND/OR 2010 ADA STANDARDS, AS APPLICABLE.
 - CONTRACTOR IS RESPONSIBLE FOR ALL WORKER SAFETY, TRAINING, AND SAFETY DEVICE USAGE FOR AND DURING THE CONSTRUCTION OF THE IMPROVEMENTS SHOWN ON THIS PLAN.
 - THE CONTRACTOR IS DESIGNATED AS THE RESPONSIBLE PARTY DURING CONSTRUCTION OF THE IMPROVEMENTS SHOWN HEREON. AS SUCH, CONTRACTOR WILL PROVIDE ADEQUATE SAFETY TRAINING, EQUIPMENT, AND OVERSIGHT.
 - CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED PERMITS AND APPROVALS FOR CONSTRUCTION OF THE DEPICTED SITE IMPROVEMENTS.
 - ALL DISTURBED AREAS ON SITE TO BE STABILIZED IN ACCORDANCE WITH THE FRESHWATER SOIL CONSERVATION DISTRICT STANDARDS.
 - ALL AREAS NOT COVERED BY IMPERVIOUS SURFACE OR SHOWN TO BE LANDSCAPED SHALL BE SEEDED OR OTHERWISE STABILIZED IN ACCORDANCE WITH SOIL EROSION CONTROL SPECIFICATIONS.
 - ALL ROOF DRAINS TO BE DIRECTED TOWARDS STABILIZED SURFACES, USING SPLASH BLOCKS, LEADERS, OR OTHER METHODS.
 - THE NEW JERSEY ONE CALL SYSTEM SHOULD BE CONTACTED PRIOR TO EXCAVATION ON-SITE OR WITHIN R.O.W. (800) 272-1000
 - ALL UTILITY CONNECTIONS AND RELOCATIONS ARE SHOWN SCHEMATICALLY. THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH EACH UTILITY COMPANY AND ARCHITECT TO PROVIDE THE MOST APPROPRIATE LOCATION FOR UTILITY CONNECTIONS AND/OR RELOCATIONS.
 - EXISTING SITE AND UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN COLLECTED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS.
 - ALL TRAFFIC SIGNS AND STRIPING SHALL CONFORM WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - ALL PROPOSED SANITARY SEWER LATERALS SHALL BE CONSTRUCTED WITH SDR-35 PVC, PUSH-ON GASKETED JOINTS. A MINIMUM COVER OF THREE (3) FEET SHALL BE PROVIDED OVER ALL PROPOSED SANITARY SEWER LATERALS.
 - ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THIS DEVELOPMENT, SHALL BE REPAIRED AT THE SOLE EXPENSE OF THE CONTRACTOR.
 - DURING R.O.W. WORK, TRAFFIC TO BE PROTECTED AND MAINTAINED IN ACCORDANCE WITH MUTCD PART VI.
 - CONTRACTOR TO MATCH EXISTING PAVEMENT SPECIFICATIONS FOR ALL PAVEMENT REPAIR TO EXISTING PAVEMENTS.
 - CONCRETE SHALL BE NDOT CLASS "B" UNLESS OTHERWISE STATED HEREON OR WITHIN THE CONSTRUCTION DETAILS.
 - ALL IMPROVEMENTS SHOWN HEREON "TO BE REMOVED" SHALL BE DISPOSED OF IN A MANNER NOT CONTRARY TO LOCAL OR STATE ORDINANCES.
 - FOR BUILDING CONSTRUCTION THE CONTRACTOR SHALL REFER TO PLANS PREPARED BY ARCHITECT.
 - ALL IMPROVEMENTS SHOWN HEREON "TO BE REMOVED" SHALL BE DISPOSED OF IN A MANNER NOT CONTRARY TO LOCAL OR STATE ORDINANCES.
 - CONTRACTOR TO NOTIFY THE UNDERSIGNED PROFESSIONAL IF FIELD CONDITIONS VARY FROM THAT WHICH IS SHOWN HEREON.
 - CONTRACTOR SHALL DEMOLISH EXISTING STRUCTURES, APPURTENANCES, AND MATERIALS AS SHOWN ON THE PLANS. CONTRACTOR RESPONSIBLE FOR EXISTING SERVICE DISCONNECTIONS AND DEMOLITION PERMITS.
 - ALL PROPOSED UTILITIES SHALL BE PLACED UNDERGROUND.
 - THE PROPOSED IMPROVEMENTS SHALL BE STAKED IN FIELD AND ORANGE CONSTRUCTION FENCE SHALL BE INSTALLED PRIOR TO ANY DISTURBANCE.
 - SURVEY INFORMATION TAKEN FROM "BOUNDARY & TOPOGRAPHICAL SURVEY MAP OF PROPERTY KNOWN AS LOT 4 IN BLOCK 105, BOROUGH OF OCEANPORT, MONMOUTH COUNTY - NEW JERSEY," PREPARED BY YORKANIS & WHITE, INC. DATED AUGUST 30, 2024 AND SIGNED ON SEPTEMBER 24, 2024.
 - ROOF DRAINS SHALL DISCHARGE TO SPLASH BLOCKS AND BE DIRECTED TO THE NEAREST ADJACENT GRASSED SWALE.
 - WETLANDS BOUNDARIES SHOWN WERE DELINEATED BY DONALD A. DIMARZIO, ENVIRONMENTAL CONSULTANT, ON OR ABOUT AUGUST 26, 2024.

- SURVEY GENERAL NOTES:**
- BY CONTRACTUAL ARRANGEMENT, THE HORIZONTAL DATUM FOR THIS SURVEY IS ON THE NORTH AMERICAN DATUM OF 1983/ADJUSTMENT 2011, EPOCH 2010, AND WAS TRANSFERRED TO THE SITE USING GPS REAL TIME KINEMATIC (RTK) TECHNOLOGY WITH THE LEICA GEOSYSTEMS "SMARTNET NORTH AMERICA" REAL TIME NETWORK.
 - BY CONTRACTUAL ARRANGEMENT, THE VERTICAL DATUM FOR THIS SURVEY IS ON THE NORTH AMERICAN VERTICAL DATUM OF 1988/ADJUSTMENT 2011, EPOCH 2010, AND WAS TRANSFERRED TO THE SITE USING GPS REAL TIME KINEMATIC (RTK) TECHNOLOGY WITH THE LEICA GEOSYSTEMS "SMARTNET NORTH AMERICA" REAL TIME NETWORK.
 - LOCAL SITE BENCHMARK IS THE TOP OF IRON PIN, HAVING AN ELEVATION OF 4.08.
 - THE MEAN HIGH WATER ELEVATION SHOWN HEREON HAS BEEN COMPUTED FROM PUBLISHED DATA REFERRED TO NOAA TIDE GAUGE 853-825 ON THE SHREWSBURY RIVER AS REFERENCED TO TIDAL BENCHMARK "BLUFF", THE COMPUTED MEAN HIGH WATER ELEVATION IS 1.39 FEET AS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988(NAVD 1988), GEOID124.
 - THE NEW JERSEY STATE CLAIMS LINE WAS RECONSTRUCTED USING PUBLISHED DATA WITHIN THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF TIDALANDS CO, SERIES 1, VOLUME 4, (TIDE ORG 1539-2178).
 - A PORTION OF PROPERTY KNOWN AS LOT 4 IN BLOCK 105 IS SITUATED IN FLOOD ZONE "AF" EL. & AS SHOWN ON A CERTAIN MAP ENTITLED, "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, MONMOUTH COUNTY, NEW JERSEY (ALL JURISDICTIONS) PANEL 184 OF 487, BOROUGH OF OCEANPORT, COMMUNITY-PANEL NUMBER 340320 0184 H, MAP NUMBER 3402500184H", PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, DATED REVISED JUNE 15, 2022.
 - WETLANDS WERE DELINEATED IN THE FIELD BY DONALD DIMARZIO, ENVIRONMENTAL CONSULTANT, ON OR ABOUT AUGUST 26, 2024 AND FIELD SURVEYED BY YORKANIS & WHITE, INC. ON AUGUST 30, 2024.
 - THE COASTAL WETLANDS LINE FOR NEW JERSEY WAS DITIALIZED FROM THE 1970 COASTAL WETLANDS BASE MAP AS SUPPLIED BY NJDEP.
 - UTILITIES SHOWN HEREON WERE DERIVED FROM MARQUETS DONE BY THE PROPER UTILITY AUTHORITY AS OF THE DATE OF THIS FIELD SURVEY AND ARE SHOWN HEREON AS APPROXIMATE LOCATIONS TO BE UTILIZED FOR ESTIMATING PURPOSES ONLY. UNDERGROUND UTILITIES THAT HAD NOT BEEN MARKED WERE NOT LOCATED. UTILITIES SUCH AS STORM AND SANITARY SEWER INVERTS WERE DERIVED USING CONVENTIONAL SURVEYING METHODS TO OBSERVE THE INVERT. DUE TO THE CONTRIBUTION OF THE DRAINAGE STRUCTURE AND THE GEOMETRY OF THE PIPE, THE OBSERVED INVERTS HAVE A TOLERANCE OF 0.1 FEET.
 - IF UTILITIES REFERENCED ARE TO BE USED FOR DESIGN PURPOSES AND ARE OF A CRITICAL NATURE, PRIOR TO CONSTRUCTION OR DESIGN, SAMPLE TEST PITS SHOULD BE MADE TO VERIFY THE EXACT LOCATION. PRIOR TO CONSTRUCTION, THE DESIGN PLAN OR THIS SURVEY SHALL BE FORWARDED TO THE APPROPRIATE UTILITY COMPANY FOR VERIFICATION OF UTILITIES.
 - THE SPREAD OF TREES, BUSHES, HEDGES, FENCES, ETC. SHOWN ON THIS PLAN ARE FOR GRAPHIC PURPOSES ONLY AND DO NOT REPRESENT THE TRUE SPREAD OR DRIP LINE OR WIDTH.
 - THE CONVERSION FACTOR FROM NAVD83 GEODETIC VERTICAL DATUM TO NAVD29 GEODETIC VERTICAL DATUM IS +1.08. IN OTHER WORDS, ANY ELEVATION SHOWN HEREON NEEDS TO BE ADDED BY 1.08 TO BE ON THE NAVD29 DATUM.
 - THE AREA OF LOT 4 EQUALS 20,690 MORE OR LESS SQUARE FEET OR 0.475 MORE OR LESS ACRES OF LAND.



ZONING SUMMARY - LOT 4 IN BLOCK 105
BOROUGH OF OCEANPORT, R-3 ZONE

DESCRIPTION	REQUIRED	EXISTING	PROPOSED	DESCRIPTION
MINIMUM LOT AREA	12,000 SF	20,690 SF	20,690 SF	EX. NON-CONFORMITY
		0.475 AC	0.475 AC	
MINIMUM LOT WIDTH	120 FT	40 FT	40 FT	EX. NON-CONFORMITY
MINIMUM LOT DEPTH	100 FT	104.04 FT	104.04 FT	
MINIMUM PRINCIPAL BUILDING SETBACKS				
FRONT SETBACK	30 FT	N/A	N/A	
SIDE SETBACK (ONE/BOTH)	10/25 FT	N/A	14/32 FT	
REAR SETBACK	25	N/A	55 FT	
BUILDING HEIGHT	2.5 STORIES / 35 FT	N/A	2 STORIES / 34.53 FT	
MAXIMUM BUILDING COVERAGE				
PRINCIPAL	25%	N/A	5.5%	
MAXIMUM IMPERVIOUS COVERAGE	37%	0.8%	19.4%	
MIN. HABITABLE FLOOR AREA (2-STORY)				
FIRST FLOOR	1,150 SF	N/A	1,140 SF	
TOTAL	2,000 SF	N/A	2,583 SF	

EXISTING NON-CONFORMITY

*SEE ARCHITECTURAL PLAN ENTITLED "NEW CONSTRUCTION - DOWD RESIDENCE (OCEANPORT)" PREPARED BY JEREMIAH J. REGAN, A.I.A. DATED 07/03/25
 †PRINCIPAL BUILDING: PEAK HEIGHT 38.5 (GF 5.25+33.25) - CROWN OF ROAD 3.97 = 34.53 FT

RESIDENTIAL GRADING PLAN

66 RIVERSIDE AVENUE
 LOT 4 IN BLOCK 105, BOROUGH OF OCEANPORT
 MONMOUTH COUNTY - NEW JERSEY
 TAX MAP SHEET 4 - LAST REVISED JUNE 2022

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 Kennedy Consulting Engineers, LLC
 211 Maple Avenue
 Red Bank, New Jersey 07701
 732.212.9393 TEL • 732.212.9399 FAX

GRADING PLAN
 GP-1

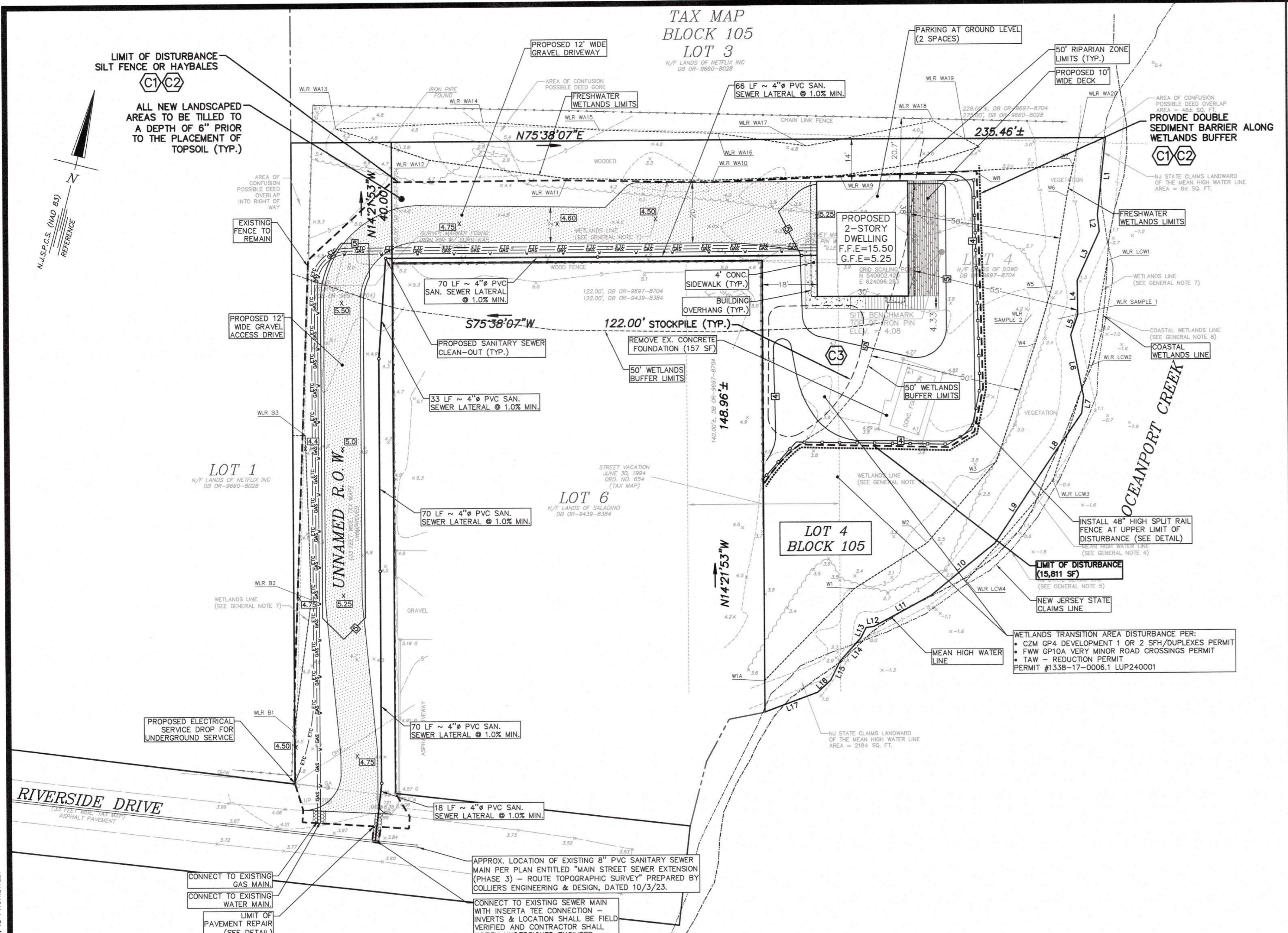
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 DATE: 09/26/25

JAMES A. KENNEDY, P.E.
 NEW JERSEY PROFESSIONAL ENGINEER NO. 41275

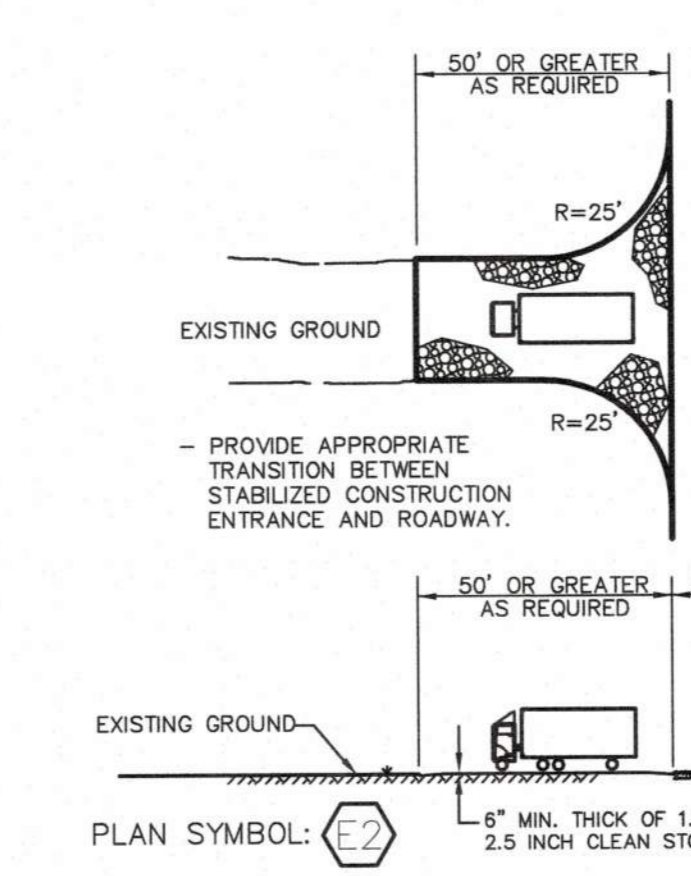
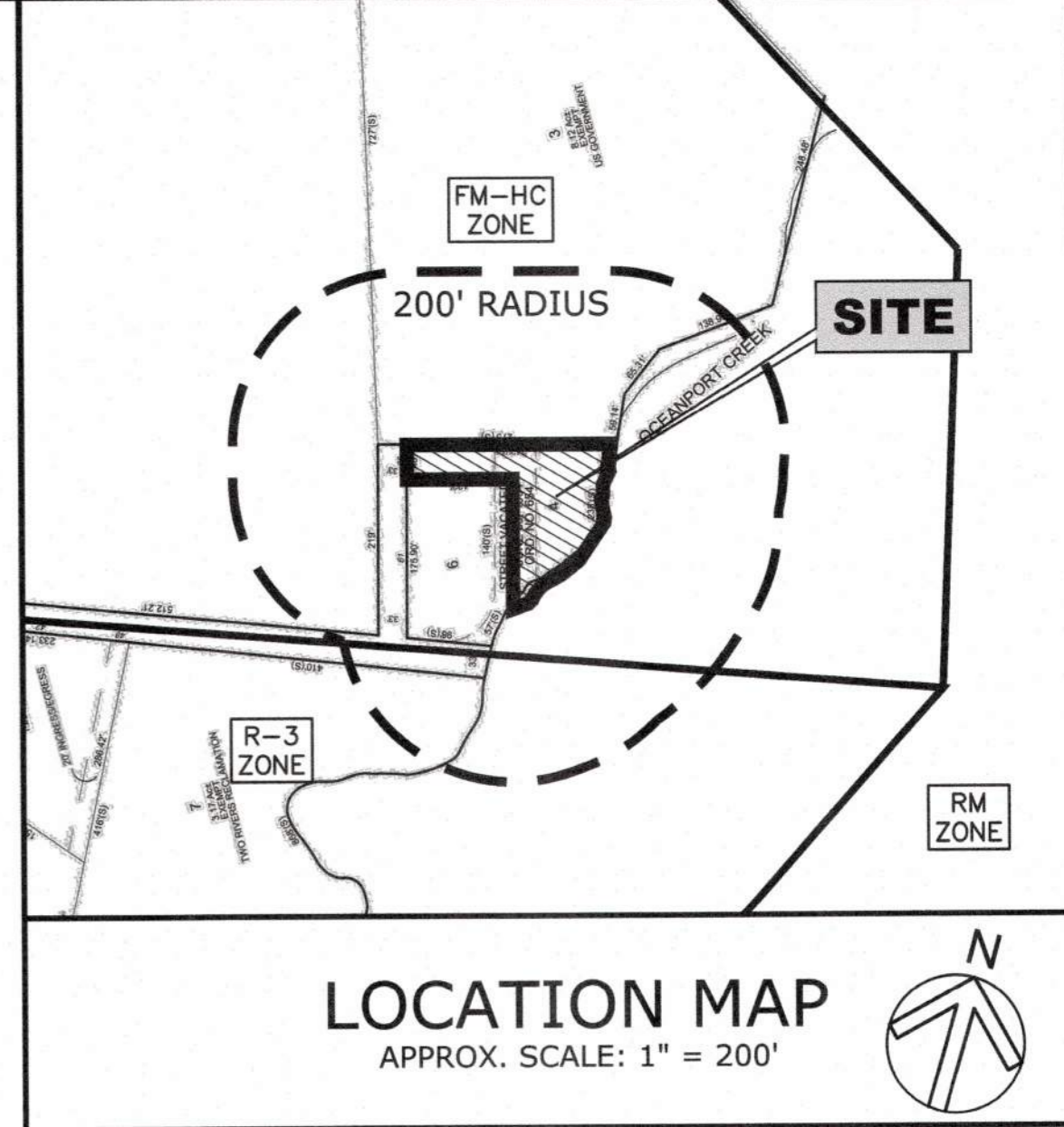
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TAX MAP
BLOCK 105
LOT 3



- SOIL EROSION AND SEDIMENT CONTROL NOTES**
- The Freshford Soil Conservation District shall be notified forty-eight (48) hours in advance of any soil disturbing activity.
 - All Soil Erosion and Sediment Control practices are to be installed prior to soil disturbance, or in their proper sequence, and maintained until permanent protection is established.
 - Any changes to the Certified Soil Erosion and Sediment Control Plans will require the submission of revised Soil Erosion and Sediment Control Plans to the District for re-certification. The revised plans must meet all current State Soil Erosion and Sediment Control Standards.
 - N.J.S.A. 4:24-39 et seq. requires that no Certificates of Occupancy be issued before the District determines that a project or portion thereof is in full compliance with the Certified Plan and Standards for Soil Erosion and Sediment Control in New Jersey and a Report of Compliance has been issued. Upon written request from the applicant, the District may issue a Report of Compliance with conditions on a lot-by-lot or section-by-section basis, provided that the project or portion thereof is in satisfactory compliance with the sequence of development and temporary measures for soil erosion and sediment control have been implemented, including provisions for stabilization and site work.
 - Any disturbed areas that will be left exposed more than sixty (60) days, and not subject to construction traffic, will immediately receive a temporary seeding. If the season prevents the establishment of temporary cover, the disturbed areas will be mulched with straw, or equivalent material, at a rate of 2 to 2 1/2 tons per acre, according to State Standard for Stabilization with Mulch Only.
 - Immediately following initial disturbance or rough grading, all critical areas subject to erosion (i.e. steep slopes and roadway embankments) will receive temporary seeding in combination with straw mulch or a suitable equivalent, and a mulch anchor, in accordance with State Standards.
 - A sub-base course will be applied immediately following rough grading and installation of improvements to stabilize streets, roads, driveways, and parking areas. In areas where no utilities are present, the sub-base shall be installed within fifteen (15) days of the preliminary grading.
 - The Standard for Stabilized Construction Access requires the installation of a pad of clean crushed stone at points where traffic will be accessing the construction site. After interior roadways are paved, individual lots require a stabilized construction entrance consisting of one inch to two inch (1"-2") stone for a minimum length of ten feet (10') equal to the lot entrance width. All other access points shall be blocked off.
 - All soil washed, dropped, spilled, or tracked outside the limit of disturbance or onto public right-of-ways will be removed immediately.
 - Permanent vegetation is to be seeded or sodded on all exposed areas within ten (10) days after final grading.
 - At the time that site preparation for permanent vegetative stabilization is going to be accomplished, any soil that will not provide a suitable environment to support adequate vegetative ground cover shall be removed or treated in such a way that it will permanently adjust the soil conditions and render it suitable for vegetative ground cover. If the removal or treatment of the soil will not provide suitable conditions, non-vegetative means of permanent ground stabilization will have to be employed.
 - In accordance with the Standard for Management of High Acid Producing Soils, any soil having a pH of 4 or less or containing iron sulfides shall be ultimately placed or buried with limestone applied at the rate of 10 tons/acre, (or 450 lbs/1000 sq ft surface area) and covered with a minimum of 1" of settled soil with a pH of 5 or more, or 2" where trees or shrubs are to be planted.
 - Conduct Outlet Protection must be installed at all required outfalls prior to the drainage system becoming operational.
 - Unfiltered dewatering is not permitted. Necessary provisions must be taken during all dewatering operations to minimize sediment transfer. Any dewatering methods used must be in accordance with the Standard for Dewatering.
 - Should the control of dust at the site be necessary, the site will be sprinkled until the surface is wet, temporary vegetative cover shall be established or mulch shall be applied as required by the Standard for Dust Control.
 - Stockpile and staging locations established in the field shall be placed within the limit of disturbance according to the certified plan. Staging and stockpiles not located within the limit of disturbance will require certification of a revised Soil Erosion and Sediment Control Plan. Certification of a new Soil Erosion and Sediment Control Plan may be required for these activities if an area greater than 5,000 square feet is disturbed.
 - All soil stockpiles are to be temporarily stabilized in accordance with Soil Erosion and Sediment Control note #6.
 - The property owner shall be responsible for any erosion or sedimentation that may occur below stormwater outfalls or offsite as a result of construction of the project.



DESIGN CRITERIA

STONE SIZE - USE ASTM C-33, SIZE No. 2 (2 1/2 TO 1 1/2"). USE CLEAN CRUSHED ANGULAR STONE. CRUSHED CONCRETE OR SIMILAR SIZE MAY BE SUBSTITUTED BUT WILL REQUIRE MORE FREQUENT UPDATING AND MAINTENANCE.

THICKNESS - NOT LESS THAN SIX (6) INCHES.

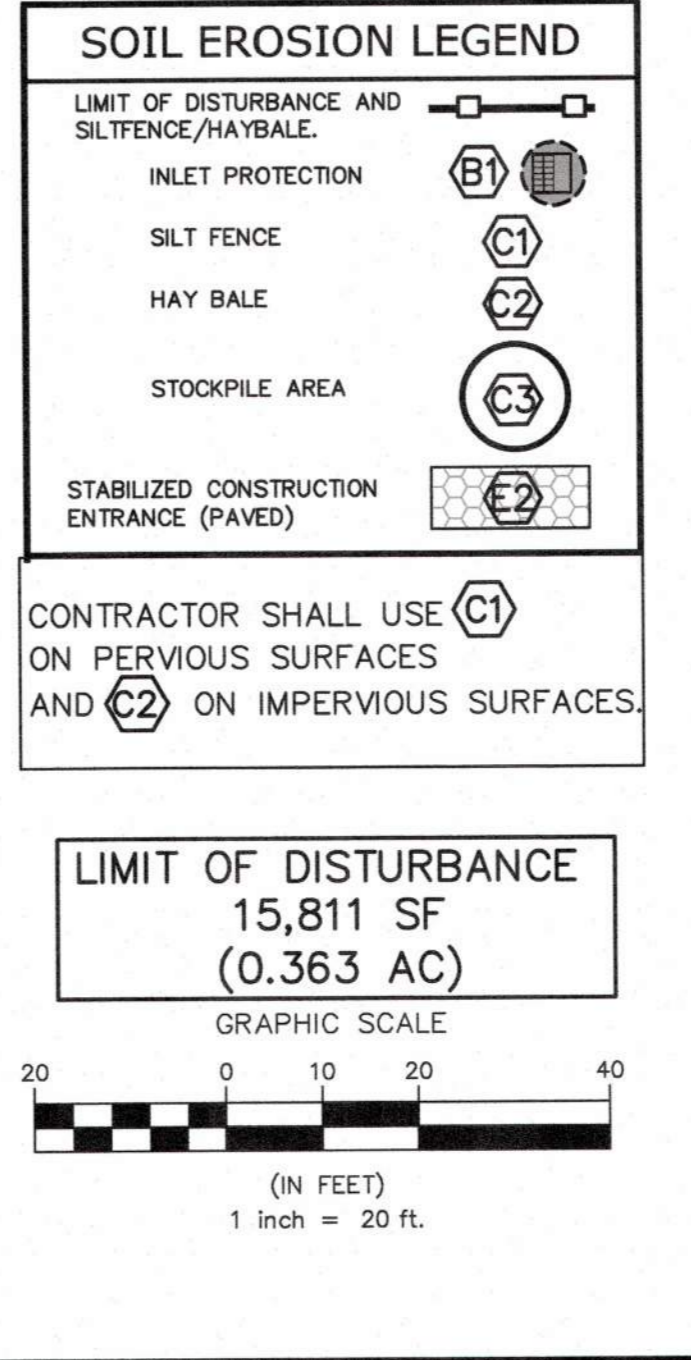
WIDTH - NOT LESS THAN FULL WIDTH OF POINTS OF INGRESS OR EGRESS.

LENGTH - 50 FEET MINIMUM WHERE THE SOILS ARE COARSE GRAINED (SANDS OR GRAVEL) OR 100 FEET MINIMUM WHERE SOILS ARE FINE GRAINED (CLAYS OR SILTS), EXCEPT WHERE TRAVELED LENGTH IS LESS THAN 50 OR 100 FEET RESPECTIVELY. THESE LENGTHS MAY BE INCREASED WHERE FIELD CONDITIONS DICTATE. STORMWATER FROM UP-SLOPE AREAS SHALL BE DIVERTED AWAY FROM THE STABILIZED PAD (SEE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL" IN N.J.A.C. 7:27 FOR ADDITIONAL INFORMATION). WHERE DIVERSION IS NOT POSSIBLE, THE LENGTH OF THE STABILIZED PAD SHALL BE AS SHOWN IN TABLE BELOW, WHERE THE SLOPE OF THE ACCESS ROAD EXCEEDS 5%. A STABILIZED BASE COURSE OF FINE AGGREGATE BITUMINOUS CONCRETE (FABC) SHALL BE INSTALLED. THE TYPE AND THICKNESS OF THE FABC AND USE OF A DENSE GRADE AGGREGATE SUB-BASE SHALL BE AS PRESCRIBED BY LOCAL MUNICIPAL ORDINANCE OR OTHER GOVERNING AUTHORITY. AT POORLY DRAINED LOCATIONS, SUBSURFACE DRAINAGE GRAVEL FILTER OR GEOTEXTILE SHALL BE INSTALLED BEFORE INSTALLING THE STABILIZED CONSTRUCTION ENTRANCE.

MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAYS. THIS MAY REQUIRE PERIODIC TOP 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.

PERCENT SLOPE OF ROADWAY	LENGTHS OF CONSTRUCTION EXITS ON SLOPING ROADBEDS	
	COARSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FT	100 FT
2 TO 5%	100 FT	200 FT
>5%	ENTIRE SURFACE STABILIZED WITH FABC BASE COURSE	



RESIDENTIAL GRADING PLAN

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TAX MAP SHEET 4 - LAST REVISED JUNE 2022

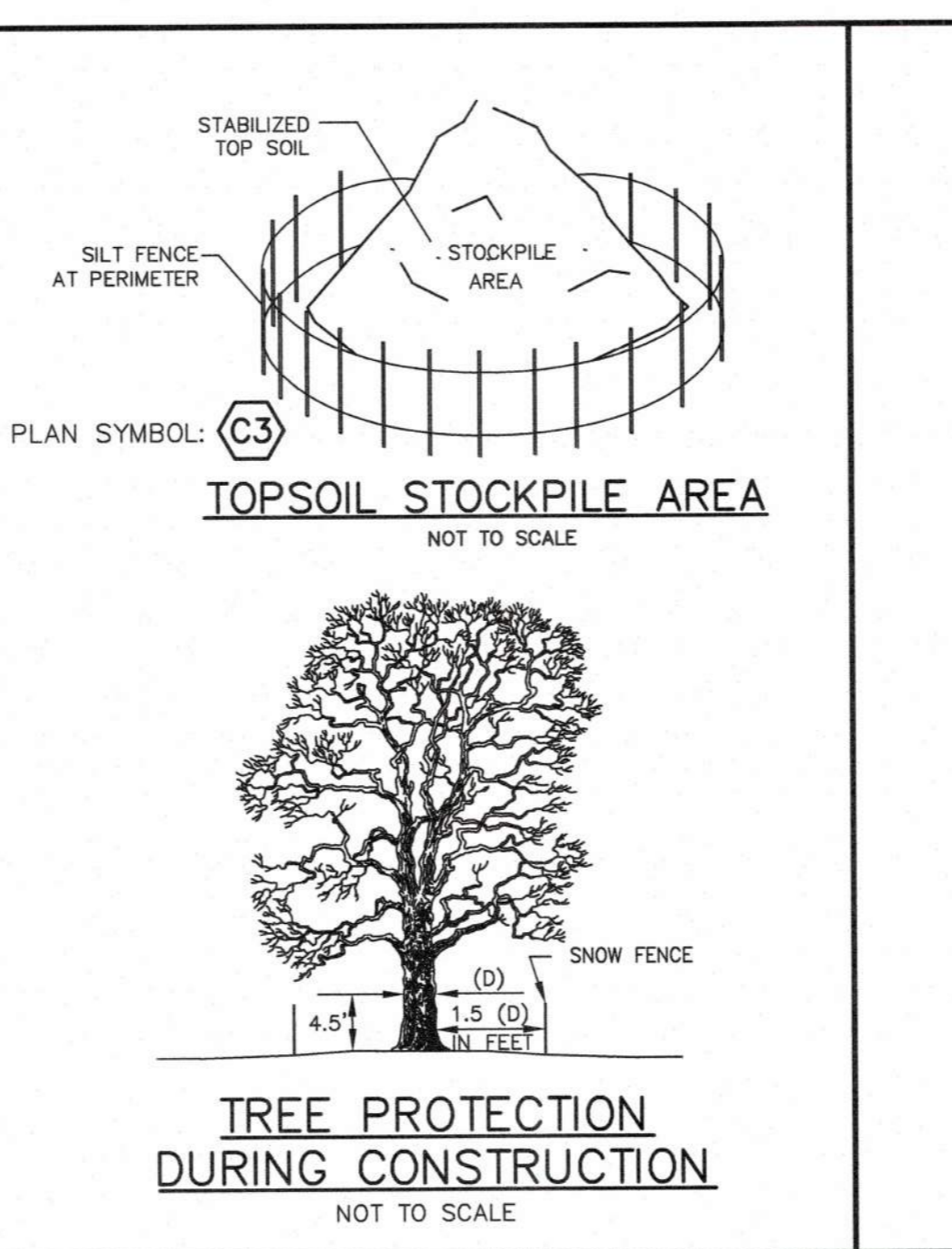
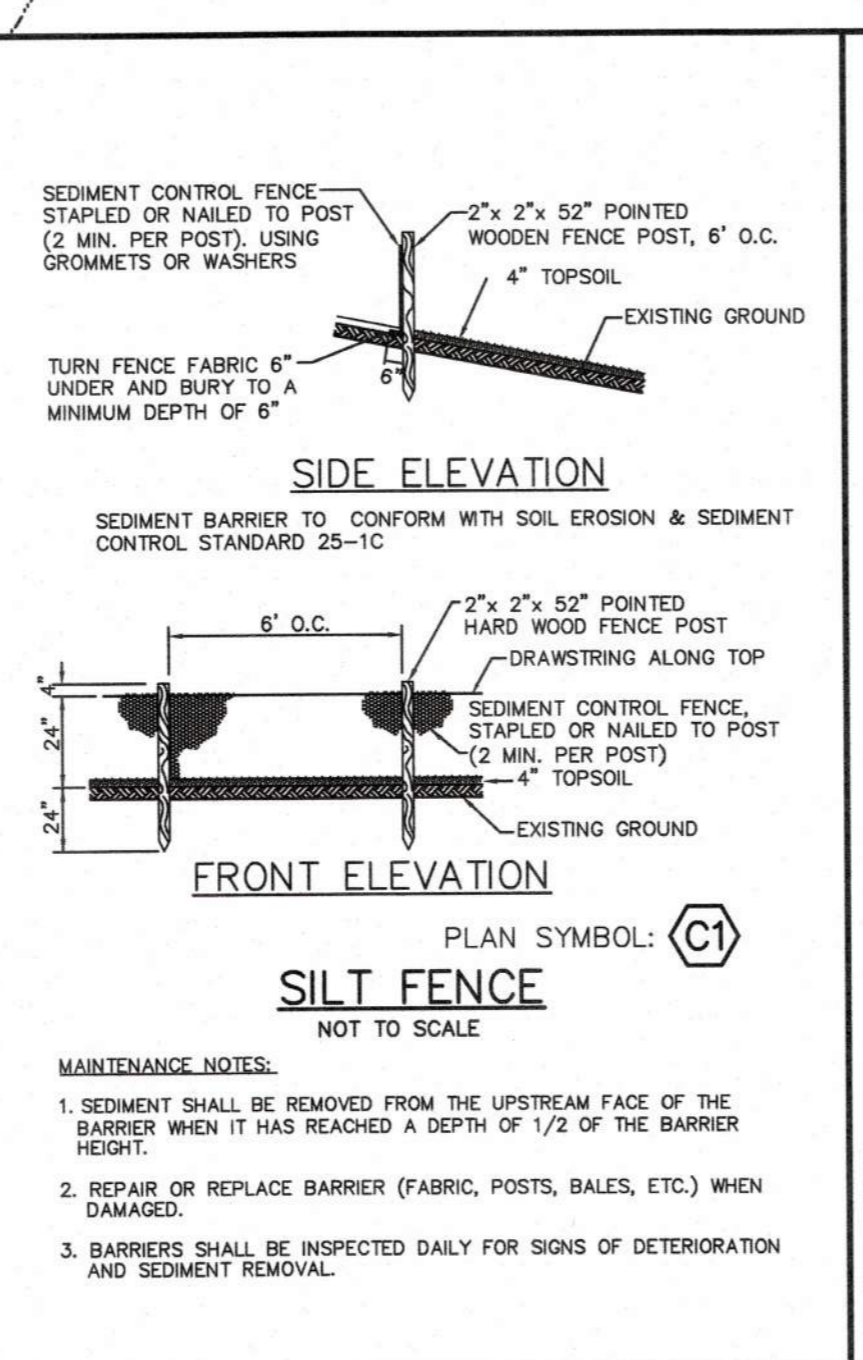
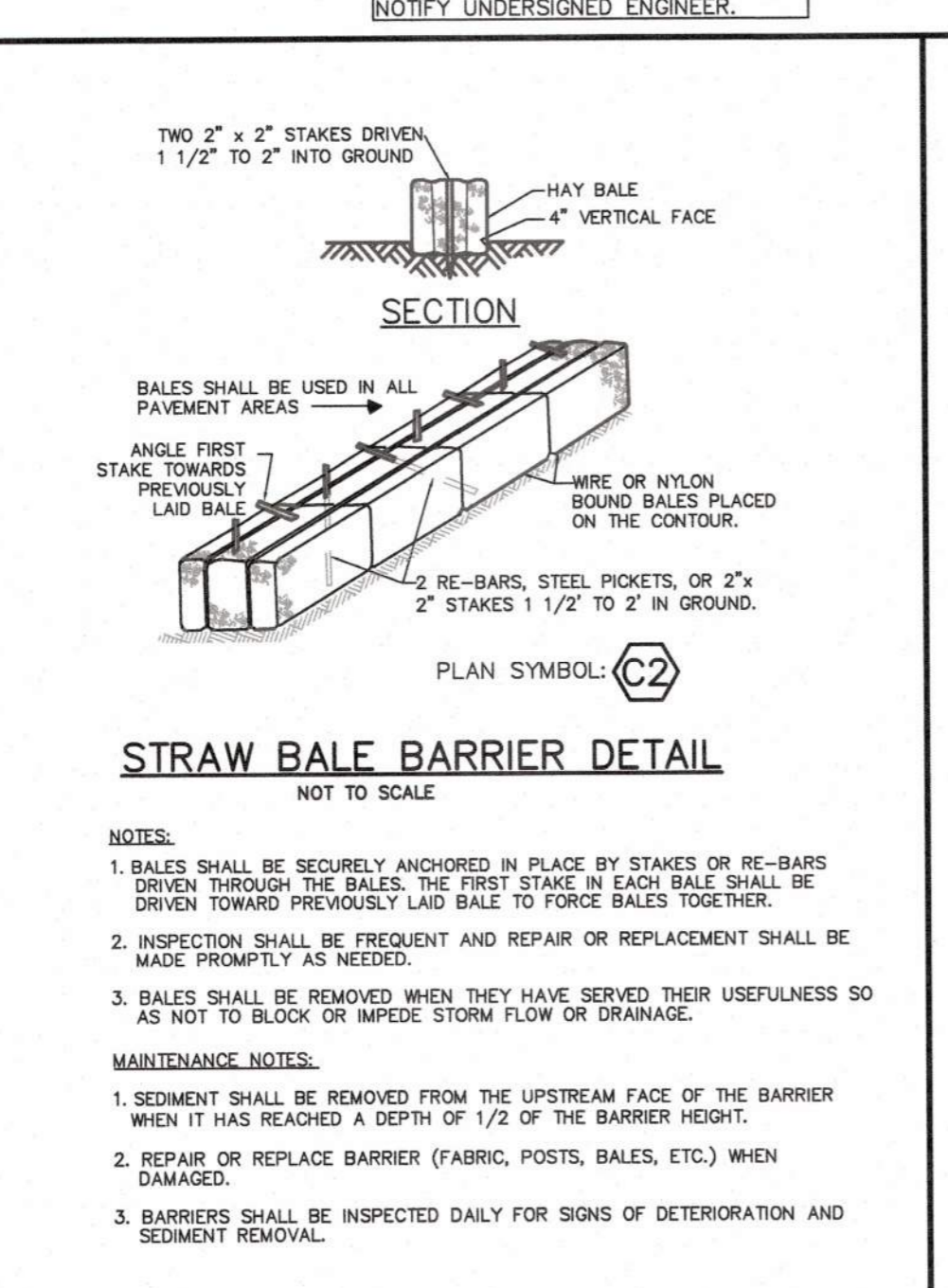
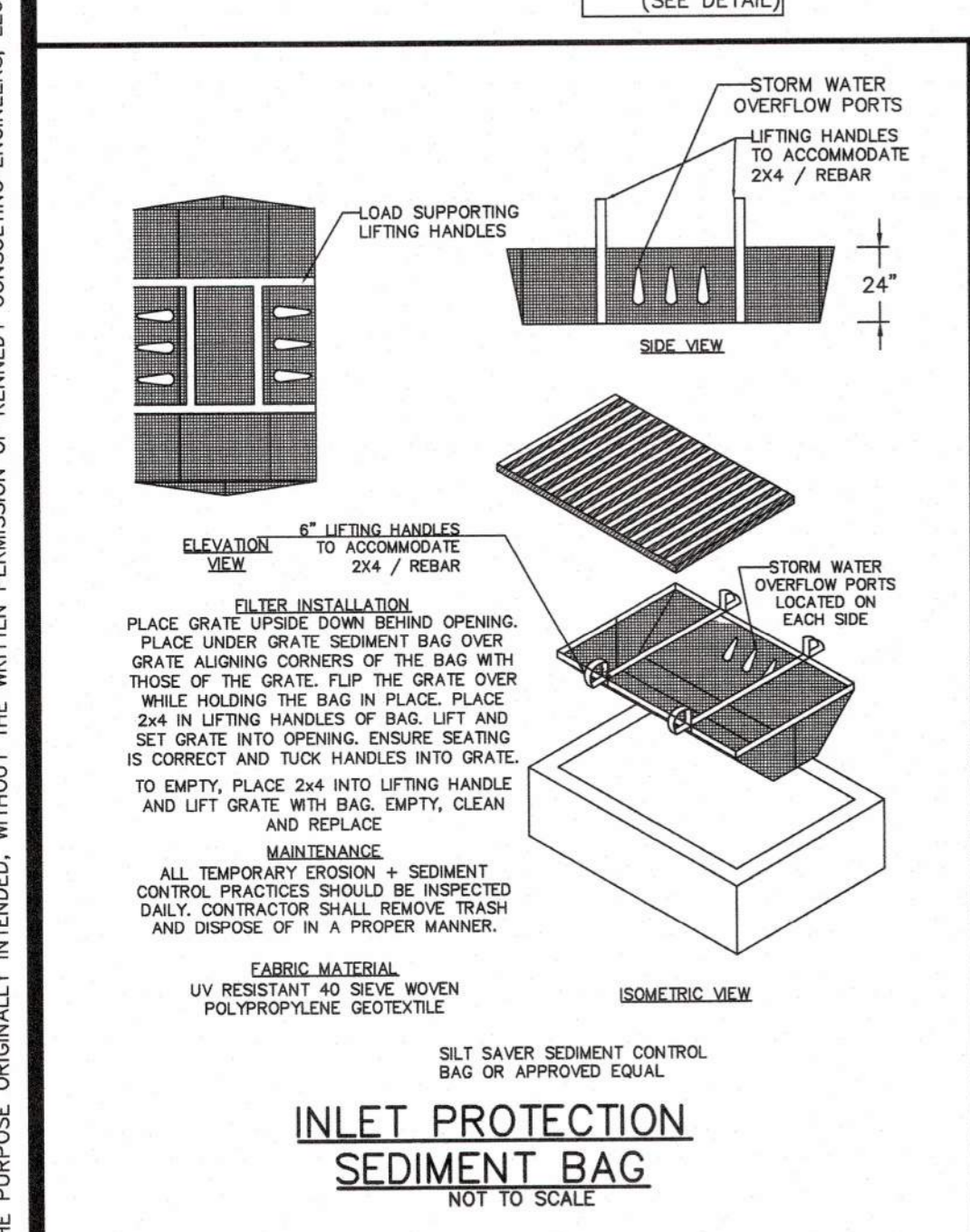
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SOIL EROSION & SEDIMENT CONTROL PLAN
SE-1

FILENAME: SE-1
DRAWN BY: KTS/ARC
DATE: 09/26/25

JAMES A. KENNEDY, P.E.
NEW JERSEY PROFESSIONAL ENGINEER NO. 41275

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SOILS, SEED MIXTURES, AND DATES FOR PERMANENT SEEDINGS FOR SOIL STABILIZATION

SOIL AND SITES	SEED MIXTURE 1/	MINIMUM SEEDING RATES 2/		OPTIMUM SEEDING DATES BASED ON PLANT HARDNESS ZONE 3			
		PER ACRE	PER 1,000 SQ. FT.	ZONE 5a	ZONE 5b	ZONE 6a	ZONE 7a
A. EXCESSIVELY DRAINED	REFER TO SEED MIXTURE TABLE 4-3	PER ACRE	PER 1,000 SQ. FT.	ZONE 5a	ZONE 5b	ZONE 6a	ZONE 7a
1. RESIDENTIAL & COMMERCIAL LOTS	TALL FESCUE (TUFT) PERENNIAL RYEGRASS WHITE CLOVER	200	5	3/15-5/31	3/1-4/30	2/1-4/30	
2. POND AND CHANNEL BANKS, DITCHES, BERMS & DAMS	TALL FESCUE (TUFT) PERENNIAL RYEGRASS WHITE CLOVER	200	5	3/15-5/31	3/1-4/30	2/1-4/30	
3. DRAINAGE DITCH STRALE OR BASIN	SWITCHGRASS REEDTOP	20	0.5	3/15-5/31	3/1-4/30	2/1-4/30	
B. WELL TO MODERATELY WELL DRAINED	REFER TO SEED MIXTURE TABLE 4-3	PER ACRE	PER 1,000 SQ. FT.	ZONE 5a	ZONE 5b	ZONE 6a	ZONE 7a
1. RESIDENTIAL & COMMERCIAL LOTS	TALL FESCUE (TUFT) PERENNIAL RYEGRASS WHITE CLOVER	200	5	3/15-5/31	3/1-4/30	2/1-4/30	
2. POND AND CHANNEL BANKS, DITCHES, BERMS & DAMS	DEERTONGUE REEDTOP WILD RYE (OLIVARI) SWITCHGRASS	20	0.5	3/15-5/31	3/1-4/30	2/1-4/30	
3. DRAINAGE DITCH STRALE OR BASIN	DEERTONGUE REEDTOP WILD RYE (OLIVARI) SWITCHGRASS	20	0.5	3/15-5/31	3/1-4/30	2/1-4/30	
C. SOMEWHAT POORLY TO POORLY DRAINED	REFER TO SEED MIXTURE TABLE 4-2 & 4-3	PER ACRE	PER 1,000 SQ. FT.	ZONE 5a	ZONE 5b	ZONE 6a	ZONE 7a
1. RESIDENTIAL & COMMERCIAL LOTS	ROUGH BLUEGRASS STRONG CREEPING RED FESCUE	80	2	8/1-10/1	8/15-10/15	8/15-10/30	
2. POND AND CHANNEL BANKS, DITCHES, BERMS & DAMS	ROUGH BLUEGRASS STRONG CREEPING RED FESCUE	80	2	8/1-10/1	8/15-10/15	8/15-10/30	
3. DRAINAGE DITCH STRALE OR BASIN	ROUGH BLUEGRASS STRONG CREEPING RED FESCUE	80	2	8/1-10/1	8/15-10/15	8/15-10/30	

RECOMMENDED SEED MIXTURE

- NOTES:
- SEEDING MIXTURES AND/OR RATES NOT LISTED ABOVE MAY BE USED IF RECOMMENDED BY THE COOPERATIVE EXTENSION SERVICE, SOIL CONSERVATION SERVICE, RECOMMENDATIONS OF THE COOPERATIVE EXTENSION SERVICE MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. LEGUMES (FLATPEA, CROWNCRACK, TREFOL, LESPEDEZA) SHOULD BE MIXED WITH PROPER INCULCANT PRIOR TO PLANTING.
 - GRASS SEED MIXTURES CHECKED BY THE CHIEF OF THE BUREAU OF SEED CERTIFICATION, NEW JERSEY DEPARTMENT OF AGRICULTURE, TRENTON, NEW JERSEY, WILL ASSURE THE PURCHASER THAT THE MIXTURE OBTAINED IS THE MIXTURE ORDERED.
 - PLANT HARDNESS ZONE (SEE MAP, P. 4-15)
 - ZONE 5a - PORTIONS OF SUSSEX AND WARREN COUNTIES.
 - ZONE 5b - PORTIONS OF SUSSEX, WARREN, PASSAIC, MORRIS, SOMERSET AND HUNTERDON COUNTIES.
 - ZONE 6a - PORTIONS OF BERGEN, PASSAIC, MORRIS, ESSEX, HUDSON, UNION, SOMERSET, MIDDLESEX, MERCER, HUNTERDON, MONMOUTH, OCEAN, BURLINGTON, CAMDEN, GLOUSETER, ATLANTIC, CUMBERLAND AND CAPE MAY COUNTIES.
 - ZONE 7a - INCLUDES PORTIONS OF CAMDEN, GLOUSETER, SALEM, CUMBERLAND, CAPE MAY, ATLANTIC, BURLINGTON, OCEAN AND MONMOUTH COUNTIES.
 - ZONE 7b - INCLUDES PORTIONS OF CAPE MAY, ATLANTIC, OCEAN AND MONMOUTH COUNTIES.

STANDARD FOR TOPSOILING:

- MATERIALS
 - A. TOPSOIL SHOULD BE FRIABLE, LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE OR ADVERSE CHEMICAL CONDITION THAT MAY BE HARMFUL TO PLANT GROWTH. SOLUBLE SALTS SHOULD NOT BE EXCESSIVE (CONDUCTIVITY LESS THAN 0.5 MILLIMOHS PER CENTIMETER). MORE THAN 0.5 MILLIMOHS MAY DESICcate SEEDLINGS AND ADVERSELY IMPACT GROWTH. IMPORTED TOPSOIL SHALL HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75 PERCENT.
 - B. 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.
 - C. FRIABLE MEANS EASILY CRUMBLES IN THE FINGERS, AS DEFINED IN MOST SOIL TESTS.
 - D. LOAMY MEANS TEXTURE GROUPEUR (SANDY SANDS, SANDY LOAM, FINE AND VERY FINE SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM AND SILTY CLAY LOAM) TEXTURES, HAVING LESS THAN 30% COARSE FRAGMENTS (PARTICLES LESS THAN 2MM IN SIZE) AS DEFINED IN THE GLOSSARY OF SOIL SCIENCE TERMS, 1986, SOIL SCIENCE SOCIETY OF AMERICA.
- 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 CONFIRMED TO THE IMMEDIATE QUANTIFICATION AREA.
 - C. WHERE FEASIBLE, LIME MAY BE APPLIED BEFORE STRIPPING AT A RATE DETERMINED BY SOIL TESTS 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.
- 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. IMMEDIATELY PROCEED TO ESTABLISH VEGETATIVE COVER IN ACCORDANCE WITH THE SPECIFIED SEED MIXTURE. THIS IS THE ESSENCE.
 - B. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING. SEE THE STANDARD FOR LAND GRADING, PG. 19-1.
 - C. AS GUIDANCE FOR IDEAL CONDITIONS, SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT. LIME, 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.
 - D. PRIOR TO TOPSOILING, THE SUBSOIL SHALL BE IN COMPLIANCE WITH THE STANDARD FOR LAND GRADING, PG. 19-1.
 - E. EMPLOY NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENTATION BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
 - F. 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 COURSE, SPORTS FIELDS, LANDFILL CAPPING, ETC.. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE 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 MANAGING HIGH ACID PRODUCING SOIL (PG. 1-1).
 - C. PURSUANT TO THE REQUIREMENT 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:
 - SUPPLEMENTED SEEDING, RE-APPLICATION OF LIME AND FERTILIZERS AND/OR THE ADDITION OF ORGANIC MATTER (I.E. COMPOST) AS A TOP DRESSING.
 - OTHER 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.

PROPOSED CONSTRUCTION SEQUENCE

- FIRST WEEK OF CONSTRUCTION APPLY PROPER MEASURES FOR THE CONTROL OF SOIL EROSION AND SEDIMENT CONTROL.
 - SITE PREPARATION WILL TAKE APPROXIMATELY TWO WEEKS.
 - TEMPORARY STABILIZATION OF AREAS INITIALLY DISTURBED, STABILIZATION TO BE ACCOMPLISHED BY USE OF TEMPORARY SEEDING AND/OR STRAW MULCHING OR EQUIVALENT MATERIAL AT A RATE OF TWO TONS PER ACRE, ACCORDING TO STATE STANDARDS WILL TAKE APPROXIMATELY ONE WEEK.
 - BUILDING CONSTRUCTION WILL TAKE APPROXIMATELY 6 TO 8 MONTHS.
 - INSTALLATION AND PROTECTION OF UTILITY CONNECTIONS WILL TAKE APPROXIMATELY 2 TO 4 WEEKS.
 - ROUGH GRADING WILL TAKE APPROXIMATELY TWO WEEKS.
 - DRIVEWAY, CURBING, AND SIDEWALK CONSTRUCTION WILL TAKE APPROXIMATELY 2 TO 4 WEEKS.
 - CONTINUOUS MAINTENANCE OF SOIL EROSION PROCEDURES.
 - INSTALLATION OF LANDSCAPING MATERIALS WILL TAKE APPROXIMATELY TWO WEEKS.
 - REMOVAL OF SOIL EROSION AND SEDIMENT CONTROL DEVICES AFTER ESTABLISHED VEGETATIVE GROWTH HAS OCCURRED.
- TOTAL DURATION OF PROJECT EXPECTED TO BE 8 - 10 MONTHS.

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

DEFINITION
ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER ON SOILS EXPOSED FOR PERIODS OF TWO TO 6 MONTHS WHICH ARE NOT BEING GRADED, NOT UNDER ACTIVE CONSTRUCTION, OR NOT SCHEDULED FOR PERMANENT SEEDING WITHIN 60 DAYS.

PURPOSE
TO TEMPORARILY STABILIZE THE SOIL AND REDUCE DAMAGE FROM WIND AND WATER EROSION UNTIL PERMANENT STABILIZATION IS ACCOMPLISHED.

WATER QUALITY ENHANCEMENT
PROVIDES TEMPORARY PROTECTION AGAINST THE IMPACTS OF WIND AND RAIN, SLOWS THE OVER-LAND MOVEMENT OF STORMED WATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOIL AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE
ON EXPOSED SOILS THAT HAVE THE POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS

- I. SITE PREPARATION**
 - GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, P. 19-1.
 - 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.
 - IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DAMAGE TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).
- II. SEEDBED PREPARATION**
 - APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION SERVICE. SOIL SAMPLE ANALYSES ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE AT RATE ESTABLISHED BY SOIL TESTING. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES.
 - WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM SEEDBED IS PREPARED.
 - INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AS ABOVE.
 - SOILS HIGH ON SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS PG. 1-1.

RECOMMENDED SEED MIXTURE

SPECIES	SEEDING RATES (POUNDS) / PER ACRE	OPTIMUM SEEDING DATE BASED ON PLANT HARDNESS ZONE 3/				OPTIMUM SEED DEPTH (INCHES)
		ZONE 5a	ZONE 5b	ZONE 6a	ZONE 7a, 7b	
COOL SEASON GRASSES						
PERENNIAL RYEGRASS	100	1.0	3/15 TO 5/1	3/1 TO 5/15	2/15 TO 5/1	0.5
SPRING OATS	80	2.0	3/15 TO 5/1	3/1 TO 5/15	2/15 TO 5/1	1.0
WINTER BARLEY	90	2.2	8/1 TO 9/15	8/15 TO 10/1	8/15 TO 10/15	1.0
ANNUAL RYEGRASS	100	1.0	3/15 TO 5/1	3/15 TO 5/1	2/15 TO 5/1	0.5
WINTER CEREAL RYE	112	2.8	8/1 TO 11/1	8/1 TO 10/15	8/1 TO 12/15	1.0
WARM SEASON GRASSES						
PEARL MILLET	20	0.5	8/1 TO 8/1	8/15 TO 8/15	8/1 TO 8/1	1.0
MILLET (GERMAN OR HUNGARIAN)	30	0.7	8/1 TO 8/1	8/15 TO 8/15	8/1 TO 8/1	1.0

- SEEDING RATE FOR WARM SEASON GRASS SHALL BE ADJUSTED TO REFLECT THE AMOUNT OF PURE LINE SEED (PLS) AS DETERMINED BY A GERMINATION TEST RESULT. NO ADJUSTMENT IS REQUIRED FOR COOL SEASON GRASSES.
- MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR SEEDBED AREA CAN BE IRRIGATED.
- PLANT HARDNESS ZONE (SEE FIG. 7.1)
 - ZONE 5a - PORTIONS OF SUSSEX AND WARREN COUNTIES.
 - ZONE 5b - PORTIONS OF SUSSEX, WARREN, PASSAIC, MORRIS, SOMERSET AND HUNTERDON COUNTIES.
 - ZONE 6a - PORTIONS OF BERGEN, PASSAIC, MORRIS, ESSEX, HUDSON, UNION, SOMERSET, MIDDLESEX, MERCER, HUNTERDON, MONMOUTH, OCEAN, BURLINGTON, CAMDEN, GLOUSETER, ATLANTIC, CUMBERLAND AND CAPE MAY COUNTIES.
 - ZONE 7a - INCLUDES PORTIONS OF CAMDEN, GLOUSETER, SALEM, CUMBERLAND, CAPE MAY, ATLANTIC, BURLINGTON, OCEAN AND MONMOUTH COUNTIES.
 - ZONE 7b - INCLUDES PORTIONS OF CAPE MAY, ATLANTIC, OCEAN AND MONMOUTH COUNTIES.
- TWICE THE DEPTH FOR SANDY SOILS

IV. MULCHING

MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

SEE MULCHING STANDARDS UNDER PERMANENT VEGETATIVE STABILIZATION.

STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

DEFINITION
ESTABLISHMENT OF PERMANENT VEGETATIVE COVER ON EXPOSED SOILS WHERE PERENNIAL VEGETATION IS NEEDED FOR LONG TERM PROTECTION.

PURPOSE
TO PERMANENTLY STABILIZE THE SOIL, ENSURING CONSERVATION OF SOIL AND WATER, AND TO ENHANCE THE ENVIRONMENT.

WATER QUALITY ENHANCEMENT
SLOWS THE OVER-LAND MOVEMENT OF STORMWATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOIL AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE
ON EXPOSED SOILS THAT HAVE A POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS

- I. SITE PREPARATION**
 - GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.
 - IMMEDIATELY PRIOR TO SEEDING AND TOPSOILING APPLICATION, THE SURFACE SHOULD BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING.
 - TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITE. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
 - INSTALL NEEDED EROSION CONTROL PRACTICES AND FACILITIES SUCH AS DIVERSIONS, GRADE-STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
- II. SEEDBED PREPARATION**
 - UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION SERVICE. SOIL SAMPLE ANALYSES ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (HTTP://NAJES.RUTGERS.EDU/COUNTY/). FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
 - WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
 - HIGH ACID PRODUCING SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC REQUIREMENTS.

III. SEEDING

- SELECT A MIXTURE FROM TABLE 4-3 OR USE MIXTURE RECOMMENDED BY RUTGERS COOPERATIVE EXTENSION OR NATURAL RESOURCES CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE RECEIVED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED.
 - SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN SEEDING RATES WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO PERMANENT VEGETATION MEANS BOX VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDBED AREA AND MOWED ONCE.
 - WARM SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES. GENERALLY BEST AT 85°F. SEE TABLE 4-3, MIXTURES 1 TO 7. PLANTING RATES FOR WARM-SEASON GRASSES SHALL BE THE AMOUNT OF PURE LINE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.
 - COOL-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 85°F. MANY GRASSES BEHAVE ADVERSELY AT 85°F. SEE TABLE 4-3, MIXTURES 8-20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AVERAGE OF PLS IS NOT REQUIRED FOR COOL-SEASON GRASSES.

IV. MULCHING

- MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.
- STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLINDERS MUST NOT BE USED. MULCH HAY IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.
 - APPLICATION. SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT AT LEAST 85% (95% FOR TEMPORARY STABILIZATION) OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FOOT SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION.
 - ANCHORING SHALL 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.
 - 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 CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
 - MULCH NETTINGS - STAPLE PAPER, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
 - CRIMPER (MULCH ANCHORING COULER TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO THAT ANCHOR 1/4 TO 1/2 INCH DEPTH. 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-BINDERS - MAY BE USED TO ANCHOR SALT HAY, HAY OR STRAW MULCH.
 - APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.
 - USE ONE OF THE FOLLOWING:
 - ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLES SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IMPEDE GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER'S ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
 - SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION OF THE SOIL SURFACE AND CURING, SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. BINDER SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.
 - NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.
 - WOOD-FIBER OR PAPER-FIBER MULCH - SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

C. PELLETED MULCH - COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZER AND COLOR AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDBED OF 60-75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER, THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS. SEEDBED AREAS WHERE WEED-FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

- V. IRRIGATION (where feasible)**

IF SOIL MOISTURE IS DEFICIENT SUPPLY NEW SEEDINGS WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH APPLIED UP TO TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.
- VI. TOPDRESSING**

SINCE SOIL ORGANIC MATTER CONTENT AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) IS PRESCRIBED IN SECTION II-A - SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT INSTANCE, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 300 POUNDS PER ACRE OR 7 POUNDS PER 1,000 SQUARE FEET EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED.
- VII. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION**

THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-3 ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN APPLICATION RATES WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS BOX VEGETATIVE COVER OF THE SEEDBED SPECIES AND MOWED ONCE. NOTE: THIS DESIGNATION OF MOWED ONCE DOES NOT GUARANTEE THE PERMANENCY OF THE TURF SHOULD OTHER MAINTENANCE FACTORS BE NEGLECTED OR OTHERWISE MISMANAGED.

STANDARD FOR STABILIZATION WITH MULCH ONLY

DEFINITION
STABILIZING EXPOSED SOILS WITH NON-VEGETATIVE MATERIALS EXPOSED FOR PERIODS LONGER THAN 14 DAYS.

PURPOSE
TO PROTECT EXPOSED SOIL SURFACES FROM EROSION DAMAGE AND TO REDUCE OFFSITE ENVIRONMENTAL DAMAGE.

WATER QUALITY ENHANCEMENT
PROVIDES TEMPORARY MECHANICAL PROTECTION AGAINST WIND OR RAINFALL INDUCED SOIL EROSION UNTIL PERMANENT VEGETATIVE COVER MAY BE ESTABLISHED.

WHERE APPLICABLE
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.

METHODS AND MATERIALS

- I. SITE PREPARATION**
 - GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.
 - 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.
- II. PROTECTIVE MATERIALS**
 - UNROTTED SMALL-GRAIN STRAW, AT 2.0 TO 2.5 TONS PER ACRE, IS SPREAD UNIFORMLY AT 90 TO 115 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL. OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. THE APPROVAL RATES ABOVE HAVE BEEN TESTED WITHIN THE GROUND COMPLETELY UPON VISUAL INSPECTION, I.E. THE SOIL CANNOT BE SEEN BELOW THE MULCH.
 - 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 THE RATE OF 1,500 POUNDS PER ACRE (OR ACCORDING TO THE MANUFACTURER'S REQUIREMENTS) MAY BE APPLIED BY A HYDROSEEDER.
 - MULCH NETTING, SUCH AS PAPER JUTE, EXCELOR, COTTON, OR PLASTIC, MAY BE USED.
 - WOODCHIPS APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 2" MAY BE USED. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATER COULD WASH THEM INTO AND PLUG IT.
 - GRAVEL, CRUSHED STONE, OR SLAG AT THE RATE OF 9 CUBIC YARDS PER 1,000 SQUARE FEET APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 3 INCHES MAY BE USED. SIZE 2 OR 3 (ASTM C-33) IS RECOMMENDED.
- III. MULCH ANCHORING**

MULCH ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA AND STEEPNESS OF SLOPES.

 - 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 CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
 - MULCH NETTINGS - STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER MULCH. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.
 - CRIMPER MULCH ANCHORING COULER TOOL - A TRACTOR-DRAWN IMPLEMENT ESPECIALLY DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE. THIS PRACTICE AFFORDS MAXIMUM EROSION CONTROL, BUT ITS USE IS LIMITED TO AREAS SLOPES UPON WHICH THE TRACTOR CAN OPERATE SAFELY. SOIL PENETRATION SHOULD BE ABOUT 3 TO 4 INCHES ON SLOPING LAND. THE OPERATION SHOULD BE ON THE CONTOUR.
 - LIQUID MULCH-BINDERS
 - 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:
 - ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLES SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IM