

Memo

To: Mrs. Ashley Neale
Verona Board of Adjustment (BoA) Acting Administrator

From: Plan Review Committee of the Verona Environmental Commission

c: Verona Environmental Commission Chair

Date: February 1, 2021

Re: **Case # 2021-01**
175 Grove Avenue [Block 1101, Lot 6.01]
Verona, New Jersey

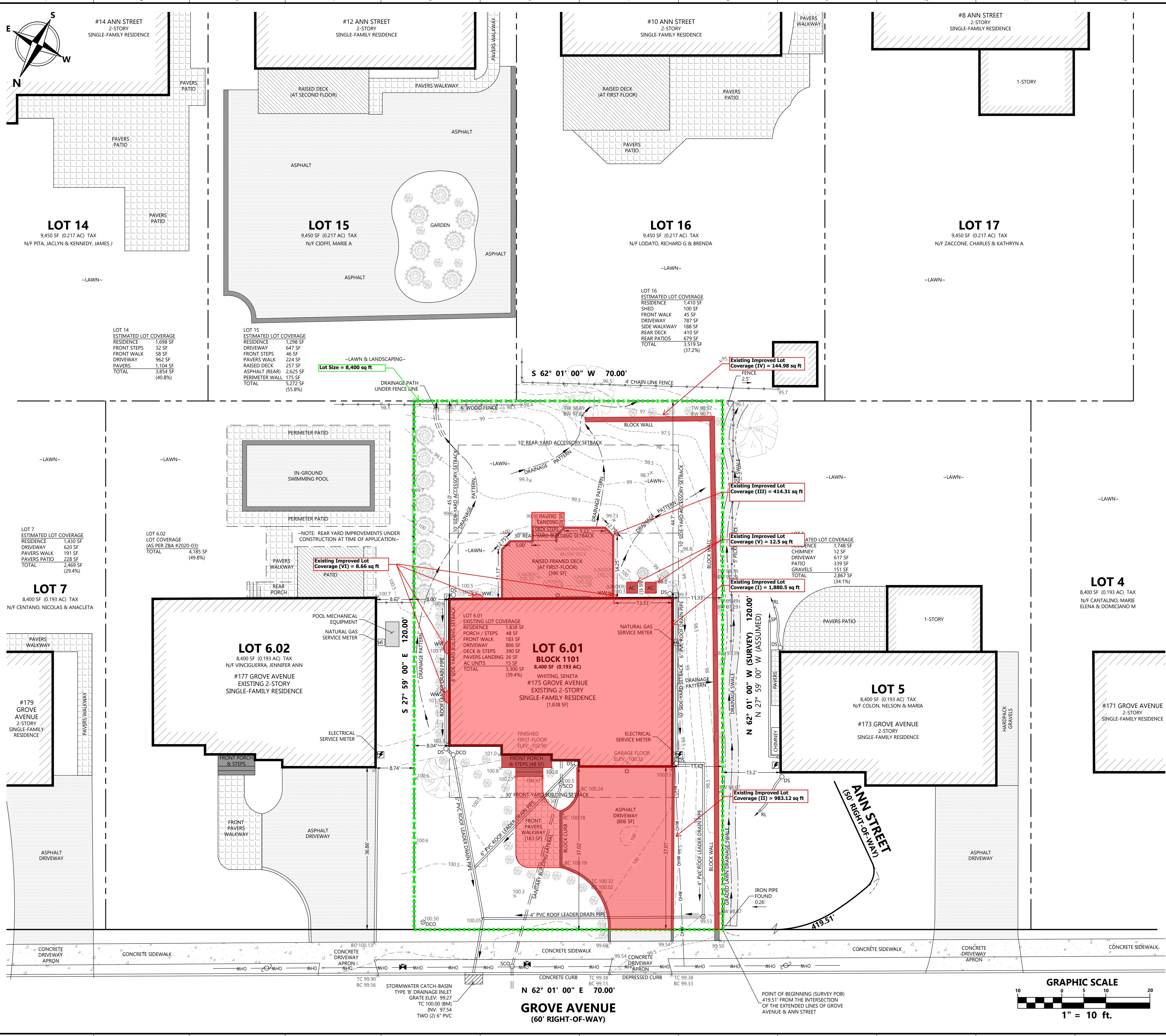
Zone: R-60 (Medium Density Single Family)

The Plan Review Committee of the Verona Environmental Commission (VEC) reviewed the application for 175 Grove Avenue in Verona submitted by Ms. Seneta Whiting, which we received on January 25, 2021. We understand that the Applicant is seeking to obtain a variance to exceed the maximum allowable total lot coverage for that zone. The comments below are provided for the Board's consideration:

- 1) The Applicant has proposed to install a concrete paver patio, parts of which will be covered, around a proposed in-ground pool. The Applicant also appears to be installing a new replacement retaining wall along the east and south sides of the property and areas that will contain the mechanical devices for the pool. Although the application indicates that the existing deck will be removed, Onello Engineering Dwg. No. 3 of plan set indicates that deck and steps will remain. The Applicant's design professional should clarify this discrepancy during testimony.
- 2) Existing and Proposed Improved Lot Coverage is listed as 39.36% and 49.75% on the application, respectively. Scaling off the drawing, we calculated an Existing Improved Lot Coverage of 41.0% based on an Existing "Improved Area" of 3,444.1 ft² (please see attached annotated pdf). Furthermore, we calculated a Proposed Improved Lot Coverage of 51.5% based on a Proposed "Improved Area" of 4,322.9 ft². We understand that the maximum Improved Lot Coverage for the R-60 Zone is 40%.
- 3) The elevations of the properties to the south and the east are lower than the Applicant's property and stormwater runoff from Applicant's property to adjacent properties is a concern. We note that a perimeter infiltration drain is proposed along the south and west property lines behind a modular block retaining wall. However, perimeter drain details on Onello Engineering Dwg. No. 6 indicate the depth of the drain is "as required." The Applicant's design professional should testify that the perimeter infiltration drain will be installed below the bottom of the retaining wall so that infiltrated water does not seep out and daylight into neighboring properties.
- 4) We understand that existing roof leaders all connect into a subsurface conveyance pipe network that ultimately discharges directly into the existing stormwater catch basin located in front of the dwelling on Grove Ave. The Onello Engineering plans indicate

that runoff from the proposed pool patio impervious surface is pitched towards 12-inch catch basins that will also be connected to the existing subsurface conveyance pipe network. In all, we estimate that approximately 2,680 ft² of improved lot coverage (about 62% of calculated total improved lot coverage) is directly connected to the Township storm drains. This unmitigated discharge will contribute to overloading of the Township's storm sewer system and possible downstream flooding and interrupt the natural hydrologic process of infiltrating stormwater.

- 5) We recommend that the Applicant coordinate with their design professional to disconnect drainpipes from the storm drains and have an engineered stormwater management system on their property to mitigate additional runoff from the new improved lot coverage and that this system be formally approved by the Township Engineer. Stormwater could be redirected to their gardens, plantings, yard, depending upon the pitch of the property, or to another stormwater BMP such as a dry well.
- 6) It is not known whether any trees will be removed from the applicant's property to install the pool, the mechanicals, new portions of the retaining wall or the patio.
- 7) The modular block retaining wall details on Onello Engineering Dwg. No. 6 indicate that the reinforced soil zone with geogrid will be 4 feet from the face of the wall. The Applicant's design professional should check for a conflict of the construction of the reinforced soil zone and the 4-inch PVC Roof Leader Drain Line along the northeast corner of the property.
- 8) We recommend that the Applicant properly dispose of and or recycle all construction waste and use green products and building practices for the proposed construction.
- 9) In addition, please see attached the Low Impact Planning and Construction Checklist. This suggested list was compiled by the VEC based on best available practices.



SURVEY REFERENCE NOTES

- 1. SURVEY, BOUNDARY & TOPOGRAPHIC AS PLAN ENTITLED: 'AS-BUILT SURVEY, PREPARED FOR LOT 6.01 BLOCK 65, 175 GROVE AVENUE, TOWNSHIP OF VERONA, ESSEX COUNTY, NEW JERSEY' BY MCCUMSEY, LLC, JAMES R MCCUMSEY, PLS, DATED APRIL 7, 2008
- 2. FIELD SURVEY, MCCUMSEY, LLC, MARCH 26, 2008
- 3. MCCUMSEY, LLC, 36 DEPOT STREET, VERONA, NEW JERSEY, JAMES R MCCUMSEY, PLS 11766, PROJECT #506
- 4. OFFSITE PROPERTIES AS PER MUNICIPAL TAX MAP #11
- 5. OFFSITE PROPERTY IMPROVEMENTS HAVE BEEN DIGITIZED AS PER AERIAL IMAGERY VIA NJDEP GEOWEB GIS & GOOGLE EARTH; TABULATED AREAS ARE APPROXIMATE AND ARE PROVIDED FOR REFERENCE PURPOSES ONLY

WHITING, VERONA
EXISTING CONDITIONS

ONELLO
ENGINEERING

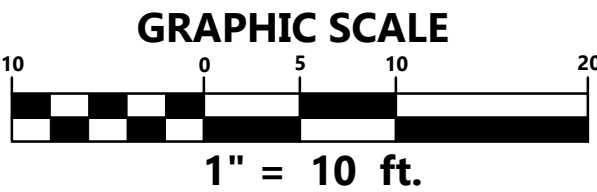
5 BEECHNUT STREET
HILLSDALE, NEW JERSEY 07642
(201) 774-1444 Angelo@OnelloEng.com

SITE PLAN
ZONING ANALYSIS & SOIL MOVEMENT
WHITING
#175 GROVE AVENUE
LOT 6.01 - BLOCK 1101
TOWNSHIP OF VERONA
ESSEX COUNTY, NEW JERSEY

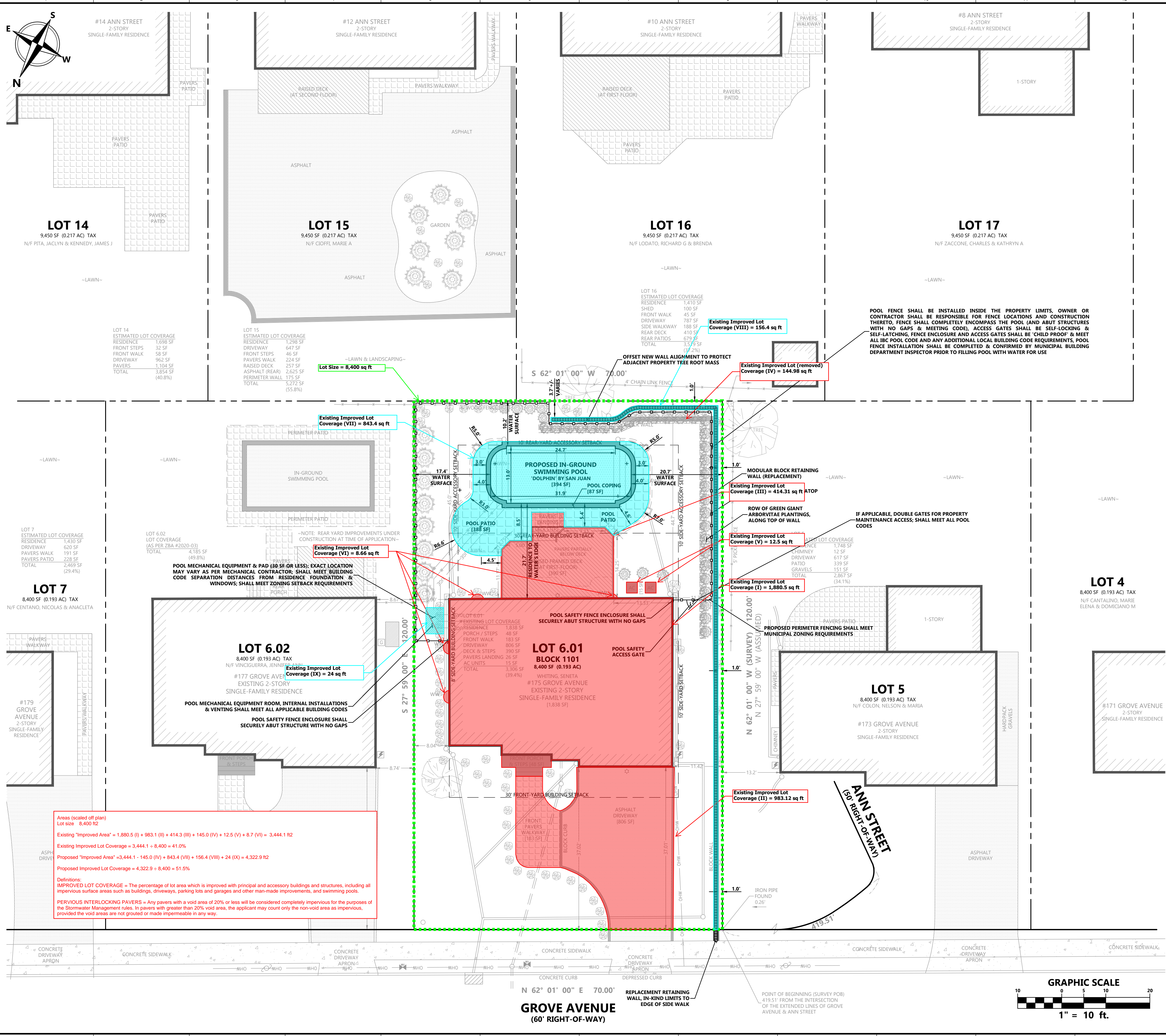
2020 11/03 ORIGINAL PLAN DATE
YEAR MM/DD REVISION DIGEST NOTES

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EXISTING CONDITIONS AS PER SURVEY REFERENCES
ANGELO ONELLO III, PE
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE #464858240



ECR26362
Existing.dwg



TOWNSHIP OF VERONA				
BULK ZONING SCHEDULE §150-17.3				
R-60 RESIDENTIAL ZONE				
DESCRIPTION	REQUIREMENT	EXISTING	PROPOSED	CONDITION
LOT AREA (SF)	7,200 SF	8,400 SF	8,400 SF	COMPLIES
LOT AREA (AC)	0.165 AC	0.193 AC	0.193 AC	COMPLIES
LOT WIDTH	60.0 FT	70.0 FT	70.0 FT	COMPLIES
LOT DEPTH	N/A	120.0 FT	120.0 FT	
BUILDING HEIGHT	30.0 FT	30.0 FT	30.0 FT	ASSUMED
STORIES	2.5 STY	2.5 STY	2.5 FT	ASSUMED
BUILDING SETBACKS				
FRONT YARD (NORTH)	30.0 FT	37.0 FT	37.0 FT	COMPLIES
SIDE YARD LEFT (EAST)	8.0 FT	8.0 FT	8.0 FT	COMPLIES
SIDE YARD RIGHT (WEST)	8.0 FT	11.3 FT	11.3 FT	COMPLIES
COMBINED (FT)	18.0 FT	19.3 FT	19.3 FT	COMPLIES
COMBINED (% OF LOT WIDTH)	25.0%	27.6%	27.6%	COMPLIES
REAR YARD (SOUTH)	30.0 FT	44.7 FT	44.7 FT	COMPLIES
ACCESSORY POOL				
SIDE YARD LEFT (EAST)	10.0 FT	0.0 FT	10.2 FT	COMPLIES
SIDE YARD RIGHT (WEST)	10.0 FT	0.0 FT	17.4 FT	COMPLIES
REAR YARD (SOUTH)	10.0 FT	0.0 FT	20.7 FT	COMPLIES
BUILDING LOT COVERAGE (SF)				
	2,100 SF	1,838 SF	1,838 SF	COMPLIES
BUILDING LOT COVERAGE (%)				
	25.0%	21.88%	21.88%	COMPLIES
TOTAL IMPROVED COVERAGE (SF)				
	3,360 SF	3,306 SF	4,179 SF	VARIANCE
TOTAL IMPROVED COVERAGE (%)				
	40.0%	39.36%	49.75%	VARIANCE

LOT COVERAGE TABLE		
BUILDING	EXISTING	PROPOSED
RESIDENCE	1,838 SF	1,838 SF
SUB-TOTAL BUILDING	1,838 SF	1,838 SF
IMPROVEMENTS		
FRONT PORCH	48 SF	48 SF
FRONT WALKWAY	183 SF	183 SF
DRIVEWAY & CURBING	806 SF	806 SF
DECK & STEPS	390 SF	390 SF
PAVERS LANDING	26 SF	0 SF
POOL COPING	0 SF	87 SF
POOL WATER SURFACE	0 SF	394 SF
POOL PATIO	0 SF	388 SF
POOL MECHANICAL EQUIPMENT	0 SF	30 SF
AC CONDENSER UNITS	15 SF	15 SF
SUB-TOTAL IMPROVEMENTS	1,468 SF	2,341 SF
TOTAL LOT COVERAGE	3,306 SF	4,179 SF
COVERAGE INCREASE		873 SF
LOT AREA		
	8,400 SF	8,400 SF
BUILDING LOT COVERAGE		
	21.88%	21.88%
TOTAL IMPROVED COVERAGE		
	39.36%	49.75%

WHITING, VERONA DESIGN LAYOUT & ZONING ANALYSIS

2020

11/03

ORIGINAL PLAN DATE

YEAR

MM/DD

REVISION DIGEST NOTES

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SITE PLAN
ZONING ANALYSIS & SOIL MOVEMENT

WHITING
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LOT 6.01 - BLOCK 1101
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ESSEX COUNTY, NEW JERSEY

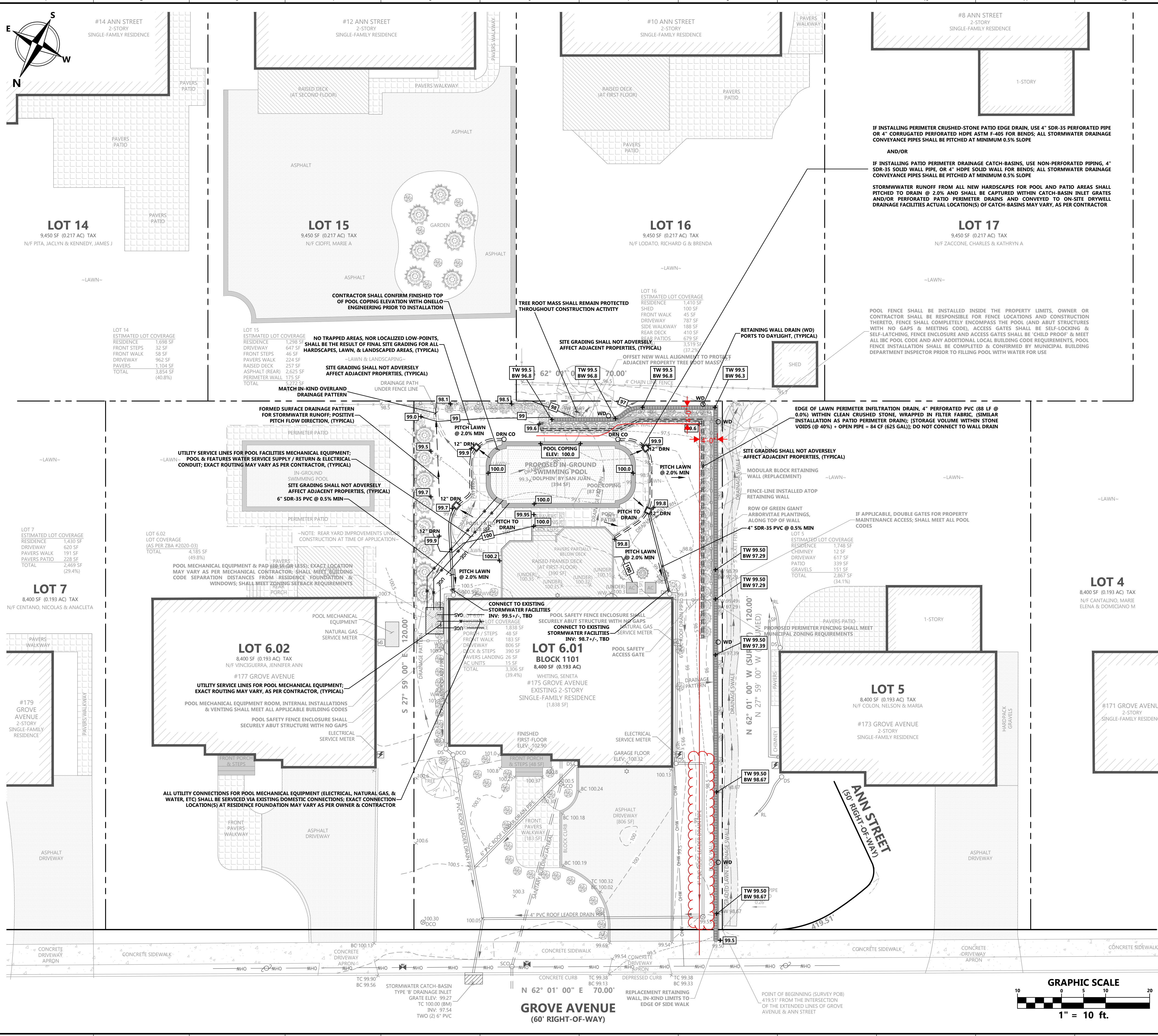
DWG #

3

OF

6

Areas (scaled off plan)
Lot size = 8,400 I2
Existing "Improved Area" = 1,880.5 (I) + 983.1 (II) + 414.3 (III) + 145.0 (IV) + 12.5 (V) + 8.7 (VI) = 3,444.1 I2
Existing Improved Lot Coverage = 3,444.1 ÷ 8,400 = 41.0%
Proposed "Improved Area" = 3,444.1 - 145.0 (IV) + 843.4 (VII) + 156.4 (VIII) + 24 (IX) = 4,322.9 I2
Proposed Improved Lot Coverage = 4,322.9 ÷ 8,400 = 51.5%
Definitions:
IMPROVED LOT COVERAGE = The percentage of lot area which is improved with principal and accessory buildings and structures, including all impervious surface areas such as buildings, driveways, parking lots and garages and other man-made improvements, and swimming pools.
PERVIOUS INTERLOCKING PAVERS = Any pavers with a void area of 20% or less will be considered completely impervious for the purposes of the Stormwater Management rules. In pavers with greater than 20% void area, the applicant may count only the non-void area as impervious, provided the void areas are not grouted or made impermeable in any way.



- ### UTILITIES NOTES
- UTILITY MARK-OUT SHALL BE ORDERED BY CONTRACTOR, PROVIDED BY '811' & NEW JERSEY 'ONE CALL', AND VERIFIED PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION WORK IN-RELATION TO THIS PROJECT
- IF AND WHERE APPLICABLE, THE FOLLOWING NOTES SHALL BE IMPLEMENTED
- ALIGNMENT OF SERVICE UTILITIES & FACILITIES TRENCH(S) PROVIDED FOR FEASIBILITY AND PERMITTING PURPOSES. EXACT ALIGNMENT OF ROUTING(S) MAY VARY, AS PER CONTRACTOR(S), AND/OR UTILITY(S) COMPANY(S)
 - ALIGNMENT OF POOL AND/OR SPA FACILITIES UTILITIES TRENCH(S) PROVIDED FOR REPRESENTATIONAL AND PERMITTING PURPOSES. EXACT TRENCH ALIGNMENT MAY VARY, AS PER CONTRACTOR, AND/OR UTILITY(S) COMPANY(S)
 - VARIOUS UTILITY SERVICE CONNECTIONS FROM THE RIGHT-OF-WAY ARE UNKNOWN AND SHALL BE VERIFIED BY THE CONTRACTOR
 - ELECTRICAL SERVICE (OVERHEAD AND/OR UNDERGROUND) SHALL BE AS PER PUBLIC SERVICE ELECTRICAL UTILITY COMPANY; OWNER & ELECTRICAL CONTRACTOR SHALL CONFIRM CONNECTION & LOCATION
 - PLUMBING WORK SHALL BE PERFORMED BY A STATE OF NEW JERSEY LICENSED PLUMBER. ELECTRICAL WORK SHALL BE PERFORMED BY A STATE OF NEW JERSEY LICENSED ELECTRICIAN

- ### DRAINAGE & GRADING NOTES
- UTILITY MARK-OUT SHALL BE ORDERED BY CONTRACTOR, PROVIDED BY '811' & NEW JERSEY 'ONE CALL', AND VERIFIED PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION WORK IN-RELATION TO THIS PROJECT
- IF AND WHERE APPLICABLE, THE FOLLOWING NOTES SHALL BE IMPLEMENTED
- PITCH HARDSCAPE SURFACES AWAY FROM BUILDING FOUNDATIONS & POOLS @ 2.0% MINIMUM GRADE. (AREAS OF LESSER PITCH IF AND AS SPECIFIED ON GRADING DESIGN PLAN)
 - CAPTURE AND CONVEY STORMWATER RUNOFF FROM BUILDING ROOF AREAS, DRIVEWAY AREAS, AND OTHER APPLICABLE HARDSCAPE AREAS, (IF AND WHERE APPLICABLE AS PER PLAN) AND DISCHARGE INTO DRYWELL(S) WITH MINIMUM 4-INCH DIAMETER SDR-35 PVC OR SCHEDULE-40 PVC PIPE (OR ALTERNATE SPECIFICATION AS PER PLAN) AT 1.0% MINIMUM POSITIVE PITCH, (AND/OR TO ALTERNATE DOWNSTREAM DRAINAGE FACILITIES AS PER PLAN)
 - FOR GRADING & DRAINAGE PURPOSES, NO GRADING SHALL ADVERSELY AFFECT ADJACENT PROPERTIES. IF SITUATION ARISES DURING CONSTRUCTION ACTIVITY, WITH GRADING DESIGN IN-DIFFERENTIAL TO THIS PLAN AND EXISTING GRADES ALONG PROPERTY LINES, CONTRACTOR SHALL IMMEDIATELY CONTACT DESIGN ENGINEER
 - LOCATIONS OF ANY INSTALLED SUB-GRADE STORMWATER DRAINAGE DETENTION FACILITIES SHALL MEET ALL STATE OF NEW JERSEY REQUIREMENTS FOR SEPARATION DISTANCES FROM BUILDINGS AND SANITARY SEPTIC SYSTEM COMPONENTS
 - ALL DRAINAGE PIPE INSTALLED BENEATH AREAS WITH VEHICLE TRAFFIC AND LOADING SHALL BE ENCASED WITHIN A DUCTILE-IRON PIPE CONDUIT SLEEVE
 - SET DRYWELL(S) AND STORMWATER RUNOFF CATCH-BASINS TO CONFORM WITH INLET ELEVATION OF DRAIN PIPE. CATCH BASIN (STORM INLETS) SHALL BE INSTALLED / LOCATED AT ANY GRADING LOW-POINTS (TRAPPED AREAS), WHETHER AT EXISTING OR PROPOSED FINISHED SURFACE GRADES, AND SHALL CONVEY STORMWATER RUNOFF TO DRAINAGE FACILITIES AS PER PLAN
 - CONVEYANCE: ALL STORMWATER DRAINAGE PIPING SHALL BE SET AT A MINIMUM SLOPE OF 1.0% UNLESS OTHERWISE SPECIFIED ON PLAN. ALL OVERLAND DRAINAGE SWALES (LAWN OR OTHER VEGETATIVE) SHALL BE A MINIMUM SLOPE OF 4.0% UNLESS OTHERWISE SPECIFIED ON PLAN. ALL IMPERVIOUS AREAS SHALL BE PITCHED AT 2.0% MINIMUM SLOPE UNLESS OTHERWISE SPECIFIED ON PLAN. GRADE ALONG BUILDING FOUNDATION PERIMETER SHALL SLOPE DOWN & AWAY AT 5.0% MINIMUM SLOPE (6" ELEVATION DROP FOR MINIMUM DISTANCE OF 10-FEET) UNLESS OTHERWISE SPECIFIED ON PLAN
 - EXISTING STORMWATER DRYWELLS MAY EXIST ON-SITE AS PART OF PREVIOUS CONSTRUCTION INSTALLATIONS, WHEREAS NO KNOWN LOCATIONS WERE DISCOVERED DURING ROUTINE TOPOGRAPHIC PROPERTY SURVEY. CONTRACTOR TO NOTIFY DESIGN ENGINEER OF ANY FOUND EXISTING DRYWELLS, AND TO SEEK APPROVAL FOR ALTERNATE DRYWELL LOCATIONS IF NECESSARY FOR RELOCATION AND/OR IF PROPOSED DRYWELL NEEDS TO BE RELOCATED ACCORDINGLY
 - PRE-EXISTING SURFACE GRADE CONDITIONS MAY NOT MEET TYPICAL & ACCEPTED SITE IMPROVEMENT STANDARDS, WHEREAS REMEDIAL DESIGN MAY NOT BE FULLY ACHIEVABLE AS PER THE SCOPE OF WORK ASSIGNED BY THESE PLANS

SOIL MOVEMENT CALCULATION

	CUT CY	FILL CY
STRIP & STOCKPILE TOPSOILS	13	0
BACK-FILL TOPSOILS	0	13
POOL EXCAVATION	70	0
SOUTHWEST SIDE-YARD INFILL	0	37
SUB-TOTAL	83 CY	50 CY

NET MOVEMENT

CUT - FILL = 83 CY - 50 CY = 33 CY [EXPORT] ✓

SOIL IMPORT

0 CY

SOIL MOVEMENT

CUT + IMPORT = 83 CY + 0 CY = 83 CY [TOTAL] ✓

- ### POOL & SPA NOTES
- POOL & SPA SHALL BE DESIGNED AND CONSTRUCTED IN CONFORMANCE ANSI/NSP-5 PER THE INTERNATIONAL RESIDENTIAL CODE AND THE VIRGINIA GRAEME BAKER POOL AND SPA STANDARDS (VGBA)
 - POOL & SPA SAFETY-FENCE AND POOL & SPA FACILITIES IN ITS ENTIRETY, SHALL BE INSPECTED BY THE MUNICIPALITY, AND SUBSEQUENTLY APPROVED PRIOR TO USE OF THE POOL & SPA. POOL & SPA SAFETY-FENCE SHALL COMPLETELY ENCOMPASS POOL, GATED ACCESS THROUGH POOL & SPA PERIMETER SAFETY-FENCE SHALL BE SELF-LATCHING AND SELF-CLOSING. POOL & SPA SAFETY-FENCE SHALL BE INSTALLED WITHIN THE PROPERTY BOUNDARIES
 - THE INSTALLATION OF ANY LIGHTING OF THE POOL SHALL BE SUCH THAT THERE SHALL BE NO GLARE OF DIRECT LIGHTING INTO ADJACENT PROPERTIES
 - POOL MECHANICAL EQUIPMENT SHALL MEET ALL MANUFACTURERS SPECIFICATIONS FOR BUILDING SEPARATION DISTANCES, INCLUDING FOUNDATIONS, WINDOWS, AND WOOD MEMBERS, AS WELL AS ANY ALL APPLICABLE ZONING SETBACK DISTANCES AND REQUIREMENTS THERETO
 - PATIO SHALL BE PITCHED TO DRAIN DOWN & AWAY FROM POOL & SPA COPING, AND RAISED COPING PERIMETER WALLS

WHITING, VERONA SITE ENGINEERING

2020	11/03	ORIGINAL PLAN DATE
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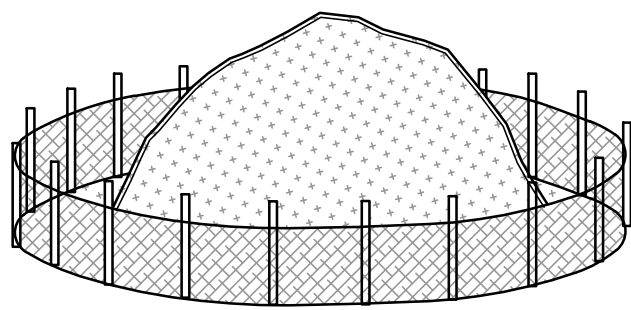
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ESSEX COUNTY, NEW JERSEY

DWG #	4
OF	6

ECR26262



STOCK PILE NOTES

- REFER TO STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY 3.9.1
- SILT FENCE PROTECTION INSTALLED AROUND STOCK PILE AS PER 'SILT FENCE DETAIL'

TOPSOIL STOCK PILE DETAIL

NOT TO SCALE

TOPSOIL STOCKPILE PROTECTION

- APPLY LIMESTONE AT A RATE OF 90 LBS PER 1000 SF
- APPLY FERTILIZER (10-20-10) AT A RATE OF 11 LBS PER 1000 SF
- APPLY PERENNIAL RYEGRASS AT A RATE OF 1 LB PER 1000 SF & ANNUAL RYEGRASS SEED AT A RATE OF 1 LB PER 1000 SF
- MULCH STOCKPILE WITH STRAW OR HAY AT A RATE OF 90 LBS/1000 SF.
- APPLY A LIQUID MULCH BINDER OR TACK TO STRAW OR HAY MULCH
- PROPERLY ENTRENCH A SILT FENCE AT THE BOTTOM OF THE STOCKPILE

SEEDING DATES IN ACCORDANCE TO TABLE 4-2 & 4-3 OF THE STANDARDS FOR SOIL EROSION & SEDIMENT CONTROL IN NEW JERSEY

TEMPORARY STABILIZATION SPECIFICATIONS

- APPLY GROUND LIMESTONE AT A RATE OF 90 LBS PER 1000 SF
- APPLY FERTILIZER (10-20-10) AT A RATE OF 11 LBS PER 1000 SF
- APPLY SEED MIXTURE: PERENNIAL RYEGRASS AT 1 LB PER 1000 SF ANNUAL RYEGRASS AT 1 LB PER 1000 SF
- MULCH STOCKPILE WITH STRAW OR HAY AT A RATE OF 90 LBS PER 1000 SF
- APPLY A LIQUID MULCH BINDER OR TRACK TO STRAW OR HAY MULCH

PERMANENT STABILIZATION SPECIFICATIONS

- APPLY TOPSOIL TO A DEPTH OF 5-INCHES (UNSETTLED)
- APPLY GROUND LIMESTONE AT A RATE OF 90 LBS PR 1000 SF & WORK 4-INCHES INTO THE TOPSOIL
- APPLY FERTILIZER (10-10-10) AT A RATE OF 11 LBS PER 1000 SF, (500 LBS PER ACRE)
- APPLY SEED MIXTURE: TALL FESCUE (TURF-TYPE) 6 LBS PER 1000 SF PERENNIAL RYEGRASS AT 5 LBS PER 1000 SF
OPTIMAL PLANTING PERIOD: MARCH 01 - APRIL 30
ACCEPTABLE PLANTING PERIOD: MAY 01 - AUGUST 14
ACCEPTABLE PLANTING PERIOD: AUGUST 15 - OCTOBER 15
- MULCH WITH STRAW OR HAY AT A RATE OF 90 LBS PER 1000 SF
- APPLY A LIQUID MULCH BINDER OR TRACK TO STRAW OR HAY MULCH

STANDARD FOR DUST CONTROL

DEFINITION - THE CONTROL OF DUST ON CONSTRUCTION SITES AND ROADS

PURPOSE - TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCED ON-SITE AND OFF-SITE DAMAGE AND HEALTH HAZARDS AND IMPROVE TRAFFIC SAFETY

CONDITION WHERE PRACTICE APPLIES - THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON-SITE AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT. CONSULT WITH LOCAL MUNICIPAL ORDINANCES ON ANY RESTRICTIONS

WATER QUALITY ENHANCEMENT - SEDIMENTS DEPOSITED AS "DUST" ARE OFTEN FINE COLLOIDAL MATERIAL WHICH IS EXTREMELY DIFFICULT TO REMOVE FROM WATER ONCE IT BECOMES SUSPENDED USE OF THIS STANDARD WILL HELP TO CONTROL THE GENERATION OF DUST FROM CONSTRUCTION SITES AND SUBSEQUENT BLOWING AND DEPOSITION INTO LOCAL SURFACE WATER RESOURCES

PLANNING CRITERIA
THE FOLLOWING METHODS SHOULD BE CONSIDERED FOR CONTROLLING DUST:
MULCHES - SEE STANDARD OF STABILIZATION WITH MULCHES ONLY, PG. 5-1

VEGETATIVE COVER - SEE STANDARD FOR: TEMPORARY VEGETATIVE COVER, PG. 7-1, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION PG. 4-1 AND PERMANENT STABILIZATION WITH SOD, PG. 6-1

SPRAY-ON ADHESIVES - ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS), KEEP TRAFFIC OFF THESE AREAS

DUST CONTROL MATERIALS, TABLE 16-1*

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLY GALLONS/ACRE
ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1,200
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN IN WATER	4:1	FINE SPRAY	300
POLYACRYLAMIDE (PAM) - SPRAY ON POLYACRYLAMIDE (PAM) - DRY SPREAD	APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS. MAY ALSO BE USED AS AN ADDITIVE TO SEDIMENT BASINS TO FLOCCULATE AND PRECIPITATE SUSPENDED COLLOIDS. *SEE SEDIMENT BASIN STANDARDS, P. 26-1		
ACIDULATED SOY BEAN SOAP STICK	NONE	COARSE SPRAY	1,200

*SEE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY

TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS A TEMPORARY EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART AND SPRING-TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT

SPRINKLING - SITE IS SPRINKLED UNTIL THE SURFACE IS WET

BARRIERS - SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING

CALCIUM CHLORIDE - SHALL BE IN THE FORM OF LOOSE, DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. IF USED ON STEEPER SLOPES, THEN USE OTHER PRACTICES TO PREVENT WASHING INTO STREAMS OR ACCUMULATION AROUND PLANTS

STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL

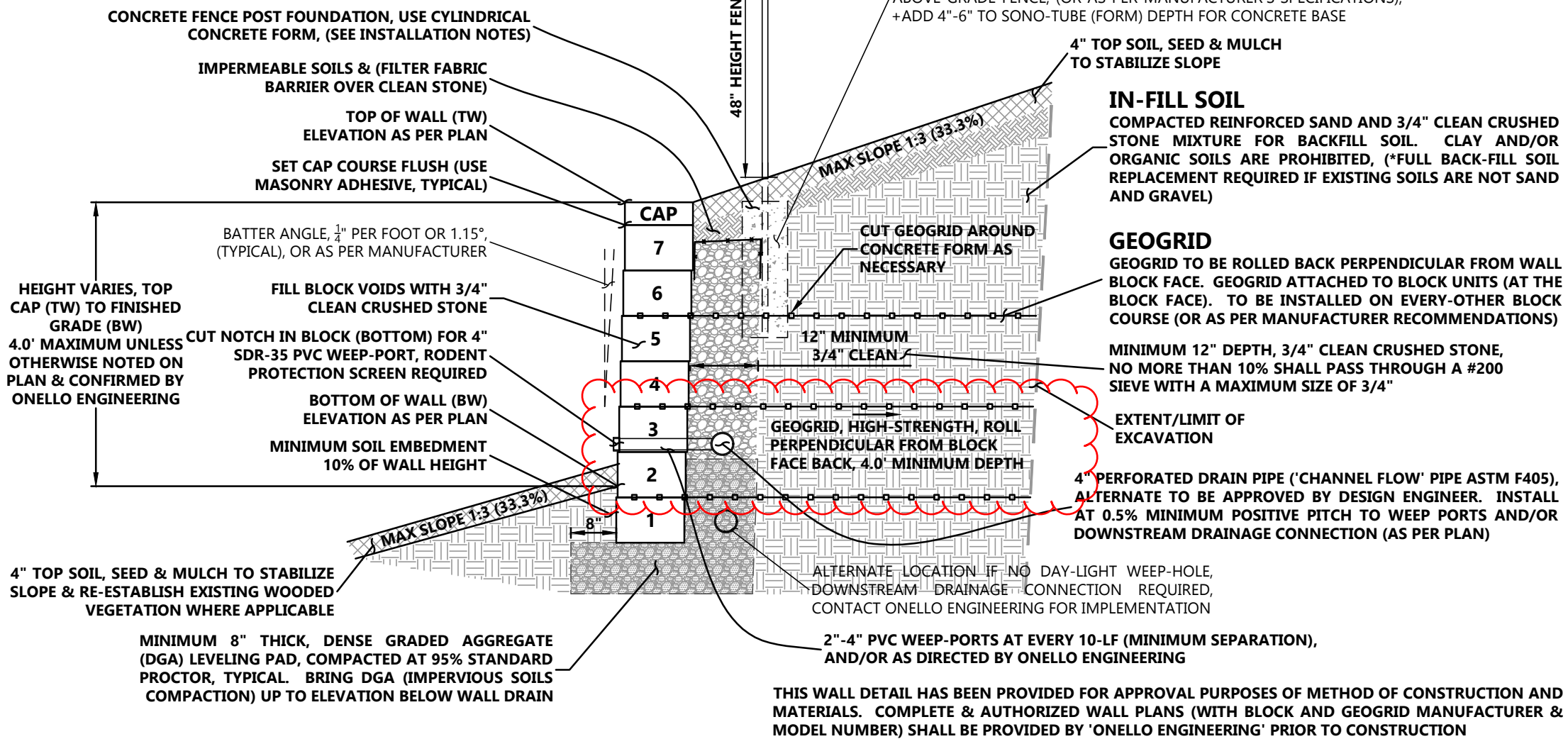
FENCE POST INSTALLATION

- SET SONOTUBE CYLINDRICAL CONCRETE FORM PRIOR TO GEOGRID PLACEMENT
- INSTALL GEOGRID TIGHT AROUND SONOTUBE
- POUR 4"-6" CONCRETE BASE FIRST. LET CURE FOR HARDNESS
- SET FENCE POST IN CENTER OF SONOTUBE ON CONCRETE BASE (USE VERTICAL LEVELING TOOL)
- PROVIDE TEMPORARY FENCE POST SUPPORT TO HOLD VERTICAL
- POUR CONCRETE AROUND FENCE POST TO SURFACE ELEVATION
- LET CURE FOR HARDNESS. REMOVE TEMPORARY SUPPORTS

CYLINDRICAL CONCRETE FORM

- TO BE USED FOR FENCE POST FOUNDATIONS. SET INTO IN-FILL SOIL AT THE TIME OF WALL CONSTRUCTION.
- "SONOTUBE" MANUFACTURER (OR EQUAL).
- SONOTUBE DIAMETER VERSUS FENCE POST DIAMETER/THICKNESS:
 - MINIMUM 8" DIAMETER FOR 2" POST
 - MINIMUM 10" DIAMETER FOR 3" POST
 - MINIMUM 12" DIAMETER FOR 4" POST
 - MINIMUM 18" DIAMETER FOR 6" POST

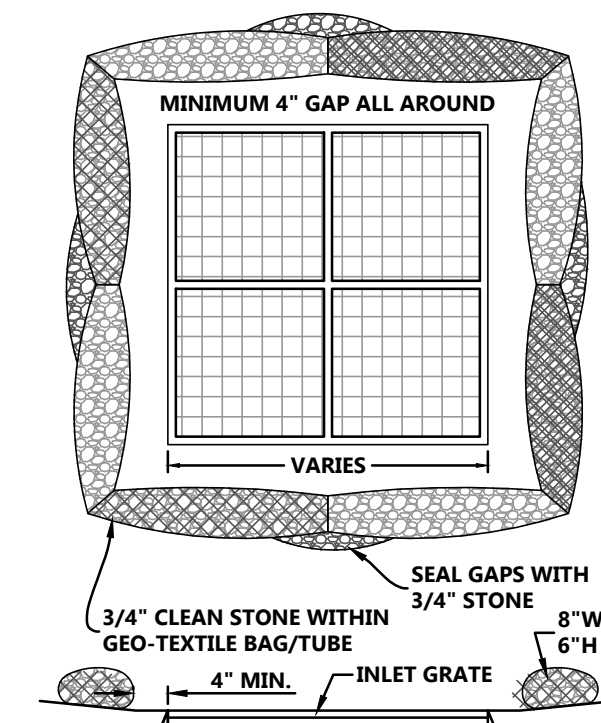
RESIDENTIAL FENCE ALONG TOP OF WALL (FOR FALL PROTECTION) - HEIGHT AND OTHER SPECIFICATION REQUIREMENTS AS PER PLAN. (TYPICAL). ALUMINUM FENCING AS PER MANUFACTURER. STEEL POSTS AND ASSOCIATED STEEL FENCE MATERIALS TO BE GALVANIZED OR APPLIED WITH RUST-PROTECTANT PAINT OR VINYL-CLAD. WOOD POSTS TO BE PRESSURE TREATED LUMBER. WOOD FENCE MATERIALS TO BE PRESSURE TREATED, PAINTED, AND/OR APPLIED WITH WOOD SEALANT



MODULAR BLOCK RETAINING WALL DETAIL

WITH BATTER AND WALL DRAIN

NOT TO SCALE



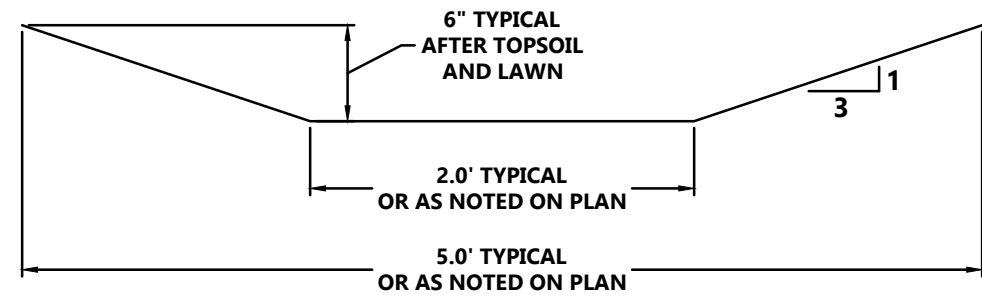
INLET FILTER NOTES

- GEOTEXTILE TO BE WOVEN POLYPROPYLENE PRODUCT GEOTEX 1175, BY PROPEX GEOTEXTILE SYSTEMS, OR APPROVED EQUAL
- 3/4" CLEAN STONE CORE SHALL BE COMPLETELY CONTAINED WITHIN GEOTEXTILE TUBE/BAG. SEAMS SHALL BE SEWN OR CLOSED BY SUITABLE MECHANICAL MEANS TO PREVENT LEAKAGE OF STONE
- WHERE NO CURB IS PRESENT, BARRIER SHALL COMPLETELY ENCIRCLE THE DRAIN INLET
- INLET GRATE OPENING TO BE KEPT CLEAR OF OBSTRUCTIONS AT ALL TIMES
- THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1-YEAR, 24-HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER SYSTEM
- INSPECTIONS SHALL BE FREQUENT. MAINTENANCE, REPAIR AND REPLACEMENT SHALL BE MADE PROMPTLY AS REQUIRED. THE BARRIER SHALL BE REMOVED WHEN THE AREA DRAINING TOWARDS THE INLET HAS BEEN STABILIZED
- OTHER METHODS THAT ACCOMPLISH THE PURPOSE OF STORM SEWER INLET PROTECTION MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT

SCD INLET FILTER DETAIL

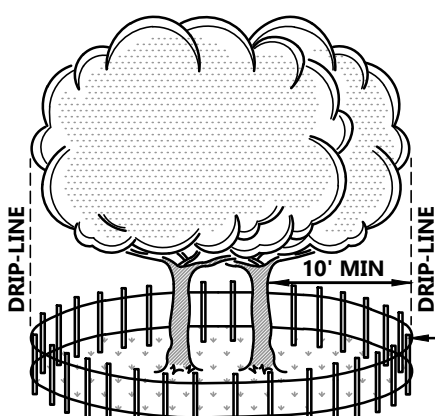
FOR STORMWATER CATCH-BASIN GRATES

NOT TO SCALE



GRADED DRAINAGE SWALE

NOT TO SCALE



TREE PROTECTION DETAIL

NOT TO SCALE

WALL CONSTRUCTION NOTES

- CONTRACTOR TO CONTACT THE DESIGN ENGINEER: 'ONELLO ENGINEERING' PRIOR TO ANY CONSTRUCTION ACTIVITY IN RELATION TO RETAINING WALLS
- WALL SHALL BE INSPECTED DURING CONSTRUCTION BY 'ONELLO ENGINEERING' OR SUB-AFFILIATE ENGINEER (SHALL BE AUTHORIZED BY 'ONELLO ENGINEERING')
- CONTRACTOR/OWNER TO COORDINATE CONSTRUCTION & INSPECTION SCHEDULING WITH 'ONELLO ENGINEERING'
- BLOCK AND GEOGRID MANUFACTURER SHALL BE APPROVED BY 'ONELLO ENGINEERING'
- 'ONELLO ENGINEERING' SHALL BE GIVEN FIVE (5) BUSINESS DAYS MINIMUM NOTICE FOR SCHEDULING CONFIRMATION PURPOSES PRIOR TO INSTALLATION & INSPECTION(S)
- COMPACT WALL BACKFILL (CRUSHED STONE AND SOILS) IN 8" LIFTS (OR LESS) USING A MECHANICAL PLATE COMPACTOR WITH A MINIMUM OF TWO PASSES TO OBTAIN 95% STANDARD PROCTOR
- FENCE POST SPACING (ON-CENTER) VARIES AS PER MANUFACTURER. TO BE CONFIRMED BY OWNER PRIOR TO INSTALLATION

DEPTH OF POST SET INTO CONCRETE FOUNDATION, 0.4-0.5 x HEIGHT OF ABOVE-GRADE FENCE, (OR AS PER MANUFACTURER'S SPECIFICATIONS), +ADD 4"-6" TO SONO-TUBE (FORM) DEPTH FOR CONCRETE BASE

4" TOP SOIL, SEED & MULCH TO STABILIZE SLOPE

IN-FILL SOIL
COMPACTED REINFORCED SAND AND 3/4" CLEAN CRUSHED STONE MIXTURE FOR BACKFILL SOIL. CLAY AND/OR ORGANIC SOILS ARE PROHIBITED. (*FULL BACK-FILL SOIL REPLACEMENT REQUIRED IF EXISTING SOILS ARE NOT SAND AND GRAVEL)

GEOGRID
GEOGRID TO BE ROLLED BACK PERPENDICULAR FROM WALL BLOCK FACE. GEOGRID ATTACHED TO BLOCK UNITS (AT THE BLOCK FACE). TO BE INSTALLED ON EVERY-OTHER BLOCK COURSE (OR AS PER MANUFACTURER RECOMMENDATIONS)

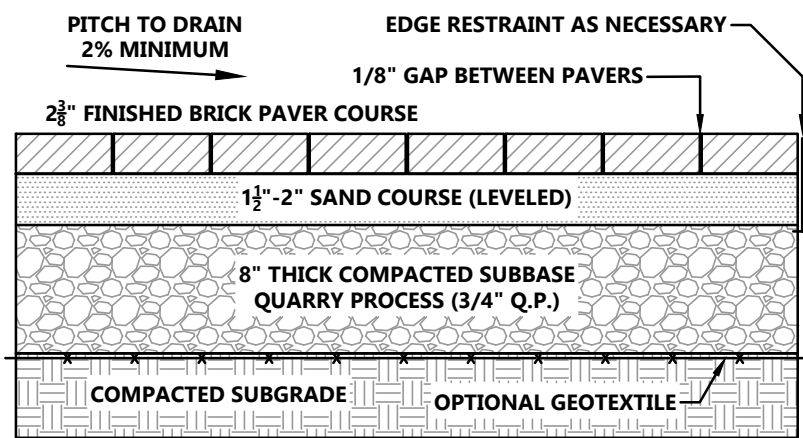
MINIMUM 12" DEPTH, 3/4" CLEAN CRUSHED STONE, NO MORE THAN 10% SHALL PASS THROUGH A #200 SIEVE WITH A MAXIMUM SIZE OF 3/4"

EXTENT/LIMIT OF EXCAVATION

4" PERFORATED DRAIN PIPE ('CHANNEL FLOW' PIPE ASTM F405), ALTERNATE TO BE APPROVED BY DESIGN ENGINEER. INSTALL AT 0.5% MINIMUM POSITIVE PITCH TO WEEP PORTS AND/OR DOWNSTREAM DRAINAGE CONNECTION (AS PER PLAN)

2"-4" PVC WEEP-PORTS AT EVERY 10'-LF (MINIMUM SEPARATION), AND/OR AS DIRECTED BY ONELLO ENGINEERING

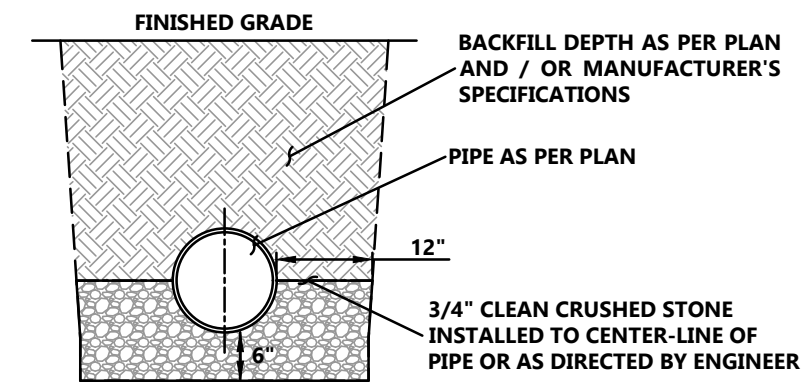
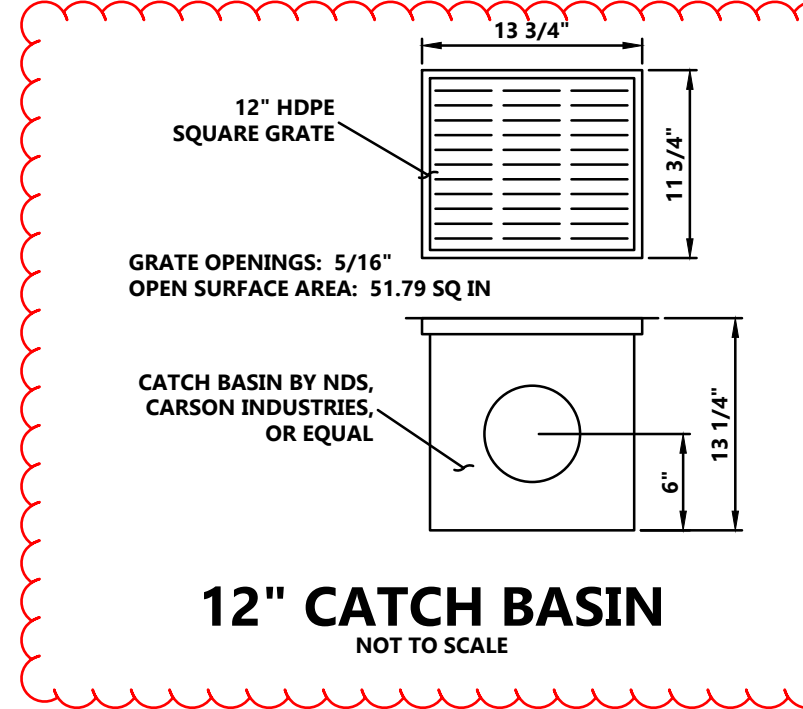
THIS WALL DETAIL HAS BEEN PROVIDED FOR APPROVAL PURPOSES OF METHOD OF CONSTRUCTION AND MATERIALS. COMPLETE & AUTHORIZED WALL PLANS (WITH BLOCK AND GEOGRID MANUFACTURER & MODEL NUMBER) SHALL BE PROVIDED BY 'ONELLO ENGINEERING' PRIOR TO CONSTRUCTION



PAVER INSTALLATION DETAIL

CROSS-SECTION FOR DRIVEWAYS & PATIOS

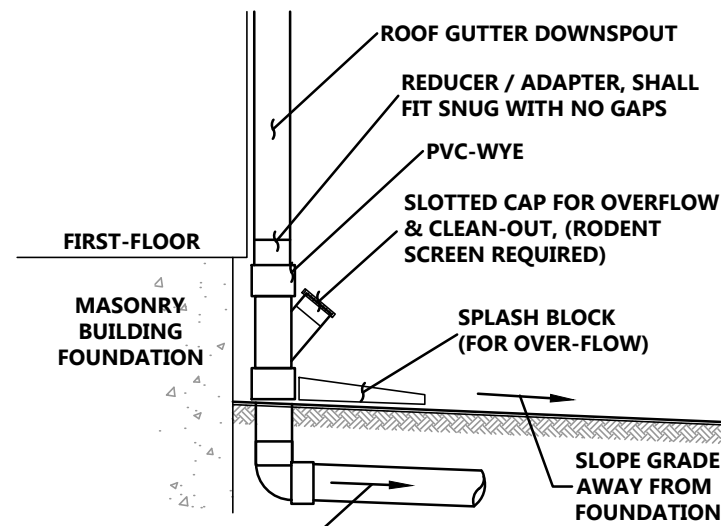
NOT TO SCALE



*IF UNDER-BEDDING SOIL IS UNSUITABLE OR GROUNDWATER EXISTS, FURTHER EXCAVATION MAY BE REQUIRED, AND LIMIT OF CRUSHED STONE TO BE DIRECTED BY TOWN ENGINEER

STORM PIPE TRENCH DETAIL

NOT TO SCALE

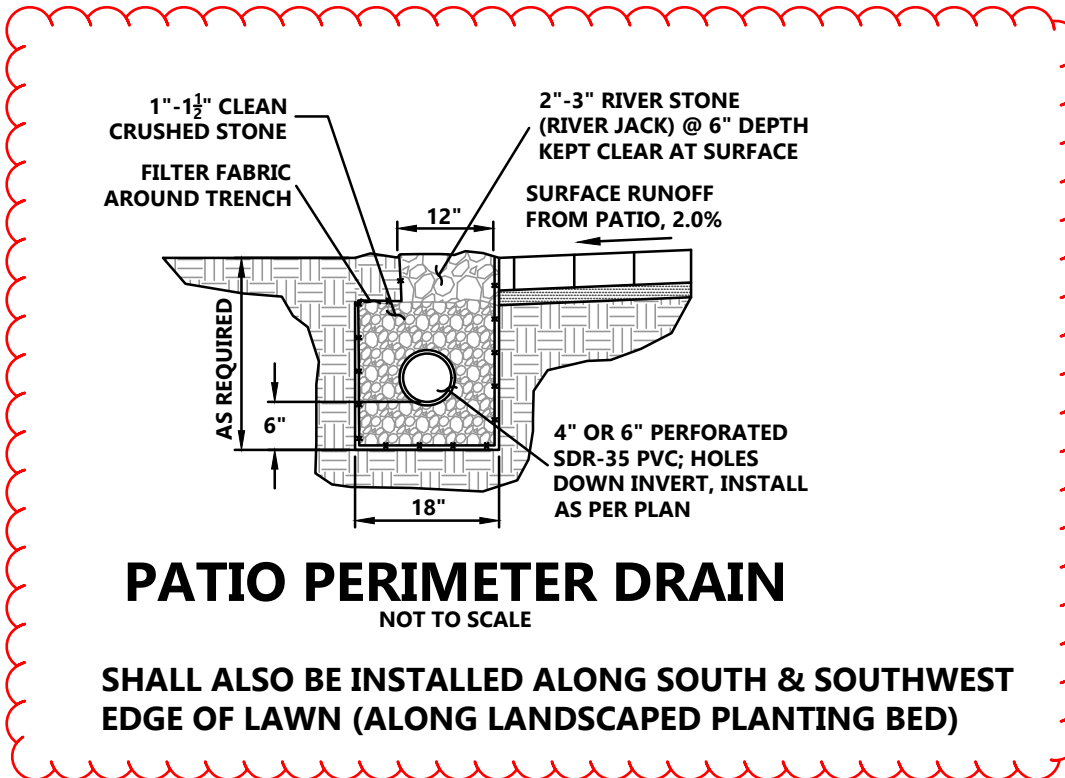


TO DOWNSTREAM DRAINAGE CONNECTION AS PER PLAN, (1.0% MINIMUM SLOPE)

ROOF LEADER DETAIL

NOT TO SCALE

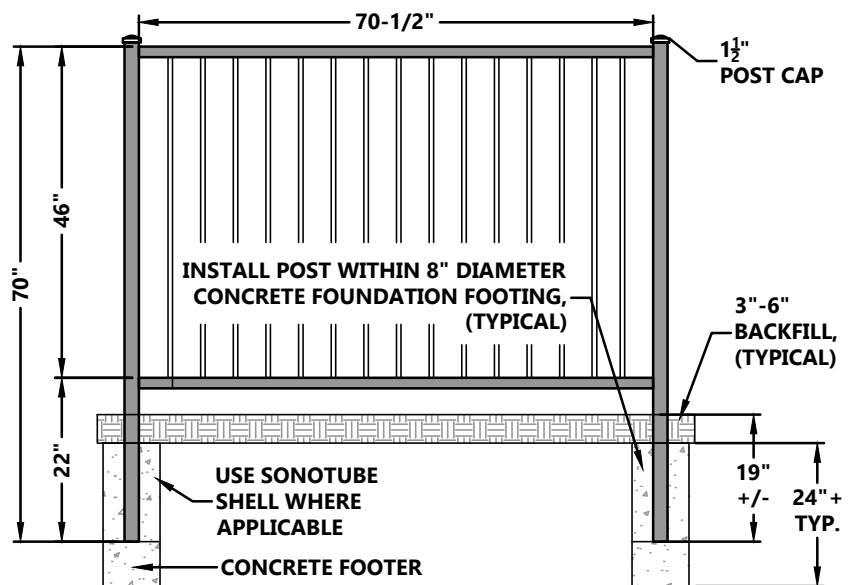
IF & WHERE NECESSARY



PATIO PERIMETER DRAIN

NOT TO SCALE

SHALL ALSO BE INSTALLED ALONG SOUTH & SOUTHWEST EDGE OF LAWN (ALONG LANDSCAPED PLANTING BED)

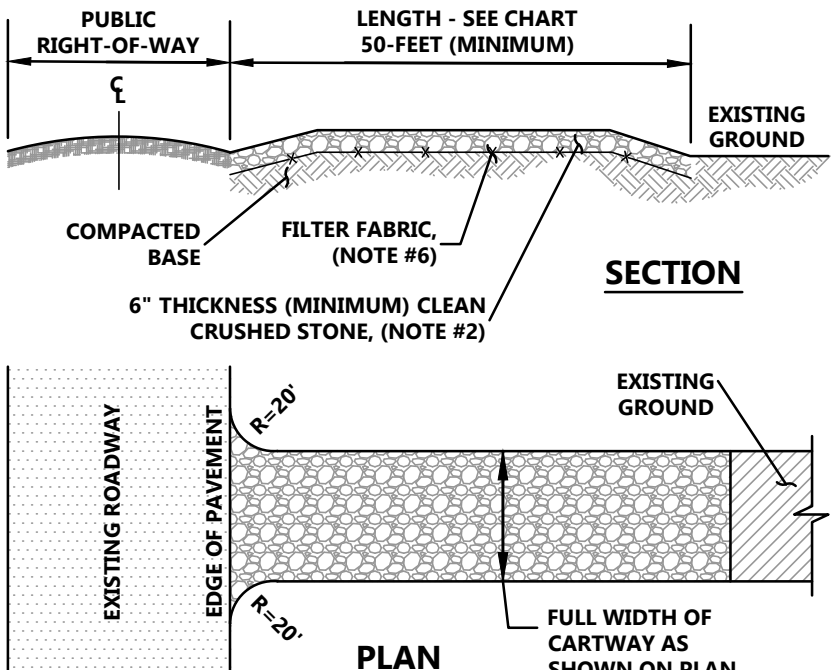


ALUMINUM POOL FENCE DETAIL

JERITH MANUFACTURING CO., INC.

OVATION SERIES - 48" HEIGHT

MODEL OV48USN, NOT TO SCALE



% SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED
0% TO 2%	COARSE SOILS 50- FEET
2% TO 5%	FINE SOILS 100- FEET
> 5%	200- FEET
	ENTIRE SURFACE TO BE STABILIZED*

*IF REQUIRED BY LOCAL ORDINANCE OR OTHER GOVERNING BODY

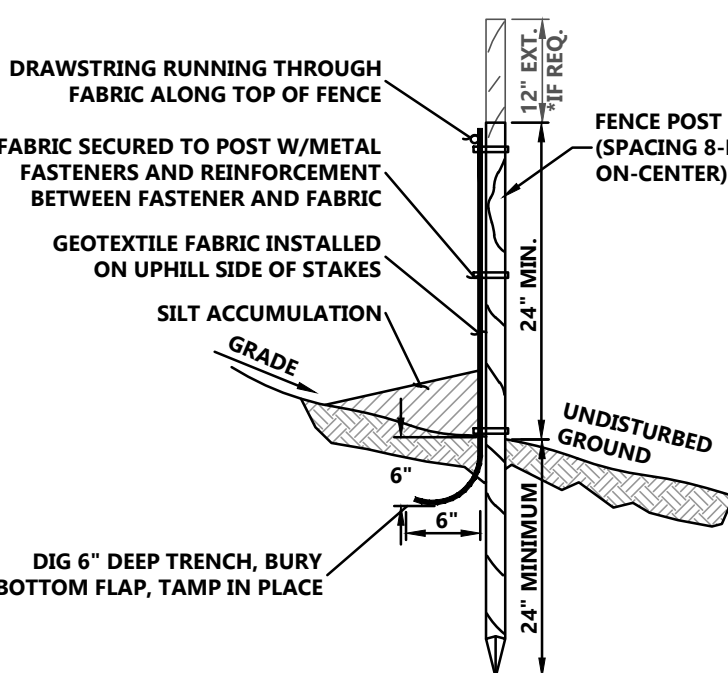
STABILIZED CONSTRUCTION ACCESS

WHEEL BLANKET TRACKING PAD DETAIL

NOT TO SCALE

TRACKING PAD NOTES

- PLACE STABILIZED CONSTRUCTION ENTRANCE AT LOCATION
- STONE SIZE SHALL BE ASTM C-33, SIZE #2 OR #3, CLEANED CRUSHED ANGULAR STONE
- THE THICKNESS OF THE STABILIZED CONSTRUCTION ENTRANCE NOT BE LESS THAN 6" (SIX INCHES)
- WIDTH - NOT LESS THEN FULL WIDTH OF POINTS OF INGRESS OF EGRESS
- LENGTH - STABILIZED CONSTRUCTION ACCESS SHALL NOT BE LESS IN LENGTH THAN AS SPECIFIED IN THE CHART BELOW
- AT POORLY DRAINED LOCATIONS, SUB-SURFACE DRAINAGE GRAVEL FILTER FABRIC SHALL BE INSTALLED BEFORE INSTALLING THE STABILIZED CONSTRUCTION ENTRANCE
- THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE PUBLIC RIGHT-OF-WAY / PAVEMENT. THIS REQUIRES PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN-OUT OF ANY MEASURE USED TO TRAP SEDIMENT
- ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO THE PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY



SILT FENCE DETAIL

NOT TO SCALE

REQUIREMENTS FOR SILT FENCE

- FENCE POST SHALL BE SPACED 8 FEET ON-CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1-1/2 INCHES
- A METAL FENCE WITH 6 INCH OR SMALLER OPENINGS AND AT LEAST 2 FT. HEIGHT MAY BE UTILIZED. FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEOTEXTILE FABRIC WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED
- A GEOTEXTILE FABRIC, RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE BURIED AT LEAST 6 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 2 FT. ABOVE THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS AND STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHER, ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE PORTION OF THE FENCE FOR ADDED STRENGTH

WHITING, VERONA CONSTRUCTION DETAILS

YEAR	DATE	REVISION	NOTES
2020	11/03	ORIGINAL PLAN DATE	
	MM/DD	REVISION DIGEST NOTES	

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FOR DESIGN REVIEW ONLY
NOT FOR CONSTRUCTION
ANGELO ONELLO III, PE
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE #460958400

ONELLO
ENGINEERING

5 BEECHNUT STREET
HILLSDALE, NEW JERSEY 07642
(201) 774-1444 Angelo@OnelloEng.com

SITE PLAN

ZONING ANALYSIS & SOIL MOVEMENT

WHITING
#175 GROVE AVENUE
LOT 6.01 - BLOCK 1101
TOWNSHIP OF VERONA
ESSEX COUNTY, NEW JERSEY

DWG #
6
OF
6
Construction Details.dwg

Low Impact Checklist: Construction

This suggested list has been compiled by the Verona Environmental Commission based on best available practices. This is not a requirement of the uniform construction code. It is intended to be beneficial to all residents considering renovations and new construction. The purposes of this list are to 1) assist those planning construction projects to do so in a manner that causes the least disruption to the environment; 2) establish a healthy setting for those occupying the new or renovated space; and 3) reduce waste and save resources. Implementing environmentally friendly practices can be economical when considered at pre-construction stages and are often beneficial in the long term.

General Construction

- ☐ Recycle and/or salvage non-hazardous construction and demolition debris
- ☐ Use renewable building material and products
- ☐ Incorporate renewable energy (i.e. geothermal, solar)
- ☐ Use local products (i.e. local and sustainable woods)
- ☐ Use local construction products and companies
- ☐ Conserve energy and reduce electricity use as much as possible

Grounds & Landscaping

- ☐ Create a sedimentation control plan to prevent sediment from moving off site.
- ☐ Use native plantings (Native plants are adapted to thrive in local conditions)
- ☐ Use captured rainwater or recycled grey water for irrigation
- ☐ Provide bicycle parking to help reduce overcrowded streets and CO2 emissions.

Storm Water Management

- ☐ Avoid runoff to other properties by installing an underground cistern or rain garden. This will keep water on your own property and out of the sewer system.
- ☐ Limit impervious surfaces – use an open grid pavement system (at least 50% pervious)
- ☐ Promote infiltration that captures and treats storm water runoff from rainfall
- ☐ Use a water retention system (i.e. rain barrel) to collect rainwater for non-potable uses

Lighting

- ☐ Choose LED lights (the most environmentally-efficient option)
- ☐ Purchase renewable electricity, either directly from your power supplier, from an independent clean power generator, or through renewable energy certificates.
- ☐ Use skylights or solo tubes for natural daytime lighting. Use sensor controls in commercial or industrial settings and solar lighting outdoors.

Foundation & Basement

- ☐ Use environmentally friendly foundation sealants (rather than black tar)
- ☐ Prevent sump pump water from flowing into the sewer system

Roofing

- ☐ Use light color roofing materials to limit heat absorption created by darker roofs
- ☐ Use roofing material with a solar reflectance index (SRI) equal to or greater than 78 for low roofs and 29 for steep-sloped roofs
- ☐ Install tile or metal roofs
- ☐ Consider installing a vegetated roof

Heating & Cooling

- ☐ Use 2 x 6 studs instead of 2 x 4 to increase amount of insulation
- ☐ Install programmable thermostats that adjust temperatures throughout the day
- ☐ Use occupant sensing and/or remote control thermostat technologies
- ☐ Install heat pumps to transfer energy heat and cold Use high-efficiency boilers/furnaces
- ☐ Use attic fans to regulate heating and cooling

Windows

- ☐ Choose ultraviolet window protection to protect against sun damage
- ☐ Install triple pane windows or windows with Argon or Kryton gas between panes

Products

- ☐ Choose products with low VOCs (VOCs are found in adhesives, interior paints, cabinets, etc)
- ☐ Avoid products that contain hazardous chemicals such as formaldehyde and cyanide
- ☐ Choose ENERGY STAR® appliances
- ☐ Install dual flush toilets Install low flow shower heads
- ☐ Avoid garbage disposals and make provisions for composting

Verona Environmental Commission

Low Impact Checklist: Planning

This suggested list has been compiled by the Verona Environmental Commission based on best available practices. This list is intended to assist individuals involved in planning and building projects in Verona Township towards submitting low impact plans. The goal of a low impact plan is not only to increase cost savings and add value to your project but to make environmentally responsible choices and eliminate project delays in early stages of the planning process.

General Construction & Design

- ☐ Provide occupants with connection to outdoor space through increased natural light and views
- ☐ Orient buildings facing southwest to maximize potential solar installation
- ☐ Use orientation and design to maximize passive solar heat/cooling
- ☐ Use proper planning to prevent damage to surrounding properties and public spaces
- ☐ Minimize disturbance to soils and vegetation
- ☐ Recycle and/or salvage non-hazardous construction and demolition debris
- ☐ Use renewable building materials and products
- ☐ Use local and sustainable woods
- ☐ Incorporate renewable energy and reduce energy use

Grounds & Landscaping

- ☐ Create a sedimentation control plan Limit altering steep slope areas
- ☐ Encourage landscaping that requires limited moving, trimming, and watering
- ☐ Create landscapes that limit the need for lawn chemicals and maintenance
- ☐ Position evergreens to the north to shield wind/ Position deciduous trees to the south to cool buildings
- ☐ Use native plantings (Native plans are adapted to thrive in local conditions)
- ☐ Place parking spaces in shaded areas
- ☐ Place bicycle parking racks in secure areas near entrances
- ☐ Use paving materials with an SRI value >29. This will reflect, not absorb solar heat.

Storm Water Management

- ☐ Limit impervious surfaces – use an open grid pavement system (at least 50% pervious)
- ☐ Reduce impervious cover to promote infiltration that captures and treats storm water
- ☐ Use a water retention system (i.e. rain barrel) to collect rainwater or recycled gray water for non-potable uses

Foundation & Basement

- ☐ Use alternative practices (rather than black tar) for foundation sealants
- ☐ Encourage aeration and ventilation
- ☐ Draw sunlight into basement areas through access windows

Roofing

- ☐ Use light color roofing materials to limit heat absorbed by dark colored roofs
- ☐ Use roofing material with a solar reflectance index (SRI) equal to or greater than 78 for low roofs and 29 for steep sloped roofs
- ☐ Consider Tile or Metal roofs
- ☐ Construct roofs that can support solar installations

Lighting

- ☐ Use solar lighting outdoors
- ☐ Use skylights or solo tubes for natural daytime lighting
- ☐ Use motion sensor lighting where applicable
- ☐ Choose energy-efficient light bulbs

Products

- ☐ Avoid products that contain hazardous chemicals such as formaldehyde and cyanide
- ☐ Use local products (i.e. local and sustainable woods)
- ☐ Use local construction equipment and companies when possible

For more information and resources please see:

The Native Plant Society of New Jersey - <http://www.npsnj.org>

The Association of New Jersey Environmental Commissions - <http://www.anjec.org>

US Green Building Council NJ Chapter - <http://usgbc.org>

New Jersey Green Building Manual - <http://greenmanual.rutgers.edu>

The New Jersey Department of Transportation Master Plan - <http://njbikepedplan.com>

Rutgers Center for Green Building - <http://greenbuilding.rutgers.edu>

The Verona Environmental Commission - <http://www.veronaec.org>