# PROPERTY OWNERS WITHIN 200 FEET OF SUBJECT PROPERTY

TO BE FURNISHED UPON RECEIPT

**PUBLIC UTILITIES** COMCAST CABLE COMMUNICATIONS, VERIZON - NEW JERSEY

1250 HADDONFIELD-BERLIN ROAD CHERRY HILL, NJ 08003 NEW JERSEY AMERICAN WATER CO. 800 GROVE STREET HADDON HEIGHTS, NJ 08028

MERCHANTVILLE-PENNSAUKEN WATER COMMISSION 20 WEST MAPLE AVENUE MERCHANTVILLE, NJ 08109

CAMDEN COUNTY MUNICIPAL UTILIITIES AUTHORITY PO BOX 1432

650 PARK AVENUE EAST ORNAGE, NJ 07017 TRANSCONTINENTAL GAS PIPE LINE 3200 SOUTH WOOD AVENUE

REAL ESTATE DEPARTMENT

COLONIAL PIPELINE CO. PO BOX 727 WOODBURY, NJ 08096

LINDEN, NJ 07036

# STANDARD SPECIFICATIONS:

THE LATEST NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION WITH ALL AMENDMENTS AND SUPPLEMENTS SHALL GOVERN ALL OF THE WORK PERFORMED UNDER THIS CONTRACT EXCEPT AS SUPPLEMENTED HEREIN.

# **UNDERGROUND UTILITY LOCATION:**

LOCATIONS OF UTILITIES SHOWN ON THIS PLAN ARE NOT NECESSARILY COMPLETE. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES OPERATING WITHIN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION, SIZE, TYPE AND ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT ANY SITE DISTURBANCE ACTIVITIES, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. LOCATION OF UTILITIES SHALL INCLUDE CONTACT BY THE CONTRACTOR WITH THE APPLICABLE UNDERGROUND UTILITY LOCATION SERVICE, AS REQUIRED BY LAW. LOCATION OF UTILITIES SHALL INCLUDE CONTACT WITH THE NJ ONE-CALL SYSTEM (800-272-1000), AT LEAST 3 DAYS PRIOR TO

# TRASH REMOVAL:

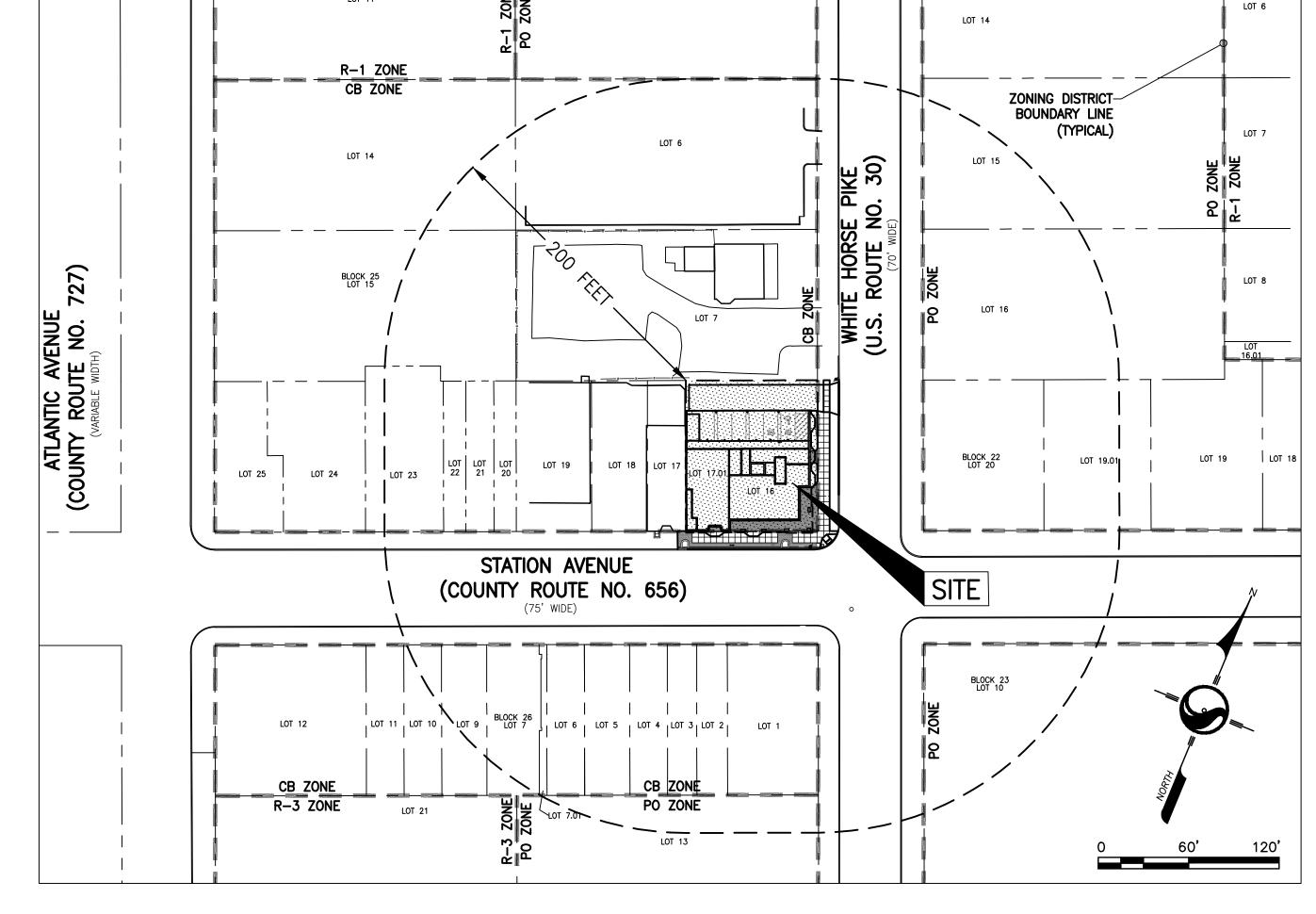
ALL TRASH WILL BE MAINTAINED INTERNALLY IN AND THE OWNER WILL CONTRACT FOR TRASH PICKUP. THERE WILL BE NO TRASH CANS STORED OUTSIDE THE BUILDING.

# **SITE SAFETY:**

THE OWNER, OR HIS REPRESENTATIVE, IS TO DESIGNATE AN INDIVIDUAL RESPONSIBLE FOR CONSTRUCTION SITE SAFETY DURING THE COURSE OF IMPROVEMENTS PURSUANT TO N.J.A.C. 5:23-2.21 (e) OF THE N.J. UNIFORM CONSTRUCTION CODE AND CFR 1926.32 (f) (OSHA COMPETENT PERSON).

# OTHER REQUIRED APPROVALS:

1) CAMDEN COUNTY PLANNING BOARD: CAMDEN COUNTY SOIL CONSERVATION DISTRICT: PENDING NJDOT - HIGHWAY ACCESS PERMIT:



# **GENERAL NOTES:**

- 1. THE PROPERTIES THAT ARE THE SUBJECT OF THIS REDEVELOPMENT PLAN ARE KNOWN AS LOTS 16 AND 17.01 IN BLOCK 25. THE COMBINED LOT AREAS CONTAIN 8481.84 SQ. FT., OR 0.195 ACRES, AND ARE LOCATED IN THE CB - CENTRAL BUSINESS DISTRICT ACCORDING TO THE OFFICIAL ZONING MAP OF THE BOROUGH OF HADDON HEIGHTS IN CAMDEN COUNTY, NEW JERSEY.
- 2. OWNER/APPLICANT: STATION AVE LOFTS LLC 5 CIRCLE LANE CHERRY HILL, NJ 08003
- 3. THE PURPOSE OF THIS PLAN IS TO DEPICT A PROPOSED MIXED USE DEVELOPMENT CONSISTING OF: A. GROUND FLOOR SPACE WITH FRONTAGE ALONG STATION AVENUE AND WHITE HORSE PIKE, WITH PERMITTED USES CONSISTENT WITH THE HADDON HEIGHTS BOROUGH REDEVELOPMENT PLAN THAT WAS ADOPTED BY BOROUGH
- B. SECOND AND THIRD STORY RESIDENTIAL UNITS COMPRISING (6) 1-BEDROOM DWELLING UNITS AND (2) 2-BEDROOM DWELLING UNITS.
- 4. INFORMATION TO PREPARE THESE PLANS OBTAINED FROM THE FOLLOWING SOURCES: A. PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY" - BLOCK 25, LOTS 7, 16, 17.01" SHEET 1 OF 1, PREPARED BY STANTEC CONSULTING SERVICES INC., DATED 05.01.2023 AND SIGNED ON 05.16.2023. B. SURVEY UPDATE PER STANTEC FIELD VISIT PERFORMED ON 12.28.2023. C. BOROUGH OF HADDON HEIGHTS TAX MAP, PLATE 3.
- A. 501 STATION AVENUE: 3 STORY MIXED USE BUILDING AND BOROUGH WELCOME SIGN.
- B. 503 STATION AVENUE: 1 STORY BUILDING WITH 2 COMMERCIAL UNITS.

COUNCIL BY ORDINANCE NO. 2023:1537 ON NOVEMBER 8, 2023.

6. EXISTING PUBLIC SANITARY SEWER AND DOMESTIC WATER UTILITIES SERVICE THE SITE.

# OFF-STREET PARKING

CRITERIA

	REQUIRED NUMBER OF OFF STREET PARKING SPACES
	ALL REQUIRED PARKING FOR RESIDENTIAL USES MUST BE PROVIDED ONSITE, OR IN COMBINATION WITH DESIGNATED OFFSITE
	PARKING SPACES WITHIN 500 FEET OF THE PROPERTY BOUNDARY OF THE RESIDENTIAL BUILDING. i. 1- OR 2-BEDROOM UNITS: 1 PARKING SPACE PER UNIT. <u>REQUIRED: 12 SPACES</u>
	ii. 1 ADA PARKING SPACE REQUIRED ON SITE TO SERVE COMMERCIAL & RESIDENTIAL UNITS. <u>REQUIRED: 1 SPACE</u>
	REQUIRED PARKING FOR RETAIL/COMMERCIAL USE (2,800 SF GFA) IS 1 SPACE PER 200 SF = 14 SPACES.
l	PERIODE DIRIUM IN UTILITIES FOR PERIODINE USE IN SPECIFIC OF A SPICE FOR FIGURE OF A SPICE FOR

REQUIRED PARKING IF UTILIZED FOR RESTAURANT USE IS THE GREATER OF 1 SPACE FOR EACH 4 SEATS OR 1 SPACE FOR EACH 40 SF OF FLOOR AREA DEVOTED TO PATRON DRINKING OR DINING USE, PLUS 1 SPACE FOR EACH 2 PERSONS EMPLOYED ON THE PREMISES. TOTAL REQUIRED FOR THIS USE TO BE DETERMINED.

REQUIRED PARKING FOR 1ST FLOOR COMMERCIAL USES WILL BE PROVIDED THROUGH SHARED PARKING OPPORTUNITIES WITHIN 1,300 FEET FROM THE SITE. TOTAL REQUIRED OFF-STREET PARKING: 13 SPACES

REQUIRED	PROPOSED - ON SITE	PROPOSED - OFF SITE	CONFORMS
13 SPACES FOR RESIDENTIAL	1 ADA PARKING STALL (VAN-ACCESSIBLE)	7 SPACES <sup>(1)</sup> ADDITIONAL SPACES FOR 1ST FLOOR COMMERCIAL/RESTAURANT THROUGH SHARED PARKING AS REQUIRED	Y

# (1) APPLICANT TO PROVIDE THE BOROUGH WITH A COPY OF THE AGREEMENT FOR USE OF OFF STREET PARKING SPACES.

## **ZONING DATA** 501-503 STATION AVE, BLOCK 25, LOTS 16 & 17.01 BOROUGH OF HADDON HEIGHTS, CAMDEN COUNTY, NJ

Standard

o tanaana	inequirement for current	Inequirement for fots a	I roposca for this Application
	Zoning District (CB Zone)	minimum of 8,000 sf	
Minimum lot size	2,500 square feet	8,000 square feet	8736.9 square feet
Minimum lot width	25 feet	80 feet	87.5 feet
Minimum street frontage	N/A	80 feet each street	87.5 feet to Station Ave. 100 feet to White Horse Pike
Minimum lot depth	100 feet	100 feet	100 feet
Minimum front yard building setback from property line	10 feet	0 feet to Station Ave 5 feet to White Horse Pike within 100 feet of Station Ave 20 feet to White Horse Pike beyond 100 feet from Station Ave	0 feet to Station Ave 5 feet to White Horse Pike
Maximum front yard building setback from property line	N/A	10 feet to Station Ave 25 feet to White Horse Pike	0 feet to Station Ave 5 feet to White Horse Pike
Minimum front yard setback distance from building to curb	N/A	12 feet Station Ave 19 feet to White Horse Pike within 100 feet of Station Avenue 34 feet to White Horse Pike beyond 100 feet from Station Avenue	12.5 feet to Station Ave 19.2 feet to White Horse Pike
Minimum side yard setback for principal building	0 feet	O feet on Station Ave O feet one side/15 feet aggregate on White Horse Pike	O feet on Station Ave O feet one side/19 feet aggregate on White Horse Pike
Minimum rear yard setback for principal building	20 feet	15 feet	20 feet
Minimum distance between buildings	N/A	0 feet side to side 25 feet side to rear	0 feet side to side 70 feet side to rear
Minimum parking setback	N/A	2 feet from side and rear yard Surface parking is not permitted in front of buildings.	2 feet from side and 3 feet from rear yard. No surface parking proposed in front of buildings
Minimum driveway setback from property line	N/A	2 feet from side and rear yard	2 feet from side and 3 feet from rear yard
Maximum impervious cover	80%	90% Ground level, or 95% ground level with total 85% including green roof	94.4% ground level with totaL 66.7% including green roof
Maximum building height	3 stories or 36 feet	3 stories or 36 feet with allowance for an additional 42" for parapets 46 feet for pilot house (with an additional 5' allowance for the elevator hoistway to address	less than 36 feet to Roof Deck; less than 45 ft. incl. Pilot House

# BUILDING INFORMATION Requirement for current Requirement for lots a

Pike			
	GENERAL		
	BUILDING HEIGHT (T.O. ROOF) 35'-0"		
	LOT AREA 8,766 GSF		
	BUILDING COVERAGE 6,612 SF (7	75%)	
Pike e	SITE GREEN AREA + GREEN ROOF 478 SF+23 =2822 SF (	-	
se Pike			
	DRAWING INI	DEX	
	SHEET TITLE	NO.	SHEET
aggregate	GENERAL INFORMATION PLAN	G-001	1
	SITE DEMOLITION PLAN	C-101.1	2
	SITE PLAN	C-102	3
	GRADING PLAN	C-103	4
	UTILITY PLAN	C-104	5
feet from	SOIL EROSION & SEDIMENT CONTROL PLAN	C-105	6
arking uildings	SOIL EROSION & SEDIMENT CONTROL NOTES	C-105.1	7
_	SOIL EROSION & SEDIMENT CONTROL DETAILS	C-105.2	8
feet from	ACCESS PERMIT SITE PLAN	C-102.1	9
th totaL roof	DETAIL SHEET	C-501	10
1001	DETAIL SHEET 2	C-502	11
of Deck; ot House	DETAIL SHEET 3	C-503	12
	LANDSCAPE & SITE LIGHTING PLAN	L-101	13
	LANDSCAPE DETAILS	L-501	14

3,894 GSF

6,480 GSF

6,480 GSF

16,854 GSF

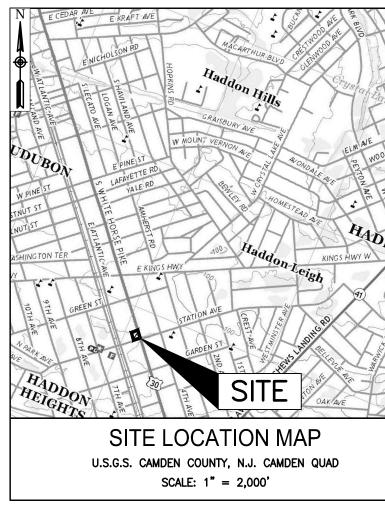
TOTAL BUILDING AREAS

FIRST FLOOR

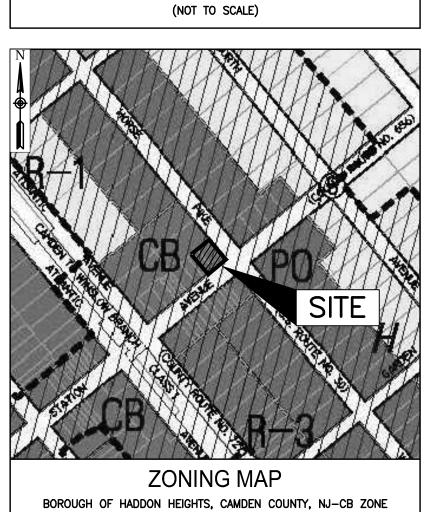
SECOND FLOOR

THIRD FLOOR

**BUILDING TOTAL** 







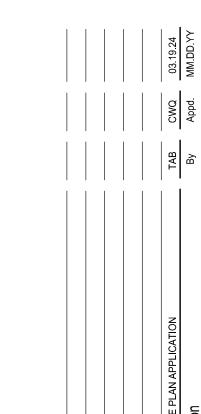
(NOT TO SCALE)

CHAIRMAN:

APPLICATION NO. \_\_\_\_\_

I HEREBY STATE THAT I AM THE OWNER/APPLICANT OF LANDS SHOWN HEREON.

OWNER	DATE:
THIS PLAN IS HEREBY APPROVED BY THE	E HADDON HEIGHTS BOROUGH PLANNING BOARD.
CHAIRMAN:	DATE:
SECRETARY:	DATE:
ENGINEER:	DATE:
BOROUGH CLERK:	DATE:
BOROUGH ENGINEER:	DATE:
	E CAMDEN COUNTY PLANNING BOARD SUBJECT THE INDITIONS SET FORTH BY THE CAMDEN COUNTY

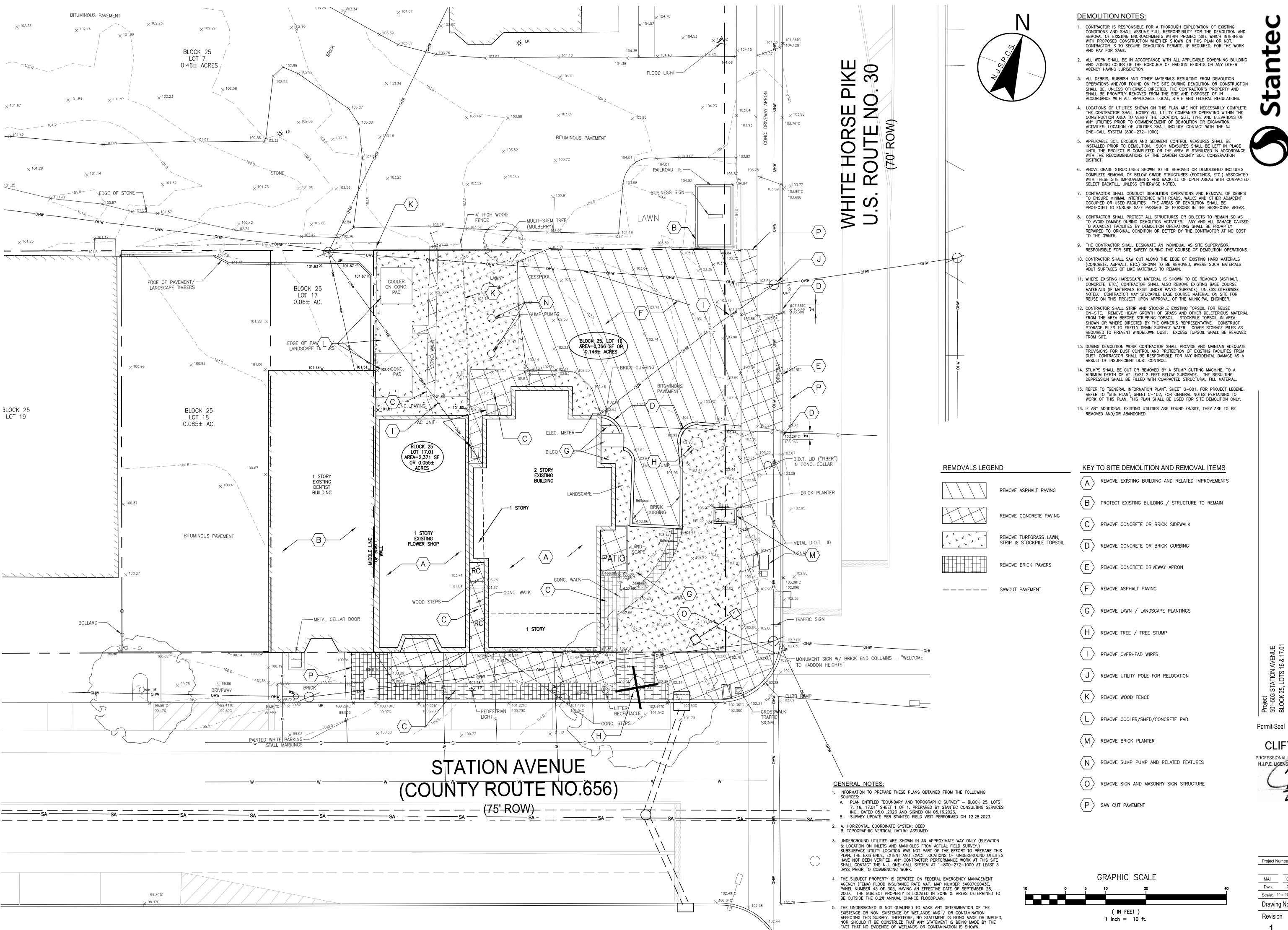


Permit-Seal

**CLIFTON W. QUAY** PROFESSIONAL ENGINEER, PROFESSIONAL PLANNER N.J.P.E. LICENSE #42670, N.J.P.P. LICENSE #LI05653

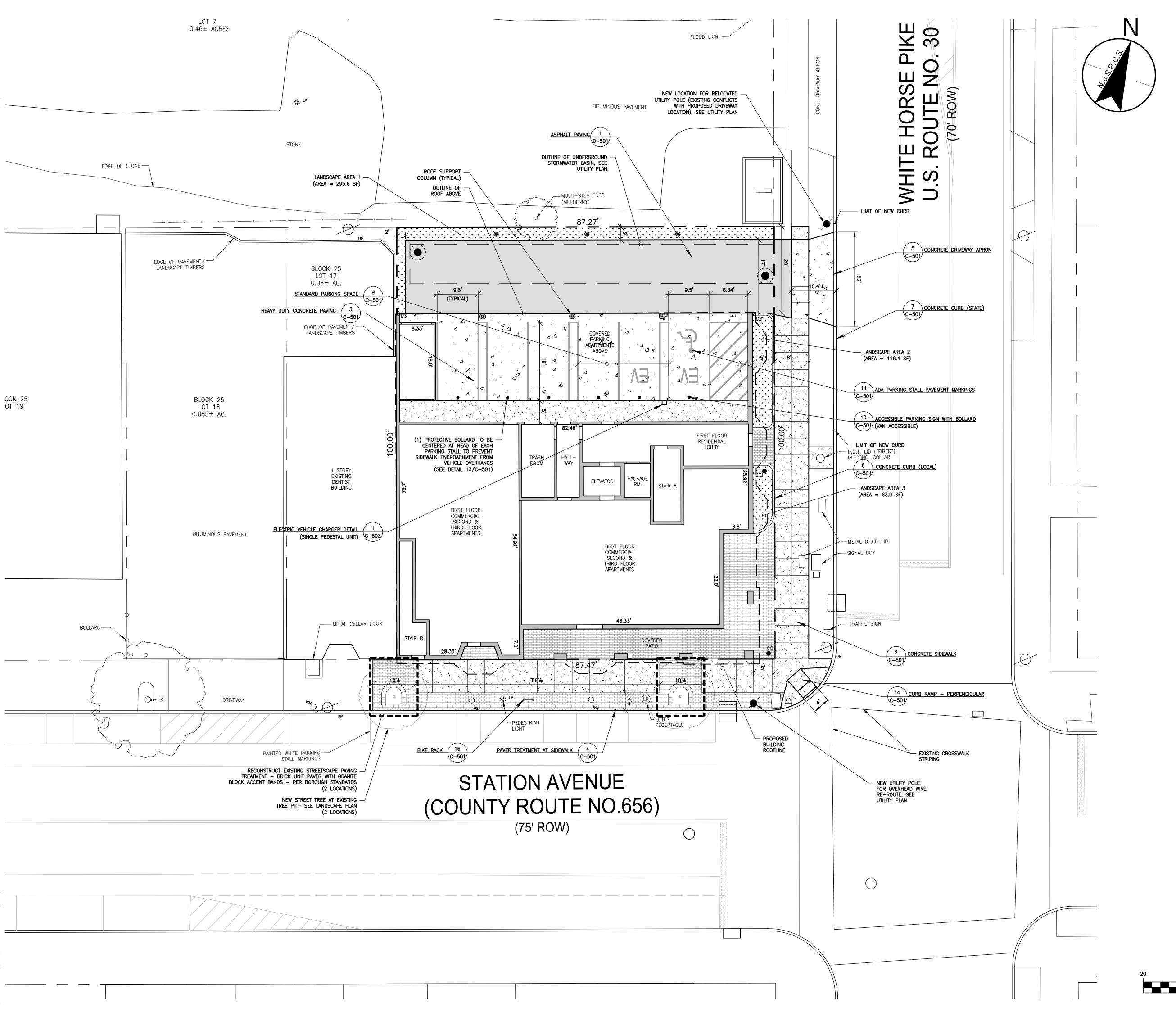
Project Number: 192520466 MAI CWQ SAK 02.13.24

Dwn. Chkd. Dsgn. MM.DD.YY Scale: AS NOTED Drawing No. G-001 Revision



CLIFTON W. QUAY PROFESSIONAL ENGINEER, PROFESSIONAL PLANNER N.J.P.E. LICENSE #42670, N.J.P.P. LICENSE #LI05653

Project Number: 192520466 MAI CWQ SAK Dwn. Chkd. Dsgn. MM.DD.YY Scale: 1" = 10' Drawing No. C-101.1



**GENERAL NOTES:** 

- 1. CONTRACTOR SHALL INSPECT AND VERIFY ALL FIELD DIMENSIONS AND SITE CONDITIONS SHOWN HEREIN BEFORE PROCEEDING WITH THE WORK. DISCREPANCIES BETWEEN FIELD CONDITIONS AND THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF THE WORK. ONCE CONSTRUCTION HAS BEGUN, CONTRACTOR SHALL NOT USE FIELD INFORMATION DISCREPANCIES AS THE BASIS FOR CHANGE ORDER CLAIMS.
- ALL WORK PERFORMED SHALL CONFORM TO ALL APPLICABLEBOROUGH OF HADDON HEIGHTS STANDARDS (ALL REQUIRED NOTIFICATIONS TO TOWNSHIP AGENCIES INCLUDED).
- THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. LOCATION OF UTILITIES SHALL INCLUDE CONTACT WITH THE NJ ONE-CALL SYSTEM (800-272-1000).
- 4. NO DISTURBANCES NOR PLACEMENT OF MATERIALS SHALL BE PERMITTED BEYOND THE PROJECT PROPERTY LINES WITHOUT THE WRITTEN CONSENT OF THE PROPERTY OWNER(S) INVOLVED. ALL DAMAGE CAUSED TO ADJACENT FACILITIES BY CONTRACTOR'S OPERATIONS AND/OR STORAGE OF MATERIALS OR EQUIPMENT SHALL BE PROMPTLY REPAIRED TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER.
- 5. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL UTILITY SERVICES FOR EXISTING FACILITIES DURING THE WORK. CONTRACTOR SHALL COORDINATE CHANGEOVER FROM PERMANENT TO TEMPORARY SERVICE, AND BACK WITH THE AFFECTED PARTIES PRIOR TO COMMENCEMENT OF THE WORK.
- 6. CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL APPLICABLE OSHA REGULATIONS AND FOR PROVIDING FOR PUBLIC SAFETY DURING DEMOLITION AND CONSTRUCTION OPERATIONS AND HOLD THE OWNER AND OWNER'S REPRESENTATIVE HARMLESS FOR DAMAGES CREATED BY THE CONTRACTOR. CONTRACTOR SHALL SECURE THE PROPER INSURANCE COVERAGE FOR THE
- 7. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL MEASURES AS REQUIRED AND COORDINATE WITH OWNER TO ALLOW SAFE INGRESS AND EGRESS FROM THE SITE DURING CONSTRUCTION. CONTRACTOR SHALL MAINTAIN TRAFFIC FLOW AROUND THE SITE. IF IT BECOMES NECESSARY TO CLOSE A PORTION OF AN ADJACENT STREET DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY LOCAL AUTHORITY HAVING JURISDICTION. SECURE ALL PERMITS REQUIRED FOR THE WORK.
- 8. APPLICABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION. SUCH MEASURES SHALL BE LEFT IN PLACE UNTIL THE PROJECT IS COMPLETED OR THE AREA IS STABILIZED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT.
- 9. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SECURING THE PROJECT SITE AT ALL TIMES. CONTRACTOR SHALL MAINTAIN ADEQUATE BARRICADE AND SECURITY FENCE WHICH SHALL CONFORM TO OWNER'S REQUIREMENTS.
- 10. CONTRACTOR IS TO PROVIDE ADEQUATE SECURITY LIGHTING DURING CONSTRUCTION.
- 11. ALL AREAS DISTURBED AS A RESULT OF CONSTRUCTION SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION OR BETTER, UNLESS OTHERWISE INDICATED.
- 12. CONTRACTOR IS TO KEEP ALL AREAS CLEAN OF DIRT AND DEBRIS ON A DAILY BASIS. OWNER HAS A RIGHT TO CLEAN FOR CONTRACTOR NONCOMPLIANCE AT CONTRACTOR'S EXPENSE.
- 13. CONTRACTOR SHALL TAKE WHATEVER PRECAUTION NECESSARY DURING CONSTRUCTION TO ENSURE THAT NO DAMAGE IS DONE TO EXISTING TREES. THIS SHALL INCLUDE THE USE OF CONSTRUCTION EQUIPMENT OF SIZES AND WEIGHTS, WHICH WILL NOT INJURE ROOT SYSTEMS. TREE LOCATIONS ARE APPROXIMATE, AND SHALL BE FIELD VERIFIED PRIOR TO COMMENCEMENT OF WORK.
- 14. THE CONTRACTOR SHALL EMPLOY A REGISTERED SURVEYOR TO LAY OUT THE WORK, AND TO ESTABLISH ALL POINTS, LINES, AND GRADES FROM THE BENCH MARKS, CENTER LINES, REFERENCE POINTS, AND BASELINES SHOWN ON THESE PLANS. ALL WORK SHALL BE LOCATED BY THE CONTRACTOR FROM THESE ESTABLISHED POINTS.
- 15. CONTRACTOR SHALL FURNISH PRODUCT SUBMITTALS, SAMPLES, AND/OR SHOP DRAWINGS, (5 COPIES EACH) FOR ALL ITEMS PERTAINING TO WORK OF THESE PLANS. SUBMISSIONS SHALL BE MADE IN SUFFICIENT ADVANCE TIME SO THAT THE PROJECT CONSULTANT'S REVIEW AND ACCEPTANCE MAY BE ACHIEVED NO LESS THAN (10) DAYS BEFORE THE WORK REPRESENTED BY THOSE SUBMITTALS IS SCHEDULED TO BE PERFORMED. WORK FOR WHICH SUBMITTALS ARE REQUIRED SHALL NOT BE STARTED UNTIL THE PROJECT CONSULTANT'S REVIEW AND ACCEPTANCE HAS BEEN RECEIVED.
- 16. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF WORK SHOWN ON THESE PLANS WITH THE WORK SHOWN ON OTHER DIVISION PLANS (ARCHITECTURAL, STRUCTURAL, ETC.). ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER OR OWNER'S REPRESENTATIVE, PRIOR TO COMMENCEMENT OF THE WORK.
- 17. ALL MATERIALS, EQUIPMENT AND METHODS OF CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE NEW JERSEY DEPARTMENT OF TRANSPORTATION (NJDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" UNLESS OTHERWISE INDICATED.

# PAVEMENT / SURFACE MATERIALS LEGEND

ASPHALT PAVING

GRAPHIC SCALE

( IN FEET ) 1 INCH = 20 FEET

CONCRETE PAVING - SIDEWALK

STREETSCAPE UNIT PAVERS

CONCRETE PAVING - HEAVY DUTY

PLANTING AREAS (ON-SITE)

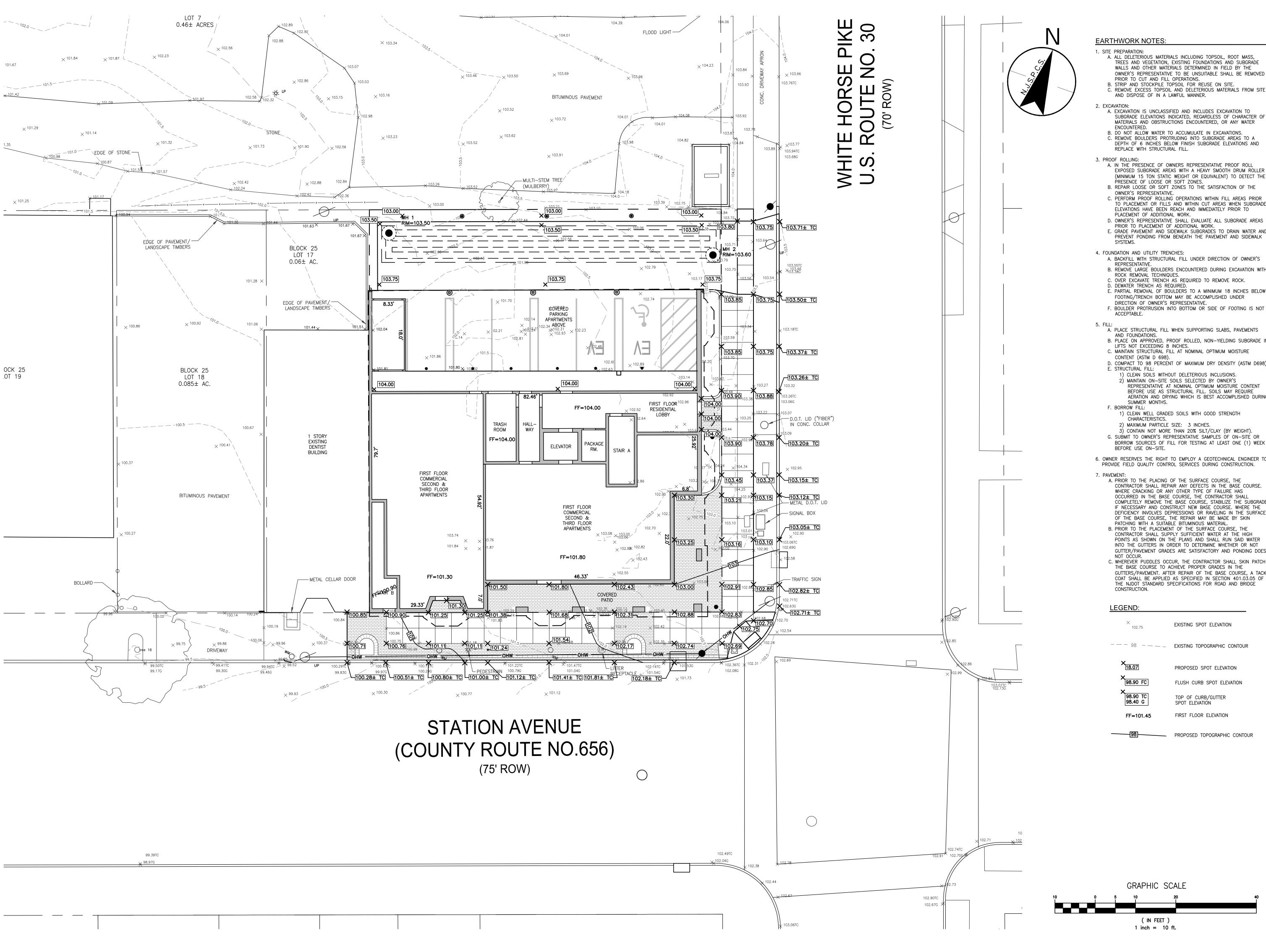
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3 of 14

Permit-Seal

CLIFTON W. QUAY

PROFESSIONAL ENGINEER, PROFESSIONAL PLANNER N.J.P.E. LICENS #42670, N.J.P.P. LICENS #LI05653



**EARTHWORK NOTES:** 

A. ALL DELETERIOUS MATERIALS INCLUDING TOPSOIL, ROOT MASS. TREES AND VEGETATION, EXISTING FOUNDATIONS AND SUBGRADE WALLS AND OTHER MATERIALS DETERMINED IN FIELD BY THE OWNER'S REPRESENTATIVE TO BE UNSUITABLE SHALL BE REMOVED PRIOR TO CUT AND FILL OPERATIONS.

B. STRIP AND STOCKPILE TOPSOIL FOR REUSE ON SITE. C. REMOVE EXCESS TOPSOIL AND DELETERIOUS MATERIALS FROM SITE AND DISPOSE OF IN A LAWFUL MANNER.

A. EXCAVATION IS UNCLASSIFIED AND INCLUDES EXCAVATION TO SUBGRADE ELEVATIONS INDICATED, REGARDLESS OF CHARACTER OF MATERIALS AND OBSTRUCTIONS ENCOUNTERED, OR ANY WATER

B. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS.
C. REMOVE BOULDERS PROTRUDING INTO SUBGRADE AREAS TO A DEPTH OF 6 INCHES BELOW FINISH SUBGRADE ELEVATIONS AND REPLACE WITH STRUCTURAL FILL.

3. PROOF ROLLING:
A. IN THE PRESENCE OF OWNERS REPRESENTATIVE PROOF ROLL EXPOSED SUBGRADE AREAS WITH A HEAVY SMOOTH DRUM ROLLER (MINIMUM 15 TON STATIC WEIGHT OR EQUIVALENT) TO DETECT THE PRESENCE OF LOOSE OR SOFT ZONES.

OWNER'S REPRESENTATIVE. C. PERFORM PROOF ROLLING OPERATIONS WITHIN FILL AREAS PRIOR TO PLACEMENT OR FILLS AND WITHIN CUT AREAS WHEN SUBGRADE ELEVATIONS HAVE BEEN REACH AND IMMEDIATELY PRIOR TO PLACEMENT OF ADDITIONAL WORK.

PRIOR TO PLACEMENT OF ADDITIONAL WORK. E. GRADE PAVEMENT AND SIDEWALK SUBGRADES TO DRAIN WATER AND PREVENT PONDING FROM BENEATH THE PAVEMENT AND SIDEWALK

4. FOUNDATION AND UTILITY TRENCHES:

A. BACKFILL WITH STRUCTURAL FILL UNDER DIRECTION OF OWNER'S B. REMOVE LARGE BOULDERS ENCOUNTERED DURING EXCAVATION WITH ROCK REMOVAL TECHNIQUES.

D. DEWATER TRENCH AS REQUIRED. E. PARTIAL REMOVAL OF BOULDERS TO A MINIMUM 18 INCHES BELOW FOOTING/TRENCH BOTTOM MAY BE ACCOMPLISHED UNDER

DIRECTION OF OWNER'S REPRESENTATIVE. F. BOULDER PROTRUSION INTO BOTTOM OR SIDE OF FOOTING IS NOT

5. FILL:
A. PLACE STRUCTURAL FILL WHEN SUPPORTING SLABS, PAVEMENTS B. PLACE ON APPROVED, PROOF ROLLED, NON-YIELDING SUBGRADE IN LIFTS NOT EXCEEDING 8 INCHES. C. MAINTAIN STRUCTURAL FILL AT NOMINAL OPTIMUM MOISTURE

CONTENT (ASTM D 698). D. COMPACT TO 98 PERCENT OF MAXIMUM DRY DENSITY (ASTM D698). E. STRUCTURAL FILL: 1) CLEAN SOILS WITHOUT DELETERIOUS INCLUSIONS.

2) MAINTAIN ON-SITE SOILS SELECTED BY OWNER'S REPRESENTATIVE AT NOMINAL OPTIMUM MOISTURE CONTENT BEFORE USE AS STRUCTURAL FILL. SOILS MAY REQUIRE AERATION AND DRYING WHICH IS BEST ACCOMPLISHED DURING SUMMER MONTHS. F. BORROW FILL:

1) CLEAN WELL GRADED SOILS WITH GOOD STRENGTH CHARACTERISTICS.

2) MAXIMUM PARTICLE SIZE: 3 INCHES. 3) CONTAIN NOT MORE THAN 20% SILT/CLAY (BY WEIGHT).

G. SUBMIT TO OWNER'S REPRESENTATIVE SAMPLES OF ON-SITE OR BORROW SOURCES OF FILL FOR TESTING AT LEAST ONE (1) WEEK BEFORE USE ON-SITE.

6. OWNER RESERVES THE RIGHT TO EMPLOY A GEOTECHNICAL ENGINEER TO PROVIDE FIELD QUALITY CONTROL SERVICES DURING CONSTRUCTION.

A. PRIOR TO THE PLACING OF THE SURFACE COURSE, THE CONTRACTOR SHALL REPAIR ANY DEFECTS IN THE BASE COURSE. WHERE CRACKING OR ANY OTHER TYPE OF FAILURE HAS OCCURRED IN THE BASE COURSE, THE CONTRACTOR SHALL COMPLETELY REMOVE THE BASE COURSE. STABILIZE THE SUBGRADE IF NECESSARY AND CONSTRUCT NEW BASE COURSE. WHERE THE DEFICIENCY INVOLVES DEPRESSIONS OR RAVELING IN THE SURFACE OF THE BASE COURSE, THE REPAIR MAY BE MADE BY SKIN

PATCHING WITH A SUITABLE BITUMINOUS MATERIAL. B. PRIOR TO THE PLACEMENT OF THE SURFACE COURSE, THE CONTRACTOR SHALL SUPPLY SUFFICIENT WATER AT THE HIGH POINTS AS SHOWN ON THE PLANS AND SHALL RUN SAID WATER INTO THE GUTTERS IN ORDER TO DETERMINE WHETHER OR NOT GUTTER/PAVEMENT GRADES ARE SATISFACTORY AND PONDING DOES

C. WHEREVER PUDDLES OCCUR, THE CONTRACTOR SHALL SKIN PATCH THE BASE COURSE TO ACHIEVE PROPER GRADES IN THE GUTTERS/PAVEMENT. AFTER REPAIR OF THE BASE COURSE, A TACK COAT SHALL BE APPLIED AS SPECIFIED IN SECTION 401.03.05 OF THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE

LEGEND:

FF=101.45

GRAPHIC SCALE

( IN FEET )

1 inch = 10 ft.

EXISTING SPOT ELEVATION --- 98 --- EXISTING TOPOGRAPHIC CONTOUR

PROPOSED SPOT ELEVATION FLUSH CURB SPOT ELEVATION TOP OF CURB/GUTTER 98.40 G SPOT ELEVATION

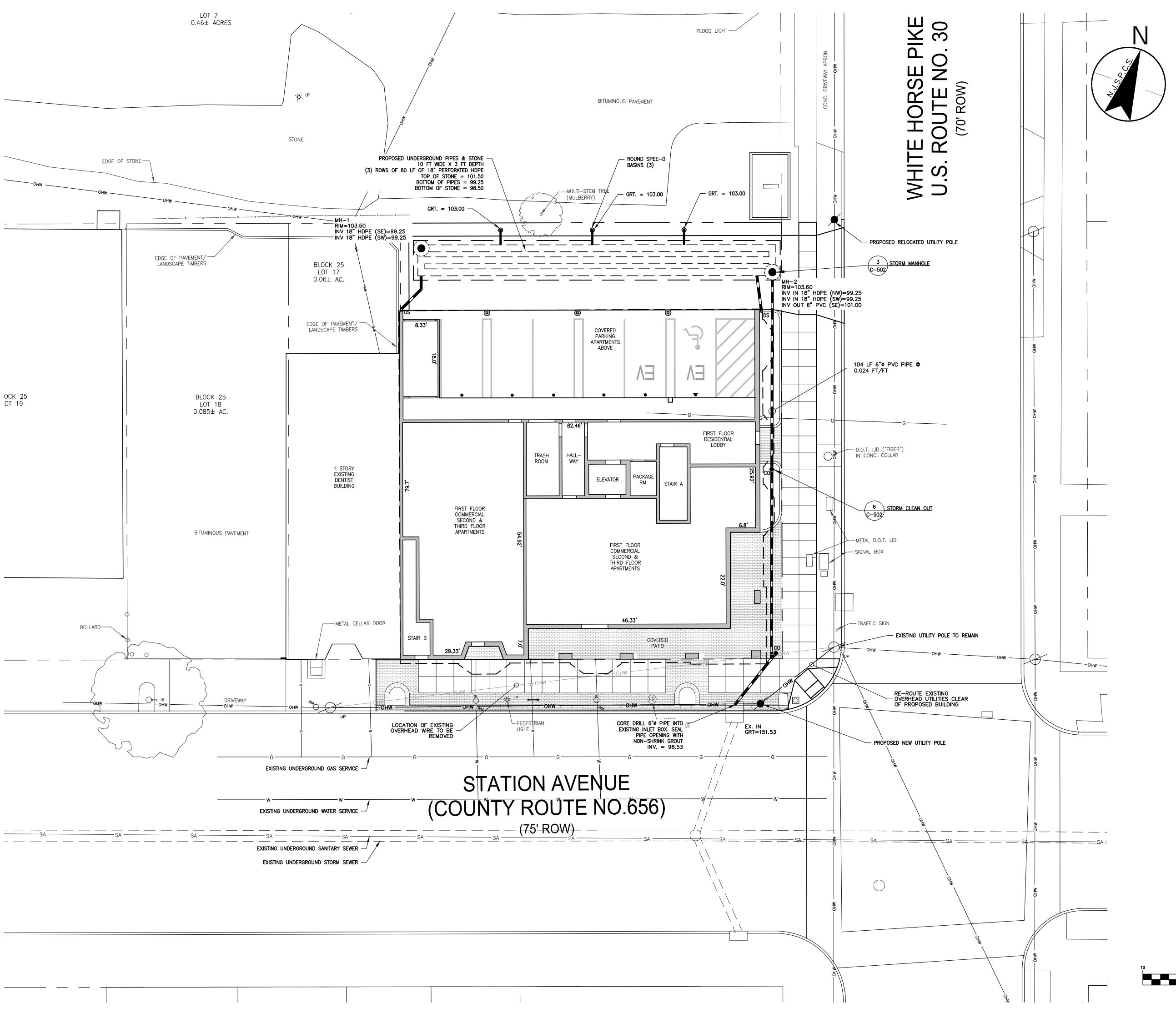
— PROPOSED TOPOGRAPHIC CONTOUR

FIRST FLOOR ELEVATION

CLIFTON W. QUAY

PROFESSIONAL ENGINEER, PROFESSIONAL PLANNER N.J.P.E. LICENSE #42670, N.J.P.P. LICENSE #L105653

CWQ SAK Dwn. Chkd. Dsgn. Drawing No. C-103 Revision



**UTILITY NOTES:** 

1. ALL UTILITY CONTRACTORS SHALL PROCURE ALL REQUIRED PERMITS, LICENSES AND INSPECTIONS, PAY ALL CHARGES AND GIVE ALL NECESSARY NOTICES AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

2. ALL METHODS AND MATERIALS OF CONSTRUCTION SHALL CONFORM, WHERE APPLICABLE, TO THE RULES AND REGULATIONS OF THE GOVERNING AUTHORITY HAVING JURISDICTION AND/OR THE LOCAL UTILITY COMPANY.

3. PIPE MATERIAL:

A. REINFORCED CONCRETE PIPE (RCP): ASTM C 76, CLASS III, WITH WALL TYPE A, B, OR C; MESH REINFORCEMENT; INSIDE NOMINAL DIAMETER AS INDICATED WITH BELL AND SPIGOT END. 1) REINFORCED CONCRETE: ASTM C 443. 2) PIPE JOINT: SDR 35 PER ASTM D-3034 WITH BELL AND GASKET JOINTS.

B. POLYVINYL CHLORIDE (PVC) PIPE: ASTM D 3034, RATED SDR 35, UNLESS OTHERWISE REQUIRED BY LOCAL UTILITY HAVING

1) CONTINUOUSLY MARK PIPE WITH MANUFACTURER'S NAME, PIPE SIZE, CELL CLASSIFICATION, SDR RATING, AND ASTM D 3034 CLASSIFICATION. 2) PIPE JOINT: ASTM D 3034, TABLE 2; WITH INTEGRALLY MOLDED BELL ENDS AND FACTORY SUPPLIED ELASTOMERIC GASKETS AND LUBRICANT.

C. POLYVINYL CHLORIDE (PVC) PIPE: ASTM D 1784, RATED SCHEDULE 40, UNLESS OTHERWISE REQUIRED BY LOCAL UTILITY HAVING 1) CONTINUOUSLY MARK PIPE WITH MANUFACTURER'S NAME,

PIPE SIZE, CELL CLASSIFICATION, SCHEDULE 40 RATING, AND ASTM D 1784 CLASSIFICATION. 2) PIPE JOINT: ASTM D 3212; WITH INTEGRALLY MOLDED BELL ENDS AND FACTORY SUPPLIED ELASTOMERIC GASKETS AND LUBRICANT.

D. CORRUGATED POLYETHYLENE (HDPE) PIPE: AASHTO DESIGNATION #M252, TYPE S; SMOOTH INTERIOR. 1) FITTINGS: ASTM D 3034, RATED SDR 35; WITH THERMO-MOLDED PVC. 2) GASKETS: ASTM F 477; WITH THERMO-MOLDED PVC

FÍTTINGS AND CPP PIPE JOINT ASSEMBLY.

4. MATERIALS FOR POTABLE WATER SERVICE AND ALL METHODS OF CONSTRUCTION SHALL CONFORM TO LOCAL WATER AND SEWER DEPARTMENT RULES AND REGULATIONS. CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS, LABOR AND TESTING FOR AND SERVICE CONNECTIONS AND COORDINATE SERVICE INITIATION REQUIREMENTS WITH THE TOWNSHIP.

5. PROVIDE MINIMUM COVER OF 42" FROM FINISH GRADE FOR POTABLE WATER SERVICE.

6. CONTRACTOR SHALL COORDINATE INSTALLATION OF GAS SERVICE WITH PSE&G AND PROVIDE ALL NECESSARY MATERIALS AND LABOR NOT PROVIDED BY PSE&G FOR COMPLETION OF MAIN AND SERVICE. SIZE OF SERVICE SHALL BE VERIFIED WITH PSE&G.

7. CONTRACTOR SHALL COORDINATE INSTALLATION OF ELECTRIC SERVICE WITH PSE&G AND PROVIDE ALL NECESSARY MATERIALS AND LABOR NOT PROVIDED BY PSE&G FOR COMPLETION OF SERVICE. SERVICE REQUIREMENTS SHALL BE VERIFIED WITH PSE&G. CONNECTION LOCATION TO BE DETERMINED BY PSE&G.

8. REFER TO PLAN C-102 FOR GENERAL NOTES PERTAINING TO WORK OF

9. GENERAL CONTRACTOR SHALL EMPLOY AN INDEPENDENT SOILS INSPECTOR FOR 100% CONTINUOUS INSPECTION OF THE BEDDING AND BACKFILL OPERATION. COMPACTION TESTS SHALL BE TAKEN AT THE BOTTOM OF TRENCH AND AT EACH LIFT OF BACKFILL.

10. GENERAL CONTRACTOR SHALL EMPLOY A LICENSED SURVEYOR TO RECORD AS-BUILT TOP OF PIPE ELEVATIONS TAKEN WHEN BEDDING OPERATION IS 75% COMPLETE. THESE ELEVATIONS SHALL BE TAKEN AT POINTS OF CONNECTION, CHANGES IN DIRECTION AND AT MINIMUM 20' INTERVALS ALONG THE LENGTH OF THE PIPE. THESE ELEVATIONS SHALL BE RECORDED AS AS-BUILT DIMENSIONS ON A SITE PLAN FOR REVIEW BY THE PROJECT CIVIL ENGINEER.

11. ALL SANITARY LINES ARE TO BE FLUSHED PRIOR TO CONTRACTOR TURNOVER OF THE FACILITY.

12. CONTRACTOR TO VERIFY WITH UTILITY COMPANY FOR PROPER LOCATION OF TELECOMMUNICATION DROP. CONDUIT SHALL RUN FROM DROP TO IT

13. CONTRACTOR TO COORDINATE WITH VERIZON FOR PROPOSED TELEPHONE SERVICE. SERVICE SHALL BE RUN IN UNDERGROUND

14. CONTRACTOR TO COORDINATE WITH DATA SERVICE PROVIDERS FOR CONNECTION. ALL SERVICE TO BE RUN UNDERGROUND.

LEGEND: CLEANOUT UNDERGROUND STORM PIPE UNDERGROUND PERFORATED STORM PIPE

OVERHEAD UTILITIES DOWNSPOUT (ROOF COLLECTOR) ROUND BASIN DRAIN W/ ATRIUM GRATE

STORM MANHOLE CO STORM CLEANOUT

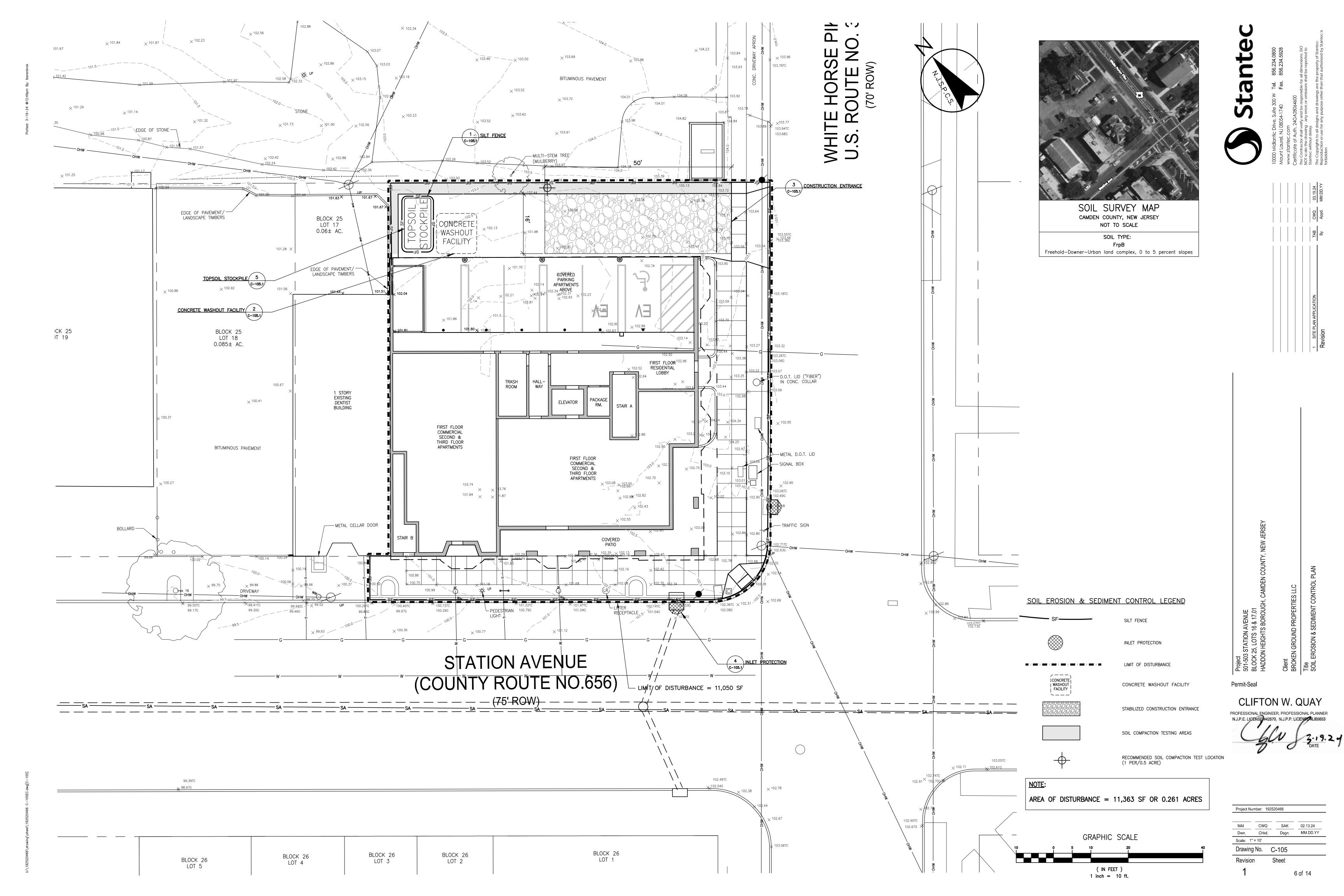
GRAPHIC SCALE

( IN FEET ) 1 inch = 10 ft. Permit-Seal

CLIFTON W. QUAY

PROFESSIONAL ENGINEER, PROFESSIONAL PLANNER N.J.P.E. LICENS #42670, N.J.P.P. LICENS #LI05653

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- HE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY. 3. APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS
- COMPLETED AND/OR THE AREA IS STABILIZED.
- 4. THE CONTRACTOR SHALL PERFORM ALL WORK, FURNISH ALL MATERIALS AND INSTALL ALL MEASURES REQUIRED TO REASONABLY CONTROL SOIL EROSION RESULTING FROM CONSTRUCTION OPERATIONS AND PREVENT EXCESSIVE FLOW OF SEDIMENT FROM THE CONSTRUCTION SITE.
- ANY DISTURBED AREA THAT IS TO BE LEFT EXPOSED FOR MORE THAN THIRTY (30) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING AND FERTILIZATION IN ACCORDANCE WITH THE NEW JERSEY STANDARDS AND THEIR RATES SHOULD BE INCLUDED IN THE NARRATIVE. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID
- 6. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PROVIDE CONFIRMATION OF LIME, FERTILIZER AND SEED APPLICATION AND RATES OF APPLICATION AT THE REQUEST OF THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT.
- 7. ALL CRITICAL AREAS SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH AT A RATE OF 2 TONS PER ACRE, ACCORDING TO THE NEW JERSEY STANDARDS IMMEDIATELY FOLLOWING
- 8. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
- 9. ALL SEDIMENTATION STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY
- 10. A CRUSHED STONE, TIRE CLEANING PAD WILL BE INSTALLED WHEREVER A CONSTRUCTION ACCESS EXISTS. THE STABILIZED PAD WILL BE INSTALLED ACCORDING TO THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS
- 11. ALL DRIVEWAYS MUST BE STABILIZED WITH 2 ½" CRUSHED STONE OR SUBBASE PRIOR TO INDIVIDUAL LOT
- 12. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
- 13. ALL CATCH BASIN INLETS WILL BE PROTECTED ACCORDING TO THE CERTIFIED PLAN.
- 14. ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED, AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME
- 15. ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA. THE SEDIMENT FILTER SHOULD BE COMPOSED OF A SUITABLE SEDIMENT FILTER FABRIC. (SEE DETAIL) THE BASIN MUST BE DEWATERED TO NORMAL POOL WITHIN 10 DAYS OF THE DESIGN STORM 16. NJSA 4:24-39, ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE ALL PROVISIONS OF
- THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES. ALL SITE WORK FOR THE PROJECT MUST BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE AS A PREREQUISITE TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
- 17. MULCHING IS REQUIRED ON ALL SEEDED AREAS TO INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED TO PROMOTE EARLIER VEGETATION COVER.
- 18. OFFSITE SEDIMENT DISTURBANCE MAY REQUIRE ADDITIONAL CONTROL MEASURES TO BE DETERMINED BY THE

19. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE MAINTAINED ON THE PROJECT

- SITE DURING CONSTRUCTION. 20. THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 72 HOURS PRIOR TO ANY LAND
- 21. ANY CONVEYANCE OF THIS PROJECT PRIOR TO ITS COMPLETION WILL TRANSFER FULL RESPONSIBILITY FOR
- COMPLIANCE WITH THE CERTIFIED PLAN TO ANY SUBSEQUENT OWNERS. 22. IMMEDIATELY AFTER THE COMPLETION OF STRIPPING AND STOCKPILING OF TOPSOIL, THE STOCKPILE MUST BE
- STABILIZED ACCORDING TO THE STANDARD FOR TEMPORARY VEGETATIVE COVER. STABILIZE TOPSOIL PILE WITH STRAW MULCH FOR PROTECTION IF THE SEASON DOES NOT PERMIT THE APPLICATION AND ESTABLISHMENT OF TEMPORARY SEEDING. ALL SOIL STOCKPILES ARE NOT TO BE LOCATED WITHIN FIFTY (50) FEET OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY AND THE BASE MUST BE PROTECTED WITH A SEDIMENT BARRIER.
- 23. ANY CHANGES TO THE SITE PLAN WILL REQUIRE THE SUBMISSION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN TO THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT. THE REVISED PLAN MUST BE IN ACCORDANCE WITH THE CURRENT NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL
- 24. METHODS FOR THE MANAGEMENT OF HIGH ACID PRODUCING SOILS SHALL BE IN ACCORDANCE WITH THE STANDARDS. IIGH ACID PRODUCING SOILS ARE THOSE FOUND TO CONTAIN IRON SULFIDES OR HAVE A pH OF 4 OR LESS.
- 25. TEMPORARY AND PERMANENT SEEDING MEASURES MUST BE APPLIED ACCORDING TO THE NEW JERSEY STANDARDS, AND MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID MULCH BINDER).
- 26. MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT BE CONSTRUCTED STEEPER THAN 3:1 UNLESS OTHERWISE APPROVED BY THE DISTRICT.
- 27. DUST IS TO BE CONTROLLED BY AN APPROVED METHOD ACCORDING TO THE NEW JERSEY STANDARDS AND MAY INCLUDE WATERING WITH A SOLUTION OF CALCIUM CHLORIDE AND WATER. 28. ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
- 29. USE STAGED CONSTRUCTION METHODS TO MINIMIZE EXPOSED SURFACES, WHERE APPLICABLE
- 30. ALL VEGETATIVE MATERIAL SHALL BE SELECTED IN ACCORDANCE WITH AMERICAN STANDARDS FOR NURSERY STOCK
- OF THE AMERICAN ASSOCIATION OF THE NURSERYMEN AND IN ACCORDANCE WITH THE NEW JERSEY STANDARDS. 31. NATURAL VEGETATION AND SPECIES SHALL BE RETAINED WHERE SPECIFIED ON THE LANDSCAPE PLAN.
- 32. THE SOIL EROSION INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.

# STANDARDS FOR LAND GRADING

DEFINITION: RESHAPING THE GROUND SURFACE BY GRADING TO PLANED GRADES WHICH ARE DETERMINED BY

- 1. THE CUT FACE OF EARTH EXCAVATIONS AND FILLS SHALL BE NO STEEPER THAN THE SAFE ANGLE OF REPOSE FOR THE MATERIALS ENCOUNTERED AND FLAT ENOUGH FOR PROPER MAINTENANCE.
- 2. THE PERMANENTLY EXPOSED FACES OF EARTH CUTS AND FILLS SHALL BE VEGETATED OR OTHERWISE PROTECTED
- 3. PROVISIONS SHALL BE MADE TO SAFELY CONDUCT SURFACE WATER TO STORM DRAINS OR SUITABLE WATER COURSES AND TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FILL SLOPES.
- 4. SUBSURFACE DRAINAGE IS TO BE PROVIDED IN AREAS HAVING A HIGH WATER TABLE, TO INTERCEPT SEEPAGE THAT WOULD ADVERSELY AFFECT SLOPE STABILITY, BUILDING FOUNDATIONS OR CREATE UNDESIRABLE WETNESS.
- 5. ADJOINING PROPERTY SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS
- 6. FILL SHALL NOT BE PLACED ADJACENT TO THE BANK OF A STREAM OR CHANNEL, UNLESS PROVISIONS ARE MADE TO PROTECT THE HYDRAULIC, BIOLOGICAL, AESTHETIC AND OTHER ENVIRONMENTAL FUNCTIONS OF THE STREAM.
- A. TIMBER, LOGS, BRUSH, RUBBISH, ROCKS, STUMPS AND VEGETATIVE MATTER WHICH WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OR FILL AREAS SHALL BE REMOVED AND DISPOSED OF

7. INSTALLATION REQUIREMENTS:

- B. TOPSOIL IS TO BE STRIPPED AND STOCKPILED IN AMOUNTS NECESSARY TO COMPLETE FINISH GRADING OF ALL **FXPOSED AREAS REQUIRING TOPSOIL.**
- C. FILL MATERIAL IS TO BE FREE OF BRUSH, RUBBISH, TIMBER, LOGS, VEGETATIVE MATTER AND STUMPS IN AMOUNTS THAT WILL BE DETRIMENTAL TO CONSTRUCTING STABLE FILLS.
- ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESSIVE SATURATION.
- ALL DISTURBED AREAS SHALL BE LEFT WITH A NEAT AND FINISHED APPEARANCE AND SHALL BE PROTECTED F. TREES TO BE RETAINED SHALL BE PROTECTED IF NECESSARY IN ACCORDANCE WITH THE STANDARD FOR TREE
- PROTECTION DURING CONSTRUCTION. G. SOIL COMPACTION RESULTING FROM LAND GRADING ACTIVITIES CAN IMPACT THE INFILTRATION RATE OF THE SOIL. RESTORATION OF COMPACTED SOILS THROUGH DEEP TILLAGE (6" TO 12") AND THE ADDITION OF ORGANIC MATTER MAY BE REQUIRED IN PLANNED PERVIOUS AREAS TO ENHANCE THE INFILTRATION RATE OF THE DISTURBED SOIL. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE

#### IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.) **DUST CONTROL NOTES**

THE FOLLOWING METHODS SHOULD BE CONSIDERED FOR CONTROLLING DUST:

- MULCHES SEE STANDARD OF STABILIZATION WITH MULCHES NOTES. 2. VEGETATIVE COVER-SEE STANDARD FOR TEMPORARY VEGETATIVE COVER NOTES, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION NOTES AND PERMANENT STABILIZATION WITH SOD NOTES.
- 3. SPRAY-ON ADHESIVES-ONMINERAL SOILS (NOT EFFECTIVE ONMUCK SOILS). KEEP TRAFFIC OFF THESE AREAS. TABLE 16 1 DUST CONTROL MATERIA

	TAE	BLE 16-1 DUST COM	NTROL MATERIALS	
	MATERIAL	WATER DILLUTION	TYPE OF NOZZLE	APPLY GALLON/ACRE
	ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1200
	LATEX EMULSION	12:5:1	FINE SPRAY	235
	RESIN IN WATER	4:1	FINE SPRAY	300
	POLYACRYLAMIDE (PAM) — SPRAY ON POLYACRYLAMIDE (PAM) — DRY SPREAD	APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS. MAY ALSO B USED AS AN ADDITIVE TO SEDIMENT BASINS TO FLOCCULATE AND PRECIPITATE SUSPENDED COLLOIDS. SEE SEDIMENT BASIN STANDARD.		
I	ACIDULATED SOY BEAN SOAP STICK	NONE	COARSE SPRAY	1200

- 4. 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 FOUIPMENT WHICH MAY PRODUCE THE DESIRED FFFECT
- 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. 8. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL

#### STANDARD FOR STABILIZATION WITH MULCH

STABILIZING EXPOSED SOILS WITH NON-VEGETATIVE MATERIALS EXPOSED FOR PERIODS LONGER THAN 14 1.

#### METHODS AND MATERIALS

SITE PREPARATION

- 1.1. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION. SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING
- SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.
- 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, LIQUID MULCH BINDERS, OR NETTING TIE DOWN. OTHER SUITABLE MATERIALS MAY B USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. THE APPROVED RATES ABOVE HAVE BEEN MET WHEN THE MULCH COVERS 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.
- 2.3. 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.
- 2.4. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE USED.
- 2.5. WOODCHIPS APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 2 INCHES MAY BE USED. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATER COULD WASH THEM INTO
- 2.6. GRAVEL, CRUSHED STONE, OR SLAG AT THE RATE OF 9 CUBIC YARDS PER 1,000 SQ. FT. APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 3 INCHES MAY BE USED. SIZE 2 OR 3 (ASTM C-33) IS RECOMMENDED.
- 3. MULCH ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH AT THE RATE OF 70 TO 90 LBS PER 1000 SF 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
- MULCH NETTINGS STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER MULCH. USE DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.
- 3.3. CRIMPER MULCH ANCHORING COULTER 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 THOSE 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.

#### TOP SOILING SCHEDULE

- MATERIAL
   TOPSOIL SHOULD BE FRIABLE, LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE OR ADVERSE CHEMICAL OR PHYSICAL CONDITION THAT MAY BE HARMFUL TO PLANT GROWTH. SOLUBLE SALTS SHOULD NOT BE EXCESSIVE (CONDUCTIVITY LESS THAN 0.5 MILLIMHOS PER CENTIMETER. MORE THAN 0.5 MILLIMHOS MAY DESICATE SEEDLINGS AND ADVERSELY IMPACT GROWTH ). TOPSOIL HAULED IN FROM OFFSITE SHOULD HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75 PÉRCENT. ORGANIC MATTER CONTENT MAY BE RAISED BY ADDITIVES.
- 1.2. 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.

- 2. <u>STRIPPING AND STOCKPILING</u>
  2.1. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.
- STRIPPING SHALL BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA. WHERE FEASIBLE, LIME MAY BE APPLIED BEFORE STRIPPING AT A RATE DETERMINED BY SOIL TESTS TO BRING THE SOIL PH TO APPROXIMATELY 6.5.
- A 4-6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL
- STOCKPILES OF TOPSOIL SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE 2.6. STOCKPILES SHOULD BE VEGETATED IN ACCORDANCE WITH STANDARDS PREVIOUSLY DESCRIBED
- HEREIN; SEE STANDARDS FOR PERMANENT OR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION. WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES.
- SITE PREPARATION 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. TIME IS OF THE ESSENCE
- GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE. SEE THE STANDARD FOR LAND GRADING. AS GUIDANCE FOR IDEAL CONDITIONS. SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT
- LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL TO A PH OF APPROXIMATELY 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES. PRIOR TO TOPSOILING, THE SUBSOIL SHALL BE IN COMPLIANCE WITH THE STANDARD FOR LAND
- EMPLOY NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENTATION BASINS, AND WATERWAYS. APPLYING TOPSOIL
- TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE: I.E., LESS THAN FIELD CAPACITY 4.2. 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 REGULATOR' AND/OR INDUSTRY DESIGN STANDARDS ARE APPROPRIATE SUCH AS ON GOLF COURSES, SPORTS FIELDS, LANDFILL CAPPING, ETC., SOILS WITH A PH OF 4.0 OR LESS 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 MANAGEMENT OF HIGH ACID PRODUCING SOIL 4.3. PURSUANT TO THE REQUIREMENTS IN SECTION 7 OF THE STANDARD FOR PERMANENT VEGETATIVE STABILIZATION. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT PERMANENT VEGETATIVE COVER BECOMES ESTABLISHED ON AT LEAST 80% OF THE SOILS TO BE STABILIZED WITH VEGETATION. FAILURE TO ACHIEVE THE MINIMUM COVERAGE MAY REQUIRE ADDITIONAL WORK TO BE PERFORMED BY THE CONTRACTOR TO INCLUDE SOME OR ALL OF THE FOLLOWING: SUPPLEMENTAL SEEDING, RE-APPLICATION OF LIME AND FERTILIZERS. AND/OR THE ADDITION OF ORGANIC MATTER (I.E. COMPOST) AS A TOP DRESSING, SUCH ADDITIONAL MEASURES SHALL BE BASED ON SOIL TESTS SUCH AS THOSE OFFERED BY RUTGERS COOPERATIVE EXTENSION SERVICE OR OTHER APPROVED. LABORATORY FACILITIES QUALIFIED TO TEST SOIL SAMPLES FOR AGRONOMIC PROPERTIES.

# MAINTAINING VEGETATION

A PREVENTIVE MAINTENANCE PROGRAM ANTICIPATES REQUIREMENTS AND ACCOMPLISHES WORK WHEN IT CAN BE DONE WITH LEAST EFFORT AND EXPENSE TO INSURE ADEQUATE VEGETATIVE COVER. MAINTENANCE SHOULD OCCUR ON A REGULAR BASIS. CONSISTENT WITH FAVORABLE PLANT GROWTH, SOIL, AND CLIMATIC CONDITIONS. THIS INVOLVES REGULAR SEASONAL WORK FOR MOWING, FERTILIZING, LIMING, WATERING,

#### THE DEGREE OF PREVENTIVE MAINTENANCE NEEDED DEPENDS UPON THE TYPE OF VEGETATION AND ITS PROPOSED FUNCTION OR USE.

PRUNING, FIRE CONTROL, WEED AND PEST CONTROL, RESEEDING, AND TIMELY REPAIRS.

- 1. MOWING IS A RECURRING PRACTICE AND ITS INTENSITY DEPENDS UPON THE FUNCTION OF THE GROUND COVER. ON HIGH TO MODERATE (A TO B) MAINTENANCE AREAS, SUCH AS LAWNS, CERTAIN RECREATION FIELDS. AND PICNIC AREAS. MOWING WILL BE FREQUENT (2 TO 7 DAY INTERVALS) AND TYPICALLY AT A HEIGHT OF 2.5 TO 3 INCHES, RETURN CLIPPINGS FROM MOWING (MULCHING MOWER) TO THE TURE TO REDUCE THE AMOUNT OF FERTILIZER NEEDED TO MAINTAIN THE TURF BY AS MUCH AS 50%. SOME TURF MIXTURES CAN BE MANAGED AS NATURALIZED STANDS REQUIRING ONLY ONE (COOL SEASON MIXTURES) OR TWO (WARM SEASON MIXTURES) MOWINGS PER YEAR, MOWING OF NATURALIZED AREAS IS TYPICALLY DONE AT HEIGHTS NO LESS THAN 4 INCHES AND SHOULD NOT BE DONE BETWEEN APRIL 1ST H1.53846X, AND JULY 15TH H1.53846X;TO AVOID DISTURBING GROUND NESTING BIRDS. THE LARGE AMOUNT OF CLIPPING DEBRIS GENERATED BY MOWING NATURALIZED AREAS WILL NEED TO BE REMOVED AND/OR DISPERSED SC THE VEGETATION IS NOT SMOTHERED. BURNING OF NATURALIZED AREAS IS ANOTHER PROCEDURE USED. TO MANAGE NATURALIZED TURFS. LOW MAINTENANCE (D) AREAS MAY BE LEFT UNMOWED TO PERMIT NATURAL SUCCESSION. SEE PG. 4-13 FOOTNOTE #4, MAINTENANCE LEVELS A, B, C AND D IN THE STANDARD FOR PERMANENT VEGETATIVE COVER, TABLE 4-3.
- 2. INCORPORATION OF ORGANIC MATTER (FOR EXAMPLE, MATURE COMPOST) INTO THE SOIL WILL
- SUBSTANTIALLY REDUCE THE NEED FOR FERTILIZER AND IRRIGATION INPUTS. 3. FERTILIZER AND LIME SHOULD BE APPLIED AS NEEDED TO MAINTAIN A DENSE STAND OF DESIRABLE SPECIES. FREQUENTLY MOWED AREAS AND THOSE ON SANDY SOILS WILL REQUIRE MORE FREQUENT
- FERTILIZATION BUT AT LOWER NUTRIENT RATES PER APPLICATION. 4. LIME REQUIREMENT SHOULD BE DETERMINED BY SOIL TESTING EVERY 2 OR 3 YEARS. FERTILIZATION MAY INCREASE THE NEED FOR LIMING. CONTACT THE LOCAL COUNTY EXTENSION OFFICE FOR DETAILS ON SOIL TESTING AND FERTILIZATION AND PEST CONTROL RECOMMENDATIONS ONLINE AT HTTP://NJAES.RUTGERS.EDU/COUNTY/.
- 5. FERTILIZATION AND ADDITIONS OF OTHER SOIL AMENDMENTS ARE NOT RECOMMENDED FOR MANAGING NATIVE VEGETATION SUCH AS IN THE PINELANDS NATIONAL RESERVE. SEE THE STANDARD FOR PERMANENT VEGETATIVE STABILIZATION FOR SPECIFIC REQUIREMENTS IN THE PNR.
- 6. WEED INVASION MAY RESULT FROM ABUSIVE MOWING AND FROM INADEQUATE FERTILIZING AND LIMING. MANY NEWLY ESTABLISHED GRASSES WILL NOT SURVIVE IF MOWED AT HEIGHTS BELOW 2.5 INCHES AND AT INTERVALS GREATER THAN 7 DAYS. BRUSH INVASION IS A COMMON CONSEQUENCE OF LACK OF MOWING. THE AMOUNT OF WEEDS OR BRUSH THAT CAN BE TOLERATED IN ANY VEGETATED AREA DEPENDS UPON THE INTENDED USE OF THE LAND. DRAINAGE WAYS ARE SUBJECT TO RAPID INFESTATION BY WEED AND WOODY PLANTS. THESE SHOULD BE CONTROLLED, SINCE THEY OFTEN REDUCE DRAINAGE WAY EFFICIENCY. CONTROL OF WEEDS OR BRUSH IS ACCOMPLISHED BY USING HERBICIDES OR MECHANICAL METHODS.
- 7. FIRE HAZARD IS GREATER WHERE DRY VEGETATION HAS ACCUMULATED. THE TALLER THE VEGETATION, THE GREATER THE HAZARD.
- 8. PRUNE TREES AND SHRUBS TO REMOVE DEAD OR DAMAGED BRANCHES. REMOVE UNDESIRABLE OR INVASIVE PLANTS TO MAINTAIN INTEGRITY OF THE LANDSCAPE AND ENHANCE QUALITY OF PERMANENT VEGETATIVE COVER.

### PERMANENT VEGETATIVE COVER

CHEWINGS FESCUE

- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARD FOR LAND
- B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN
- ACCORDANCE WITH THE STANDARD FOR LAND GRADING C. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED
- WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING. D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE-STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEEDBED PREPARATION
- A. 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 SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (HTTP://NJAES.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.
- B. WORK LIME AND FERTILIZER INTO THE TOPSOIL 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.
- C. HIGH ACID PRODUCING SOIL. 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 REPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC REQUIREMENTS A. SELECT A MIXTURE FROM TABLE 4-3 OR USE A 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 ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED. 1. SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVERAGE WITH THE SPECIFIED SEED
  - 2. WARM-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 85°F AND ABOVE. SEE TABLE 4-3 MIXTURES 1 TO 7. PLANTING RATES FOR WARM-SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.
  - 3. COOL-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 85° F. MANY GRASSES BECOME ACTIVE AT 65° F. SEE TABLE 4-3, MIXTURE 8-20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PLS IS NOT REQUIRED FOR COOL SEASON GRASSES.
- B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER, EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE-TEXTURED SOIL. C. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE
- CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED. D. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4-MULCHING BELOW). HYDROSEEDING IS NOT A PREFERRED
- SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH E. SEED MIXTURE BASED ON #15 IN TABLE 4-3: HARD FESCUE 3 LBS. PER 1000 S.F.

STRONG CREEPING RED FESCUE 1 LBS. PER 1000 S.F. 0.25 LBS. PER 1000 S.F PERENNIAL RYEGRASS,

RECOMMENDED OPTIMAL PLANTING DATES: 8/15 to 10/30. RECOMMENDED ACCEPTABLE PLANTING DATES: 2/1 to 4/30 OR 5/1 TO 8/14. SUMMER SEEDINGS SHOULD ONLY BE CONDUCTED WHEN THE SITE IS IRRIGATED. MIXES INCLUDING WHITE CLOVER REQUIRE THAT AT LEAST SIX WEEKS OF GROWING SEASON REMAIN AFTER SEEDING TO ENSURE ESTABLISHMENT BEFORE FREEZING CONDITIONS.

1 LBS, PER 1000 S.F.

TOTAL = 5.25 LBS. PER 1000 S.F.

- 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 SHALLBE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.
- A. 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-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH 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% OF THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET 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. 1. 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. 2. MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A

DEGRADABLE NETTING IN AREAS TO BE MOWED.

b. USE ONE OF THE FOLLOWING:

AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

- 3. CRIMPER (MULCH ANCHORING COULTER 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 AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE, NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
- 4. LIQUID MULCH-BINDERS MAY BE USED TO ANCHOR SALT HAY, HAY OR STRAW MULCH. a. 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.
  - 1. 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 VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURE GRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED. BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE. 2. SYNTHETIC BINDERS — HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED
  - 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.

AND. FOLLOWING APPLICATION OF MULCH. DRYING AND CURING. SHALL NO LONGER BE SOLUBLE OF

DISPERSIBLE IN WATER. BINDER SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER

B. 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. PELLETIZED MULCH - COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS, AND COLORING AGENTS, THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORM A MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE 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, SEEDED AREAS WHERE WEEDSEED 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 PELLETIZED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION

- IF SOIL MOISTURE IS DEFICIENT SUPPLY NEW SEEDING 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.
- TOPDRESSING SINCE SOIL ORGANIC MATTER CONTENT AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) ARE PRESCRIBED IN SECTION 2A - SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS IN THE SOIL 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.
- 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 ABOVE ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN APPLICATION RATES MAY BE USED 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 80% VEGETATIVE COVER (OF THE SEEDED 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.

#### TEMPORARY VEGETATIVE COVER

### SITE PREPARATION

- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN
- ACCORDANCE WITH STANDARDS FOR LAND GRADING. B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION
- STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. C. 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 DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).
- SEEDBED PREPARATION A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS 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. 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. LIMING RATE SHOULD BE ESTABLISHED VIA SOIL
- B. 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 REASONABLE UNIFORM SEEDBED IS
- C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED IN ACCORDANCE WITH THE ABOVE. D. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH
- A. SELECT SEED FROM RECOMMENDATIONS IN TABLE 7-2.

ACID PRODUCING SOILS.

TEMPORARY VEGETATIVE STABILIZATION GRASSES, SEEDING RATES, DATES AND DEPTH

SEED SELECTIONS	SEEDING RATE 1 (POUNDS)  PER ACRE PER 1000 SQ. FT.		OPTIMUM SEEDING DATE <sup>2</sup> BASED ON PLANT HARDINESS ZONE <sup>3</sup>	OPTIMUM SEED DEPTH⁴
SEED SELECTIONS			ZONE 7a, b	(INCHES)
COOL SEASON GRASSES				
1. PERENNIAL RYEGRASS	100	1.0	2/15-5/1 8/15-10/15	0.5
2. SPRING OATS	86	2.0	2/15-5/1 8/15-10/15	1.0
3. WINTER BARLEY	96	2.2	8/15–10/15	1.0
4. ANNUAL RYEGRASS	100	1.0	2/15-5/1 8/15-10/15	1.0
5. WINTER CEREAL RYE	112	2.8	8/1-12/15	1.0
WARM SEASON GRASSES				
6. PEARL MILLET	20	0.5	5/1-9/1	1.0
7. MILLET (GERMAN OR HUNGARIAN)	30	0.7	5/1-9/1	1.0

- 1. SEEDING RATE FOR WARM SEASON GRASS, SELECTIONS 6 7 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.
- 2. MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR SEEDED AREA CAN BE
- 3. PLANT HARDINESS ZONE (SEE FIGURE 7-1, PG. 7-4.) 4. TWICE THE DEPTH FOR SANDY SOILS
- A. CONVENTIONAL SEEDING. APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL <u>OR</u>CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING
- OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL. B. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION IV MULCHING) HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL, POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS. STUMPS.
- C. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE, THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED
- 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. A. STRAW OR HAY, UNNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, 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-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED APPLICATION SPREAD MULICH LINIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 95% OF
- THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH. DIVIDE AREA INTO APPROXIMATELY 1.000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH 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

AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

- AREA, STEEPNESS OF SLOPES, AND COSTS. 1. 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 CRIS-CROSS
- 2. MULCH NETTINGS. STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. 3. CRIMPER (MULCH ANCHORING 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 AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS
- ADHESIVE AGENT IS REQUIRED. 4. LIQUID MULCH-BINDERS. - MAY BE USED TO ANCHOR HAY OR STRAW MULCH. a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS

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

- AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE. b. USE ONE OF THE FOLLOWING: (1) 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 VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS.
- (2) SYNTHETIC BINDERS HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE

NOTE: ALL NAMES GIVE ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A COMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS. B. 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 PONDS PER ACRE (OR AS RECOMMENDED BY THE PROJECT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS 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. PELLETIZED MULCH, COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY

CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHEN

BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE

APPLIED TO A SEEDED AREA AND WATERED, FORMA MULCH MAT. PELLETIZED MULCH SHALL BE APPLIES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS./1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEE FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS. SEEDED AREAS WHERE WEED-SEED 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 PELLETIZED MULCH ON THE SEED

#### PERMANENT STABILIZATION WITH SOD

### METHODS AND MATERIALS

- A. HIGH QUALITY CULTIVATED SOD IS PREFERRED OVER NATIVE OR PASTURE SOD. B. SOD SHOULD BE FREE OF BROADLEAF WEEDS AND UNDESIRABLE COARSE AND FINE WEED GRASSES.
- C. SOD SHOULD BE OF UNIFORM THICKNESS, TYPICALLY 5/8 INCH, PLUS OR MINUS 1/4 INCH, AT TIME OF CUTTING (EXCLUDES TOP GROWTH.). D. SOD SHOULD BE VIGOROUS AND DENSE AND BE ABLE TO RETAIN ITS OWN SHAPE AND WEIGHT WHEN
- SUSPENDED VERTICALLY WITH A FIRM GRASP FROM THE UPPER 10 PERCENT OF THE STRIP. BROKEN PADS AND ROLLS OR TORN AND UNEVEN ENDS WILL NOT BE ACCEPTABLE. E. FOR DROUGHTY SITES, A SOD OF TURF-TYPE TALL FESCUE OR TURF-TYPE TALL FESCUE MIXED WITH
- KENTUCKY BLUEGRASS IS PREFERRED OVER A 100% KENTUCKY BLUEGRASS SOD. ALTHOUGH NOT WIDELY AVAILABLE, A SOD OF FINE FESCUE IS ALSO ACCEPTABLE FOR DROUGHTY SITES. F. ONLY MOIST, FRESH, UNHEATED SOD SHOULD BE USED. SOD SHOULD BE HARVESTED, DELIVERED, AND
- INSTALLED WITHIN A PERIOD OF 24 HOURS OR LESS DURING SUMMER MONTHS.

## A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR LIMING,

- FERTILIZING, INCORPORATION OF ORGANIC MATTER, AND OTHER SOIL PREPARATION PROCEDURES. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARD FOR LAND GRADING. B. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 6 INCHES (UNSETTLED) IS REQUIRED ON ALL
- C. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS

- A. UNIFORMLY APPLY GROUND LIMESTONE, AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (HTTP://NJAES.RUTGERS.EDU/COUNTY/ FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1.000 SQUARE FEET USING 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 ½ THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER 1/2 RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING. 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
- LIMING RATES SHOULD BE ESTABLISHED VIA SOIL TESTING.
- B. WORK LIME, AND FERTILIZER INTO THE TOPSOIL 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, FINE SEEDBED IS PREPARED.
- C. REMOVE FROM THE SURFACE ALL OBJECTS THAT WOULD PREVENT GOOD SOD TO TOPSOIL CONTACT AND REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS. OR OTHER UNSUITABLE MATERIAL.
- D. INSPECT SITE JUST BEFORE SODDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED IN ACCORDANCE WITH THE ABOVE.

#### SOD PLACEMENT

- A. SOD STRIPS SHOULD BE LAID ON THE CONTOUR, NEVER UP AND DOWN THE SLOPE, STARTING AT THE BOTTOM OF THE SLOPE AND WORKING UP. ON STEEP SLOPES, THE USE OF LADDERS WILL FACILITATE THE WORK AND PREVENT DAMAGE TO THE SOD. DURING PERIODS OF HIGH TEMPERATURE, LIGHTLY IRRIGATE THE SOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
- B. PLACE SOD STRIPS WITH SNUG, EVEN JOINTS (SEAMS) THAT ARE STAGGERED. OPEN SPACES INVITE

C. LIGHTLY ROLL OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT TO INSURE SOLID CONTACT OF ROOT

BIODEGRADABLE PLASTIC SPIKES, OR SPLIT SHINGLES (8 TO 10 INCHES LONG BY 3/4 INCH WIDE).

E. SURFACE WATER CANNOT ALWAYS BE DIVERTED FROM FLOWING OVER THE FACE OF THE SLOPE, BUT A

CAPPING STRIP OF HEAVY JUTE OR PLASTIC NETTING, PROPERLY SECURED, ALONG THE CROWN OF THE

- MAT AND SOIL SURFACE. DO NOT OVERLAP SOD. ALL JOINTS SHOULD BE BUTTED TIGHTLY TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS AND INVASION OF WEEDS. D. ON SLOPES GREATER THAN 3 TO 1, SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES
- SLOPE AND EDGES WILL PROVIDE EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOD. TH SAME TECHNIQUE CAN BE USED TO ANCHOR SOD IN WATER-CARRYING CHANNELS AND OTHER CRITICAL AREAS. WIRE STAPLES MUST BE USED TO ANCHOR NETTING IN CHANNEL WORK.

F. IMMEDIATELY FOLLOWING INSTALLATION, SOD SHOULD BE WATERED UNTIL WATER PENETRATES THE SOIL

TOPDRESSING SHALL THEN BE APPLIED. TOPDRESS WITH 10-0-10 OR EQUIVALENT AT 400 POUNDS PER

ACRE OR 7 POUNDS PER 1,000 SQUARE FEET EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN

LAYER BENEATH SOD TO A DEPTH OF 1 INCH. MAINTAIN OPTIMUM WATER FOR AT LEAST TWO WEEKS. SINCE SOIL ORGANIC MATTER AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) ARE PRESCRIBED N SECTIONS 1 AND 2IN THIS STANDARD, A FOLLOW-UP TOPDRESSING IS NOT MANDATORY, EXCEPT WHERE GROSS NITROGEN DEFICIENCY EXISTS IN THE SOIL TO THE EXTENT THAT TURF FAILURE MAY DEVELOP,

### DEFICIENCY IN THE TURF IS AMELIORATED STABILIZED CONSTRUCTION ENTRANCE NOTES

- 1. A STABILIZED PAD OF CRUSHED STONE (ASTM C-33, SIZE NO. 2 OR 3) SHALL BE LOCATED AT POINTS WHERE TRAFFIC WILL BE ENTERING OR LEAVING THE CONSTRUCTION SITE. USE CLEAN CRUSHED ANGULAR STONE. CRUSHED CONCRETE OF SIMILAR SIZE MAY BE SUBSTITUTED BUT WILL REQUIRE MORE FREQUENT UPGRADING AND MAINTENANCE.
- WIDTH OF THE INGRESS OR EGRESS. LENGTH SHALL BE 50 FEET MINIMUM WHERE THE SOILS ARE COURSE GRAINED (SANDS OR GRAVELS) OR 100 FEET MINIMUM WHERE SOILS ARE FINE GRAINED (CLAYS OR SILTS), EXCEPT WHERE THE TRAVELED LENGTH IS LESS THAN 50 OR 100 FEET RESPECTIVELY. THESE LENGTHS MAY BE INCREASED WHERE FIELD CONDITIONS DICTATE.

2. STONE THICKNESS SHALL NOT BE LESS THAN 6". WIDTH SHALL NOT BE LESS THAN THE FULL

- STORMWATER FROM UP-SLOPE AREAS SHALL BE DIVERTED AWAY FROM THE STABILIZED PAD. 3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT SEDIMENT FLOW ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO
- PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY. 4. AT POORLY DRAINED LOCATIONS, SUBSURFACE DRAINAGE GRAVEL FILTER OR GEOTEXTILE SHALL BE INSTALLED BEFORE INSTALLING THE STABILIZED CONSTRUCTION ENTRANCE.
- 1. CONTACT THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT AT 856-767-6299 A MINIMUM OF 72 HOURS PRIOR TO ANY SOIL DISTURBANCE TO ARRANGE A PRECONSTRUCTION MEETING. 2. THE ORIGINAL CAMDEN COUNTY SOIL CONSERVATION DISTRICT CERTIFICATION AND PLANS MUST
- 3. INSTALL SILT FENCE AND INLET PROTECTION. MAINTAIN THROUGHOUT CONSTRUCTION. 4. CLEAR AND GRUB SITE. REMOVE EXISTING HARDSCAPE, AND BUILDINGS AS NECESSARY TO
- INSTALL STABILIZED CONSTRUCTION ENTRANCE. 5. REMOVE EXISTING HARDSCAPE, PAVEMENT AND CURBING AS SHOWN ON SHEET C-101.

7. PLACE ALL UNDERGROUND UTILITIES AS BUILDING CONSTRUCTION CONTINUES.

- 6. ROUGH GRADE BUILDING FOUNDATION AND PARKING AREAS.
- 8. CONSTRUCT CURBING.

9. FINE GRADE SITE AND PLACE STABILIZED BASE COURSE.

ANTICIPATED SEQUENCE OF CONSTRUCTION:

BE AVAILABLE AT THE SITE AT ALL TIMES.

- 10. CONSTRUCT SIDEWALKS AND RAMPS. 11. REDISTRIBUTE TOPSOIL AND SEED PER SEEDING SPECIFICATIONS.
- 13. PLACE LANDSCAPING AND MULCH.

12. PLACE PARKING AREA PAVING AND FINAL POROUS PAVEMENT.

14. REMOVE EROSION CONTROL DEVICES UPON STABILIZATION.

15. CONTACT THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT FOR FINAL INSPECTION.

Permit-Seal

**CLIFTON W. QUAY** PROFESSIONAL ENGINEER, PROFESSIONAL PLANNER N.J.P.E. LICENSE #42670, N.J.P.P. LICENSE #LI05653

Project Number: 192520466 MAI CWQ SAK 02.13.24 Dwn. Dsgn MM DD YY Chkd. Scale: AS NOTED

7 of 14

Drawing No. C-105.1 Revision

- 1. PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
- 2. RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE. ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAYBE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.

SOIL COMPACTION MITIGATION NOTES

- 1. PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
- 2. RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAY
- 3. SOIL COMPACTION TESTING IS NOT REQUIRED IF/WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE 6" MINIMUM DEPTH) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION. COMPACTION TESTING METHODS
- A. PROBING WIRE TEST (SEE DETAIL 6/C-105.1)
- HAND-HELD PENETROMETER TEST (SEE DETAIL 6/C-105.1)
- TUBE BULK DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED) D. NUCLEAR DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)
- NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT

SOIL COMPACTION TESTING IS NOT REQUIRED IF/WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF

#### SOIL COMPACTION TESTING REQUIREMENTS

- 1. SUBGRADE SOILS PRIOR TO THE APPLICATION OF TOPSOIL (SEE PERMANENT SEEDING AND STABILIZATION NOTES FOR TOPSOIL REQUIREMENTS)SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
- 2. AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION ARE GRAPHICALLY DENOTED ON THE CERTIFIED SOILEROSION CONTROL PLAN. SEE EXAMPLÉ SITE PLAN AT: HTTP://WWW.NJ.GOV/AGRICULTURE/DIVISIONS/ANR/NRC/NJEROSION.HTML
- 3. COMPACTION TESTING LOCATIONS ARE DENOTED ON THE PLAN. A COPY OF THE PLAN OR PORTION OF THE PLAN SHALL BE USED TO MARKLOCATIONS OF TESTS, AND ATTACHED TO THE SOIL COMPACTION MITIGATION VERIFICATION FORM, AVAILABLE FROM THE LOCAL SOIL CONSERVATION DISTRICT OR HTTP://WWW.NJ.GOV/AGRICULTURE/DIVISIONS/ANR/NRC/NJEROSION.HTML. THIS FORM MUST BE FILLED OUT AND SUBMITTED PRÍOR TO RECEIVING A CERTIFICATE OF COMPLIANCE FROM THE DISTRICT.
- 4. IN THE EVENT THAT TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE SIMPLIFIED TESTINGMETHODS (SEE DETAILS BELOW), THE CONTRACTOR/OWNER SHALL HAVE THE OPTION TO PERFORM EITHER (1) COMPACTION MITIGATION OVER THE ENTIRE MITIGATION AREA DENOTED ON THE PLAN (EXCLUDING EXEMPT AREAS), OR (2) PERFORM ADDITIONAL, MORE DETAILED TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION. ADDITIONAL DETAILED TESTING SHALL BE PERFORMED BY A TRAINED, LICENSED PROFESSIONAL.

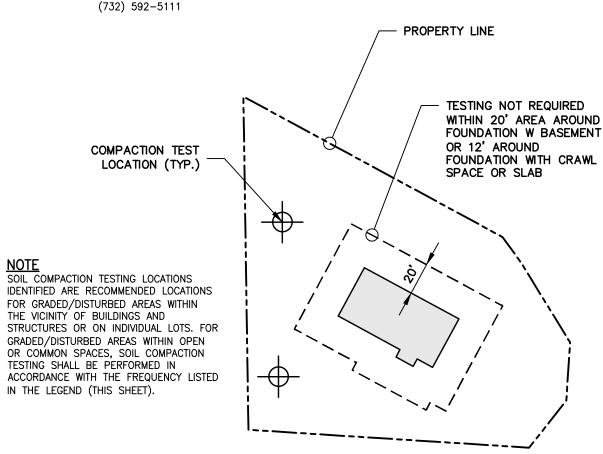
# TOP SOILING NOTES

- 1. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE.
- 2. A UNIFORM APPLICATION TO AN AVERAGE DEPTH OF 5" (MINIMUM 4") FIRMED IN PLACE IS REQUIRED. 3. PURSUANT TO THE REQUIREMENTS IN SECTION 7 OF THE STANDARD FOR PERMANENT VEGETATIVE
- STABILIZATION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT PERMANENT VEGETATIVE COVER BECOMES ESTABLISHED ON AT LEAST 80% OF THE SOILS TO BE STABILIZED WITH VEGETATION. FAILURE TO ACHIEVE THE MINIMUM COVERAGE MAY REQUIRE ADDITIONAL WORK TO BE PERFORMED.

# ADDITIONAL NOTES FOR PROJECTS WITH BASINS

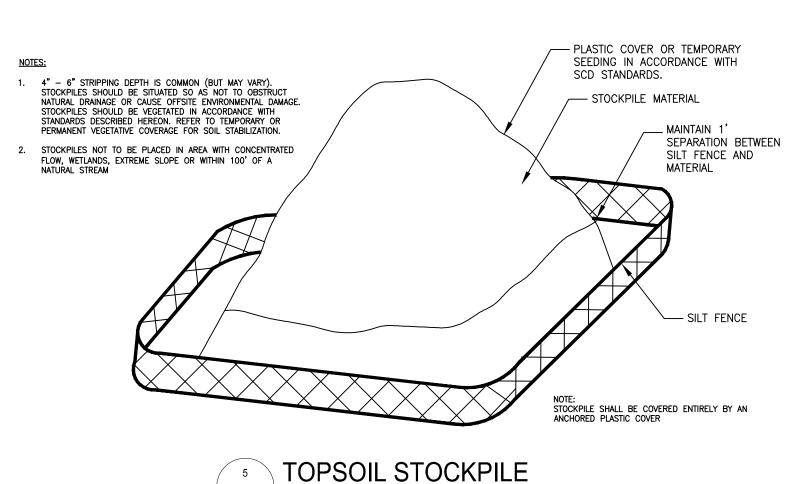
- 1. BASIN MUST BE PROPERLY CONSTRUCTED AND PERMANENTLY STABILIZED, AND CONDUIT OUTLET PROTECTION INSTALLED, PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL. 2. THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL HAVE SPECIFIC REQUIREMENTS FOR TOPSOILING, THE INSTALLATION OF SOD, TEMPORARY AND/OR PERMANENT VEGETATIVE COVER AND LAND GRADING. THE TEXT FOUND ON PAGES 4-1(SEC. 1B), 6-2 (SEC. 2D), 7-1 (SEC. 1C) 8-2 (SEC. 3D) AND 19-4 (SECOND TO LAST SECTION) SERVE TO HELP MINIMIZE SOIL COMPACTION
- 3. ENTITY RESPONSIBLE FOR OVERALL MAINTENANCE OF THE STORMWATER MANAGEMENT MEASURE DURING AND AFTER CONSTRUCTION ON THE PLAN:

EVERGREEN ENERGY SOLUTIONS 1465 LANES MILL ROAD LAKEWOOD, NJ 08701



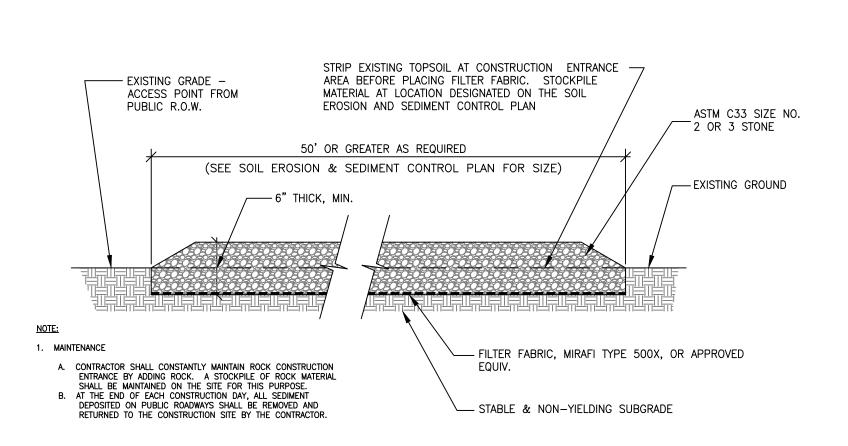
TYPICAL SOIL COMPACTION TESTING LOCATIONS





C-105.2

NOT TO SCALE

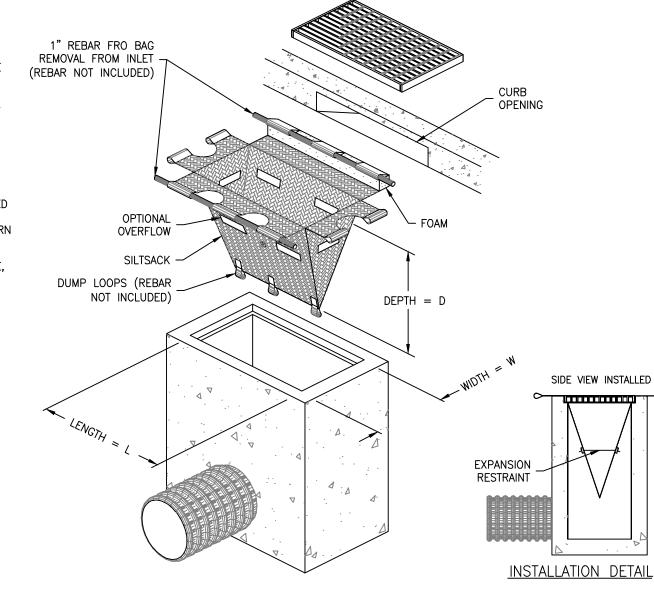


STABILIZED CONSTRUCTION ENTRANCE NOT TO SCALE

- 1. TO INSTALL SILTSACK IN THE CATCH BASIN, REMOVE THE GRATE AND PLACE THE SACK IN THE OPENING. HOLD OUT APPROXIMATELY SIX INCHES OF THE SACK OUTSIDE THE FRAME. THIS IS THE AREA OF THE LIFTING STRAPS. REPLACE THE GRATE TO HOLD THE SACK IN PLACE.
- 2. WHEN THE RESTRAINT CORD IS NO LONGER VISIBLE, SILTSACK IS FULL AND SHOULD BE EMPTIED.
- 3. TO REMOVE SILTSACK, TAKE TWO PIECES OF 1" DIAMETER REBAR AND PLACE THROUGH THE LIFTING LOOPS ON EACH SIDE OF THE SACK TO FACILITATE THE LIFTING OF SILTSACK.
- 4. TO EMPTY SILTSACK, PLACE IT WHERE THE CONTENTS WILL BE COLLECTED. PLACE THE REBAR THROUGH THE LIFT STRAPS (CONNECTED TO THE BOTTOM OF THE SACK) AND LIFT. THIS WILL TURN SILTSACK INSIDE OUT AND EMPTY THE CONTENTS. CLEAN OUT AND RINSE. RETURN SILTSACK TO ITS ORIGINAL SHAPE AND PLACE BACK IN THE BASIN.
- 5. SILTSACK IS REUSABLE. ONCE THE CONSTRUCTION CYCLE IS COMPLETE, REMOVE SILTSACK FROM THE BASIN AND CLEAN. SILTSACK SHOULD BE STORED OUT OF THE SUNLIGHT UNTIL NEEDED ON ANOTHER PROJECT
- 6. SILTSACK SEDIMENT CONTROL DEVICE IS MANUFACTURED BY ACF ENVIRONMENTAL, RICHMOND, VA (800) 448-3636.

REGULAR FLOW SILTSACK (FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH GRAB TENSILE ELONGATION PUNCTURE MULLEN BURST TRAPEZOID TEAR UV RESISTANCE APPARENT OPENING SIZE FLOW RATE	ASTM D-4632 ASTM D-4833 ASTM D-3786 ASTM D-4533 ASTM D-4355	120 LBS 800 PSI 120 LBS 80 % 40 US SIEVE
PERMITTIVITY	ASTM D-4491	



INLET PROTECTION  $\setminus$  C-105.2 / NOT TO SCALE

TEMPORARY CONCRETE WASHOUT FACILITY NOTES:

1. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE LOCATED A MINIMUM OF 15M (50 FT) FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, AND WATERCOURSES. EACH FACILITY SHALL BE LOCATED AWAY FROM CONSTRUCTION TRAFFIC OR ACCESS AREAS TO PREVENT DISTURBANCE OR TRACKING. A SIGN SHALL BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS
TO UTILIZE THE PROPER FACILITIES.
 TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND

3. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. THE LENGTH AND WIDTH OF THE FACILITY MAY BE INCREASED AS NEEDED.

4. TEMPORARY WASHOUT FACILITIES SHALL HAVE A TEMPORARY PIT OR BERMED AREAS OF SUFFICIENT VOLUME TO COMPLETELY CONTAIN ALL LIQUID AND WASTE CONCRETE MATERIALS GENERATED DURING WASHOUT PROCEDURES.

5. PERFORM WASHOUT OF CONCRETE MIXER TRUCKS IN DESIGNATED AREAS ONLY.

6. WASH CONCRETE ONLY FROM MIXER TRUCK CHUTES INTO APPROVED CONCRETE WASHOUT FACILITY. WASHOUT MAY BE COLLECTED IN AN IMPERMEABLE BAG FOR DISPOSAL.

7. PUMP EXCESS CONCRETE IN CONCRETE PUMP BIN BACK INTO CONCRETE MIXER TRUCK.

8. CONCRETE WASHOUT FROM CONCRETE PUMPER BINS CAN BE WASHED INTO CONCRETE PUMPER TRUCKS AND DISCHARGED INTO DESIGNATED WASHOUT AREA OR PROPERLY DISPOSED OFFSITE.

9. ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN. THE CONCRETE 9. ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE SHALL BE BROKEN UP, REMOVED AND DISPOSED OF PROPERLY.

REMOVAL OF TEMPORARY CONCRETE WASHOUT FACILITY NOTES:

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHALL BE REMOVED AND DISPOSED OF PROPERLY. DISPOSAL OF SLURRIES OR LIQUID WASTE SHALL BE DISPOSED OF OFFSITE EITHER TO A PERMITTED TREATMENT FACILITY OR BACK TO THE MIX PLANT. 2. THE CONTRACTOR'S WATER POLLUTION CONTROL MANAGER (WPCM) SHALL MONITOR ON SITE CONCRETE WASTE STORAGE AND DISPOSAL PROCEDURES AT LEAST WEEKLY OR AS DIRECTED BY THE RE.

3. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM FREEBOARD OF 100 MM (4 INCHES) FOR ABOVE GRADE FACILITIES AND 300 MM (12 INCHES) FOR BELOW GRADE FACILITIES. MAINTAINING TEMPORARY CONCRETE WASHOUT FACILITIES SHALL INCLUDE REMOVING AND DISPOSING OF HARDENED CONCRETE AND LIQUID WASTE AND RETURNING THE FACILITIES TO A FUNCTIONAL

4. EXISTING FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USED ONCE 5. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE INSPECTED WEEKLY FOR DAMAGE (I.E. TEARS IN THE PVC LINER, MISSING SAND BAGS, ETC.). DAMAGED FACILITIES SHALL BE REPAIRED. STATEWIDE STORM PERMITTING PROGRAM NOTES:

1. CONCRETE TRUCK WASHOUT AREAS WILL BE MAINTAINED ON A CONTINUAL BASIS AND AS NEEDED.
2. THE STORMWATER POLLUTION PREVENTION PLAN AND THE SPILL RESPONSE PLAN SHALL BE AVAILABLE ON SITE FOR REVIEW BY THE SCD INSPECTOR AND/OR THE NJDEP INSPECTOR.

3. THE SCD INSPECTOR OR NJDEP INSPECTOR MAY REQUIRE ADDITIONAL MEASURES FOR STORMWATER POLLUTION THE SCD INSPECTION ON NUMBER INSPECTOR MAY REQUIRE ADDITIONAL MEASURES FOR STORMWATER POLLUTION PREVENTION TO BE INSTALLED.

 INSPECTIONS OF ALL STORMWATER POLLUTION PREVENTION PLAN MEASURES WILL BE CONDUCTED AND DOCUMENTED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
 WASTE COLLECTION CONTAINERS WILL NOT BE PERMITTED TO OVERFLOW.
 ANY SPILLS OF HAZARDOUS OR SANITARY WASTES WILL BE CLEANED UP IMMEDIATELY, AND IN ACCORDANCE WITH THE SPILL RESPONSE PLAN. SPILL KITS MUST BE AVAILABLE ONSITE OR ADJACENT TO THE SITE.

 WASTE COLLECTION OF THE STEEL WASTER OF A VALIBBLE ONSITE OR ADJACENT TO THE SITE.

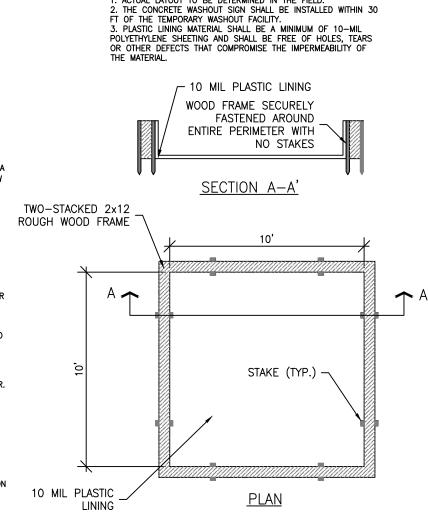
7. ANY HAZARDOUS SUBSTANCE RELEASES IN EXCESS OF REPORTABLE QUANTITIES (RQ) ESTABLISHED UNDER 40 C.F.R. 110, 117 AND 302 THAT OCCUR WITHIN A 24 HOUR PERIOD MUST BE REPORTED TO THE NATIONAL RESPONSE 110, 117 AND 302 THAT OCCUR WITHIN A 24 HOUR PERIOD MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER (800-424-8802).

8. NO VEHICLE MAINTENANCE SHALL BE PERFORMED ON SITE.

9. ANY CHEMICALS TO BE STORED ON SITE DURING CONSTRUCTION SHALL BE STORED AS TO ENSURE NO CONTAMINATION FROM THE CHEMICALS WILL OCCUR.

10. CONTRACTOR IS REQUIRED TO DEVELOPE AN ITEMIZED SPILL RESPONSE PLAN IN CONFORMANCE WITH APPLICABLE DEP REQUIREMENTS. SPILL RESPONSE PLAN SHALL BE AVAILABLE ON SITE.

1. CONTRACTOR IS RESPONSIBLE FOR CONDUCTING WEEKLY SITE INSPECTIONS AND AFTER A RAIN EVENT PER THE NEW JERSEY STORM WATER POLLUTION PREVENTION PLAN (SPPP) INSPECTION AND MONITORING PROGRAM. THE INSPECTIONS WILL INSURE ONGOING BEST MANAGEMENT PRACTICE (BMP) PERFORMANCE DURING THE CONSTRUCTION PROJECT. BMPs SHALL BE EVALUATED FOR PROPER INSTALLATION AND FUNCTIONING AND WHETHER ADDITIONAL MEASURES ARE REQUIRED DURING CONSTRUCTION. WEEKLY INSPECTIONS ARE TO BE DOCUMENTED ON THE "SPPP CHECKLIST AND INSPECTION FORM." INSPECTION REPORTS SHALL BE KEPT ON SITE.



. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.

CONCRETE WASHOUT FACILITY C-105.2 / NOT TO SCALE

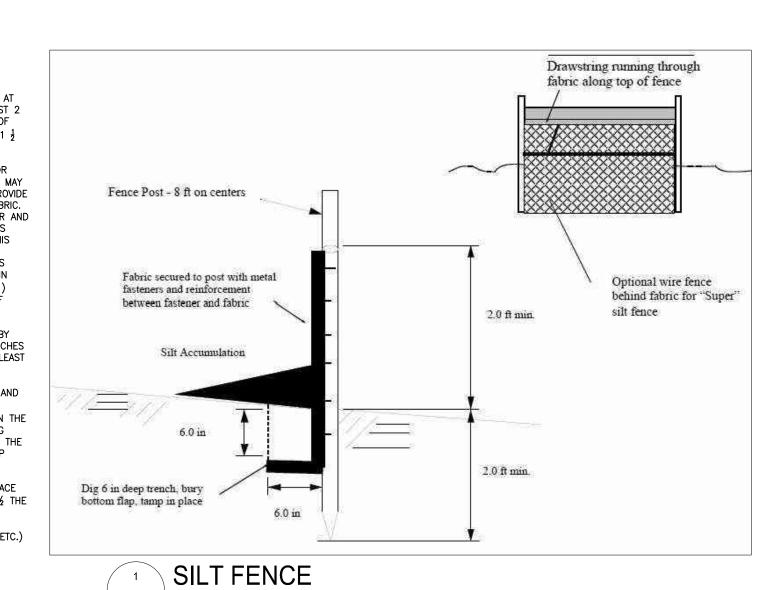
 FENCE POSTS SHALL BE SPACED 8 FEET
 CENTER-TO-CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND. POST SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1  $\frac{1}{2}$ 

2. "SUPER" SILT FENCE -A METAL FENCE WITH 6 INCH OR SMALLER MESH OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED, FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEOLEXTILE FABRIC. POSTS MAY BE SPACED LESS THAN 8 FEET ON CENTER AND MAY BE CONSTRUCTED OF HEAVIER WOOD OR METAL AS NEEDED LO WITHSTAND HEAVIER SEDIMENT LOADING. THIS PRACTICE II APPROPRIATE WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED. "SUPER" SILT FENCE IS NOT TO BE USED IN PLACE OF PROPERLY DESIGNED DIVERSIONS (PG. 15-1) WHICH MAY BE NEEDED TO CONTROL SURFACE RUNOFF RATES AND VELOCITIES,

 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 FEET ABOVE THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYS1EM CONSISTING OF METAL FASTENERS (NAILS OR STAPLE) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING. GROMMETS. WASHERS 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 TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

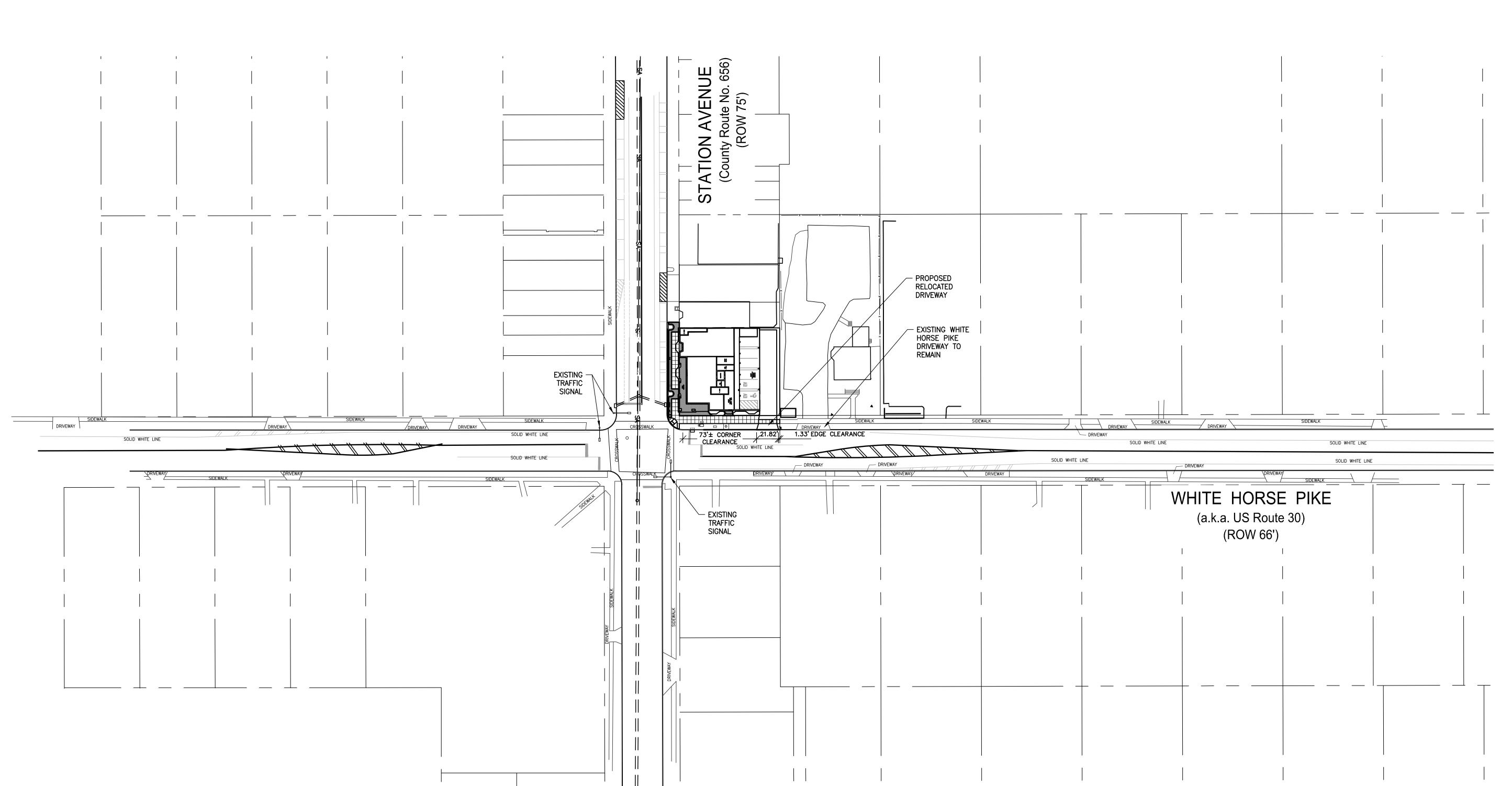
- 4. SEDIMENT SHALL BE REMOVED FROM THE UPSTREAM FACE OF THE BARRIER WHEN IT HAS REACHED A DEPTH OF 1/2 THE BARRIER HEIGHT.
- 5. REPAIR OR REPLACE BARRIER (FABRIC, POSTS, BALES ETC.) WHEN DAMAGED.

6. BARRIERS SHALL BE INSPECTED DAILY FOR SIGNS OF DETERIORATION AND SEDIMENT REMOVAL.



C-105.2 NOT TO SCALE Permit-Seal **CLIFTON W. QUAY** PROFESSIONAL ENGINEER, PROFESSIONAL PLANNER N.J.P.E. LICENSE #42670, N.J.P.P. LICENSE #LI05653

Project Number: 192520466 MAI CWQ SAK 02.13.24 Dwn. Chkd. Dsgn. MM.DD.YY Scale: AS NOTED Drawing No. C-105.2 Revision 8 of 14





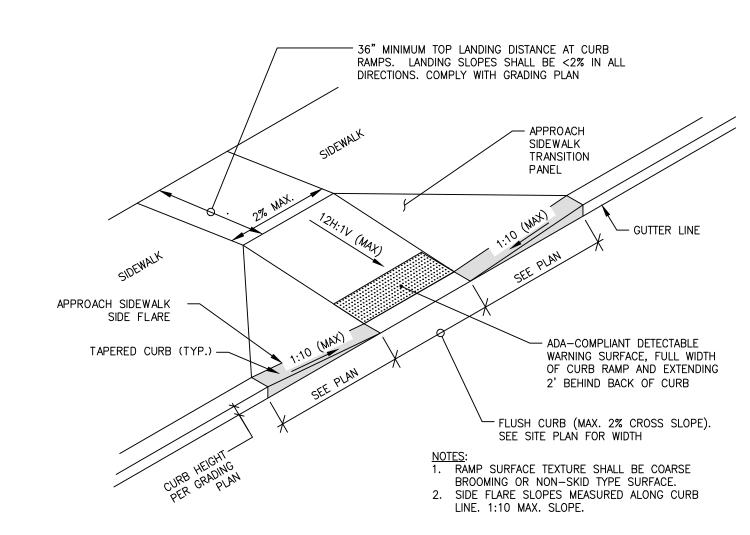
CLIFTON W. QUAY

PROFESSIONAL ENGINEER, PROFESSIONAL PLANNER N.J.P.E. LICENS #42670, N.J.P.P. LICENS #LI05653

9 of 14

GRAPHIC SCALE ( IN FEET ) 1 inch = 50 ft.

	Project N	umber: 1925	20466	
	MAI	CWQ	SAK	02.13.24
0	Dwn.	Chkd	Dsgn.	MM.DD.Y
	Scale: 1	" = 50'		
	Drawin	g No. C-	102.1	
	Revisio	on S	Sheet	



**DETECTABLE WARNING SURFACE:** 1. CAST-IN-PLACE DETECTABLE WARNING SURFACE (DWS) TILES: ACCESSIBLE TRUNCATED-DOME DETECTABLE WARNING TILES WITH REPLACEABLE SURFACE CONFIGURED FOR SETTING FLUSH IN NEW CONCRETE WALKWAY SURFACES, WITH SLIP-RESISTANT SURFACE TREATMENT ON DOMES AND FIELD OF TILE. USE FOR ALL CURB RAMPS TO BE CONSTRUCTED IN

2. COLOR: RED, UNLESS OTHERWISE SPECIFIED BY LOCAL AUTHORITY WITH JURISDICTION. 3. ACCEPTABLE PRODUCTS/MANUFACTURERS OF DWS PRODUCTS INCLUDE, BUT ARE NOT LIMITED TO: A. ENGINEERED PLASTICS, INC. (armor-tile.com)

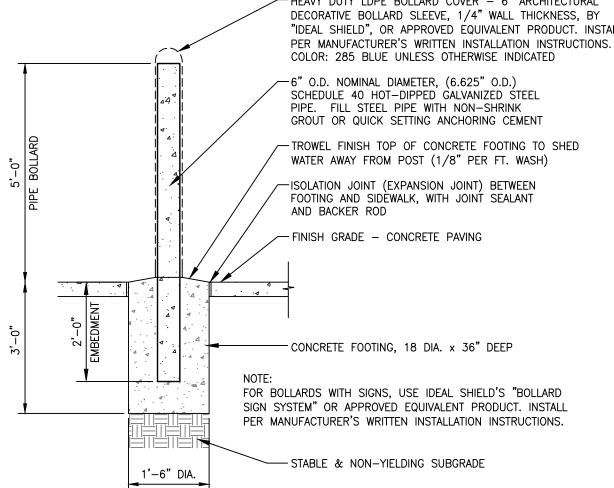
**CURB RAMP - PERPENDICULAR** 

B. ACCESS PRODUCTS, INC. (accesstile.com)

NOT TO SCALE

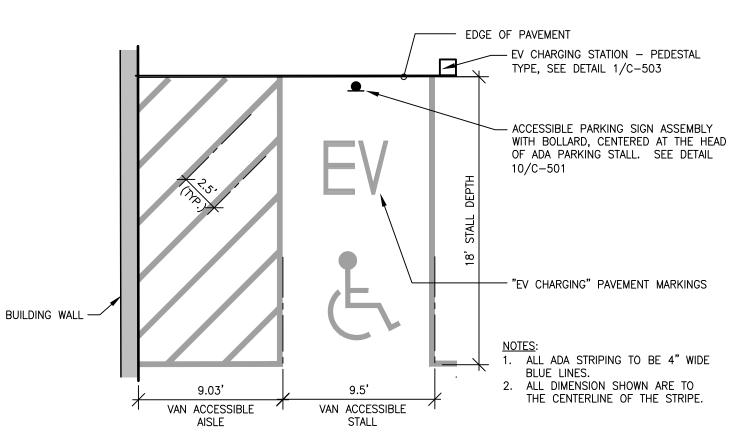
C-501



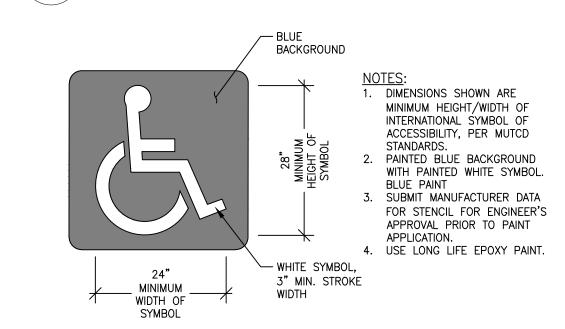


STEEL BOLLARD WITH PVC SLEEVE COVER

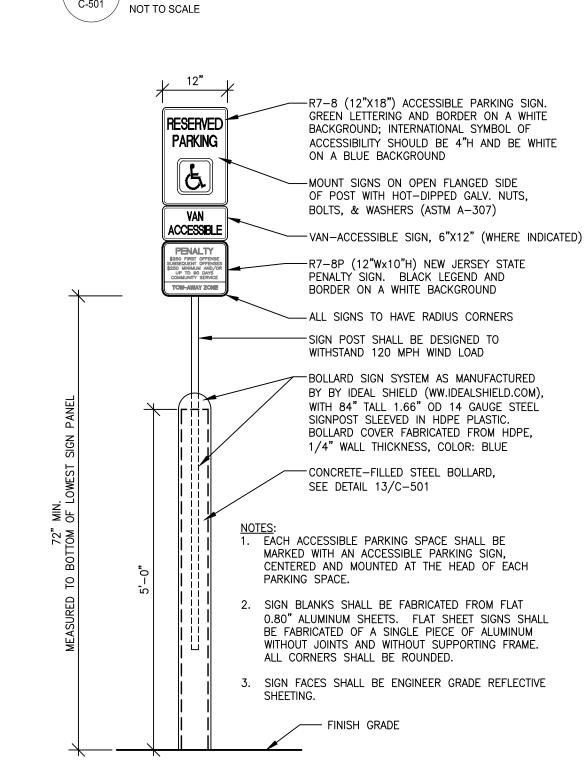
C-501 NOT TO SCALE



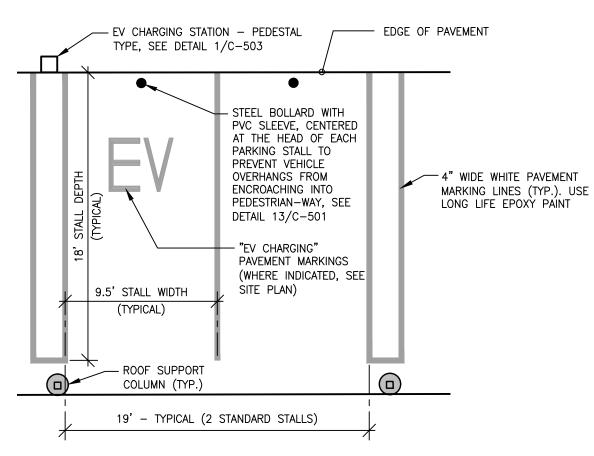
### ADA PARKING STALL PAVEMENT MARKINGS C-501 NOT TO SCALE



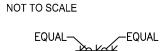
# ADA PAVEMENT MARKING SYMBOL

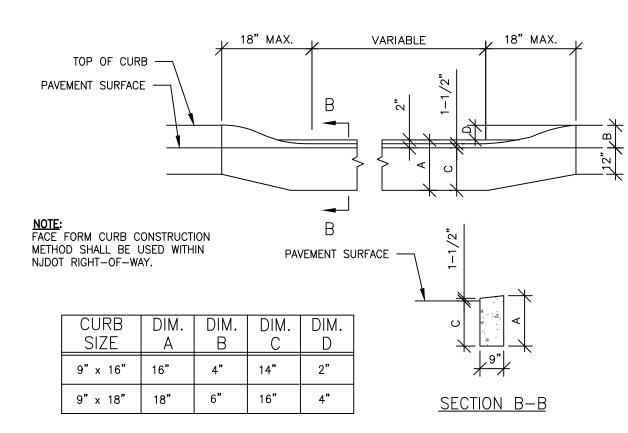


#### ADA PARKING SIGN W/ BOLLARD C-501 NOT TO SCALE

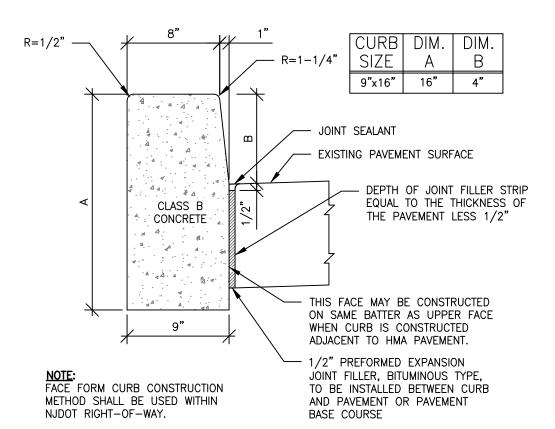


# STANDARD PARKING SPACE C-501

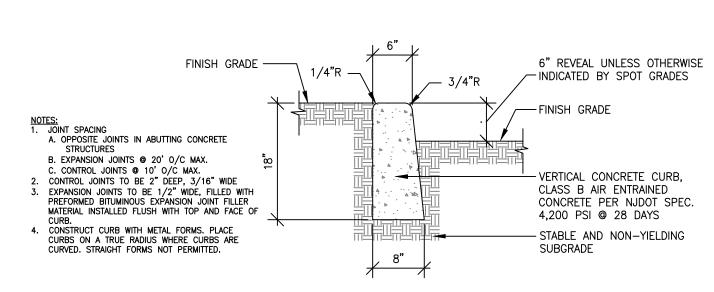




## DEPRESSED CONCRETE CURB (STATE) C-501 NOT TO SCALE

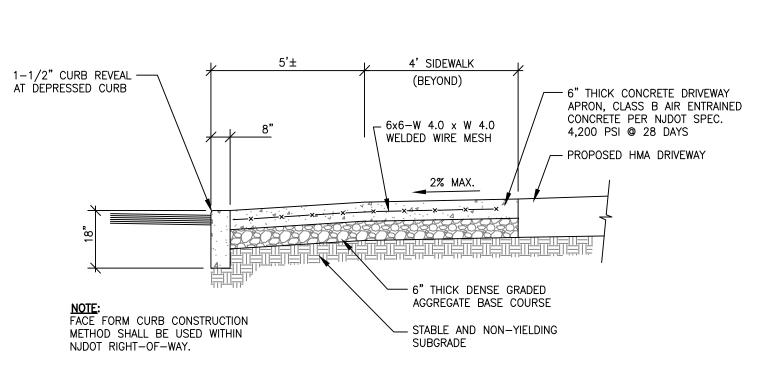


#### **CONCRETE CURB (STATE)** C-501 NOT TO SCALE

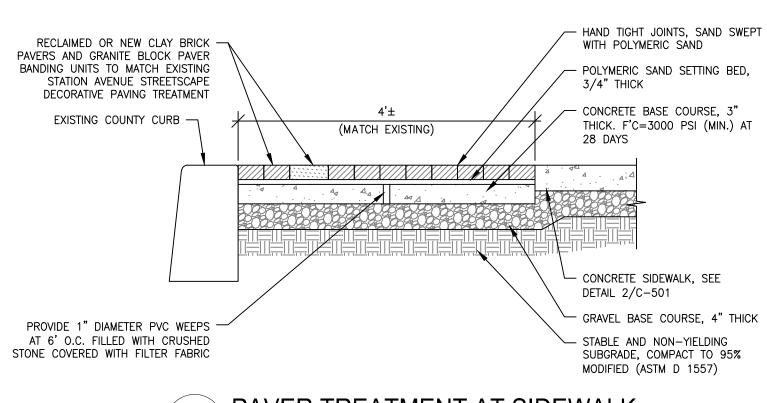


# CONCRETE CURB (LOCAL) NOT TO SCALE

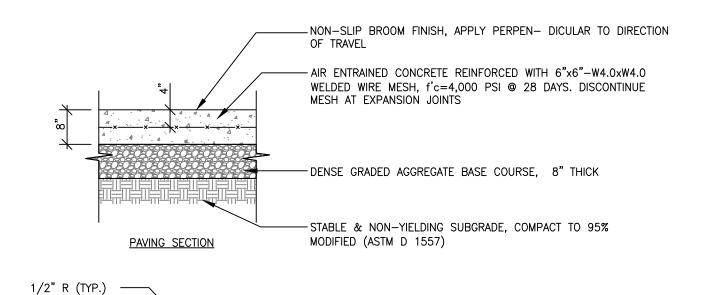
DRIVEWAY	
CONC. CONCRETE SIDEWALK (6" THICK)	CK) CONC. SIDEWALK (4" THICK)
CONCRETE APRON (6" THICK	4 4 K)
DEPRESSED CURB	CURB
BITUMINOUS PAVING 2' 18'	2'

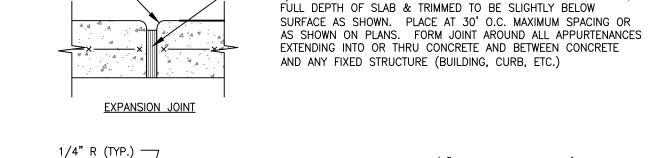


#### CONCRETE DRIVEWAY APRON C-501 NOT TO SCALE

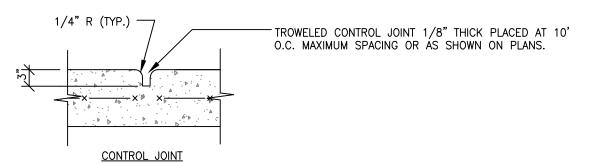


#### PAVER TREATMENT AT SIDEWALK C-501 NOT TO SCALE

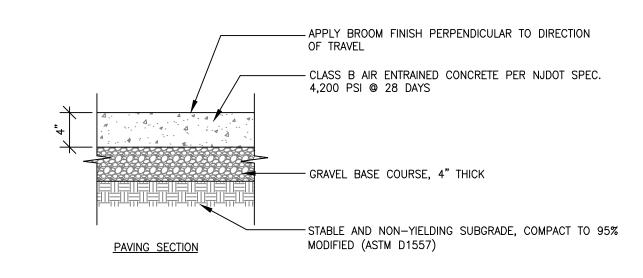


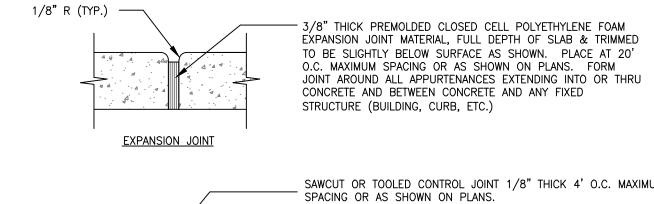


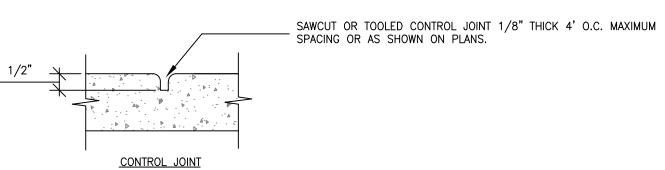
1/2" THICK PREMOLDED BITUMINOUS EXPANSION JOINT MATERIAL,



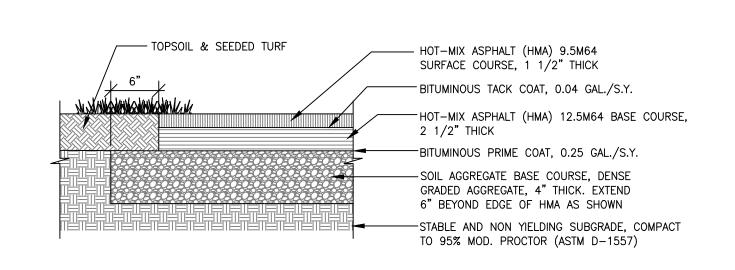
# HEAVY DUTY CONCRETE PAVING C-501 / NOT TO SCALE



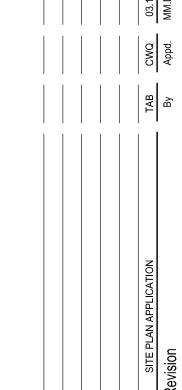




#### CONCRETE SIDEWALK C-501 / NOT TO SCALE





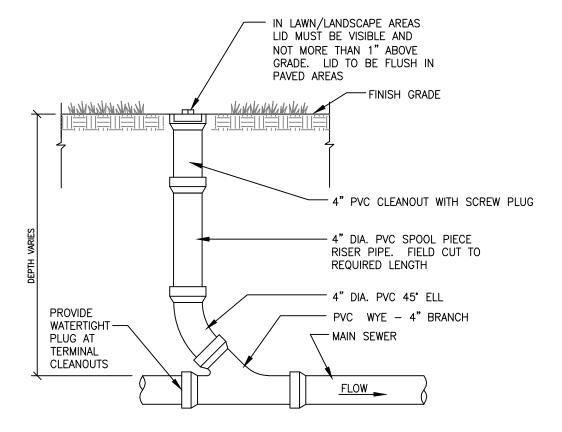


Permit-Seal

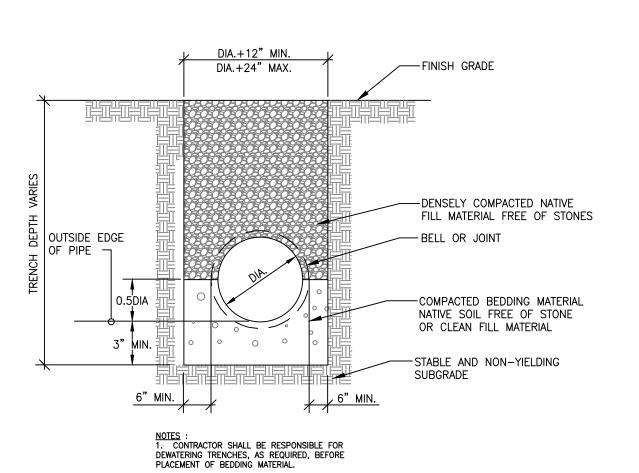
**CLIFTON W. QUAY** 

PROFESSIONAL ENGINEER, PROFESSIONAL PLANNER N.J.P.E. LICENSE#42670, N.J.P.P. LICENSE#LI05653

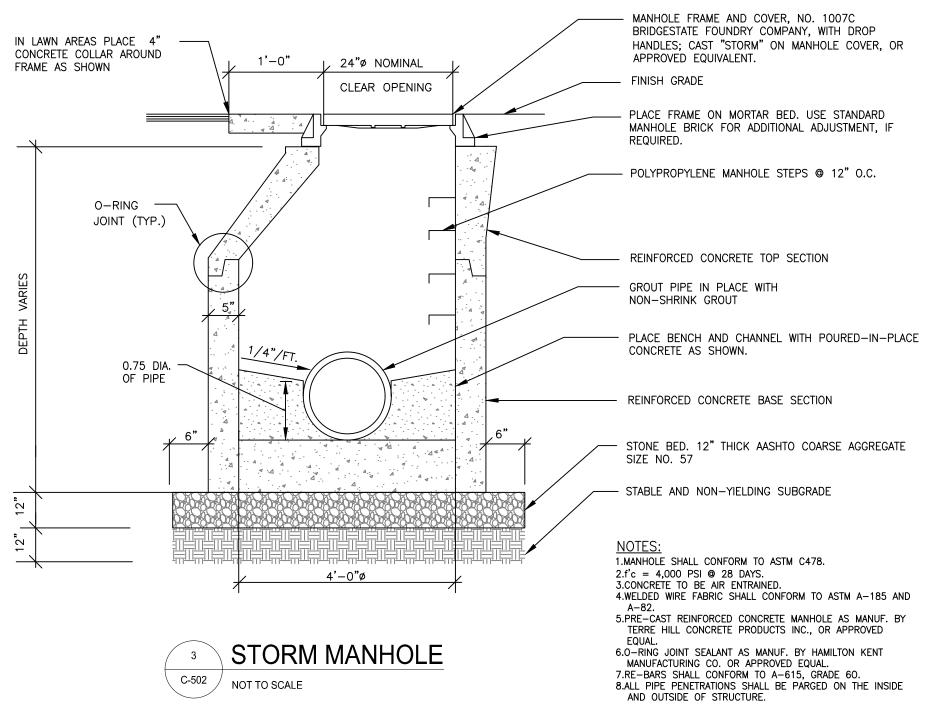
Project Number: 192520466 MAI CWQ SAK 02.13.24 Dwn. Chkd. Dsgn. MM.DD.YY Scale: AS NOTED Drawing No. C-501 Revision

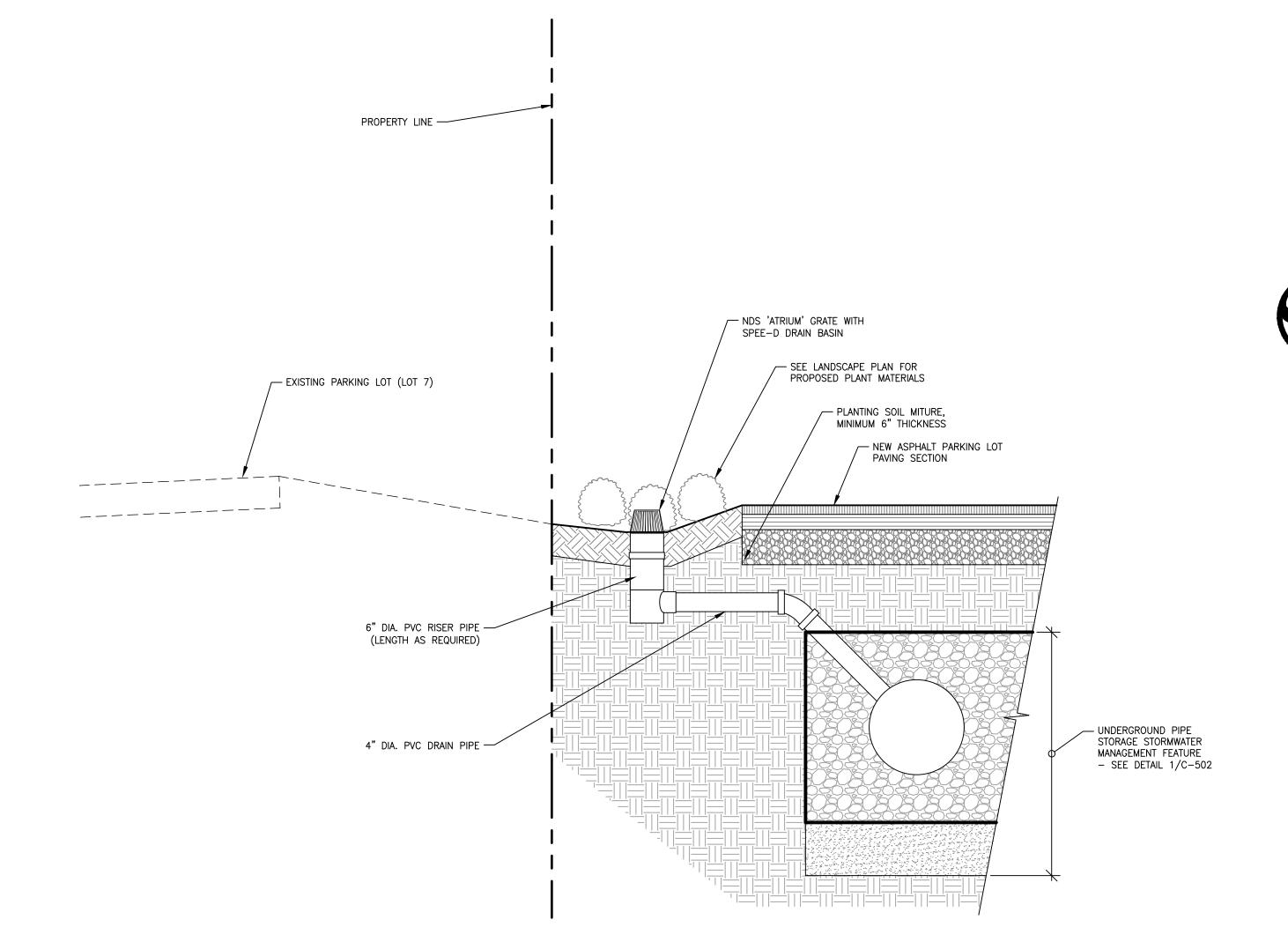


STORM CLEANOUT C-502 NOT TO SCALE



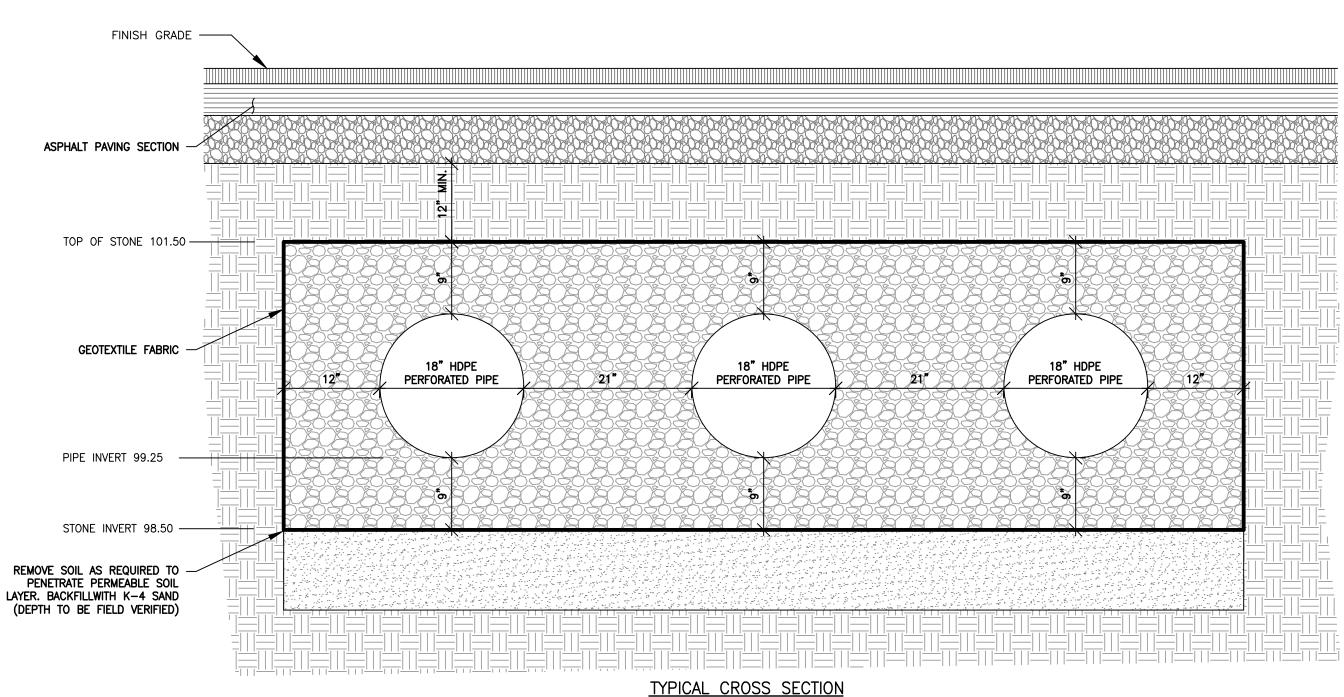
PIPE BEDDING/TRENCH C-502 NOT TO SCALE





TYPICAL SECTION AT AREA DRAIN

C-502 NOT TO SCALE



UNDERGROUND PIPE STORAGE C-502 NOT TO SCALE

AVEI 16 & S BO

Permit-Seal

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Project Number: 192520466 
 MAI
 CWQ
 SAK
 02.13.24

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Revision

PowerCharge<sup>™</sup>

32.875

32.875

**─**11.500 ─►

**-6.000** 

11.500

3x6x32 PEDESTAL FRONT/BACK

3x6x32 PEDESTAL

SIDE

CHARGER TOP

72.000

0.375

PowerCharge™ | 500 Canal View Blvd, Suite 100 | Rochester, NY 14623 | 585•533•4085 | PowerChargeEV.com

**←** 8.000 →

RETRACTOR

(SINGLE / DUAL)

7.575 7.575

11.188

3.000

7.125

**CHARGER FRONT** 

0

0 0

4.504

**DUAL MOUNT BRACKET** 

16.120

₹ 8.751

0

6.000

**→** 3.000 →

3.102

Permit-Seal CLIFTON W. QUAY

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Project Number: 192520466 
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 02.13.24

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 MM.DD.YY
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12 of 14

ELECTRIC VEHICLE CHARGER DETAIL C-503 NOT TO SCALE

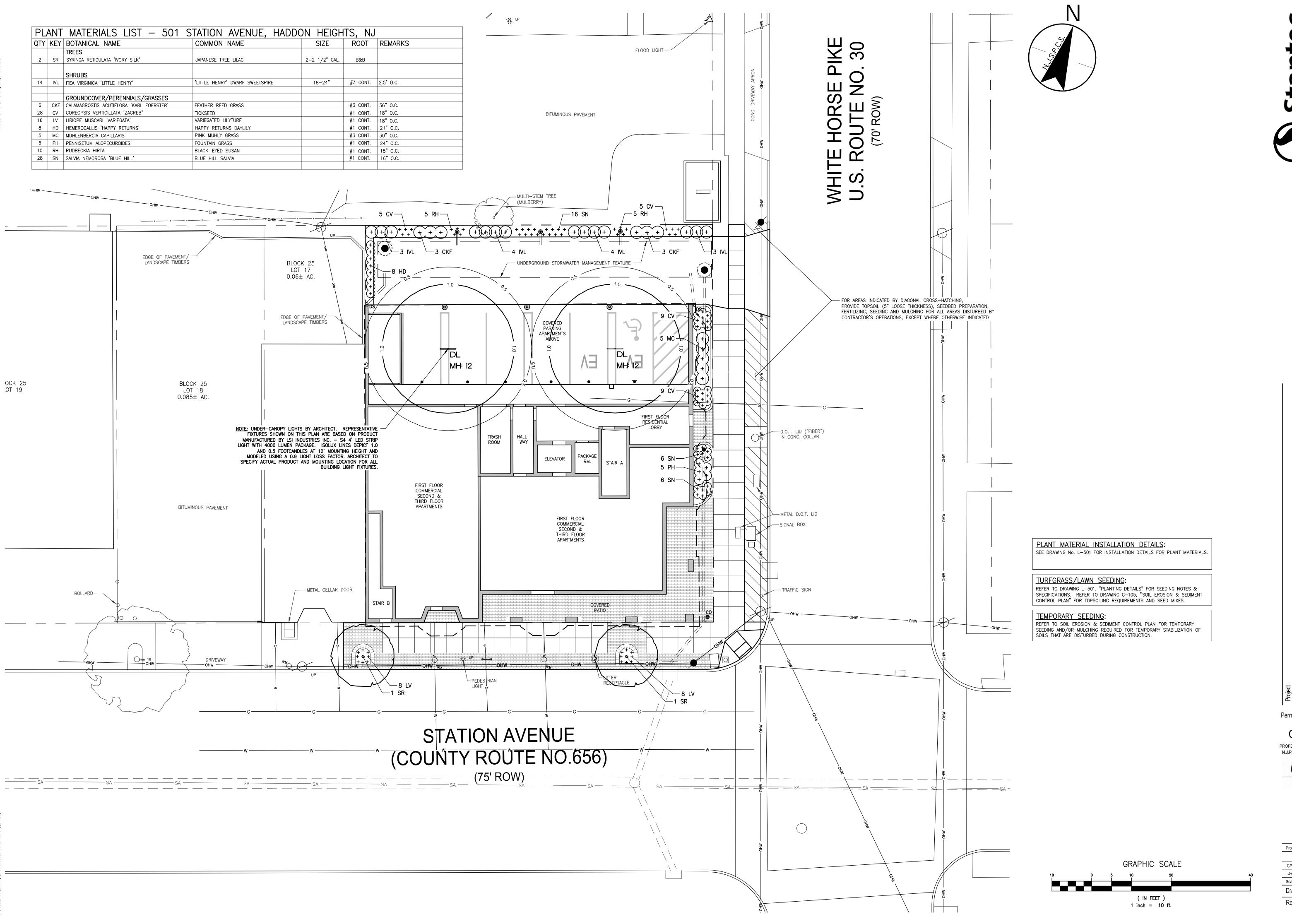
PowerCharge™ PowerCharge<sup>™</sup> ■ CABLE RETRACTOR LEVEL 2 CHARGING STATION Optional cable retractor extends the • **Up to 10x faster** than a standard 110v life of the cables by elevating them plug, the Level 2 Series safely delivers off the ground up to 35 miles of driving range for every hour of charge time Creates a safer environement by greatly reducing tripping hazards Adjustable output allows for the ideal power to match your supply panel, electric vehicle, and driving range SLIM & DURABLE DESIGN 3-Year Parts Warranty (5-Year Parts & Labor optional) Outdoor rated with multiple mounting configurations Small footprint whether wall or pedestal mounted MOUNT CONFIGURATIONS | ■ MULTIPLE MODELS Open Access Control Non-networked common for residential and fleet use RFID Access Control Non-networked model with RFID-card access control • Ethernet (40A Only) Cellular Networked When connected to a backend software plan it unlocks features such as point of sale payment, usage data reporting, driver notifications, remote diagnostics, and more **UL-Listed** meets safetycriteria for use in North America

ADA
Meets standards
Americans with
COMPLIANT
Disabilities Act

**Meets** standards for

Dual Retractor Pedestal (Single configuration available)

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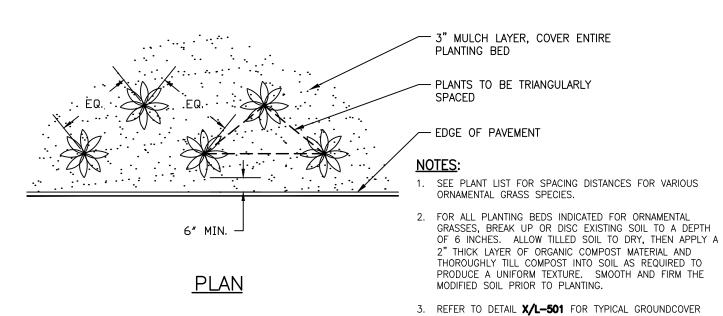


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13 of 14

CPN TAB CPN 02.13.24 Chkd. Drawing No. L-101 Revision

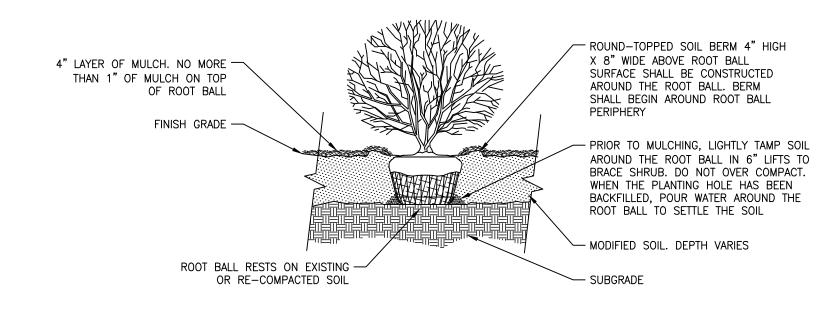


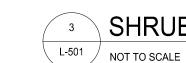
# GROUND COVER / PERENNIAL NOT TO SCALE

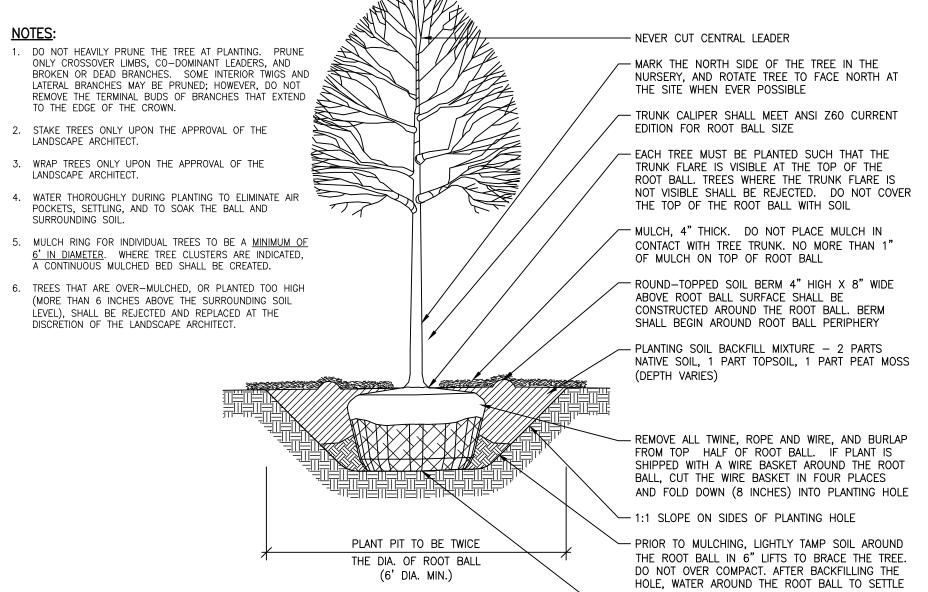
PLANTING ARRANGEMENT.

- 1. ROOT BALLS GREATER THAN 2' DIA. SHALL SIT ON A MOUND OF UNDISTURBED SOIL TO PREVENT SETTLEMENT.
- 2. ROOT BALLS SMALLER THAN 2' DIA. SHALL SIT ON COMPACTED PLANTING SOIL.
- 3. TOP OF ROOT BALL SHALL BE 1" TO 2" ABOVE FINISH
- 4. PLANTING HOLE FOR ROOT BALL SIZES 2' DIA. AND LARGER
- SHALL BE 2' LARGER ON ALL SIDES THAN DIAMETER OF ROOT BALL.
- 5. PLANTING HOLE FOR ROOT BALL SIZES LESS THAN 2' DIA. SHALL BE TWICE THE DIAMETER OF THE ROOT BALL.

- PLACE ROOT BALL ON EXISTING OR







SEEDED LAWN - SEE SEEDING

NOTES & SPECIFICATIONS FOR

TOPSOIL - SEE SOIL EROSION

& SEDIMENT CONTROL PLAN FOR REQUIREMENTS

- PREPARED SUBGRADE

SEEDED LAWN DETAIL

NOT TO SCALE

RE-COMPACTED SOIL **DECIDUOUS TREE** NOT TO SCALE



THAN A 3 DAY PERIOD AFTER DELIVERY.

NOTIFY THE OWNER IF MAJOR ADJUSTMENTS ARE REQUIRED.

- 1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS SHOWN, INCLUDING ALL LABOR, MATERIALS, EQUIPMENT, INCIDENTALS
- 2. ALL PLANTS SHALL BE NURSERY GROWN. PLANT QUALITY AND SIZE, ROOT SPREAD AND ROOT BALL OR CONTAINER SIZE SHALL BE IN ACCORDANCE WITH ANSI Z60.1, AMERICAN STANDARDS FOR NURSERY STOCK, LATEST EDITION. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. THEY SHALL BE FREE OF DISEASE AND INSECT PESTS, EGGS AND LARVAE. THEY SHALL HAVE HEALTHY AND WELL DEVELOPED ROOT SYSTEMS.
- 3. DECIDUOUS TREES SHALL BE SELECTED FOR STRAIGHT TRUNKS, SYMMETRICAL AND FULL HEADS WITH NO OPEN AREAS AND WITH ONE STRAIGHT LEADER. TREES WITH A CROTCH OR FORKED TRUNK SHALL BE REJECTED. CONIFEROUS EVERGREEN TREES SHALL BE FULLY BRANCHED FROM THE GROUND TO UPPERMOST WHORL WITH NO LARGE OPEN AREAS BETWEEN WHORLS. SHRUBS SHALL AVE FULL, DENSE AND SYMMETRICAL HEADS AND SHALL BE FOLIATED TO THE GROUND. LEGGY OR ONE-SIDED PLANTS SHALL BE
- REJECTED. GROUND COVER PLANTS SHALL BE THRIFTY, WELL BALANCED PLANTS, WELL-ESTABLISHED IN CONTAINERS. 4. ALL PLANTS (B&B OR CONTAINER) SHALL BE PROPERLY IDENTIFIED BY WEATHERPROOF LABELS SECURELY ATTACHED THERETO BEFORE DELIVERY TO THE PROJECT SITE. LABELS SHALL IDENTIFY THE PLANTS BY NAME, SPECIES AND SIZE. LABELS SHALL NOT
- BE REMOVED UNTIL FINAL INSPECTION BY THE PROJECT CONSULTANT OR OWNER'S AGENT. 5. SUBSTITUTIONS: DUE TO POSSIBLE LIMITED PLANT AVAILABILITY, PLANT MATERIAL OF SIMILAR CHARACTER MAY BE SUBSTITUTED,
- UPON REQUEST BY THE CONTRACTOR, IF APPROVED BY THE OWNER. 6. BALLED AND BURLAPPED PLANTS SHALL BE DUG WITH FIRM, NATURAL BALLS OF EARTH, OF DIAMETER AND DEPTH TO INCLUDE

MOST OF THE FIBROUS ROOTS. ALL ROOT WRAPPING MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED AT TIME

- 7. CONTAINER GROWN STOCK SHALL HAVE BEEN GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL TOGETHER FIRM AND WHOLE. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT
- BOUND. AFTER REMOVAL FROM THE CONTAINER, THE ROOT BALL SHALL BE CUT THROUGH THE SURFACE IN TWO VERTICAL
- WITH BROKEN ROOT BALLS OR EXCESSIVE DAMAGE TO THE CROWN SHALL BE REJECTED. 9. INSOFAR AS IT IS PRACTICABLE, PLANT MATERIALS SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT THE STOCK NOT PLANTED. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER

8. ROOT BALLS OF ALL PLANTS SHALL BE ADEQUATELY PROTECTED AT ALL TIMES FROM SUN AND DRYING WINDS OR FROST. PLANTS

- 10. PLANTING SOIL FOR BACKFILLING PLANTED AREAS SHALL CONSIST OF 2 PARTS BY VOLUME OF LOAMY TOPSOIL THOROUGHLY MIXED WITH ONE PART PEAT MOSS. NOTHING BUT SUITABLE TOPSOIL, FREE OF DRY SOD, STIFF CLAY, DEBRIS, OR OTHER UNSUITABLE MATERIALS, SHALL BE USED FOR PLANTING
- 11. ALL PLANTING SHALL BE INSTALLED AT THE LOCATIONS INDICATED ON THE DRAWINGS. MINOR ADJUSTMENTS TO PLANTING LOCATIONS MAY BE NECESSARY DUE TO FIFLD CONDITIONS AND FINAL GRADING. THE CONTRACTOR SHALL ENSURE THAT LANDSCAPE INSTALLATION DOES NOT INTERRUPT ESTABLISHED OR PROJECTED DRAINAGE PATTERNS. THE CONTRACTOR SHALL
- 12. ALL PLANTS SHALL BE PLUMB AND STRAIGHT AND INSTALLED AT SUCH A LEVEL THAT, AFTER SETTLEMENT, THE INDICATED RELATIONSHIP BETWEEN THE CROWN OF THE ROOT BALL AND THE GROUND SURFACE WILL BE ESTABLISHED. (SEE PLANTING DETAILS). ALL PLANTS SHALL BE LOCATED IN THE CENTER OF OF THEIR RESPECTIVE PLANTING PITS.
- 13. TREES IN LEAF WHEN PLANTED SHALL BE TREATED WITH ANTI-DESICCANT SUCH AS "WILT-PROOF".
- 14. MULCH: IMMEDIATELY AFTER PLANTING OPERATIONS ARE COMPLETED ALL TREE AND SHRUB PLANTING PITS SHALL BE COVERED WITH A 3" (THREE INCH) LAYER OF DOUBLE SHREDDED HARDWOOD ROOT MULCH OR OTHER MATERIAL APPROVED BY THE OWNER. THE LIMIT OF THIS MULCH FOR DECIDUOUS TREES AND SINGLE EVERGREEN TREES SHALL BE THE AREA OF THE PIT, FOR SHRUB BEDS AND EVERGREEN TREE CLUSTERS, A CONTINUOUS MULCHED BED SHALL BE CREATED.
- 15. ALL PLANTING BEDS ADJACENT TO LAWN, SOD OR SEEDED AREAS SHALL BE SPADE EDGED.
- 16. ALL GROUND COVER AREAS SHALL BE TREATED WITH A PRE-EMERGENT HERBICIDE PRIOR TO FINAL LANDSCAPE INSPECTION. GROUND COVER AREAS SHALL BE WEEDED PRIOR TO APPLICATION OF PRE-EMERGENT. APPLY PRE-EMERGENT AS PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 17. EACH TREE AND SHRUB SHALL BE PRUNED, AFTER INSTALLATION, IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL DEAD WOOD OR SUCKERS AND ALL BROKEN OR BADLY BRUISED BRANCHES SHALL BE REMOVED. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.
- 18. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AND THE OWNER'S AGENT IN WRITING OF ALL SOIL OR DRAINAGE CONDITIONS WHICH THE CONTRACTOR CONSIDERS DETRIMENTAL TO THE GROWTH OF PLANTS, IF SUCH CONDITIONS ARE ENCOUNTERED DURING PLANTING. STATE THE CONDITIONS AND SUBMIT A PROPOSAL FOR CORRECTING THE CONDITIONS, INCLUDING ANY CHANGE IN COST, FOR REVIEW AND ACCEPTANCE BY THE OWNER.
- 19. IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES LISTED IN THE PLANT LIST AND THOSE QUANTITIES SHOWN ON THE PLANS, THOSE SHOWN ON THE PLANS SHALL GOVERN.
- 20. NEW PLANTING AREAS AND NEW TURF AREAS SHALL BE ADEQUATELY IRRIGATED OR WATERED BY THE CONTRACTOR AS REQUIRED TO ESTABLISH THE NEW PLANTS AND LAWN, UNTIL OWNER'S ACCEPTANCE.
- 21. ANY MATERIAL/WORK MAY BE REJECTED IF IT DOES NOT MEET THE REQUIREMENTS OF THE SPECIFICATIONS. ALL REJECTED MATERIAL SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.
- 22. UPON COMPLETION OF ALL LANDSCAPING, A PROJECT MEETING FOR ACCEPTANCE OF THE WORK SHALL BE HELD. THE CONTRACTOR SHALL NOTIFY THE OWNER TO SCHEDULE THE INSPECTION AT LEAST SEVEN (7) DAYS PRIOR TO THE ANTICIPATED
- 23. CONTRACTOR SHALL MAINTAIN ALL PLANT MATERIAL UNTIL FINAL ACCEPTANCE BY OWNER. THE ONE-YEAR GUARANTEE PERIOD SHALL COMMENCE UPON FINAL ACCEPTANCE BY OWNER.
- 24. GUARANTEE: ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN A VIGOROUS GROWING CONDITION FOR A PERIOD OF NOT LESS THAN ONE FULL YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MONITOR THE PROJECT DURING THE GUARANTEE PERIOD AND NOTIFY THE OWNER IF PROBLEMS DEVELOP WITH THE PLANT MATERIAL. ANY MATERIAL THAT IS 25% DEAD OR MORE SHALL BE CONSIDERED DEAD AND MUST BE REPLACED AT NO CHARGE. A TREE SHALL BE CONSIDERED DEAD WHEN THE MAIN LEADER HAS DIED BACK, OR THERE IS 25% OF THE CROWN DEAD. REPLACEMENTS SHALL BE MADE AT THE BEGINNING OF THE FIRST SUCCEEDING PLANTING SEASON. REPLACEMENT PLANTS
- 25. REFER TO "SITE PLAN", SHEET C-102 FOR GENERAL NOTES PERTAINING TO WORK OF THIS PLAN. REFER TO SHEET C-101 FOR PROJECT LEGEND. THIS PLAN SHALL BE USED FOR LANDSCAPE PURPOSES ONLY. THE CONTRACTOR SHALL REVIEW RELATED ARCHITECTURAL/ENGINEERING PLANS TO BECOME THOROUGHLY FAMILIAR WITH GRADING AND UTILITIES.

# SEEDING NOTES AND SPECIFICATIONS

- GENERAL: PROVIDE TOPSOILING, SEEDBED PREPARATION, FERTILIZING, SEEDING AND MULCHING OF ALL NEWLY GRADED FINISHED EARTH SURFACES, UNLESS INDICATED OTHERWISE, AND AT ALL AREAS INSIDE OR OUTSIDE THE LIMITS OF CONSTRUCTION THAT ARE DISTURBED BY THE CONTRACTOR'S OPERATIONS. SOW SEED FROM APRIL 1 TO MAY 31 FOR SPRING PLANTING AND FROM AUGUST 16 TO OCTOBER 15 FOR FALL PLANTING. SEEDING PERIOD MAY BE EXTENDED OR REDUCED ACCORDING TO PREVAILING WEATHER CONDITIONS AT THE TIME, AS DIRECTED BY THE LANDSCAPE ARCHITECT.
- 2. TOPSOILING: COMPLY WITH SOIL EROSION & SEDIMENT CONTROL PLAN AND NOTES. ADDITIONAL REQUIREMENTS FOR LAWN AREAS: A. FINISHED SURFACE OF THE TOPSOIL SHALL CONFORM TO THE FINISHED GRADE AND SHALL BE FREE FROM DEPRESSIONS,
- B. REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE RUBBLE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.
- 3. SEEDBED PREPARATION: COMPLY WITH SOIL EROSION & SEDIMENT CONTROL PLAN AND NOTES.
- 4. SEED MIXTURES: COMPLY WITH SOIL EROSION & SEDIMENT CONTROL PLAN AND NOTES.
- 5. SEED APPLICATION: COMPLY WITH SOIL EROSION & SEDIMENT CONTROL PLAN AND NOTES.
- A. SOW SEED WITHIN 24 HOURS OF SEEDBED PREPARATION. B. SEED SHALL NOT BE APPLIED BY HYDROSEEDING UNLESS APPROVED BY THE LANDSCAPE ARCHITECT.
- 6. MULCH ALL SEEDED LAWN AREAS AFTER SEED APPLICATION. COMPLY WITH SOIL EROSION & SEDIMENT CONTROL PLAN AND
- 7. STEEP SLOPES (3:1 OR GREATER): INSTALL SLOPE STABILIZATION FABRIC IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS, AFTER SEEDING APPLICATION.
- A. UNLESS OTHERWISE DIRECTED, WATER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SOURCE OF WATER SHALL BE OF SUITABLE QUALITY FOR IRRIGATION, CONTAINING NO ELEMENTS TOXIC TO PLANT LIFE.
- B. START WATERING AREAS SEEDED AS REQUIRED BY TEMPERATURE AND WIND CONDITIONS. APPLY WATER AT A RATE SUFFICIENT TO INSURE THOROUGH WETTING OF SOIL TO A DEPTH OF 2 INCHES WITHOUT RUN OFF.
- C. DURING THE GERMINATION PROCESS, SEED IS TO BE KEPT ACTIVELY GROWING AND NOT ALLOWED TO DRY OUT.
- D. IRRIGATE TO ACHIEVE MINIMUM OF 1" OF WATER PER WEEK FOR A MINIMUM OF 4 WEEKS OR UNTIL GERMINATION IS COMPLETED AND VEGETATION IS ESTABLISHED.
- 9. SOD, IF AND WHERE INDICATED ON THE DRAWINGS, SHALL BE SAME AS GENERAL LAWN SEED MIX AND SHALL BE INSTALLED IN ACCORDANCE WITH AMERICAN ASSOCIATION OF SOD PRODUCERS' STANDARDS. SPECIFY "CERTIFIED SOD" OR HIGH QUALITY CULTIVATED SOD. IT IS TO BE FREE OF WEEDS AND UNDESIRABLE GRASSES AND ALSO BE OF UNIFORM THICKNESS. ALSO TO HAVE GOOD ROOT MAT WITHOUT BROKEN PADS OR TORN UNEVEN ENDS.
- 10. MAINTENANCE DURING ESTABLISHMENT PERIOD: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL AREAS DURING THE PERIOD WHEN GRASS IS BECOMING ESTABLISHED AND UNTIL ALL WORK UNDER THIS CONTRACT IS COMPLETE AND ACCEPTED. MAINTAIN AND ESTABLISH TURF BY WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING, REPLANTING, AND PERFORMING OTHER OPERATIONS AS REQUIRED TO ESTABLISH HEALTHY. VIABLE TURE. ROLL. REGRADE. AND REPLANT BARE OR ERODED AREAS AND REMULCH TO PRODUCE A UNIFORMLY SMOOTH TURF. PROVIDE MATERIALS AND INSTALLATION THE SAME AS THOSE USED IN THE ORIGINAL
- A. FILL IN AS NECESSARY SOIL SUBSIDENCE THAT MAY OCCUR BECAUSE OF SETTLING OR OTHER PROCESSES. REPLACE MATERIALS AND TURF DAMAGED OR LOST IN AREAS OF SUBSIDENCE.
- B. IN AREAS WHERE MULCH HAS BEEN DISTURBED BY WIND OR MAINTENANCE OPERATIONS, ADD NEW MULCH AND ANCHOR AS
- C. IF ANY PORTION OF THE SURFACE BECOMES GULLIED OR OTHERWISE DAMAGED FOLLOWING SEEDING, THE EFFECTED CONDITIONS AND GRADE OF THE SOIL PRIOR TO SEEDING SHALL BE RESEEDED AS SPECIFIED HEREIN.
- 11. SEE SOIL EROSION & SEDIMENT CONTROL PLAN FOR TEMPORARY SEEDING AND STABILIZATION MEASURES FOR SOILS DISTURBED
- DURING CONSTRUCTION. 12. ACCEPTANCE OF SATISFACTORY LAWNS:
- A. SATISFACTORY SEEDED LAWN: AT END OF MAINTENANCE PERIOD, A HEALTHY, UNIFORM, CLOSE STAND OF GRASS HAS BEEN ESTABLISHED, FREE OF WEEDS AND SURFACE IRREGULARITIES, WITH COVERAGE EXCEEDING 90 PERCENT OVER ANY 10 SQ. FT. AND BARE SPOTS NOT EXCEEDING 5 BY 5 INCHES.
- B. SATISFACTORY SODDED LAWN: AT END OF MAINTENANCE PERIOD, A HEALTHY, WELL-ROOTED, EVEN-COLORED, VIABLE LAWN HAS BEEN ESTABLISHED, FREE OF WEEDS, OPEN JOINTS, BARE AREAS, AND SURFACE IRREGULARITIES.
- C. REESTABLISH LAWNS THAT DO NOT COMPLY WITH REQUIREMENTS AND CONTINUE MAINTENANCE UNTIL LAWNS ARE SATISFACTORY. 13. GUARANTEE: ALL LAWN WORK INCLUDING THE REPAIR OF WASHOUTS, GULLIES, ETC., SHALL BE GUARANTEED FOR ONE CALENDAR YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.

Permit-Seal **CLIFTON W. QUAY** 

PROFESSIONAL ENGINEER, PROFESSIONAL PLANNER N.J.P.E. LICENSE #42670, N.J.P.P. LICENSE #LI05653

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