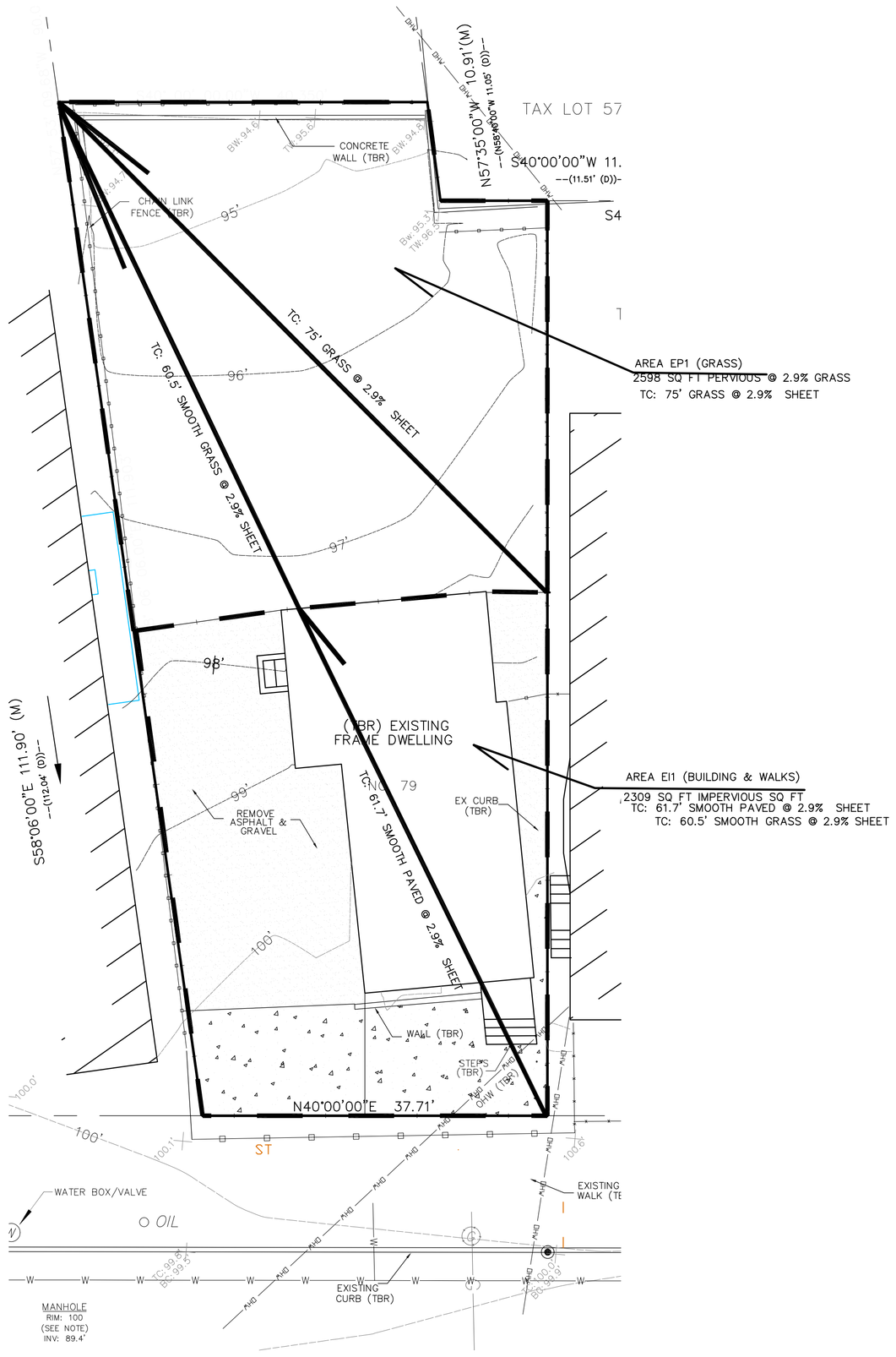


EXISTING CONDITION DRAINAGE AREA PLAN

SCALE: 1" = 10'

	EXISTING CONDITION	
	PEAK RUNOFF	
EVENT	SCS (CFS)	DELMARVA (CFS)
WTR QUAL	0.15	0.12
2 YR	0.19	0.15
10 YR	0.37	0.29
100 YR	0.68	0.54

EXISTING STORMWATER

REFRENCE PLAN

TOPOGRAPHIC SURVEY
OF 79 ROMAINE AVE
JERSEY CITY, HUDSON COUNTY, NJ
BY: BEHAR SURVEY ASSOC, PC
WILLIAM B. KLAPPER, PLS
DATED : 05/18/21

LEGEND

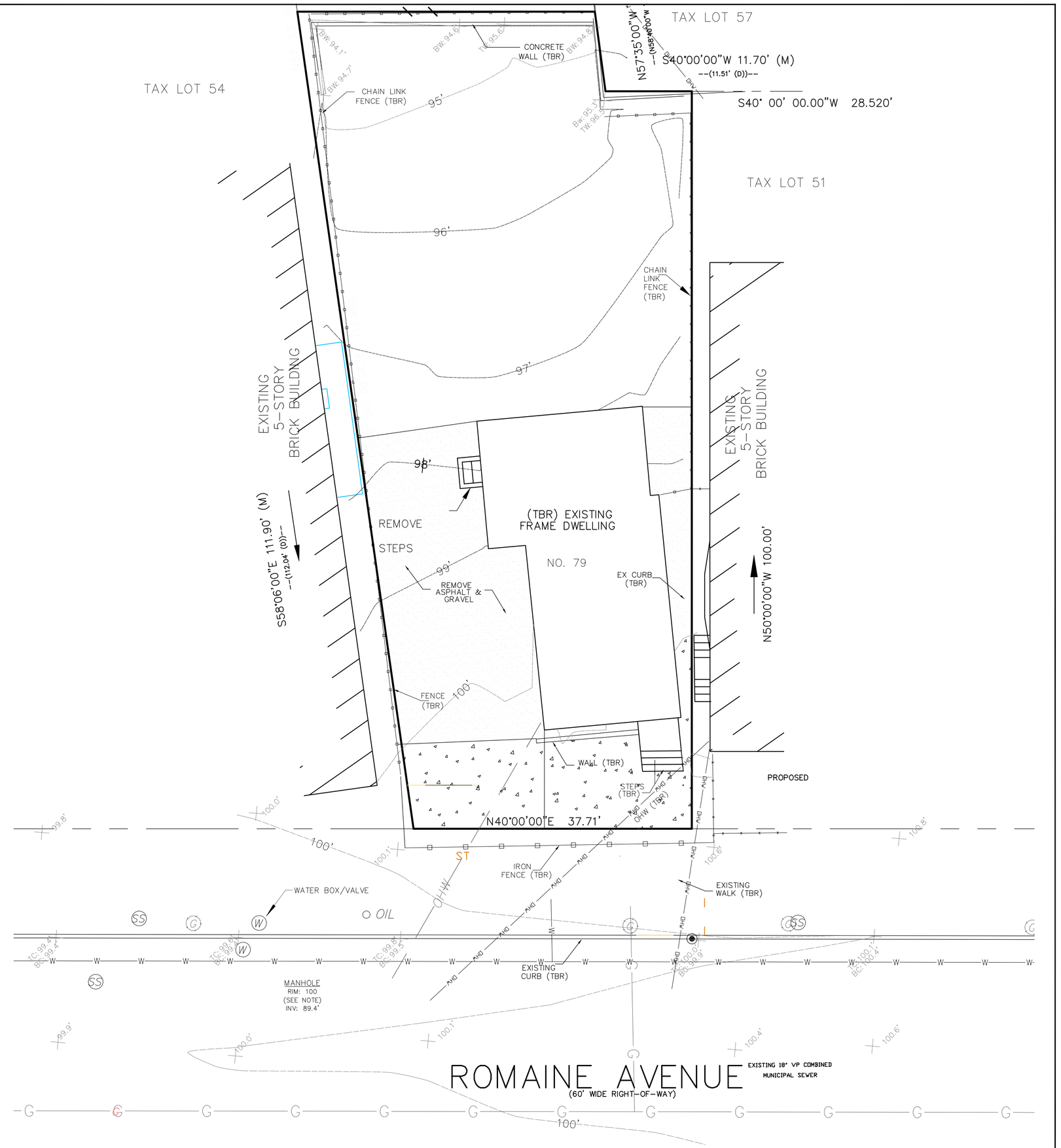
- = EXIST. "S" INLET
- = EXIST. SANITARY SEWER MANHOLE
- = EXIST. WATER VALVE
- = EXIST. FIRE HYDRANT
- = EXIST. GAS VALVE
- = EXIST. GAS METER
- = EXIST. UTILITY POLE WITH STREET LIGHT
- = EXIST. UTILITY POLE
- = EXIST. OVERHEAD WIRES
- = EXIST. CHAIN LINK FENCE
- = EXIST. WOOD FENCE
- = EXIST. VINYL FENCE
- = EXIST. SIGN (MISC.)
- = EXIST. STREET SIGN
- = EXIST. TRAFFIC LIGHT
- = EXIST. OLD FIRE ALARM POLE
- = EXIST. WOODS/BRUSH LINE
- = EXIST. TREE WITH SIZE
- = EXIST. 6" D.I.C.L.P. WATER MAIN SERVICE AND WATER VALVE
- = EXIST. CONTOURS
- 103.8 = EXIST. SPOT ELEVATION
- = EXIST. 8" PVC SANITARY SEWER PIPE
- EX. PROP LINE
- EX. PROP LINE (TBR)
- EXISTING TREELINE

- = PROPOSED "B" INLET
- = PROPOSED 8" WATER VALVE
- Water = PROPOSED 8" CLDIP WATER MAIN
- 92 = PROPOSED CONTOUR
- x94.62 = PROPOSED SPOT ELEVATION
- 92.92 TC = PROPOSED TOP OF CURB
- 92.42 BC = PROPOSED BOTTOM OF CURB
- FFF = 98.38 = PROPOSED FINISHED FIRST FLOOR ELEV
- FGF = 96.38 = PROPOSED FINISHED GARAGE FLOOR ELEV
- = PROPOSED FINISHED WOODS/BRUSH LINE
- CO = PROPOSED CLEANOUT
- PCO = PROPOSED PRESSURE CLEANOUT
- = PROPOSED DECIDUOUS TREE
- = PROPOSED EVERGREEN TREE
- = PROPOSED TREE PROTECTION
- = PROP SIGN (MSG)
- = SHRUBS
- 4(3)AG
- SL9 = SOIL LOG LOCATION
- = PROPOSED BOLLARD LIGHT
- PROPOSED PROP LINE
- PROPOSED TREELINE

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.



EXISTING CONDITON PLAN

SCALE: 1" = 10'

CALL BEFORE YOU DIG
811 OR
1-800-272-1000
FOR FREE MARKOUTS TO LOCATE UNDERGROUND UTILITIES
" IT'S THE LAW "
DIG SAFELY
NEW JERSEY ONE CALL

REV.	DESCRIPTION	DATE	BY
2.			DCP
1.			DCP

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CIVIL & ARCHITECTURAL ENGINEERING
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Phone (609)865-1596
Email: dcpelikan@verizon.net

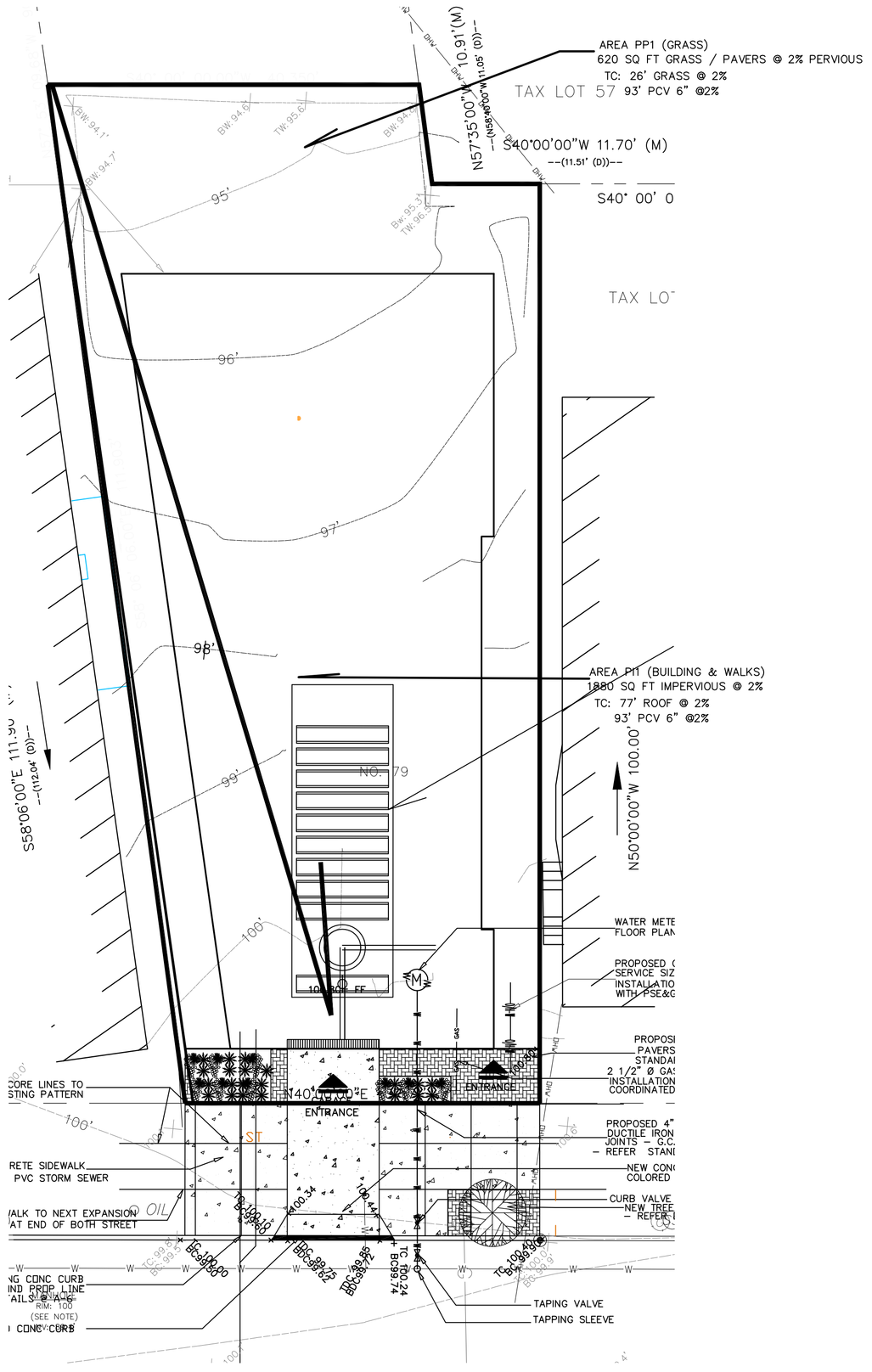
DEC 28, 2021
DATE SIGNED

DOUGLAS C. PELIKAN
N.J. LIC. PROFESSIONAL ENGINEER - GE27632

EXISTING CONDITIONS PLAN
5 STORY RESIDENTIAL

79 ROMAINE
LOT 52 - BLOCK 10502
situte in
JERSEY CITY
HUDSON COUNTY NEW JERSEY
SCALE: 1" = 20' DEC 28, 2021

DRAWN BY:	PROJECT NO.	DRAWING FILE:	SHEET NO.
DCP			1



PROPOSED CONDITION DRAINAGE AREA MAP SCALE: 1" = 10'

LEGEND

= EXIST. "B" INLET	= PROPOSED "B" INLET
= EXIST. SANITARY SEWER MANHOLE	= PROPOSED 8" WATER VALVE
= EXIST. WATER VALVE	Water = PROPOSED 8" CLDIP WATER MAIN
= EXIST. FIRE HYDRANT	92 = PROPOSED CONTOUR
= EXIST. GAS VALVE	×94.62= PROPOSED SPOT ELEVATION
= EXIST. GAS METER	92.92 TC = PROPOSED TOP OF CURB
= EXIST. UTILITY POLE WITH STREET LIGHT	92.42 BC = PROPOSED BOTTOM OF CURB
= EXIST. UTILITY POLE	FFF = 98.38 = PROPOSED FINISHED FIRST FLOOR ELEV
= EXIST. OVERHEAD WIRES	FGF = 96.38 = PROPOSED FINISHED GARAGE FLOOR ELEV
= EXIST. CHAIN LINK FENCE	= PROPOSED FINISHED WOODS/BRUSH LINE
= EXIST. WOOD FENCE	CO = PROPOSED CLEANOUT
= EXIST. VINYL FENCE	PCO = PROPOSED PRESSURE CLEANOUT
= EXIST. SIGN (MSC.)	= PROPOSED DECIDUOUS TREE
= EXIST. STREET SIGN	= PROPOSED EVERGREEN TREE
= EXIST. TRAFFIC LIGHT	= PROPOSED TREE PROTECTION
= EXIST. OLD FIRE ALARM POLE	= PROP SIGN (MSG)
= EXIST. WOODS/BRUSH LINE	= SHRUBS
= EXIST. TREE WITH SIZE	(3)AG
= EXIST. 6" D.I.C.L.P. WATER MAIN SERVICE AND WATER VALVE	= NEW HYDRANT
= EXIST. CONTOURS	SL9 = SOIL LOG LOCATION
= EXIST. SPOT ELEVATION	= PROPOSED BOLLARD LIGHT
= EXIST. 8" PVC SANITARY SEWER PIPE	PROPOSED PROP LINE
EX. PROP LINE / EX. PROP LINE (TBR)	PROPOSED TREELINE
EXISTING TREELINE	

SUMMARY OF FLOWS

	EXISTING CONDITION		PROPOSED CONDITION	
	PEAK RUNOFF		PEAK RUNOFF	
EVENT	SCS (CFS)	DELMARVA (CFS)	SCS (CFS)	DELMARVA (CFS)
WTR QUAL	0.15	0.12	0.11	0.11
2 YR	0.19	0.15	0.12	0.13
10 YR	0.37	0.29	0.27	0.27
100 YR	0.68	0.54	0.53	0.53

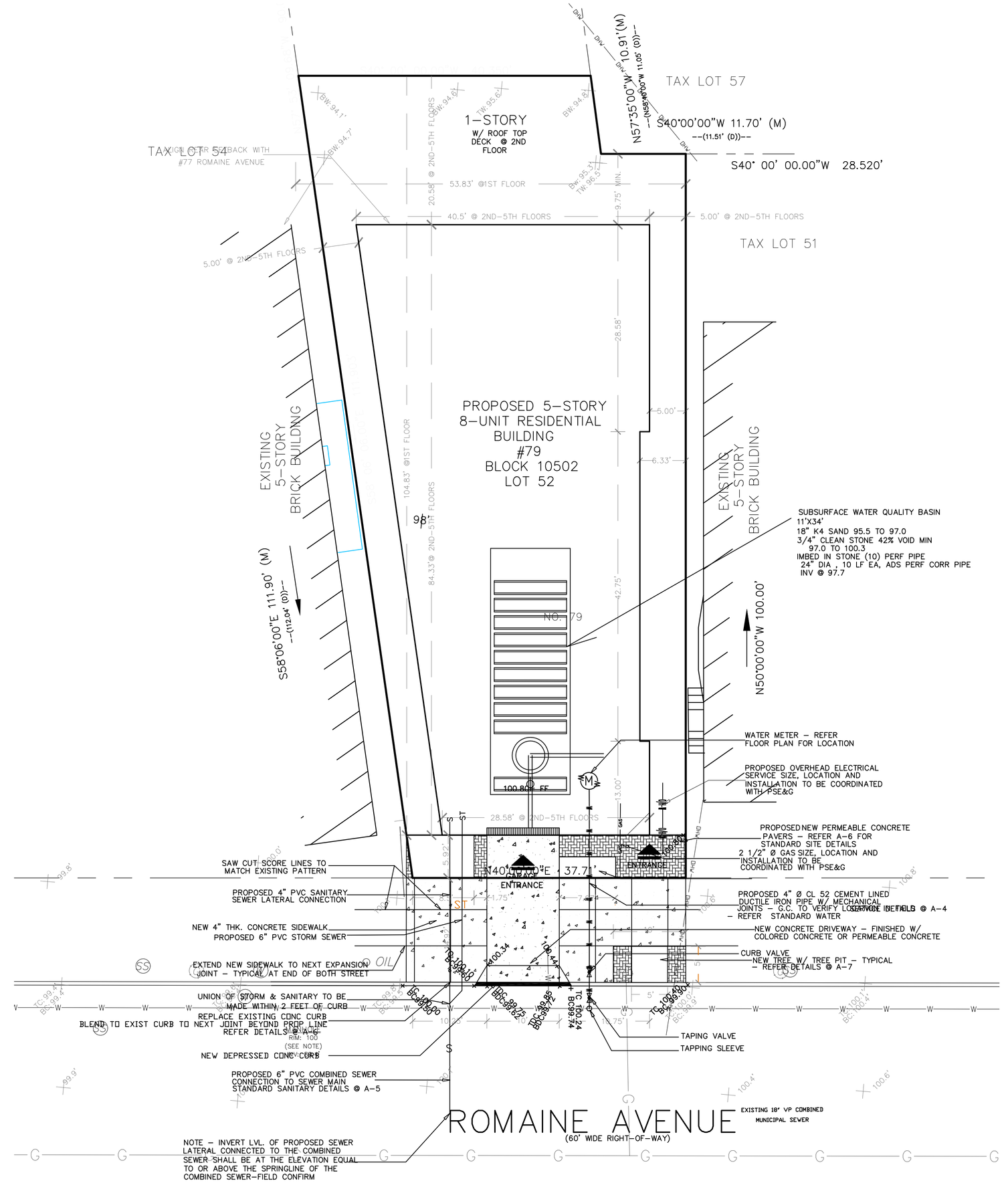
PROPOSED STORMWATER

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

REFRENCE PLAN
TOPOGRAPHIC SURVEY
OF 79 ROMAINE AVE
JERSEY CITY, HUDSON COUNTY, NJ
BY: BEHAR SURVEY ASSOC, PC
WILLIAM B. KLAPPER, PLS
DATED : 05/18/21



GRADING & UTILITY PLAN
SCALE: 1" = 10'

REV.	DESCRIPTION	DATE	BY
6.			
5.			
4.			
3.			
2.			
1.			

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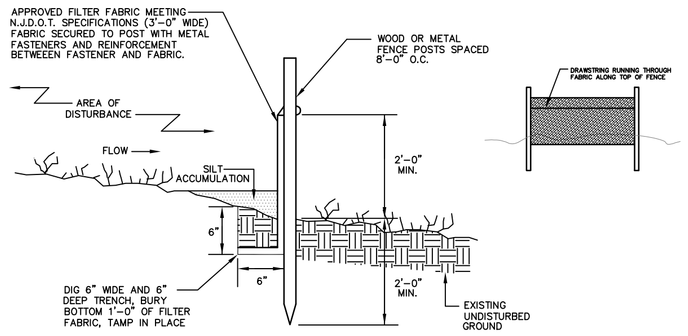
DEC 28, 2021
DOUGLAS C. PELIKAN DATE SIGNED
N.J. LIC. PROFESSIONAL ENGINEER - GE27632

GRADING & DRAINAGE PLAN
5 STORY RESIDENTIAL

79 ROMAINE
LOT 52 - BLOCK 10502
situate in
JERSEY CITY

HUDSON COUNTY NEW JERSEY
SCALE: AS NOTED DEC 28, 2021

DRAWN BY:	PROJECT NO.	DRAWING FILE:	SHEET NO.
DCP			2

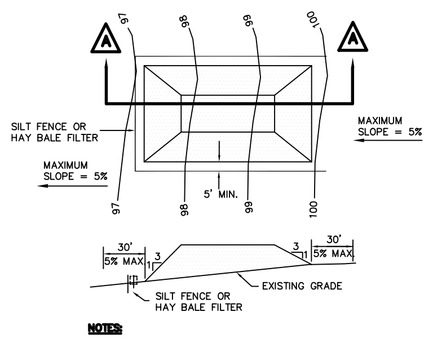


NOTES:

1. PLACE SILT FENCE AT LOCATIONS AS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
2. THE SLOPE OF THE LAND FOR AT LEAST 30 FEET ADJACENT TO ANY SILT FENCE SHALL NOT EXCEED 5%
3. SILT FENCE SHALL BE INSTALLED SO WATER CANNOT BYPASS THE FENCE AROUND ITS ENDS.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE AS PROMPTLY AS POSSIBLE.
5. SILT FENCE SHALL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT UNLESS OTHERWISE INSTRUCTED BY THE TOWNSHIP ENGINEER. AND LOCAL SCD

SILT FENCE DETAIL

N.T.S. J-03

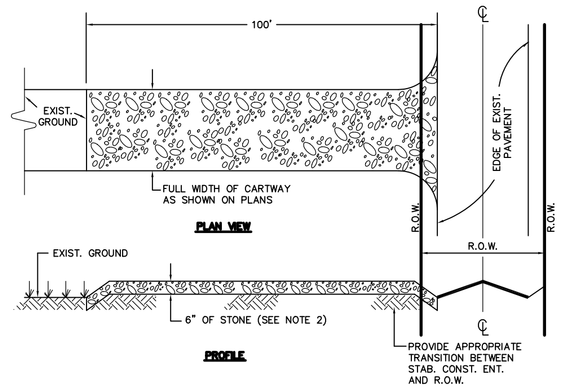


NOTES:

1. PLACE STOCKPILES AT LOCATIONS AS SHOWN ON THE SOIL EROSION ANS SEDIMENT CONTROL PLAN.
2. ALL SIDE SLOPES SHALL BE 3 TO 1 OR FLATTER.
3. STOCKPILE SHALL RECEIVE A VEGETATIVE COVER IN ACCORDANCE WITH MINIMUM STABILIZATION REQUIREMENTS.
4. SILT FENCE OR HAY BALE FILTER SHALL BE INSTALLED AS DETAILED HEREON.

TOPSOIL STOCKPILE DETAIL

N.T.S. J-06



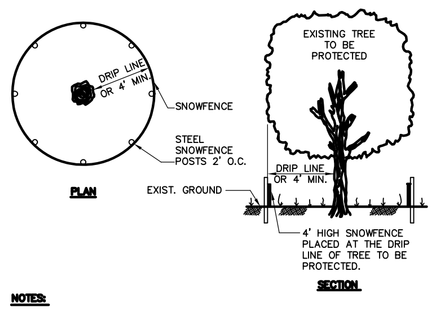
NOTES:

1. PLACE STABILIZED CONSTRUCTION ENTRANCE AT LOCATION(S) AS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
2. STONE SIZE SHALL BE ASTM C-33, SIZE NO. 2 OR 3, CRUSHED STONE.
3. THE THICKNESS OF THE STAB. CONST. ENT. SHALL NOT BE LESS THAN 6".
4. THE WIDTH AT THE EXIST. PAVEMENT SHALL NOT BE LESS THAN THE FULL WIDTH OF POINTS OF INGRESS AND EGRESS.
5. THE STAB. CONST. ENT. SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE R.O.W./PAVEMENT. THIS REQUIRES PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURE USED TO TRAP SEDIMENT.
6. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO THE PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

N.T.S. J-11

NOTE: SIZE MAY VARY UPON LOCAL CONDITIONS , SEE PLAN



NOTES:

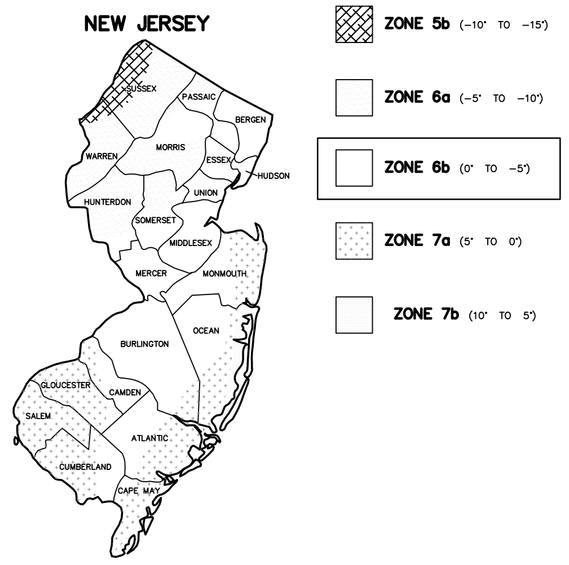
1. TREE PROTECTION SHALL BE PROVIDED FOR ANY AND ALL TREES TO BE PRESERVED DURING AND AFTER CONSTRUCTION.
2. 4' HIGH SNOWFENCE SHALL BE PLACED AT THE DRIP LINE OF THE TREE AND ENCIRCLE THE ENTIRE TREE.
3. BOARDS SHALL NOT BE NAILED TO TREES DURING CONSTRUCTION.
4. ROOTS SHALL NOT BE DISTURBED IN AN AREA INSIDE THE DRIP LINE OF THE TREE BRANCHES.
5. DAMAGED ROOTS SHALL BE CLEANLY CUT (IF SEVERED) AND BACKFILLED IMMEDIATELY TO PREVENT DRYING.
6. TREE LIMB REMOVAL, WHERE NECESSARY, WILL BE DONE FLUSH WITH BRANCH COLLAR AND BE PERFORMED UNDER THE IMMEDIATE SUPERVISION OF A LICENSED NURSERYMAN.

TREE PROTECTION DETAIL

N.T.S. J-12

USDA PLANT HARDINESS ZONES

AVERAGE ANNUAL MINIMUM TEMPERATURE (F)



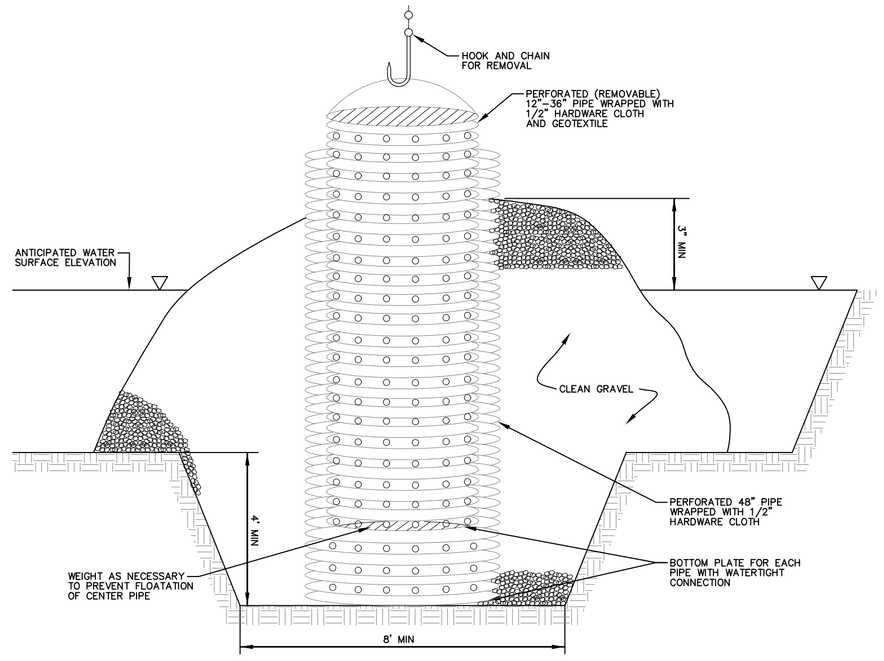
ZONE 5b (-10° TO -15°)

ZONE 6a (-5° TO -10°)

ZONE 6b (0° TO -5°)

ZONE 7a (5° TO 0°)

ZONE 7b (10° TO 5°)



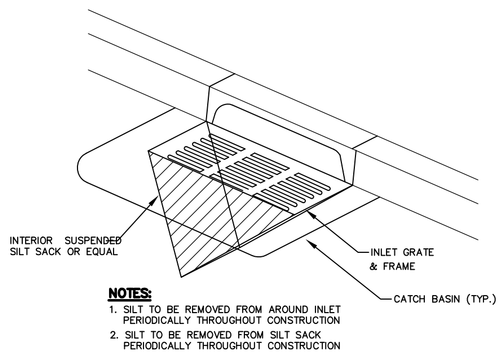
ELEVATION (CUT AWAY)

CONSTRUCTION SPECIFICATIONS

1. THE OUTER PIPE SHOULD BE 48" DIA. OR SHALL, IN ANY CASE, BE AT LEAST 4" GREATER IN DIA. THAN THE CENTER PIPE. THE OUTER PIPE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH TO PREVENT BACKFILL MATERIAL FROM ENTERING THE PERFORATIONS.
2. AFTER INSTALLING THE OUTER PIPE, BACKFILL AROUND OUTER PIPE WITH 2" AGGREGATE OR CLEAN GRAVEL.
3. THE INSIDE STAND PIPE (CENTER PIPE) SHOULD BE CONSTRUCTED BY PERFORATING A CORRUGATED OR PVC PIPE BETWEEN 12" AND 36" IN DIA. THE PERFORATIONS SHALL BE 1/2"x6" SLITS OR 1" DIA. HOLES 6" IN CENTER. THE CENTER PIPE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH FIRST, THEN WRAPPED AGAIN WITH GEOTEXTILE CLASS E.
4. THE CENTER PIPE SHOULD EXTEND 12" TO 18" ABOVE THE ANTICIPATED WATER SURFACE ELEVATION OR RISER CREST ELEVATION WHEN DEWATERING A BASIN.

DEWATERING DETAIL

N.T.S. J-13



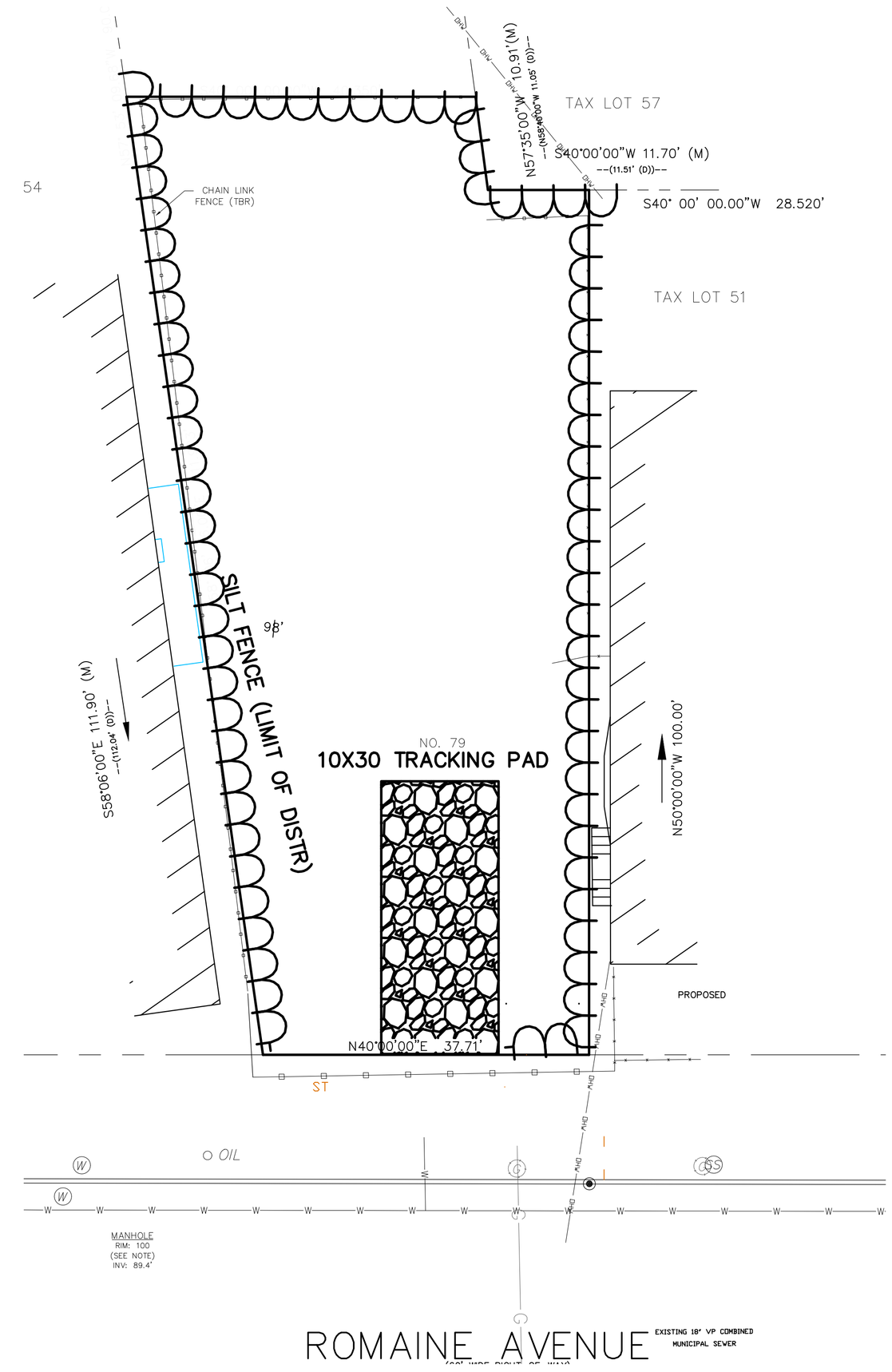
NOTES:

1. SILT TO BE REMOVED FROM AROUND INLET PERIODICALLY THROUGHOUT CONSTRUCTION
2. SILT TO BE REMOVED FROM SILT SACK PERIODICALLY THROUGHOUT CONSTRUCTION

INLET PROTECTION DETAIL

(SILT SACK)

N.T.S. J-14-B



CONSTRUCTION SCHEDULE LOT 10

BEGIN CONSTRUCTION SPRING 2022

1. INSTALL TRACKING PAD; 1 WK
2. INSTALL SILT FENCE; 1 WK
3. DEMO EXISTING BUILDINGS; 1 WK
4. GENERAL CONSTRUCTION OF BULIDING AND GROUNDS; 8 MO
5. SOIL COMPACTION TESTING (N/A)
6. APPLICATION OF 5" TOPSOIL; 1 WK (N/A)
7. SEED AND STABILIZE; 1 WK (N/A)
8. REMOVE EROSION CONTROL MEASURES 1 WK

AREA OF DISTURBANCE

4,917 SQ FT, 0.1AC

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

REV.	DESCRIPTION	DATE	BY
7.			
6.			
5.			
4.			
3.			
2.			
1.			

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DEC 28, 2021
DATE SIGNED

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N.J. LIC. PROFESSIONAL ENGINEER - GE27632

SOIL EROSION PLAN
12 UNITS RESIDENTIAL BUILDING

79 ROMAINE
LOT 52 - BLOCK 10502
situate in
JERSEY CITY

HUDSON COUNTY NEW JERSEY
SCALE: 1" = 10'
DEC 28, 2021

DRAWN BY:	PROJECT NO.	DRAWING FILE:	SHEET NO.
			3

SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

DEFINITION

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

PURPOSE

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

WATER QUALITY ENHANCEMENT

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

WHERE APPLICABLE

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

METHODS AND MATERIALS

1. **SITE PREPARATION**
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, PG. 19-1.
   B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
   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.).
2. 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. APPLY LIMESTONE AT THE RATE OF 2 TONS/ACRE UNLESS SOIL TESTING 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.
   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 DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM SEEDBED IS PREPARED.
   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 ACID PRODUCING SOILS, PG. 1-1.
3. **SEEDING**
   A. SELECT SEED FROM RECOMMENDATIONS IN TABLE 7-2.

TABLE 7-2

TEMPORARY VEGETATIVE STABILIZATION GRASSES, SEEDING RATES, DATES AND DEPTH.

SEED SELECTIONS	SEEDING RATES[1] (POUNDS) PER ACRE	PER 1,000 SQ. FT.	OPTIMUM SEEDING DATE[2] BASED ON PLANT HARDINESS ZONE[3]: ZONE 5b, 6a	ZONE 6b	ZONE 7a, b	OPTIMUM SEED DEPTH[4] (INCHES)
COOL SEASON GRASSES						
1. PERENNIAL RYEGRASS	100	1.0	3/15–6/1, 8/1–9/15	3/1–5/15, 8/15–10/1	2/15–5/1, 8/15–10/15	0.5
2. SPRING OATS	86	2.0	3/15–6/1, 8/1–9/15	3/1–5/15, 8/15–10/1	2/15–5/1, 8/15–10/15	1.0
3. WINTER BARLEY	96	2.2	8/1–9/15	8/15–10/1	8/15–10/15	1.0
4. ANNUAL RYEGRASS	100	1.0	3/15–6/1, 8/1–9/15	3/15–6/1, 8/1–9/15	2/15–5/1, 8/15–10/15	0.5
5. WINTER CEREAL RYE	112	2.8	8/1–11/1	8/1–11/15	8/1–12/15	1.0
WARM SEASON GRASSES						
6. PEARL MILLET	20	0.5	6/1–8/1	5/15–8/15	5/1–9/1	1.0
7. MILLET (GERMAN OR HUNGARIAN)	30	0.7	6/1–8/1	5/15–8/15	5/1–9/1	1.0

1. SEEDING RATE FOR WARM SEASONS GRASS, SELECTIONS 5-7 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 IRRIGATED.
3. PLANT HARDINESS ZONE (SEE FIGURE 7-1, PG 7-4.)
4. TWICE THE DEPTH FOR SANDY SOILS

   B. CONVENTIONAL SEEDING. APPLY 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, 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. 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 SEEDINH 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, ETC.
   D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EMERGENCE. THIS IS THE PREDERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

4. 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. 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 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 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.

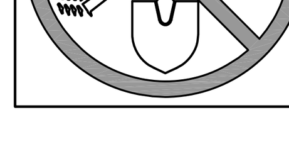
1. PEG AND TWINE. DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH 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.
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.
   b. USE ONE OF THE FOLLOWING:
      (1) ORGANIC AND VEGETABLE BASED BINDERS- NATURALLY OCCURING, 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. 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 DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

      NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

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. 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 APPLIED TO A SEEDED AREA ADN WATERED, FORMA MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED 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 BEEN 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 BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.



STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

DEFINITION

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

PURPOSE

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

WATER QUALITY ENHANCEMENT

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

WHERE APPLICABLE

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

METHODS AND MATERIALS

I. SITE PREPARATION
   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. 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 WITH OUT DAMAGING THE SOIL A UNIFORM APPLICATION TO A DEPTH OF 5" (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARDS FOR TOPSOILING.

II. 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. APPLY LIMESTONE IN ACCORDANCE WITH TABLE 4-1, PG 4-2 AND THE RESULTS OF SOIL TESTING. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES. TABLE 4-1 IS A GENERAL GUIDELINE FOR LIMESTONE APPLICATION.

TABLE 4-1

SOIL TEXTURE	LIMESTONE[1] APPLICATION RATE BY SOIL TEXTURE: TONS/ACRE	LBS. / 1,000 SQ. FT.
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

1. PULVERIZED DOLOMITIC LIMESTONE IS PERFERRED FOR MOST SOILS SOUTH OF THE NEW BRUNSWICK-TRENTON LINE.

   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 DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM SEEDBED IS PREPARED.
   C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRATICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).
   D. 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 SEEDBED PREPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, PG. 1-1.

III. SEEDING
   A. SELECT A MIXTURE FROM TABLE 4-3 (PG. 4-7) OR USE MIXTURE RECOMMENDED BY RUTGERS COOPERATIVE EXTENSION OR NATURAL RESOURCES CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE 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 VEGATATION. 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 MIXTURE FOR THE SEEDED AREA AND MOWED ONCE.
      2. WARM SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 85° F AND ABOVE. SEE TABLE 4-3 (PG.4-7), 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 3, MIXTURES 8-20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PURE LIVE SEED IS NOT REQUIRED FOR COOL SEASON GRASSES.
   B. CONVENTIONAL SEEDING IS PERFORMED BY APPLING 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. 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, ETC.
   D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EMERGENCE. THIS IS THE PREDERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

4. 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. UNROTTED SMAL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY 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 APPROXIMATELY 85% 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 SECTION.

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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 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.
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.
   b. USE ONE OF THE FOLLOWING:
      (1) EMULSIFIED ASPHALT – (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, AND CRS-2). APPLY 0.04 GAL./SQ./YD. OR 194 GAL./ACRE ON FLAT AREAS AND ON SLOPES LESS THAN 8 FEET OR MORE HIGH, USE 0.075 GAL./SQ. YD. OR 363 GAL./ACRE. THESE MATERIALS MAY BE DIFFICULT TO APPLY UNIFORMLY AND WILL DISCOLOR SURFACES.
      (2) ORGANIC AND VEGETABLE BASED BINDERS- NATURALLY OCCURING, 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. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
      (3) 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.

      NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION 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 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT 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 APPLIED TO A SEEDED AREA ADN WATERED, FORMA MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED 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 BEEN 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 BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

5. IRRIGATION (WHERE FEASIBLE)

IF SOIL MOISTURE IS DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH 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.

6. TOPDRESSING

SINCE SLOW RELEASE NITROGEN FERTILZER (WATER INSOLUBLE) IS PRESCRIBED IN SECTION II. A. SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS TO THE EXTENT THAT TURF FAILURE MAY DEVELOPE. IN THAT INSTANCE, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 400 POUNDS PER ACRE OR 10 POUNDS PER 1,000 SQUARE FEET.

7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION

THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-3 (PG.4-7) ARE REQUIRED WHEN A REPORT OF COMPLIANCE ID 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.

TABLE 4-2

PERMANENT STABILIZATION MIXTURES FOR VARIOUS USES

APPLICATION	PLANTING MIXTURES BY SOIL DRAINAGE CLASS[1] (SEE TABLE 4-3): EXCESSIVELY DRAINED	WELL TO MODERATELY WELL DRAINED	SOMEWHAT POORLY TO POORLY DRAINED
RESIDENTIAL/COMMERCIAL LOTS	12, 14, 17	12, 14, 15, 16, 17	18
POND AND CHANNEL BANKS, DIKES, BERMS AND DAMS	2, 7, 8, 12	7, 8, 9, 10, 11, 17	2, 10, 18, 19
DRAINAGE DITCHES, SWALES, DETENTION BASINS	2, 11, 13	2, 9, 11, 13, 14, 19	2, 10, 18, 19
FILTER STRIPS	14	13, 14	13, 14
GRASSES WATERWAYS, SPILLWAYS	2, 3, 11, 12, 14	8, 9, 11, 12, 13, 14	2, 11, 13, 14
RECREATION AREAS, ATHLETIC FIELDS	7, 14, 17, 20	14, 15, 16, 17, 20	18
SPECIAL PROBLEM SITES			
STEEP SLOPES AND BANKS, ROADWAYS, BORROW AREAS	2, 3, 6, 8	2, 3, 7, 9, 10, 11, 12, 17, 20	2, 11, 12, 13, 14
SAND AND GRAVEL PITS, SANITARY LANDFILLS	1, 2, 3, 4, 5, 6, 21	1, 2, 3, 4, 5, 6, 10, 17, 20	2, 10
DREDGED MATERIAL, SPOILBANKS, BORROW AREAS	2, 3, 6, 20	2, 3, 6, 11	2, 10
STREAMBANKS & SHORELINES[2]	2, 10,22, 23a	2, 10, 21b, 22, 23a, 23b	2, 10, 21a, 23a, b, c, d
UTILITY RIGHT-OF-WAY	3, 9, 20	3, 9	10, 11, 19

1. REFER TO SOILS SURVEYS FOR DRAINAGE CLASS DESCRIPTIONS.
2. REFER TO SOIL BIOENGINEERING STANDARD FOR ADDITIONAL SEED MIXTURES.
3. SEE APPENDIX E FOR DESCRIPTION OF TURF GRASSES AND CULTIVARS.

TABLE 4-3

PERMANENT VEGETATIVE MIXTURES, PLANTING RATES AND PLANTING DATES[1]

O = OPTIMAL PLANTING PERIOD; A = ACCEPTABLE PLANTING PERIOD

SEED MIXTURE[2]	PLANTING RATE /3 LBS/ACRE	LBS/1000 SQ. FT.	ZONE 5b, 6a 3/15–5/31	6/1–7/31	8/1–10/31	ZONE 6b 3/1–4/30	5/1–8/14	8/15–11/15	ZONE 7a, 7b 2/1–4/30	5/1–8/14	8/15–11/30	MAINTENANCE LEVEL /4	REMARKS
WARM SEASON SEED MIXTURES													
1. SWITCHGRASS AND/OR COASTAL PANICGRASS PLUS SERECIA LESPEDEZA OR FLATPEA	15 20 20	.35 .45 .45	O			O			O			C-D	SERECIA LESPEDEZA NOT ADAPTED TO ZONE 5.
2. DEERTONGUE OR SWITCHGRASS REDTOP PLUS BIRDSFOOT TREFOIL	15 20 1 10	.35 .45 .02 .23	O			O			O			C-D	USE DEERTONGUE IF pH<4.0. SWITCHGRASS SUPERIOR WILDLIFE PLANT. REDTOP PROVIDES QUICK COVER. BIRDSFOOT NOT ADAPTED TO ZONE 6b, 7a, 7b.
3. WEEPING LOVEGRASS PLUS SERECIA LESPEDEZA	5 25	.10 .60	O	A		O	A		O	A		C-D	FLATPEA SUPPRESSES INVADING WOODY VEGETATION.
4. SWITCHGRASS DEERTONGUE LITTLE BLUESTEM SAND LOVEGRASS PLUS PARTRIDGE PEA			O			O			O			C-D	PINELANDS MIXTURE.
5. SWITCHGRASS BIG BLUESTEM LITTLE BLUESTEM SAND LOVEGRASS COASTAL PANICGRASS			O			O			O			C-D	NATIVE WARM-SEASON MIXTURE.
6. BERMUDAGRASS ZOYSIAGRASS (SEED) ZOYSIAGRASS (SPRIGS)	15 35	.35 .80	O			O			O			A-D	BERMUDAGRASS HAS SUPERIOR SALT TOLERANCE, ZOYSIA HAS GREATER WEAR TOLERANCE.
7. DEERTONGUE WEEPING LOVEGRASS SERECIA LESPEDEZA	20 5 20	.45 .10 .45	O	A	BEFORE 8/30	O	A	BEFORE 9/15	O	A	BEFORE 9/30	C-D	USE THIS MIX IF pH<4.5 OR HIGH METALS PRESENT.
COOL SEASON SEED MIXTURES													
8. FINE FESCUE (BLEND) HARD FESCUE STRONG CREEPING RED FESCUE; KENTUCKY BLUEGRASS PERENNIAL RYEGRASS PLUS WHITE CLOVER	75	2.1	O	A	O	O	A	O	O	A	O	B-D	GENERAL LOW MAINTENANCE MIXTURE.
9. STRONG CREEPING RED FESCUE KENTUCKY BLUEGRASS PERENNIAL RYEGRASS OR REDTOP PLUS WHITE CLOVER			O	A	O	O	A	O	O	A	O	B-D	SUITABLE WATERWAY, MORE DROUGHT TOLERANT.
10. TALL FESCUE (TURF-TYPE) OR STRONG CREEPING RED FESCUE PERENNIAL RYEGRASS PLUS CROWNVETCH OR FLATPEA			O	A	O	O	A	O	O	A	O	B-D	TALL FESCUE BEST ADAPTED TO DROUGHTY CONDITIONS. USE CREEPING RED FESCUE IN HEAVY SHADE.
11. DEERTONGUE REDTOP WILD RYE (ELYMUS) SWITCHGRASS			O	A	O	O	A	O	O	A	O		NATIVE WET MIX.
12. TALL FESCUE (TURF-TYPE) REDTOP OR PERENNIAL RYEGRASS BIRDSFOOT TREFOIL OR WHITE CLOVER			O	A	O	O	A	O	O	A	O	C-D	BIRDSFOOT TREFOIL IS NOT ADAPTED TO ZONE 5.
13. REED CANARYGRASS			O	A	O	O	A	O	O	A	O	C-D	FILTER STRIP USE FOR NUTRIENT UPTAKE.
14. TURF-TYPE TALL FESCUE (BLEND OF 3 CULTIVARS)	150	3.5	O	A	O	O	A	O	O	A	O	C-D	USE IN A MANAGED FILTER STRIP FOR NUTRIENT UPTAKE.
15. HARD FESCUE PERENNIAL RYEGRASS KY. BLUEGRASS (BLEND)			O	A	O	O	A	O	O	A	O	A-C	GENERAL LAWN/RECREATION.
16. TALL FESCUE KY. BLUEGRASS (BLEND) PERENNIAL RYEGRASS (BLEND)			O	A	O	O	A	O	O	A	O	A-B	ATHLETIC FIELD/MIX 3 CULTIVARS OF KENTUCKY BLUEGRASS.
17. HARD FESCUE CREEPING RED FESCUE PERENNIAL RYEGRASS			O	A	O	O	A	O	O	A	O	C-D	LOW MAINTENANCE FINE FESCUE LAWN MIX.
18. ROUGH BLUEGRASS STRONG CREEPING RED			O	A	O	O	A	O	O	A	O	C-D	MOIST SHADE.
19. CREEPING BENTGRASS PERENNIAL RYEGRASS ALKALI SALTGRASS			O	A	O	O	A	O	O	A	O	B-D	USE BENTGRASS UNDER WETTER CONDITIONS.
20. HARD OR SHEEPS FESCUE N.E. WILDFLOWER MIXTURE			O	A	O	O	A	O	O	A	O	C-D	REGIONAL WILDFLOWER MIX RECOMMENDED. HYDROSEEDING NOT RECOMMENDED.
21. a. SMOOTH CORDGRASS b. SALTMEADOW CORDGRASS	VEG VEG					BEFORE JULY 1			BEFORE JULY 1			D	PLANTED IN THE INTERTIDAL ZONE.
22. AMERICAN BEACHGRASS COASTAL PANICGRASS	VEG 20	.45	O			O			O			D	COASTAL PANICGRASS BETWEEN BEACHGRASS.
23. a. PURPLEOSIER WILLOW b. DWARF WILLOW c. REDOSIER DOGWOOD d. SILKY DOGWOOD	VEG. VEG. VEG. VEG.		BEFORE MAY 10			BEFORE MAY 10 / BEFORE APRIL 1			BEFORE MAY 1			D	ALSO REFER TO CHAPTERS 16 AND 18 OF ENGINEERING FIELD HANDBOOK.

USDA – SCS – NJ CLASSIFICATION OF NEW JERSEY SOIL SERIES INTO SITE CONDITIONS IMPORTANT TO SEEDING

A = DROUGHTY
B = WELL AND MODERATELY WELL DRAINED
C = SOMEWHAT POORLY DRAINED
D = POORLY AND VERY POORLY DRAINED

SERIES	CLASS	SERIES	CLASS	SERIES	CLASS	SERIES	CLASS
ABBOTTSTOWN	C	COPLAY	B	LAMINGTON	D	POPE	B
ADELPHIA	B	COSSAYUNA	B	LANSDALE	B	PORTSMOUTH	D
ADRIAN	D	CRESTMORE	D	LANSDOWNE	C	PREAKNESS	D
ALBIA	C	CROTON	C	LAWRENCEVILLE	C	QUAKERTOWN	B
AMWELL	C	CULVERS	C	LEGORE	B	RARITAN	C
ANNANDALE	B	DONLONTON	C	LEHIGH	C	RAYNHAM	C
ASBURY	B	DOWNER	A	LENOIR	D	READINGTON	B
ATHERTON	D	DOYLESTOWN	C	LEON	D	REAVILLE	C
ATHOL	B	DRAGSTON	C	LINCROFT	B	RHINEBECK	C
ATSION	D	DUFFIELD	B	LIVINGSTON	D	RIDGEBURY	D
AURA	B	DUNELLEN	A	LYONS	D	RIVERHEAD	B
BARCLAY	C	DUTCHESS	B	MANNINGTON	D	ROCKAWAY	B
BARTLEY	C	EDNEYVILLE	B	MARLTON	B	ROCKPORT	B
BATH	B	ELKTON	D	MATAPEAKE	B	ROE	C
BAYBORO	D	ELLINGTON	B	MATAWAN	C	ROWLAND	B
BEATTY	B	EVESBORO	A	MATLOCK	D	ROYCE	B
BEDINGTON	B	FALLSINGTON	C	MATTAPEX	C	RUTLEGE	D
BERKS	B	FORT MOTT	A	MECKESVILLE	B	ST. JOHNS	D
BERRYLAND	D	FREDON	C	MIDDLEBURY	C	SASSAFRAS	B
BERTIE	C	FREEHOLD	B	MINOA	C	SCIO	B
BIBB	D	FRENEAU	B	MONMOUTH	B	SHREWSBURY	D
BIDDEFORD	D	GALESTOWN	A	MOUNT LUCAS	C	SLOAN	D
BIRDSBORO	B	GLADSTONE	B	NASSAU	A	STEPHENSBURG	B
BOONTON	B	HACKETTSTOWN	B	NAVESINK	D	SWARTSWOOD	B
BOWMANSVILLE	D	HALEDON	C	NESHAMINY	B	TINTON	A
BOYNTON	C	HALSEY	D	NETCONG	B	TIOGA	B
BRACEVILLE	C	HAMMONTON	B	NIXON	B	TOWNSBURY	B
BRIDGEVILLE	B	HAZEN	B	NIXONTON	B	TUNKHANNOCK	B
BUCKS	B	HAZLETON	B	NORTON	B	TURBOTVILLE	C
BURNHAM	D	HERO	B	NORWICH	D	UNADILLE	B
CALIFON	C	HIBERNIA	C	OQUAGE	B	VALOIS	B
CARLISLE	D	HOLMDEL	C	OSIER	D	WALLKILL	D
CATTARAUGUS	C	HOLYOKE	C	OTHELLO	D	WASHINGTON	B
CHALFONT	C	HOOSIC	A	OTISVILLE	A	WASSAIC	B
CHATFIELD	B	HOWELL	C	PALMYRA	A	WATCHUNG	D
CHENANGO	A	KEANSBURG	D	PARKER	A	WAYLAND	D
CHILLUM	B	KENDAIA	C	PARSIPPANY	D	WEEKSVILLE	D
CHIPPEWA	D	KEYPORT	C	PASQUOTANK	C	WELLSBORO	C
COKESBURY	D	KISTLER	D	PATTENBURG	B	WESTPHALIA	B
COLDEN	D	KLEJ	C	PEMBERTON	A	WETHERSFIELD	C
COLEMANSTOWN	D	KLINESVILLE	C	PENN	B	WHIPPANY	D
COLLINGTON	B	KRESSON	C	PHELPS	B	WHITMAN	D
COLONIE	A	LACKAWANNA	B	PLUMMER	D	WOODGLEN	D
COLTS NECK	B	LAKEHURST	A	POCOMOKE	D	WOODMANSIE	B
COMLY	C	LAKELAND	A	POMPTON	C	WOODSTOWN	B
CUT AND FILL LAND	C	LAKEWOOD	A			WOOSTER	B
						WURTSBORO	B

STANDARD FOR DUST CONTROL

DEFINITION

THE CONTROL OF DUST ON CONSTRUCTION SITES AND ROADS.

PURPOSE

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

WHERE APPLICABLE

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

PLANNING CRITERIA

THE FOLLOWING METHODS SHOULD BE CONSIDERED FOR CONTROLLING DUST:

MULCHES – SEE STANDARDS FOR STABILIZATION WITH MULCHES ONLY (P. 3.3.1).

VEGETATIVE COVER – SEE STANDARDS FOR: TEMPORARY VEGETATIVE COVER (P. 3.6.1), PERMANENT VEGETATIVE COVER (P. 3.2.1), AND PERMANENT STABILIZATION WITH SOD (P. 3.6.1).

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

	WATER DILUTION	TYPE OF NOZZLE	APPLY GALLONS/ACRE
ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1,200
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN IN WATER	4:1	FINE SPRAY	300

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. SHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, AND SPRING-TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.

SPRINKLING – SITE IS SPRINKLED UNTIL THE SURFACE IS WET.

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

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

STONE – COVER SURFACE WITH CRUSHED STAON OR COARSE GRAVEL.

STANDARD FOR PERMANENT STABILIZATION WITH SOD

DEFINITION

ESTABLISHING PERMANENT VEGETATION USING SOD.

PURPOSE

TO PERMANENTLY STABILIZE THE SOIL WITH AN IMMEDIATE AESTHETIC COVERING, THUS ASSURING CONSERVATION OF SOIL AND WATER, AND TO ENHANCE THE ENVIRONMENT.

WATER QUALITY ENHANCEMENT

PROVIDES IMMEDIATE, PERMANENT VEGETATIVE COVER TO THE SOIL FROM THE IMPACTS OF WIND OR RAIN AND PREVENTS SOIL AND NUTRIENT LOSSES TO STREAMS & OTHER STORMWATER CONVEYANCES FROM RUNOFF.

WHERE APPLICABLE

ON EXPOSED SOILS THAT HAVE A POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE WHERE A QUICK VEGETATIVE COVER IS DESIRED. MOISTURE IS REQUIRED FOR SUCCESS; ACCESS TO IRRIGATION IS ESSENTIAL.

METHODS AND MATERIALS

1. CULTIVATED SOD IS PREFERRED OVER NATIVE OR PASTURE SOD. SPECIFY "CERTIFIED SOD," OR OTHER HIGH QUALITY CULTIVATED SOD.
2. SOD SHOULD BE FREE OF WEEDS AND UNDESIRABLE COARSE WEEDEY GRASSES.
3. SOD SHOULD BE OF UNIFORM THICKNESS, APPROXIMATELY 5/8 INCH, PLUS OR MINUS 1/4 INCH, AT TIME OF CUTTING. (EXCLUDES TOP GROWTH.)
4. 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 OR TORN AND UNEVEN ENDS WILL NOT BE ACCEPTABLE.
5. FOR DROUGHTY SITES, A SOD OF KENTUCKY 31 TALL FESCUE AND BLUEGRASS IS PREFERRED OVER A STRAIGHT BLUEGRASS SOD.
6. ONLY MOIST, FRESH, UNHEATED SOD SHOULD BE USED. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

I. **SITE PREPARATION**
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR LIMING, FERTILIZING, AND SOIL PREPARATION. 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" (UNSETTLEDOIS REQUIRED AT ALL SITES. SEE THE STRNDARDS FOR TOPSOIL AND AMENDMENT REQUIREMENTS.

II. **SOIL PREPARATION**
   A. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS SUCH AS THOSE OFFERED BY RUTGERS UNIVERSITY SOIL TESTING LABORATORY. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 500 POUNDS WITH 50% WATER INSOLUBLE NITROGEN UNLESS SOIL TEST INDICATES OTHERWISE. INCORPORATE INTO SURFACE 4". IF FERTALIZER IS NOT INCORPORATED APPLY 1/2 THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER 1/2 RATE APPLICATION WITHIN 3 T 5 WEEKS AFTER SEEDING. APPLY LIMESTONE A RATE OF 2T/AC UNLESS SOIL TESTING INDICATES OTHERWISE. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR THE MEASURING ABILITY OF LIMINGMATERIALS TO NEUTRALIZE SOIL ACIDITY & SUPPLY CALCIUM & MAGNESIUM TO GRASSES & LEGUMES.

LIME APPLICATION RATE BY SOI LTEXTURE TABLE 6-1

SOIL TEXTURE	TONS/ACRE	LBS. / 1,000 SQ. FT.
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

PULVERIZED DOLOMITIC LIMESTONE IS PREFERRED FOR MOST SOILS SOILS SOUTH OF THE NEW BRUNSWICK – TRENTON LINE.

   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 DISCING 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 SOIL 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 SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS ABOVE.

III. **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 THAT ARE STAGGERED. OPEN SPACES INVITE EROSION.
   C. ROLL OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT TO INSURE SOLID CONTACT OF ROOT MAT AND SOIL SURFACE. DO NOT OVERLAP SOD. ALL JOINTS SHOULD BE BUTTED TIGHTLY IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS.
   D. ON SLOPES GREATER THAN 3 TO 1, SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES, 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 AND EDGES WILL PROVIDE EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOD. THE 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 MOISTURE PENETRATES THE SOIL LAYER BENEATH SOD TO A DEPTH OF 4 INCHES. MAINTAIN OPTIMUM MOISTURE FOR AT LEAST TWO WEEKS.

IV. TOPDRESSING – IF SLOW RELEASE NITROGEN (400 POUNDS 10-10-10 PER ACRE OR EQUIVALENT) IS USED IN ADDITION TO SUGGESTED FERTILIZER, THEN A FOLLOW UP EVERY 3 TO 5 WEEKS UNTILLGROSS NITROGEN DEFIENCY IN THE TURF IS AMELIORATED.

STANDARD FOR TOPSOILING

DEFINITION

TOPSOILING ENTAILS THE DISTRIBUTON OF SUITABLE QUALITY SOIL ON AREAS TO BE VEGETATED.

PURPOSE

TO IMPROVE THE SOIL MEDIUM FOR PLANT ESTABLISHMENT AND MAINTENANCE.

WATER QUALITY ENHANCEMENT

GROWTH AND ESTABLISHMENT OF A VIGOROUS COVER IS FACILITATED BY TOPSOIL, PERVENTING SOIL LOSS BY WIND AND RAIN OFFSITE INTO STREAMS AND OTHER CONVEYANCES.

WHERE APPLICABLE

TOPSOIL SHALL BE USED WHERE SOILS ARE TO BE DISTURBED AND WILL BE REVEGETATED.

METHODS AND MATERIALS

I. **MATERIALS**
   A. TOPSOIL SHOULD BE FRIABLE AND LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE THAT MAY BE HARMFUL TO PLANT GROWTH. A PH RANGE OF 5.0-7.5 IS ACCEPTABLE. SOLUBLE SALTS SHOULD NOT BE EXCESSIVE (CONDUCTIVITY LESS THAN 0.5 MILLIMHOS PER CENTIMETER). TOPSOIL HAULED IN FROM OFF SITE SHOULD HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75 PERCENT. ORGANIC MATTER CONTENT MAY BE RAISED BY ADDITIVES.
   B. TOPSOIL SUBSTITUTE IS A MATERIAL WHICH MAY HAVE BEEN AMMENDED WITH SAND, CLAY, ORGANIC MATTER FERTILIZER, OR LIME AND HAS THE APPEARANCE OF TOPSOIL.TPSOIL SUBSTITUTES MAY BE USED ON SITES WITH INSUFFICIENT TOPSOIL FOR ESTABLISHING PERMANENT VEGATATION. 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 ORGANICMATTER, SOLUABLE SALTS AND PH LEVEL.

II. **STRIPPING AND STOCKPILLING**
   A. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHTER QUANTITY AND OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.
   B. STRIPPING SHOULD BE CONFINED TO THE IMMMEDIATE CONSTRUCTION AREA.
   C. WHERE FEASIBLE, LIME MAY BE APPLIED BEFORE STRIPPING AT A RATE DETERMINED BY THE SOIL TESTS TO BRING THE SOIL PH TO APPROXIMATELY 6.5 LEVEL.
   D. A 4-6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL.
   E. STOCKPILES OF TOPSOIL SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE.
   F. STOCKPILES SHOULD BE VEGETATED IN ACCORDANCE WITH STANDARDS PREVIOUSLY DESCRIBED HEREIN; SEE PAGE 4-1 OR TEMPORARY (PG7-1). WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES.

III. **SITE PREPARATION**
   A. GRADE AT THE ONSET OF THE OPTIMAL SEEDING PERIOD SO AS TO MINIMIZE THE DURATION OF EXPOSURE OF DISTURBED SOI TO EROSION. IMMEDIATELY PROCEES O ESTABLISH VEGATATIVE COVER IN ACCORDANCE WITH THE SPECIFIED SEED MIXTURE. TIME IS OF THE ESSSENCE.
   B. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORIN, AND MAINTENANCE. SEE STANDARDS FOR LAND GRADING PG 19-1
   C. AS GUIDANCE FOR IDEAL CONDITIONS, SUBSOIL SHOULD BETESTED FOR LIME REQUIREMENT. LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL TO A PH OF APPROX 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4".LISH VEGATATIVE COVER IN ACCORDANCE WITH THE
   D. PRIOR TO TOPSOILING, THE SUBSOIL SHALL BE IN COMPLIANCE WITH THE STANDARD FOR LAND GRADING PG 19-1

   STABILIZATION MEASURES, SEDIMENTATION BASINS, AND WATERWAYS. SEE STANDARDS 11 THRU 42

IV. **APPLYING TOPSOIL**
   A. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE, IE, LESS THAN FIELD CAPACITY (SEE GLOSSARY).
   B. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) FIRMED IN PLACE IS REQUIRED. ALTERNATIVE DEPTHS MAY BE CONSIDERED WHERE SPECIAL REGULATORY &/OR INDUSTRY DESIGN STANDARDS ARE APPROPIAT SUCH AS GOLF COURSE, SPORT FIELD, LANDFILLCAPPING, ETC.. SOILS WITH A PH OF 4

   OR MORE, IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOIL (PG 1-1)

   LEAST 80% OF THE SOILSTO BE STABILIZED WITH VEGATATION. FAILURE TO ACHIEVE THE MINIMUM COVERAGE MAY REQUIRE ADDITIONAL WORK TO BE PERFORMED BY THE CONTRACTORTO INCLUDE SOME OR ALL OF THE FOLOWING: SUPPLEMENTAL SEEDING, RE-APPLICATION OF LIME AND FERTILIZER, &/OR THE ADDITIONOF ORGANIC

   THOSE OFFERED BY RUTGERS COOPERATIVE EXTENSION SERVICE OR OTHER APPROVED LABORATORY FACILITIES QUALIFIED TO TEST SOIL SAMPLES FOR AGRONOMIC PROPERTIES.

RECOMMENDED CULTIVARS

BERMUDAGRASS MIDLAND MIDIRON	KENTUKY BLUEGRASS KENBLUE PARK ARBORETUM TOUCHDOWN AMERICA BARON	CHEWING'S FESCUE BANNER JAMESTOWN
REED CANARYGRASS LOREED	CROWNVETCH PENNGIFT CHEMUNG	TALL FESCUE KENTUCKY-31 REBEL FALCON
SWITCHGRASS BLACKWELL	BIRDSFOOT TREEFOIL VIKING EMPIRE	SPREADING FESCUE FORTRESS ENSYIVA
PERENNIAL RYEGRASS REPEL PENNANT CITATION DIPLOMAT OR OTHER IMPROVED CULTIVARS		HARD FESCUE RELIANT SPARTON
		SHEEP FESCUE ARES

STANDARD FOR TREE PROTECTION DURING CONSTRUCTION

DEFINITION

PROTECTION OF DESIRABLE TREES FROM ENVIRONMENTAL AND MECHANICAL INJURY DURING CONSTRUCTION ACTIVITIES.

PURPOSE

TO PROTECT DESIRABLE TREES THAT HAVE VALUE FOR EROSION AND SEDIMENT CONTROL, SHADE, AESTHETICS, SONG BIRDS, OTHER WILDLIFE, DUST CONTROL, NOISE ABATMENT, AND OXYGEN PRODUCTION.

WHERE APPLICABLE

ON NEW DEVELOPMENT SITES CONTAINING VALUABLE TREES.

METHODS AND MATERIALS

1. THE RECONNAISSANCE BEFORE LAND CLEARING BEGINS CAN RESULT IN AN AESTHETICALLY PLEASING DEVELOPMENT WITH NATURAL VEGETATION RATHER THAN THE PRESENCE OF DEAD OR DYING TREES. INVENTORY THE SITE AND CLEARLY MARK THE TREES TO BE SAVED. CONSIDER RELOCATING STRRETS, HOUSES, OR OTHER STRUCTURES IF NECESSARY AND FEASIBLE. ONCE CLEARING BEGINS AND DAMAGE TO THE TREES OCCURS, VALUABLE SPECIMENS MAY BE LOST.
   A. CHARACTERISTICS OF TREES TO BE PROTECTED AND SAVED. THE FOLLOWING LISTS CHARACTERISTICS THAT SHOULD BE EVALUATED BEFORE DECIDING TO REMOVE OR PROTECT A TREE.
      (1) TREE VIGOR

      TREE HEALTH IS THE OVERALL CONDITION OF THE TRE. A TREE OF LOW VIGOR IS MORE SUSCEPTIBLE TO DAMAGE BY ENVIRONMENTAL CHANGES THAN HEALTHY TREES AND IS MORE SUSCEPTIBLE TO INSECT AND DISEASE ATTACKS. INDICATIONS OF POOR VIGOR INCLUDE THE DYING OF THE TIPS OF THE BRANCHES AND ENTIRE LIMBS, SMALL ANNUAL TWIG GROWTH, STUNTED LEAF SIZE, SPARSE FOILAGE, AND POOR FOILAGE COLOR. AVOID SAVING HOLLOW OR ROTTEN TREES, TREES CRACKED, SPLIT, LEANING OR CROOKED, OOZING SAP, OR WITH BROKEN TOPS.
      (2) TREE AGE

      VERY OLD, PICTURESQUE TREES MAY BE MORE AESTETICALLY VALUABLE THAN SMALLER, YOUNG TREES, BUT ALSO REQUIRE MORE EXTENSIVE PROTECTION MEASURES. IF LEAVING A VERY OLD TREE, BE SURE IT IS SOUND AND HEALTHY.
      (3) SPECIES

      MANY SPECIES OF TREES FOUND IN NEW JERSEY WOODLANDS ARE NOT SUITABLE FOR SHADE TREE USES AROUND BUILDINGS. AVOID PROTECTING TREES THAT ARE SHORT-LIVED, BRITTLE, HAVE SOFT WOOD, MESSY LEAVES, FRUIT, OR ARE FREQUENTLY ATTACKED BY INSECTS AND DISEASE. TREE ROOT SYSTEMS WHICH DO NOT ADAPT WELL TO CUTS & FILLS MAY NOT BE A SUITABLE ALTERNATIVE. THE FOLLOWING ARE SEVERELY AFFECTED BY COMPACTED CONSTRUCTION FILL: SEE PAGE 9-2
      (4) RESISTANT TO INSECTS AND DISEASES

      AVOID LEAVING TREES IN HIGHLY VISIBLE AREAS OR SPECIMENS THAT ARE FREQUENT TARGETS OF INSECTS AND DISEASES. AMERICAN ELM, FOR EXAMPLE, COULD BE LOST DUE TO DUTCH ELM DISEASE. WILD CHERRY, ANOTHER EXAMPLE, IS A FAVORITE HOST OF THE TENT CATERPILLAR, WHICH CAUSES DEFOILATION OF THE TREES IN EARLY SUMMER. SEE PAGE 9-2
      (5) TREE AESTHETICS

      CHOOSE TREES THAT ARE AESTHETICALLY PLEASING, EXHIBITING GOOD SHAPE AND FORM. AVOID LEANING, CROOKED, AND MISSHAPEN TREES. OCCASIONALLY, AN ODD-SHAPED TREE OR ONE OF UNUSUAL FORM MAY ADD INTEREST TO THE LANDSCAPE IF STRATEGICALLY LOCATED. BE SURE THE TREE IS STRUCTURALLY SOUND AND VIGOROUS.
      (6) SPRING AND AUTUMN COLORATION

      SPECIES DIFFER IN FALL COLOR. SOME ARE BRIGHT RED, OTHERS ORANGE AND YELLOW. OTHER SPECIES EXHIBIT NO AUTUMN COLOR, SUCH AS WALNUT, LOCUST, AND SYCAMORE.
      (7) WILDLIFE BENEFITS

      FAVOR TREES THAT ARE PREFERRED BY WILDLIFE FOR FOOD, COVER, AND NESTING. A MIXTURE OF EVERGREENS AND HARDWOODS IS BENEFICIAL. EVERGREEN TREES ARE IMPORTANT FOR COVER DURING THE WINTER MONTHS. THE HARDWOODS ARE MORE VALUABLE FOR FOOD.
      (8) AIR POLLUTION SUSCEPTIBILITY

      TREE SPECIES VARY GREATLY IN THIS RESPECT. SYMPTOMS VARY FROM BROWNING ON THE EDGES OF THE LEAVES AND NEEDLES, TO STUNTING OF GROWTH, TO DEATH OF THE TREE. SEE PAGE 9-2
      (9) SPECIES LONGEVITY

      FAVOR TREES WHOSE LIFE SPAN IS LONG, SUCH AS OAK, BEECH, AND TULIP POPLAR. SHORT-LIVED TREES SHOULD BE AVOIDED FOR USE AS SHADE, LAWN, OR SPECIMEN TREES. ALTHOUGH SOME SHORT-LIVED TREES HAVE AN ATTRACTIVE FORM OR PLEASING COLORATION IN THE SPRING OR FALL, SUCH TREES MAY NOT LIVE FOR A LONG TIME. SEE PAGE 9-2,9-3
   B. CRITERIA FOR PROTECTING REMAINING TREES:
      (1) MECHANICAL DAMAGE – SEE FIGURE 9.3.
      (2) BOX TREES WITHIN 25 FEET OF A BUILDING SITE TO PREVENT MECHANICAL INJURY. FENCING OR OTHER BARRIER SHOULD BE INSTALLED AT THR DRIP LINE OF THE TREE BRANCHES. SEE FIGURE 9.3.
      (3) BOARDS WILL NOT BE NAILED TO TREES DURING BUILDING OPERATIONS.
      (4) FEEDER ROOTS SHOULD NOT BE CUT IN THE AREA INSIDE THE DRIP LINE OF THE TREE BRANCHES.
      (5) DAMAGED TRUNKS OR EXPOSED ROOTS WILL BE PAINTED IMMEDIATELY WITH A GOOD GRADE OF "TREE PAINT." CARE FOR SERIOUS INJURY SHOULD BE PRESCRIBED BY A PROFESSIONAL FORESTER OR LISCENSED TREE EXPERT.
      (6) TREE LIMB REMOVAL, WHERE NECESSARY, WILL NOT BE FLUSH TO TRUNK OR MAIN BRANCH AND THAT AREA PAINTED WITH A GOOD GRADE OF TREE PAINT. SEE FIGURE 9.1 , 9.2

NOTE: FOR MORE SPECIFIC DATA ON CERTAIN TREE CHARACTERISTICS, CONSULT THE TREE SCHRUB AND VINE STANDARD IN THIS HANDBOOK (PG. 3.8.1) OR CONSULT LOCAL PROFESSIONAL EXPERTS. YOUR LOCAL SOIL CONSERVATION DISTRICT OR COUNTY AGRICULTURAL AGENT CAN ASSIST YOU IN THIS.

STANDARD FOR STABILIZATION WITH MULCH ONLY

DEFINITION

STABILIZING EXPOSED SOILS WITH NON-VEGETATIVE MATERIALS.

PURPOSE

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

WHERE APPLICABLE

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO EROSION, WHERE THE SEASON AND OTHER CONDITIONS MAY NOT BE SUITABLE FOR GROWING AN EROSION-RESISTANT COVER OR WHERE STABILIZATION IS NEEDED FOR A SHORT PERIOD UNTIL MORE SUITABLE PROTECTON CAN BE APPLIED.

METHODS AND MATERIALS

I. SITE PREPARATION
   A. GRADE, AS NEEDED AND FEASIBLE, TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR APPLYING AND ANCHORING MULCH. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARD FOR LAND GRADING.
   B. EMPLOY NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.

II. PROTECTIVE MATERIALS
   A. UNROTTED SMALL-GRAIN STRAW, HAY, OR SALT HAY 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 TIEDOWN. OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.
   B. ASPHALT EMULSION OR CUTBACK ASPHALT IS NOT ALLOWED
   C. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED -- UNDER STABLE CONDITIONS AND IN SUFFICIENT QUANTITIES AS RECOMMENDED BY MANUFACTURER.
   D. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE MAY BE APPLIED BY A HYDROSEEDER OR HYDROMULCHER.
   E. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE USED.
   F. 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 AN INLET AND PLUG IT.
   G. 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.

III. MULCH ANCHORING – SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA AND STEEPNESS OF SLOPES.
   A. 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.
   B. MULCH NETTINGS – STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER HAY OR STRAW MULCH. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.
   C. MULCH ANCHORING 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. TOOL PENETRATION SHOULD BE DONE ABOUT 3 TO 4 INCHES. ON SLOPING LAND, THE OPERATION SHOULD BE DONE ON THE CONTOUR.
   D. LIQUID MULCH-BINDERS
      1. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
      2. USE ONE OF THE FOLLOWING:
         A. ORGANIC AND VEEGATABLE BASED BINDERS, SEE PAGE 5.2 APPLY AT RATES SPEWCIFIED BY MANUFACTURER
         B. SYNTHETIC OR ORGANIC BINDERS – BINDERS SUCH AS CURASOL, DCA-70, PETRO-SET, AND TERRA-TACK MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS.

         NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 30 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
3. PERMANENT VEGETATION SHALL BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH WILL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
5. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROAD, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING.

*6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OF ROUGH GRADING ALL CRITICAL AREAS SUBJECT TO EROSION (IE : STEEP SLOPES, ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.

*7. ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS (IE: SLOPES GREATER THAN 3:1).

*8. TRAFFIC CONTROL STANDARDS REQUIRE THE INSTALLATION OF A 50'X 25'X 1' PAD OF 1 1/2" TO 2" STONE, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDIATELY AFTER INITIAL SITE DISTURBANCE.

9. IN ACCORDANCE WITH THE STANDARDS FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, ANY SOIL HAVING A pH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF 12" OF SOIL HAVING A pH OF 5 OR MORE PRIOR TO SEEDBED PREPARATION.
10. COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
11. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER.

    IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
12. IN THAT NJSA 4:24-39 ET SEQ., REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE PROVISIONS OF THE CERTIFIED PLAN FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES, ALL SITE WORK FOR SITE PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS, WILL HAVE TO BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.

*13. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.

14. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO M.C.S.C.D. FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION & SEDIMENT CONTROL STANDARDS.
15. COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP.
16. MULCHING TO THE STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMLIANCE. CONDITIONALS ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING.
17. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT ROADS CLEAN DURING LIFE OF CONSTRUCTION PROJECT.
18. THE DEVELOPER SHALL BE RESPONSIBLE FOR REMEDIATING ANY EROSION OR SEDIMENT PROBLEMS THAT ARISE AS A RESULT OF ONGOING CONSTRUCTION AT THE REQUEST OF THE MERCER COUNTY SOIL CONSERVATION DISTRICT.
19. HYDROSEEDING IS A TWO STEP PROCESS. THE FIRST STEP INCLUDES SEED, FERTILIZER, LIME ETC. ALONG WITH MINIMAL AMOUNTS OF MULCH TO PROMOTE CONSISTENCY, GOOD SEED TO SOIL CONTACT, AND GIVE A VISUAL INDICATION OF COVERAGE. UPON COMPLETION OF SEEDING OPERATION, HYDRO-MULCH SHOULD BE APPLIED AT A RATE OF 1500 LBS. PER ACRE IN A SECOND STEP.

    THE USE OF HYDRO-MULCH, AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE STANDARDS.

* WHERE APPLICABLE

LOCAL COUNTY SOIL CONSERVATION DISTRICT:
ADDRESS: HUDSON COUNTY SOIL CONSERVATION DISTRICT
80 ORCHARD STREET
BLOOMFIELD, N.J. 07003
PHONE: (862) 333-4505

REV.	DESCRIPTION	DATE	BY
2.			
1.			

DOUGLAS C. PELIKAN,PE
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DEC 28, 2021
DATE SIGNED
DOUGLAS C. PELIKAN
N.J. LIC. PROFESSIONAL ENGINEER – GE27632

SOIL EROSION NOTES
5 STORY RESIDENTIAL

79 ROMAINE
LOT 52 – BLOCK 10502
situate in
JERSEY CITY
HUDSON COUNTY
NEW JERSEY
SCALE: 1" = 20'
DEC 28, 2021

DRAWN BY:	PROJECT NO.	DRAWING FILE:	SHEET NO.
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