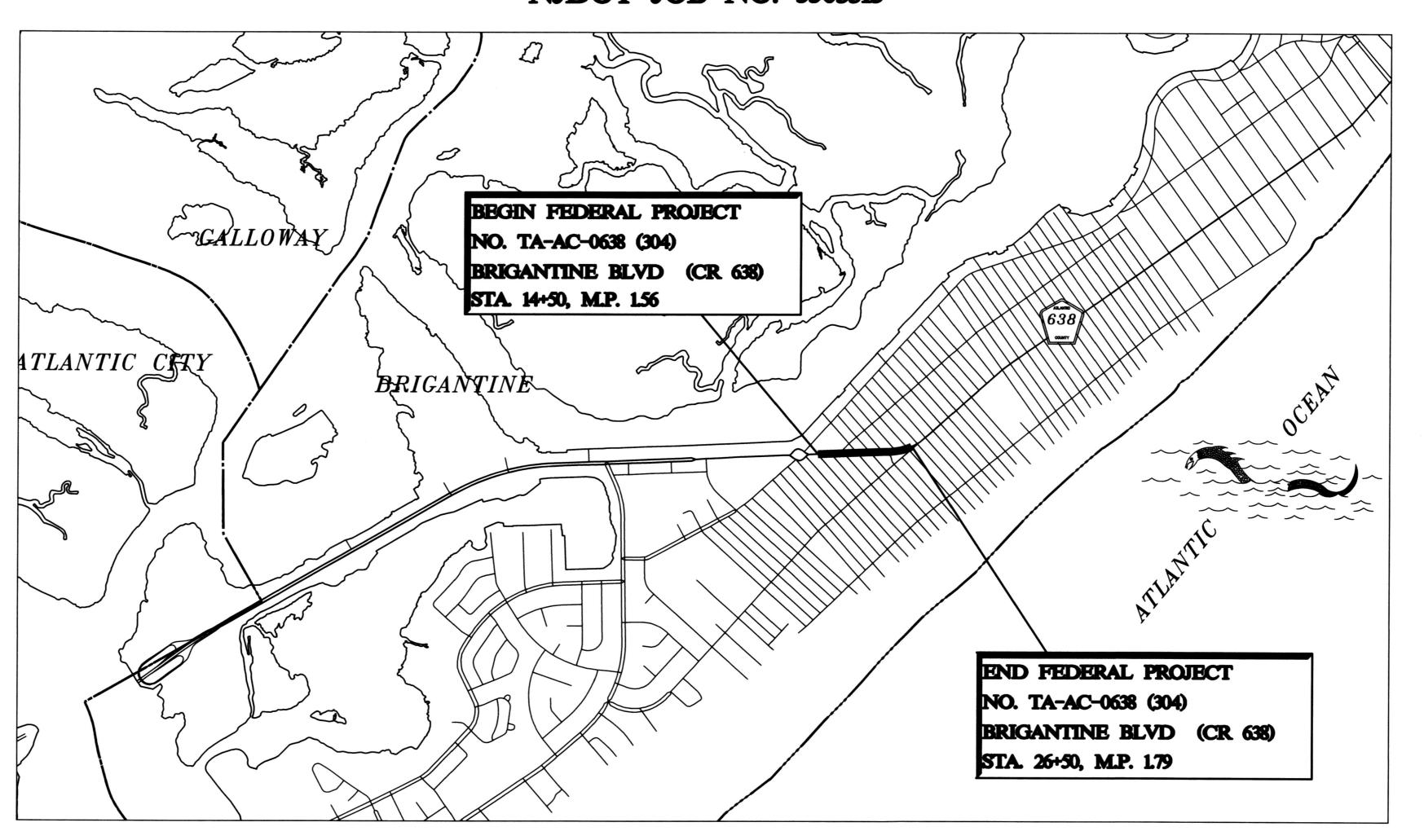
UTILITIES ACE (ELECTRIC) ATTN: SCOTT HOOVER PHONE: (609) 247-1272 SJ GAS (GAS) ATTN: STEVE OWENS PHONE: (609) 561-9000 COMCAST (CABLE) ATTN: BOB MAYEUX PHONE: (609) 677-7302 VERIZON (TELEPHONE) ATTN: STEPHANIE WEBSTER PHONE: (856) 306-8612 BRIGANTINE DPW (WATER & SEWER) ATTN: MATT DORAN PHONE: (609) 266-7600 EXT. 215

BEFORE STARTING WORK THE CONTRACTOR WILL NOTIFY ALL UTILITY COMPANIES AND OTHER INTERESTED PARTIES OF THE SCHEDULE AND STARTING DATE. LOCATION OF UTILITIES AS SHOWN ON THESE PLANS ARE APPROXIMATE AND NOT GUARANTEED AS TO EXACTNESS. THE CONTRACTOR IS TO CONTACT UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE EXACT LOCATION AND DEPTH OF UTILITIES. THE CONTRACTOR SHALL USE THE UTILITY LOCATIONS SHOWN AS AN AID IN DETERMINING EXACT LOCATIONS.

BRIGANTINE LIGHTHOUSE DISTRICT STREETSCAPE IMPROVEMENTS

CITY OF BRIGANTINE

ATLANTIC COUNTY - NEW JERSEY NJDOT JOB NO. 5503313



	INDEX OF DRAWINGS								
SHEET	DESCRIPTION								
1	KEY								
2	ESTIMATE - DISTRIBUTION OF QUANTITIES								
3-4	TYPICAL SECTION								
5	PLAN SHEET INDEX								
6	CONSTRUCTION LEGEND								
7–9	CONSTRUCTION PLANS								
10-14	ENVIRONMENTAL, SOIL EROSION & SEDIMENT CONTROL PLANS								
15	TIES								
16-18	GRADING PLANS								
19-23	TRAFFIC CONTROL AND STAGING PLANS								
24-26	TRAFFIC SIGNING AND STRIPING PLANS								
27-31	ELECTRICAL PLANS								
32-34	LANDSCAPE PLANS								
35-40	ADA CURB RAMP DETAILS								
41-43	CONSTRUCTION DETAILS								

STANDARD ROADWAY CONSTRUCTION - TRAFFIC **CONTROL - BRIDGE CONSTRUCTION DETAILS BOOKLET 2016, AND STANDARD ELECTRICAL** DETAILS BOOKLET, 2016 ARE APPLICABLE TO THIS PROJECT EXCEPT FOR THOSE DETAILS CONTAINED HEREIN

CHANGES MADE TO THESE PLANS SINCE SIGNATURE BY THE CONSULTANT MAY BE FILED AT THE DEPARTMENT WITH THOSE FILED AT THE OFFICE OF THE CONSULTANT

Greenman-Pedersen Inc.

Certification of Authorization No. 24GA27959500

New Jersey Professional Engineer License No. 24GE04647900

KEY MAP

OCTOBER 2022

TOTAL LENGTH OF FEDERAL PROJECT NO. TA-AC-0638(304) = 1,200 LIN. FT. OR 0.227 MILES

2019 NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS AMENDED BY THE SPECIAL PROVISIONS TO GOVERN

SEQ NO.	ITEM NO.	DESCRIPTION	UNIT	CONTRACT QUANTITY	PLAN SHEET TOTALS	IF AND WHERE DIRECTED	AS-BUILT QUANTITY	DI	STRI	BUTI	ON: F	PLAN	SHE	ET QU	JANTITY
1	151006M	PERFORMANCE BOND AND PAYMENT BOND	DOLL	DOLL											
2	154003P	MOBILIZATION AVOLUT	LS	LS											
3		CONSTRUCTION LAYOUT	DOLL	DOLL		100									
4		SILT FENCE INLET FILTER TYPE 2, 2' X 4'	LF	100 10	10	100		EP-4	10						
5	158030M 158063P	CONCRETE WASHOUT SYSTEM	UNIT	LS	10			EP-4	10						
7		OIL ONLY EMERGENCY SPILL KIT, TYPE 1	UNIT	1		1									
8		BREAKAWAY BARRICADE	UNIT	5		<u>'</u> 5									
9	159006M	DRUM	UNIT	150		150									
10	159009M	TRAFFIC CONE	UNIT	150		150									
11	159012M	CONSTRUCTION SIGNS	SF	1000		1000									
12	159030M	PORTABLE VARIABLE MESSAGE SIGN	UNIT	2		2									
13	159108M	TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION	UNIT	1		1									
14	159141M	TRAFFIC DIRECTOR, FLAGGER	HOUR	24		24									
15	160004M	FUEL PRICE ADJUSTMENT	DOLL	DOLL											
16	161003P	FINAL CLEANUP	LS	LS										***************************************	
17	201003P	CLEARING SITE	LS	LS											
18	401027M	POLYMERIZED JOINT ADHESIVE	LF	6218		6218									
19	NS602101	RECONSTRUCTED INLET, TYPE B, CONVERT TO INLET TYPE A	UNIT	1	1			C-2	1						
20	602210M	BICYCLE SAFE GRATE	UNIT	2	2			C-2	2						
21	606012P	CONCRETE SIDEWALK, 4" THICK	SY	1858	1858			C-1	77	C-2	1156	C-3	625		
22		PRECAST CONCRETE PAVERS	SY	57	57			C-2	23	C-3	34				
23		CONCRETE SIDEWALK, REINFORCED, 6" THICK	SY	215	215			C-2	178	C-3	37				
24	606028P	RESET PRECAST CONCRETE PAVERS	SY	3	3			C-2	3						
25		DETECTABLE WARNING SURFACE	SY	42	42			C-1	3	C-2	28	C-3	11		
26		9" X VARIABLE HEIGHT CONCRETE VERTICAL CURB	LF	2089	2089			C-1	69	C-2	1411	C-3	609		
27		CONCRETE GUTTER	SY	369	369			C-1	9	C-2	224	C-3	136		
28	610003M	TRAFFIC STRIPES, 4"	LF	650		650									
29	610007M	TRAFFIC STRIPES, 8"	LF	1700		1700									
30	610014M	TRAFFIC MARKING LINES, 8"	LF	1000		1000		<u> </u>							
31	610017M	TRAFFIC MARKING LINES, 24"	LF	30		30									
32	610036M	REMOVAL OF TRAFFIC STRIPES	LF	350		350									
33	610060M	TRAFFIC MARKINGS SYMBOLS	SF	200		200									
34	NS610100	TRAFFIC PAINT, CURB	LF	500		500								-	
35	NS610101	TRAFFIC PAINT, CROSSWALK	SF	4100		4100									
36	612003P	REGULATORY AND WARNING SIGN	SF	147.3	1	147.3				- -					
37	701015P	2" RIGID METALLIC CONDUIT	LF	175	175			E-4	105	E-5	70		4===		
38	NS701026	1" RIGID NONMETALLIC CONDUIT	LF	3350	3350			E-3	100	E-4	1750	E-5	1500		
39		GROUND WIRE, NO. 10 AWG	LF	3500	3500			E-3	100	E-4	1800	E-5	1600	-	
40	701204P	MULTIPLE LIGHTING WIRE, NO. 10 AWG	LF	8180	8180			E-3	180	E-4	4000	E-5	4000	-	
41		SERVICE WIRE, NO. 2 AWG	LF	615	615			E-4	375	E-5	240 7		7		
42	NS701800 NS701801	FOUNDATION, TYPE LIGHTING 5-20R GFCI RECEPTACLE WP ENCLOSURE	UNIT	16 24	16 24			E-3 E-4	10	E-4 E-5	14	E-5			
43 44	NS701801 NS701802	PORTABLE POWER DISTRIBUTION PANEL	UNIT	1	24	1		L-4	10	E-3	14				
45		FOUNDATION, TYPE METER CABINET	UNIT	3	3	ı		E-4	2	E-5	1				
46	NS701804	METER CABINET, TYPE LIGHTING	UNIT	3	3			E-4	2	E-5	1				
46		LIGHTING STANDARD DECORATIVE	UNIT	16	16			E-3	2	E-3	7	E-5	7		
48	703019M	LUMINAIRE DECORATIVE	UNIT	16	16		1	E-3	2	E-4	7	E-5	7		
49	804000P	TOPSOIL SPREADING" THICK	SY	407	407			L-1	54	L-2	274	L-3	79		
50		BORROW TOPSOIL	CY	72	72			L-1	10	L-2	48	L-3	14		
51	806006P	FERTILIZING AND SEEDING, TYPE A-3	SY	407	407			L-1	54	L-2	274	L-3	79		
52		STRAW MULCHING	SY	407	407			L-1	54	L-2	274	L-3	79		
53		SMALL DECIDUOUS TREE, 3-3 1/2" CALIPER, B&B	UNIT	33	31	2		L-1	3	L-2	14	L-3	14		
54	811099M	GROUND COVER OR VINE, #1 CONTAINER	UNIT	960	960			L-2	400	L-3	560				
55	NS812200	BENCH	UNIT	10	10			L-1	1	L-2	5	L-3	4		
56	NS812201	BIKE RACK	UNIT	12	12			L-2	6	L-3	6				
57	NS812202	TRASH RECEPTACLE	UNIT	7	7			L-2	4	L-3	3			-	
														-	
												1			
												1			
\					1						i contraction of the contraction	1	4		

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ESTIMATE-DISTRIBUTION OF QUANTITIES

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ECTIMATE-DISTRIBUTION OF

ESTIMATE-DISTRIBUTION OF QUANTITIES

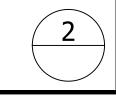
LIGHTHOUSE DISTRICT STREETSCAPE IMPROVEMENTS CITY OF BRIGANTINE

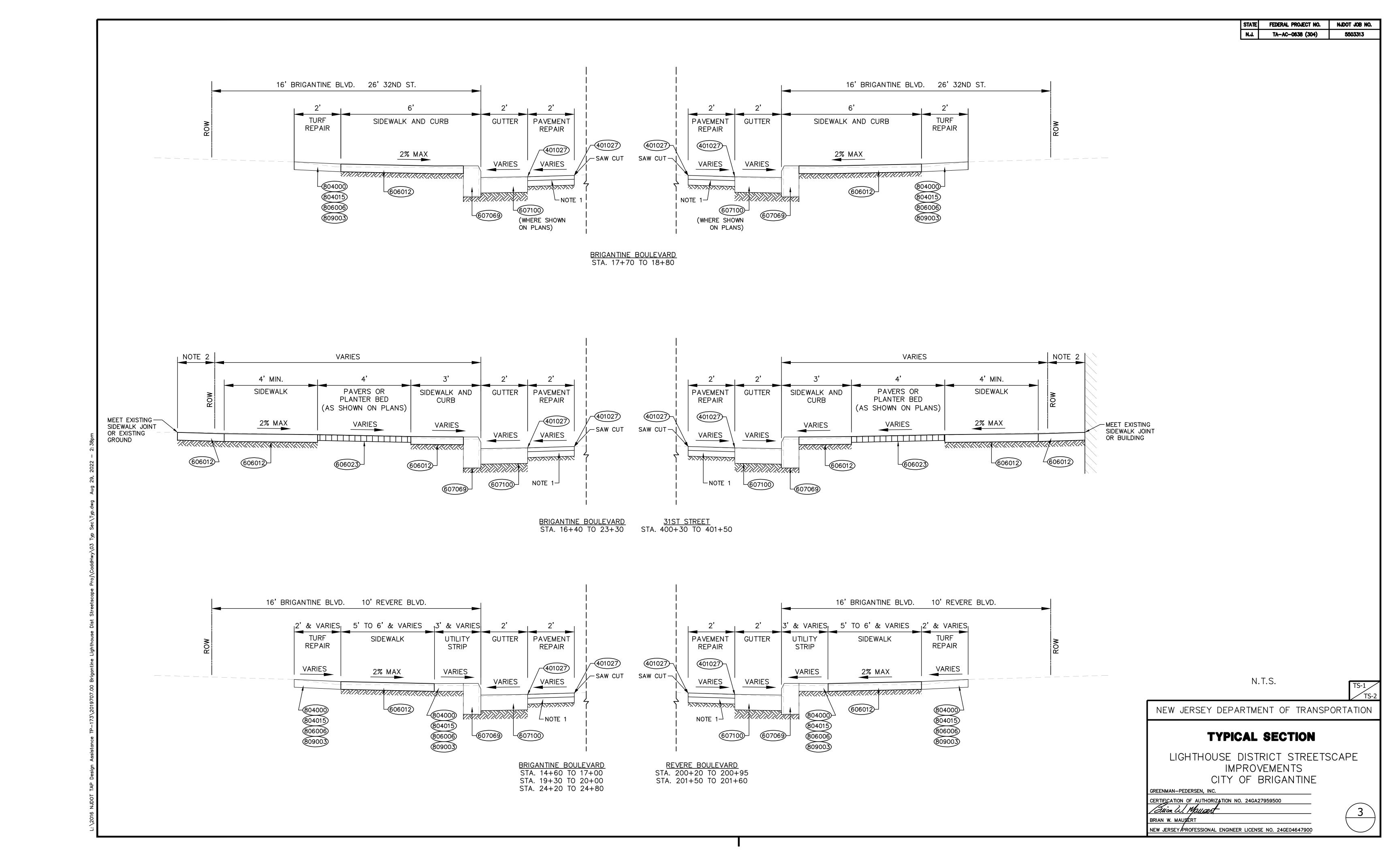
GREENMAN-PEDERSEN, INC.

RTIFICATION OF AUTHORIZATION NO. 24GA27959500

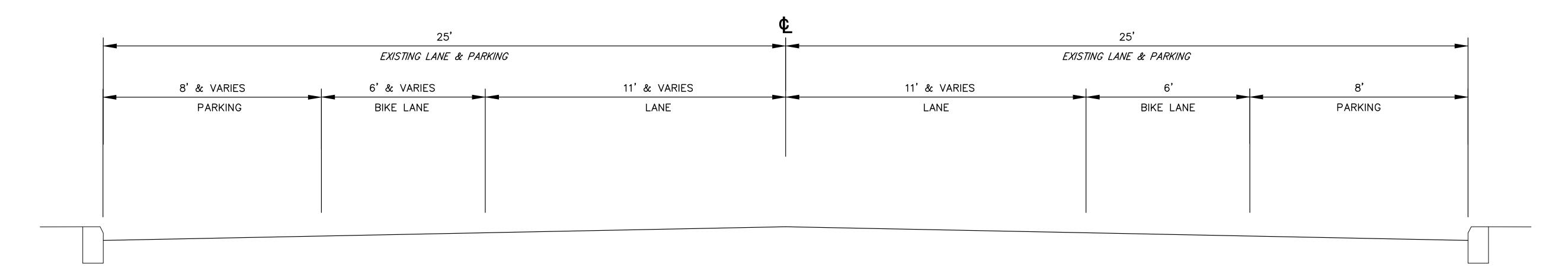
DDIAN W MALISEDT

IERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE0464790









BRIGANTINE BOULEVARD STA. 14+75 TO 20+88

ITEM NO.	PROPOSED MATERIALS
401027	POLYMERIZED JOINT ADHESIVE
606012	CONCRETE SIDEWALK, 4" THICK
606023	PRECAST CONCRETE PAVERS
607069	9" X VARIABLE HEIGHT CONCRETE VERTICAL CURB
607100	CONCRETE GUTTER
804000	TOPSOIL SPREADING _" THICK
804015	BORROW TOPSOIL
806006	FERTILIZING AND SEEDING, TYPE A-3
809003	STRAW MULCHING

- NOTES:

 1. SEE CONSTRUCTION DETAILS FOR REPAIR PAVEMENT COURSES AND THICKNESSES. PAYMENT FOR PAVEMENT REPAIR INCLUDED IN THE VARIOUS CURB AND GUTTER PAY ITEMS.

 2. WHERE WORK EXTENDS BEYOND THE PUBLIC RIGHT-OF-WAY, REFER TO THE RIGHT-OF-ENTRY AGREEMENTS.

 3. DECOROGED MATERIALS TABLE APPLIES TO SECTIONS ON SHEET TS-1.
- 3. PROPOSED MATERIALS TABLE APPLIES TO SECTIONS ON SHEET TS-1.

N.T.S.



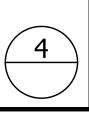
TYPICAL SECTION

LIGHTHOUSE DISTRICT STREETSCAPE **IMPROVEMENTS** CITY OF BRIGANTINE

GREENMAN-PEDERSEN, INC.

Suon W. Mousent

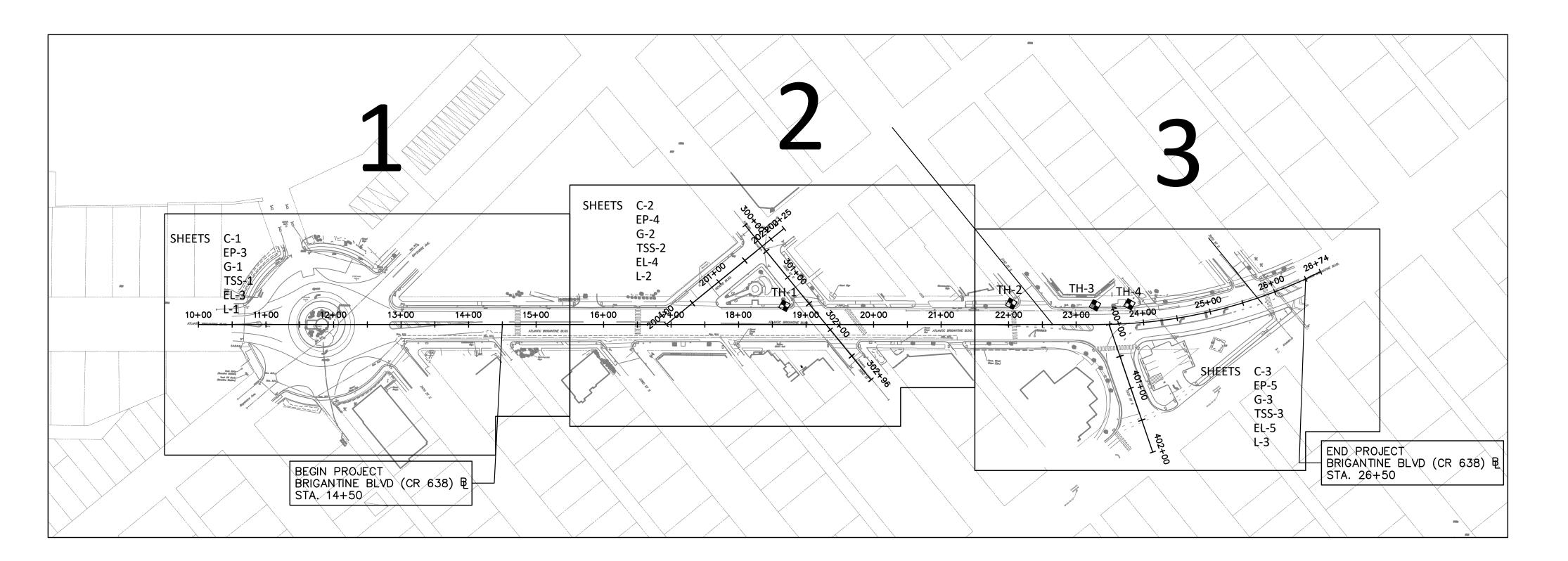
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE04647900

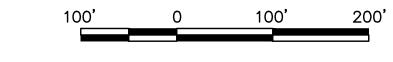


COUNTY OF ATLANTIC

STATE FEDERAL PROJECT NO. | NJUOT |
N.J. TA-AC-0638 (304) | 550







NEW JERSEY DEPARTMENT OF TRANSPORTATION

PLAN SHEET INDEX

LIGHTHOUSE DISTRICT STREETSCAPE IMPROVEMENTS CITY OF BRIGANTINE

GREENMAN-PEDERSEN, INC.

CERTIFICATION OF AUTHORIZATION NO. 24GA27959500

RIAN W. MAUSERT

NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE04647900



NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD LEGEND TA-AC-0638 (304) 5503313 Linear Features Topographical Features Miscellaneous Symbols **Topographical Features PROPOSED** Existing Existing **PROPOSED** Existing **PROPOSED** Items With No Alternate Inlets (Label Type) Water Main (Size) \circ Guide Rail End Terminals Alternate Items For Alternate Pipe Items Gas Main (Size) Inlets (Type ES) Beam Guide Rail Anchorages (C) = Concrete **Telephone Conduit** (M) = Metal Manholes (Label Type or Utility) Electric Conduit (Highway or Utility) Monuments Reset (Inlets or Manholes) Cable TV ROW Monument (ROW Control) — FO —— Reconstructed Fiber Optic **TEST PIT NUMBER** Building to be (Inlets or Manholes) **Intelligent Transpotation System** Demolished Test Pit Cast Iron Extension (Wires & Cables) (Inlet or Manhole) (SIZE & TYPE) Removal of Concrete Base Course & Boring Number **BORING NUMBER** Sanitary Sewers or Storm Drains New Manhole Casting, Concrete Surface Courses $\langle \rangle$ Borings (Boring Number) Square Frame, Circular Cover Building to be Removed & Pavements (Concrete or Bituminous) R.C. End Section or C.M. Headwall Decidous Tree (Size, Kind) Paid for Under Clearing Site Shoulders Headwalls PARCEL Demolition No. & Parcel No. Evergreens of Building to be Demolished **Headwalls & Aprons** (F)₁ (C) Slopes (Cut & Fill) Bush Water Gate Valves 10+00 Base Line Hedges Reset Water Gate Valves Twp., City, County Lines Swamp Gas Gate Valves PROPOSED R.O.W. LINE Existing R.O.W. Line Right of Way Lines (Access Permitted) **Double Reference Codes Reset Gas Gate Valves** PROP. R.O.W. & NO ACCESS LINE Existing R.O.W. & No Access Line High Point Right of Way Lines (No Access) **ESTIMATE AND DISTRIBUTION OF QUANTITIES - ROADWAY** Hyd. Hydrants **TYPICAL SECTIONS** PLAN SHEET INDEX **Property Line** Low Point Reset Hydrants **CONSTRUCTION PLANS** Fence (Size & Type) _______ **ENVIRONMENTAL PLANS & SOIL EROSION & SEDIMENT** Utility Pole (Type & Number) CONTROL PLANS (B.M.) Bench Mark DRAINAGE PLANS Temporary Utility Pole TEMP Beam Guide Rail CONSTRUCTION DETAILS **PROFILES** Traffic Signal TIES **GENERAL NOTES: Junction Box GRADES** TRAFFIC CONTROL AND STAGING PLANS $^{\bigcirc}$ Fiber Optic Junction Box HORIZONTAL DATUM TRAFFIC SIGNAL PLANS NORTH AMERICAN DATUM OF 1983(2011) J.B. & Light ELECTRICAL PLANS **Junction Box Foundation** VERTICAL DATUM HIGHWAY LIGHTING PLANS Silt Fence NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) INTELLIGENT TRANSPORTATION SYSTEM PLANS DITCH Signs SIGN LOCATION PLANS COORDINATE SYSTEM TRAFFIC SIGNING AND STRIPING PLANS PROJECT HORIZONTAL DATUM IS IN GROUND COORDINATES DERIVED FROM Vertical Panels N.A.D. OF 1983 (2011) AS DETERMINED BY APPLYING THE INVERSE OF THE SIGN TEXT DETAILS AVERAGE COMBINED FACTOR (0.9999396080) TO THE NAD83 (2011) STATE Railroad Tracks LANDSCAPE PLANS Camera (With Blind Spot) PLANE COORDINATES AS LISTED IN THE PROJECT SURVEY REPORT. METHOD OF CROSS SECTIONS **CROSS SECTIONS** Dynamic Message Sign (DMS) Tree Line **ESTIMATE OF QUANTITIES - BRIDGE BRIDGE PLANS** ABBREVIATIONS USED IN THIS CONTRACT ELECTRICAL PLAN ABBREVIATIONS Proposed Bridge Bridge Appoach Slabs and Transition Slabs CUTOFF LUMINAIRE, TYPE _____ **EXPRESSWAY LUMINAIRE IMAGE DETECTOR** IMAGE DETECTOR CABLE JUNCTION BOX FOUNDATION LIGHTING MAST ARM, ALUMINUM North Arrow To Be Used On Standard Construction Sheets LIGHTING MAST ARM, STEEL Where Bearings Refer To N. J. Plane Coordinate System LIGHTING STANDARD, ALUMINUM LIGHTING STANDARD, FIBERGLASS LSF LIGHTING STANDARD, STEEL MAST ARM SIGN MEDIUM SEMI-CUTOFF LUMINAIRE, TYPE 2 MEDIUM SEMI-CUTOFF LUMINAIRE, TYPE 3 NEW JERSEY DEPARTMENT OF TRANSPORTATION **PUSH BUTTON** PEDESTRIAN SIGNAL HEAD PEDESTRIAN SIGNAL STANDARD **CONSTRUCTION LEGEND** TRAFFIC SIGNAL HEAD TSMA-A TRAFFIC SIGNAL MAST ARM, ALUMINUM LIGHTHOUSE DISTRICT STREETSCAPE TSMA-S TRAFFIC SIGNAL MAST ARM, STEEL TRAFFIC SIGNAL STANDARD, ALUMINUM "C" IMPROVEMENTS TRAFFIC SIGNAL STANDARD, ALUMINUM "K" CITY OF BRIGANTINE TRAFFIC SIGNAL STANDARD, STEEL TRAFFIC SIGNAL STANDARD, STEEL COMBINATION GREENMAN-PEDERSEN, INC. TRAFFIC SIGNAL STANDARD, ALUMINUM "T" ERTIFICATION OF AUTHORIZATION NO. 24GA27959500 Buon W. Mousert UNDERDECK LIGHTING, TYPE "P" 6 UNDERDECK LIGHTING, TYPE "W"

		ADDILVIATIO	JNS USED IN THIS CONTRACT	<u> </u>	
AH., BK.	AHEAD, BACK	J.B.	JUNCTION BOX	RCP, R.C.P.	REINFORCED CONCRETE PIPE
∖, B.L.	BASELINE	LT., RT.	LEFT, RIGHT	RMC, R.M.C.	RIGID METALLIC CONDUIT
B.M.	BENCH MARK	L.O.P.	LIMIT OF PAVEMENT (PAVING)	RNMC, R.N.M.C.	RIGID NON-METALLIC CONDUIT
B.T.	BELL TELEPHONE	L.O.M.	LIMIT OF MILLING	ROW, R.O.W.	RIGHT OF WAY
BIT., BITUM.	BITUMINOUS	M.B.	MAILBOX	R.R.	RAILROAD
BLDG.	BUILDING	M.P.	MILE POST	RTE., RT.	ROUTE
{, C.L.	CENTERLINE	MAX.	MAXIMUM	SAN.	SANITARY
C.I.P.	CAST IRON PIPE	MIN.	MINIMUM	SDWK.	SIDEWALK
C.M.P.	CORRUGATED METAL PIPE	NO.	NUMBER	S.H.D.	STATE HIGHWAY DEPARTMENT
CONC.	CONCRETE	N.T.S.	NOT TO SCALE	SHLD.	SHOULDER
CULV.	CULVERT	PAV'T.	PAVEMENT	}, S.L.	SURVEY LINE
D, DIA.	DIAMETER	PERF.	PERFORATED	S.O.D.	SUBBASE OUTLET DRAIN
D.C.	DROP CURB	P.G.L.	PROFILE GRADE LINE	STY.	STORY
DE	DITCH EXCAVATION	, P.L.	PROPERTY LINE, PROFILE LINE	T	TANGENT
DEP., DP	DEPRESSED CURB	PK	PARKER KAYLON MASONRY NAIL	TBA	TO BE ABANDONED
DH	DRILL HOLE	POC, P.O.C.	POINT ON CURVE	TBR	TO BE REMOVED
DWY	DRIVEWAY	POL, P.O.L.	POINT ON LINE	TEL.	TELEPHONE
E.B., W.B., N.B., S.B.	EASTBOUND, WESTBOUND	POT, P.O.T.	POINT ON TANGENT	TEMP.	TEMPORARY
	NORTHBOUND, SOUTHBOUND	PRC, P.R.C.	POINT OF REVERSE CURVE	THK. <i>,</i> TH.	THICK
EL., ELEV.	ELEVATION	PROP.	PROPOSED	TYP.	TYPICAL
EXIST.	EXISTING	PT, P.T.	POINT OF TANGENCY	U.D.	UNDERDRAIN
GR.	GRATE	PVC, P.V.C.	POLYVINYL CHLORIDE PIPE,	UP, U.P.	UTILITY POLE
HT.	HEIGHT		POINT OF VERTICAL CURVATURE	VAR.	VARIABLE, VARIES
H.W.	HEADWALL	PVI, P.V.I.	POINT OF VERTICAL INTERSECTION	W.C.V.C.	WHITE CONCRETE VERTICAL CURB
HYD.	HYDRANT	PVT, P.V.T.	POINT OF VERTICAL TANGENCY, PAVEMENT	WM	WATER METER
INV.	INVERT	R	RADIUS	X-SECT	CROSS SECTION
IP	IRON PIN	RCCP, R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE		

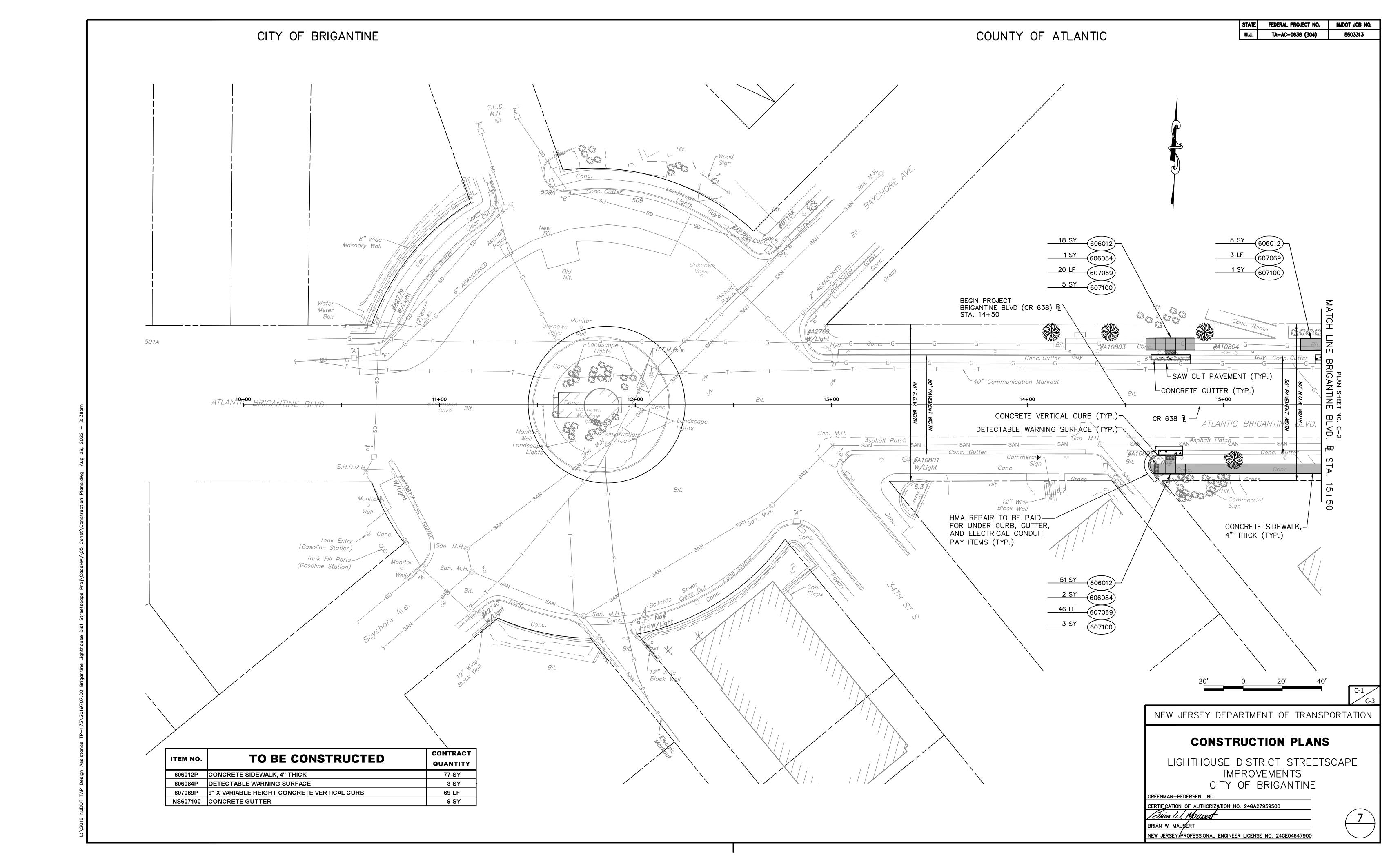
VERTICAL LUMINAIRE

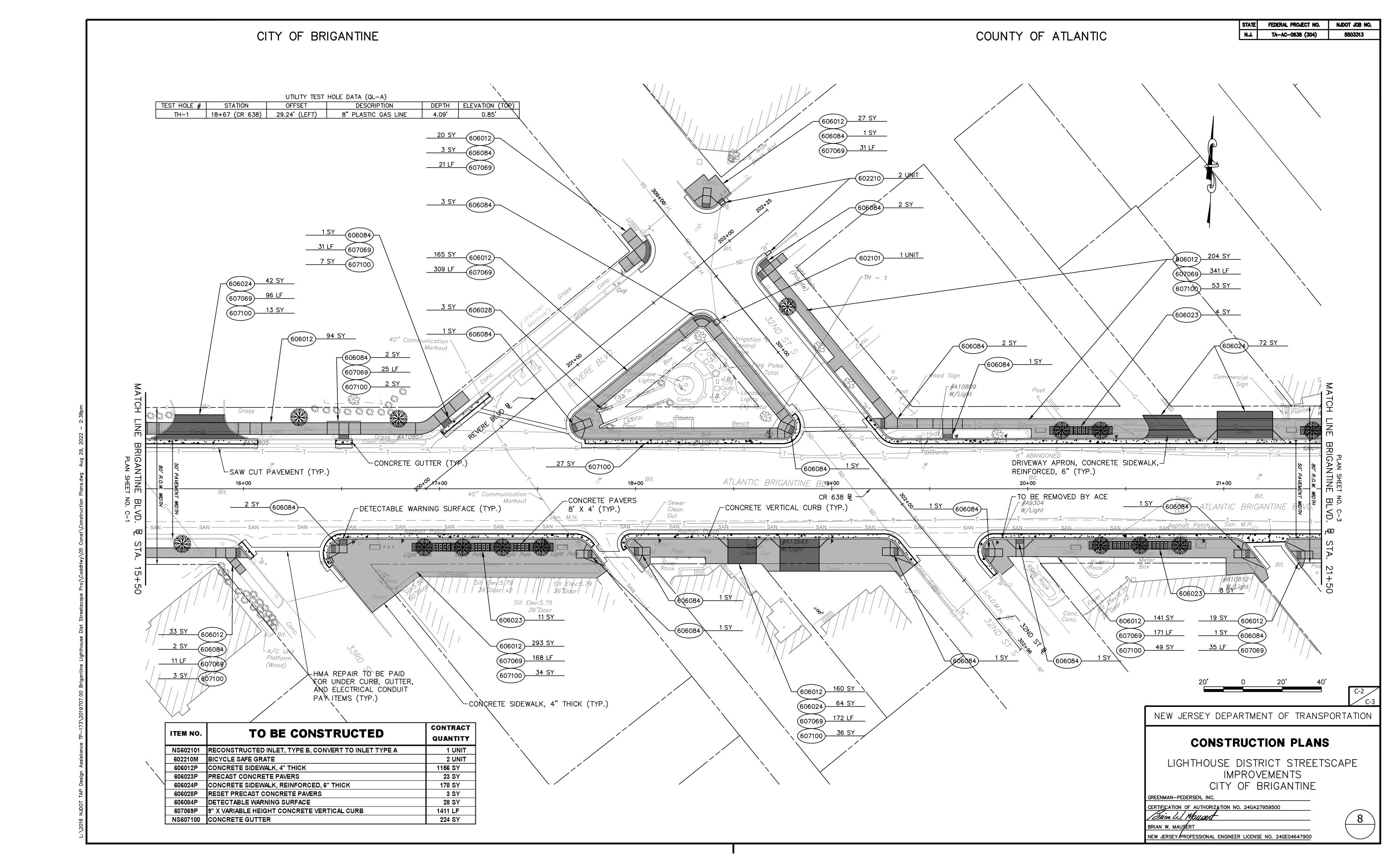


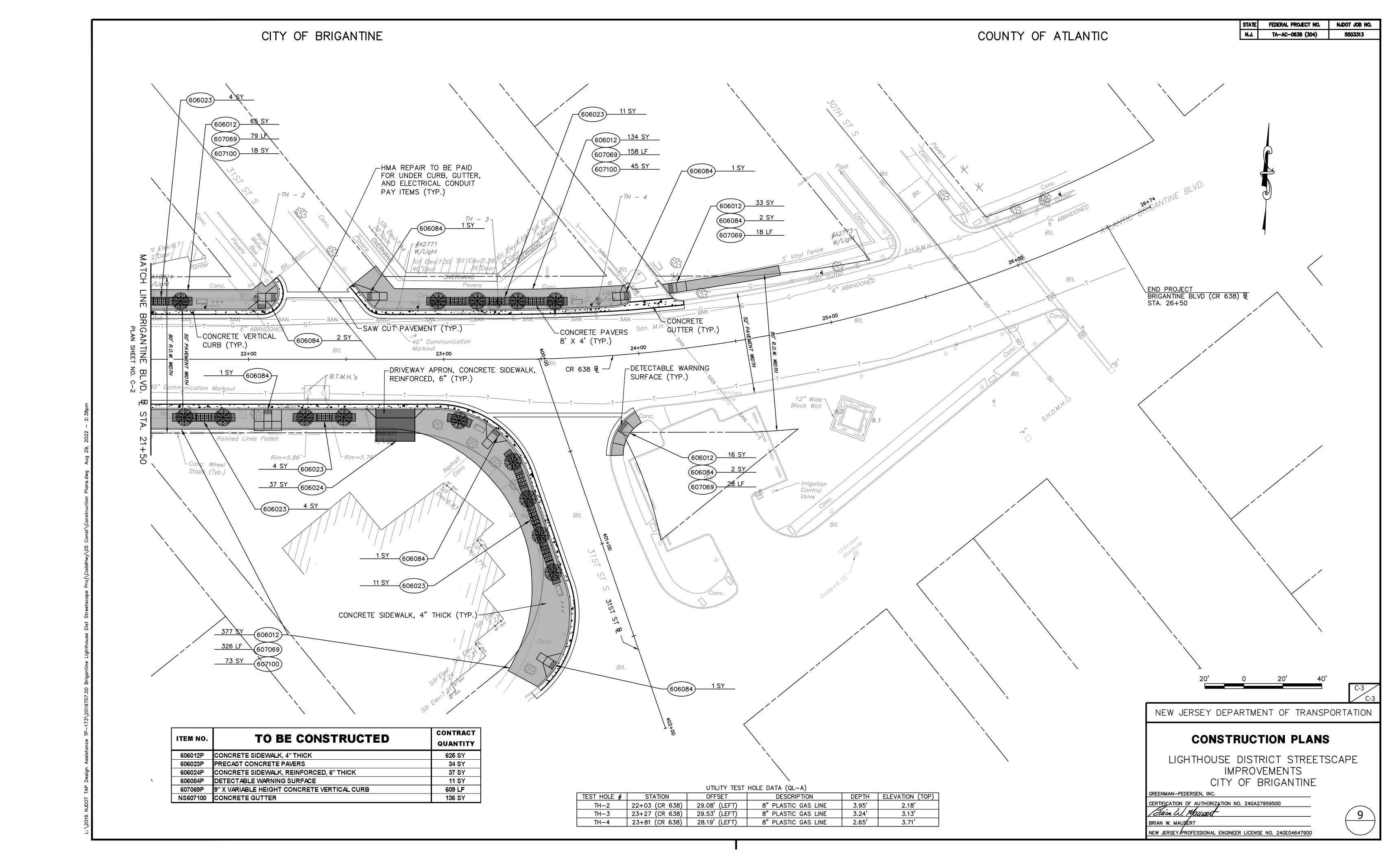
FEDERAL PROJECT NO.

BRIAN W. MAUSERT NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE04647900









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 STANDARD FOR LAND GRADING. B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE
- 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.

2. 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 SQUARÉ FEET OF 10-10-10 OR EQUÍVALENT 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
- 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.

SEEDING A. THE SEEDING MIXTURE SHALL BE:

- TALL TYPE FESCUE (THREE BLEND MIX) 265 LBS/ACRE OR 6 LBS/1,000 SQ.FT.,
- CHEWING FESCUE 45 LBS/ACRE OR 1.0 LBS/1,000 SQ.FT. PERENNIAL RYEGRASS 45 LBS/ACRE OR 1.0 LBS/1,000SQ.FT.
- DATES FOR SEEDING 3/1-4/30 ACCEPTABLE AND 8/15-10/15 OPTIMUM

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.

- 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 MIXTURE FOR THE SEEDED AREA AND MOWED ONCE.
- WARM-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 85F 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.
- COOL-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 85F. MANY GRASSES BECOME ACTIVE AT 65F. SEE TABLE 4-3, MIXTURES 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.

- MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING
- 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. 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. II. MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE
- III. 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.
- IV. 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 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 TURF GRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY
 - EVALUATION FOR USE IN THIS STATE. (2) SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND. FOLLOWING APPLICATION OF MULCH, DRYING AND CURING, SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. BINDER SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER

- 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
- 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 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.

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

<u>TOPDRESSING</u>

- 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 TOP DRESSING 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, TOP DRESS 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 IN TABLE 4-3* ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN APPLICATION RATES 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 SOIL STABILIZATION (STD 7)

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.
- 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. LIMING RATES SHALL BE ESTABLISHED VIA 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. 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.
 - C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED IN ACCORDANCE D. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS*,

A. THE SEEDING MIXTURE AS SPECIFIED SHALL BE:

PG. 1-1.

PERENNIAL RYEGRASS 100 LBS/ACRE PF 1.0 LBS/SQ.FT. DATES FOR SEEDING 2/15-4/30, 8/15-10/30 OPTIMUM

CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.

- 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 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 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.
- 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. UNNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (90 TO 115 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. I. 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. II. MULCH NETTINGS. STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN
 - III. 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 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. IV. 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, 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. 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 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 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 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 APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZED MULCH ON THE SEED BED IS EXTREMELY

STABILIZATION WITH MULCH ONLY (STD 5)

IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

1. SITE PREPARATION

II. USE ONE OF THE FOLLOWING:

- 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 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.
- 2. PROTECTIVE MATERIALS A. 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 BE USED IF APPROVED BY THE SOIL CONVENTION. 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. D. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE (OR ACCORDING TO THE MANUFACTURER'S REQUIREMENTS) MAY BE
 - MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE USED. 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.
- 3. 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

CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

- 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 MULCH. USE DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG. CRIMPER MULCH ANCHORING 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. 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.
 - a. ORGANIC AND VEGETABLE BASED BINDERS NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OF IMPEDE GROWTH OF TURFGRASS. VEGETABLE BASED GELS SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE b. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH,

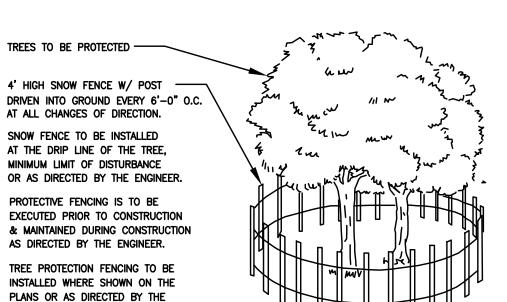
COUNTY OF ATLANTIC

MAINTAINING VEGETATION (STD 3)

- 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 TURF 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 SO 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*.
- INCORPORATION OF ORGANIC MATTER (FOR EXAMPLE, MATURE COMPOST) INTO THE SOIL WILL SUBSTANTIALLY REDUCE THE NEED FOR FERTILIZER AND IRRIGATION INPUTS.
- 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/.
- 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. 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.
- 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.

SEQUENCE OF CONSTRUCTION

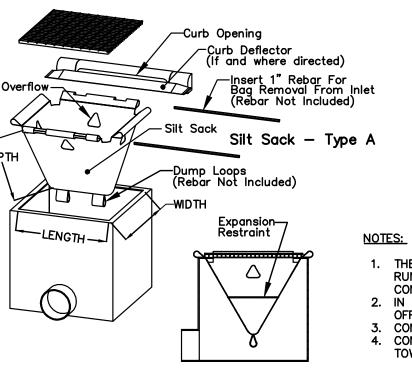
- NOTIFY DISTRICT 48 HOURS BEFORE START OF CONSTRUCTION . INSTALLATION OF INLET PROTECTION AND SILT FENCES. INSTALLATION OF TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED AT THE INITIATION OF LAND DISTURBANCE ACTIVITIES. ALL TEMPORARY SOIL EROSION MEASURES MUST BE INCLUDED (SILT FENCE, STONE TRACKING PAD, TREE PROTECTION, AND INLET PROTECTION AS NEEDED AND/OR
- SITE CLEARING/DEMOLITION CONSTRUCT ALL IMPROVEMENTS INCLUDING SIDEWALK, ACCESSIBLE RAMPS, CURBS, LIGHTING, LANDSCAPE, AND ALL OTHER STREETCAPE IMPROVEMENTS.
- 6. SCARIFY/TILL SUBGRADE TO A 6" MIN. DEPTH PER SECTION 19.1 OF "THE STANDARDS 2 Weeks FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY", 7TH EDITION, JANUARY 2014, REVISED JULY 2017
- 7. UNIFORMLY APPLY TOPSOIL TO AN AVERAGE DEPTH OF 5", MINIMUM OF 4", FIRMED IN 2 Weeks 8. INSTALL PERMANENT SEEDING AND MULCH. PERMANENT STABILIZE AS PER SOIL
- EROSION & SEDIMENT CONTROL PLAN. 9. REMOVE SOIL EROSION AND SEDIMENT CONTROL DEVICES. 1 Week 10. NOTIFY DISTRICT OF COMPLETION OF PROJECT



ENGINEER.

- 1. THE CONTRACTOR SHALL NOT STORE EQUIPMENT AND/OR MATERIALS OF ANY NATURE UNDER THE DRIP LINE OF THE TREES.
- WHERE TREE ROOTS ARE ENCOUNTERED, THE CONTRACTOR SHALL TUNNEL UNDER THE ROOTS TO AVOID DAMAGE BEING DONE TO THEM. ANY LARGE ROOTS WHICH ARE BRUISED OR BROKEN SHALL BE PRUNED AS DIRECTED BY THE ENGINEER.
- THE ENGINEER MAY DIRECT THE CONTRACTOR TO INSTALL A PROTECTIVE WRAPPING AROUND THE TRUNK OR BRANCHES TO MINIMIZE DAMAGE IN THE EVENT THE CONSTRUCTION EQUIPMENT ACCIDENTALLY COMES IN CONTACT WITH THE TREE. THIS WRAPPING SHALL CONSIST OF MULTIPLE LAYERS OF BURLAP AND WOODEN SNOW FENCING. THE WRAPPING SHALL BE TIED TO THE TREE IN SUCH A MANNER AS TO PRECLUDE DAMAGING THE BARK. IN NO EVENT SHALL NAILS OR OTHER MECHANICAL FASTENERS BE USED TO FASTEN ANYTHING TO THE TREES.
- IN THE EVENT MINOR TREE DAMAGE OCCURS DESPITE THE CONTRACTOR'S BEST EFFORTS TO PROTECT THE TREES, HE SHALL IMMEDIATELY BRING THE DAMAGE TO THE ENGINEER'S ATTENTION.

TREE PROTECTION DETAIL



CATEGORICAL EXCLUSION DOCUMENT (CED) WAS APPROVED ON 12/18/2020.

• SOIL EROSION AND SEDIMENT BARRIER CONTROL MEASURES WILL BE

TO DETERMINE IF ANY ADDITIONAL ENVIRONMENTAL WORK IS NEEDED

• IF PROJECT PLANS CHANGE, THE ENTIRE PROJECT WILL BE REVIEWED BY BEPR

ENVIRONMENTAL COMMITMENTS IN THE CED ARE:

IMPLEMENTED DURING CONSTRUCTION.

. NO PERMITS ARE REQUIRED FOR THIS PROJECT

- THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR, 24 HOUR STORM EVENT AND SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER SYSTEM 2. IN ALL CASES, INLET PROTECTION SHOULD NOT COMPLETELY CLOSE
- CONTRACTOR IS TO CLEAN THE INLET FILTER AFTER EVERY STORM 4. CONTRACTOR TO REMOVE INLET FILTER WHEN THE AREA DRAINING TOWARD THE INLET IS STABILIZED AND APPROVED BY SCD.

INLET FILTER DETAIL

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL, SOIL EROSION, & SEDIMENT CONTROL PLANS

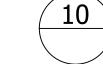
LIGHTHOUSE DISTRICT STREETSCAPE **IMPROVEMENTS**

CITY OF BRIGANTINE GREENMAN-PEDERSEN. INC

BRIAN W. MAUSÆR⁻

RTIFICATION OF AUTHORIZATION NO. 24GA27959500 Buon W. Mauser

NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE04647900



DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER

STANDARD FOR SEDIMENT BARRIERS

<u>Definition</u>

A temporary barrier installed across or at the toe of a slope.

Standards for Soil Erosion and Sediment Control in New Jersey

Purpos

The purpose of a sediment barrier is to intercept and detain small amounts of sediment from unprotected areas of limited extent.

Conditions Where Practice Applies

The sediment barrier is used where:

- 1. No other practice is feasible,
- 2. There is no concentration of water in a channel or other drainage way above the barrier, and
- 3. Erosion would occur in the form of sheet and rill erosion.

Design Criteria

- A. All types of sediment barriers:
- 1. Contributing drainage area is less than 1 acre and the length of slope above the barrier is less than 150 feet.
- 2. The slope of the contributing drainage area for at least 30 feet adjacent to the barrier shall not exceed 5%.
- 3. The barrier shall be constructed so water cannot bypass the barrier around the ends.
- 4. Inspection shall be frequent and repair or replacement shall be made promptly as needed.
- 5. The barrier shall be removed when the contributing drainage area has been stabilized so as not to block or impede storm flow or drainage.
- B. Requirements for bale barrier (e.g., straw, hay, or other acceptable vegetative material):
- 1. All bales shall be securely tied and staked on the contour (Fig. 23-1).*
- 2. Bales shall be placed in a row with ends tightly abutting the adjacent bales.
- 3. Each bale shall be embedded in the soil a minimum of 4 inches.
- 4. Bales shall be securely anchored in place by two stakes or re-bars driven through each bale. The first stake in each bale shall be driven toward previously laid bale to force bales together.

Standards for Soil Erosion and Sediment Control in New Jersey January 2014

C. Requirements for silt fence:

- 1. 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 (Fig. 23-2).* Posts shall be constructed of hardwood with a minimum diameter thickness of 1 ½ inches.
- 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 geotextile fabric. Posts may be spaced less than 8 feet on center and may be constructed of heavier wood or metal as needed to withstand heavier sediment loading. This practice is 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.
- 3. 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 system consisting of metal fasteners (nails or staples) 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.
- D. Requirements for stone barrier:
 - 1. The stone shall be piled to a natural angle of repose with a height of at least 2 feet.
 - 2. The stone shall meet ASTM C-33 size No. 2 (2.5 to 1.5) or 3 (2 to 1 inch).

Maintenance

- Sediment shall be removed from the upstream face of the barrier when it has reached a depth of ½ the barrier height.
- 2. Repair or replace barrier (fabric, posts, bales etc.) when damaged.
- Barriers shall be inspected daily for signs of deterioration and sediment removal.

DUST CONTROL (STD 16)

Standards for Soil Erosion and Sediment Control in New Jersey January 2014

STANDARD FOR DUST CONTROL

Definition

The control of dust on construction sites and roads

Purpose

To prevent blowing and movement of dust from exposed soil surfaces, reduced on-site and off-site damage and health hazards and improve traffic safety.

Condition Where Practice Applies

This practice is applicable to areas subject to dust blowing and movement where on-site and off-site damage is likely without treatment. Consult with local municipal ordinances on any restrictions.

Water Quality Enhancement

Sediments deposited as "dust" are often fine colloidal material which is extremely difficult to remove from water once it becomes suspended Use of this standard will help to control the generation of dust from construction sites and subsequent blowing and deposition into local surface water resources.

Planning Criteria

The following methods should be considered for controlling dust:

- Mulches See Standard of Stabilization with Mulches Only, pg. 5-1*
- <u>Vegetative Cover</u> See Standard for: Temporary Vegetative Cover, pg. 7-1, Permanent Vegetative Cover for Soil Stabilization pg. 4-1 and Permanent Stabilization with Sod, pg. 6-1.

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

Standards for Soil Erosion and Sediment Control in New Jersey January 2014

Table 16-1 Dust Control Materials

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLY GALLONS/ACR E			
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 be used as an additive to sediment basins to flocculate and precipitate suspended colloids. See Sediment Basin standard, p. 26-1					
Acidulated Soy Bean Soap Stick	None	Coarse Spray	1200			

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

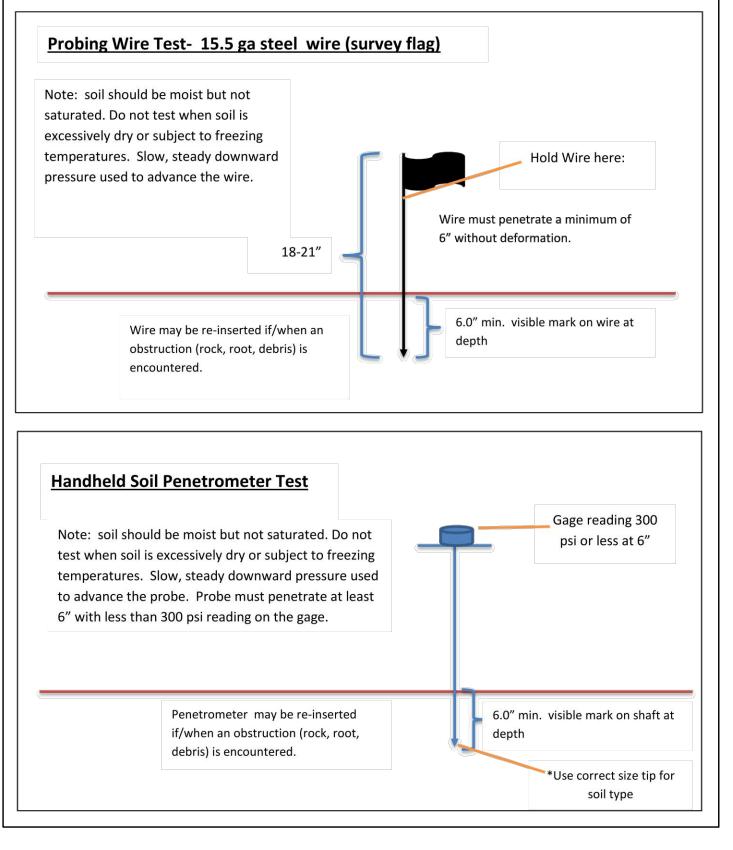
Sprinkling - Site is sprinkled until the surface is wet.

<u>Barriers</u> - 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.

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

Stone - Cover surface with crushed stone or coarse gravel.

SOIL DE-COMPACTION AND TESTING REQUIREMENTS (STD 19)



MINIMUM SOIL EROSION AND SEDIMENT CONTROL REQUIREMENTS DURING CONSTRUCTION OF SINGLE-FAMILY DWELLINGS AND DUPLEXES, OR LAND GRADING AND DEMOLITION ACTIVITIES LESS THAN 1 ACRE

- 1. ALL WORK MUST BE DONE IN ACCORDANCE WITH THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY". 7TH EDITION, JANUARY 2014, REVISED JULY 2017.
- 2. CONTACT THE DISTRICT 48 HOURS IN ADVANCE OF THE START OF ANY LAND DISTURBANCE ACTIVITIES.

 2. CONTACT THE DISTRICT 48 HOURS IN ADVANCE OF THE START OF ANY LAND DISTURBANCE ACTIVITIES.
- REMOVE ANY SEDIMENT THAT MAY BE SPILLED, DROPPED, OR TRACKED OFF OF THE PROJECT SITE. ALL PAVED RIGHTS-OF-WAY ADJACENT TO THE PROJECT SITE MUST BE MAINTAINED IN A CLEAN, SWEPT CONDITION THROUGHOUT CONSTRUCTION. INSTALL CRUSHED STONE PAD(S) TO HELP REDUCE OFF-SITE TRACKING OF SEDIMENT.
- 4. CONTROL THE WASHING OR BLOWING OF SEDIMENT OFF OF THE PROJECT SITE. INSTALL SEDIMENT BARRIERS TO HELP REDUCE OFF-SITE SEDIMENTATION. MEASURES TO CONTROL DUST AND WIND EROSION MUST BE UTILIZED (IE. WETTING OF THE SITE).
- THE PROPERTY MUST BE GRADED IN A MANNER THAT WILL NOT CAUSE EROSION OR SEDIMENTATION PROBLEMS ON THE PROJECT SITE, OR TO ADJACENT PROPERTIES. AREAS SUBJECT TO SOIL RESTORATION MEASURES MUST COMPLY WITH THE STANDARD FOR LAND GRADING.
- 5. SITE MUST BE PROPERLY MULCHED FOR NON-GROWING SEASONS USING STRAW MULCH @ 90-115 LBS./1,000 SQ. FT. (3 BALES), PROPERLY ANCHORED OR TACKED.
- 7. WHEN REQUIRED, SITE MUST BE SEEDED TO ESTABLISH A TEMPORARY VEGETATIVE COVER.
- PERENNIAL RYEGRASS @ 1 LB./1,000 SQ. FT. MAY BE UTILIZED.
- 8. PREPARE AREAS TO BE PERMANENTLY VEGETATED BY TOPSOILING (A MINIMUM OF 5" IS REQUIRED), FERTILIZING @ 11 LBS./1,000 SQ. FT. OF 10-20-10, AND APPLYING LIME @ 90 LBS./1,000 SQ. FT.
- 9. SEED THE SITE TO ESTABLISH A PERMANENT VEGETATIVE COVER UTILIZING A TURF-TYPE TALL FESCUE/PERENNIAL RYEGRASS MIX @ 6-8 LBS./1,000 SQ. FT., OR EQUIVALENT. APPLY STRAW MULCH @ 70-90 LBS./1,000 SQ. FT. (2 BALES), AND PROPERLY ANCHOR OR TACK. SOD, STONE COVER OR MULCHED LANDSCAPE BEDS MAY BE SUBSTITUTED FOR SEEDING TO ESTABLISH A PERMANENT COVER.
- DRIVEWAY MUST BE STABILIZED WITH A PERMANENT MATERIAL SUCH AS ASPHALT, CONCRETE, PAVING BLOCKS, CRUSHED STONE, CRUSHED CONCRETE OR DENSE GRADED AGGREGATE.
- 11. ALL SIDEWALKS, DRIVEWAY APRONS, AND CURBING IF REQUIRED BY THE MUNICIPALITY MUST BE COMPLETED.
- 12. A REPORT OF COMPLIANCE MUST BE OBTAINED FROM THE DISTRICT UPON COMPLETION. REQUESTS FOR A DISTRICT INSPECTION FOR THE RELEASE OF A REPORT OF COMPLIANCE MUST BE MADE 5 WORKING DAYS IN ADVANCE. A REPORT OF COMPLETE COMPLIANCE IS ISSUED WHEN PERMANENT EROSION CONTROLS HAVE BEEN ADDRESSED. A REPORT OF CONDITIONAL COMPLIANCE MAY BE ISSUED WHEN THE SEASON OR OTHER CONDITIONS MAY NOT BE SUITABLE FOR ESTABLISHING A PERMANENT VEGETATIVE COVER. A CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED BY A MUNICIPALITY UNLESS THE DISTRICT HAS ISSUED A REPORT OF COMPLIANCE. THIS APPLIES TO BOTH THE COMPLETE (FINAL) AND CONDITIONAL (TEMPORARY) CERTIFICATES.
- 13. THE "SOIL COMPACTION MITIGATION VERIFICATION FORM" MUST BE SUBMITTED TO THE DISTRICT PRIOR TO THE ISSUANCE OF A REPORT OF COMPLIANCE WHEN YOUR SOIL EROSION AND SEDIMENT CONTROL PLAN DENOTES AREAS OF THE SITE THAT ARE SUBJECT TO SOIL COMPACTION MITIGATION (TESTING AND/OR REMEDIATION).
- 14. THE FOLLOWING "SEQUENCE OF CONSTRUCTION" MUST BE FOLLOWED:1. INSTALLATION OF TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES.
 - CONSTRUCTION OF DWELLING (WHERE APPLICABLE).
 INSTALLATION OF DRAINAGE MEASURES (WHERE APPLICABLE).
 - INSTALLATION OF DRAINAGE MEASURES (WHERE APPLICABLE).
 IMPLEMENTATION OF SOIL RESTORATION MEASURES (WHERE APPLICABLE).
 - 5. INSTALLATION OF A PERMANENT COVER.
 - 6. REMOVAL OF SOIL EROSION AND SEDIMENT CONTROL MEASURES.

SOIL COMPACTION TESTING REQUIREMENTS

- 1. SUBGRADE SOILS <u>PRIOR TO THE APPLICATION OF TOPSOIL</u> (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 <u>GRAPHICALLY DENOTED</u> ON THE CERTIFIED SOIL EROSION CONTROL PLAN. SEE EXAMPLE SITE PLAN AT:

 HTTP://WWW.NJ.GOV/AGRICULTURE/DIVISIONS/ANR/NRC/NJEROSION.HTML
- 3. <u>COMPACTION TESTING LOCATIONS</u> ARE DENOTED ON THE PLAN. A COPY OF THE PLAN OR PORTION OF THE PLAN SHALL BE USED TO MARK LOCATIONS OF TESTS, AND ATTACHED TO THE <u>SOIL COMPACTION MITIGATION VERIFICATION FORM</u>, 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
- 4. IN THE EVENT THAT <u>TESTING INDICATES COMPACTION</u> IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE SIMPLIFIED TESTING METHODS (SEE DETAILS BELOW), THE CONTRACTOR/OWNER SHALL HAVE THE OPTION TO PERFORM EITHER (1) COMPACTION MITIGATION OVER THE ENTIRE MITIGATION AREA DENOTED ON THE PLAN (EXCLUDING EXEMPT AREAS), OR (2) PERFORM ADDITIONAL, MORE DETAILED TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION. ADDITIONAL DETAILED TESTING SHALL BE PERFORMED BY A TRAINED, LICENSED PROFESSIONAL.

COMPACTION TESTING METHODS

- A. PROBING WIRE TEST (SEE DETAIL)
- B. HAND-HELD PENETROMETER TEST (SEE DETAIL)
- C .TUBE BULK DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED
- D. NUCLEAR DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)

MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION.

SUBMITTED PRIOR TO RECEIVING A CERTIFICATE OF COMPLIANCE FROM THE DISTRICT.

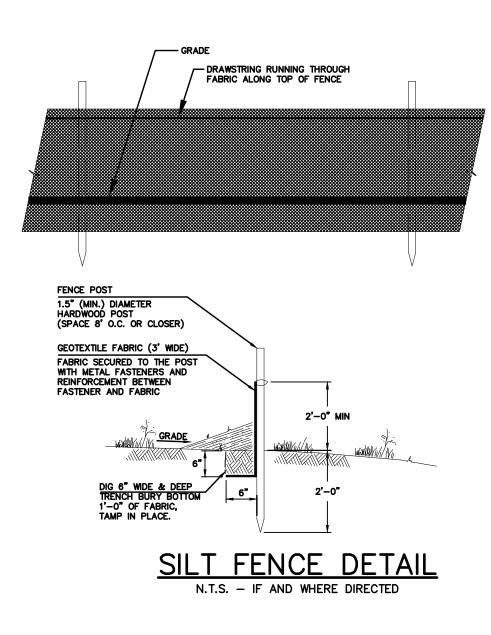
NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

SOIL COMPACTION TESTING IS NOT REQUIRED IF/WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6"

PROCEDURES FOR SOIL COMPACTION MITIGATION

PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION PRIOR TO PLACEMENT OF TOPSOIL AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.

RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAYBE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.



* SEE "THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY", 7TH EDITION, JANUARY 2014, REVISED JULY 2017



ENVIRONMENTAL, SOIL EROSION, & SEDIMENT CONTROL PLANS

CITY OF BRIGANTINE

LIGHTHOUSE DISTRICT STREETSCAPE IMPROVEMENTS

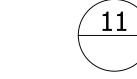
GREENMAN-PEDERSEN, INC.

CERTIFICATION OF AUTHORIZATION NO. 24GA27959500

Suion W. Mausant

NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. 24GE04647900

BRIAN W. MAUSÆRT



П

