UTILITY CONTACTS							
MONTC	MONTCLAIR KIMBERLY ACADEMY, MONTCLAIR, NJ						
COMPANY	CONTACT	ADDRESS					
NEW JERSEY BELL TELPHONE CO.	CORPORATE SECRETARY	540 BROAD STREET, ROOM 1005, NEWARK, NJ 07101					
AMERICAN TELEPHONE AND TELEGRAPH CO.	KARL GROSSMANN	50 PATRICIA DRIVE, FLANDERS, NJ, 07836					
PUBLIC SERVICE ELECTRIC & GAS CO.	MANAGER CORPORATE PROPERTIES	80 PARK PLACE, T6B, NEWARK, NJ, 07102					
PASSAIC VALLEY WATER COMMISSION	CORPORATE SECRETARY	1525 MAIN AVENUE, CLIFTON, NJ, 07011					
MCI	JOHN SCOCCOLA	10 MARCELLO AVE, WEST ORANGE, NJ, 07052					
COMCAST CABLE	N/A	800 RAHWAY AVENUE, UNION, NJ, 07083					
VERIZON	N/A	ONE VERIZON WAY, BASKING RIDGE, NJ 07920					

PRELIMINARY AND FINAL SITE PLAN

NEW JERSEY ONE CALL

CALL BEFORE YOU DIG 1-800-272-1000

CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH THE REQUIREMENTS OF THE NEW JERSEY ONE-CALL DAMAGE PREVENTION SYSTEM AS STATED IN THE "UNDERGROUND FACILITY PROTECTION ACT". TICKET NUMBER(S):



Scale: 1" = 5000'

STEM CENTER

6 LLOYD ROAD, TOWNSHIP OF MONTCLAIR, ESSEX COUNTY, NEW JERSEY LOT 16, BLOCK 302 SEPTEMBER 5, 2023

PREPARED FOR: OWNER/DEVELOPER MONTCLAIR KIMBERLEY ACADEMY

201 VALLEY ROAD MONTCLAIR, NJ ,07042

PREPARED BY: **PENNONI ASSOCIATES INC.**



103 College Road East Princeton, NJ 08540 **T** 609-987-2323 **F** 609-987-0005

NJ CERTIFICATE OF AUTHORIZATION NO. GA28033300



LOCATION MAP Scale: 1" = 1000'



SHEET CS0001 CS0002 CS0101 CS0501 CS1001 CS1501 CS1701 CS2002 CS3501 CS6001 CS6002 CS6003 CS6062

CS8501

CS8502

CS8503

SHEET LIST TABLE							
PAGE	SHEET TITLE	ISSUED DATE	REVISED DATE				
1	COVER SHEET	9/5/2023					
2	NOTES SHEET	9/5/2023					
3	AREA AND VICINITY MAP	9/5/2023					
4	DEMOLITION PLAN	9/5/2023					
5	SITE PLAN	9/5/2023					
6	GRADING PLAN	9/5/2023					
7	UTILITY PLAN	9/5/2023					
8	LIGHTING PLAN	9/5/2023					
9	ROAD PROFILES	9/5/2023					
10	SITE DETAILS	9/5/2023					
11	UTILITY DETAILS	9/5/2023					
12	UTILITY DETAILS 2	9/5/2023					
13	LIGHTING DETAILS	9/5/2023					
14	EROSION AND SEDIMENTATION CONTROL PLAN	9/5/2023					
15	EROSION AND SEDIMENTATION CONTROL NOTES	9/5/2023					
16	EROSION AND SEDIMENTATION CONTROL DETAILS	9/5/2023					

Ш CENTI Ч Т OVER TEM Ś ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTE TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS O THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL POSURE TO PENNONI ASSOCIATE; AND OWNER SHA NDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATE FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM. VAMAX22004 ROJECT 2023-09-05 DATE RAWING SCALE AS NOTED DRAWN BY 0502 PPROVED BY 0502 CS0001

SHEET 1 OF 16

APPROVALS:

TOWNSHIP OF MONTCLAIF

PLANNING BOARD CHAIRPERSON

PLANNING BOARD SECRETARY

TOWNSHIP ENGINEER

USGS MAP Scale: 1" = 2000 NOT FOR CONSTRUCTION

1		
1.	THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED FOR CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED ON THE DRAWINGS.	
2.	NO RESPONSIBILITY OR LIABILITY IS ASSUMED BY THE SURVEYOR FOR LOCATION OF UTILITIES OR EASEMENTS, IF ANY, LOCATED BELOW THE SURFACE OF THE LANDS OR NOT VISIBLE ON THE SURFACE OF THE LANDS SHOWN HEREON.	MUN
3. 4.	BOUNDARY INFORMATION SHOWN HEREON FROM THE PLAN ENTITLED: "BOUNDARY AND AERIAL TOPOGRAPHIC SURVEY OF LOT 16, BLOCK 302 AND LOT 10 AND 11 BLOCK 304" PREPARED FOR MONTCLAIR KIMBERLEY ACADEMY SITUATED IN MONTCLAIR, MONTCLAIR TOWNSHIP, ESSEX COUNTY, DATED MAY 15, 2023, PREPARED BY PENNONI ASSOCIATES INC., P.C. ORDER NO. 46124-100-11. TOPOGRAPHIC AND PLANIMETRIC FEATURES SHOWN HEREON ARE TAKEN FROM AN AERIAL SURVEY PREPARED BY COOPER AERIAL SURVEYS COMANY, BASED ON AERIAL PHOTOGRAPHY AND LIDAR DATA DATED NOVEMBER 23, 2022.	VERON
5.	THE PROJECT HORIZONTAL DATUM SHOWN HEREON IS MODIFIED GROUND NEW JERSEY STATE PLANE COORDINATE SYSTEM (NJSPCS) NORTH AMERICAN DATUM (NAD) 1983 NATIONAL ADJUSTMENT (NA) 2011 UTILIZING AN APPROXIMATE SITE CENTROID OF N 724167.89, E 567643.76 AND AVERAGE COMBINED SCALE FACTOR (ACSF) OF 0.999888691.,	то
6.	ALL LINEAR DIMENSIONS, ELEVATIONS, AND COORDINATES, UNLESS OTHERWISE NOTED, ARE U.S. SURVEY FEET (AT-GRADE).	MO TO
7.	THE PROJECT VERTICAL DATUM SHOWN HEREON IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)(GEOID 12B) AS DERIVED FROM NATIONAL GEODETIC SURVEY CONTROL STATIONS USING GNSS RTN OBSERVATIONS.	MO TO
8. 9.	PER PLAN BY FEMA, ENTITLED "FLOOD INSURANCE RATE MAP," DATED JUNE 4, 2007. THE PROPERTY IS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE OF FLOOD. SUB-WATERSHED BOUNDARIES (HUC11) 04BB, NAMED PASSAIC RIVER LOWER (NWK BAY TO SADDLE), PER NJDEP GEOWEB WEBSITE AND NEW JERSEY GEOLOGICAL SURVEY'S GEOGRAPHICAL INFORMATION	MO
10.	STSTEMS DATASET. EXISTING UTILITY INFORMATION SHOWN HEREON HAS BEEN COMPILED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIEVALL UTILITY INFORMATION PRIOR TO ANY EXCAVATION	MO
11.	ON-SITE UNDERGROUND UTILITIES HAVE NOT BEEN FIELD MARKED/DELINEATED AT TIME OF OUR FIELD SURVEY. MARKED-OUT/DELINEATED UTILITIES IN ADJOINING STREETS HAVE BEEN FIELD SURVEYED AND MAPPED HEREON. NO CERTIFICATION/REPRESENTATION IS MADE BY PENNONI ASSOCIATES AS TO THE ACTUAL UNDERGROUND LOCATION AND/OR ELEVATION OF ANY UNDERGROUND UTILITIES.	то
12.	ALL CONSTRUCTION MATERIALS AND METHODS FOR ROADWAY, PARKING AREAS, PAVING, SITE WORK, AND DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH NJDOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION, EXCEPT AS MODIFIED HEREON AND IN THE SPECIFICATIONS.	ТО
13.	ALL CONTRACTORS ARE REQUIRED TO NOTIFY THE ENGINEER (PENNONI ASSOCIATES) IMMEDIATELY (AND PRIOR TO CONSTRUCTION) OF ANY PLAN/SPECIFICATION DISCREPANCIES, LAYOUT/ELEVATION DISCREPANCIES, CONFLICTS, APPARENT ERRORS, OMISSIONS OR OF ANY OTHER INFORMATION CONTAINED HEREIN WHICH THE CONTRACTOR FEELS IS UNCLEAR AS TO MEANING. THE ENGINEER WILL PROVIDE CLARIFICATION AND, IF NECESSARY, CORRECTIONS AS REQUIRED BY THE CONTRACTOR FOR PERFORMANCE OF CONTRACTORS WORK.	MO TO
14. 15.	SEE ARCHITECTURAL PLANS FOR ALL BUILDING DIMENSIONS. IF BLASTING OR JACK HAMMERING OF ROCK IS REQUIRED, IT SHALL BE SUBJECT TO THE PRIOR SUBMISSION OF A BLASTING PLAN FOR THE REVIEW OF THE TOWNSHIP ENGINEER AND THE FIRE PROTECTION OFFICIAL,	то
16.	AND IT SHALL SHOW THE AREAS WHERE BLASTING MAY BE REQUIRED AND THE PROTECTIVE MEASURES TO BE USED TO MINIMIZE AND MITIGATE ENVIRONMENTAL, STRUCTURAL, AND NOISE IMPACTS. CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH THE MUNICIPAL REQUIREMENTS AND COORDINATED WITH OWNER. THE APPLICANT WILL COMPLY WITH THE TOWNSHIP'S NOISE ORDINANCE.	MO TO
17. 18.	APPLICANT SHALL OBTAIN ALL REQUIRED APPROVALS FROM OUTSIDE AGENCIES HAVING JURISDICTION.	MO TO
19.	INCLUDING BUT NOT LIMITED TO: LOCATION & DESIGN OF SANITARY SEWER AND STORM DRAINAGE SYSTEMS, CONSTRUCTION DETAILS FOR IMPROVEMENTS TO EXISTING AND PROPOSED ROADWAYS, AND ALL OTHER ENGINEERING SITE IMPROVEMENT ITEMS THAT MAY BE MODIFIED OR INCREASED. THE MONTCLAIR TOWNSHIP ENGINEER SHALL BE NOTIFIED IN WRITING 72 HOURS BEFORE ANY LAND DISTURBANCE. THE ENGINEER (PENNONI ASSOCIATES) AND THE MUNICIPAL UTILITIES AUTHORITY ARE TO BE	MO TO
20.	NOTIFIED 72 HOURS BEFORE ANY UTILITY INSTALLATION AND/OR TESTING. ALL TRAFFIC CONTROL SIGNAGE, PAVEMENT MARKINGS, STRIPING, BIKE LANES, ETC. SHALL BE IN CONFORMANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS, 2000 EDUTION OF LATER REVISION AND MONTOL ARE TOWNING UP STANDARDO	MO TO
21.	ALL DETAILS SHALL COMPLY WITH TOWNSHIP STANDARDS.	MO
<u>GRA</u> 1	ADING CONSTRUCTION NOTES: TOPSOIL TO BE SPREAD AND ALL DISTURBED AREAS TO BE STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTES.	
2.	ALL STRUCTURAL FILL REQUIRED IN AREAS OF PROPOSED AND FUTURE IMPROVEMENTS SUCH AS UTILITIES, SANITARY SEWER, STORM DRAINAGE, BUILDINGS, PAVEMENTS, WALKS, ETC. MUST BE PLACED AND COMPACTED ETC. IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER FOR THE TYPE OF MATERIAL UTILIZED.	MO
3. 4.	ALL SOIL AND STONE AGGREGATES BROUGHT TO THE SITE AND REMOVED FROM THE SITE SHALL BE CERTIFIED BY A LICENSED SITE REMEDIATION PROFESSIONAL (LSRP) OR OTHER APPROPRIATE LICENSED PROFESSIONAL IN THE STATE OF NEW JERSEY AS MEETING NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NJDEP) "CLEAN SOIL STANDARDS." HANDICAP RAMPS SHALL BE PROVIDED AT ALL SIDEWALK INTERSECTIONS AT DRIVEWAYS, PARKING AREAS, ETC., AND SHALL COMPLY WITH A.D.A. REQUIREMENTS.	MO
5.		мо
ь. <u>UT</u>	SIDEWALKS AND PATHS SHALL BE PROVIDED CROSS SLOPE OF 2%, MAXIMUM SURFACE SLOPE OF 5%.	то
1.	EXISTING UTILITY INFORMATION SHOWN HEREON HAS BEEN COLLECTED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS/HER SATISFACTION PRIOR TO EXCAVATION. WHERE EXISTING UTILITIES ARE TO BE CROSSED BY PROPOSED CONSTRUCTION, TEST PITS SHALL BE DUG BY THE CONTRACTOR PRIOR TO CONSTRUCTION TO ASCERTAIN EXISTING INVERTS, MATERIALS, AND SIZES. TEST PIT INFORMATION SHALL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION TO PERMIT ADJUSTMENTS AS REQUIRED TO AVOID CONFLUCTO	MO TO MO
2.	THE CONTRACTOR SHALL CALL THE "ONE NUMBER TO CALL SYSTEM" 1- 800-272-1000, NOT LESS THAN 72 HOURS NOR MORE THAN 10 WORKING DAYS PRIOR TO PLANNED WORK TO NOTIFY UTILITY OWNERS OF THE INTENT TO START WORK. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING NON- MEMBER UTILITY OWNERS INDIVIDUALLY. ALL WORK SHALL BE COORDINATED WITH UTILITY OWNERS INCLUDING, BUT NOT LIMITED TO. PUBLIC SERVICE ELECTRIC AND GAS CO., VERIZON TELEPHONE CO., PASSAIC VALLEY WATER COMMISSION, PRIOR TO THE START OF CONSTRUCTION. (IF REQUIRED)	MO
3.	ALL PROPOSED ELECTRIC AND TELEPHONE SHALL BE INSTALLED UNDERGROUND AND COORDINATED WITH APPLICABLE UTILITY COMPANY. (IF REQUIRED)	MO
4.	ALL WATER MAIN CONSTRUCTION MATERIALS AND TESTING SHALL BE PROVIDED BY OR IN ACCORDANCE WITH PASSAIC VALLEY WATER COMMISSION (PVWC) STANDARD AND CRITERIA AS CONTRACTED BY THE OWNER. (IF REQUIRED) CONSTRUCTION OF ALL SERVICES SHALL BE PROVIDED BY THE OWNER IN ACCORDANCE WITH PVWC REQUIREMENTS.	то
5. 6.	ALL PROPOSED DOMESTIC WATER LINES AND SANITARY SEWER SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 10" AND MINIMUM CLEAR VERTICAL DISTANCE OF 18" AT CROSSINGS.	TO
7. 8.	IF REQUIRED, ALL WATER MAINS, SERVICES, AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PASSAIC VALLEY WATER COMMISSION. STORM SEWER PIPE SHALL BE HDPE EXCEPT WHERE NOTED. MINIMUM COVER OVER STORM SEWER SHALL BE PROVIDED PER MANUFACTURERS RECOMMENDATIONS.	TO
9. 10	PIPE LENGTHS SHOWN ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.	VERON
11.	SHOP DRAWINGS ARE TO BE CERTIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER. ALL PRECAST AND CAST-IN-PLACE STRUCTURES ARE TO BE DESIGNED TO HS-20 LOADING REQUIREMENTS.	MO TO
12.	PIPE BRIDGING SHALL BE PROVIDED AT CROSSINGS WHERE SEPARATION BETWEEN PIPES IS LESS THAN ONE (1) FOOT.	MO
13.	THE SANITARY SEWER SHALL BE ENCASED IN CONCRETE WHEREVER THERE IS LESS THAN 18 INCHES VERTICAL SEPARATION BETWEEN THE SEWER AND ANOTHER UTILITY. ENCASEMENT SHALL EXTEND 5 FEET ON EACH SIDE OF CASING.	MO
14. 15.	ALL STORM SEWER CONSTRUCTION SHALL BEGIN AT LOWEST ELEVATION. ALL CHANGES IN DIRECTION OF PRESSURE WATER/SANITARY PIPING SHALL BE RESTRAINED WITH EBAA IRON WORKS "MEGA-LUGS" OR APPROVED EQUAL. ENTIRE INSTALLATION SHALL BE AS REQUIRED BY MANUFACTURER	то
16.	ANY DRAINAGE STRUCTURE THAT IS TO BE LEFT UNCOVERED FOR MORE THAN 8 HOURS SHALL BE PROTECTED WITH BARRICADES IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND OSHA STANDARDS.	TO
17.	ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS CONSTRUCTION OF THE STORM SEWER PROGRESSES IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION.	MO TO
<u>GENE</u> 1.	THE CONTRACTOR SHALL NOTIFY THE MUNICIPAL ENGINEER IN WRITING 48 HOURS PRIOR TO PAVING.	MO TO
2.	ON THE DAY OF PAVING, THE SUBGRADE SHALL BE PROOF ROLLED WITH A LOADED TANDEM DUMP TRUCK AND APPROVED BY THE MUNICIPAL ENGINEER. THE SUBGRADE SHALL BE WELL GRADED, FREE OF LARGE ROCKS AND ORGANIC MATERIALS, AND SHALL BE COMPACTED. THE MUNICIPAL ENGINEER MAY REQUEST THAT A DENSE GRADED AGGREGATE SUBBASE BE INSTALLED IF CONDITIONS WARRANT THE SAME.	WEST TO
3. 4.	ALL SUBGRADES SHALL CONFORM TO THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. ALL CURBING SHALL BE INSTALLED OR REPAIRED AND APPROVED PRIOR TO THE INSTALLATION OF ANY PAVING.	MO
5. 6	INSTALLATION METHODS AND MATERIALS FOR ALL BITUMINOUS CONCRETE SHALL FOLLOW THE PROCEDURES AND SPECIFICATIONS OF THE NEW JERSEY DEPARTMENT OF TRANSPORTATION.	то
о. 7.	ALL BITUMINOUS STABILIZED BASE MATERIAL SHALL BE HOT MIX I-2 CONFORMING TO THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.	TO
8.	ALL F.A.B.C. WEARING SURFACE (TOP COURSE) MATERIAL SHALL BE HOT MIX I-5 CONFORMING TO THE NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.	MO TO
9.	PRIOR TO THE PLACEMENT OF THE TOP COURSE, THE PAVEMENT SHALL BE SWEPT, ANY AREAS OF DISTRESSED PAVEMENT SHALL BE REPLACED AT THE DIRECTION OF THE MUNICIPAL ENGINEER, AND A TACK COAT OF 0.10 GALLONS PER SQUARE YARD OR AS CONDITIONS WARRANT SHALL BE APPLIED.	MO TO
-	WHEN AN EXISTING PAVEMENT IS TO BE OVERLAID, ALL DISTRESSED AREAS OF THE EXISTING PAVEMENT SHALL BE REPLACED AS DESCRIBED IN NOTE NO. 9 ABOVE. THE EXISTING PAVEMENT SHALL BE SWEPT, TACKED WITH 0.10 GALLONS OF TACK OIL PER SQUARE YARD AND RECEIVE A LEVELING COURSE OF FABC SURFACE COURSE MIX 1-5. THE TOP COURSE SHALL BE APPLIED IMMEDIATELY FOLLOWING THE LEVELING	L

	LIST	OF ADJOINI	ING PROPERTIES THAT INTE	ERSECT 200 FOOT BUFFER FRC	DM SUBJECT PROPERTY (BLC	OCK 302 LOT 16)						
NICIPALITY	BLOCK	LOT	LOCATION	OWNER	MAILING ADDRESS	OWNER CITY/STATE	OWNER ZIP CODE					
NA TOWNSHIP	402	4	39 AFTERGLOW WAY	39 AFTERGLOW LLC	39 AFTERGLOW WAY	VERONA, NJ	07044					
ONTCLAIR OWNSHIP	301	1	40 AFTERGLOW WAY	SLUTZKY, ANDREW & ROBIN SACKS	40 AFTERGLOW WAY	MONTCLAIR, NJ	07042					
ONTCLAIR OWNSHIP	301	2	38 AFTERGLOW WAY	GOODLING, MATTHEW L & LUCY V	38 AFTERGLOW WAY	MONTCLAIR, NJ	07042					
ONTCLAIR OWNSHIP	301	3	36 AFTERGLOW WAY	WHITEWALLS NJ LLC	36 AFTERGLOW WAY	MONTCLAIR, NJ	07042					
ONTCLAIR OWNSHIP	302	14	46 LLOYD ROAD	SZEGEDI, ARMIN & SU-YUN	46 LLOYD ROAD	MONTCLAIR, NJ	07042	MONTO		404	4	825 BL
ONTCLAIR OWNSHIP	302	15	40 LLOYD ROAD	MERANUS, LEAH NOSNIK & STEVEN SETH	40 LLOYD ROAD	MONTCLAIR, NJ	07042	MONTO		404	5	823 BL
ONTCLAIR OWNSHIP	302	17	18 PARKHURST PLACE	BATTLESON, WENDY A	18 PARKHURST PLACE	MONTCLAIR, NJ	07042	MONTO		404	6	821 BL
ONTCLAIR OWNSHIP	302	18	29 AFTERGLOW WAY	VAN DER MERWE, ANTHONY	29 AFTERGLOW WAY	MONTCLAIR, NJ	07042	MONTO		404	7	314 MCE
ONTCLAIR OWNSHIP	302	19	31 AFTERGLOW WAY	PIZARRO-FERRANTE, MARI	31 AFTERGLOW WAY	MONTCLAIR, NJ	07042	MONTO		404	8	781 BL
ONTCLAIR OWNSHIP	302	20	33 AFTERGLOW WAY	ZBAR, L I S & MARGO W	33 AFTERGLOW WAY	MONTCLAIR, NJ	07042	MONTO		404	9	12 UP.
ONTCLAIR OWNSHIP	302	21	35 AFTERGLOW WAY	ZELTZER, ZACHARY	35 AFTERGLOW WAY	MONTCLAIR, NJ	07042	MONTO		404	10	14 UP.
ONTCLAIR OWNSHIP	302	22	35B AFTERGLOW WAY	MEYERS, ADAM & LORI FUCHS-MEYERS	35B AFTERGLOW WAY	MONTCLAIR, NJ	07042	MONTO		404	11	16 UP.
ONTCLAIR OWNSHIP	302	23	37 AFTERGLOW WAY	MORRISON, GARRETT S	37 AFTERGLOW WAY	MONTCLAIR, NJ	07042	MONTO		404	13	22 UP.
ONTCLAIR OWNSHIP	302	24	39 AFTERGLOW WAY	39 AFTERGLOW LLC	39 AFTERGLOW WAY	MONTCLAIR, NJ	07042	MONTO		404	14	22 UP.
NA TOWNSHIP	302	25	17 BELLECLAIRE PL	LADDA, TODD & JENNIFER	17 BELLECLAIRE PL	VERONA, NJ	07044		<u></u>			AV
ONTCLAIR OWNSHIP	304	5	43 LLOYD ROAD	O'BRIEN, JAMES B & JOYCE F	43 LLOYD ROAD	MONTCLAIR, NJ	07042		S REQU	UREMEN	TS IG ORDINA	NCE, ZONEI
ONTCLAIR OWNSHIP	304	6	39 LLOYD ROAD	NAAMAN, ASAPH & TAMAR	39 LLOYD ROAD	MONTCLAIR, NJ	07042	LOT AREA	 289,875 SF	/ 6.655 ACRE	ĒS	
ONTCLAIR OWNSHIP	304	7	35 LLOYD ROAD	ARMSTRONG, JEAN M	35 LLOYD ROAD	MONTCLAIR, NJ	7042	SECTION				
ONTCLAIR OWNSHIP	304	8	33 LLOYD ROAD	FERRETTI, EILEEN L EST OF	33 LLOYD ROAD	MONTCLAIR, NJ	07042	347-12.A		CONI	DITIONAL U	JSE
ONTCLAIR OWNSHIP	304	9	31 LLOYD ROAD	KOLTON, LISA	31 LLOYD ROAD	MONTCLAIR, NJ	07042	(1)		MIN. AGGF	REGATE SI	TE AREA
ONTCLAIR OWNSHIP	304	10	201 VALLEY ROAD	MONTCLAIR KIMBERLEY ACADEMY FOUNDATION	201 VALLEY ROAD	MONTCLAIR, NJ	07042	(2)		TOTAL ARE	A OF CLAS	SROOMS
ONTCLAIR OWNSHIP	304	11	201 VALLEY ROAD	MONTCLAIR KIMBERLEY ACADEMY FOUNDATION	201 VALLEY ROAD	MONTCLAIR, NJ	07042	(4)		MIN. STRE	ET PAVIN	G WIDTH
ONTCLAIR OWNSHIP	304	12	289 MT. HOPE AVE	WALDEN PROPERTIES	289 MT. HOPE AVE	DOVER, NJ	07801	(5)		MAX. BU		
ONTCLAIR OWNSHIP	304	17	71 VALLEY ST STE 204	12 SO. MOUNTAIN APARTMENTS, LLC	71 VALLEY ST STE 204	SOUTH ORANGE, NJ	07079	(6)	11M	N. DISTANCE		N DRIVEWAY
NA TOWNSHIP	401	1	1 SUNSET AVE	CHILDREN'S INSTITUTE	1 SUNSET AVE	VERONA, NJ	07044		N	MIN. DISTAN		ERSECTION
ONTCLAIR OWNSHIP	401	2	15 ROCKLEDGE ROAD	HAYNES, ALLEN & ALESSANDRA	15 ROCKLEDGE ROAD	MONTCLAIR, NJ	07042	(7)		REAR	YARD SETE	BACK
ONTCLAIR OWNSHIP	401	3	11 ROCKLEDGE ROAD	RAMAKRISHNAN, KIRTHI & DEVIDO, LARA	11 ROCKLEDGE ROAD	MONTCLAIR, NJ	07042			FRONT	YARD SET	BACK
ONTCLAIR OWNSHIP	402	1	301 SO. LIVINGSTON AVE	MUSEUM COMMONS LLC C/O AFFILIATED MGT	301 SO. LIVINGSTON AVE	LIVINGTSTON, NJ	07039	(8)		PLAY A PARKING	REAS SETI	BACK MENTS
ONTCLAIR OWNSHIP	402	2	301 SO. LIVINGSTON AVE	MUSEUM COMMONS LLC C/O AFFILIATED MGT	301 SO. LIVINGSTON AVE	LIVINGSTON , NJ	07039	(10)		K. IMPERVIOU	JS SURFA	CE COVERAG
ONTCLAIR OWNSHIP	402	3	16 ROCKLEDGE ROAD	LOPEZ, ROMA TORRE	16 ROCKLEDGE ROAD	MONTCLAIR, NJ	07042	(11)	PRI	KING AREA	ACCESSO AREA	WAY SETBA
ONTCLAIR OWNSHIP	402	4	10 ROCKLEDGE ROAD	DELP, TIM & MOLLY V	10 ROCKLEDGE ROAD	MONTCLAIR, NJ	07042	(*) - EXISTI (**) - INCLU	NG NON-CO DES 1,535	ONFORMITY SF OF FUTU		
LAFAYETTE	402	5	3561 HAMILTON ST	GULICH, MICHAEL & TINA	3561 HAMILTON ST	WEST LAFAYETTE ,IN	47906					
ONTCLAIR OWNSHIP	402	6	414 EAGLE ROCK AVE #208	836 BLOOMFIELD AVE ASSOCIATES, LLC	414 EAGLE ROCK AVE #208	WEST ORANGE, NJ	07052	PARKING (1 SPACE P 2 SPACES	ALCULATIO	UNS: NENT STAFF SROOM VISIT	MEMBER FOR (33 Cl	(86 STAFF N _ASSROOMS
ONTCLAIR OWNSHIP	404	1	3 PROSPECT AVENUE	GRANT, KOBI Y & BLAIR	3 PROSPECT AVENUE	MONTCLAIR, NJ	07042	1 SPACE F TOTAL	OR EVERY	4 STUDENTS	3 ELIGIBLE	TO DRIVE (1
ONTCLAIR OWNSHIP	404	2	829 BLOOMFIELD AVENUE	PRYZYBLSKI, JUDITH & COHEN, MELISSA	829 BLOOMFIELD AVENUE	MONTCLAIR, NJ	07042					
ONTCLAIR OWNSHIP	404	3	827 BLOOMFIELD AVENUE	TOWNSEND, MARCIA	827 TOWNSEND AVENUE	MONTCLAIR, NJ	07042					
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GENERAL NOTES: SITE ADDRESS: 6 LLOYD ROAD MONTCLAIR, NJ, 07042

OWNER/APPLICANT: MONTCLAIR KIMBERLEY ACADEMY 201 VALLEY ROAD MONTCLAIR, NJ, 07042

ENGINEER: VAN NOTE-HARVEY A DIVISION OF PENNONI 103 COLLEGE ROAD EAST PRINCETON, NJ, 08540

ARCHITECT: VOITH & MACTAVISH ARCHITECTS LLP 2401 WALNUT STREET, 6TH FLOOR PHILADELPHIA, PA, 19103

825 BLOOMFIELD AVENUE	LAWRENCE, RICHARD & HIUSHAK, V	825 BLOOMFIELD AVENUE	MONTCLAIR, NJ	07042
823 BLOOMFIELD AVENUE	PETERS, KELLEY	823 BLOOMFIELD AVENUE	MONTCLAIR, NJ	07042
821 BLOOMFIELD AVENUE	VARGA, DAVID	821 BLOOMFIELD AVENUE	MONTCLAIR, NJ	07042
314 MCDONALD AVE	819 BLOOMFIELD HOLDINGS, LLC	314 MCDONALD AVE	BROOKLYN, NY	11218
781 BLOOMFIELD AVENUE	DIPAOLO, PATRICK	781 BLOOMFIELD AVENUE	MONTCLAIR, NJ	07042
12 UP. MOUNTAIN AVENUE	WOODBY, SARAH	12 UP. MOUNTAIN AVENUE	MONTCLAIR, NJ	07042
14 UP. MOUNTAIN AVENUE	VENDETTI, CHRISTIAN & ELIZABETH	14 UP. MOUNTAIN AVENUE	MONTCLAIR, NJ	07042
16 UP. MOUNTAIN AVENUE	ALEMAN-DIAZ, JOSE & ZANARDI, TARA	16 UP. MOUNTAIN AVENUE	MONTCLAIR, NJ	07042
22 UP. MOUNTAIN AVENUE	22 UPPER INC C/O ISOLDE S BEDELL	22 UP. MOUNTAIN AVENUE	MONTCLAIR, NJ	07042
22 UP. MOUNTAIN AVENUE	BEDELL, ISOLDE FAMILY PARTNERS LP	22 UP. MOUNTAIN AVENUE	MONTCLAIR, NJ	07042

NCE, ZONED: R-O MOUNTAINSIDE ZONE

	REQUIRED/ALLOWED	EXISTING	PROPOSED
	PRIVATE SCHOOL	PRIVATE SCHOOL	PRIVATE SCHOOL
	LOT AREA, DIMENSIONAL, AND DESIGN RE		
	250 SF / STUDENT	450= 644 SF / STUDENT	450= 644 SF / STUDENT
	28 SF / STUDENT / 12,600 SF	39.45 SF / STUDENT 16,801 SF	46.01 SF / STUDENT 20,613 SF
\GE	1.75 ACRES / 300 FT	6.655 ACRES/ 20,131 FT	6.655 ACRES/ 20,131 FT
	35 FT	18 FT PARKHURST* 30 FT LLOYD*	18 FT PARKHURST 30 FT LLOYD
	35 FT 2 $\frac{1}{2}$ STORIES	28.75 FT	33.8 FT
	2	3	3
YS	150 FT	125 FT NORTH TO CENTER* 290FT SOUTH TO CENTER	125 FT NORTH TO CENTER 290 FT SOUTH TO CENTER
N	200 FT	80 FT*	80 FT
	50 FT	65.69 FT	65.69 FT
	100 FT	164.94 FT	164.94 FT
	50 FT	44 FT PARKHURST* 34 FT LLYOD*	44 FT PARKHURST 34 FT LLYOD
	50 FT	N/A	N/A
	186 SPACES	159 SPACES*	159 SPACES
AGE	70%	49.75%	61.08%**
NGS	25%	23.84%	24.99%
ACK	15 FT	10.30 FT	10.30 FT

TIAL IMPERVIOUS COVER WITHIN THE NORTHERN COURTYARD

MEMBERS)	= 86 SPACES	
IS) 33X2	= 66 SPACES	
(155 STUDENTS) <u>4</u>	= 38.75 SPACES = 191 SPACES	



NOT FOR CONSTRUCTION



		Pennoni	NJ COA GA28033300	PENNONI ASSOCIATES INC. 103 College Road East	Princeton, NJ 08540	1 003-301-2323 F 003-301-0000
	ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK	ar part for St	1 La C Manhan	MARK S. MAYHEW	PROFESSIONAL ENGINEER NFW JERSFY LICENSF	NO. GE35596
	STEM CENTER	6 LLOYD ROAD MONTCLAIR, NJ	AREA AND VICINITY MAP			MONTCLAIR, NJ ,07042
SITE BOUNDARY LINE W/ 200 FT BUFFER						NO. REVISIONS BY
MUNICIPAL BOUNDARY	ALL DOC ARE INIS PROJECT TO BE SU THE EXT PROJECT OR AD/ SPECIF SOL EXPOSS SHALL ASSOCIA EXPENSE PROJECT DATE DRAWING DRAWN B	UMENTS PI STRUMENT: THEY AR TABLE FOI ENSIONS O ANY REUS PTATION B IC PURPOS E RISK AND URE TO PIE INDEMNIS S ARISING O S CALE C D BY	REPARED BY S OF SERVIC R REUSE BY F THE PROJ SE WITHOUT L NNONI ASSC Y AND HOLD ALL CLAIMS, DUT OF OR F	PENNONI A E IN RESPECTIVE IDED OR REI DED OR REI COWNER OR ECT OR ON / WRITTEN VI ASSOCIATES; AN UNILL BE AT IABILITY OR IABILITY OR IABIL	SSOCIA CT OF T PRESEN OTHER ERIFICAS 5 FOR TT OWNEF LEGAL D OWNE PENNOO DOSSES THEREF 2004 3-09-0 "=100 050 050	DATE DATE DATE DATE DATE DATE DATE DATE
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200'

100'



SHEET	4	OF	16



SHEET 5 OF 16







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, 8" MAX. IRB DN OF TRAVEL IN. TO BASE ACING X. R 0.90" MAX. ER		Pennoni		NJ COA GA28033300 PENNONI ASSOCIATES INC.	103 College Road East Princeton, NJ 08540	T 609-987-2323 F 609-987-0005
	ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY		1 11/1	WWDATE: 09/05/2023	PROFESSIONAL ENGINEER	NEW JERSEY LICENSE NO. GE35596
BLUE STRIPING (TYP.)	STEM CENTER	6 LLOYD ROAD MONTCLAIR NI	SITE DETAILS			AUT VALLET RUAU MONTCLAIR, NJ ,07042
						ВҮ
A SOU PSI AIR ENTRAINED CONCRETE W/BROOM SURFACE FINISH						E NO. REVISIONS
CLASS 'B' 4,500 PSI AIR ENTRAINED CONCRETE W/BROOM SURFACE FINISH 3/4" CRUSHED STONE FOUNDATION ON WELL- COMPACTED UNYIELDING SUBGRADE	ALL DC ARE I PROJE: TO BE : THE E PROJEC OR A SPEC SHA ASSOC EXPENS PROJEC DATE DRAWIN DRAWN	DCUMENTS F NSTRUMEN CT. THEY AF SUITABLE FC TENSIONS (CTENSIONS (PREPAREL TS OF SEF TE NOT IN THE PR ISE WITHO BY PENNO SE INTEN D WITHOU ENNONI A Y AND HO ALL CLAII OUT OF C	D BY PENNOI RVICE IN RES TENDED OR BY OWNER COJECT OR (DUT WRITTE) NI ASSOCIA DED WILL BE JT LIABILITY SSOCIATES; JLD HARMLE WS, DAMAGE DR RESULTIN AMAAS 21 AS	II ASSOCI PECT OF REPRESE OR OTHEI OR OTHEI ON ANY O V VERIFIC TES FOR AT OWN SS PENNO SS PEN	ATES THE NTED RSON THER ATION THE ERS FROM. 05 D 02
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STORM DRAINAGE MANHOLE DETAIL

NOTE:

ALL STORM DRAINAGE STRUCTURES SHALL CONFORM TO ASTM C-913 AND BE DESIGNED FOR AASHTO HS-20 LOADING. SIGNED AND SEALED SHOP DRAWINGS PREPARED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER SHALL BE PROVIDED FOR ALL PRECAST STRUCTURES.







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Х.	MAX.	UNDER-	TREE	
ASS DIA.	FLOW (CFS)	PIPE DIA. (PERF)	QTY. & SIZE	
R 35	1.42	4" SDR 35	(1) 3' x 3'	
R 35	1.89	4" SDR 35	(1) 3' x 3'	
R 35	1.89	4" SDR 35	(1) 3' x 3'	
R 35	1.89	4" SDR 35	(1) 3' x 3'	
R 35	1.89	4" SDR 35	(1) 3' x 3'	
R 35	2.37	4" SDR 35	(1) 4' x 4'	
R 35	2.37	6" SDR 35	(1) 4' x 4'	-
R 35	2.37	6" SDR 35	(1) 4' x 4'	
R 35	2.37	6" SDR 35	(2) 4' x 4'	
R 35	2.37	6" SDR 35	(1) 4' x 4'	
R 35	2.37	6" SDR 35	(2) 4' x 4'	
R 35	2.37	6" SDR 35	(2) 4' x 4'	
R 35	2.37	6" SDR 35	(2) 4' x 4'	
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intech"). Ne supplied inf mation supp	alther this drawing, nor a prmation upon which the slied by others.	any part thereof, may be u a drawing is based and ac	sed, reproduced or modifie tual field conditions are end	d in any manner countered as site
BYPASS CURB (FTIBC) ATION DETAIL				

SECTION (_____) Filterra^{*}– Vault Configuration Bioretention System Standard Specification

1.0 <u>GENERAL</u>

- 1.1 This item shall govern the furnishing and installation of the Filterra[®] Bioretention System by Contech Engineered Solutions LLC, complete and operable as shown and as specified herein, in accordance with the requirements of the plans and contract documents.
- 1.2 Contractor shall furnish all labor, materials, equipment and incidentals necessary to install the bioretention system, appurtenances and incidentals in accordance with the Drawings and as specified herein.
- 1.3 Bioretention system shall utilize the physical, chemical and biological mechanisms of an engineered biofiltration media, plant and microbe complex to remove pollutants typically found in urban stormwater runoff. The treatment system shall be a fully equipped, preconstructed, drop-in-place unit designed for applications in the urban landscape to treat contaminated runoff from impervious surfaces.
- 1.4 Bioretention system shall be capable of stand-alone stormwater treatment.1.5 Bioretention plants shall be incorporated into the system with plant material extending into
- the treatment zone of the engineered media at time of Activation.
 1.6 The bioretention system shall be of a type that has been installed and in use for a minimum of five (5) consecutive years preceding the date of installation of the system. The Manufacturer shall have been, during the same consecutive five (5) year period, engaged in the engineering design and production of systems deployed for the treatment of stormwater runoff and which have a history of successful production, acceptable to the Engineer of Record and/or the approving Jurisdiction. The Manufacturer of the Filterra Bioretention System shall be, without exception:

Contech Engineered Solutions LLC

9100 Centre Pointe Drive West Chester, OH, 45069 Tel: 1 800 338 1122

- 1.7 Applicable provisions of any Division shall govern work in this section.
- 1.8 American Society for Testing and Materials (ASTM) Reference Specifications 1.8.1 ASTM C857: Standard Practice for Minimum Structural Design Loading for

1

Underground Precast Concrete Utility Structures 1.8.2 ASTM C858: Standard Specification of Underground Precast Concrete Utility

Structures

- 1.8.3 ASTM C990: Standard Specification for Joints for Precast Box Sections Using Preformed Flexible Joint Sealants
- 1.8.4 ASTM C109: Standard Test Method for Compressive Strength of Hydraulic Cement Mortars

1.9 Manufacturer or authorized supplier to submit shop drawings for bioretention System with the vault, engineered biofiltration media and accessory equipment. Drawings shall include principal dimensions, engineered biofiltration media placement, location of piping and unit

- foundation. 1.9.1 Manufacturer or authorized supplier shall submit installation instructions to the contractor.
- 1.9.2 Manufacturer or authorized supplier shall submit Operations and Maintenance Manual to the contractor.
- 1.9.3 Before installation of the bioretention system, Contractor shall obtain the written approval of the Engineer of Record for the system drawings.

1.10 No product substitutions shall be accepted unless submitted 10 days prior to project bid date, or as directed by the Engineer of Record. Submissions for substitutions require review and approval by the Engineer of Record, for hydraulic performance, impact to project designs, equivalent treatment performance, and any required project plan and report (hydrology/hydraulic, water quality, stormwater pollution) modifications that would be required by the approving jurisdictions/agencies. Contractor to coordinate with the Engineer of Record any applicable modifications to the project estimates of cost, bonding amount determinations, plan check fees for changes to approved documents, and/or any other regulatory requirements resulting from the product substitution.

2.0 MATERIALS

2.1 Internal components including engineered biofiltration media, underdrain stone, PVC underdrain piping, and mulch must be included as part of the bioretention system and shall be provided by Contech Engineered Solutions LLC. Note that vegetation is an essential component of bioretention systems, and shall be provided at time of Activation by the contractor.

- 2.1.1 Engineered biofiltration media shall consist of both organic and inorganic components. Stormwater shall be directed to flow vertically through the media profile, saturating the full media profile without downstream flow control.
- 2.1.2 Underdrain stone shall be of size and shape to provide adequate bridging between the media and stone for the prevention of migration of fine particles. Underdrain stone must also be able to convey the design flow rate of the system without restriction and be approved for use in the Filterra Bioretention System by Contech Engineered Solutions LLC.
- 2.1.3 PVC Underdrain Piping shall be SDR35 with perforation pattern designed to
 - 2

convey system design flow rate without restriction.

- 2.1.4 Mulch shall be double shredded wood or bark mulch approved for use with the Filterra Bioretention System by Contech Engineered Solutions LLC.
- 2.2 Precast concrete vault shall be provided by Manufacturer or authorized supplier according to ASTM C857 and C858.
- 2.2.1 Vault joint sealant shall be Conseal CS-101 or approved equal. Joints shall be sealed with preformed joint sealing compound conforming to ASTM C 990.
- 2.2.2 If interior concrete baffle walls are provided, baffle walls shall be cast-in or sealed to the interior vault walls and floor with a polyurethane construction sealant rated for use below the waterline, SikaFlex 1a or equal. Contractor to provide sealant material and installation unless completed prior to shipment.
- 2.3 Tree grates and access covers shall be cast iron. Tree grate frames shall be galvanized steel.
- 2.4 Curb Nosing (where applicable) shall be galvanized steel and where specified shall be cast into a top slab designed to support a minimum of H5 loading at the curb.
- 2.5 All contractor-provided components shall meet the requirements of this section, the plans specifications and contract documents. In the case of conflict, the more stringent
- specification shall apply.
 2.5.1 Crushed rock base material shall be six-inch minimum layer of ¾-inch minus rock. Compact undisturbed sub-grade materials to 95% of maximum density at +/-2% of optimum moisture content. Unsuitable material below sub-grade shall be
- replaced to engineer's approval.
 2.5.2 Concrete shall have an unconfined compressive strength at 28 days of at least 3000 psi, with ¾-inch round rock, a 4-inch slump maximum, and shall be placed
- within 90 minutes of initial mixing.
 2.5.3 Silicone Sealant shall be pure RTV silicone conforming to Federal Specification Number TT S001543A or TT S00230C or Engineer approved.
- 2.5.4 Grout shall be non-shrink grout meeting the requirements of Corps of Engineers CRD-C588. Specimens molded, cured and tested in accordance with ASTM C-109 shall have minimum compressive strength of 6,200 psi. Grout shall not exhibit visible bleeding.
- 2.5.5 Backfill material shall be ¾-inch minus crushed rock, or approved equal.
- 2.5.6 Vegetation shall comply with the type and size required by the approved drawings and shall be alive and free of obvious signs of disease. Vegetation shall be of species listed in approved Filterra Plant list or otherwise approved by Manufacturer. Vegetation shall be supplied by Contractor prior to Activation.

3

 3.0 PERFORMANCE 3.1 Treatment Capabilities shall be verified via third-party report following either TAPE or TARP protocols. 3.1.1 Engineered biofiltration media minimum treatment flow rate shall be 140"/hr. The system shall be designed to ensure that high flow events shall bypass the engineered biofiltration media preventing erosion and resuspension of an environmedia. 			rennon	NJ COA GA28033300 ENNONI ASSOCIATES INC.	103 College Road East Princeton N108540	609-987-2323 F 609-987-0005
 a.1.2 The system shall remove a minimum of 85% Total Suspended Solids (TSS). 3.1.3 The system shall remove a minimum of 62% Total Phosphorus (TP). 3.1.4 The system shall remove a minimum of 34% Total Nitrogen (TN). 3.2 The system shall have General Use Level Designation from Washington Department of Ecology for Basic (TSS), Phosphorus, Enhanced (Metals), and Oil/Grease and have Certification by New Jersey Department of Environment. 3.3 Quality Assurance and Quality Control procedures shall be followed for all batches of engineered biofiltration media produced. Engineered biofiltration media shall be certified by the Manufacturer for performance and composition. 3.3.1 Media particle size distribution and composition shall be verified as per relevant ASTM Standards. 3.3.2 Media pollutant removal performance shall be verified as per relevant ASTM Standards as well as a minimum of one scientific method approved by the USEPA. 3.3.4 Media hydraulic performance shall be verified as per relevant ASTM Standards. 3.4 Media fertility shall be verified as per a minimum of one published scientific method. 3.4 The Manufacturer shall ensure through third party full scale field testing of installed units that the design flow rate of the system is not reduced over time. Studies shall be performed on a minimum of 10 systems soft various ages, maintenance frequencies, and land uses. At least 80% of the tested systems shall have ben installed 2.5 or more years. At least 50% of the system shall have previous maintenance intervals greater than 2 times the manufacturer's recommendation. 4.0 EXECUTION 4.1 Set precast vault on crushed rock base material that has been placed in maximum 6-inch lifts, loose thickness, and compacted to at least 95-percent of the maximum dry density as determined by the standard Proctor compaction test, ASTM D698, at moisture content of +/- 28 of optimum water content. 		ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK		Marte and Mart	MARK S. MAYHEW PROFESSIONAL ENGINEER	NEW JERSEY LICENSE NO. GE35596
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		ALL DOCUI ARE INST PROJECT. TO BE SUIT THE EXTEN PROJECT. TO BE SUIT SHALL IN SHALL IN ASSOCIATE EXPOSUJ SHALL IN ASSOCIATE EXPOSUJ SHALL IN ASSOCIATE EXPOSUJ SHALL IN ASSOCIATE EXPOSUJ SHALL IN ASSOCIATE EXPOSUJ SHALL IN ASSOCIATE EXPOSUJ SHALL IN ASSOCIATE EXPOSUJ SHALL IN ASSOCIATE DRAWING S DRAWN BY	MENTS PREPAR RUMENTS OF SI RUMENTS OF SI THEY ARE NOT ABLE FOR REUS ISIONS OF THE INTY REUSE WIT ARISING OUT OF RISK AND WITH RE TO PENNONI DEMNIFY AND I S FROM ALL CL ARISING OUT OF CALE	ED BY PENN ENVICE IN R NTENDED C DUT LIABILIT ASSOCIATE BY OWNE DUT LIABILIT ASSOCIATE OUD HARM AIMS, DAMA OR RESUL	ONI ASSC ESPECT C ESPECT C R REPRE R OR OTH R ON ANY TEN VERIF DIATES FOR Y OR LECS S; AND O' LESS PEN GES, LOS TING THEI X22CC 2023-0 AS NOT C	NOR SEAL MINON SESSAND PO4 9-05 FED 502
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HTSOFT	LIGHTSOFT 1 (I	LH-10665)			Outdoor E	Bollards LIGHTSOFT		
ector	Technical informa Material Light source Power (Luminaire) Lumen (Luminaire) Luminaire luminous effic Driver option Driver Input voltage Optic	Aluminium 12 LED 27 W 1161 - 1188 Im 2acy 43 - 44 Im/W Integral control gear Constant current (CC) 220-240 V 50/60 Hz G	Optic value CCT / CRI Bug ULR ULOR CIE flux code n°3 Dimming type Product colours Weight	360° 3000K CRI80, 4000K CRI80 B1-U3-G1 8% 8% 3 75 1-10V, DALI, On/Off Black, Dark Grey, White, Matt Silver, Bronze, Concrete - Urban, Softscape - Urban, Stone - Urban, Corten - Urban, Oak - Woodland, Walnut - Woodland, Pine - Woodland 7.7 kg	Operating temperature Through wiring Lens / Reflector / Optic MacAdam Ellipse Lifetime L90B10 (hours) Lifetime L80B10 (hours) Lifetime L80B50 (hours) Variants On/Off)	-20 °C to 40 °C Single cable entry High-efficiency polycarbonate lens, Anodised, high-purity aluminium reflector 3 SDCM > 120,000 > 120,000 Compatible with EN/ IEC 60598-2-22: Suitable for emergency installations as central supply, non- maintained (Z0)	FEATURE USE OF F The inten lots, road access are HOUSING Heavy ga aluminum FINISH Matt-finisi powdercc bronze fir architectu OPTICS "Hi-vue", LED High outp operating 4000K, or high perfe	S PRODUCT ded use of this product is for par ways, public parking areas, or pu- as. 3 uge spun aluminum housing with hood. hed, thermoset polyester oven bo bat. Available in standard dark po- hish or consult factory for made to ral finishes clear lens available in acrylic len but LEDs offer a minimum estima life of 50,000 hours in 3000K, 33 5000K with CRI>83. LEDs place ormance aluminum heatsink for r emperatures and extended life.
SUD4 - Corten - Urban	Accessories	Light	shield 180° A10731	ب شاهر شامر شامر شامر شامر شام شامر شام شامر شام شامر شام شام شام شام شام شام شام شام	Power modi P	connection box (IP65) fication upon request OWER-BOX-IP65	DRIVER Durable L 0-10V dim to 60 Hz. open load SERIES T360LED	ED driver operates at 120-277V Iming protocol. Power factor: 0.9 Driver protections includes: Out I, over-current and short-circuit, a SIZE WATT/LUMENS A - 14" 10 - 10W/1050Im B - 23" 18 - 18W/1890Im 30 - 30W/3150Im 45 - 45W/4725Im 57 - 57W/5985Im s. ish. required.
	We reserve the right to make 12:10, 30-07-2023 https://www.ligman.com/lig	e technical and design changes. ghtsoft-1-lh-10665/			THAILAND LIGMAN Lighting Co.,Ltd. 17/2 Moo 4, Monthong, Ba 24150 Chachoengsao - Tr info@ligman.com	ang Nam Priao, Iailand	RAY	

360L	ED			JOB INFORMATION Type: Catalog No: Project Name: Comments: Prepared by:	T360LED
king blic	over-temperature with a Temp. 40°C Max Temp. be utilized for 480V or 3	uto recovery. Step down ti 147V applicat	30°C Min ransformer may ions.	B.U.G. RATING Watts Lumens B-U-G1 10W 1050Im B1-U2 18W 1890Im B1-U2 30W 3150Im B2-UZ	Rating 60 60 61
spun	Effective Projected Area Type A: 2.333 ft^2 (1 fix Type B: 4.128 ft^2 (1 fix	a (Sq. Ft.): tture), ture)		45W 4725lm B2-U3 57W 5985lm B3-U3	- <u></u>
aked lyester	MOUNTING Fixture pole must be mo (supplied by others). All	ounted on a c uminum Slip-i	concrete base fitter is available		
s.	LISTINGS/COMPLIANC • CEC Compliant emerg • CSA - Suitable for wet	CE gency driver locations.			
ed 00K, d on educed					
vith 0; 50 ut nd					
VOLTAGE	COLOR TEMPERATURE	LENS	MOUNTING	FINISH	OPTIONS
JNV - 120V-277V 3 47 - 347V 1 80 - 480V	30 - 3000K 35 - 3500K 40 - 4000K 50 - 5000K	΄ Α¹ - Acryli c	40D - 4" Post top OD MTO - Made to order	BZ ² - Bronze MTO ³ - Made to order MGTO ³ - Marin grade made to order	PC - Photocell 120-277V MS - Motion Sensor (Bi-Level EM - Emergency battery SP10 - Surge Protection 10KV BS - Bird Spikes
					_
				Notes 1. Standard finish. 2. RAL number required.	_
			RAYON LIGHTING (GROUP, INC. RESERVES THE RIGHT TO C	HANGE SPECIFICATIONS WITHOUT NOTIC



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ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN WILL BE CONSTRUCTED IN ACCORDANCE WITH THE "NEW JERSEY STANDARDS FOR SOIL	1. <u>SITE_PREPARATION</u>
EROSION AND SEDIMENT CONTROL" 7 ¹¹ EDITION LAST REVISED DECEMBER 2017. THESE MEASURES WILL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED. ALL SOIL TO BE EXPOSED OR STOCKPILED FOR A PERIOD OF GREATER THAN 14 DAYS, AND NOT UNDER ACTIVE CONSTRUCTION, WILL BE TEMPORARILY SEEDED AND HAY MULCHED OR OTHERWISE PROVIDED WITH VEGETATIVE COVER. THIS TEMPORARY COVER SHALL BE MAINTAINED UNTIL SUCH TIME WHEREBY PERMANENT PESTABULIZATION IS ESTABLISHED	A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD B DONE IN ACCORDANCE WITH STANDARD FOR LAND GRADING.
SEEDING DATES: THE FOLLOWING SEEDING DATES ARE RECOMMENDED TO BEST ESTABLISH PERMANENT VEGETATIVE COVER WITHIN MOST LOCATIONS IN THE HEPSCD: SPRING - 3/1-5/15 AND FALL - 8/15 - 10/1	B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION THE SUBSOIL SHALL BE EVALUATED COMPACTION IN ACCORDANCE WITH THE STANDARDS FOR LAND GRADING.
SEDIMENT FENCES ARE TO BE PROPERLY TRENCHED AND MAINTAINED UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED ALL STORM DRAINAGE INLETS SHALL BE PROTECTED BY ONE OF THE PRACTICES ACCEPTED IN THE STANDARDS, AND PROTECTION SHALL REMAIN UNTIL PERMANENT STABILIZATION HAS BEEN ESTABLISHED. STORM DRAINAGE OUTLET POINTS SHALL BE PROTECTED AS REQUIRED BEFORE THEY BECOME FUNCTIONAL.	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 (ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE W THE STANDARD FOR TOPSOILING.
MULCH MATERIALS SHALL BE UN-ROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 70 TO 90 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 CONSERVATION DISTRICT.	D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE-STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AN WATERWAYS.
ALL EROSION CONTROL DEVICES SHALL BE PERIODICALLY INSPECTED, MAINTAINED AND CORRECTED BY THE CONTRACTOR. ANY DAMAGE INCURRED BY EROSION SHALL BE RECTIFIED IMMEDIATELY.	2. <u>SEEDBED PREPARATION</u>
THE HODSON-ESSEAP ASSAIC SOLE CONSERVATION DISTRICT WILE BE NOTIFIED IN WITHING AT LEAST 45 HOURS FRIGK TO ANT SOLE DISTORDING ACTIVITIES. LAX = (862) 333-4507 OR EMAIL - INFORMATION@HEPSCD.ORG THE APPLICANT MUST OBTAIN A DISTRICT ISSUED REPORT-OF-COMPLIANCE PRIOR TO APPLYING FOR THE CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY FROM THE RESPECTIVE MUNICIPALITY. NJ - DCA OR ANY OTHER CONTROLLING AGENCY. CONTACT THE DISTRICT AT 862-333-4505 TO REQUEST A FINAL INSPECTION, GIVING ADVANCED NOTICE UPON COMPLETION OF THE RESTABILIZATION MEASURES. A PERFORMANCE DEPOSIT MAY BE POSTED WITH THE DISTRICT WHEN WINTER WEATHER OR SNOW COVER PROHIBITS THE PROPER APPLICATION OF SEED, MULCH, FERTILIZER OR HYDRO-SEED. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. DO NOT UTILIZE A FIRE OR GARDEN HOSE TO CLEAN ROADS UNLESS THE RUNOFF IS DIRECTED TO A PROPERLY DESIGNED AND FUNCTIONING SEDIMENT BASIN. WATER PUMPED OUT OF THE EXCAVATED AREAS CONTAINS SEDIMENTS THAT MUST BE REMOVED PRIOR	A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOL WHICH HAS BEEN SPREAD A FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (HTTP://NJAES.RUTGERS.EDU/COUNTY/). FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-11 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHER! AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING
TO DISCHARGING TO RECEIVING BODIES OF WATER USING REMOVABLE PUMPING STATIONS, SUMP PITS, PORTABLE SEDIMENTATION TANKS AND/OR SILT CONTROL BAGS. ALL SURFACES HAVING LAWN OR LANDSCAPING AS FINAL COVER ARE TO BE PROVIDED TOPSOIL PRIOR TO RE-SEEDING, SODDING OR PLANTING. A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED, AS PER THE STANDARDS FOR TOPSOILING AND LAND GRADING, LAST REVISED DECEMBER 2017.	 B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WARD A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A DEPANDAL E UNICODE SERVED AS DEPENDED.
ALL PLAN REVISIONS MUST BE SUBMITTED TO THE DISTRICT FOR PROPER REVIEW AND APPROVAL.	C. HIGH ACID PRODUCING SOIL. SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SH
MINIMUM LENGTH OF 50 FEET AND MINIMUM DEPTH OF 6". ALL DRIVEWAYS MUST BE PROVIDED WITH CRUSHED STONE UNTIL PAVING IS COMPLETE. STEEP SLOPES INCURRING DISTURBANCE MAY REQUIRE ADDITIONAL STABILIZATION MEASURES. THESE "SPECIAL" MEASURES SHALL BE DESIGNED BY THE APPLICANT'S ENGINEER AND BE APPROVED BY THE SOIL CONSERVATION DISTRICT.	BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIAT SEEDBED REPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC REQUIREMENTS. 3. <u>SEEDING</u>
THE HUDSON-ESSEX-PASSAIC SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED. IN WRITING. FOR THE SALE OF ANY PORTION OF THE PROJECT OR FOR THE SALE OF INDIVIDUAL LOTSNEW_OWNERS' INFORMATION SHALL BE PROVIDED. ADDITIONAL MEASURES DEEMED NECESSARY BY DISTRICT OFFICIALS SHALL BE IMPLEMENTED AS CONDITIONS WARRANT.	A. SELECT A MIXTURE FROM BELOW OR USE A MIXTURE RECOMMENDED BY RUTGERS COOPERATIVE EXTENSION OR NATURAL RESOURCES CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL
SITE PREPARATION	CONSERVATION DISTRICT. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF PLANTING DATE. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED. APPLY SEED AS FOLLOWS: WATERWAY MIX
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, IN "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY" (SSESCNJ).	- STRONG CREEPING RED FESCUE AT 130 POUNDS/ACRE OR 3 POUNDS/1000 SQ.FT.; OPTIMUM SEEDIN DATES: 8/15-10/15, ACCEPTABLE SEEDING DATES: 3/1-4/30 & 5/1-8/14*
B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSION, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS, SEE SSESCNJ ENGINEERING STANDARDS.	- KENTUCKY BLUEGRASS AT 50 POUNDS/ACRE OR 1 POUND/1000 SQ.FT.; OPTIMUM SEEDING DATES
C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED TO A 6" MINIMUM DEPTH. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).	- PERENNIAL RYEGRASS AT 20 POUNDS/ACRE OR 0.5 POUNDS/1000 SQ.FT.; OPTIMUM SEEDING DATES
SEEDBED PREPARATION	OR, REDTOP AT 10 POUNDS/ACRE OR 0.05 POUNDS/1000 SQ.FT PLUS WHITE CLOVER AT 5 POUNDS/AC
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 POLINDS PER ACRE OR 11 POLINDS PER 1 000 SOLIARE FEET OF 10-20-10 OR	& 5/1-8/14*
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	GENERAL LAWN/RECREATION: - BLEND OF HARD FESCUE AND/OR CHEWING FESCUE AND/OR STRONG CREEPING RED FESCUE AT 17 POUNDS/ACRE OR 4 POUNDS/1000 SQ.FT. WITH PERENNIAL RYEGRASS AT 45 POUNDS/ACRE OR 1 POUND/ACRE PLUS KENTUCKY BLUEGRASS BLEND AT 45 POUNDS/ACRE OR 1 POUND/1000 SQ.FT.; OPTIMUM SEEDING DATES 8/15-10/15- ACCEPTABLE SEEDING DATES: 3/1-4/10 & 5/1-8/14*
OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.	* IF SITE IS IRRIGATED
 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, SSESCNJ PG 1-1. 	 SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN RATES MY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APP TO ALL METHODS OF SEEDING ESTABLISHING PERMANENT VEGETATION MEANS 80%
SEEDING	VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDED AREA AND MOWED ONCE.
A. APPLY SEED AS FOLLOWS: COOL SEASON: PERENNIAL RYEGRASS AT 100 POUNDS/ACRE OR 1 POUND/1000 SQ.FT.; OPTIMUM SEEDING DATES:3/1-5/15 & 8/15-10/1; OPTIMUM SEED DEPTH: 0.5 INCHES	2. WARM SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 85 DEGREES F AND ABOVE. SEE TABLE 4–3 IN SSESCNJ, MIXTURES 1 TO 7. PLANTING RATES FOR WARM SEASON GRASSES SHALL THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING DESCULTED.
WARM SEASON: PEARL MILLET AT 20 POUNDS/ACRE OR 0.5 POUNDS/1000 SQ.FT. OPTIMUM SEEDING DATE: 5/15-8/15; OPTIMUM SEED DEPTH: 1.0 INCHES	3. COOL SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT
THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF THE SPECIFIED SEED AND PLANTING DATES WITH THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT PRIOR TO PLANTING.	TEMPERATURES BELOW 85 DEGREES F. MANY GRASSES BECOME ACTIVE AT 65 DEGREES F. SEE TABLE 4—3 IN SSESCNJ, MIXTURES 8—20. ADJUSTMENT OF PLAN RATES TO COMPENSATE FOR THE AMOUNT OF PLS IS NOT REQUIRED FOR COOL SEASON GRASSES.
DETERMINED BY A GERMINATION TEST RESULT. NO ADJUSTMENT IS REQUIRED FOR COOL SEASON GRASSES. C. GRASSES MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR SEEDED AREA CAN BE IRRIGATED.	B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYUCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXC FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATE INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO
E. PLANTING DEPTHS SHOULD BE DOUBLED FOR SANDY SOILS.	INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEF ON COARSE TEXTURED SOIL.
F. 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. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. T IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WIL BE MINIMIZED AND WATER CONSERVATION ON-SITE WILL BE MAXIMIZED.
G. 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	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 SEEDRED
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). 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.	MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MA BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING (ALSO SEE SECTION 4 BELOW, MULCHING). HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AN FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. PO SEED TO SOIL CONTACT OCCURS. REDUCING SEED GERMINATION AND GROWTH.
H. 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.	HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT T TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC. 4. <u>MULCHING – SEE PARAGRAPH 4 UNDER TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZA</u>
MULCHING ULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL	5. I <u>RRIGATION (WHERE FEASIBLE)</u>
ROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE EEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT. A. STRAW OR HAY. UNROTTED SMALL 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 20 POLINDS PER 1 000 SOLVARE EEET) EXCEPT THAT WHERE A CRIMPER IS USED	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 I WEATHER OR ON DROUGHTY SITES.
INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST <u>NOT</u> 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.	5. <u>IOPDRESSING</u> SINCE SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) IS PRESCRIBED IN SECTION 2, SEEDBED PREPARATION, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT INSTANCE, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 300 POUNDS PER ACRE OR 7 POUNDS PER 1 000 SOLVARE EVERY 3 TO 5 WEEKS UNTIL THE OPOSS WITH
B. 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.	DEFICIENCY IN THE TURF IS AMELIORATED. 7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION
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.	THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDIN PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTI THE SEED APPLICATION RATES IN TABLE 4–3, SSESCNJ ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP 50% REDUCTION IN APPLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION IS
2. MULCH NETTINGS. STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.	ESTABLISHED PRIOR TO REQUEST 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
	WWW.TEWING FACTORS DE NEGLOTED UN OTHERWISE MISMANAGED.
SOIL TEXTURE TONS/ACRE LBS./1000 S.F.	
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL3135SANDY LOAM, LOAM, SILT LOAM290LOAMY SAND, SAND145	
1. PULVERIZED DOLOMITIC LIMESTONE IS PREFERRED TO MOST SOILS SOUTH OF THE NEW BRUNSWICK-TRENTON LINE.	

ETATIVE COVER FOR SOIL STABILIZATION

- ED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED EEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DANCE WITH STANDARD FOR LAND GRADING.
- RIOR TO SEEDING AND TOPSOIL APPLICATION THE SUBSOIL SHALL BE EVALUATED FOR ACCORDANCE WITH THE STANDARDS FOR LAND GRADING.
- BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE . A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON OIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH FOR TOPSOILING
- EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, ATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND
- LY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND DING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS EXTENSION SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS XTENSION OFFICES (HTTP://NJAES.RUTGERS.EDU/COUNTY/). FERTILIZER SHALL BE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE ATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY
- APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING. FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH OOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR ION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A
- DUCING SOIL. SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL TH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING RATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR REMENTS.
- RE FROM BELOW OR USE A MIXTURE RECOMMENDED BY RUTGERS COOPERATIVE NATURAL RESOURCES CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL DISTRICT. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 ILESS RETESTED. APPLY SEED AS FOLLOWS:
- G RED FESCUE AT 130 POUNDS/ACRE OR 3 POUNDS/1000 SQ.FT.; OPTIMUM SEEDING ACCEPTABLE SEEDING DATES: 3/1-4/30 & 5/1-8/14*
- RASS AT 50 POUNDS/ACRE OR 1 POUND/1000 SQ.FT.; OPTIMUM SEEDING DATES ABLE SEEDING DATES: 3/1-4/30 & 5/1-8/14*
- RASS AT 20 POUNDS/ACRE OR 0.5 POUNDS/1000 SQ.FT.; OPTIMUM SEEDING DATES ABLE SEEDING DATES: 3/1-4/30 & 5/1-8/14*
- OUNDS/ACRE OR 0.05 POUNDS/1000 SQ.FT PLUS WHITE CLOVER AT 5 POUNDS/ACRE 0 SQ.FT.; OPTIMUM SEEDING DATES 8/15-10/15, ACCEPTABLE SEEDING DATES: 3/1-4/30

ECREATION:

- ESCUE AND/OR CHEWING FESCUE AND/OR STRONG CREEPING RED FESCUE AT 175 4 POUNDS/1000 SQ.FT. WITH PERENNIAL RYEGRASS AT 45 POUNDS/ACRE OR 1 KENTUCKY BLUEGRASS BLEND AT 45 POUNDS/ACRE OR 1 POUND/1000 SQ.FT.; DATES 8/15-10/15, ACCEPTABLE SEEDING DATES: 3/1-4/30 & 5/1-8/14*
- ATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS D PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO ICTION IN RATES MY BE USED WHEN PERMANENT VEGETATION IS D PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY THODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDED AREA
- SON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT PERATURES, GENERALLY 85 DEGREES F AND ABOVE. SEE TABLE 4–3 IN MIXTURES 1 TO 7. PLANTING RATES FOR WARM SEASON GRASSES SHALL BE INT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING
- SON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT JRES BELOW 85 DEGREES F. MANY GRASSES BECOME ACTIVE AT 65 SEE TABLE 4-3 IN SSESCNJ. MIXTURES 8-20. ADJUSTMENT OF PLANTING COMPENSATE FOR THE AMOUNT OF PLS IS NOT REQUIRED FOR COOL 1. MATERIALS
- SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND. NTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO 1/2 NG OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER XTURED SOIL.
- FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS RED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL AND WATER CONSERVATION ON-SITE WILL BE MAXIMIZED.
- IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR ED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY ITH A HYDROSEEDER FOLLOWING SEEDING (ALSO SEE SECTION 4 BELOW. YDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR CONTACT OCCURS, REDUCING SEED GERMINATION AND GROWTH. MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.
- PARAGRAPH 4 UNDER TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION FEASIBLE)
- DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDINGS WITH (INIMUM OF 1/4 INCH TWICE A DAY UNTIL VEGETATION IS WELL ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT 3. SITE PREPARATION GHTY SITES.
- NITROGEN FERTILIZER (WATER INSOLUBLE) IS PRESCRIBED IN SECTION 2, A NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE TROGEN DEFICIENCY EXISTS TO THE EXTENT THAT TURF FAILURE MAY ANCE, TOPDRESS WITH 10–10–10 OR EQUIVALENT AT 300 POUNDS PER ER 1,000 SQUARE FEET EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN RF IS AMELIORATED.
- ANENT VEGETATIVE STABILIZATION
- ANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING ED. APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. RATES IN TABLE 4-3. SSESCNJ ARE REQUIRED WHEN A REPORT OF STED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO PLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION IS REQUEST A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES S OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% THE SEEDED SPECIES) AND MOWED ONCE. NOTE THIS DESIGNATION OF
- T GUARANTEE THE PERMANENCY OF THE TURF SHOULD OTHER BE NEGLECTED OR OTHERWISE MISMANAGED.

D. PERMANENT STABILIZATION WITH SOD

- 1. METHODS AND MATERIALS
- A. HIGH QUALITY CULTIVATED SOD IS PREFERRED OVER NATIVE OR PASTURE SOD.
- B. SOD SHOULD BE FREE OF BROADLEAF WEEDS AND UNDESIRABLE COARSE AND FINE WEED GRASSES. C. SOD SHOULD BE OF UNIFORM THICKNESS, TYPICALLY 5/8 INCH, PLUS OR MINUS 1/4 INCH, AT TIME OF CUTTING (EXCLUDES TOP GROWTH.).
- D. SOD SHOULD BE VIGOROUS AND DENSE AND BE ABLE TO RETAIN ITS OWN SHAPE AND WEIGHT WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP FROM THE UPPER 10 PERCENT OF THE STRIP. BROKEN PADS AND ROLLS OR TORN AND UNEVEN ENDS WILL NOT BE ACCEPTABLE.
- E. FOR DROUGHTY SITES, A SOD OF TURF-TYPE TALL FESCUE OR TURF-TYPE TALL FESCUE MIXED WITH KENTUCKY BLUEGRASS IS PREFERRED OVER A 100% KENTUCKY BLUEGRASS SOD. ALTHOUGH NOT WIDELY AVAILABLE, A SOD OF FINE FESCUE IS ALSO ACCEPTABLE FOR DROUGHTY SITES.
- F. ONLY MOIST, FRESH, UNHEATED SOD SHOULD BE USED. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 24 HOURS OR LESS DURING SUMMER MONTHS.
- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR LIMING, FERTILIZING INCORPORATION OF ORGANIC MATTER, AND OTHER SOIL PREPARATION PROCEDURES. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARD FOR LAND GRADING.
- B. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 6 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. SEE STANDARD FOR TOPSOILSING FOR TOPSOIL AND AMENDMENT REQUIREMENTS.
- C. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.

3. SOIL PREPARATION

2. SITE PREPARATION

- A. UNIFORMLY APPLY GROUND LIMESTONE. AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (http://njaes.rutgers.edu/county/). FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET USING 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED. APPLY ½ THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER. ½ RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING. 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 LINE 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 DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM, FINE SEEDBED IS PREPARED.
- C. REMOVE FROM THE SURFACE ALL OBJECTS THAT WOULD PREVENT GOOD SOD TO TOPSOIL CONTACT AND REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL.
- D. INSPECT SITE JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED IN ACCORDANCE WITH THE ABOVE.

3. 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, BIODEGRADABLE PLASTIC SPIKES, OR SPLIT SHINGLES.(8 TO 10 INCHES LONG BY $\frac{3}{4}$ 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 SLOPE 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 1 INCH MAINTAIN OPTIMUM MOISTURE FOR AT LEAST TWO WEEKS

4. TOPDRESSING

SINCE SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) IS PRESCRIBED IN SECTION F-2 ABOVE A FOLLOW-LIP TOPDRESSING IS NOT MANDATORY, EXCEPT WHERE GROSS NITROGEN DEFICIENCY EXISTS TO THE EXTENT THAT TURE FAILURE MAY DEVELOP, TOPDRESSING SHALL THEN BE APPLIED. TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 400 POUNDS PER ACRE OR 10 POUNDS PER 1 000 SQUARE FEET E. STANDARD FOR TOPSOILING

- A. TOPSOIL SHOULD BE FRIABLE (1*), LOAMY (2*), FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE OR ADVERSE CHEMICAL OR PHYSICAL CONDITION THAT MAY BE HARMFUL TO PLANT GROWTH. SOLUBLE SALTS SHOULD NOT BE EXCESSIVE (CONDUCTIVITY LESS THAN 0.5 MILLIMHOS PER CENTIMETER. MORE THAN 0.5 MILLIMHOS MAY DESICCATE SEEDLINGS AND ADVERSELY IMPACT GROWTH) IMPORTED TOPSOIL SHALL HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75 PERCENT. ORGANIC MATTER CONTENT MAY BE RAISED BY ADDITIVES.
- . TOPSOIL SUBSTITUTE IS A SOIL MATERIAL WHICH MAY HAVE BEEN AMENDED WITH SAND, SILT, CLAY, ORGANIC MATTER, FERTILIZER OR LIME AND HAS THE APPEARANCE OF TOPSOIL TOPSOIL SUBSTITUTES MAY BE UTILIZED ON SITES WITH INSUFFICIENT TOPSOIL FOR ESTABLISHING PERMANENT VEGETATION. ALL TOPSOIL SUBSTITUTE MATERIALS SHALL MEET THE REQUIREMENTS OF TOPSOIL NOTED ABOVE. SOIL TESTS SHALL BE PERFORMED TO DETERMINE THE COMPONENTS OF SAND, SILT, CLAY, ORGANIC MATTER, SOLUBLE SALTS AND pH LEVEL.

2. STRIPPING AND STOCKPILING

- A. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING
- B. STRIPPING SHOULD BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA.
- C. WHERE FEASIBLE, LIME MAY BE APPLIED BEFORE STRIPPING AT A RATE DETERMINED BY SOIL TESTS TO BRING THE SOIL pH TO APPROXIMATELY 6.5.
- D. A 4-6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL.
- E. STOCKPILES OF TOPSOIL SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE
- F. STOCKPILES SHOULD BE VEGETATED IN ACCORDANCE WITH STANDARDS PREVIOUSLY DESCRIBED HEREIN. SEE STANDARDS FOR PERMANENT OR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION. WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES.

- A. GRADE AT THE ONSET OF THE OPTIMAL SEEDING PERIOD SO AS TO MINIMIZE THE DURATION AND AREA OF EXPOSURE OF DISTURBED SOIL TO EROSION. IMMEDIATELY PROCEED TO ESTABLISH VEGETATIVE-COVER IN ACCORDANCE WITH THE4 SPECIFIED SEED MIXTURE. TIME IS OF THE ESSENCE.
- B. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE. SEE THE SSESCNJ, STANDARD FOR LAND GRADING, PG. 19-1.
- C. AS GUIDANCE FOR IDEAL CONDITIONS, SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT. LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL TO A pH OF APPROXIMATELY 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES.
- D. PRIOR TO TOPSOILING, THE SUBSOIL SHALL BE IN COMPLIANCE WITH THE STANDARD FOR LAND GRADING, PG. 19-1. E. EMPLOY NEEDED EROSION AND CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL
- STABILIZATION MEASURES, SEDIMENTATION BASINS, AND WATERWAYS. SEE SSESCNJ STANDARDS 11 THROUGH 42. 4. APPLYING TOPSOIL
- A. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE, I.E. LESS THAN FIELD CAPACITY (SEE SSESCNJ GLOSSARY).
- B. A UNIFORM APPLICATION TO AN AVERAGE DEPTH OF 5.0 INCHES MINIMUM OR 4 INCHES, FIRMED IN PLACE IS REQUIRED. ALTERNATIVE DEPTHS MAY BE CONSIDERED WHERE SPECIAL REGULATORY AND/OR INDUSTRY DESIGN STANDARDS ARE APPROPRIATE SUCH AS ON GOLF COURSES, SPORTS FIELDS, LANDFILL CAPPING, ETC. SOILS WITH A pH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A pH OF 5.0 OR MORE, IN ACCORDANCE WITH SSESCNJ PG. 1-1.
- C. PURSUANT TO THE REQUIREMENTS IN SECTION 7 OF SSESCNJ, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT PERMANENT VEGETATIVE COVER BECOMES ESTABLISHED ON AT LEAST 80% OF THE SOILS TO BE STABILIZED WITH VEGETATION FAILURE TO ACHIEVE THE MINIMUM COVERAGE MAY REQUIRE ADDITIONAL WORK TO BE PERFORMED BY THE CONTRACTOR TO INCLUDE SOME OR ALL OF THE FOLLOWING: SUPPLEMENTAL SEEDING, RE-APPLICATION OF LIME AND FERTILIZERS, AND/OR THE ADDITION OF ORGANIC MATTER (I.E. COMPOST) AS A TOP DRESSING. SUCH ADDITIONAL MEASURES SHALL BE BASED ON SOIL TESTS SUCH AS THOSE OFFERED BY RUTGERS COOPERATIVE EXTENSION SERVICE OR OTHER APPROVED LABORATORY FACILITIES QUALIFIED TO TEST SOIL SAMPLES FOR AGRONOMIC PROPERTIES.

FOOTNOTES (1*) FRIABLE MEANS EASILY CRUMBLES IN FINGERS, AS DEFINED IN MOST SOILS TESTS.

(2*) LOAMY MEANS TEXTURE GROUPS CONSISTING OF COARSE LOAMY SANDS, SANDY LOAM, FINE AND VERY FINE SANDY LOAM, SILT LOAM, CLAY LOAM SANDY CLAY LOAM AND SILTY CLAY LOAM TEXTURES AND HAVING LESS THAN 35% COARSE FRAGMENTS (PARTICLES LESS THAN 2mm IN SIZE) AS DEFINED IN THE GLOSSARY OF SOIL SCIENCE TERMS, 1996, SOIL SCIENCE SOCIETY OF AMERICA.

F. STABILIZATION WITH MULCH ONLY

1. SITE PREPARATION

- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, PG, 19-1, IN SSESCNJ.
- B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSION, GRADE STABILIZATION STRUCTURES. CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE SSESCNJ ENGINEERING 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 CONSERVATION DISTRICT. THE APPROVED RATES ABOVE HAVE BEEN MET WHEN THE MULCH COVERS THE GROUND COMPLETELY UPON VISUAL INSPECTION, I.E. THE SOIL CANNOT BE SEEN **BELOW THE MULCH**
- B. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED UNDER SUITABLE CONDITIONS AND IN QUANTITIES AS RECOMMENDED BY THE MANUFACTURER.
- C. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE (OR ACCORDING TO THE MANUFACTURER'S REQUIREMENTS) MAY BE APPLIED BY A HYDROSEEDER.
- D. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE USED.
- E. WOODCHIPS APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 2 INCHES MAY BE USED. WOODCHIPS WILL NOT BE USED ON AREA WHERE FLOWING WATER COULD WASH THEM INTO AN INLET AND PLUG IT. F. 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.

MULCH ANCHORING

SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF 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 - SEE PARAGRAPH 4.A.1 UNDER TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION.

- B. MULCH NETTINGS STAPLE PAPER. COTTON, OR PLASTIC NETTINGS OVER MULCH, USE DEGRADABLE NETTING IN AREAS TO B MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.
- C. 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 SHOULDER BE ABOUT 3 TO 4 INCHES ON SLOPING LAND. THE OPERATION SHOULD BE ON THE CONTOUR.

D. LIQUID MULCH-BINDERS:

- 1. 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.
- 2. USE THE FOLLOWING:
- 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 GELS SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IMPEDE GROWTH OF TURF GRASS. VEGETABLE BASED GELS SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.
- b. SYNTHETIC BENDERS 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 AND WEATHER CONDITIONS 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 THESES PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

G. CONSTRUCTION SEQUENCE

	NOTIFY THE COUNTY SOIL CONSERVATION DISTRICT OF CONSTRUCTION START/SOIL DISTURBANCE	2 DAYS
	INSTALL EROSION AND SEDIMENT CONTROLS	3 DAYS
	CLEAR, STRIP AND GRADE CONSTRUCTION ACCESS TO SITE. STABILIZE IMMEDIATELY. INSTALL STABILIZED STONE CONSTRUCTION ACCESS.	2 DAYS
	CLEAR SITE AND STRIP TOPSOIL. STOCKPILE TOPSOIL AND STABILIZE WITH TEMPORARY SEED MIXTURE. REMOVE ALL UNUSABLE MATERIAL FROM SITE.	1 WEEK
	REMOVE EXISTING SITE FEATURES AND IMPROVEMENTS AS SHOWN ON THE SITE DEMOLITION PLAN. TEMPORARY SEED & STABILIZE DISTURBED AREAS. ALL DEMOLITION REFUSE TO BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS.	3 WEEKS
	REMOVE EXISTING STORM DRAINAGE AS SHOWN ON THE SITE DEMOLITION PLAN. INSTALL STORM DRAINAGE COLLECTION SYSTEM. DISTURBED AREAS NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT SEED.	2 WEEKS
	ROUGH GRADE CONSTRUCTION AREAS. ALL UNUSABLE MATERIAL SHALL BE REMOVED FROM SITE.	2 WEEKS
	CONSTRUCT BUILDING ADDITION AND UTILITITES	12 MONTHS
	RECONSTRUCT CURBS, PAVED AREAS, SIDEWALKS, AND LIGHTING.	2 WEEKS
).	FINISH GRADE LAWN AREAS. FINISH GRADE AREAS NOT SUBJECT TO FURTHER CONSTRUCTION ACTIVITIES. CONSTRUCT SITE HARDSCAPING, AS SHOWN ON THE APPROVED LANDSCAPE SITE PLANS, APPLY 5" OF TOPSOIL.	1 WEEK
1.	SCARIFY THE SOIL SURFACE TO A MINIMUM OF 6 INCHES TO MITIGATE SUBSOIL COMPACTION	1 WEEK
2.	STABILIZE ALL UNPAVED AREAS WITH PERMANENT SEED.	1 WEEK
3.	FINISH PAVE ALL ROADWAYS.	1 WEEK
1.	REMOVE REMAINING SOIL EROSION AND SEDIMENT CONTROL MEASURES UPON APPROVAL OF THE MERCER COUNTY SOIL CONSERVATION DISTRICT.	3 DAYS
5.	SUBMIT A COMPLETED SOIL COMPACTION MITIGATION VERIFICATION FORM TO THE SOIL CONSERVATION DISTRICT PRIOR TO THE DISTRICT PERFORMING A REPORT OF COMPLIANCE	1 WEEK

INSPECTION NOTES:

DISTRICT.

1. SITE CONTRACTOR SHALL MAINTAIN ALL TEMPORARY AND PERMANENT SOIL EROSION AND SEDIMENT CONTROL MEASURES CONSTRUCTION AND UNTIL PERMANENT SITE STABILIZED HAS BEEN ACHIEVED AND APPROVED BY THE COUNTY CONSERVATION

REGARDING CONSTRUCTION SEQUENCE, CERTAIN TASKS MAY BE PERFORMED CONCURRENTLY WITH OTHER TASKS.

3. SEQUENCE OF LANDSCAPING INSTALLATION SHALL BE AS MOST SUITABLE FOR THE TIME OF INSTALLATION.

* DURATIONS ARE APPROXIMATE AND ARE DEPENDENT ON WEATHER CONDITIONS AT THE TIME OF CONSTRUCTION ** STARTING DATES WILL BE DETERMINED AND COORDINATED WITH THE MUNICIPAL ENGINEER AT THE TIME OF PRECONSTRUCTION MEETING.

NOT FOR CONSTRUCTION



DURATION*

