EAST WINDSOR MUNICIPAL UTILITIES AUTHORITY MERCER COUNTY, NEW JERSEY WATER MAIN REPLACEMENT HUNTINGTON DRIVE CONTRACT NO. 2018-01

BOARD MEMBERS

CHAIRPERSON: VICE CHAIRPERSON: TREASURER: SECRETARY: ASSISTANT SECRETARY / TREASURER: FIRST ALTERNATE: SECOND ALTERNATE:

EXECUTIVE DIRECTOR: GENERAL MANAGER / DEVELOPMENT: LINDA MOORE MARC LIPPMAN LEONARD J. MILLNER MARC PLATIZKY STEVEN A. KURS WILLIAM P. LAWLER MICHAEL SHIFMAN

RICHARD BRAND TODD FRYER

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	13	C-11
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EARL C. SCHNEIDER Professional Engineer - N.J. Lic. No. 39397

DRAWING LIST

IO. DESCRIPTION

TITLE SHEET LOCATION PLAN, LEGEND, AND GENERAL NOTES

HUNTINGTON DRIVE - OVERALL PLAN PLAN AND PROFILE - HUNTINGTON DRIVE - SHEET 1 OF 7 PLAN AND PROFILE - HUNTINGTON DRIVE - SHEET 2 OF 7 PLAN AND PROFILE - HUNTINGTON DRIVE - SHEET 3 OF 7 PLAN AND PROFILE - HUNTINGTON DRIVE - SHEET 4 OF 7 PLAN AND PROFILE - HUNTINGTON DRIVE - SHEET 5 OF 7 PLAN AND PROFILE - HUNTINGTON DRIVE - SHEET 6 OF 7 PLAN AND PROFILE - HUNTINGTON DRIVE - SHEET 6 OF 7 PLAN AND PROFILE - HUNTINGTON DRIVE - SHEET 7 OF 7 CONSTRUCTION DETAILS - SHEET 1 OF 2 CONSTRUCTION DETAILS - SHEET 2 OF 2 SOIL EROSION AND SEDIMENT CONTROL DETAILS - SHEET 1 OF 2



- 4. DISINFECT AND PERFORM BACTERIOLOGICAL TEST ON NEW WATER MAIN.
- 5. ESTABLISH CONNECTION TO EXISTING MAIN.
- 6. INSTALL WATER SERVICES.
- 7. ESTABLISH REMAINING CONNECTION TO EXISTING MAIN AND CUT AND CAP EXISTING MAIN AS SHOWN.
- 8. RESTORE SITE TO ORIGINAL CONDITIONS, INCLUDING PAVING.
- 9. REMOVE SOIL EROSION AND SEDIMENT CONTROL DEVICES.

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T +1 (800) 832 3272 F +1 (973) 376 1072 www.mottmacamericas.com

EAST WINDSOR MUNICIPAL UTILITIES AUTHORITY 7 WILTSHIRE DRIVE EAST WINDSOR, NEW JERSEY 08520

GENERAL NOTES:

- 1. AVAILABLE INFORMATION AS TO THE LOCATION OF EXISTING SUBSTRUCTURES AND UTILITIES HAS BEEN COLLECTED FROM VARIOUS SOURCES. THE RESULTS OF SUCH INVESTIGATIONS, AS MAY BE SHOWN ON THE CONTRACT DRAWINGS, ARE NOT GUARANTEED AS TO ACCURACY. ALL EXISTING UTILITIES ARE SHOWN FOR INFORMATION ONLY. THE CONTRACTOR SHALL DIG TEST PITS AS DIRECTED BY THE ENGINEER TO VERIFY TRUE AND EXACT LOCATIONS OF UNDERGROUND LINES. UNLESS OTHERWISE NOTED, PAYMENT FOR TEST PITS SHALL BE INCLUDED IN THE UNIT BID PRICES.
- 2. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES A MINIMUM OF 72 HOURS PRIOR TO EXCAVATION.
- 3. THE FOLLOWING IS A LISTING OF REPORTED TELEPHONE NUMBERS OF UTILITY COMPANIES AND AGENCIES HAVING FACILITIES OR JURISDICTION IN THE VICINITY OF THE PROJECT.

EAST WINDSOR MUNICIPAL UTILITIES AUTHORITY	:609-443-6000
MERCER COUNTY - TRANSPORTATION & INFRASTRUCTURE - ENGINEERIN DIVISION	IG :609-989-6600
MERCER COUNTY - TRANSPORTATION & INFRASTRUCTURE - HIGHWAY	
DIVISION	:609-530-7500
TOWNSHIP OF EAST WINDSOR ENGINEERING DEPARTMENT	:973-273-0510
PUBLIC SERVICE ELECTRIC & GAS COMPANY	:973-989-2200
JCP&L (GPU COMPANY)	:973-649-9900
VERIZON COMMUNICATIONS	:973-584-9904
AMERICAN TELEPHONE & TELEGRAPH COMPANY	:800-272-1000
NEW JERSEY ONE-CALL	:973-398-5757
COMCAST	:609-301-8112

- 4. PRIOR TO ANY CONNECTION TO EXISTING AUTHORITY OWNED FACILITIES. THE CONTRACTOR SHALL NOTIFY THE AUTHORITY. ALL CONNECTIONS TO EXISTING FACILITIES SHALL BE DONE AT THE CONVENIENCE OF THE AUTHORITY.
- 5. EXCAVATIONS OR TRENCHING WITHIN CLOSE PROXIMITY TO UNDERGROUND FACILITIES OR UTILITY POLES WILL REQUIRE PROTECTION IN AN APPROVED MANNER TO PREVENT DAMAGE OR INTERRUPTION OF SERVICE TO UNDERGROUND FACILITIES. THE COST TO PROVIDE THIS PROTECTION WILL BE BORNE BY THE CONTRACTOR DOING THE TRENCHING OR EXCAVATIONS.
- 6. THE CONTRACTOR SHALL ABIDE BY ALL REQUIREMENTS OF THE "HIGH VOLTAGE PROXIMITY ACT".
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT IN AN APPROVED MANNER EXISTING THRUST BLOCKS WHICH ARE RESTRAINING EXISTING UTILITIES. EXISTING THRUST BLOCKS SHALL NOT BE UNDERMINED.
- 8. EXISTING MAINS TO WHICH CONNECTIONS SHALL BE MADE ARE SIZED AND LOCATED IN ACCORDANCE WITH THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL BE PREPARED TO ACCOMMODATE CHANGES IN THE SIZE OR LOCATION BY MAINTAINING AT THE JOB SITE ADDITIONAL PIPE, FITTINGS, AND VALVES IN THE RANGES OF SIZES BEING DEALT WITH. THIS ADDITIONAL MATERIAL SHALL BE AVAILABLE TO PREVENT DELAYS IN CONSTRUCTION.
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL EXCESS EXCAVATED MATERIAL TO AN OFF-SITE LOCATION AT NO ADDITIONAL COST TO THE OWNER. NO MATERIAL SHALL BE STOCKPILED ON COUNTY OR MUNICIPAL ROADS OVERNIGHT.
- 10. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF STATE, COUNTY, AND LOCAL ROAD AND HIGHWAY DEPARTMENTS.
- 11. UPON BACKFILLING, THE CONTRACTOR SHALL BROOM-SWEEP THE STREETS, USING APPROVED METHODS TO CONTROL DUST, AND TO KEEP THE PAVEMENT SURFACE CLEAN.
- 12. CONTRACTOR SHALL FURNISH 1"Ø CORPORATIONS AND GATE VALVES AT TEST PLUGS, AND 2"Ø CORPORATIONS WHEREVER ELSE NECESSARY FOR BLEEDING, FLUSHING, PRESSURE TESTING, AND DISINFECTING THE WATER MAIN. THE CONTRACTOR SHALL INSTALL AS MANY CORPORATIONS AS ARE REQUIRED FOR PROPER TESTING, FLUSHING, AIR BLEEDING, AND DISINFECTION AT NO ADDITIONAL COST TO THE OWNER OTHER THAN THE PRICES BID.

LEGEND:

SAN	SANITARY SEWER	CMP	CORRUGATED METAL PIPE	LF	LINEAR FEET
VS	WATER SERVICE	DIP	DUCTILE IRON PIPE	\bowtie	GATE VALVE
V	WATER MAIN	CMP	CORRUGATED METAL PIPE	O _{wsv}	WATER SERVICE \
-	TELEPHONE LINES	Я	EXISTING FIRE HYDRANT		MAILBOX
E	ELECTRIC LINES	- 수 -	TRAFFIC LIGHT	****	EXISTING PIPE TO
3	GAS MAIN	\bigcirc	TREE		PROPOSED REST
S	GAS SERVICE	······	TREELINE		PROPOSED PUSH
	DRAIN INLET/CATCH BASIN	100.00 ×	SPOT ELEVATION	D	REDUCER
b -	SOIL BORING LOCATION	þ	TRAFFIC SIGNAL		COUPLING
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⊃ _{tp}	TEST PIT LOCATION	-0-	UTILITY POLE	К	FITTING (UP)
СР	REINFORCED CONCRETE PIPE	EOP	EDGE OF PAVEMENT	Ð	FITTING (DOWN)
JLV.	CULVERT	S	SANITARY MANHOLE	Ð	CROSS

					EARL C. SCHNEIDER				A. GRI	EEN			
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14. ALL TRENCHES SHALL BE BACKFILLED WITHOUT DELAY. OPEN TRENCHES SHALL BE KEPT TO A MINIMUM. OPEN TRENCHES SHALL BE STEEL PLATED.

15. UNLESS OTHERWISE SPECIFICALLY PERMITTED; NO WORK SHALL BE DONE BETWEEN THE HOURS 4:30 P.M. AND 8:00 A.M., PREVAILING TIME: NO EQUIPMENT SHALL BE STARTED PRIOR TO 8:00 A.M., PREVAILING TIME. IF IT SHALL BECOME ABSOLUTELY NECESSARY TO PERFORM WORK AT NIGHT, THE ENGINEER SHALL BE INFORMED IN ADVANCE. GOOD LIGHTING AND ALL OTHER NECESSARY FACILITIES FOR PROPER EXECUTION AND INSPECTION OF THE WORK SHALL BE PROVIDED.

16. ALL PIPE TO HAVE A MINIMUM OF 4-FEET OF COVER UNLESS OTHERWISE NOTED.

17. CONTRACTOR TO TEST PIT IN ADVANCE TO DETERMINE NEED FOR FITTINGS NECESSARY TO CLEAR EXISTING UTILITIES AND MAINTAIN COVERAGE AND CLEARANCES. CHANGES IN PIPE PROFILE/UTILITY CROSSINGS TO BE APPROVED IN ADVANCE BY THE AUTHORITY.

18. ALL DUCTILE IRON FITTINGS ARE TO BE MECHANICAL JOINT WITH DUCTILE IRON MEGA-LUG OR EQUAL RETAINER GLANDS AND CONCRETE THRUST BLOCK.

19. AVAILABLE INFORMATION AS TO THE LOCATION OF EXISTING SUBSTRUCTURES AND UTILITIES HAS BEEN COLLECTED FROM VARIOUS SOURCES. THE RESULTS OF SUCH INVESTIGATIONS, AS MAY BE SHOWN ON THE CONTRACT DRAWINGS ARE NOT GUARANTEED AS TO ACCURACY. ALL EXISTING UTILITIES ARE SHOWN FOR INFORMATION ONLY. THE CONTRACTOR SHALL DIG TEST PITS AS DIRECTED BY THE ENGINEER AND WHERE SHOWN ON THE DRAWINGS TO VERIFY TRUE AND EXACT LOCATIONS OF UNDERGROUND LINES.

20. CONTRACTOR SHALL INSTALL FITTINGS AS REQUIRED TO MAINTAIN ALIGNMENT SHOWN. UNLESS OTHERWISE SHOWN ON PLANS, HDPE PIPE MAY ONLY BE DEFLECTED UPON ENGINEER'S APPROVAL AND IN STRICT ACCORDANCE WITH MANUFACTURER'S **RECOMMENDATION.**

21. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL SERVICE LINE MATERIAL AS REQUIRED TO CONNECT BETWEEN NEW CURB STOP AND EXISTING WATER SERVICE. INCLUDING ANY FULL OR PARTIAL REPLACEMENT (COST TO BE PAID UNDER UNIT PRICE BID FOR ITEM 7b). LOCATIONS OF NEW CURB STOPS ARE TO BE COORDINATED IN THE FIELD WITH THE AUTHORITY. IN GENERAL, NEW CURB STOPS ARE TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE NEW MAIN BEHIND THE CURB LINE. EXISTING CURB STOPS TO REMAIN IN OPEN POSITION AND EXISTING CURB BOXES TO BE REMOVED.

22. THE LOCATION OF ALL EXISTING WATER SERVICES ARE NOT SHOWN ON THE DRAWINGS. CONTRACTOR SHALL COORDINATE WITH THE AUTHORITY TO VERIFY LOCATIONS OF ALL WATER SERVICES.

BASE MAP INFORMATION: PLS LIC. No. 43312

ALL EXISTING UTILITY INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY, ACCURACY OF SUCH INFORMATION IS NOT GUARANTEED.

13. DETOURING OF TRAFFIC SHALL BE KEPT TO A MINIMUM AND BE SUBJECT TO PRIOR APPROVAL OF LOCAL OFFICIALS (FIRE, POLICE, ETC.). TRAFFIC CONTROL SHALL BE UNDER THE JURISDICTION OF EAST WINDSOR POLICE DEPARTMENT. UNIFORMED POLICE FLAGMAN SHALL BE PROVIDED AS REQUIRED BY THE CONTROLLING AGENCY AND PAID FOR AS DETAILED IN THE CONTRACT SPECIFICATIONS.

MOTT MACDONALD SURVEY PERFORMED JANUARY 2018 UNDER SUPERVISION OF WILLIAM DIBARTOLO,

PARCELS OF MERCER COUNTY, NEW JERSEY STATE PLANE NAD83 - NEW JERSEY GEOGRAPHIC

INFORMATION NETWORK TOWNSHIP OF EAST WINDSOR WATER MAIN ASBUILT CARDS

PUBLIC SERVICE AND GAS COMPANY AS BUILT MAPS FOR HUNTINGTON DRIVE

AERIAL BASE MAP PROVIDED BY ROBINSON AERIAL SURVEY INC. APRIL, 2017.

ALL ELEVATIONS SHOWN BASED ON NAVD 88 VERTICAL DATUM.

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INLET PROTECTION TO BE PROVIDED WHERE SHOWN, REFER TO C-11 & C-12
RESTRAINED JOINT PIPE (PROFILE)
PUSH-ON JOINT PIPE (PROFILE)

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HUNTINGTON DRIVE - OVERALL PLAN

STORM WATER INLETS ALONG THE PROPOSED WATER MAIN ALIGNMENT SHALL BE PROTECTED WITH THE SEDIMENT CONTROL DEVICE SHOWN ON C-11.







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REFER TO SHEET C-12, NOTE NO. 23 FOR THE REQUIRED

STORM WATER INLETS ALONG THE PROPOSED WATER MAIN ALIGNMENT SHALL BE PROTECTED WITH THE SEDIMENT CONTROL DEVICE SHOWN ON C-11. SOIL EROSION AND SEDIMENT CONTROL PLAN

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LIMIT OF DISTURBANCE 1'-6" ON EITHER SIDE OF WATER MAIN

REFER TO SHEET G-02 FOR GENERAL NOTES AND SUGGESTED SEQUENCE OF CONSTRUCTION

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DSHEET G-02 FOR GENERAL NOTES GESTED SEQUENCE OF CONSTRUCTION T C-12, NOTE NO. 23 FOR THE REQUIRED	1'-6' ON EITHER SIDE OF WATER MAIN ALONG THE PROPOSED WATER MAIN ALIGNMENT SHALL HE SEDIMENT CONTROL DEVICE SHOWN ON C-11.
E OF ALL UTILITY TRENCHES	DIMENT CONTROL PLAN
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Coordination S. PENDERGRASS				HUNTINGTON DRIVE	
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WATER MAIN REPLACEMENT CONSTRUCTION DETAILS -

MERCER COUNTY SCD REQUIRED SOIL EROSION AND SEDIMENT CONTROL NOTES

- The Mercer County Soil Conservation District shall be notified 48 hours prior to starting land disturbance activity. Notice may be mailed, faxed or THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 48 HOURS PRIOR TO STARTING LAND DISTURBANCE ACTIVITY. NOTICE MAY BE MAILED, FAXED OR EMAILED TO: MCSCD, 590 HUGHES DRIVE, HAMILTON SQUARE, NJ 08690 PHONE: 609-586-9603 FAX: 609-586-1117 EMAIL: PAULS1MERCER@AOL.COM IF APPLICABLE TO THIS PROJECT, THE OWNER SHOULD BE AWARE OF HIS OR HER OBLIGATION TO FILE FOR A NJPDES CONSTRUCTION ACTIVITY STORMWATER 5G3 PERMIT (NJG0088323) VIA THE NJDEP ONLINE PERMITTING SYSTEM (WWW.NJ.GOV/DEP/ONLINE) AND TO MAINTAIN THE ASSOCIATED BEST MANAGEMENT PRACTICES AND STORMWATER POLLUTION PREVENTION PLAN SELF-INSPECTION LOGBOOK ONSITE AT ALL TIMES. THIS PERMIT MUST BE FILED PRIOR TO THE START OF SOIL DISTURBANCE. THE ONLINE APPLICATION PROCESS WILL REQUIRE ENTRY OF AN SCD CERTIFICATION CODE, WHICH IS PROVIDED BY THE SOIL CONSERVATION DISTRICT UPON CERTIFICATION OF THE SOIL EROSION AND SEDIMENT CONTROL PLAN. THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP
- 4. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, INCLUDING AN INCREASE IN THE LIMIT OF DISTURBANCE, WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RECERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION & SEDIMENT CONTROL STANDARDS.
- A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON SITE AT ALL TIMES.
- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE AS OUTLINED WITHIN THE SEQUENCE OF CONSTRUCTION ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NJ. IF LANGUAGE CONTAINED WITHIN ANY OTHER PERMIT FOR THIS PROJECT IS MORE RESTRICTIVE THAN (BUT NOT CONTRADICTORY TO) WHAT IS CONTAINED WITHIN THESE NOTES OR ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, THEN THE MORE RESTRICTIVE PERMIT REQUIREMENTS SHALL BE FOLLOWED.
- THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A 11/2" TO 21/2" CLEAN STONE TRACKING PAD AT ALL CONSTRUCTION DRIVEWAYS IMMEDIATELY AFTER INITIAL SITE DISTURBANCE, WHETHER IDENTIFIED ON THE CERTIFIED PLAN OR NOT. THE WIDTH SHALL SPAN THE FULL WIDTH OF EGRESS AND LENGTH SHALL BE 50 FT. OR MORE, DEPENDING ON SITE CONDITIONS AND AS REQUIRED BY THE STANDARD. THIS SHALL INCLUDE INDIVIDUAL LOT ACCESS POINTS WITHIN RESIDENTIAL SUBDIVISIONS. IF THE EGRESS IS TO A AND THE STONE ACCESS PAD.
- A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUBBASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING, PROVIDED THAT ALL OTHER REQUIREMENTS RELATED TO DETENTION BASINS, SWALES AND THE SEQUENCE OF CONSTRUCTION HAVE BEEN MET.
- 10. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 14 DAYS AND NOT SUBJECT TO CONSTRUCTION ACTIVITY WILL IMMEDIATELY RECEIVE TEMPORARY STABILIZATION. IF THE SEASON PREVENTS ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER, OR IF THE AREA IS NOT TOPSOILED, THEN THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS. SLOPED AREAS IN EXCESS OF 3H:1V SHALL BE PROVIDED WITH EROSION CONTROL BLANKETS. CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES, ROADWAY EMBANKMENTS, ENVIRONMENTALLY SENSITIVE AREAS) WILL RECEIVE TEMPORARY STABILIZATION IMMEDIATELY AFTER INITIAL DISTURBANCE OR ROUGH GRADING. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED FOR MORE THAN (10) DAYS SHALL RECIEVE TEMPORARY SEEDING PER NJAC 7:22-10.11(C).
- 1. ANY STEEP SLOPES (I.E. SLOPES GREATER THAN 3:1) RECEIVING PIPELINE OR UTILITY INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS.
- 12. PERMANENT VEGETATION SHALL BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING AND TOPSOILING. ALL AGRONOMIC REQUIREMENTS CONTAINED WITHIN THE STANDARDS AND ON THE CERTIFIED PLAN SHALL BE EMPLOYED. MULCH WITH BINDER, IN ACCORDANCE WITH THE STANDARDS, SHALL BE USED ON ALL SEEDED AREAS, SAVE ALL TAGS AND/OR BAGS USED FOR SEED, LIME AND FERTILIZER, AND PROVIDE THEM TO THE DISTRICT INSPECTOR TO VERIFY THAT MIXTURES AND RATES MEET THE STANDARDS.
- 13. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, THEN NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
- 4. DURING THE COURSE OF CONSTRUCTION, SOIL COMPACTION MAY OCCUR WITHIN HAUL ROUTES, STAGING AREAS AND OTHER PROJECT AREAS. IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING, COMPACTED SURFACES SHOULD BE SCARIFIED 6" TO 12" IMMEDIATELY PRIOR TO TOPSOIL APPLICATION. THIS WILL HELP ENSURE A GOOD BOND BETWEEN THE TOPSOIL AND SUBSOIL. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).
- 5. PRIOR TO SEEDING, TOPSOIL SHALL BE WORKED TO PREPARE A PROPER SEEDBED. THIS SHALL INCLUDE RAKING OF THE TOPSOIL AND REMOVAL OF DEBRIS AND STONES. ALONG WITH OTHER REQUIREMENTS OF THE STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION.
- . IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE BURIED WITH LIMESTONE IN ACCORDANCE WITH THE STANDARD AND BE COVERED WITH A MINIMUM OF 12" OF SOIL HAVING A PH OF 5 OR MORE PRIOR TO TOPSOIL APPLICATION AND SEEDBED PREPARATION. IF THE AREA IS TO RECEIVE TREE OR SHRUB PLANTINGS, OR IS LOCATED ON A SLOPE, THEN THE AREA SHALL BE COVERED WITH A MINIMUM OF 24" OF SOIL HAVING A PH OF 5 OR MORE
- MULCHING TO THE STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMPLIANCE. CONDITIONAL ROC'S ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING. PERMANENT STABILIZATION MUST THEN BE COMPLETED DURING THE OPTIMUM SEEDING SEASON IMMEDIATELY FOLLOWING THE CONDITIONAL ROC. OR THE COMPLETION OF WORK IN A GIVEN AREA.
- 8. HYDROSEEDING IS A TWO-STEP PROCESS. THE FIRST STEP INCLUDES SEED, FERTILIZER, LIME, ETC., ALONG WITH MINIMAL AMOUNTS OF MULCH TO PROMOTE CONSISTENCY, GOOD SEED-TO-SOIL CONTACT, AND GIVE A VISUAL INDICATION OF COVERAGE. UPON COMPLETION OF THE SEEDING OPERATION, HYDROMULCH SHOULD BE APPLIED AT A MINIMUM RATE OF 1500 LBS. PER ACRE IN SECOND STEP. THE USE OF HYDRO-MULCH, AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE STANDARDS. THE USE OF HYDROMULCH ON SLOPED AREAS IS DISCOURAGED.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT ROADS CLEAN DURING LIFE OF THE CONSTRUCTION PROJECT. ALL SEDIMENT WASHED, DROPPED, TRACKED OR SPILLED ONTO PAVED SURFACES SHALL BE IMMEDIATELY REMOVED.
- 20. THE DEVELOPER SHALL BE RESPONSIBLE FOR REMEDIATING ANY EROSION OR SEDIMENT PROBLEMS THAT ARISE AS A RESULT OF ONGOING CONSTRUCTION, AND FOR EMPLOYING ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AT THE REQUEST OF THE MERCER COUNTY SOIL CONSERVATION DISTRICT.
- 21. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.

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MOTT MACDONALD 111 Wood Avenue South Iselin NJ 08830-4112 United States of America Certificate No. 24GA28016600

T +1 (800) 832 3272 F +1 (973) 376 1072 www.mottmacamericas.com EAST WINDSOR MUNICIPAL UTILITIES AUTHORITY **7 WILTSHIRE DRIVE** EAST WINDSOR, NEW JERSEY 08520

- 22. ALL DETENTION / RETENTION BASINS MUST BE FULLY CONSTRUCTED (INCLUSIVE OF ALL STRUCTURAL COMPONENTS AND LINERS) AND PERMANENTLY STABILIZED PRIOR TO PAVING OR PRIOR TO THE ADDITION OF ANY IMPERVIOUS SURFACES. PERMANENT STABILIZATION INCLUDES, BUT MAY NOT BE LIMITED TO: TOPSOIL, SEED, STRAW MULCH AND BINDERS OR EROSION CONTROL BLANKETS ON ALL SEEDING, ALL AGRONOMIC REQUIREMENTS AS SPECIFIED ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, INSTALLATION OF THE OUTFLOW CONTROL STRUCTURES AND DISCHARGE STORM DRAINAGE PIPING, LOW FLOW CHANNELS, CONDUIT OUTLET PROTECTION, EMERGENCY SPILLWAYS, AND LAP RING PROTECTION.
- 23. THE RIDING SURFACE OF ALL UTILITY TRENCHES WITHIN PAVED AREAS SHALL BE 3/4" CLEAN STONE OR BASE PAVEMENT UNTIL SUCH TIME AS FINAL PAVEMENT HAS BEEN INSTALLED. TEMPORARY SOIL RIDING SURFACES ARE PROHIBITED
- 24. ALL CONSTRUCTION DEWATERING (TRENCHES, EXCAVATIONS, ETC.) MUST BE DONE THROUGH AN INLET OR OUTLET FILTER IN ACCORDANCE WITH THE STANDARD FOR DEWATERING OR AS DEPICTED ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN. DISCHARGE LOCATIONS FOR THE DEWATERING OPERATION MUST CONTAIN PERENNIAL VEGETATION OR SIMILAR STABLE SURFACE.
- 25. ALL SWALES OR CHANNELS THAT WILL RECEIVE RUNOFF FROM PAVED SURFACES MUST BE PERMANENTLY STABILIZED PRIOR TO THE INSTALLATION OF PAVEMENT. IF THE SEASON PROHIBITS THE ESTABLISHMENT OF PERMANENT STABILIZATION, THE SWALES OR CHANNELS MAY BE TEMPORARILY STABILIZED IN ACCORDANCE WITH THE STANDARDS.
- 26. PER NJAC 7:22-10.11(M), THE USE OF CALCIUM CHLORIDE OR PETROLEUM PRODUCTS FOR DUST CONTROL IS PROHIBITED.
- 27. NJSA 4:24-39 ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY BE ISSUED BY THE MUNICIPALITY BEFORE THE PROVISIONS OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN HAVE BEEN SATISFIED. THEREFORE, ALL SITE WORK FOR SITE PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS MUST BE COMPLETED BEFORE THE DISTRICT ISSUES A REPORT OF COMPLIANCE OR CONDITIONAL REPORT OF COMPLIANCE, WHICH MUST BE FORWARDED TO THE MUNICIPALITY PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY, RESPECTIVELY.

MERCER COUNTY SOIL CONSERVATION DISTRICT 590 HUGHES DRIVE HAMILTON SQUARE, N.J. 08690

STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS METHODS AND MATERIALS

- 1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID PRODUCING SOILS ARE ENCOUNTERED.
- COUNTY ROAD, THEN A 20 FT. LONG PAVED TRANSITION SHALL BE PROVIDED BETWEEN THE EDGE OF PAVEMENT 2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOILS.
 - 3. STOCKPILES OF HIGH ACID PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
 - 4. TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOIL MATERIAL TO BE EXPOSED MORE THAN THIRTY DAYS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF SLOPE TO CONTAIN THE MOVEMENT OF STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID PRODUCING SOIL.
 - 5. HIGH ACID PRODUCING SOILS WITH A pH OF 4 OR LESS, OR CONTAINING IRON SULFIDE, (INCLUDING BORROW FROM CUTS) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 6 TONS PER ACRE (OR 275 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM 12 INCHES OF SETTLED SOIL WITH A pH OF 5 OR MORE EXCEPT AS FOLLOWS: A. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF
 - SOIL WITH A pH OF 5 OR MORE. B. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24 INCHES OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES AND OTHERS TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
 - 6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
 - 7. NON VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SILT FENCE, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID PRODUCING SOILS FROM, AROUND, OR OFF THE SITE.
 - 8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE (SEE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION, PG 7-1, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, PG, 4-1 AND TOPSOILING, PG 8-1, STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL, NEW JERSEY) MONITORING SHOULD CONTINUE FOR APPROXIMATELY 6 TO 12 MONTHS TO ASSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID SOILS PROBLEMS EMERGE. IF PROBLEMS STILL EXIST THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.
 - 9. MONITORING OF AREAS WHERE HIGH ACID PRODUCING SOIL HAS BEEN PLACED OR BURIED SHOULD BE PERFORMED FOR AT LEAST 2 YEARS OR LONGER IF PROBLEMS OCCUR, TO ASSURE THERE IS NO MIGRATION OF POTENTIAL ACID LEACHATE.

STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION DEFINITION

NEEDED FOR LONG TERM PROTECTION.

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

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

> SOILS AND SEED MIXTURES: PERMANENT SEEDING SEED AT A RATE OF 200 LBS./ACRE OR

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- ESTABLISHMENT OF PERMANENT VEGETATIVE COVER ON EXPOSED SOILS WHERE PERENNIAL VEGETATION IS
 - 70% TURF TYPE TALL FESCUE 20% PERENNIAL RYEGRASS 10% KENTUCKY BLUEGRASS 4.5 LBS./1,000 SQUARE FEET
 - TEMPORARY SEEDING CEREAL RYE GRAIN SEED AT A RATE OF 100 LBS./ACRE OR 2.2 LBS./1,000 SQUARE FEET

STANDARDS FOR TOPSOILING - METHODS AND MATERIALS

- - TOPSOIL SHOULD BE FRIABLE, LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE OR ADVERSE CHEMICAL OR PHYSICAL CONDITION THAT MAY BE HARMFUL TO PLANT GROWTH. SOLUBLE SALTS SHOULD NOT BE EXCESSIVE (CONDUCTIVITY LESS THAN 0.5 MILLIMHOS PER CENTIMETER. MORE THAN 0.5 MILLIMHOS MAY DESICATE SEEDLINGS AND ADVERSELY IMPACT GROWTH). TOPSOIL HAULED IN FROM OFFSITE SHOULD HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75 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.
- 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. IN LIEU OF SOIL TESTS, SEE LIME RATE GUIDE IN SEEDBED PREPARATION FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, PG. 4-1.
- A 4-6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL. STOCKPILES OF TOPSOIL SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE
- STOCKPILES SHOULD BE VEGETATED IN ACCORDANCE WITH STANDARDS PREVIOUSLY DESCRIBED HEREIN; SEE STANDARDS FOR PERMANENT (PG. 4-1) OR TEMPORARY (PG.7-1) VEGETATIVE COVER FOR SOIL STABILIZATION. WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES. SITE PREPARATION
- 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 THE SPECIFIED SEED MIXTURE. TIME IS OF THE ESSENCE
- GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE. SEE THE STANDARD FOR LAND GRADING, PG. 19-1.
- AS GUIDANCE FOR IDEAL CONDITIONS, SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT. C. 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.
- IMMEDIATELY PRIOR TO TOPSOILING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS D. BEEN SOIL COMPACTION. THIS WILL HELP INSURE A GOOD BOND BETWEEN THE TOPSOIL AND SUBSOIL. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).
- EMPLOY NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENTATION BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
- 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 GLOSSARY).
- B. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS RECOMMENDED. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE, IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOIL (PG. 1-1).

METHODS AND MATERIALS

4.

- I. SITE PREPARATION A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, P. 4.11.
- B. INSTALL NEEDED EROSION CONTROL PRACTICES AND FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 4.2 THROUGH 4.16.

II. SEEDBED PREPARATION

A. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS THOSE OFFERED BY RUTGERS UNIVERSITY SOIL TESTING LABORATORY. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT. IN ADDITION, 300 POUNDS 38-0-0 PER ACRE OF EQUIVALENT OF SLOW RELEASE NITROGEN MAY BE USED IN LIEU OF TOPDRESSING (SEE PAGE 3.2.7, SECTION IV). APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDES) AS FOLLOWS:

SOIL TEXTURE	TONS/ACRE	LBS./1,000 SQ. FT.
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	4	180
SANDY LOAM, LOAM, SILT LOAM	4	135
LOAMY SAND, SAND	2	90
LOAMY SAND, SAND	4 2	90

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

B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC. SPRINGTOOTH HARROW. OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.

					EARL C. SCHNEID	Designed	A. GREEN				
					NJ PROFESSIONAL ENGINEER LIC	Drawn	A. GRI	EEN			
						Dwg check	S. PEN	IDERGRASS			
						Scale at ANSI	D WN	Status	<u> </u>		
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. SEEDBED PREPARATION

. REMOVE FROM THE SURFACE ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL.

C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS ABOVE.

A. SELECT A MIXTURE FROM TABLE 3.2-1 OR USE MIXTURE RECOMMENDED BY THE COOPERATIVE EXTENSION SERVICE OR SOIL CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT.

- B. APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. THE LATTER MAY BE JUSTIFIABLE FOR LARGE, STEEP AREAS WHERE CONVENTIONAL VEHICLES CANNOT TRAVEL. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH THE SEED. 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. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

IV. 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 SATISFACTORY PERMANENT VEGETATION AT THE TIME OF THE PROJECT OR UNIT COMPLETION SHALL BE DEEMED AS COMPLIANCE WITH THE MULCHING REQUIREMENT.). PER NJAC 7:22-10.11(F), THE USE OF ASPHALTIC MULCH BINDERS IS PROHIBITED.

- A. MULCH MATERIALS SHOULD BE 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 90 LBS. PER 1,000 SQ. FT.), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION MUST BE DOUBLE HE LOWER RATE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MATERIAL
- B. SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 75% TO 95% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQ. FT. SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION.
- C. MULCH ANCHORING SHOULD 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 CRISSCROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
- 2. MULCH NETTINGS STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
- 3. CRIMPER (MULCH ANCHORING TOOL) A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISCHARROW ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
- 4. LIQUID MULCH-BINDERS MAY BE USED TO ANCHOR SALT HAY, HAY, OR STRAW MULCHES
- A. 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.
- B. USE ONE OF THE FOLLOWING:
- 1. SYNTHETIC OR ORGANIC BINDERS BINDERS SUCH AS CURASOL, DCA-70, PETRO-SET, AND TERRA-TACK MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS.

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

C. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE MAY BE APPLIED BY A HYDROSEEDER. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL

SOILS HAVING A pH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A pH OF 5 OR MORE BEFORE SEEDBED PREPARATION. THE ADDED SOIL SHALL BE LIMED AS ABOVE.

- 1. ALL SEDIMENT WASHED, TRACKED OR SPILLED ONTO PAVED SURFACES IS TO BE REMOVED IMMEDIATELY.
- 2. STAGING AND STOCKPILE AREAS HAVE NOT BEEN OBTAINED BY THE WATER COMPANY OR SHOWN ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING STAGING AND STOCKPILE AREAS AND FOR OBTAINING A SCD PERMIT FOR ANY AREAS UTILIZED. ALL APPLICABLE MERCER COUNTY SCD STANDARDS SHALL BE MET. THE STAGING AREAS SHALL BE RESTORED AND STABILIZED UPON COMPLETION OF ALL WORK.
- 3. THE CONTRACTOR SHALL IMMEDIATELY HAUL AWAY AND DISPOSE OF ANY UNNECESSARY MATERIAL SO AS TO MINIMIZE THE NEED FOR TEMPORARY STOCKPILE LOCATIONS.

SEQUENCE OF CONSTRUCTION

- 1. ESTABLISH STAGING AND STORAGE AREAS; INSTALL APPROPRIATE SOIL EROSION CONTROL DEVICES.
- 2. INSTALL EROSION CONTROL DEVICES FOR REMAINDER OF SITE.
- 3. STRIP AND STOCKPILE TOPSOIL FROM VEGETATED AREAS.
- 4. CONSTRUCT PROPOSED IMPROVEMENTS.
- 5. RESTORE SITE INCLUDING STAGING AREAS AND CONSTRUCTION ENTRANCE. APPLY 5" OF UNSETTLED TOPSOIL TO ALL DISTURBED AREAS AND TO BE VEGETATED, AND SEED TO ESTABLISH PERMANENT STABALIZATION. ONCE SEED IS ESTABLISHED, SCHEDULE SCD INSPECTION.
- 6. REMOVE EROSION CONTROL DEVICES WHEN AUTHORIZED.

SOIL EROSION AND SEDIMENT CONTROL PLAN

MERCER COUNTY SOIL CONSERVATION DISTRICT

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