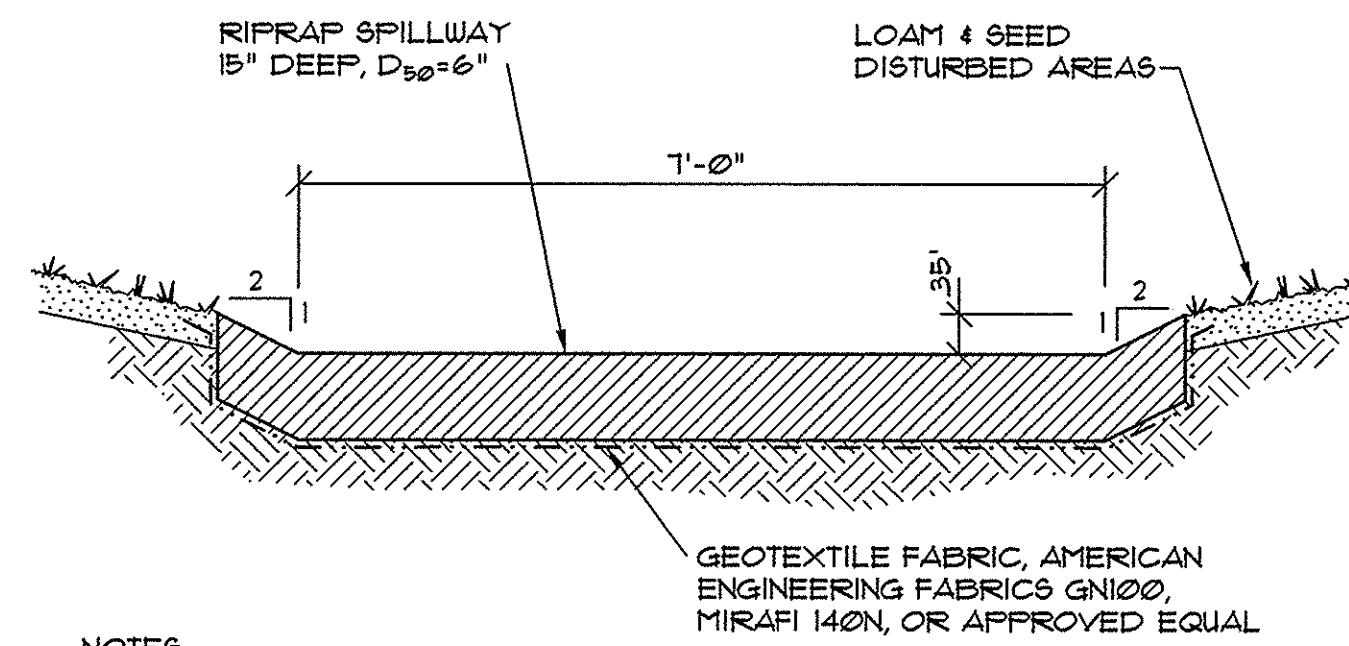


SOIL FILTER MEDIA NOTES

- THE SOIL FILTER MUST BE AT LEAST 18 INCHES DEEP AND MUST EXTEND ACROSS THE BOTTOM OF THE ENTIRE FILTER AREA AND UP THE SIDES TO THE DEPTH OR ELEVATION SPECIFIED. THIS SOIL MIXTURE SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS CAN BE MIXED WITHIN THE FILTER. THE RESULTANT MIXTURE SHOULD HAVE MINIMAL CLAY CONTENT WITH NO LESS THAN 8% FINES PASSING THE #200 SIEVE. DURING CONSTRUCTION, CARE SHOULD BE TAKEN TO AVOID COMPACTION OF BOTH THE GRAVEL AND SOIL FILTER. COMPACTION SHOULD BE BY SATURATION ONLY, UNLESS SPECIAL LOW COMPACTION EQUIPMENT IS AVAILABLE.
- CARE SHOULD BE TAKEN, ESPECIALLY IN AREAS WHERE THE PREDOMINANT SOIL AND OVERBURDEN CONTAINS MARINE CLAY, TO BE SURE THAT THE SAND AND TOPSOIL USED IN THE MIXTURE HAVE VERY LITTLE OR NO CLAY CONTENT. USE OF SOILS WITH MORE THAN 2% CLAY CONTENT COULD CAUSE FAILURE OF THE SYSTEM.
- THE SOIL FILTER MEDIA MUST BE COMPOSED OF A THOROUGHLY BLENDED MIXTURE OF MATERIALS MEETING THE SPECIFICATIONS IN TABLE B. ADJUST THE PROPORTIONS BASED ON THE ORGANIC CONTENT AND AMOUNT OF FINES OF EACH COMPONENT. IF THE SAND IS VERY CLEAN OR THE MULCH IS RELATIVELY COARSE, USE MORE MULCH AND LESS SAND WHILE STAYING WITHIN THE ESTABLISHED RANGES. IF THE SAND IS SILTY OR THE MULCH LOAMY, USE MORE SAND AND LESS MULCH.

UNDERDRAINED SOIL FILTER CONSTRUCTION NOTES

- NOTES:**
- PRIOR TO CONSTRUCTION OF UNDERDRAINED SOIL FILTER STABILIZE AREAS THAT DRAIN TO THEM WITH EITHER TEMPORARY OR PERMANENT EROSION CONTROL MEASURES IN ACCORDANCE WITH THE EROSION & SEDIMENT CONTROL PLAN, NOTES & DETAILS.
 - DO NOT PLACE THE FILTER MEDIA UNTIL AFTER THE SOIL FILTER AREA IS USED FOR A SETTLING BASIN DURING CONSTRUCTION AND ALL AREAS THAT DRAIN TO THE BASIN HAVE BEEN STABILIZED. PRIOR TO PLACEMENT OF THE FILTER MEDIA ALL SEDIMENT RESULTING FROM CONSTRUCTION ACTIVITIES MUST BE REMOVED.
 - EXCAVATE UNDERDRAINED SOIL FILTER AND DITCH IN A MANNER THAT WILL NOT COMPACT THE SUBGRADE. DO NOT OPERATE HEAVY MACHINERY INSIDE THE UNDERDRAINED SOIL FILTER.
 - EXCAVATE AND GRADE UNDERDRAINED SOIL FILTER, OVEREXCAVATING AS REQUIRED TO ACCOMMODATE THE MIXING ZONE AND SOIL FILTER MEDIA SO THAT THE BOTTOMS ARE LEVEL.
 - PLACE UNDERDRAIN LINER, BEDDING, UNDERDRAIN PIPE AND BACKFILL MATERIAL IN A MANNER THAT DOES NOT COMPACT THE SUBGRADE, BEDDING OR BACKFILL.
 - PLACE SOIL FILTER BED OVER THE PREPARED SURFACES WITH AN EXCAVATOR WORKING FROM OUTSIDE THE SWALE OR DITCH SO THAT WHEN SHAPED TO FINISH GRADE DEPTH IS AT LEAST 18 INCHES. DO NOT COMPACT.
 - SUBMIT SAMPLES OF THE SCREENED SOIL FILTER BED MATERIAL TO A SOIL TESTING LABORATORY FOR TESTING TO DETERMINE LIME AND FERTILIZER APPLICATION NECESSARY FOR THE TOPSOIL FILTER TO GROW GRASS.
 - APPLY LIMESTONE AND FERTILIZER OVER THE TOPSOIL FILTER ACCORDING TO THE SOIL TEST RECOMMENDATIONS USING LIGHT SPREADING EQUIPMENT, WORK LINE AND FERTILIZER INTO TOPSOIL FILTER TO A DEPTH OF 2 INCHES USING LIGHT EQUIPMENT.
 - APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL OR HYDROSEEDER (USING A SLURRY INCLUDING SEED AND FERTILIZER).
- | SEED MIXTURE | LEBS/ACRE | LEBS/1000 SF |
|--|-----------|--------------|
| CREeping RED FESCUE (FENLALUN, ENGYLVA OR WINTERGREEN) | 20 | 0.46 |
| RED TOP | 2 | 0.05 |
| TALL FESCUE (KENTUCKY 31) | 20 | 0.46 |
| TOTAL | 42 | 0.97 |
- IF THE MEDIA WILL SUPPORT GRASS GROWTH LOAM IS NOT REQUIRED. IF IT WILL NOT SUPPORT GRASS GROWTH BLEND 4" OF LOAM INTO THE TOP 6" OF MEDIA.
- MAINTENANCE: GRASS SHOULD BE MOVED NO MORE THAN 2 TIMES PER GROWING SEASON TO MAINTAIN GRASS HEIGHTS LESS THAN 12 INCHES. REMOVE CLIPPINGS. REMOVE SEDIMENT BUILD-UP WHEN IT HAS ACCUMULATED TO APPROXIMATELY 25% OF CHANNEL CAPACITY.



- NOTES:**
- THE EMERGENCY OVERFLOW SHALL HAVE A 2-FOOT WIDE BERM
 - SUBGRADE PREPARATION: SHAPE THE SUBGRADE TO THE LINES AND GRADES AS SHOWN ON THE DRAWINGS AND AS SHOWN ON THE DETAILS. REMOVE ALL ORGANIC MATTER, DEBRIS AND SOIL THAT IS TOO WET TO SUPPORT RIPRAP. IF FILL IS REQUIRED PROVIDE SUITABLE SOIL FROM ON SITE OR COMMON BORROW (MDOT 103.18) COMPACTED TO A DENSITY APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED SOIL BUT NOT LESS THAN 92% (ASTM D1557).
 - GEOTEXTILE FABRIC: PLACE AND ANCHOR GEOTEXTILE (FILTER FABRIC) IMMEDIATELY AFTER SUBGRADE PREPARATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - STONE PLACEMENT: PLACE RIPRAP IMMEDIATELY AFTER PLACING GEOTEXTILE FABRIC. PLACE RIPRAP SO THAT IT PRODUCES A DENSE, WELL-GRADED MASS OF STONE WITH A MINIMUM OF VOIDS
 - MAINTENANCE: INSPECT RIPRAP FOLLOWING SIGNIFICANT RAINFALL EVENTS (3 INCHES OR MORE IN 24 HOURS) AND AFTER THE SPRING THAW. REPAIR DAMAGED AREAS IMMEDIATELY.
 - RIPRAP: SOUND DURABLE ROCK WHICH WILL NOT DISINTEGRATE BY EXPOSURE TO WATER OR WEATHER. EITHER FIELD STONE OR ROUGH, UNEVEN QUARRY STONE MAY BE USED. STONES SHALL BE ANGULAR AND AS NEARLY RECTANGULAR IN CROSS-SECTION AS PRACTICABLE. DO NOT USE ROUNDED BOULDERS OR COBBLES. USE A WELL GRADED MIXTURE OF STONE SIZES WITH 50 PERCENT OF THE MIXTURE BY WEIGHT BEING LARGER THAN THE D SIZE SPECIFIED AND 50 PERCENT SMALLER.

TABLE A		TABLE B			TABLE C	
ME DOT SPECIFICATIONS FOR UNDERDRAINS (MDOT #103.22)		SOIL FILTER MEDIA			ME DOT SPECIFICATIONS FOR UNDERDRAINS (MDOT #103.01)	
SIEVE SIZE	% BY WEIGHT	FILTER MEDIA	MIXTURE BY VOLUME	SPECIFICATION	SIEVE SIZE	% BY WEIGHT
1"	100	SAND	10%-20%	MEDOT SPECIFICATION #103.01 FINE AGGREGATE FOR CONCRETE (SEE TABLE C)	3/8"	100
3/4"	90-100				4"	95-100
3/8"	0-15				8"	80-100
4"	0-25				16"	50-85
10"	0-5	MULCH	20%-30%	MODERATELY FINE, SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 8%-10% PASSING THE 200 SIEVE	20"	25-60
					40"	10-30
					100"	2-10
					200"	0-5

2 OVERFLOW SECTION

1 UNDERDRAINED SOIL FILTER SECTIONS, DETAILS & NOTES

OCEAN DEVELOPMENT LLC
PO BOX 1798
PORTLAND, ME 04104-1798

RAINMAKER BUSINESS PARK - PHASE 4
RAINMAKER DRIVE
PORTLAND, MAINE

UNDERDRAINED SOIL FILTER
NOTES & DETAILS

SCALE: AS SHOWN
DATE: OCTOBER 24, 2017
PROJECT: 15168

DRN BY: JWG
DESG BY: TSG
CHK BY: JWG

C3.2

NOT TO SCALE

NOT TO SCALE

MAP/LOT 306/B/6