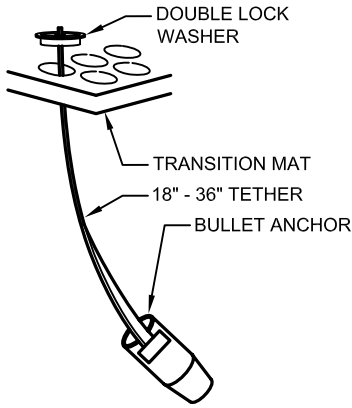
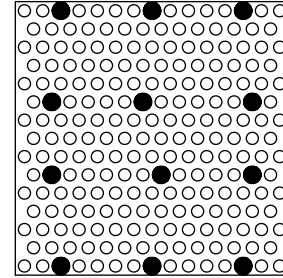


NON-COHESIVE SOILS SCOURSTOP TRANSITION MAT INSTALLATION DETAILS



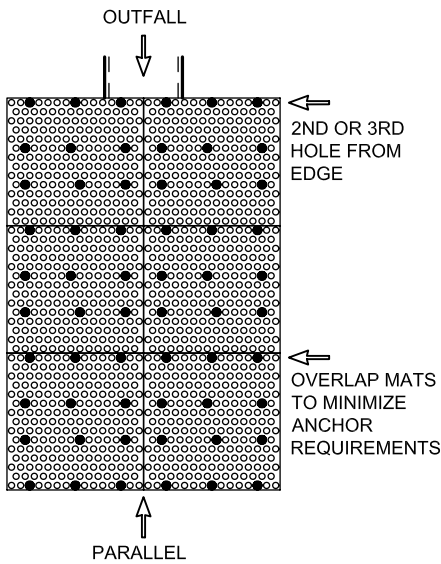
PIPE DIAMETER	DISCHARGE (CFS)	SCOURSTOP WIDTHxLENGTH
12"	8	4' x 4'
24"	30	4' x 8'
36"	75	8' x 12'
48"	100	12' x 16'
60"	150	12' x 20'
72"+		SEE DETAILS

SHORELINE PROTECTION:

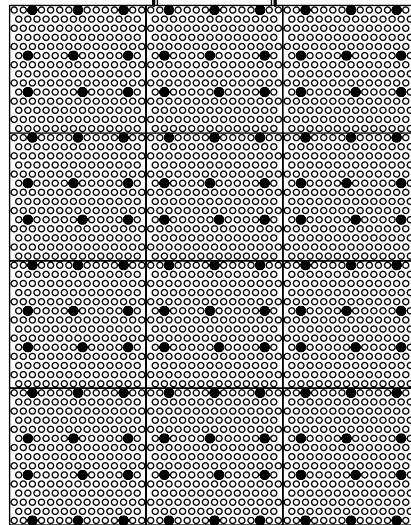


ANCHOR CONFIGURATION FOR SLOPES STEEPER THAN 5:1; TRANSITION MATS OVER A MIN. 8 OZ. GEOTEXTILE

ADD EXTRA ANCHORS IF NECESSARY TO ENSURE CONSISTENT CONTACT WITH SOIL, OR IMPROVE SOIL SURFACE SMOOTHNESS.



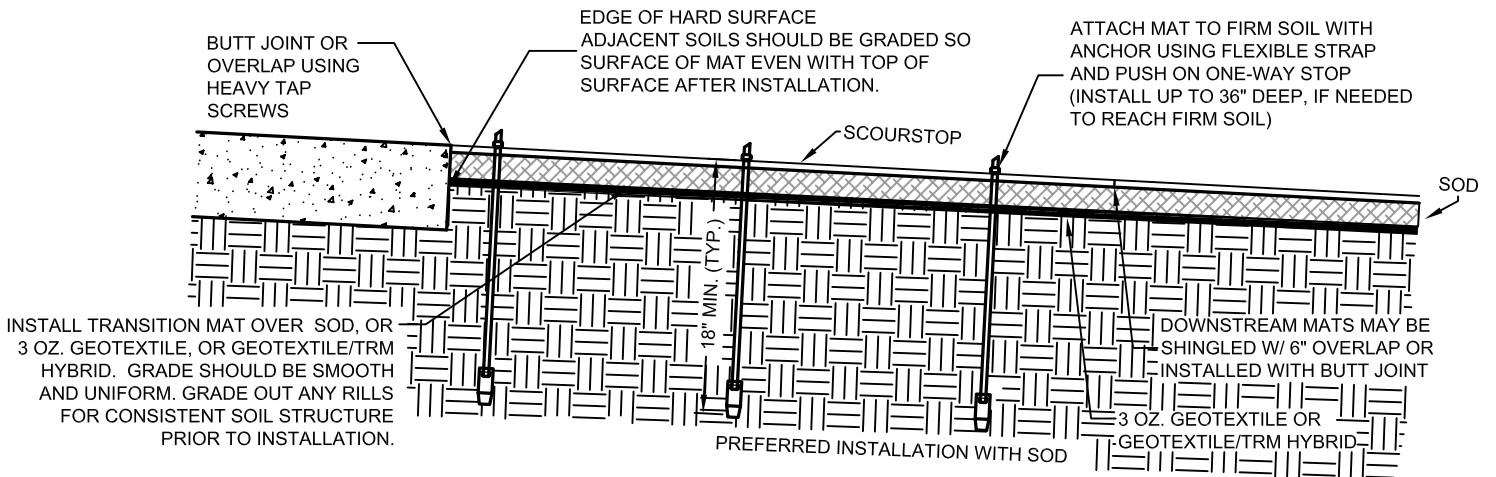
PIPE OR CURB OUTFALL



POSITION ANCHORS TO SECURE SCOURSTOP MATS FLUSH WITH SOIL SURFACE. MINIMIZE GAPS OR BRIDGING.

ANCHOR REQUIREMENTS*:
- MINIMUM OF 12 ANCHORS INCLUDING OVERLAP ROW

*TO ACHIEVE CONSISTENT CONTACT WITH THE SOIL, EXCEED THE MINIMUM ANCHOR REQUIREMENT AT INSTALLATION.



INSTALL TRANSITION MAT OVER SOD, OR 3 OZ. GEOTEXTILE, OR GEOTEXTILE/TRM HYBRID. GRADE SHOULD BE SMOOTH AND UNIFORM. GRADE OUT ANY RILLS FOR CONSISTENT SOIL STRUCTURE PRIOR TO INSTALLATION.

NON-COHESIVE SOILS

SCOURSTOP TRANSITION MAT APPLICATIONS

1. INTENDED AS AN BIOTECHNICAL REPLACEMENT FOR HARD ARMOR LIKE ROCK RIP RAP.
2. THIS IS AN ENGINEERED SYSTEM. NON-COHESIVE SOILS REQUIRE A SOIL COVER PRACTICE THAT BOTH HOLDS THE SOIL PARTICLES IN PLACE AND RESTRICTS SOIL PARTICLE MOVEMENT. THE SEMI-RIGID TRANSITION MAT COMBINED WITH THE ANCHORING SYSTEM IS CRITICAL FOR SECURING THE GEOTEXTILE SOIL COVER AGAINST THE SOIL.
3. CAN BE PLACED ON DOWNSTREAM OUTLET SIDE OF CURB CUTS, OVERFLOW STRUCTURES, ENDS OF CONCRETE FLUMES OR PIPE FIXTURES; AS STREAM BANK AND SHORELINE PROTECTION.
4. SCOURSTOP STANDARD SIZE IS 4 FT X 4 FT X ½ INCHES, CONSTRUCTED TO ALLOW VEGETATION WITHIN MULTIPLE VOIDS THROUGHOUT THE MAT; PROVIDING SOIL PROTECTION FOR A) THE SCOUR AREA DIRECTLY BELOW OUTFALLS B) ANY HIGHLY EROSION AREA C) SHORELINE AND STREAM BANKS.
5. PRIMARY BENEFITS OVER ROCK RIP RAP: UTILIZATION OF VEGETATION, LOWER INSTALLATION COSTS, EASE OF INSTALLATION, LONG-TERM EFFECTIVENESS, AESTHETICS, SAFETY.

PREFERRED INSTALLATION SPECIFICATIONS

1. READ AND UNDERSTAND INSTALLATION GUIDE.
2. FOR EACH INSTALLATION, COMPLETE INSTALLER'S CHECKLIST AND PROVIDE TO GENERAL CONTRACTOR FOR PAYMENT.
3. FOR A PIPE OUTLET WITH NO APRON, TRANSITION MAT (TM) INSTALL DIRECTLY ABUTTING THE END OF THE PIPE.
4. PROJECT DESIGNER SHOULD NOTE ON CONSTRUCTION DRAWINGS THAT PIPE OUTLET FOOTINGS SHOULD NOT EXTEND PAST THE END OF THE PIPE.
5. WHERE EXCESS CONCRETE FROM THE END SECTION FOOTINGS EXTENDS BEYOND THE END SECTION, INSERT A FILLER MATERIAL (LIKE A HIGH-PERFORMANCE TRM OR HEAVY GEOTEXTILE) BETWEEN THE TRANSITION MAT AND THE EXCESS CONCRETE SURFACE TO FILL THE AREA TOO SHALLOW (<4 INCHES) TO SUPPORT SOIL AND VEGETATION GROWTH.
6. SCOURSTOP SHALL NOT BE INSTALLED OVER BARE SOIL. OPTIONAL SOIL COVERS UNDER THE TRANSITION MATS ARE SOD, SOME TURF REINFORCEMENT MATS (TRM'S), AND GEOTEXTILES.
7. PER NPDES PHASE II, THE DOWNSTREAM CHANNEL (D.C.) MUST BE PROTECTED (STABLE) FOR ITS ENTIRE LENGTH. THE DOWNSTREAM CHANNEL IS PART OF THE TRANSITION MAT ENGINEERED SYSTEM. USE SOD TO PROTECT THE D.C. WHEN POSSIBLE. ON SLOPES STEEPER THAN 10%, INSTALL A 3 OZ. GEOTEXTILE UNDER THE SOD TO BETTER PROTECT SOIL PARTICLES. TRM'S ARE ACCEPTABLE, HOWEVER, A GEOTEXTILE IS REQUIRED UNDER THE MAT. WHERE VEGETATION IS UNLIKELY, USE A MINIMUM 10 OZ. GEOTEXTILE.
8. CAN BE INSTALLED AS A BUTT JOINT, OR PERMANENTLY ATTACHED TO THE HARD SURFACE.
9. PRIOR TO INSTALLATION, SOIL SHALL BE GRADED AS LEVEL AND SMOOTH AS POSSIBLE FOR CONSISTENT TRANSITION MAT CONTACT WITH THE SOIL.
10. REMOVE AND REPLACE SATURATED SOILS FOR A SOLID BASE. TRICKLE FLOWS SHOULD BE CAPTURED WITH A SUB-SURFACE DRAIN.
11. AVOID EROSION IMPACT CONDITIONS AT SCOUR AREA.
12. ENSURE LOCATION HAS ADEQUATE SUNLIGHT FOR HEALTHY VEGETATION, ADDING GOOD SOIL IF NEEDED; OTHERWISE, UTILIZE THE HIGH-PERFORMANCE INSTALLATION DETAILED BELOW.
13. USE FLEXIBLE STRAPPING WITH DEADMAN ANCHOR, FLAT WASHERS (>2.5 INCHES) AND ONE-WAY STOPS TO ATTACH TRANSITION MATS TO THE SOIL A MINIMUM OF 24 INCHES. FIRMLY PULL STRAP TO SNUG THE TRANSITION MAT DOWN AGAINST THE SOIL WITH THE WASHER AND ONE-WAY STOP. A 3-3-3-3 ANCHOR CONFIGURATION SHOULD BE ADEQUATE IN MOST CASES. PROPER ANCHORING IS CRITICAL TO PERFORMANCE.
14. RECOMMEND TRANSITION MAT COVERAGE OF SCOUR AREA WIDTH MINIMUM 3 TIMES THE PIPE DIAMETER. DISCHARGE AREA WIDTH SHOULD BE AS LEVEL AS POSSIBLE TO AVOID WATER CONCENTRATION AND RILLING. MATS MAY NOT BE INSTALLED IN PARTIAL LENGTHS; MAY BE SHINGLED TO MINIMIZE ANCHORS.

PREFERRED INSTALLATION SPECIFICATIONS (AVERAGE TO MOIST ENVIRONMENT)

DESIGN APPLICATION: OUTFALL DISCHARGE < 21 FEET PER SECOND ON 25% SLOPE.

- UTILIZE A HYBRID TRM/GEOTEXTILE COMBINATION OVER THE SOIL AND OVERLAY WITH SUBSTANTIAL SOD; BOTH ARE SECURED TO THE SOIL WITH SCOURSTOP TRANSITION MATS AND RELATED ANCHORS.
- ANOTHER ACCEPTABLE METHOD IS USING A 3 OZ. GEOTEXTILE OVERLAID WITH A HIGH-PERFORMANCE TRM, BOTH SECURED TO THE SOIL WITH TRANSITION MATS AND RELATED ANCHORS. MULCH AND SEED IS HIGHLY RECOMMENDED.

PREFERRED INSTALLATION SPECIFICATIONS (SEMI-ARID ENVIRONMENT)

- IN SEMI-ARID REGIONS AND AREAS DIFFICULT TO ESTABLISH VEGETATION, UTILIZE A HIGH-PERFORMANCE TRM OVER A MINIMUM 3 OZ. GEOTEXTILE. BOTH ARE SECURED TO THE SOIL WITH SCOURSTOP TRANSITION MATS AND RELATED ANCHORS. MULCH AND SEED FOR ADDITIONAL PROTECTION.

PREFERRED INSTALLATION SPECIFICATIONS (STREAMBANK AND SHORELINE; MAX. 1.5H:1V SLOPE):

A 8-12 OZ. GEOTEXTILE IS THE SOIL COVER PRACTICE UNDER THE TRANSITION MATS WHICH ARE GENERALLY INSTALLED 3 FT BELOW AND MINIMUM 8 INCHES ABOVE THE NORMAL WATER LEVEL. INSTALLATION REQUIRES DIFFERENT ANCHOR CONFIGURATION AND DEPTH. SEE DETAILS.

==> FOR DESIGN INFORMATION, REFER TO "DESIGN METHODOLOGY" DOCUMENT AVAILABLE AT www.scourstop.com.

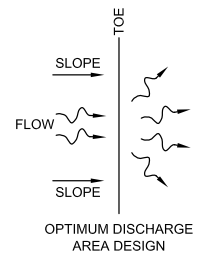
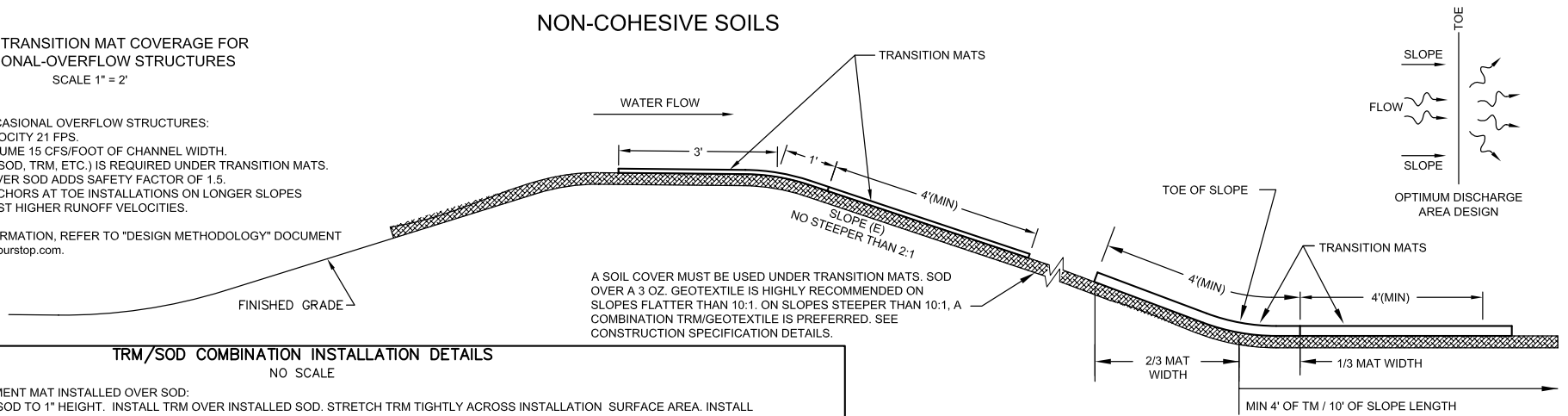
MINIMUM TRANSITION MAT COVERAGE FOR OCCASIONAL-OVERFLOW STRUCTURES
SCALE 1" = 2'

LIMITATIONS FOR OCCASIONAL OVERFLOW STRUCTURES:

- MAXIMUM FLOW VELOCITY 21 FPS.
- MAXIMUM FLOW VOLUME 15 CFS/FOOT OF CHANNEL WIDTH.
- A SOIL COVER BMP (SOD, TRM, ETC.) IS REQUIRED UNDER TRANSITION MATS.
- ADDITION OF TRM OVER SOD ADDS SAFETY FACTOR OF 1.5.
- ADD ADDITIONAL ANCHORS AT TOE INSTALLATIONS ON LONGER SLOPES TO PROTECT AGAINST HIGHER RUNOFF VELOCITIES.

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NON-COHESIVE SOILS

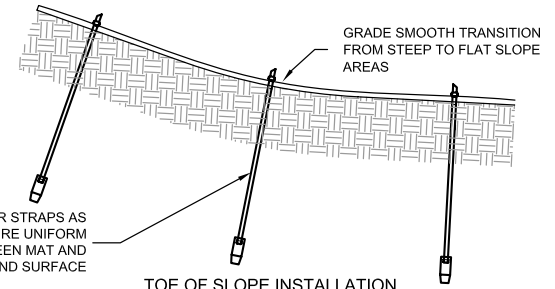
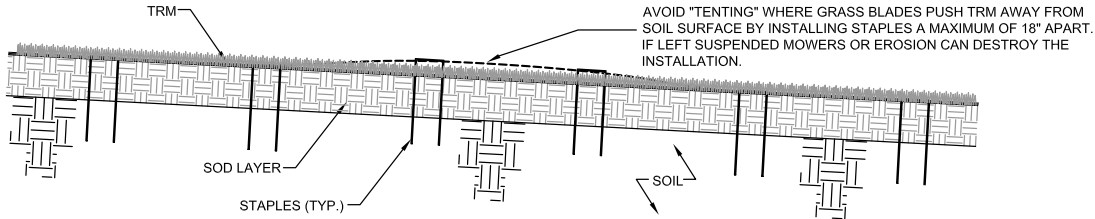


TRM/SOD COMBINATION INSTALLATION DETAILS
NO SCALE

TURF REINFORCEMENT MAT INSTALLED OVER SOD:

- TRIM INSTALLED SOD TO 1" HEIGHT. INSTALL TRM OVER INSTALLED SOD. STRETCH TRM TIGHTLY ACROSS INSTALLATION SURFACE AREA. INSTALL STAPLES AT MAX. OF 18" APART (450 MM). IRRIGATE SOD AS NEEDED AFTER INSTALLATION TO AID IN ESTABLISHMENT OF VEGETATION.
- SOD DOWNSTREAM OF MAT INSTALLATION AREA DOES NOT NEED TRIMMED BEFORE MAT INSTALLATION.
- TO HOLD SOD IN PLACE DOWNSTREAM OF TMS, INSTALL WIRE STAPLES AT 8" O.C. WITHIN 4" OF UPSTREAM EDGE OF SOD, AND AT A RATE OF ONE STAPLE PER SQUARE FOOT STAGGERED THROUGHOUT.

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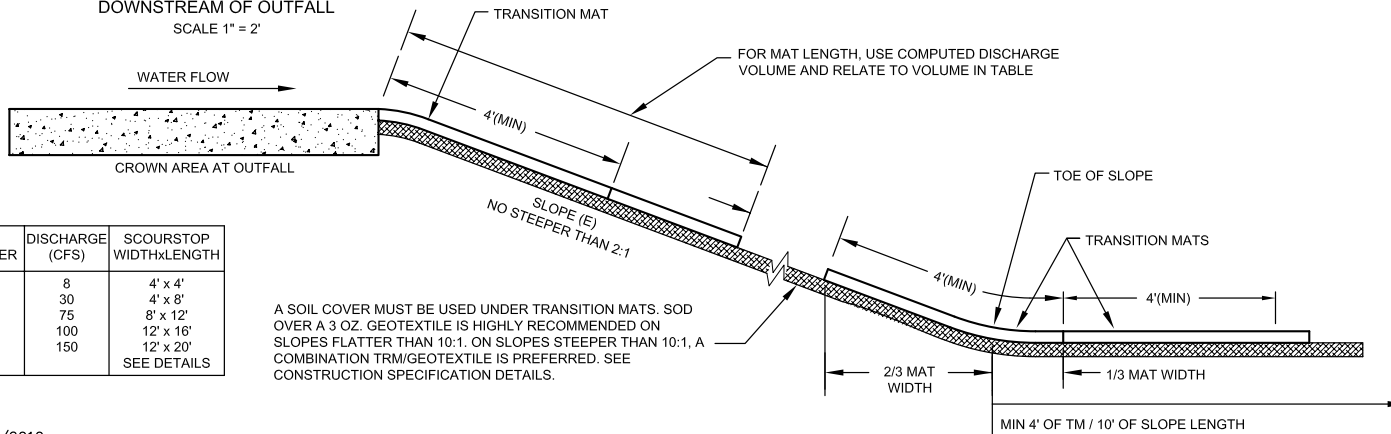


INSTALL ANCHOR STRAPS AS NEEDED TO ENSURE UNIFORM CONTACT BETWEEN MAT AND FINISHED GROUND SURFACE

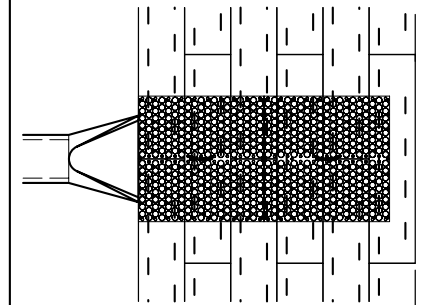
TOE OF SLOPE INSTALLATION

SCALE 1" = 1'

MINIMUM TRANSITION MAT COVERAGE FOR SLOPES DOWNSTREAM OF OUTFALL
SCALE 1" = 2'



PIPE DIAMETER	DISCHARGE (CFS)	SCOURSTOP WIDTHxLENGTH
12"	8	4' x 4'
24"	30	4' x 8'
36"	75	8' x 12'
48"	100	12' x 16'
60"	150	12' x 20'
72"+		SEE DETAILS



STAPLE SOD EVERY 10 INCHES WITHIN 4 INCHES OF LEADING EDGE AND RANDOMLY THROUGHOUT

STAPLED SOD DETAILS
NO SCALE