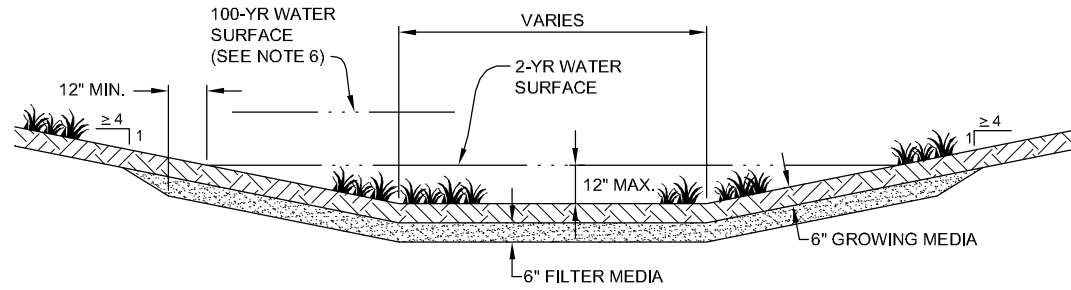


GRASS SWALE DESIGN CRITERIA

	MIN. SLOPE	MAX. SLOPE	RECOMMENDED SLOPE	MAX. 2-YEAR VELOCITY (fps)
IRRIGATED BLUEGRASS SOD	0.2%	4.0%	0.2% - 1.0%	4.0
IRRIGATED NATIVE TURF GRASS	0.2%	2.5%	0.2% - 1.0%	3.0

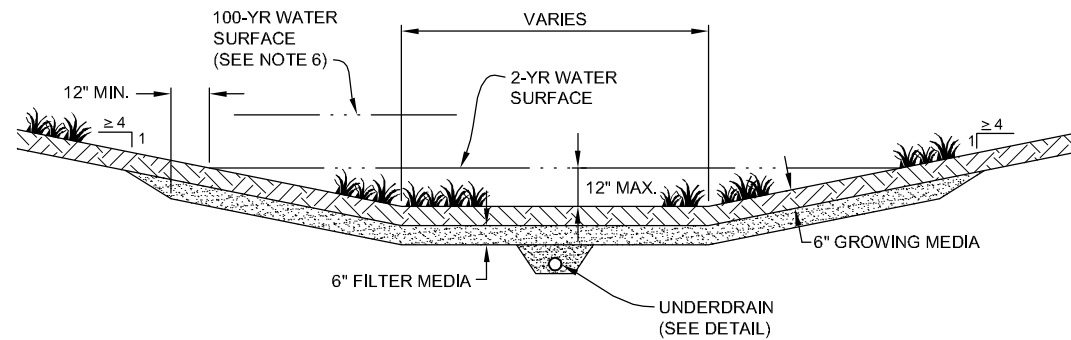
NOTES:

- GRASS SWALES REQUIRE A MINIMUM OF 6" OF GROWING MEDIA OVER 6" OF FILTER MEDIA. THE FILTER MEDIA MUST EXTEND A MINIMUM OF 12 INCHES BEYOND THE LIMITS OF THE 2-YEAR WATER SURFACE.
- AN UNDERDRAIN IS REQUIRED FOR ALL SWALES WITH A SLOPE LESS THAN 2.0%. CLEANOUTS SHALL BE PROVIDED AT THE UPSTREAM END, AT EACH BEND, AND AT A MAXIMUM SPACING OF 200 FEET. UNDERDRAINS SHALL DAYLIGHT TO THE SURFACE OR SHALL BE TIED INTO INLET STRUCTURES, MANHOLES, OR DROP STRUCTURES. SURFACE OUTFALLS SHALL BE PROTECTED WITH A MINIMUM 5'X5' PAD OF TYPE VL SOIL RIPRAP (12" THICK).
- CHECK STRUCTURES MAY BE USED TO MEET MAXIMUM SLOPE CRITERIA. MAXIMUM ALLOWABLE DROP HEIGHT IS 2'.
- NON-IRRIGATED GRASS SWALES ARE NOT PERMITTED AS A WATER QUALITY BMP WITHOUT A VARIANCE. IF A VARIANCE IS GRANTED, SITE-SPECIFIC DETAILS MUST BE PREPARED AND TEMPORARY IRRIGATION MEASURES MUST BE PROVIDED UNTIL THE VEGETATION IS WELL ESTABLISHED.
- EROSION CONTROL BLANKET IS REQUIRED IN ALL NATIVE GRASS SWALES FOR ESTABLISHMENT OF GRASS COVER. BLANKET SHALL EXTEND TO EDGE OF FILTER MEDIA (12" BEYOND 2-YEAR WATER SURFACE) AT A MINIMUM. BLANKET SELECTION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE SEMSWA GESC MANUAL.
- SWALE DEPTH AND/OR LIMITS OF FLOODING DURING THE 100-YEAR EVENT SHALL BE DETERMINED AND INDICATED ON THE DESIGN DRAWINGS.
- WHERE POSSIBLE, IRRIGATION SYSTEMS SHALL BE INSTALLED IN CONJUNCTION WITH FINISH GRADING OF GRASS SWALE. IF IRRIGATION INSTALLATION WILL LAG, SWALE SHALL BE RESTORED TO ORIGINAL CONDITION FOLLOWING INSTALLATION. DISTURBED MEDIA LAYERS SHALL BE RESTORED, GEOTEXTILES AND EROSION CONTROL BLANKETS SHALL BE REPLACED OR PATCHED, AND FINISH GRADES SHALL BE RESTORED TO THE DESIGNED SLOPES.
- FERTILIZERS SHALL NOT BE APPLIED WHEN HEAVY PRECIPITATION IS ANTICIPATED. APPLICATION SHALL BE IN ACCORDANCE WITH THE SITE'S STANDARD OPERATION PROCEDURES AND THE MANUFACTURER'S RECOMMENDATIONS.
- APPROVED MATERIAL SELECTIONS AND SPECIFICATIONS FOR THE SELECTED BMP ARE LOCATED ON THE BMP SPECIFICATION SHEET.



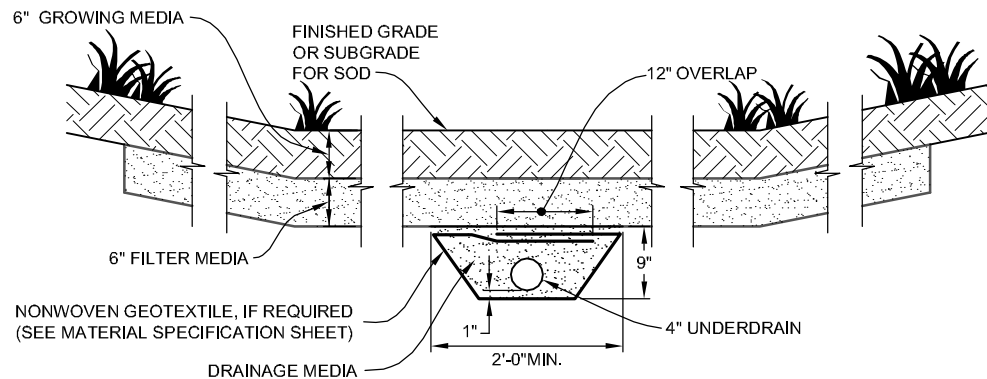
GRASS SWALE WITHOUT UNDERDRAIN (SLOPES ≥ 2%)

SCALE: 1" = 5'



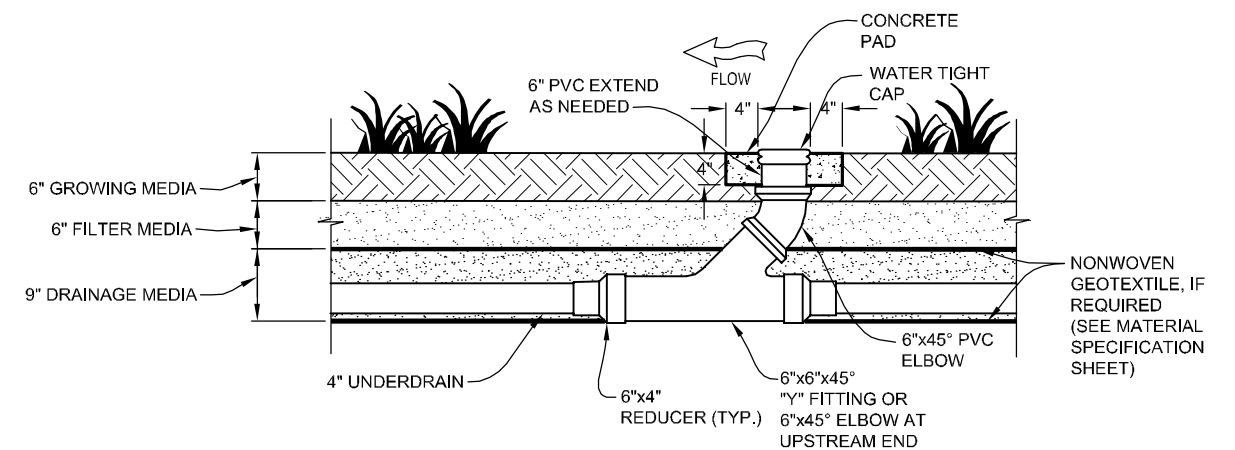
GRASS SWALE WITH UNDERDRAIN (SLOPES < 2%)

SCALE: 1" = 5'



UNDERDRAIN DETAIL

SCALE: 1" = 2'



UNDERDRAIN CLEANOUT DETAIL

SCALE: 1" = 2'

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REFERENCE:	SCALE:	Standard Plan Revision	
		No.	Date



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GRASS SWALE