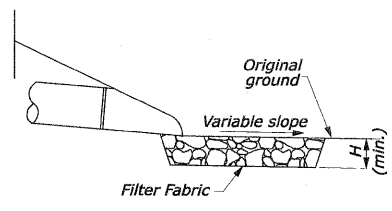
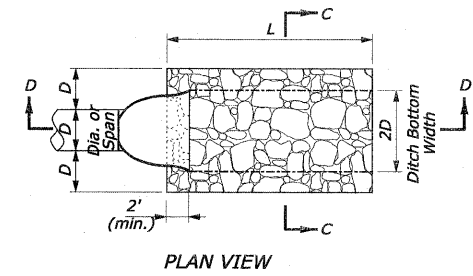


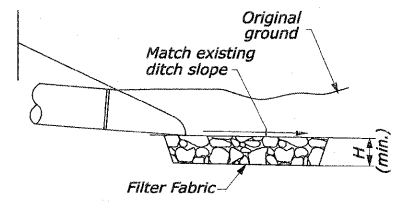
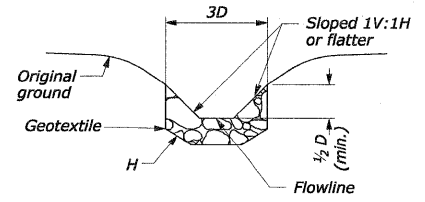
PLAN VIEW  
CULVERT WITH STANDARD END SECTION AND RIPRAP



SECTION A-A  
PROTECTIVE APRON AT CULVERT OUTLET WITHOUT DITCH



PLAN VIEW  
CULVERT WITH STANDARD END SECTION AND RIPRAP



SECTION C-C  
SECTION D-D  
PROTECTIVE APRON AT CULVERT OUTLET WITH DITCH

**OUTLET WITHOUT DITCH  
PROTECTIVE APRON DIMENSIONS AND ESTIMATED QUANTITIES**

	CULVERT SIZE D (inches)	RIPRAP CLASS	LENGTH OF APRON L (feet)	DEPTH OF RIPRAP APRON H (feet)	ESTIMATED RIPRAP QUANTITY (SY)	ESTIMATED GEOTEXTILE QUANTITY (SY)
WITH END SECTION	18	A4	7	1.33	6	6
	24	A4	9	1.33	9	9
	30	A4	13.5	1.33	18	18
	36	A4	16	1.33	26	26
	42	A4	22	1.33	44	44
	48	A4	25	1.33	57	57
	72	A4	38	1.33	130	130

**RIPRAP NOTES:**

1. Use for aprons serving culverts with slopes of less than 10%.
2. Furnish Filter Fabric per section 282 of the standard specifications. 2' Turn downs not shown.
3. Provide bedding stone (not shown) per section 281 of the standard specifications
4. Excavation for placement of riprap will not be measured for payment.

**OUTLET WITH DITCH  
PROTECTIVE APRON DIMENSIONS AND ESTIMATED QUANTITIES**

	CULVERT SIZE D (inches)	RIPRAP CLASS	LENGTH OF APRON L (feet)	DEPTH OF RIPRAP APRON H (feet)	ESTIMATED RIPRAP QUANTITY (SY)	ESTIMATED GEOTEXTILE QUANTITY (SY)
WITH END SECTION	18	A4	7	1.33	4	4
	24	A4	9	1.33	6	6
	30	A4	13.5	1.33	12	12
	36	A4	16	1.33	16	16
	42	A4	22	1.33	26	26
	48	A4	25	1.33	34	34
	72	A4	38	1.33	76	76

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