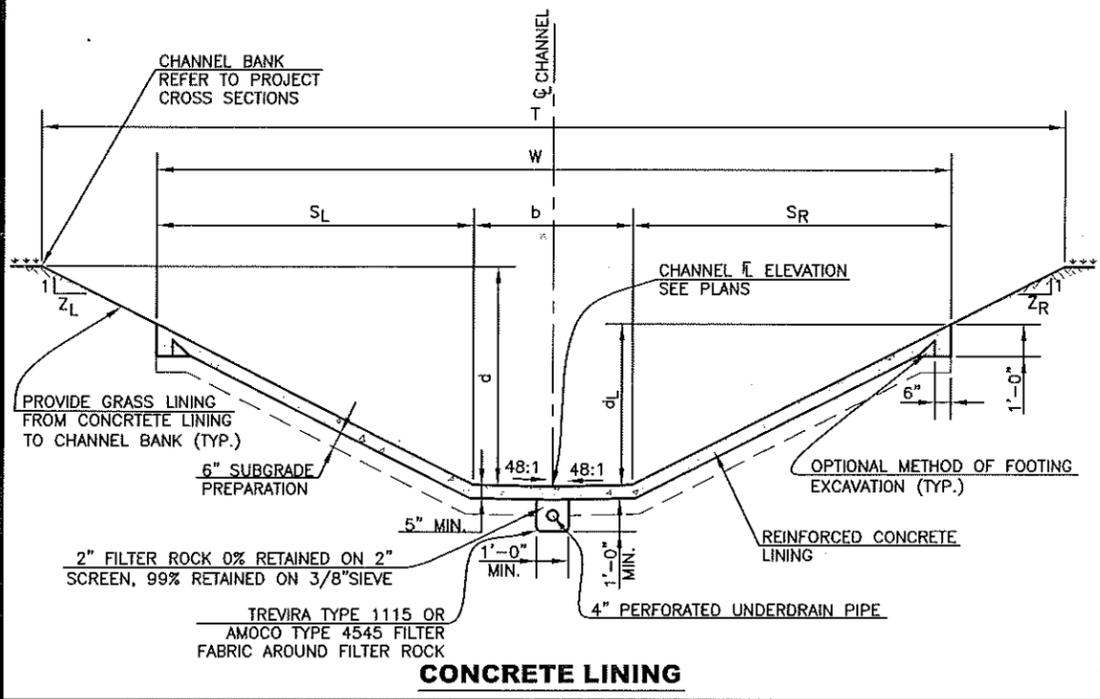


RIP-RAP LINING

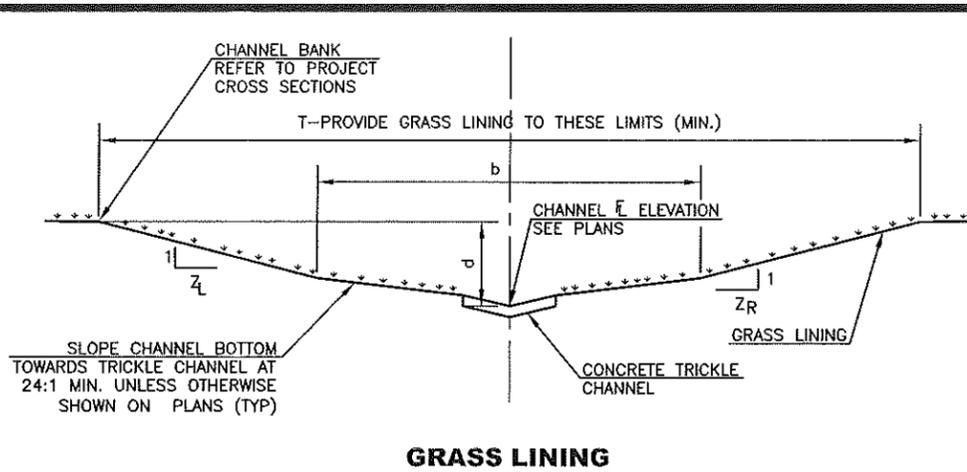


CONCRETE LINING

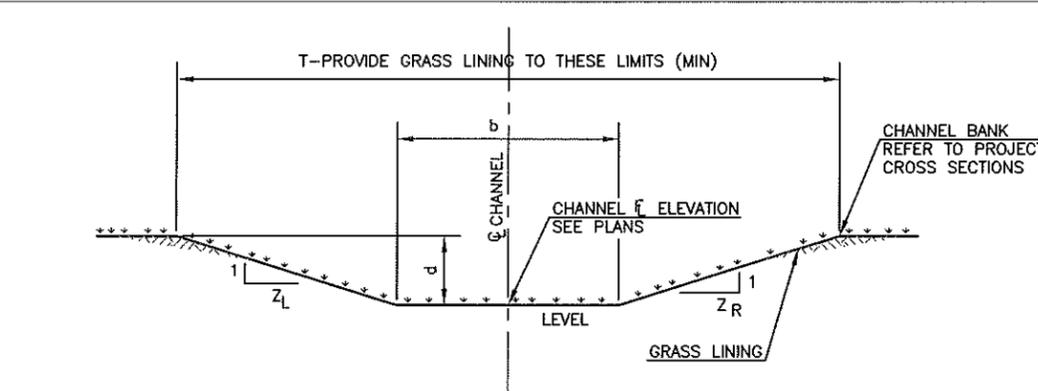
OPEN CHANNEL SCHEDULE

NO. OR STA. FROM - TO	STANDARD SECTION				COMPOUND SECTION				*LINING				RIP-RAP LINING		
	T	b	d	ZL ZR	T	bu	du	ZLU ZRU	TYPE	W	dL	SL	SR	CLASS	t

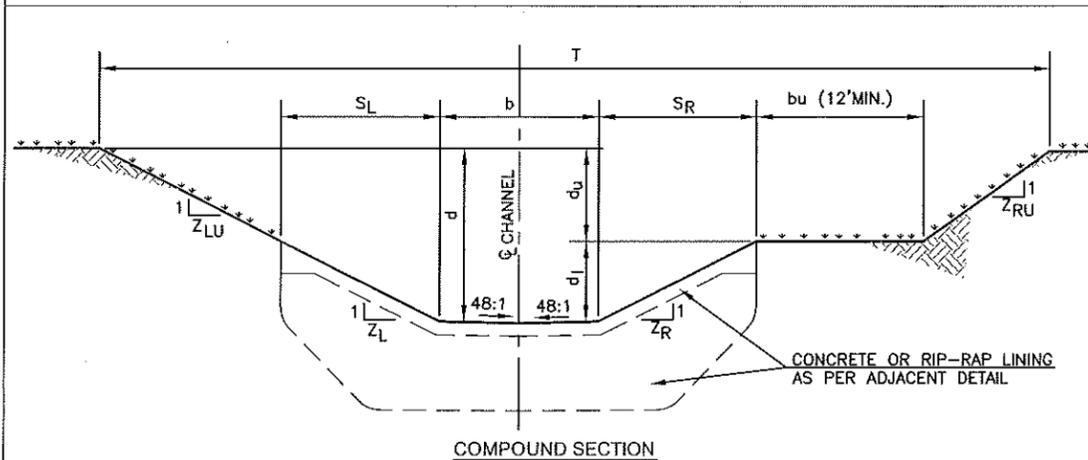
*LINING TYPE: G = GRASS
 Gt = GRASS WITH TRICKLE CHANNEL
 R = RIP-RAP
 C = CONCRETE



GRASS LINING



STANDARD SECTION



COMPOUND SECTION

RIP-RAP GRADUATION REQUIREMENTS

CLASS	D	**GRADUATION, MINIMUM PERCENTAGE LARGER THAN									
		2000lb 3' dia	1400lb 2.5' dia	700 lb 2' dia	500 lb 1.8' dia	200 lb 1.3' dia	100 lb 1.0' dia	60 lb 0.9' dia	40 lb 0.8' dia	25 lb 0.7' dia	12 lb 0.5' dia
I	0.50' 0.75'						0				100
II	1.00' 1.50'			0						100	
III	2.00'	0								100	

**BASED ON UNIT WEIGHT OF 165 LB/FT³-MINIMUM UNIT WEIGHT 150 LB/FT³

NOTES - RIP-RAP LININGS

1. MATERIALS USED FOR STONE RIP-RAP SHALL CONFORM TO THE REQUIREMENTS OF THE KANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, LATEST EDITION. GRADATION FOR EACH CLASS OF RIP-RAP SPECIFIED SHALL BE IN ACCORDANCE WITH THE TABLE AT BOTTOM OF PAGE.
2. BROKEN CONCRETE RIP-RAP MAY BE SUBSTITUTED FOR STONE RIP-RAP PROVIDED IT MEETS GRADATION REQUIREMENTS FOR THE CLASS OF RIP-RAP SPECIFIED

NOTES - CONCRETE LININGS

1. ALL CONCRETE SHALL BE "PAVEMENT CLASS" IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
2. MIXING, PLACING, FINISHING, JOINTING AND CURING OF ALL CONCRETE SHALL BE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF THE STANDARD TECHNICAL SPECIFICATIONS SECTION 5.8.b
3. WELDED WIRE FABRIC (WWF 6x6-W2.9xW2.9) SHALL BE USED THROUGHOUT AND CENTERED IN ALL SLABS AND FOOTINGS. WIRE FABRIC SHALL CONFORM TO ASTM A 185

NOTES - GRASS LININGS

1. SEEDING, FERTILIZING AND SODDING FOR GRASS LININGS SHALL BE IN ACCORDANCE WITH SECTION 4, OBSTRUCTIONS AND INCIDENTAL CONSTRUCTION OF THE STANDARD TECHNICAL SPECIFICATIONS. THE TYPE OF SEED OR SOD SHALL BE AS SPECIFIED ON THE PLANS. FESCUE SHALL BE APPLIED AT THE RATES GIVEN IN THE SPECIFICATIONS. SMOOTH BROME OR BERMUDA GRASS SHALL BE APPLIED AS SPECIFIED BELOW.

TYPE OF GRASS SEED	RATES OF APPLICATION	
	LBS/AC.	LBS/SY
SMOOTH BROME	50	0.01
BERMUDA	70	0.014

2. TEMPORARY EROSION CONTROL MEASURES FOR GRASS LINED CHANNELS SHALL BE PROVIDED AS SPECIFIED ON THE PLANS.

GENERAL NOTES

1. ALL EXCAVATION, EMBANKMENT AND SUBGRADE PREPARATION REQUIRED FOR CONSTRUCTION OF OPEN CHANNELS SHALL BE IN ACCORDANCE WITH SECTION 3, EARTHWORK, OF THE STANDARD TECHNICAL SPECIFICATIONS. REFER TO THE PROJECT CROSS SECTIONS FOR EXACT LINES AND GRADES AND DETERMINATION OF EARTHWORK VOLUMES.

2. THE FOLLOWING UNITS OF MEASUREMENT SHALL APPLY TO ALL ITEMS OF WORK DETAILED ON THIS SHEET, UNLESS OTHERWISE SHOWN ON THE PROPOSAL.

CONCRETE CHANNEL LINING: SQUARE YARD (ACTUAL EXPOSED SURFACE AREA)

GRASS CHANNEL LINING: SQUARE YARD OR ACRE

4" UNDERDRAIN, IN PLACE INCLUDING FILTER ROCK AND FILTER FABRIC: LINEAR FOOT

3. REFER TO "WASH CHECK, TRICKLE CHANNEL & FLUME" STANDARD DETAIL SHEET FOR CONCRETE TRICKLE CHANNEL DETAILS.

DRAWN BY: *rm/mc*
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STANDARD DETAILS

CHANNEL LININGS
 (DT-014)

DATE: Month_Year

SHEET: X_of_X

PROJ.: X-XXXXXX.XX

NO.	DATE	REVISION	BY	APP'D
1	Feb. 2008	Mod. Rip-Rap Note	DHS	SB