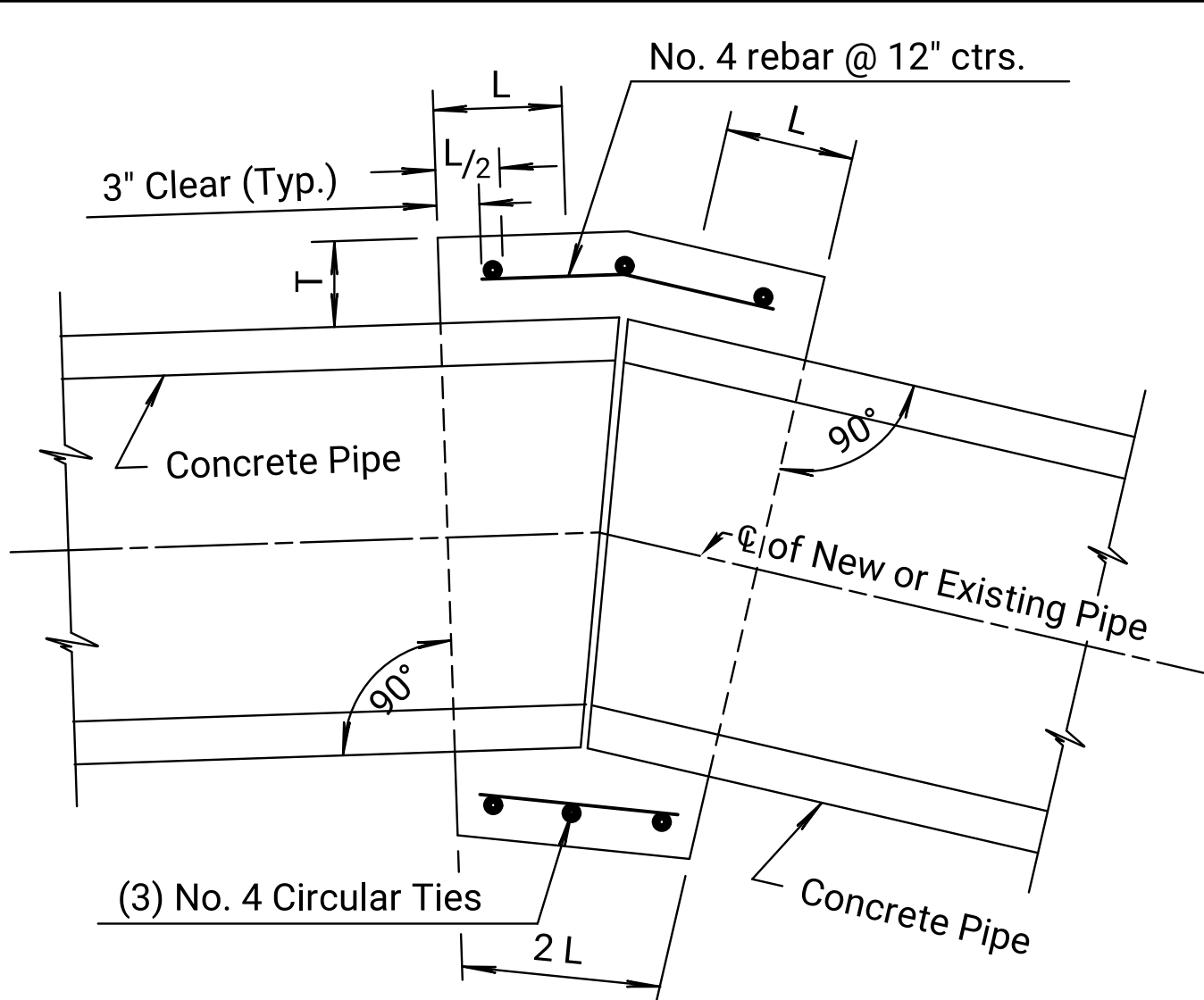
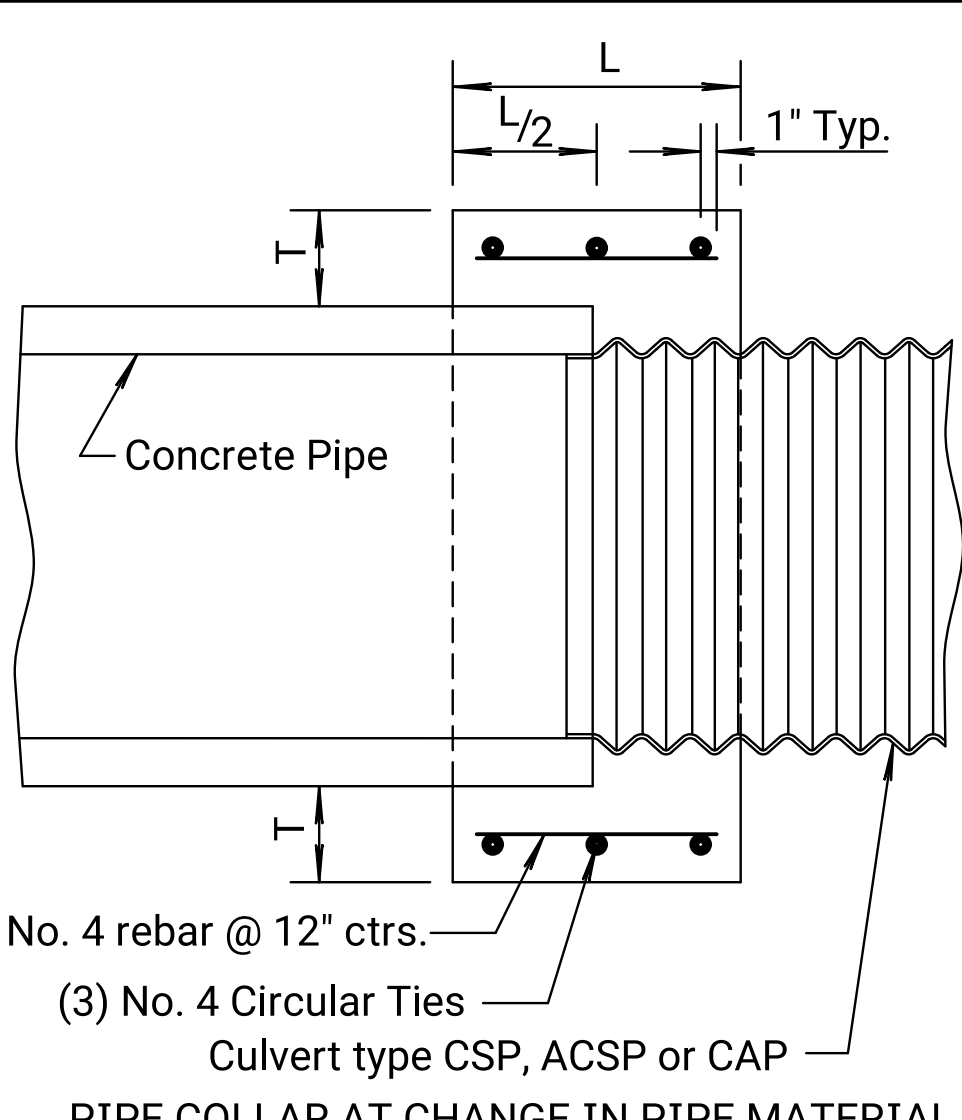
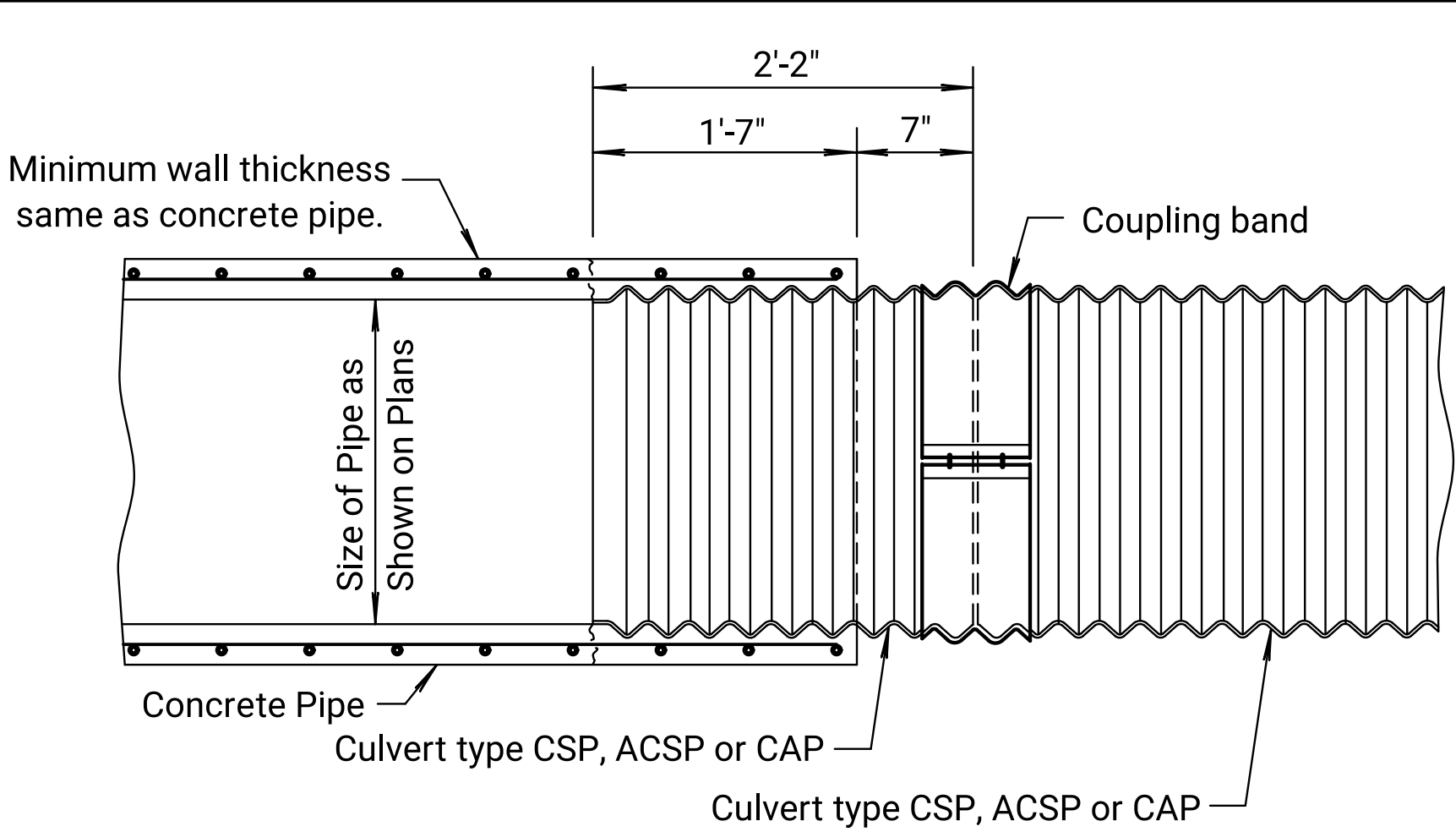




PIPE COLLAR AT CHANGE IN ALIGNMENT
TYPE A COLLAR



PIPE COLLAR AT CHANGE IN PIPE MATERIAL
TYPE B COLLAR



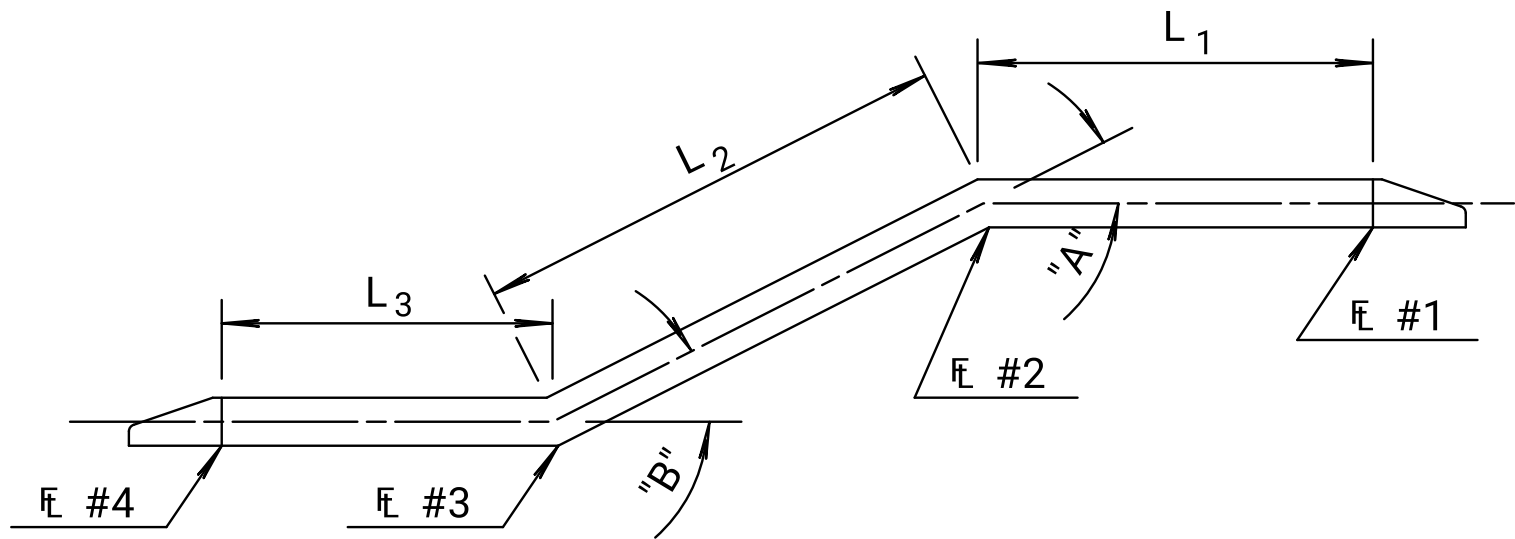
(CONCRETE PIPE CONNECTED TO CORRUGATED METAL PIPE)
TYPE C COLLAR

A section of concrete pipe (6'-0" min.) is cast 1'-7" short with the re-steel protruding. Tack weld the re-steel to the 2'-2" section of CMP and finish casting the remaining 1'-7" of RCP around the CMP. This is an approved connection provided it is fabricated as an integral part of a section of concrete pipe.

CONCRETE PIPE COLLAR			
Pipe Dia.	L	T	
18"	1'-0"	6"	
24"	1'-0"	6"	
36"	1'-6"	8"	
48"	1'-6"	10"	
60"	1'-9"	11"	

General Notes:
Pipe collar shall be used to join pipes of different diameters or materials or where change in alignment or grade exceeds that allowed for ordinary joints.
All concrete shall be Concrete Grade 3.0. All reinforcing steel shall be Grade 60 and shall have a minimum of 2" of cover.
The diameter of the circular ties shall be the outside diameter of the larger pipe plus "T".
The maximum allowable distance between the ends of the pipes at any point is 2".
All labor, materials and incidentals required to construct the pipe collar Type A, B or C shall not be paid for directly but shall be subsidiary to the individual pipe bid items.
Aluminum or aluminized pipes or end sections shall be coated with an asphaltic paint when in contact with fresh concrete in accordance with the Standard Specifications.
Pipe ends shall be trimmed such that the maximum distance between pipes at any point is 2".

PIPE COLLARS

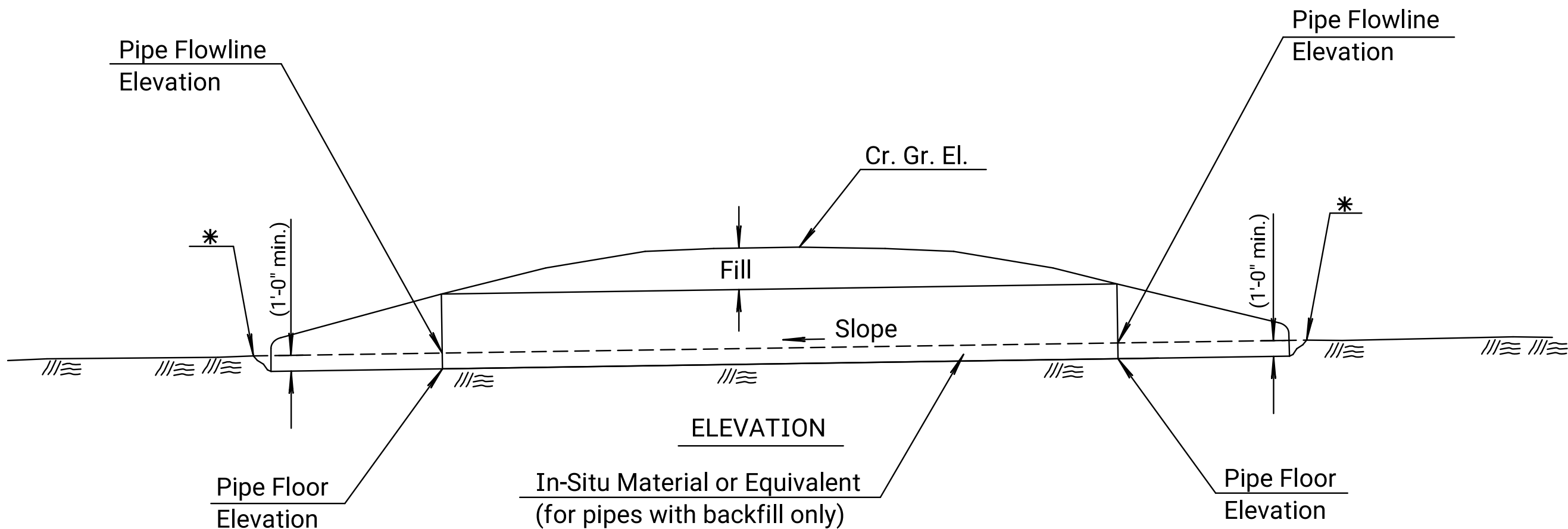


Sketch Along $\mathbb{C}$ CRP (CMP)
Broken-Back

SUMMARY OF BROKEN BACK PIPES											
STATION	SIZE	FLOW LINES				LENGTH			ANGLES		REMARKS
		#1	#2	#3	#4	L ₁	L ₂	L ₃	A	B	

GENERAL NOTE

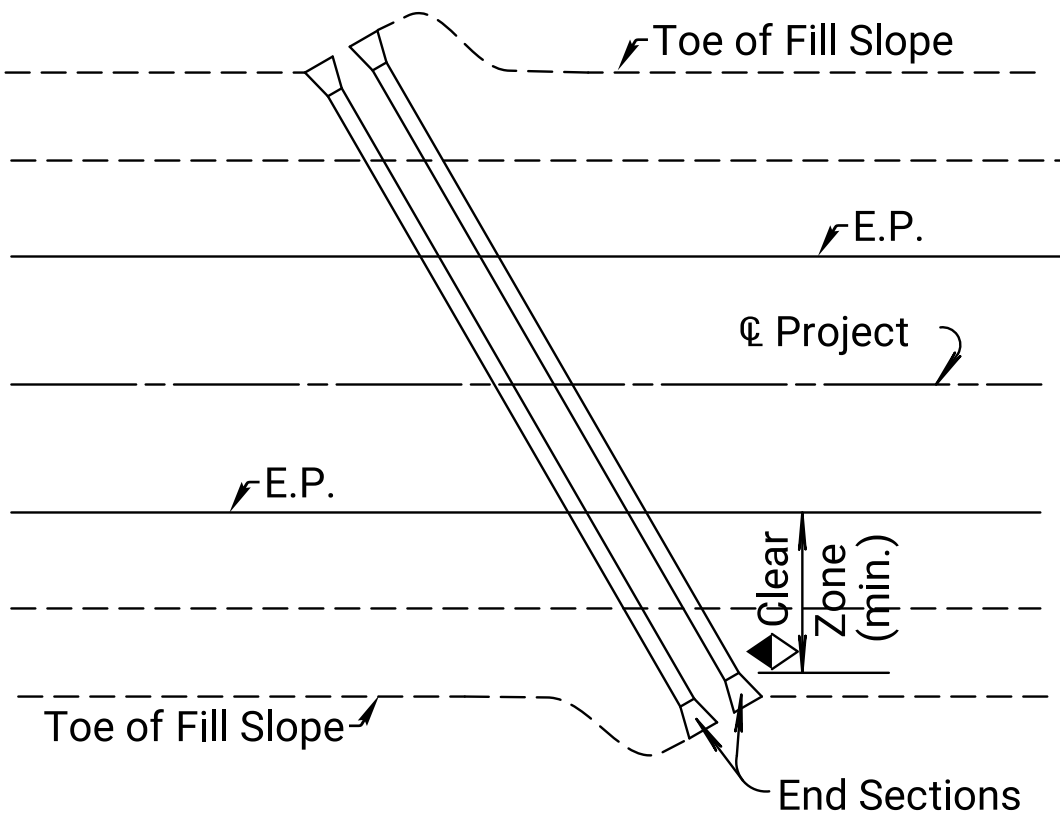
For pipes where the height or rise is greater than 4'-0" place uncompacted backfill through the pipe, including the end sections, 1'-0" (Min.). Backfill material will be reasonably free of organic material. In-situ material may be used for backfill as approved by the Engineer.
For pipes where the height or rise is less than or equal to 4'-0" install the pipe such that embedment will occur through natural sedimentation. See Pipe Embedment detail shown on this sheet.
Work and material for embedding pipes will not be paid for directly, but will be Subsidiary to the other pipe bid items in the contract.



PIPE EMBEDMENT

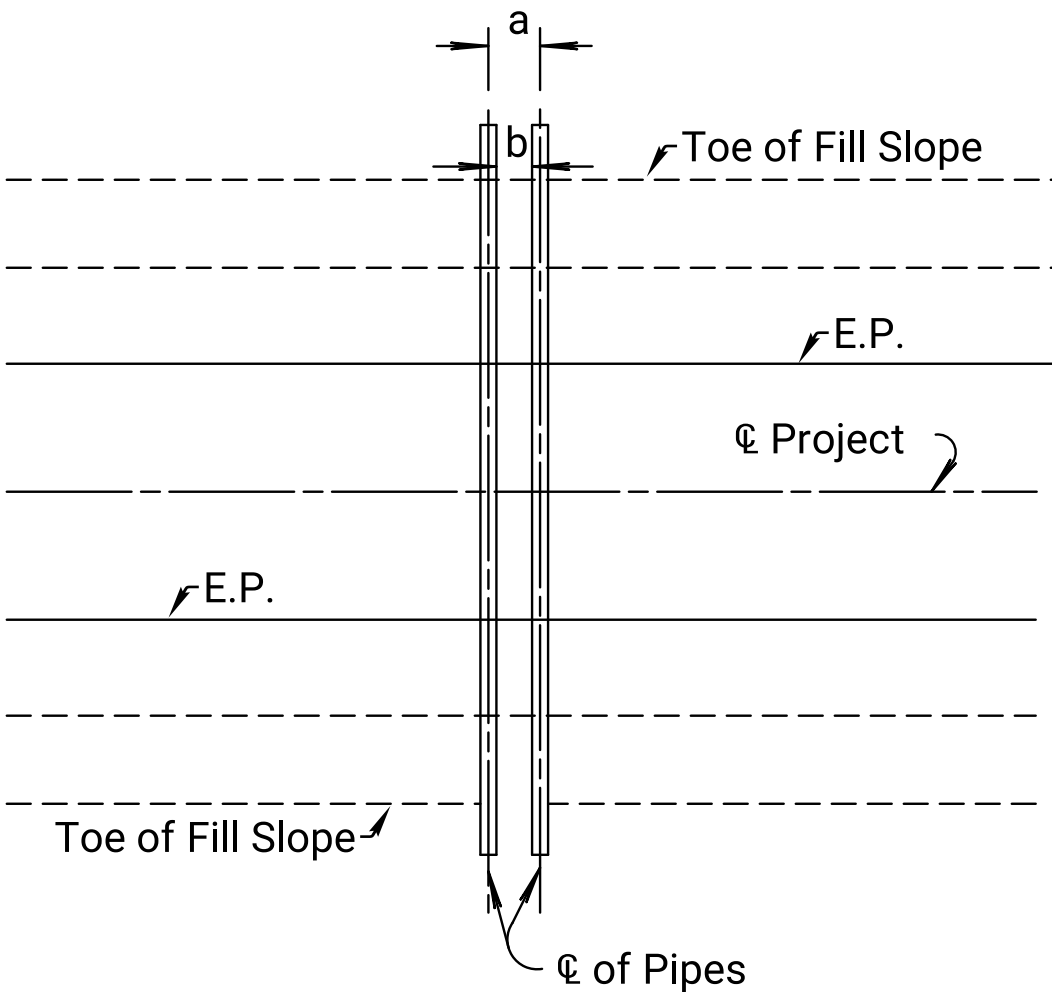
*Natural channel or ditch flowline elevation. See profile sheets and cross sections for details.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS		0	0	



PLACEMENT OF ROTATED PIPES
RELATIVE TO FILL SLOPE
AND CLEAR ZONE

Pipe culverts 2'-0" or less in height may terminate within the clear zone with Type I or Type III End Section. Any size pipe may terminate within the clear zone with a Type IV End Section.



a = Face width of end section + 1'.
Face width is equal to the following dimension shown on the end section std. drawing.
Type I Concrete = D
Type III Concrete = I
Type I CM = W+ 2A
Type III CM = G
Type IV = W+ 2A
b = Pipe diameter or span (3' min.)
Spacing shall be equal to the larger of dimensions a or b.
Spacing for three or more pipes shall be determined using a similar method.

MULTIPLE PIPE SPACING

06	01-21-16	Added Details, Pipe Embedment	T.T.R.	S.W.K.
05	05-17-13	Rev. Dimension, Type B Collar	S.W.K.	J.O.B.
04	04-18-08	Added asphaltic paint note	S.W.K.	J.O.B.
NO.	DATE	REVISIONS	BY	APPD
KANSAS DEPARTMENT OF TRANSPORTATION				
MISCELLANEOUS PIPE CULVERT DETAILS				
RD668				
FHWA APPROVAL 03-16-16 APPD. Scott W. King				
DESIGNED	DETAILED	QUANTITIES	TRACED	
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK.	