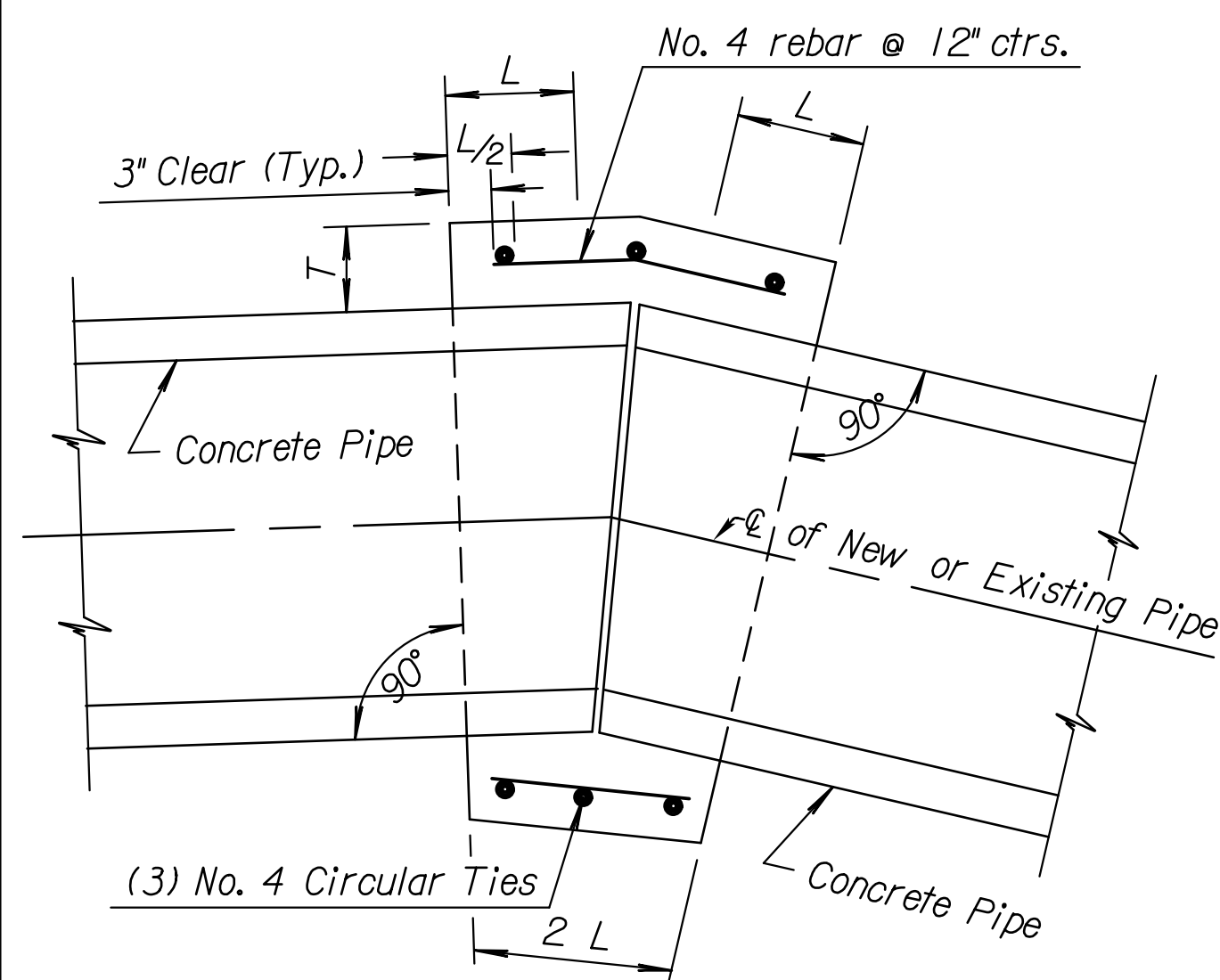
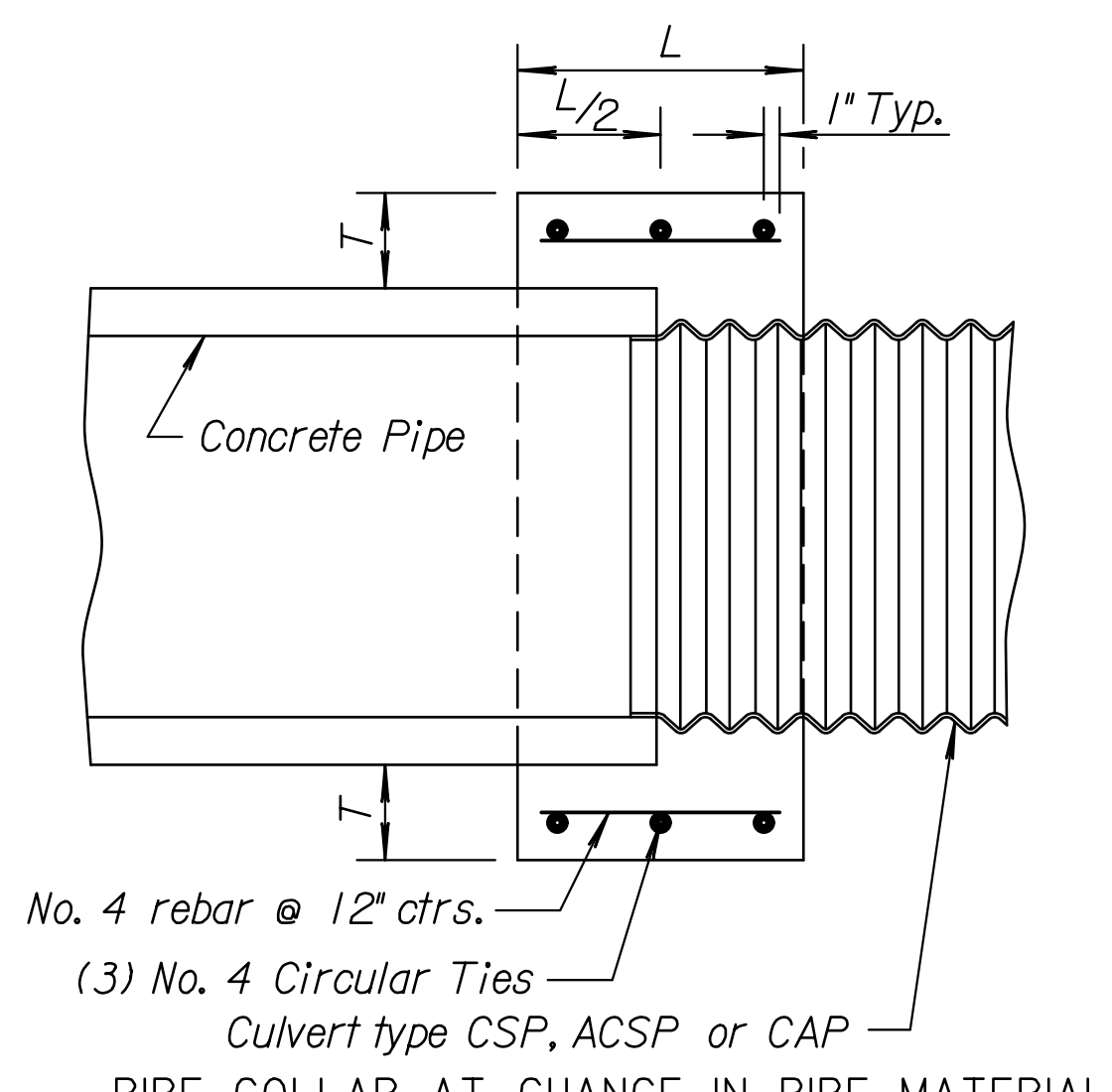


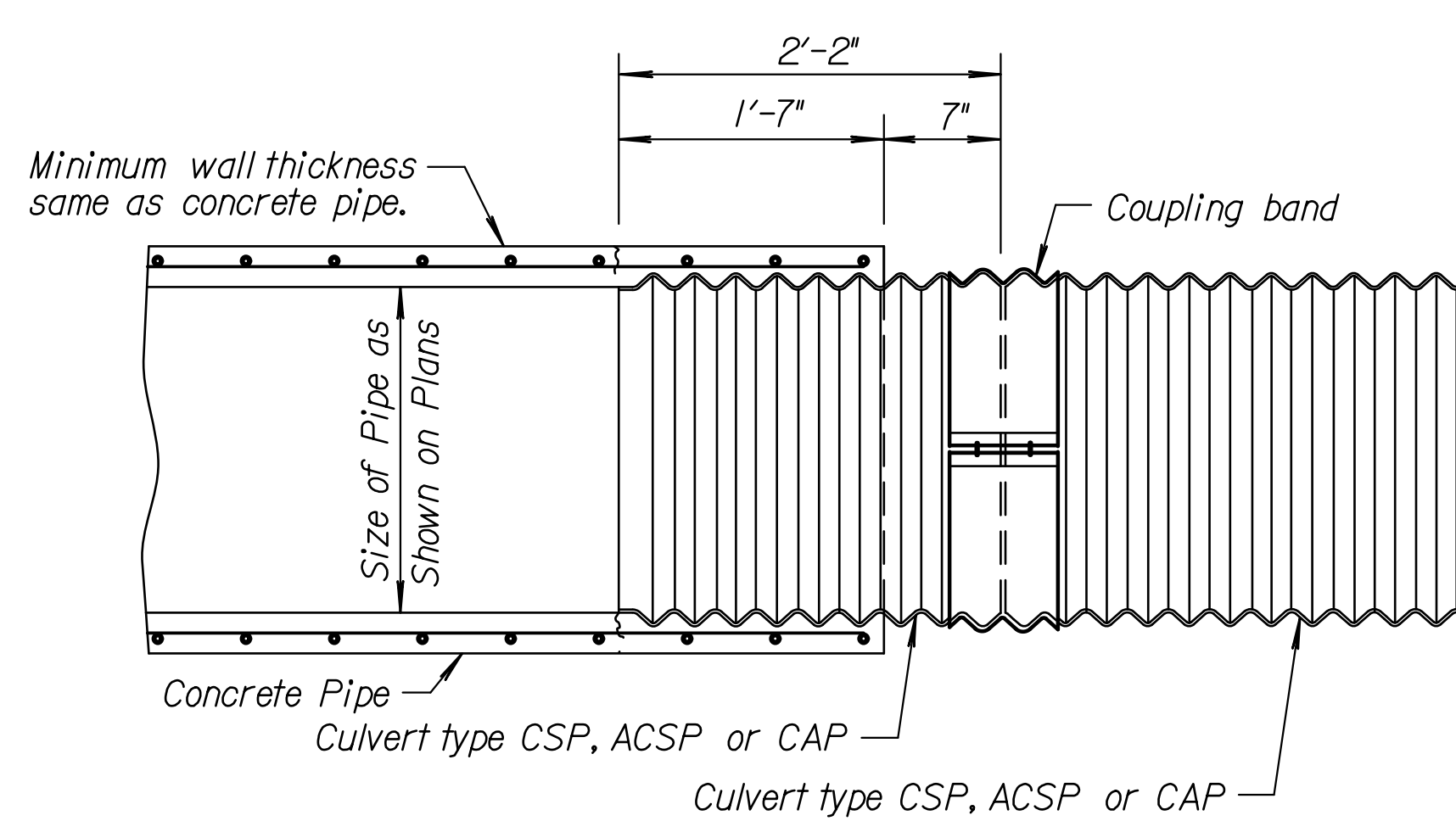
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	87 N-0614-01	2017	56	236



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.

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".

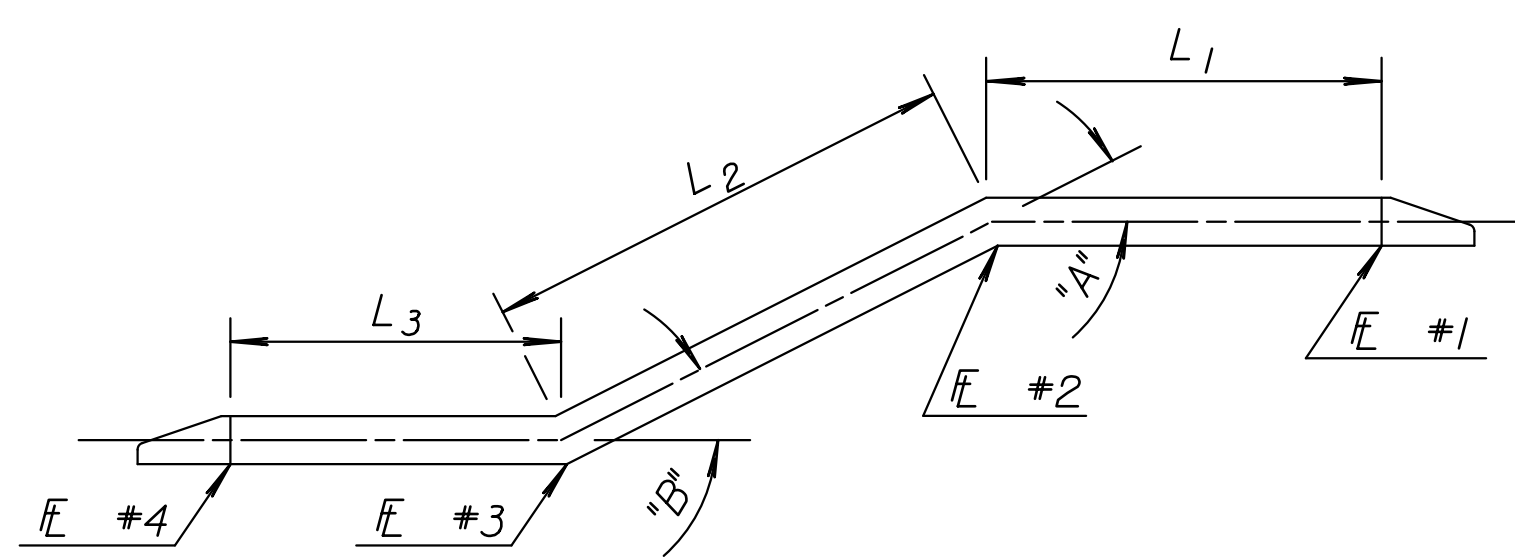
The maximum allowable distance between the ends of the pipes at any point is 2".

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 Centerline of Broken-Back Pipe (CMP)

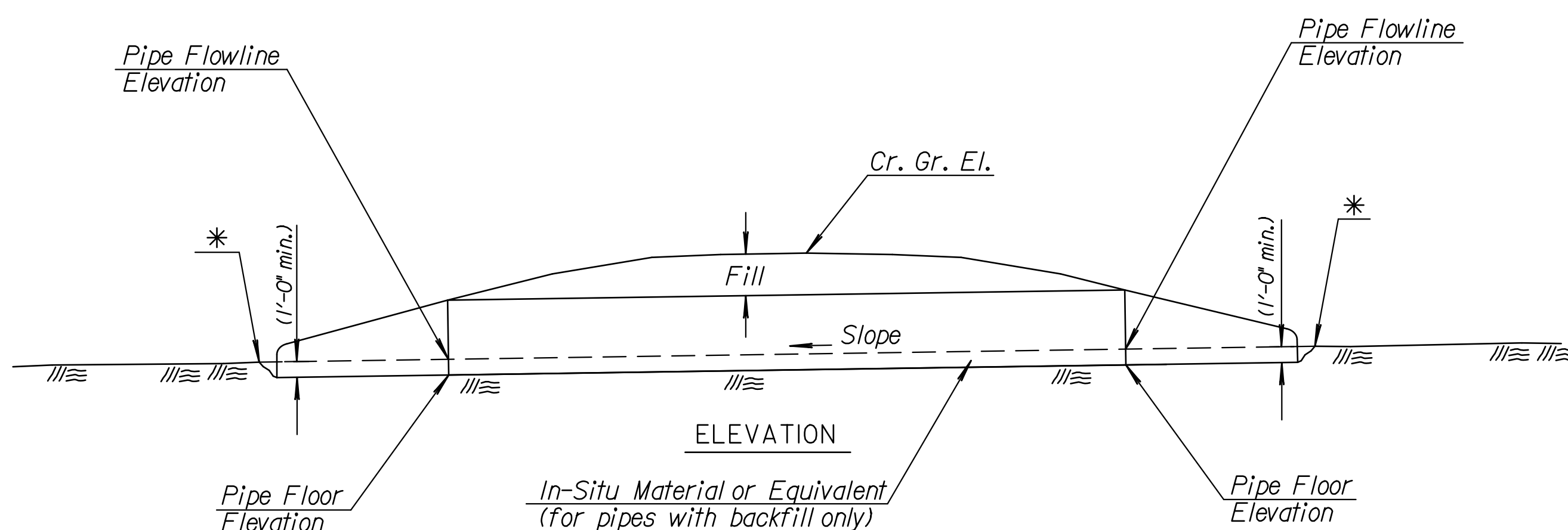
STATION	SIZE	FLOW LINES				LENGTH			ANGLES		REMARKS
		#1	#2	#3	#4	L1	L2	L3	A	B	

**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.

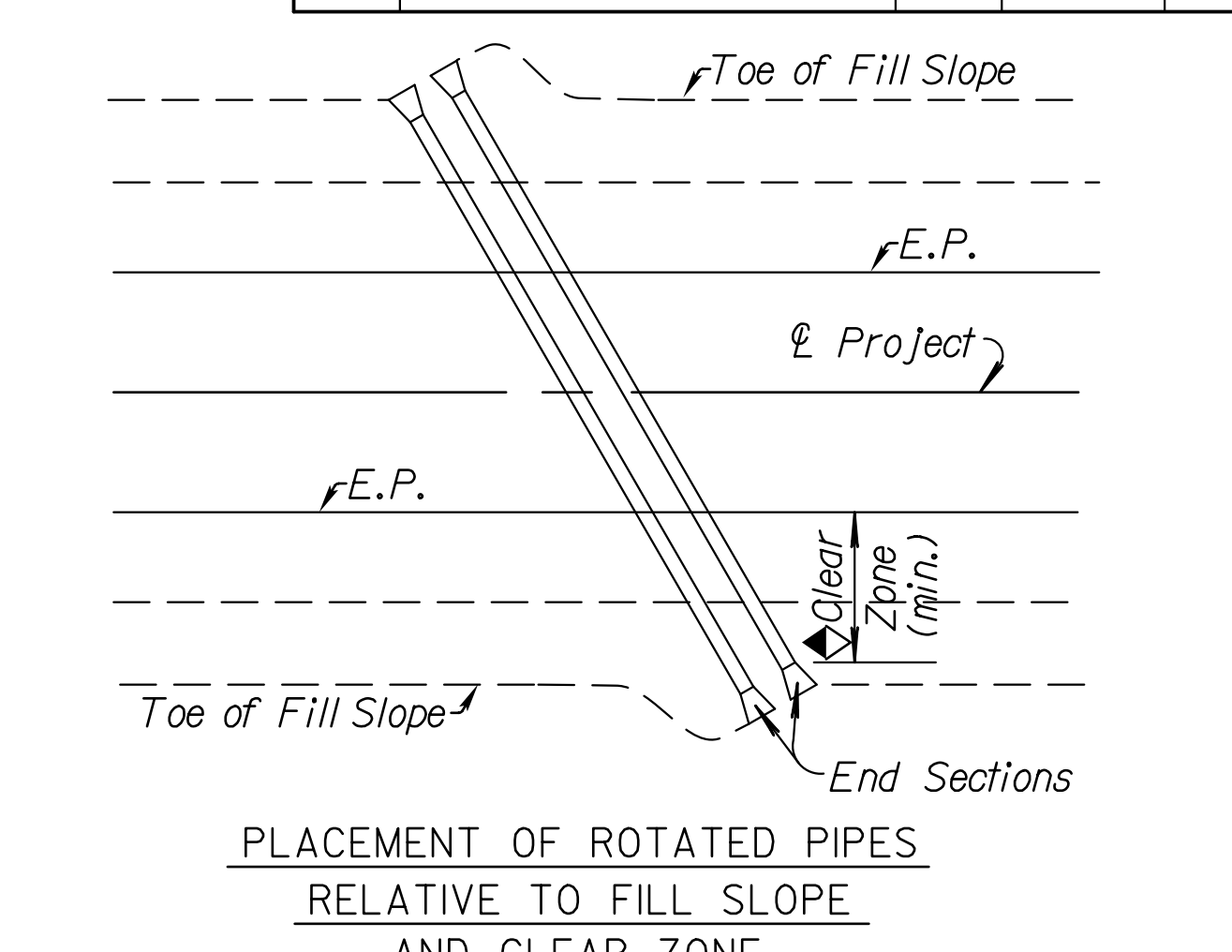
For pipes where the height or rise is less than or equal to 4'-0" install the pipe such that embedment will occur through natural sedimentation. See Pipe Embedment detail shown on this sheet.

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.

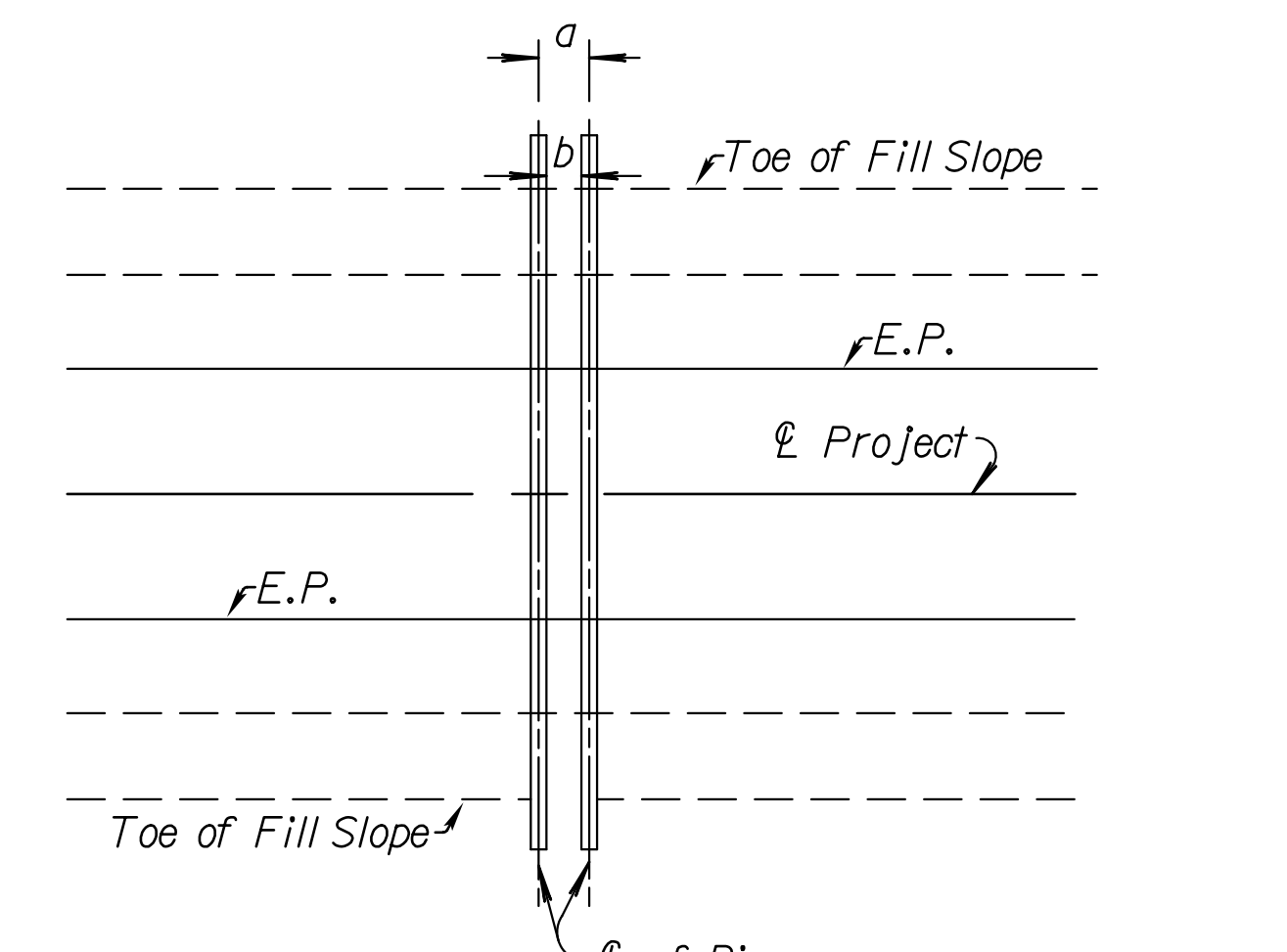


PIPE EMBEDMENT

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



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

NO.	DATE	REVISIONS	BY	APP'D
6	1-21-16	Added Details, Pipe Embedment	T.T.R.	S.W.K.
5	5-17-13	Rev. Dimension, Type B Collar	S.W.K.	J.O.B.
4	4-18-08	Added asphaltic paint note	S.W.K.	J.O.B.
3	1-28-05	Changed Class to Grade concrete	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS  
PIPE CULVERT DETAILS

RD668

FHWA APPROVAL	3-16-16	APP'D.	SCOTT W. KING
DESIGNED	KAHLE	QUANTITIES	TRACED
DESIGN CK.	DETAIL CK.	RHOADS	QUAN. CK.

Drawn By : unfiled  
 File : c:\transystems\pw\_local\transyscorp-pw\taurmel\0228400\rd668.dgn  
 Plotted : 5/26/2017