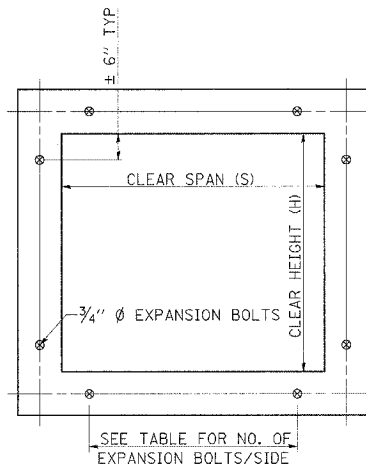


F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	*	JACKSON	258	75
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

* (12-1)2N,1-5,TS-3,B-1

EXPANSION BOLTS REQUIRED FOR CULVERT EXTENSIONS



EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION SHIELDS AND 3/4" Ø HOOKED BOLTS. HOOKED BOLTS SHALL EXTEND A MINIMUM OF 9" INTO NEW CONCRETE.

MINIMUM CERTIFIED PROOF LOAD=7500 LBS.

BOLTS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR EXPANSION BOLTS, 3/4 INCH.

H OR S	NO. EXPANSION BOLTS REQ'D/SIDE			
	EXTENSION < 15'		EXTENSION > 15'	
	NO.	SPACING	NO.	SPACING
2.0	*	*	*	*
2.5	2	18"	2	18"
3.0	2	24"	2	24"
4.0	3	18"	3	18"
5.0	4	16"	3	24"
6.0	5	15"	4	20"
7.0	5	18"	4	24"
8.0	6	17"	5	21"
9.0	6	19"	5	24"
10.0	7	18"	6	21"
11.0	8	17"	6	24"
12.0	8	19"	7	22"

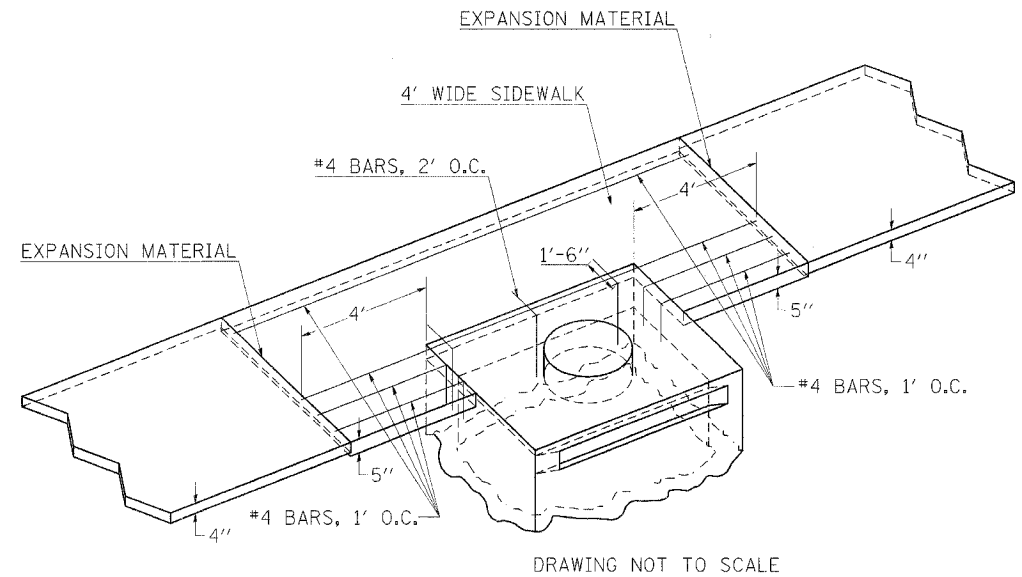
* NOTE: USE MINIMUM OF 1 EXPANSION BOLT AT EACH CORNER.

EXAMPLE:
6' X 4' BOX CULVERT TO BE EXTENDED 18' AT ONE END ONLY.

FROM TABLE FIND:
6' SIDE REQUIRES (4)-3/4" Ø EXPANSION BOLTS AT 20" CENTERS
4' SIDE REQUIRES (3)-3/4" Ø EXPANSION BOLTS AT 18" CENTERS

TOTAL NO. REQUIRED
(4+3)2 = (14)-3/4" Ø EXPLAN. BOLTS

INLET/SIDEWALK JOINT



DRAWING NOT TO SCALE

NOTES:

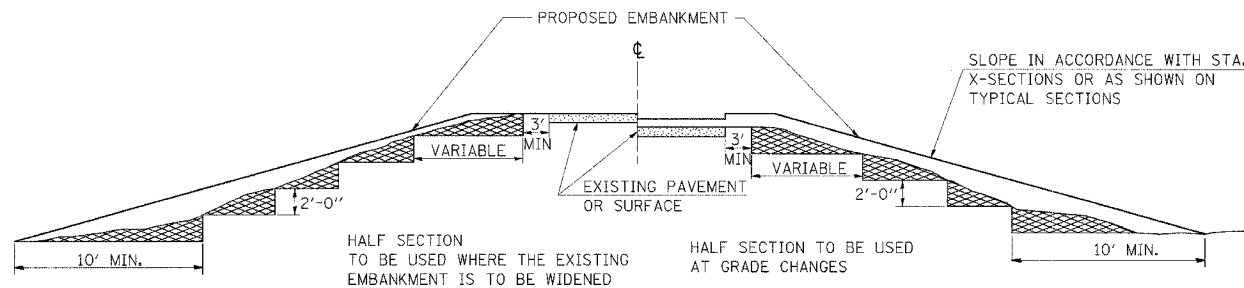
- PAYMENT FOR THIS WORK SHALL BE AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR PCC SIDEWALK 5". NO ADDITIONAL COMPENSATION WILL BE MADE FOR THE REBAR REINFORCEMENT.
- 5/8" HOOK BARS WITH THREADED COUPLING MAY BE USED IN LIEU OF THE #4 REBARS. (SEE STD 420001)

REVISIONS

REVISIONS	2-15-89
REDRAWN	8-15-94
REVISOR	12-14-01
REVISOR	

STD. 9-9

TYPICAL CROSS SECTION SHOWING STEP CONSTRUCTION ON EXISTING FILL



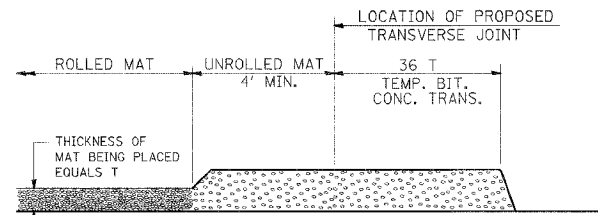
MATERIAL TO BE REMOVED AND REPLACED IN THE EMBANKMENT IN ACCORDANCE WITH ART. 205.04 OF THE STANDARD SPECIFICATION. COST TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED BECAUSE OF THIS WORK.

REVISIONS

REVISIONS	2-15-89
REDRAWN	8-15-94
CHECKED	6-3-98
REVISOR	

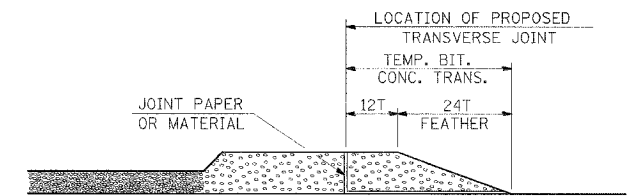
STD. 9-16

TEMPORARY BITUMINOUS CONCRETE TRANSITIONS



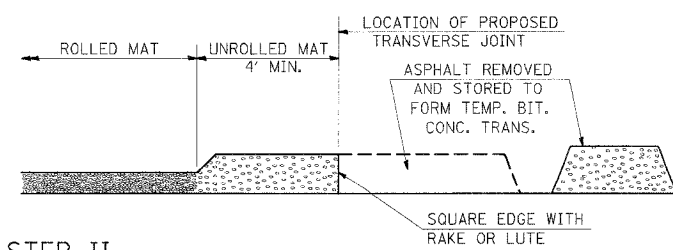
STEP I

- PLACE BITUMINOUS MAT, LENGTH 36 TIMES THE THICKNESS OF THE MAT BEING PLACED PAST THE PROPOSED TRANSVERSE JOINT LOCATION USING NORMAL OPERATING PROCEDURES.
- EXTREME CARE SHOULD BE TAKEN TO MAINTAIN ENOUGH MATERIAL IN FRONT OF THE SCREED TO MAINTAIN REQUIRED PAVING DEPTH.



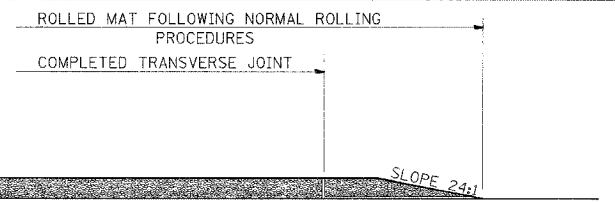
STEP III

- JOINT PAPER OR OTHER PRESELECTED JOINT MATERIAL IS THEN PLACED IN THE CLEARED AREA AND THE EXCESS ASPHALT USED TO HAND FORM A TRANSITION TO THE DIMENSIONS SHOWN ABOVE.
- NOTE THAT IN CONSTRUCTING THE TRANSITION, THE MAT DEPTH IS CONTINUED AS PART OF THE TRANSITION BEFORE FORMING THE FEATHER.



STEP II

- MOVE THE PAVER OUT OF THE WAY AND REMOVE THE ASPHALT FROM THE AREA OF THE PROPOSED TEMPORARY BITUMINOUS CONCRETE TRANSITION.
- SQUARE UP THE END OF THE MAT WITH A RAKE OR LUTE.
- NOTE THAT THE MAT WITHIN 4' OF THE END OF JOINT IS NOT TO BE ROLLED AT THIS TIME.



STEP IV

- COMPLETE TEMPORARY TRANSITION BY ROLLING.
- TO RESUME PAVING, AT THE JOINT, REMOVE TEMPORARY TRANSITION AND DISPOSE OF THE MATERIAL ACCORDING TO ART. 202.03 OF THE STD. SPECS. (COST INCLUDED IN THE CONTRACT).
- CONSTRUCTING THE TEMPORARY TRANSITIONS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE BITUMINOUS MATERIAL BEING PLACED.

REVISIONS

REVISIONS	2-15-89
REDRAWN	8-16-94
REVISOR	

STD. 9-26

DETAILS: EXPANSION BOLTS REQUIRED FOR CULVERT EXTENSIONS, INLET/SIDEWALK JOINT, TYPICAL CROSS SECTION SHOWING STEP CONSTRUCTION ON EXISTING FILL, TEMPORARY BIT CONC TRANSITIONS