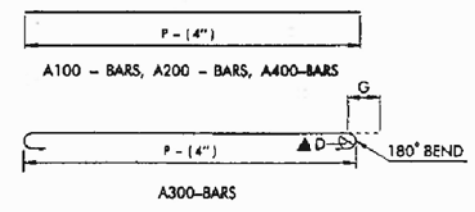
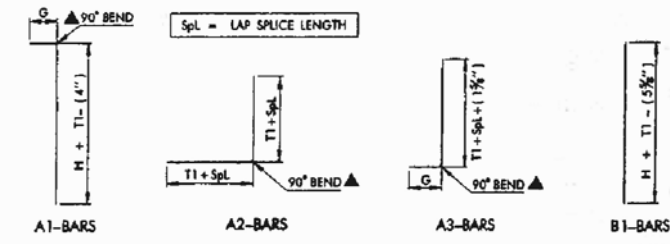


FED. ROAD DIST. NO.	STATE	JOB PIECE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	OKLA.				
DESCRIPTION			REVISIONS		DATE

DESCRIPTION	REVISIONS	DATE
RE-DESIGNED WITH 1999 SPECS, A2 Bars & Design Date Book	1	7/99
Bar Length T1 Equation, B4 Values	2	8/00

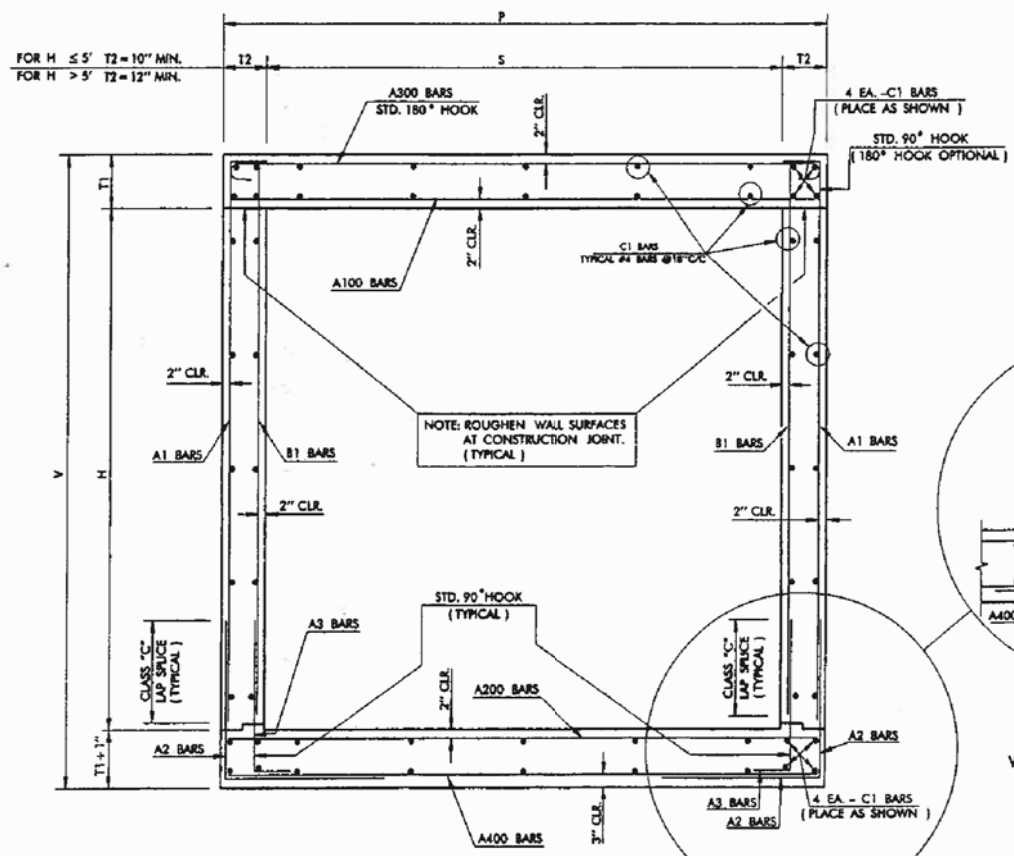


▲ MIN. D = 6d FOR #3 THROUGH #8 STEEL  
 ▲ MIN. D = 8d FOR #9 THROUGH #11 STEEL  
 ▲ MIN. D = 10d FOR #14 AND #18 STEEL  
 WHERE d = NOMINAL STEEL DIAMETER



BAR NO.	▲ DIA. D	LAP SPICE LENGTH		ACI STANDARD HOOKS	
		CLASS "C"	SpL	180° HOOKS	90° HOOKS
#3	2 1/4"	15"	5"	6"	
#4	3"	20"	6"	8"	
#5	3 3/4"	26"	7"	10"	
#6	4 1/4"	34"	8"	12"	
#7	5 1/4"	46"	10"	14"	
#8	6"	60"	11"	16"	
#9	9"	75"	15"	19"	
#10	10"	95"	17"	22"	
#11	11"	117"	19"	24"	

CLASS "C" TENSION LAP SPICES ARE BASED ON 1.7 x M (DEVELOPMENT LENGTH), ASHTO 8.32. STANDARD HOOKS ARE BASED ON CRITERIA SET BY THE CONCRETE REINFORCING STEEL INSTITUTE.

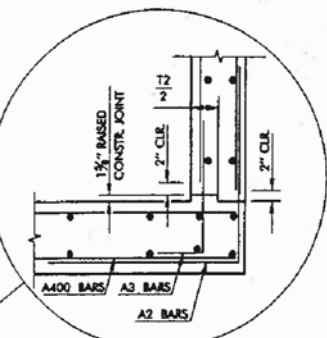


TYPICAL SECTION SINGLE CELL REINFORCED CONCRETE BOX CULVERT

LONGITUDINAL CONSTRUCTION JOINT DETAIL

THE MAXIMUM SPACING OF THE CONSTRUCTION JOINT SHALL BE 100'-0" LONGITUDINAL REINFORCING STEEL SHALL EXTEND THROUGH THE JOINT A MINIMUM OF 30" AND THE LONGITUDINAL STEEL IN THE ADJOINING SECTION SHALL BE LAPPED WITH A CLASS C SPICE.

WHEN NO CONSTRUCTION JOINTS ARE INDICATED ON THE PLANS, THE CONSTRUCTION JOINT MAY BE USED WHEN THE BARREL LENGTH EXCEEDS 60 FEET.



TYPICAL CONSTRUCTION JOINT FOR ALL EXTERIOR WALLS AT BOTTOM SLAB

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 1999 ENGLISH STANDARD SPECIFICATIONS.
- ALL CONCRETE EDGES SHALL HAVE A 1 1/2" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.
- ALL REINFORCING STEEL SHALL BE GRADE 60 AND HAVE A 2" MINIMUM CLEARANCE UNLESS OTHERWISE SHOWN ON THE PLANS.
- REINFORCING STEEL IN BOTTOM SLAB SHALL BE SUPPORTED ON BAR CHAIRS. CHAIRS SHALL BE SUPPORTED ON TIMBER PLANKS OR CLASS C CONCRETE STRIPS SPACED AT 4.0 FOOT CENTERS. THE TOP CHAIR SUPPORTS SHALL BE AT THE ELEVATION OF THE BOTTOM OF THE FOOTING.
- REINFORCING STEEL IN THE TOP SLAB SHALL BE SUPPORTED ON SLAB SPACERS.
- REINFORCING STEEL IN THE WALLS SHALL BE HELD IN PLACE BY METAL CHAIRS. MAXIMUM SPACING OF CHAIRS SHALL BE ON 6.0 FOOT CENTERS.
- COST OF METAL CHAIRS, WOOD PLANKS OR CONCRETE STRIPS SHALL BE INCLUDED ON OTHER ITEMS OF WORK.
- FOR DETAILS OF ONE CELL R.C.B. WINGS AND HEADWALLS, SEE ENGLISH ROADWAY STANDARD RC81H-1 OR STANDARD RC82H-1.
- THE QUANTITY FOR REINFORCING STEEL DOES NOT INCLUDE LAP SPICES OF C1 BARS IN THE LENGTH OF THE BARREL. THE NUMBER OF SPICES USED IS TO BE DETERMINED BY THE CONTRACTOR. COST OF ADDITIONAL REINFORCING STEEL FOR SPICES TO BE INCLUDED IN THE BID PRICE FOR REINFORCING STEEL.

DESIGN DATA	
CONCRETE (CLASS A)	f'c = 3 KSI
REINFORCING STEEL	fy = 60 KSI
LOADING: HS20	
DESIGNED BASED ON LOAD FACTOR DESIGN (LFD)	

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
509.06 (B)	CLASS A CONCRETE	C.Y.
511.06 (A)	REINFORCING STEEL	LBS.

APPROVED BY ROADWAY ENGINEER *C. M. [Signature]* DATE 8/18/00

OKLAHOMA DEPT. OF TRANSPORTATION  
 ROADWAY STANDARD (ENGLISH)  
 SINGLE CELL REINFORCED CONCRETE  
 BOX CULVERTS FOR SPANS 3' TO 10'  
 AND FILLS 3' TO 20'

1999 SPECIFICATIONS TYPICAL SECTION RC83-1 01E  
 R-54CE

NOT TO SCALE

DESIGN		OKLAHOMA DEPARTMENT OF TRANSPORTATION POE & ASSOCIATES
DRAWN		
CHECKED		
APPROVED		
SQUAD	DE	

DRAINAGE STR. DETAILS  
 SHT. 4 OF 4

STATE JOB NO. 26346(04) SHEET NO. 17  
 US-271 OVER KIAMICHI RIVER PUSHMATAHA COUNTY