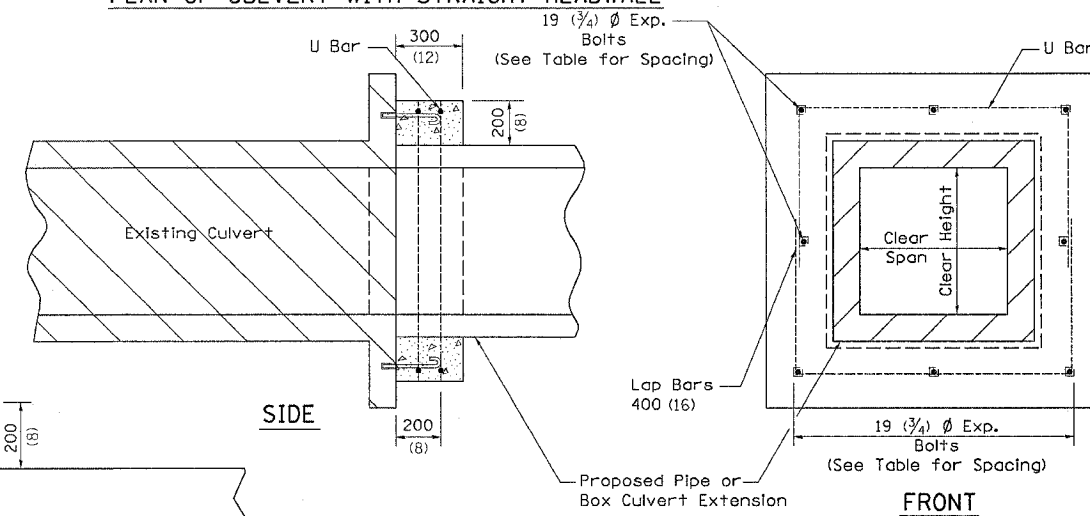
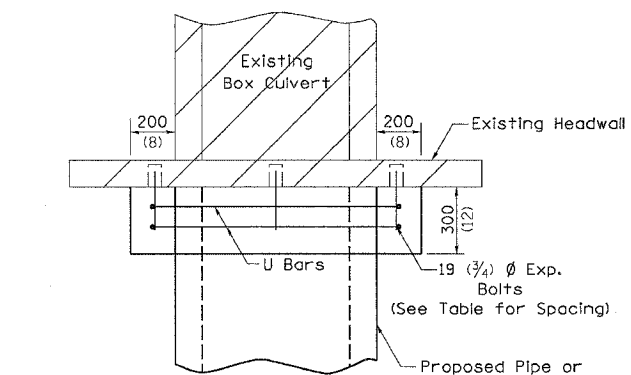
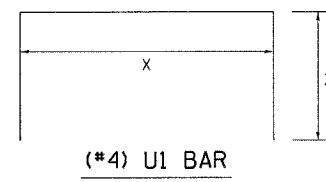
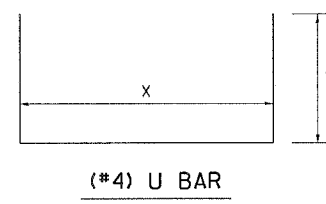
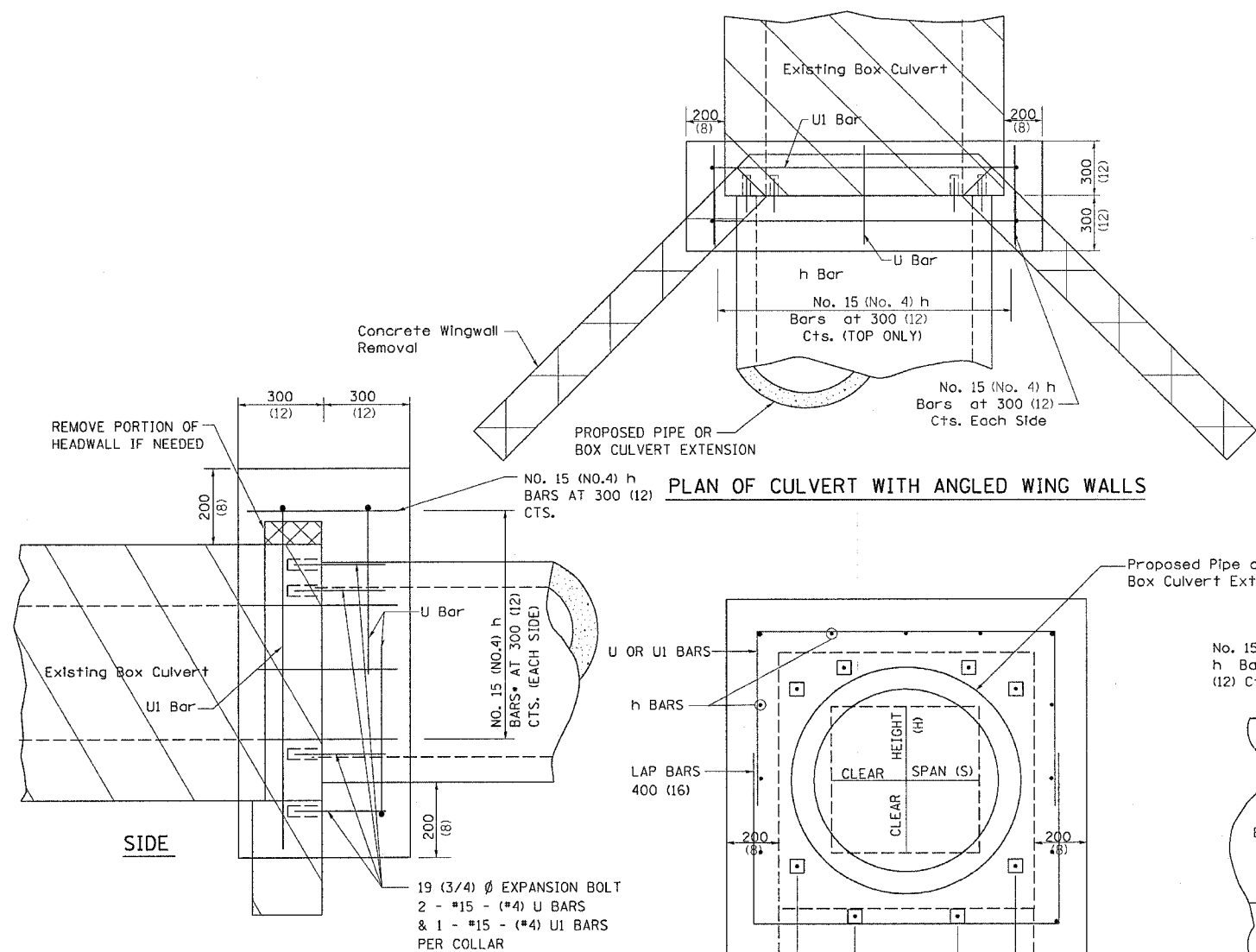


CONCRETE COLLARS FOR PIPE OR BOX CULVERT EXTENSIONS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
301	21-T	STEPHENSON	49	28
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



PLACEMENT DETAILS FOR EXPANSION BOLTS

H OR S	NUMBER OF EXPANSION BOLTS REQUIRED PER SIDE			
	EXTENSIONS < 4.57m (15')		EXTENSIONS > 4.57m (15')	
	NUMBER	SPACING	NUMBER	SPACING
600 (24)	*		*	
750 (30)	2	450 (18)	2	450 (18)
900 (36)	2	600 (24)	2	600 (24)
1200 (48)	3	450 (18)	3	450 (18)
1500 (60)	4	400 (16)	3	600 (24)
1800 (72)	5	375 (15)	4	500 (20)
2100 (84)	5	450 (18)	4	600 (24)
2400 (96)	6	375 (15)	5	525 (21)
2700 (108)	6	475 (19)	5	600 (24)
3000 (120)	7	450 (18)	6	525 (21)
3300 (132)	8	425 (17)	6	600 (24)
3600 (144)	8	475 (19)	7	550 (22)

* MINIMUM ONE PER SIDE

PLOT DATE = Fri, Sep 23 14:16:06 2005
FILE NAME = c:\v\projects\10281503\64896.dgn
PLOT SCALE = 1/8"=1'-0"
REFERENCE = #REF#

CULVERT CONNECTION WITHOUT EXISTING HEADWALL

Bill of Materials

STATION	DIMENSIONS		h Bar No.	U Bar No.	Length	EXPANSION BOLTS No.	CONCRETE COLLAR Cu. m.	REINF. BARS KG
	X	Y						
All h Bars 450 (18) Long					Total			

General Notes

Concrete Collars shall be constructed of Class SI Concrete in accordance with Section 503 of the Standard Specifications

Reinforcement bars shall conform to Section 508 of the Standard Specifications.

The concrete will be paid for at the contract unit price per cubic meter (cubic yard) for CONCRETE COLLAR. Reinforcement will be paid for at the contract unit price per kilogram (pound) for REINFORCEMENT BARS. Expansion Bolts, when required, will be paid for at the contract unit price each for EXPANSION BOLTS of the size indicated, which price shall include furnishing, drilling holes, and installing the expansion bolts complete in place. These bolts shall extend at least 200 (8 inches) into the new concrete.