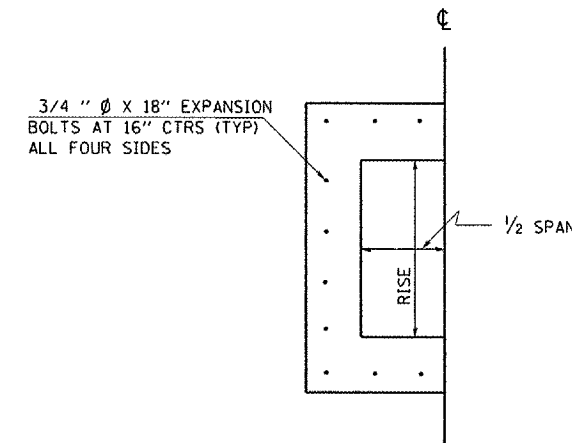
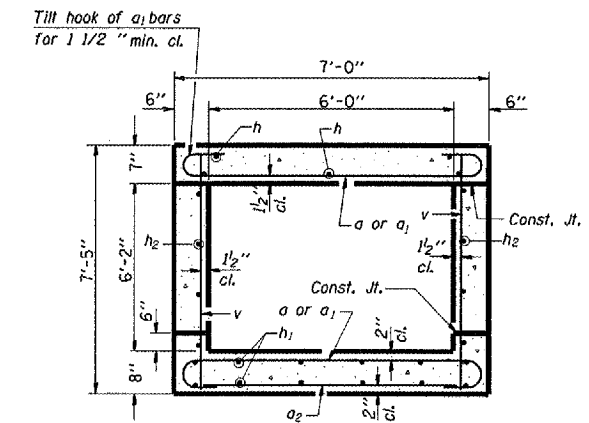
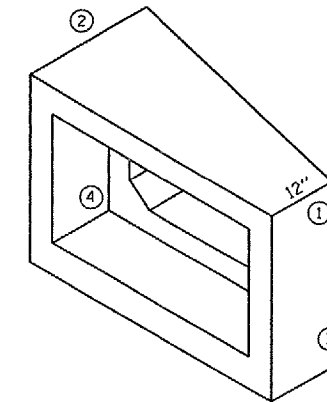
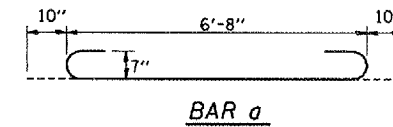
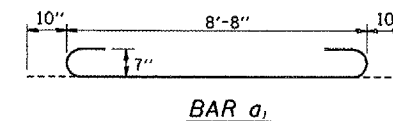


**CONCRETE COLLAR FOR  
PRECAST BOX CULVERTS  
STA. 752+51 LT SIDE**



**BILL OF MATERIAL**

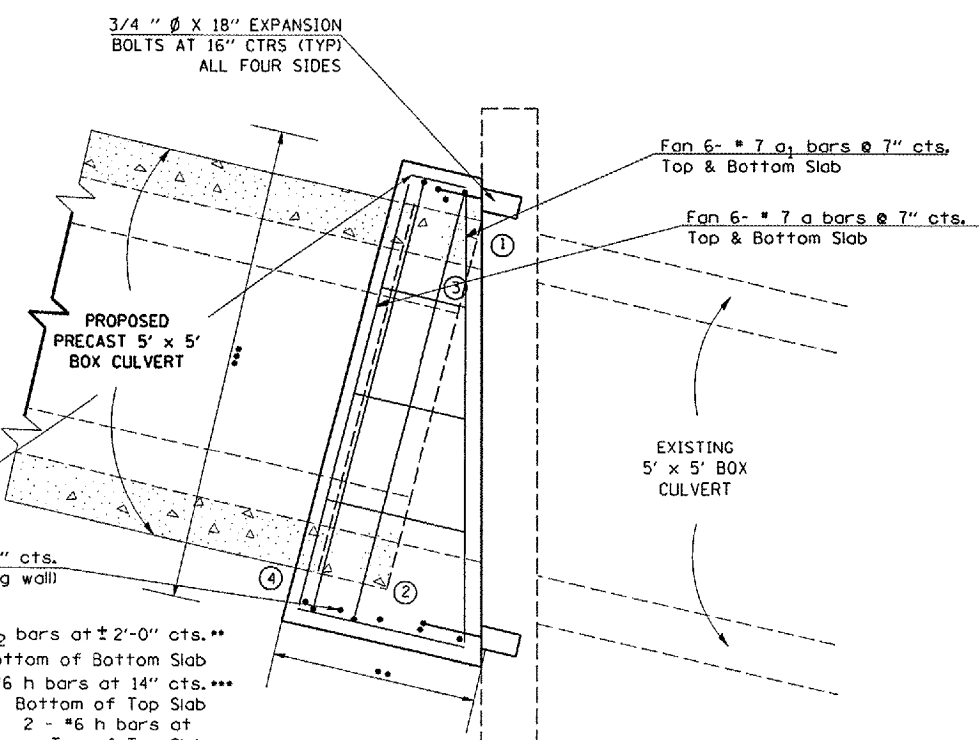
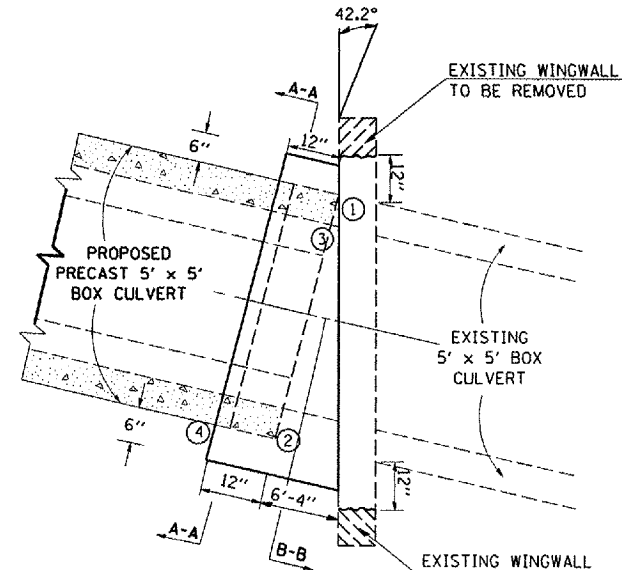
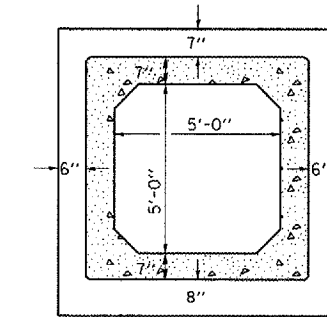
Bar	No.	Size	Length	Shape
a	12	#7	8'-4"	U
a <sub>1</sub>	12	#7	10'-4"	U
a <sub>2</sub>	5	#4	9'-0"	—
h	9	#7	7'-0"	—
h <sub>1</sub>	8	#4	7'-8"	—
h <sub>2</sub>	8	#5	7'-8"	—
v	13	#4	7'-1"	—
Expansion Bolts		3/4"	Each	18
Concrete Box Culverts			Cu. Yd.	4.82
Reinforcement Bars			Pound	697

Cut a<sub>2</sub>, h, h<sub>1</sub>, and h<sub>2</sub> bars in the field to fit.

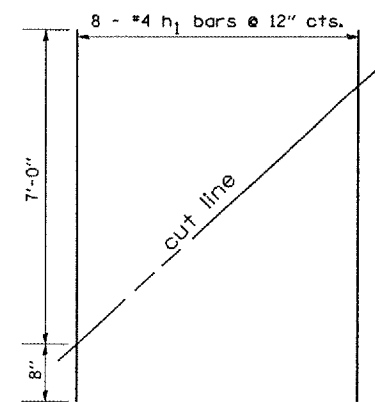
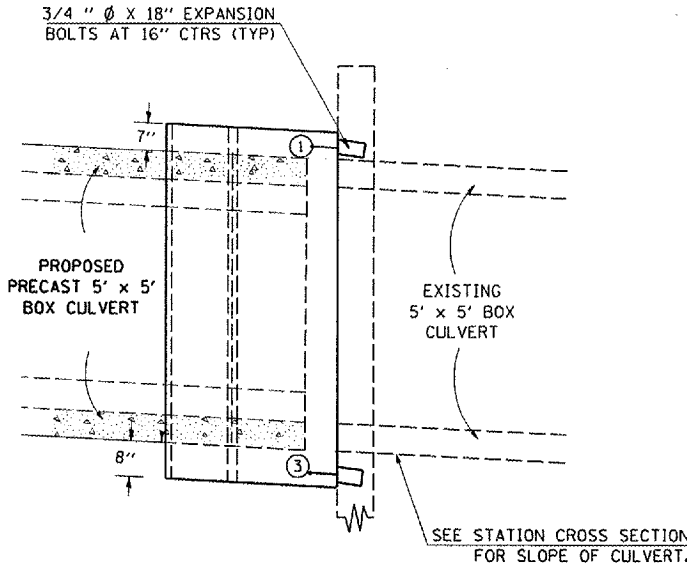
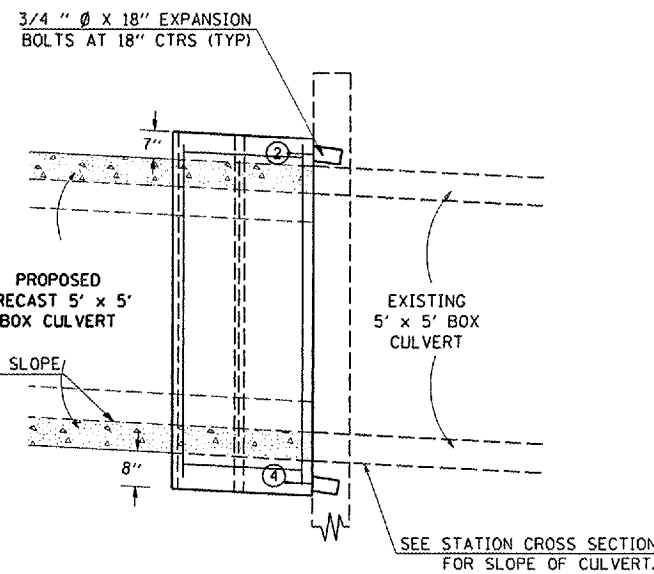
**NOTES:**

ANCHOR BOLTS, MEETING THE REQUIREMENTS OF ARTICLE 1006.09 OF THE STANDARD SPECIFICATIONS, SHALL EXTEND A MINIMUM OF 9 INCHES INTO THE NEW CONCRETE. EXPANSION SHIELDS SHALL PROVIDE A MINIMUM CERTIFIED PROOF LOAD OF 4080 POUNDS.

THE CONCRETE COLLAR SHALL NOT BE PAID FOR SEPARATELY WHEN CONSTRUCTED IN CONJUNCTION WITH PRECAST BOX CULVERTS, BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR PRECAST CONCRETE BOX CULVERTS. THIS PRICE SHALL INCLUDE THE EXPANSION BOLTS, CONCRETE, REINFORCEMENT BARS AND THE REMOVAL OF SUCH PORTIONS OF THE EXISTING HEADWALLS AND WINGWALLS AS MAY BE REQUIRED. CLASS SI CONCRETE SHALL BE USED THROUGHOUT.



- 8 - #5 h<sub>2</sub> bars at 12" cts. Each wall
- 13 - #4 v bars at 9" cts. (2 in short wall; 11 in long wall)
- 5 - #4 a<sub>2</sub> bars at ±2'-0" cts. Bottom of Bottom Slab
- 7 - #6 h bars at 14" cts. Bottom of Top Slab
- 2 - #6 h bars at Top of Top Slab
- 8 - #4 h<sub>1</sub> bars at 12" cts. Top & Bottom of Bottom Slab



Order h<sub>1</sub> bars full length. Cut as shown and use remainder of bars in opposite face.