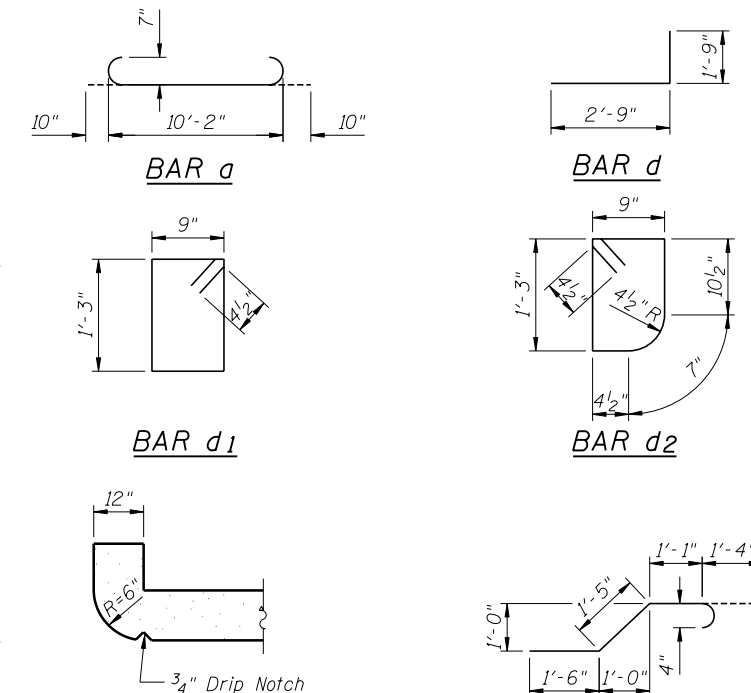
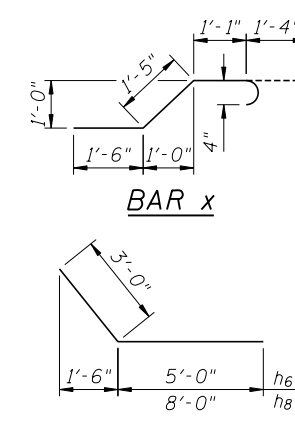


**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a	128	#7	11'-10"	
a <sub>1</sub>	22	#4	10'-2"	
a <sub>2</sub>	2	#4	22'-6"	
d	40	#4	4'-6"	
d <sub>1</sub>	24	#4	4'-9"	
d <sub>2</sub>	24	#4	4'-7"	
h	4	#6	11'-8"	
h <sub>1</sub>	4	#6	6'-0"	
h <sub>2</sub>	20	#6	17'-8"	
h <sub>3</sub>	40	#4	17'-8"	
h <sub>4</sub>	24	#5	6'-0"	
h <sub>5</sub>	24	#5	11'-8"	
h <sub>6</sub>	20	#7	8'-0"	
h <sub>7</sub>	20	#7	8'-0"	
h <sub>8</sub>	20	#7	11'-0"	
h <sub>9</sub>	20	#7	15'-9"	
h <sub>10</sub>	24	#6	11'-6"	
v	108	#4	6'-2"	
v <sub>1</sub>	16	#4	9'-2"	
x	116	#4	5'-4"	
x <sub>1</sub>	12	#4	7'-6"	
x <sub>2</sub>	24	#4	10'-10"	
Item		Unit	Quantity	
Concrete Box Culverts		Cu. Yd.	55.4	
Reinforcement Bars		Pound	8,450	
Structure Excavation		Cu. Yd.	33	



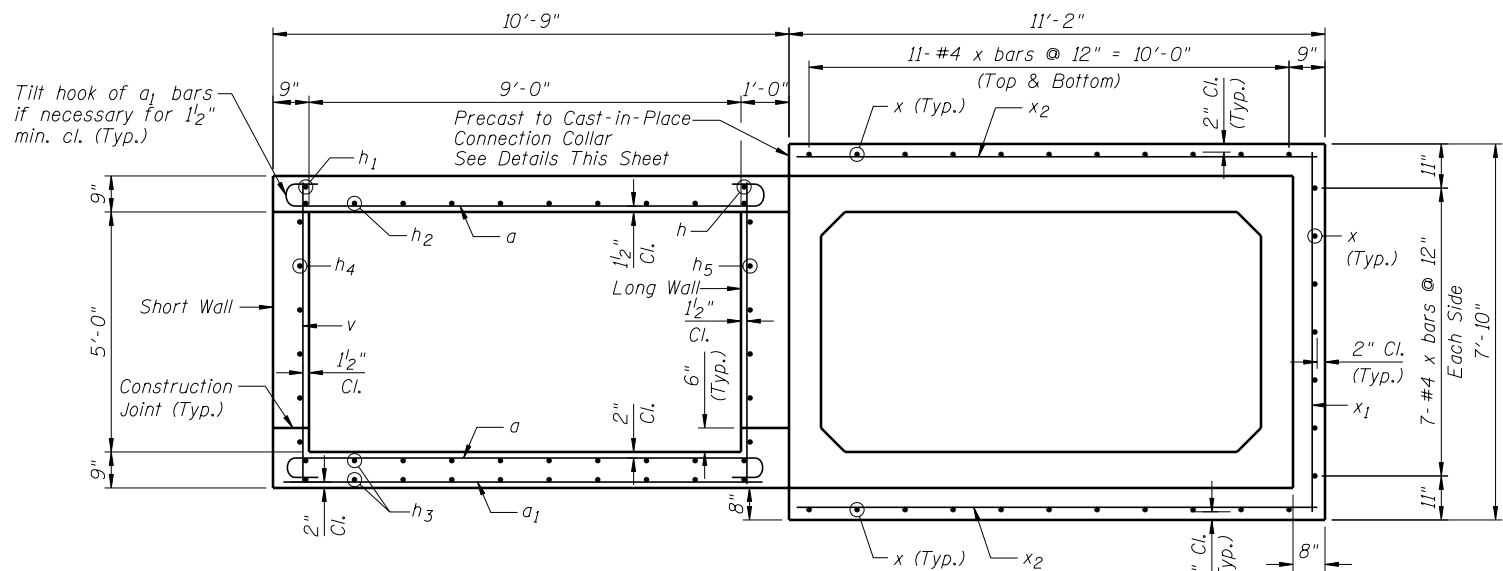
**SECTION THRU HEADWALL**  
(Up Stream End Only)



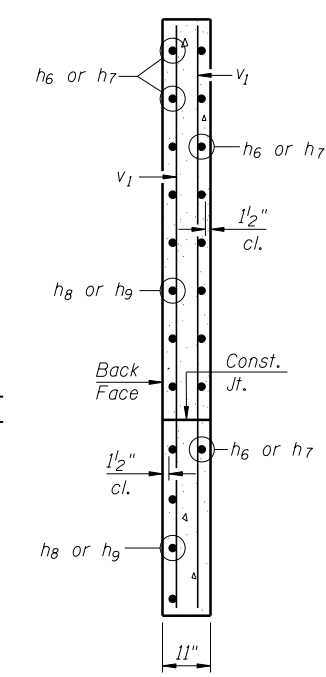
**BARS h<sub>6</sub> & h<sub>8</sub>**

**BARS h<sub>7</sub> & h<sub>9</sub>**

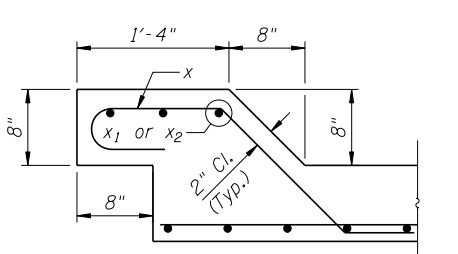
**NOTES**  
All construction joints shall be bonded.



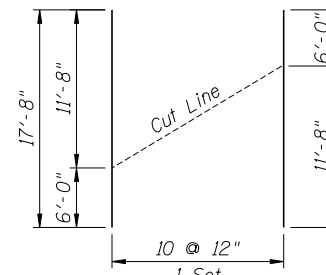
**SECTION A-A**



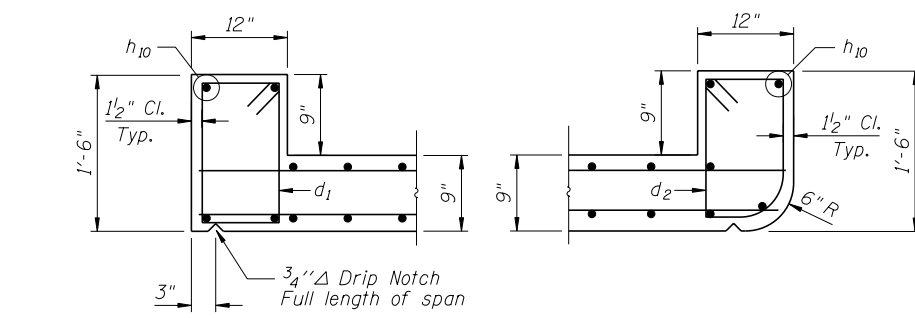
**SECTION B-B**



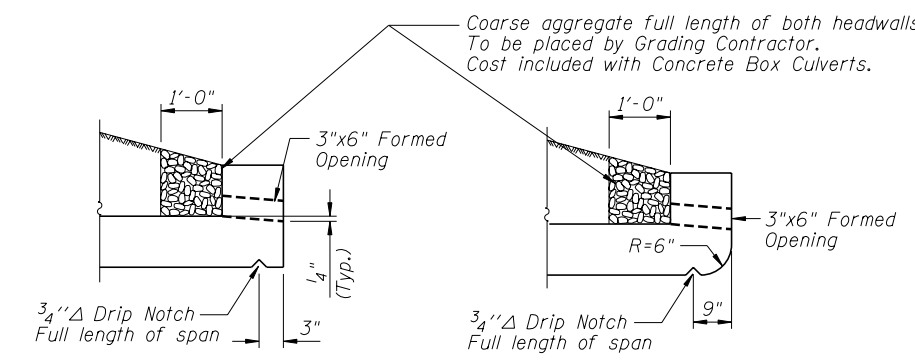
**PRECAST TO CAST-IN-PLACE CONNECTION COLLAR**



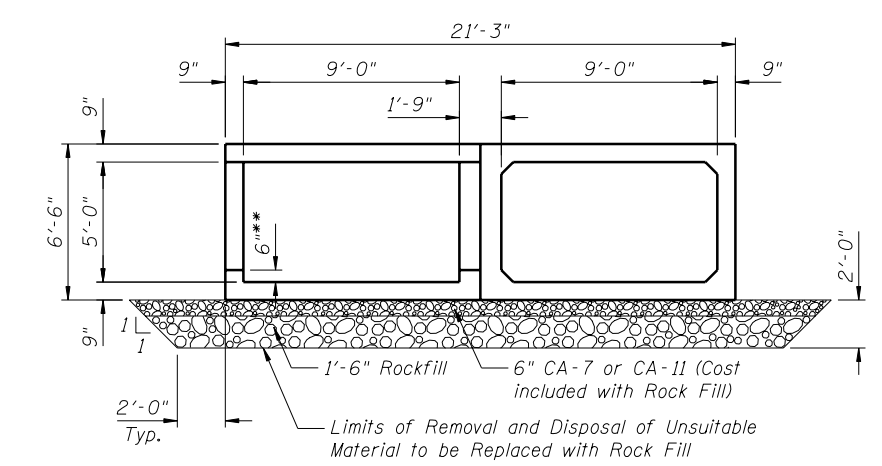
**BAR h<sub>2</sub> and h<sub>3</sub> CUT DIAGRAM**



**HEADWALL DETAILS**



**DRAIN DETAIL**



**SECTION THRU BARREL**

**CULVERT DETAILS**  
**STRUCTURE NO. 050-2054**