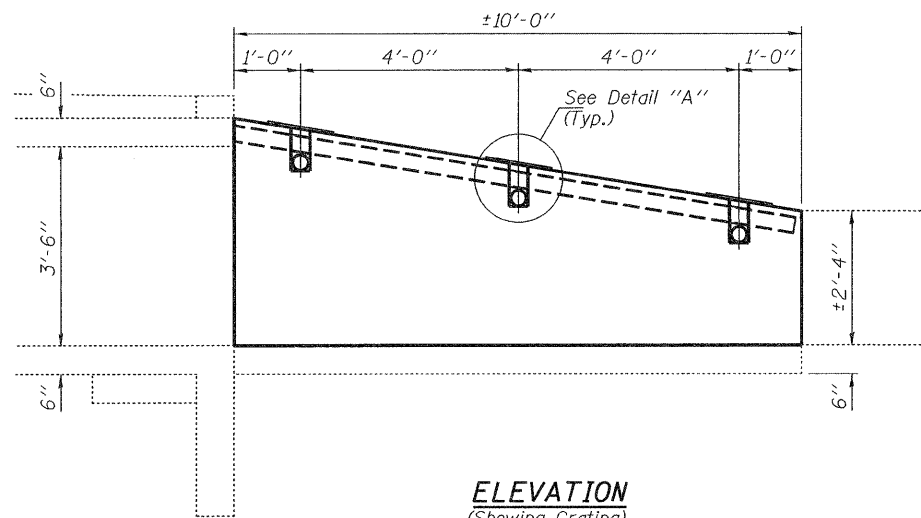
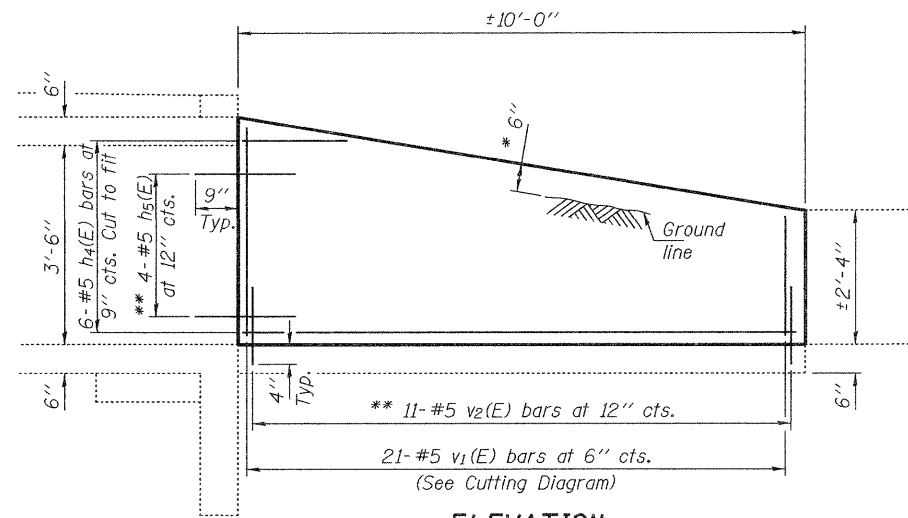


NOTES

Bolts, nuts, and washers shall be in accordance with Article 710.11 of the Standard Specifications and shall be galvanized.
 The contract unit price per cubic yard for Concrete Structures shall include the galvanized pipe, bolts, nuts, washers and steel plates.
 Steel pipes shall conform to ASTM A-53 (Type E or S) Grade B, Schedule 40 and shall be galvanized conforming to ASTM A-120. Contractor shall field verify pipe length.
 Steel plates shall conform to AASHTO M-183 and shall be galvanized conforming to AASHTO M-111.

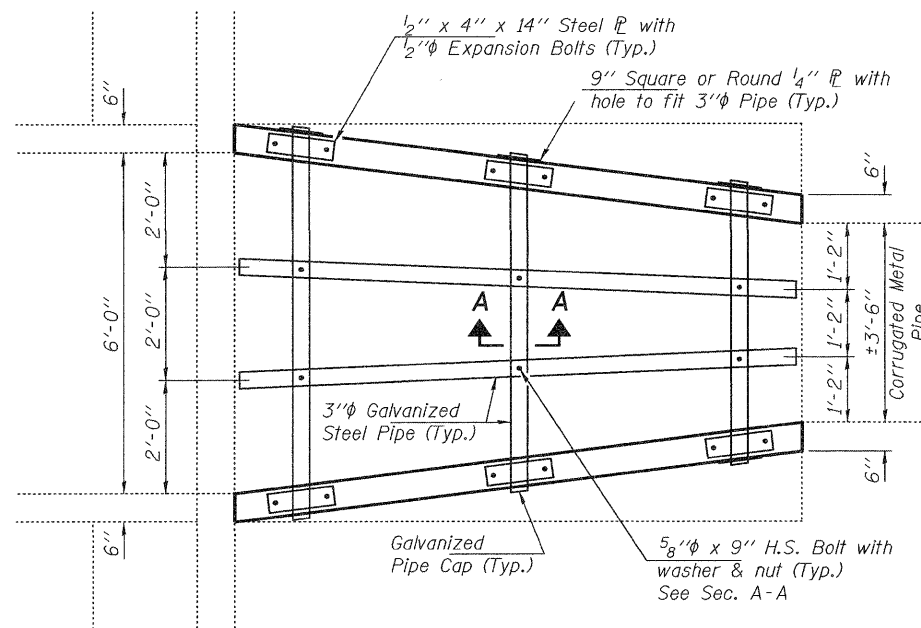


ELEVATION
(Showing Grating)

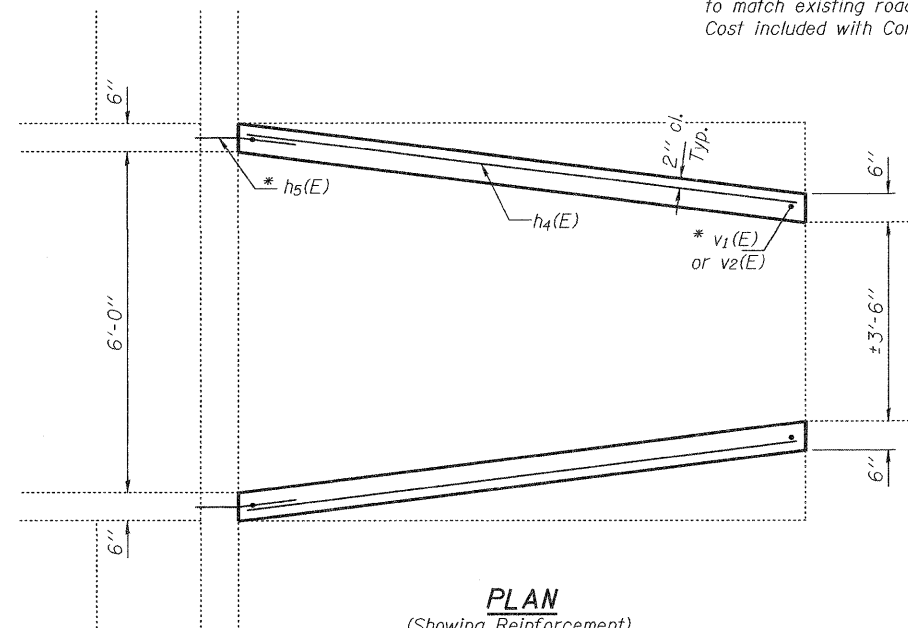


ELEVATION
(Showing Reinforcement)

* The East wall is to be backfilled to within 6" of the top of the wall.
 The West wall shall be backfilled & compacted to match existing roadway.
 Cost included with Concrete Structures.

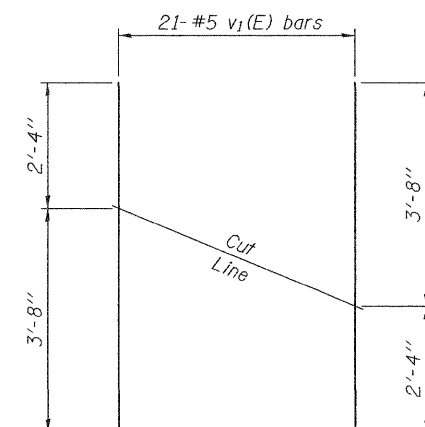


PLAN
(Showing Grating)



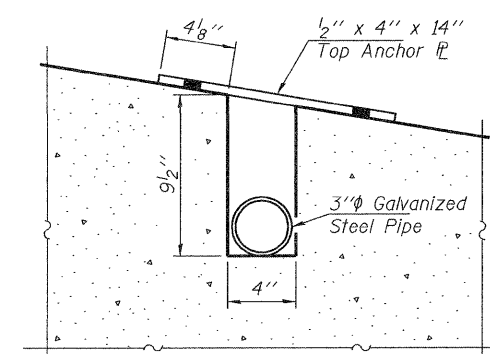
PLAN
(Showing Reinforcement)

** Epoxy grout h5(E) & v2(E) bars according to Article 584 of the Standard Specifications.



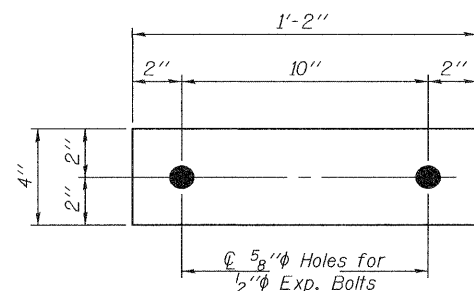
CUTTING DIAGRAM

Order bars full length and cut as shown.
 Place remainder of bar in opposite wall.



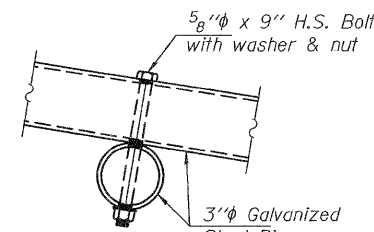
DETAIL "A"

1/2" Expansion Bolts not shown for clarity.



TOP ANCHOR PLATE

1/2" x 4" x 14" (6 Required)



SECTION A-A

BILL OF MATERIAL FOR GRATED CULVERT EXTENSION

FOR INFORMATION ONLY
 (Cost included with Concrete Structures)

ITEM	UNIT	TOTAL
3" Galvanized Steel Pipe	Foot	38
3" Galvanized Pipe Caps	Each	10
1/2" Expansion Bolts	Each	12
1/4" Galvanized Steel Plate	Pound	35
1/2" x 4" x 14" Galvanized Steel Plate	Pound	48
5/8" x 9" Galv. Steel Bolts & Nuts	Each	6

BILL OF MATERIAL NORTH END

Bar	No.	Size	Length	Shape
h4(E)	12	#5	9'-8"	—
h5(E)	8	#5	2'-0"	—
v1(E)	21	#5	6'-0"	—
v2(E)	22	#5	1'-6"	—
Concrete Removal			Cu. Yd.	0.8
Concrete Structures			Cu. Yd.	1.2
Reinforcement Bars, Epoxy Coated			Pound	280

DESIGNED DAB
 CHECKED VHV
 DRAWN balva
 CHECKED DAB VHV

EXAMINED
 PASSED
 ACTING ENGINEER OF STRUCTURAL SERVICES
 ACTING ENGINEER OF BRIDGES AND STRUCTURES
 DATE FEBRUARY 3, 2011

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REPAIR DETAILS - NORTH END
 SN 071-1023

SHEET NO. 4 OF 5 SHEETS

F.A. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.
 - 117 M OGLE 10 9
 CONTRACT NO. 64624
 ILLINOIS FED. AID PROJECT