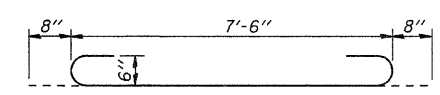


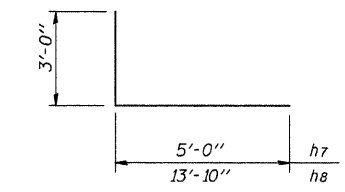
SHOWING DIMENSIONS

SHOWING REINFORCEMENT

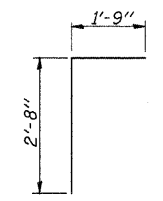
END ELEVATION



BAR a



BAR h7 or h8



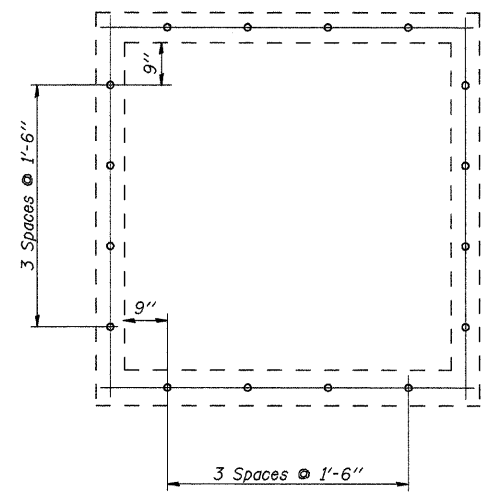
BAR d

BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
a	90	#6	8'-10"	U
a1	12	#4	7'-6"	—
d	14	#4	4'-5"	T
h	14	#5	10'-1"	—
h1	14	#5	11'-7"	—
h2	12	#6	7'-6"	—
h3	5	#6	10'-1"	—
h4	5	#6	11'-7"	—
h5	8	#6	15'-11"	—
h6	12	#8	19'-6"	—
h7	40	#8	8'-0"	L
h8	48	#8	16'-10"	L
h9	18	#4	10'-1"	—
h10	18	#4	11'-7"	—
v	62	#4	6'-11"	—
v1	10	#4	9'-11"	—
v2	10	#4	10'-3"	—
Concrete Box Culverts			Cu. Yd.	42.4
Reinforcement Bars			Pound	6,420
Expansion Bolts 3/4"x12"			Each	32
Concrete Removal			Cu. Yd.	0.8

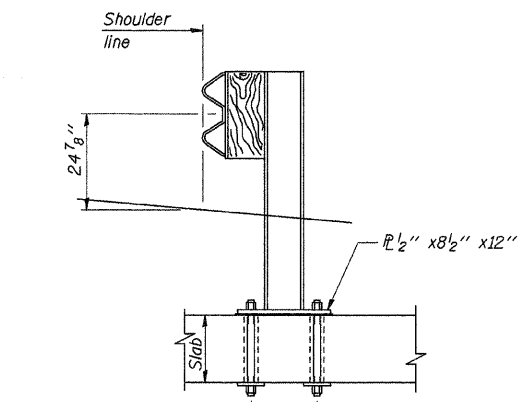
MIN. BAR LAP

#6 - 2'-9"
#8 - 4'-10"



EXISTING END VIEW

Showing placement of 3/4" ϕ Expansion Bolts



4-1" ϕ threaded rods
w/ 1/2" ϕ cored or formed
holes. Holes shall miss
all reinforcement.

TYPICAL GUARDRAIL DETAIL

See Standard 630101

NOTES

Bars indicated thus 3x2-#8 etc. indicates 3 lines of bars with 2 lengths per line.
Expansion bolts shall be 3/4" ϕ hooked bolts.
Hooked bolts shall extend a minimum of 9" into new concrete.

DESIGNED	S.F.M.
CHECKED	F.J.S.
DRAWN	K.T.R.
CHECKED	A.R.K. & S.F.M.

CULVERT DETAILS
F.A.P. RTE. 326 - IL. RTE. 47
SECTION 126N-1
KANE COUNTY
STATION 105+90.80

4440 ASH GROVE SPRINGFIELD, IL 62711 (217) 793-8600 WWW.FEHR-GRAHAM.COM	FEHR-GRAHAM & ASSOCIATES, LLC ENGINEERING AND SCIENCE CONSULTANTS BLOOMINGTON, IL ROCHESTER, IL ROCKFORD, IL SPRINGFIELD, IL	JOB NO.: 48520H FILE: DETAIL2.DGN DATE: 04-25-11
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