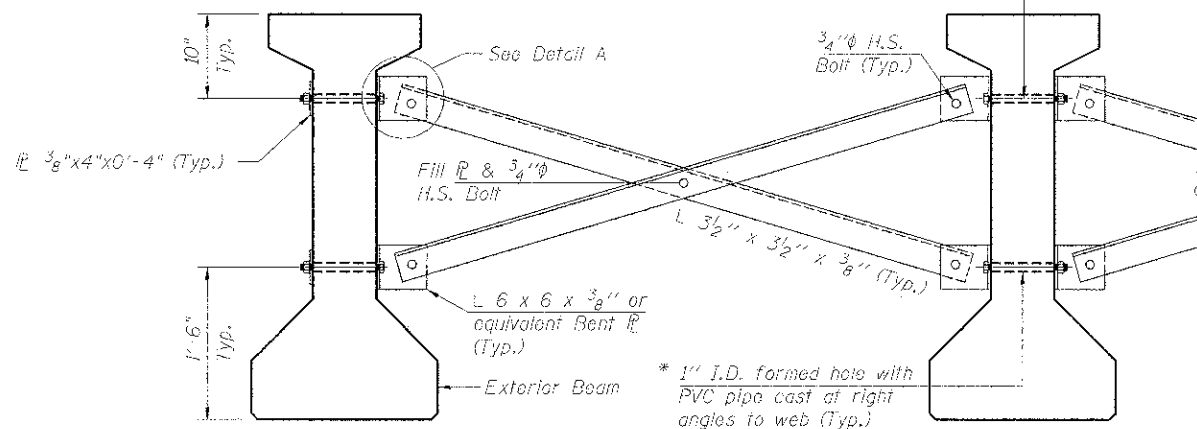


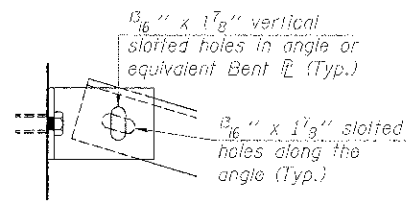
* Fabricator shall locate to miss strands within permissible tolerances.

$\frac{3}{4}$ " ϕ A307 Bolts with lock nuts. (Typ.)
Bolts through the concrete web shall be tightened to snug tight only.



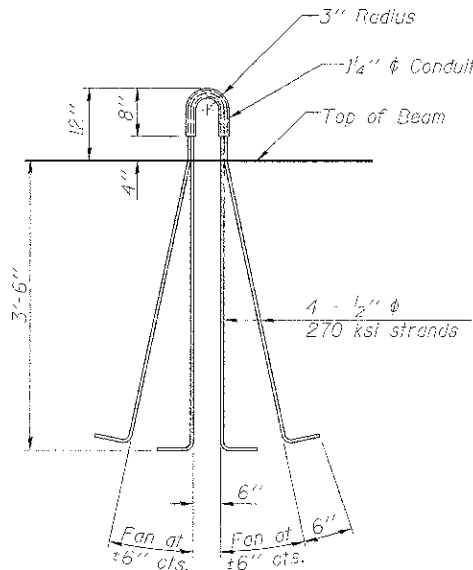
NOTES:

1. All material for bracing shall be hot dip galvanized according to AASHTO Mill unless otherwise noted.
2. Two hardened washers are required for each set of oversized holes.
3. All holes shall be $\frac{1}{16}$ " ϕ unless otherwise noted.
4. $\frac{5}{16}$ " x 3" x 3" plate washers are required over all slotted holes.
5. All bolts shall be galvanized according to AASHTO M232.
6. Bracing shall be installed as beams are erected and tightened as soon as possible during erection.
7. Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams, 48"



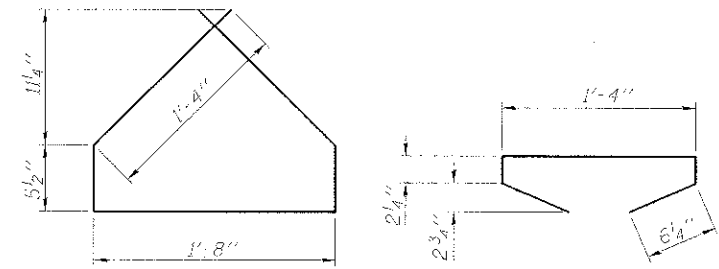
DETAIL A

**PERMANENT BRACING DETAILS FOR
48" PPC I-BEAMS**



LIFTING LOOP DETAIL

- NOTES**
1. Inserts for $\frac{3}{4}$ " ϕ threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.
 2. Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be $\frac{1}{2}$ " and the nominal cross-sectional area shall be 0.153 sq. in.
 3. Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
 4. A minimum $2\frac{1}{2}$ " ϕ lifting pin shall be used to engage the lifting loops during handling.
 5. The top and bottom plates shall be AASHTO M270 Grade 50.
 6. The bottom plates and studs shall be galvanized according to AASHTO Mill. Top plates and threaded rods need not be galvanized.
 7. Threaded rods shall be ASTM F 1554 Grade 55.

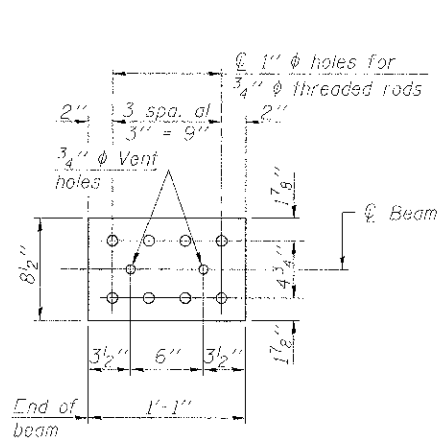


BAR G4

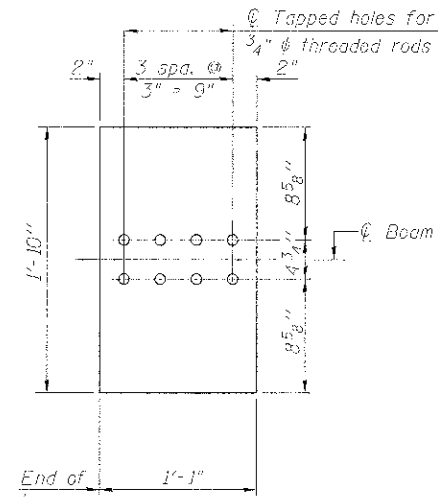
BAR G5

BILL OF MATERIAL

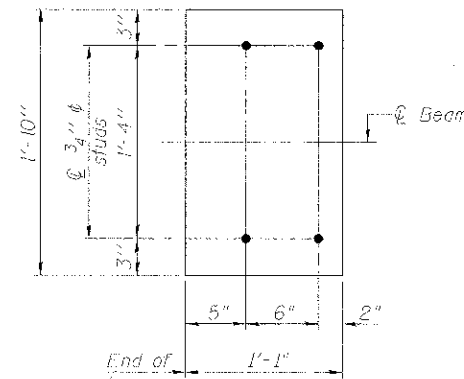
Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 48"	Ft.	274



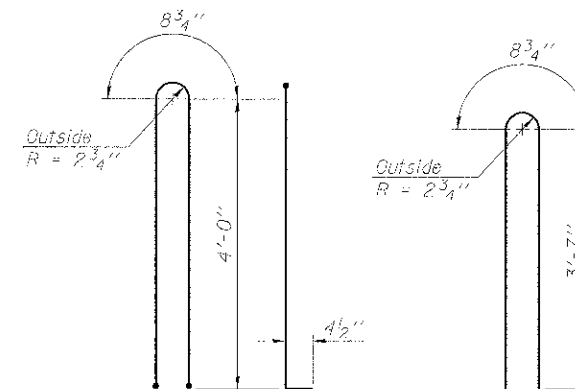
TOP PLATE



**BOTTOM PLATE
(Showing threaded rods)**



**BOTTOM PLATE
(Showing studs)**



BAR G1

BAR G2

benesch
engineers • scientists • planners

Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10074

FILE NAME : 6452033-012-ppcdt.dgn	USER NAME : rgrmm	DESIGNED : RJT	REVISIONS : -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	48" PPC I-BEAM DETAILS IL 25/STEARNS RD EB OVER BREWSTER CREEK STRUCTURE NO. 045-2033	F.A.P. RITE: 361	SECTION: 06-00214-18-PP	COUNTY: KANE	TOTAL SHEETS: 451	SHEET NO. NO. 327	
PLOT SCALE : -	DRAWN : RMG	CHECKED : AJK	REVISIONS : -			CONTRACT NO. 63598					
PLOT DATE : 12/13/2012	CHECKED : AJK	REVISIONS : -	ILLINOIS FED. AID PROJECT								
SHEET NO. SB12 OF SB19 SHEETS											