

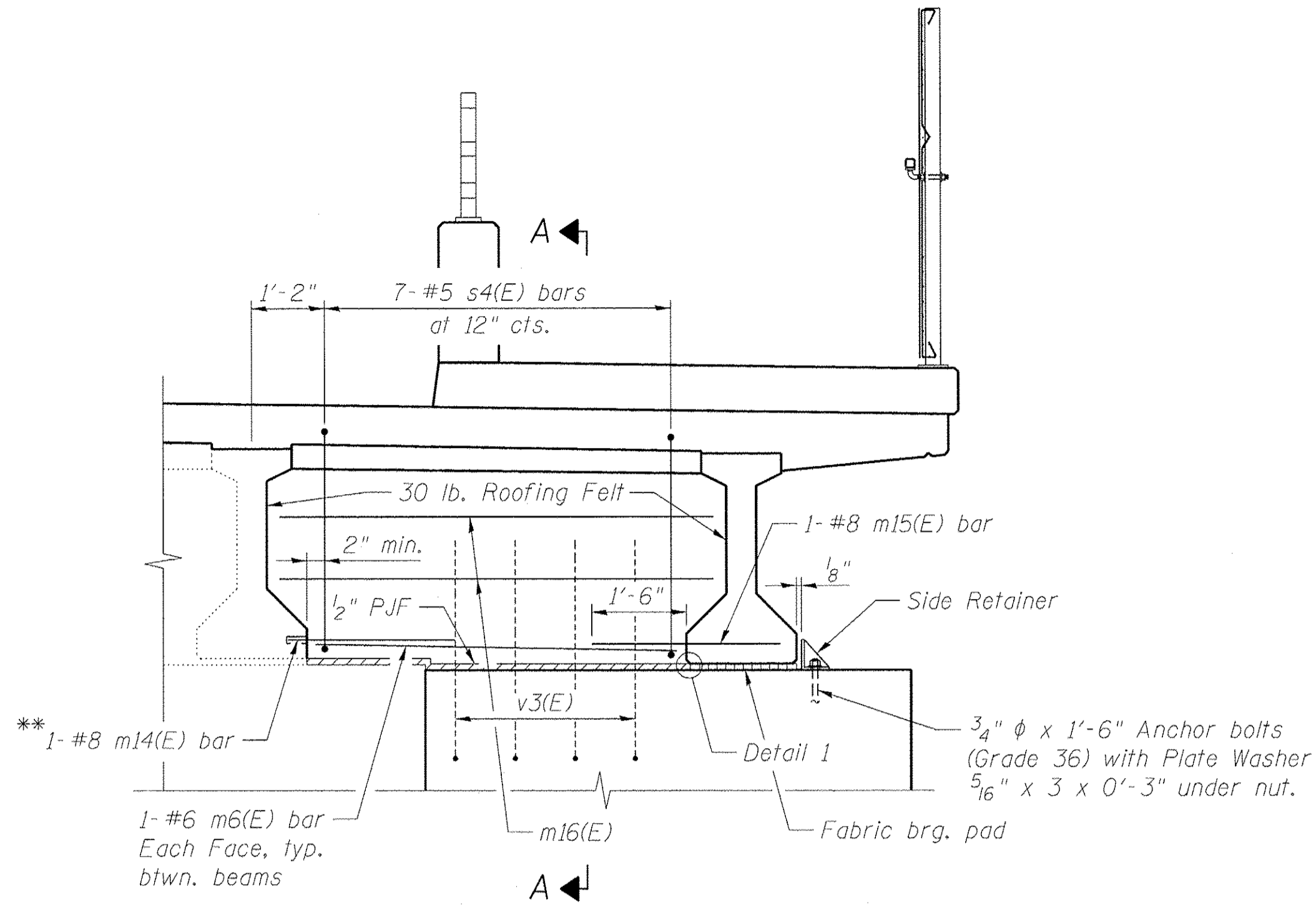
***Fill 3" opening with grout.
Typ. all openings in exist.
diaphragms, except as noted.

***Drill 1" ϕ x 4" holes (E.F. of diaphragm) in the locations shown (6 Req'd). Grout #4 bar (1'-2" length) in holes. Fill opening with concrete flush with edge of diaphragm.

EXISTING DIAPHRAGM REPAIR

(Looking Downstation)
(Work shall be completed once at each pier)

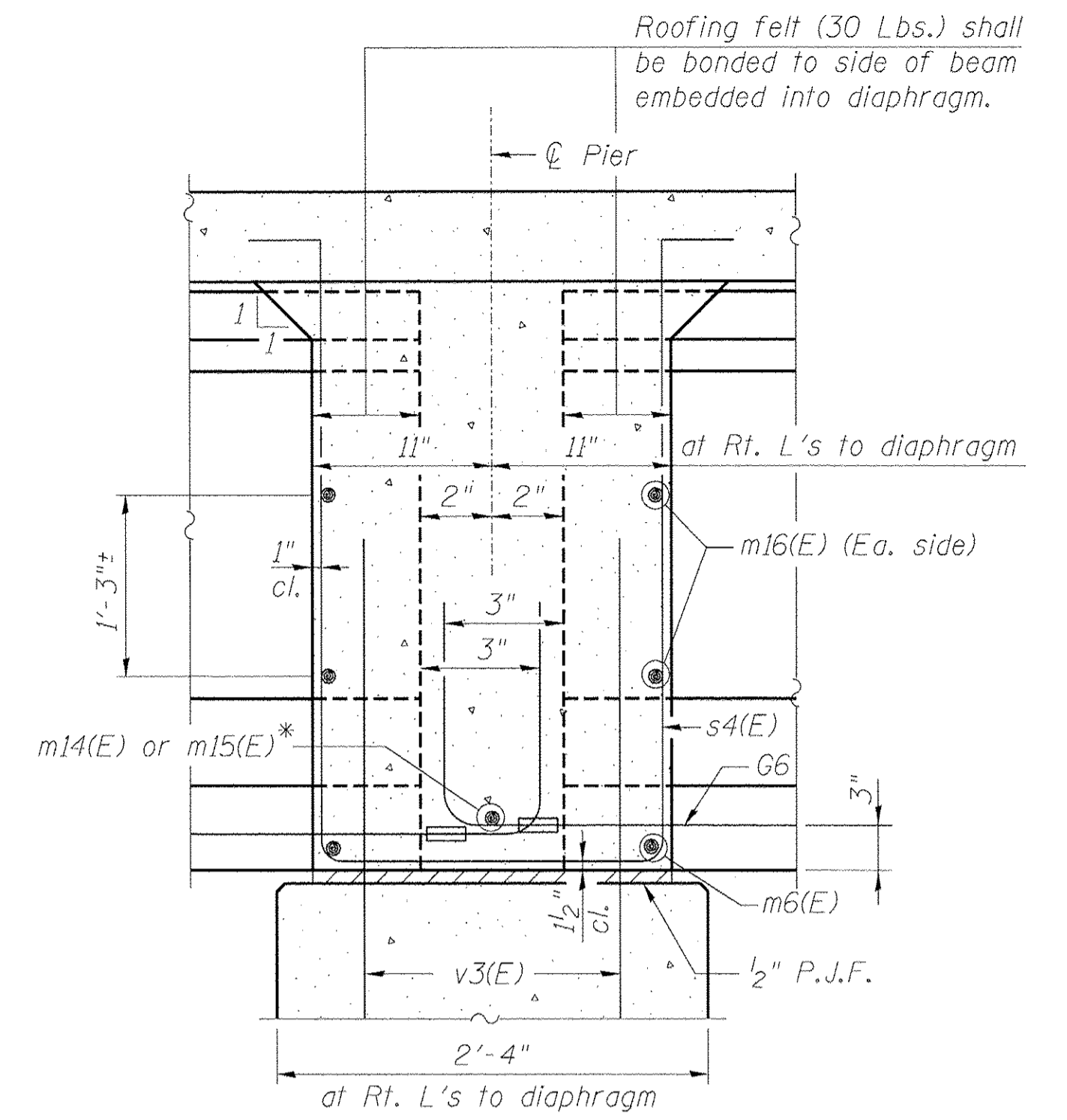
***Cost for all labor and materials required to fill existing holes in the pier diaphragms, including all concrete, grout and reinforcement, shall be included in the cost of Concrete Superstructures.



PIER DIAPHRAGM

(Looking Downstation)

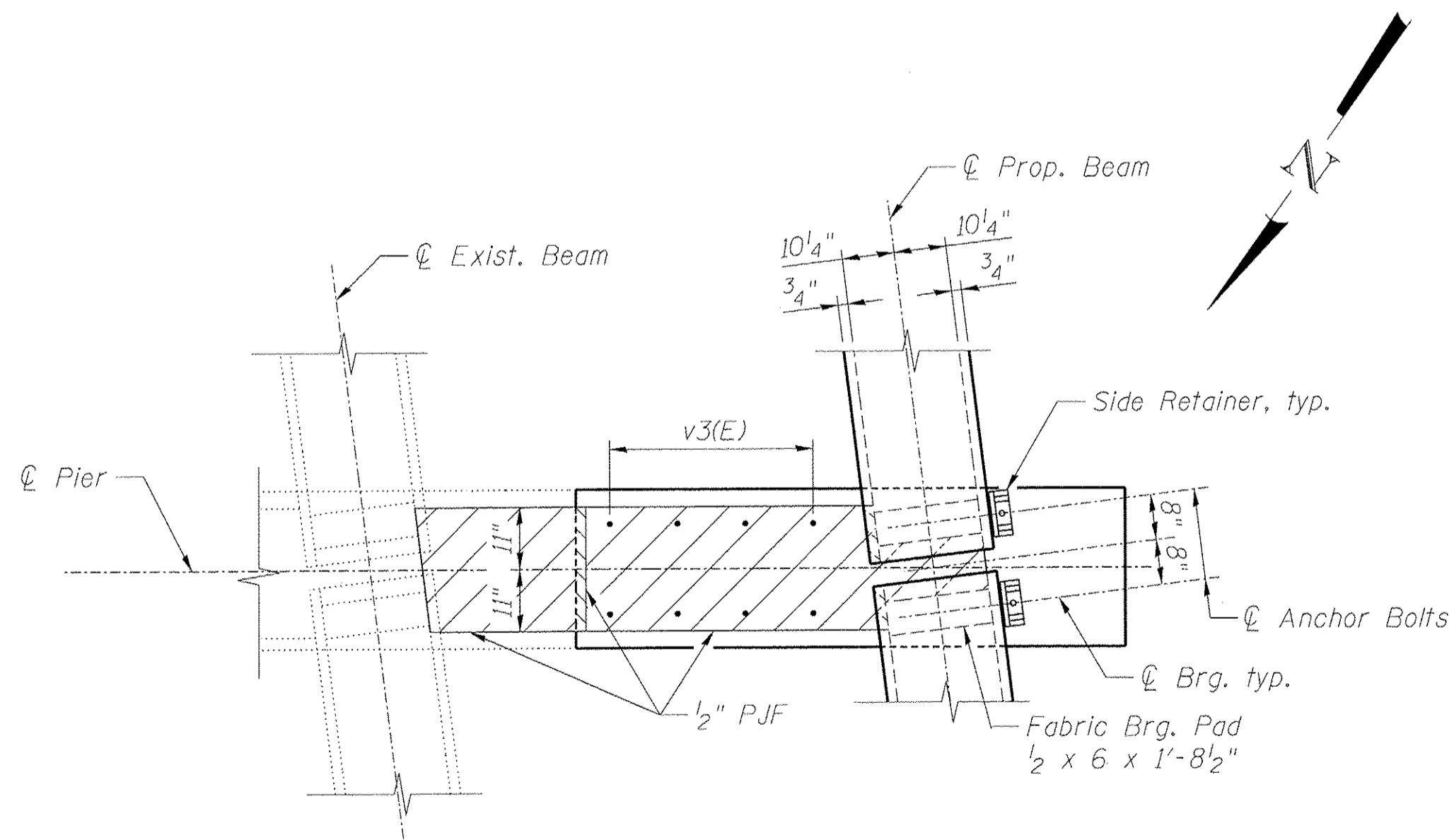
**Drill and grout bars according to Article 584 of the Standard Specifications. Maximum depth of drilled hole shall not exceed 6". Cost to be included in Reinforcement Bars, Epoxy Coated.



SECTION A-A

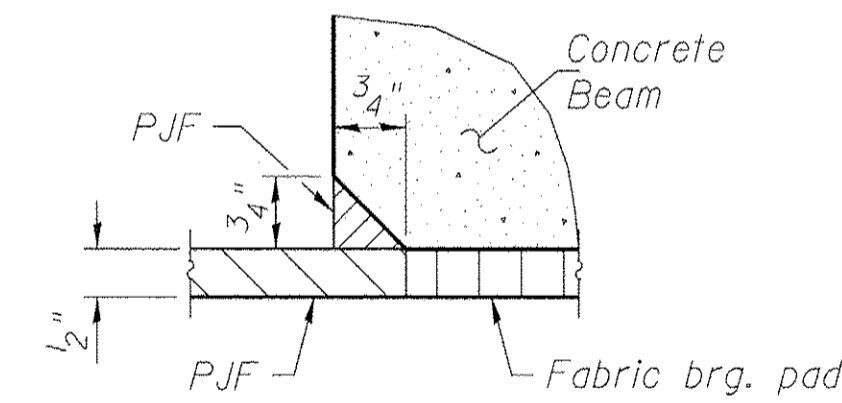
Dimensions along ϕ of beam, except as shown.

*Tightly fasten the #8 bars together with No. 9 wire ties.

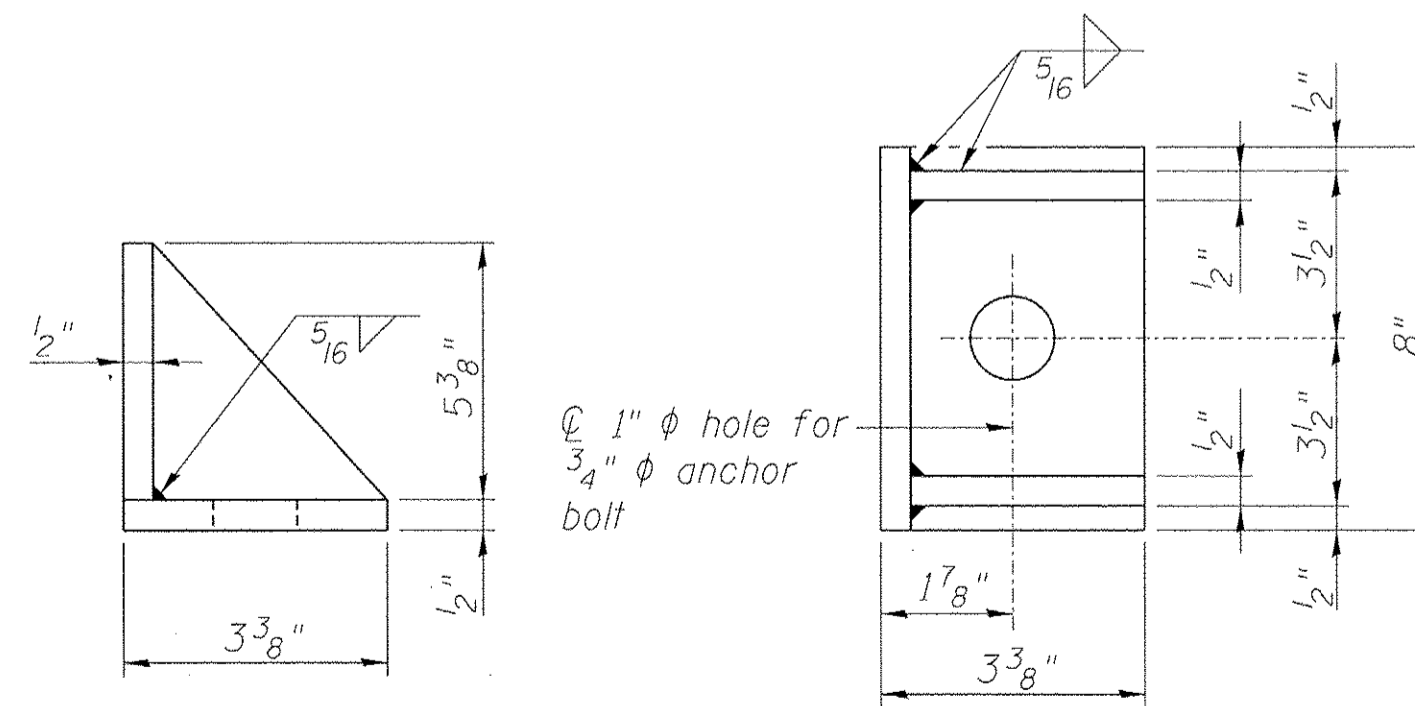


PLAN AT PIER DIAPHRAGM

(Showing bearing pads and P.J.F. details)



DETAIL 1



SIDE RETAINER

(2 required each side of pier)
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates

NOTES:

1. Reinforcement bars in diaphragm are billed with superstructure on sheet S17.
2. Concrete in diaphragm is included with Concrete Superstructure on sheet S17.
3. For details of s4(E) bar, see sheet S17.
4. For details of v3(E) bars, see sheets S31 and S32.
5. Cost of 30 Lb. roofing felt is included with Concrete Superstructure.
6. The side retainer shall be galvanized after shop fabrication according to AASHTO M 111. Cost of side retainer and anchor bolts shall be included in Concrete Structures.
7. Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications.
8. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
9. Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after beams are in place.
10. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
11. For bar splicer details, see sheet S36.
12. Cost of 1/2" preformed joint filler and fabric bearing pad included with Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42 In.

benesch
engineers · scientists · planners
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10055.02

FILE NAME =	USER NAME = eship	DESIGNED - MJF/MFB	REVISED -
0166953_016_Pier_Diaphragm.dgn		CHECKED - EFS	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 2/19/2013	CHECKED - EFS	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS 3 OF 4
STRUCTURE NO. 016-6953 BRIDGE ST. OVER THE NORTH SHORE CHANNEL**

SHEET NO. S16 OF S50 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	08-00251-00-BR	COOK	118	69
			CONTRACT NO. 63817	
[ILLINOIS] FED. AID PROJECT				

X:\100005\10055.02\Eng_Phase_11\Bridges_Street_016-6953\Final\0166953_016_Pier_Diaphragm.dgn 2:50:47 PM 2/19/2013