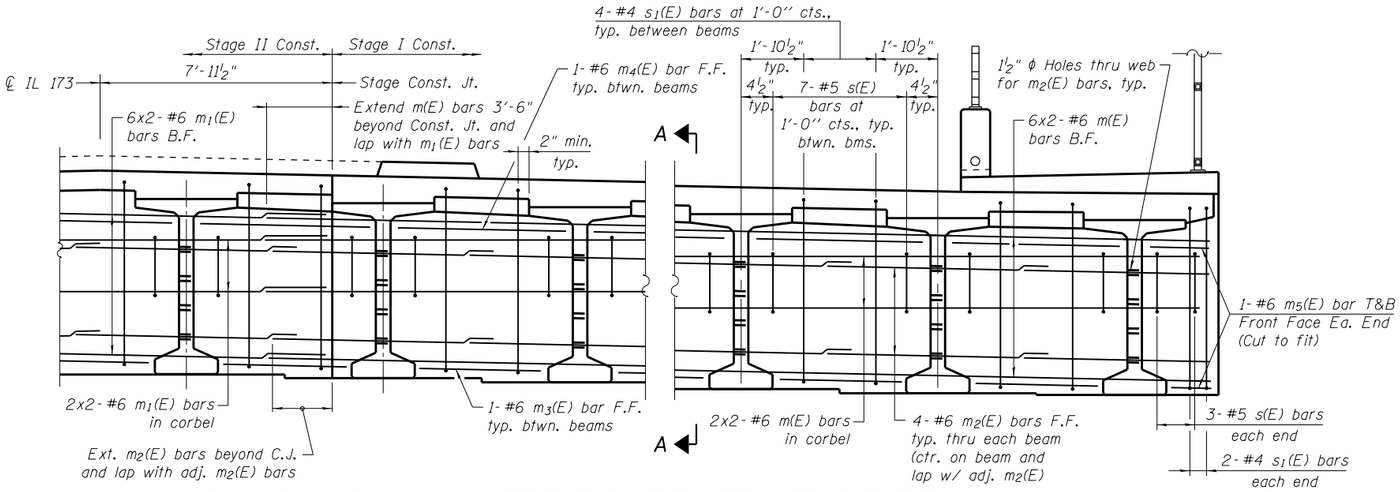
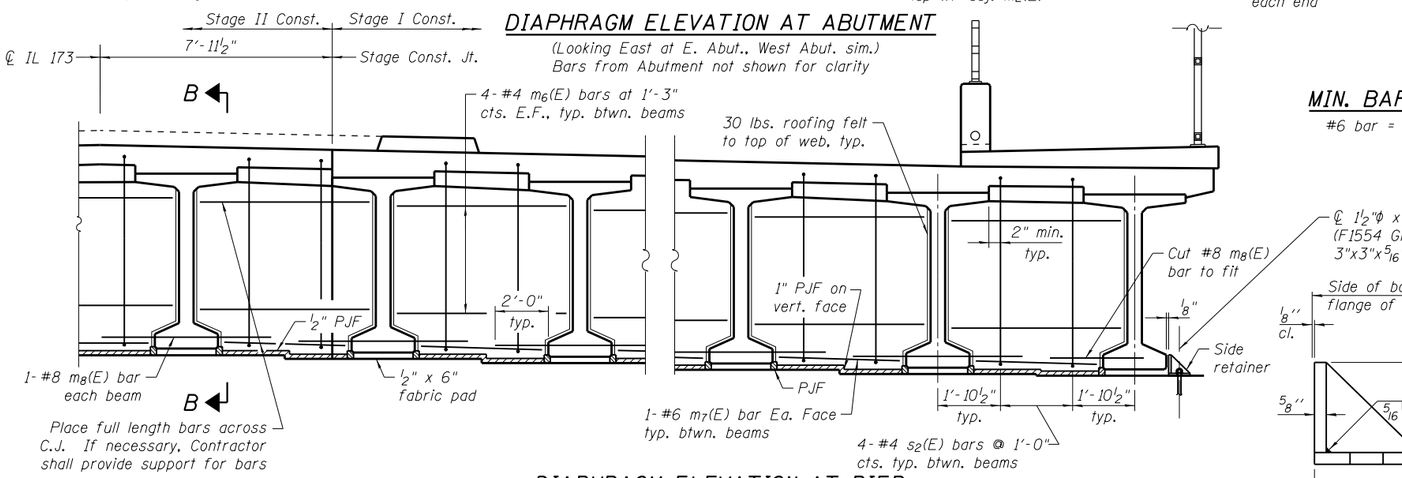


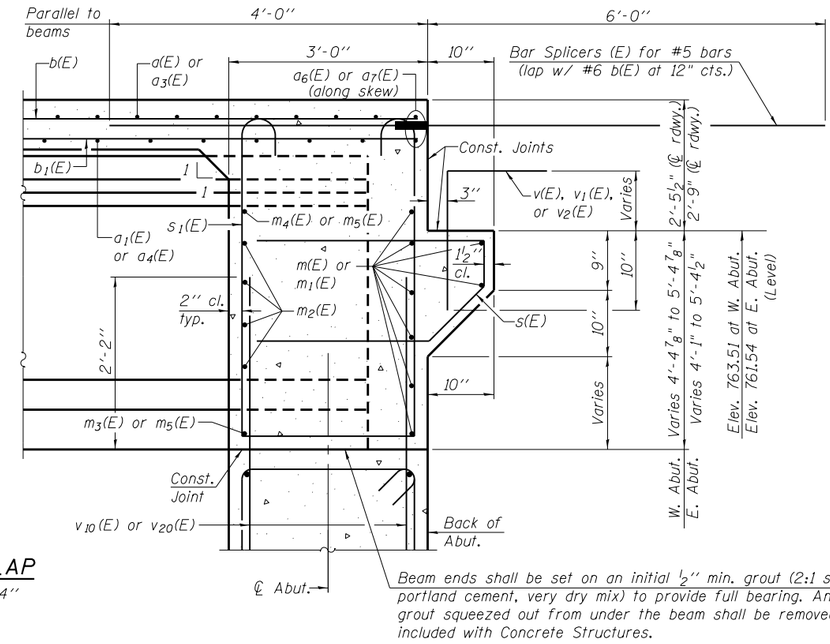
DIAPHRAGM ELEVATION AT ABUTMENT

(Looking East at E. Abut., West Abut. sim.)
Bars from Abutment not shown for clarity



DIAPHRAGM ELEVATION AT PIER

(Looking East)
Bars from Pier Cap not shown for clarity



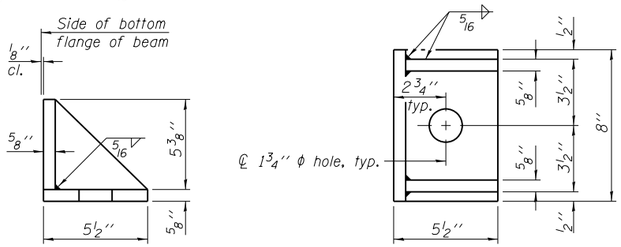
Beam ends shall be set on an initial ½" min. grout (2:1 sand and portland cement, very dry mix) to provide full bearing. Any excess grout squeezed out from under the beam shall be removed. Cost included with Concrete Structures.

MIN. BAR LAP

#6 bar = 3'-4"

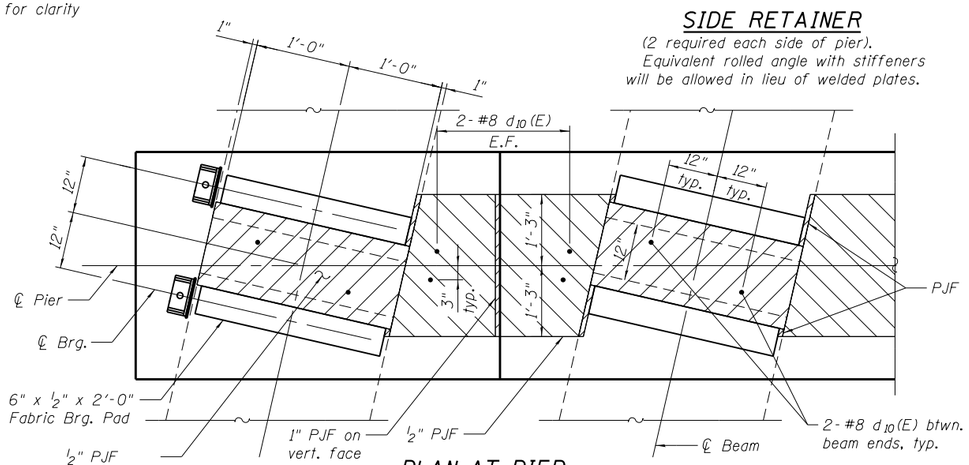
SECTION A-A

Dimensions at right angles to abutment, except as shown.



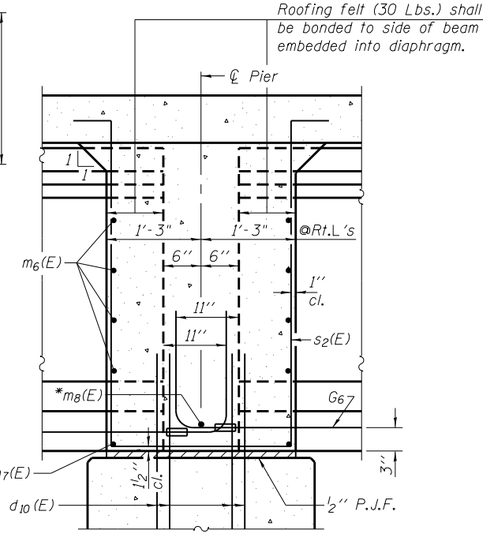
SIDE RETAINER

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



PLAN AT PIER

(Showing bearing pad and PJF details)



SECTION B-B

Dimensions along ℄ of beam, except as shown.

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

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet S-16 of S-36.

Concrete in diaphragm is included with Concrete Superstructure on sheet S-16 of S-36.

For details of bar $d_{10}(E)$ see sheet S-32 of S-36.

For details of bars s(E), $s_1(E)$ and $s_2(E)$ see sheet S-16 of S-36.

The s(E), $s_1(E)$ and $s_2(E)$ bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

For details of bars $v_{10}(E)$ and $v_{20}(E)$ see sheets S-26 thru S-30 of S-36.

For G_6 bars, see sheet S-25 of S-36.

Cost of 30 Lb. roofing felt is included with Concrete Superstructure.

The side retainer shall be galvanized after shop fabrication according to AASHTO M 111. Cost of side retainer and anchor bolts shall be included with Concrete Structures.

Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

S:\IION\05_CADD\60L77 IL 173\60L77 Sheets\0490535-60L77-017-DD.dgn
6/19/2012 11:40:51 AM

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com

USER NAME =
PLOT SCALE =
PLOT DATE =

DESIGNED - MRM
CHECKED - TL
DRAWN - LAM
CHECKED - MRM

DATE - 6/19/2012
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS
STRUCTURE NO. 049-0535 (BRIDGE NO. 441)
SHEET NO. S-17 OF S-36 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	455
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			