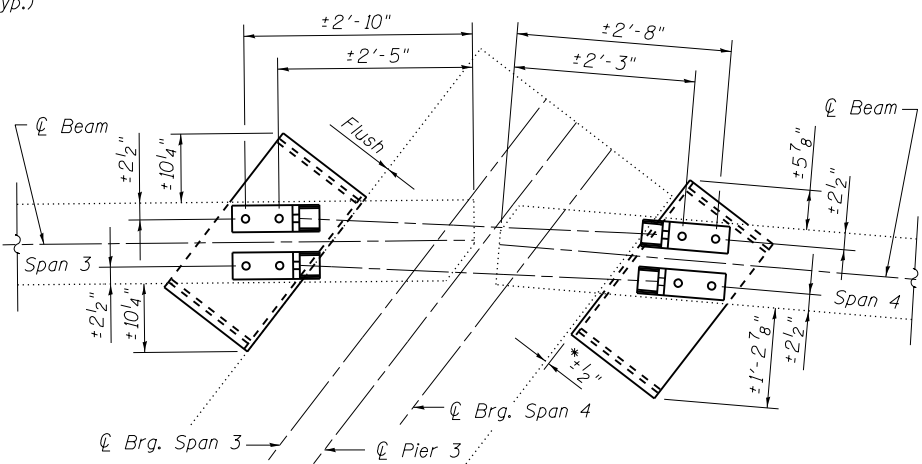
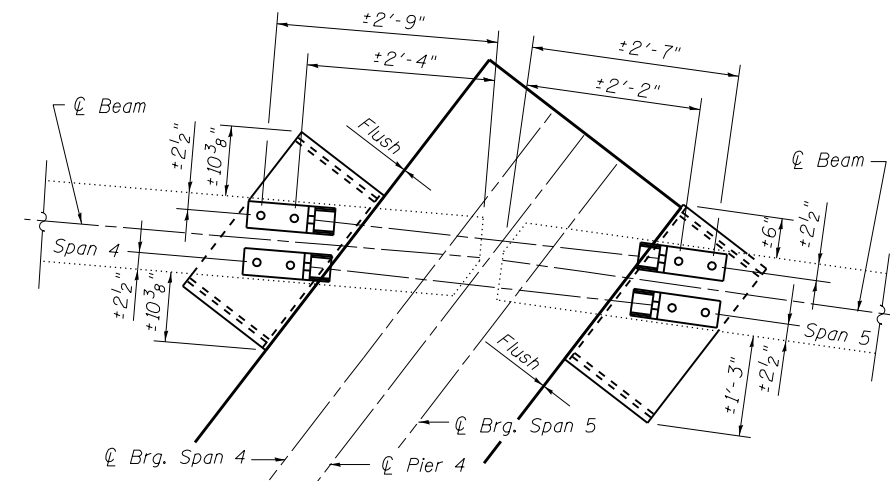


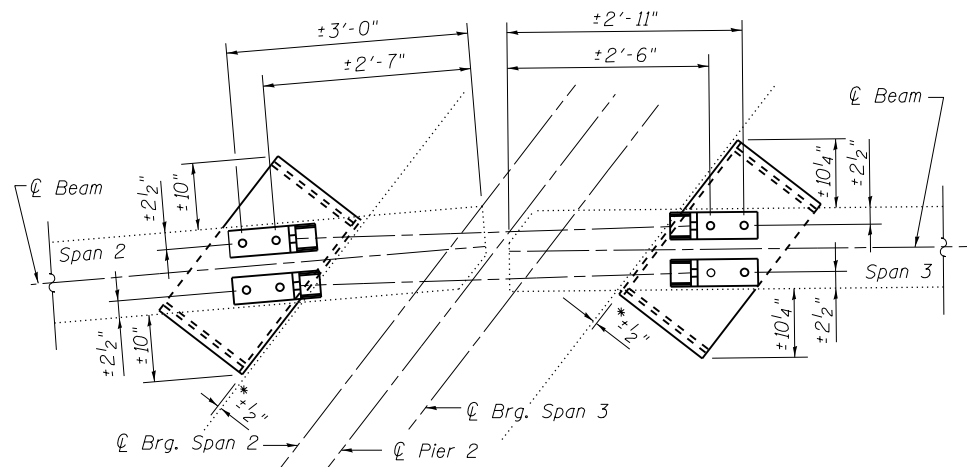
**PIER 2 PLAN**  
(Beam 4)  
(1 Required)



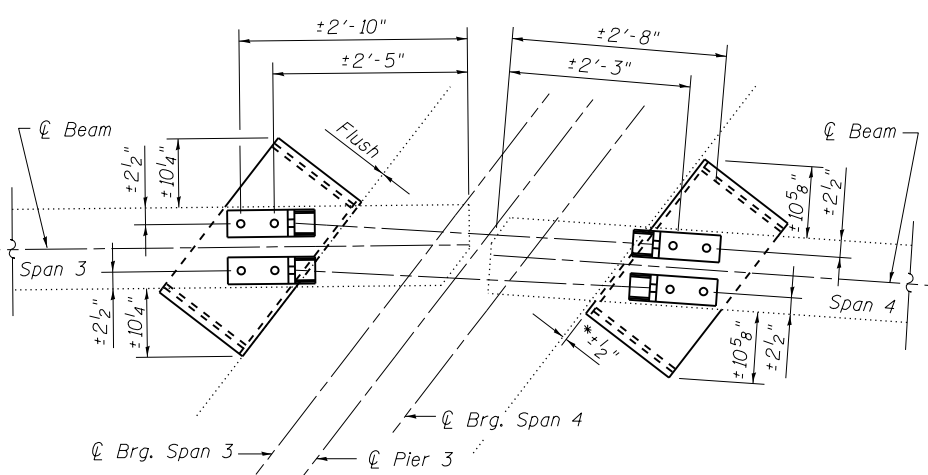
**PIER 3 PLAN**  
(Beam 4)  
(1 Required)



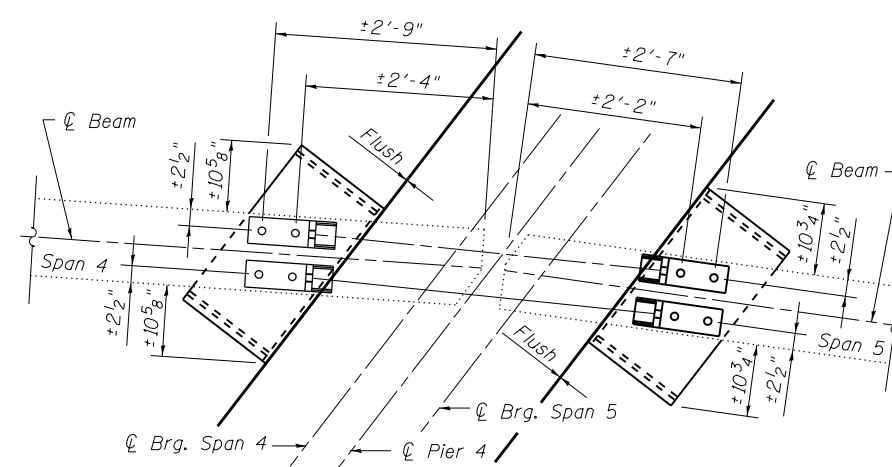
**PIER 4 PLAN**  
(Beam 4)  
(1 Required)



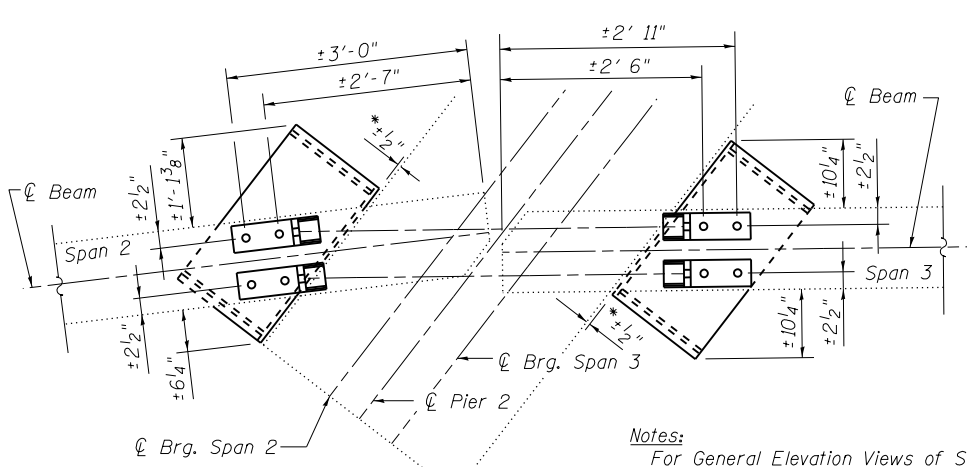
**PIER 2 PLAN**  
(Beams 2 & 3)  
(2 Required)



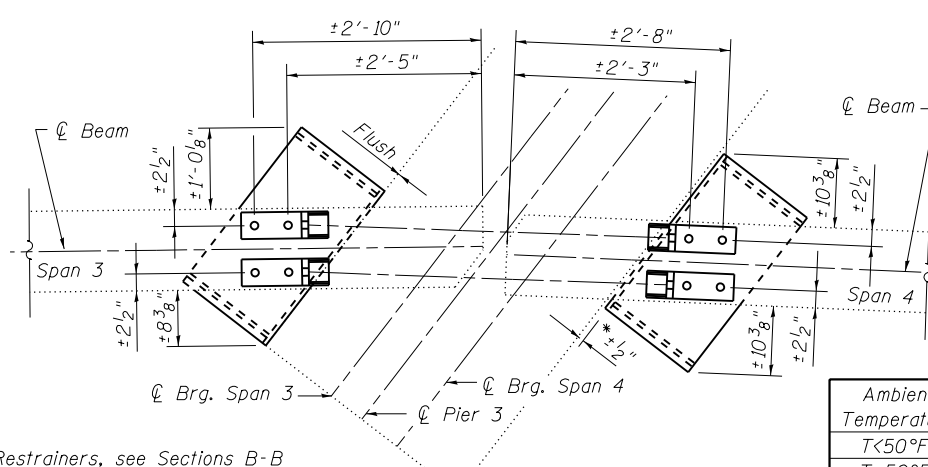
**PIER 3 PLAN**  
(Beams 2 & 3)  
(2 Required)



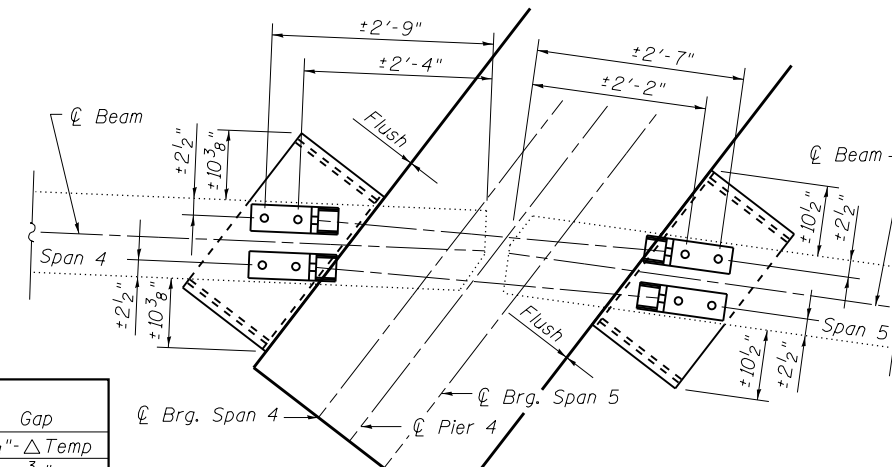
**PIER 4 PLAN**  
(Beams 2 & 3)  
(2 Required)



**PIER 2 PLAN**  
(Beam 1)  
(1 Required)



**PIER 3 PLAN**  
(Beam 1)  
(1 Required)



**PIER 4 PLAN**  
(Beam 1)  
(1 Required)

\*\*Existing beam flanges and bumpers shall be field drilled. The holes shall be subdrilled to 1" φ and reamed to 1 1/8" φ

**Notes:**  
For General Elevation Views of Seismic Restrainers, see Sections B-B thru D-D on Sheet 3 of 35.  
For Bumper Details and Section A-A, see sheet 14 of 35.  
Seismic Restrainers shall be placed on each beam line.  
One hardened washer and one lock washer are required for each set of oversized holes.  
Bumpers shall be paid for as Furnishing and Erecting Structural Steel.

Ambient Temperature	Gap
T < 50°F	3/4" - ΔTemp
T = 50°F	3/4"
T > 50°F	3/4" + ΔTemp

(Gap measured along beam)  
\*ΔTemp = 1/32" for every ±10°F (Typ.)

**EXPANSION TABLE**

FILE NAME = 025009-74295-015.dgn	USER NAME =	DESIGNED - B.B.	REVISED -
BERNARDINI LOCHMULLER & ASSOCIATES, INC. 3 OAK DRIVE MARYVILLE, IL 62428 PHONE (618) 281-4666 FAX (618) 288-4666	Illinois Design Firm Number 184,001670	CHECKED - A.C.S.	REVISED -
	PLOT SCALE =	DRAWN - W.J.S.	REVISED -
	PLOT DATE = 2:400 PM 8/15/2013	CHECKED - C.J.F. & B.B.	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BUMPER DETAILS  
STRUCTURE NO. 025-0019**

SHEET NO. 15 OF 35 SHEETS

F.A.I. RTE. 57/70	SECTION (25-4HB)I-3	COUNTY EFFINGHAM	TOTAL SHEETS 1760	SHEET NO. 1720
			CONTRACT NO. 74295	
ILLINOIS FED. AID PROJECT				