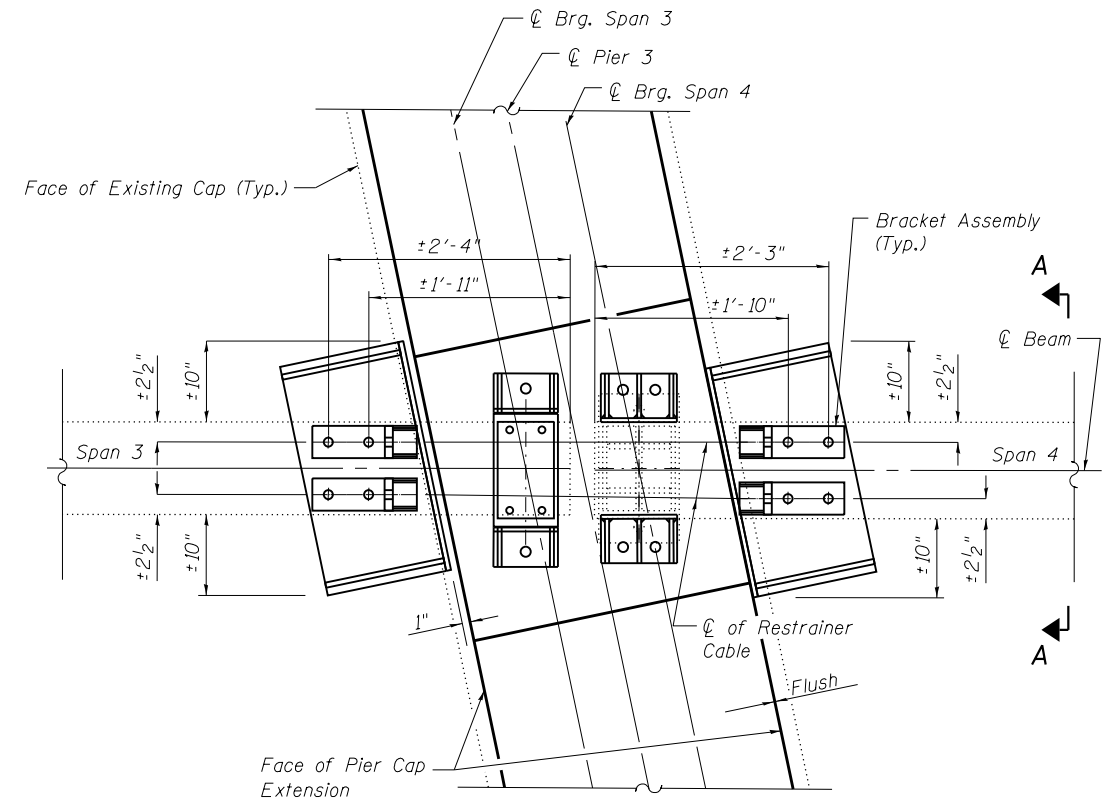


**RESTRAINER BOLTED END**

**PIER 1 PLAN**  
(Beams 1-5)  
(5 Required)

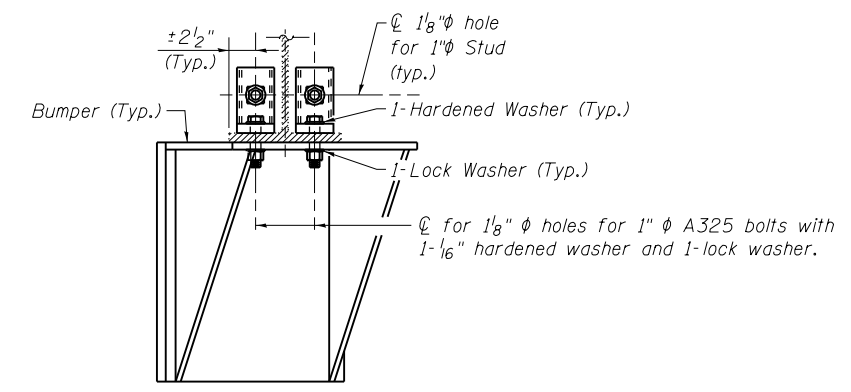
**RESTRAINER INDICATOR END**



**RESTRAINER INDICATOR END**

**PIER 3 PLAN**  
(Beams 1-5)  
(5 Required)

**RESTRAINER BOLTED END**



**SECTION A-A**  
Bumper shown on skew

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

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

**EXPANSION TABLE**

**Notes:**  
 For General Elevation Views of Seismic Restrainers, see Sections B-B and C-C on Sheet 3 of 20.  
 Seismic Restrainer 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.

**BILL OF MATERIAL**

Item	Unit	Total
Seismic Restrainer	Each	10
Furnishing & Erecting Structural Steel	Pound	4820

S:\Proj\025-0062-00072\_57-70\025-0062-TR over 57-70\025-0062-Design\025-0062-74295-008.dgn  
 BERNAISEN LOCKMULLER & ASSOCIATES, INC.  
 3 DAK DRIVE  
 MARYVILLE, IL 62442  
 PHONE (618) 281-4666  
 FAX (618) 281-4666

FILE NAME = 0250062-74295-008.dgn	USER NAME =	DESIGNED - B.B.	REVISED -
		CHECKED - A.C.S.	REVISED -
		DRAWN - B.B.	REVISED -
		CHECKED - C.J.F.	REVISED -
PLOT SCALE =	PLOT DATE = 2:29:41 PM 8/15/2013		

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BUMPER DETAILS  
STRUCTURE NO. 025-0062**

SHEET NO. 8 of 20 SHEETS

F.A.I. RTE. = 70	SECTION = (25-4HB-2)I	COUNTY = EFFINGHAM	TOTAL SHEETS = 1760	SHEET NO. = 1748
CONTRACT NO. 74295				
ILLINOIS FED. AID PROJECT				