

FLANSBURGH ARCHITECTS

77 North Washington Street
 Boston, Massachusetts 02114
 617.367.3970 tel
 617.720.7873 fax
 www.faiarchitects.com
 Architecture
 Master Planning
 Space Planning
 Interior Design

PROJECT MANAGEMENT
Pa'ahana Enterprises, LLC
 P.O. Box 109
 Kealahou, HI 9675
 808.323.2304 tel/fax

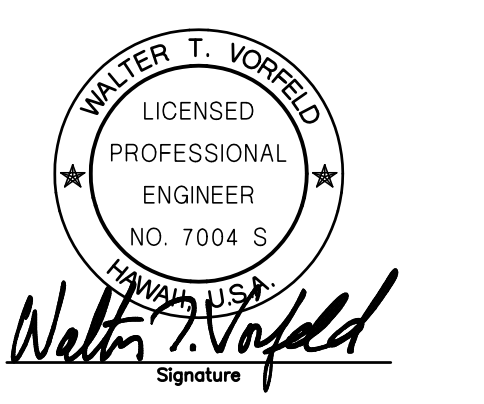
SUSTAINABILITY
Buro Happold Consulting Engineers PC
 100 Broadway, 23rd Floor
 New York, NY, 10005
 212.334.2025 tel

CIVIL ENGINEERING
Belt Collins Hawaii Ltd.
 2153 North King Street, Suite 200
 Honolulu, Hawaii 96819
 808.521.5361 tel
 808.538.7819 fax

STRUCTURAL ENGINEERING
Walter Vorfeld & Associates
 10 Ulukoua Street
 Makawao, Maui, HI 96768
 808.572.3535 tel
 808.573.3616 fax

MECHANICAL ENGINEERING
Hakalau Engineering
 PO Box 252
 Hakalau, Hawaii 96710
 808.961.6206 tel

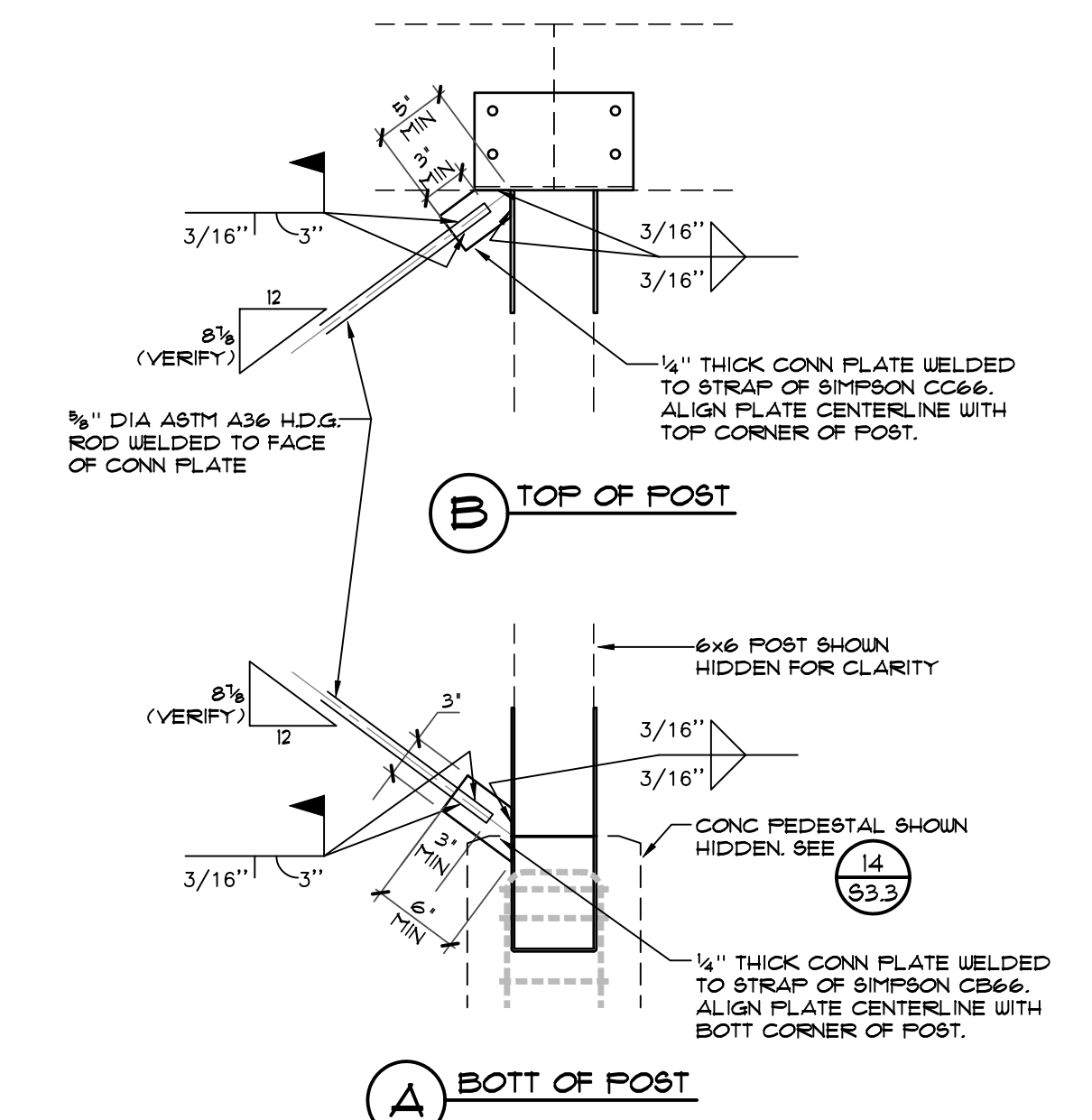
ELECTRICAL ENGINEERING
Wallace T. Oki, PE, Inc.



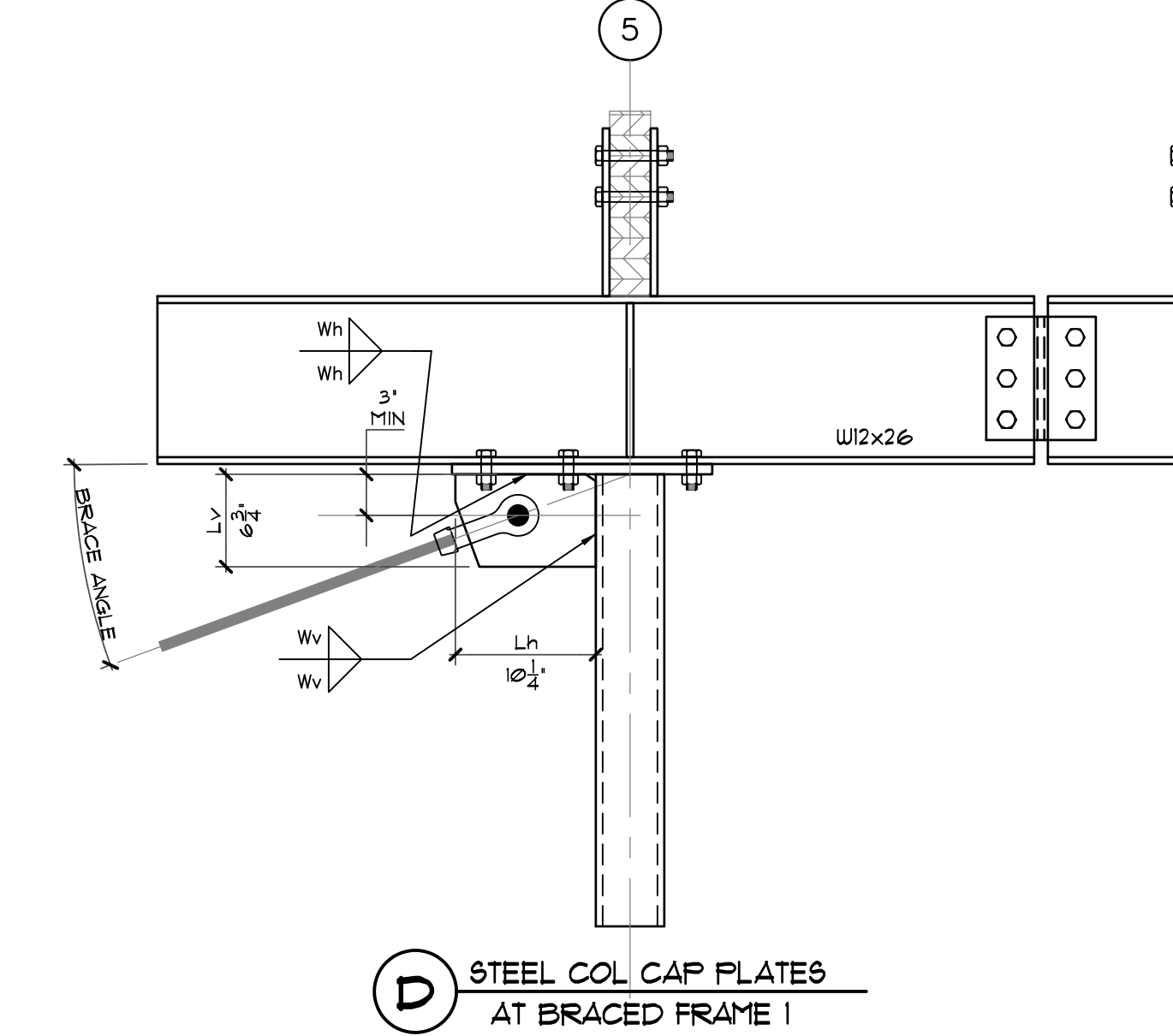
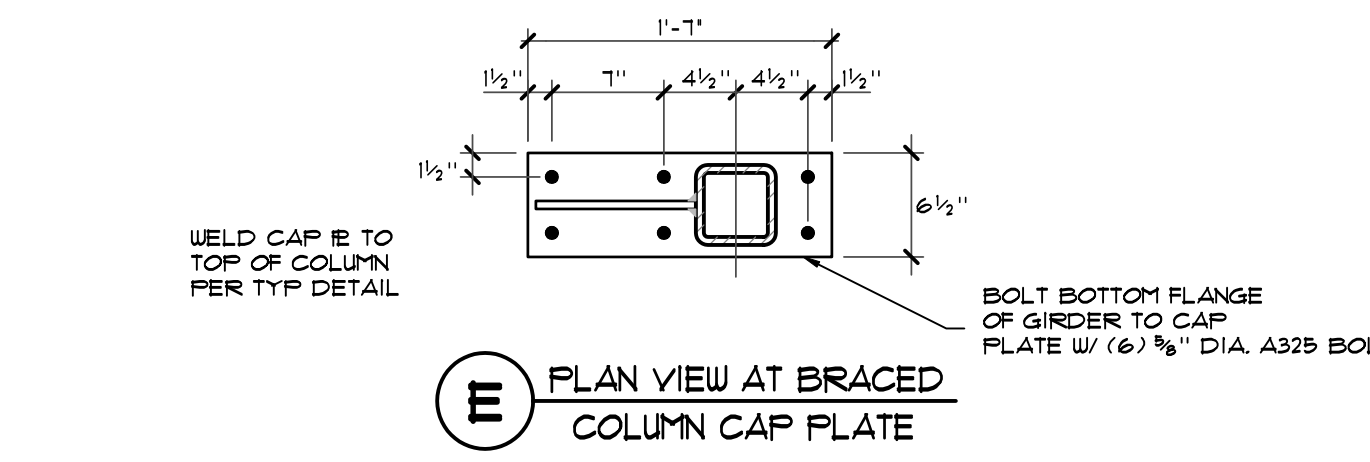
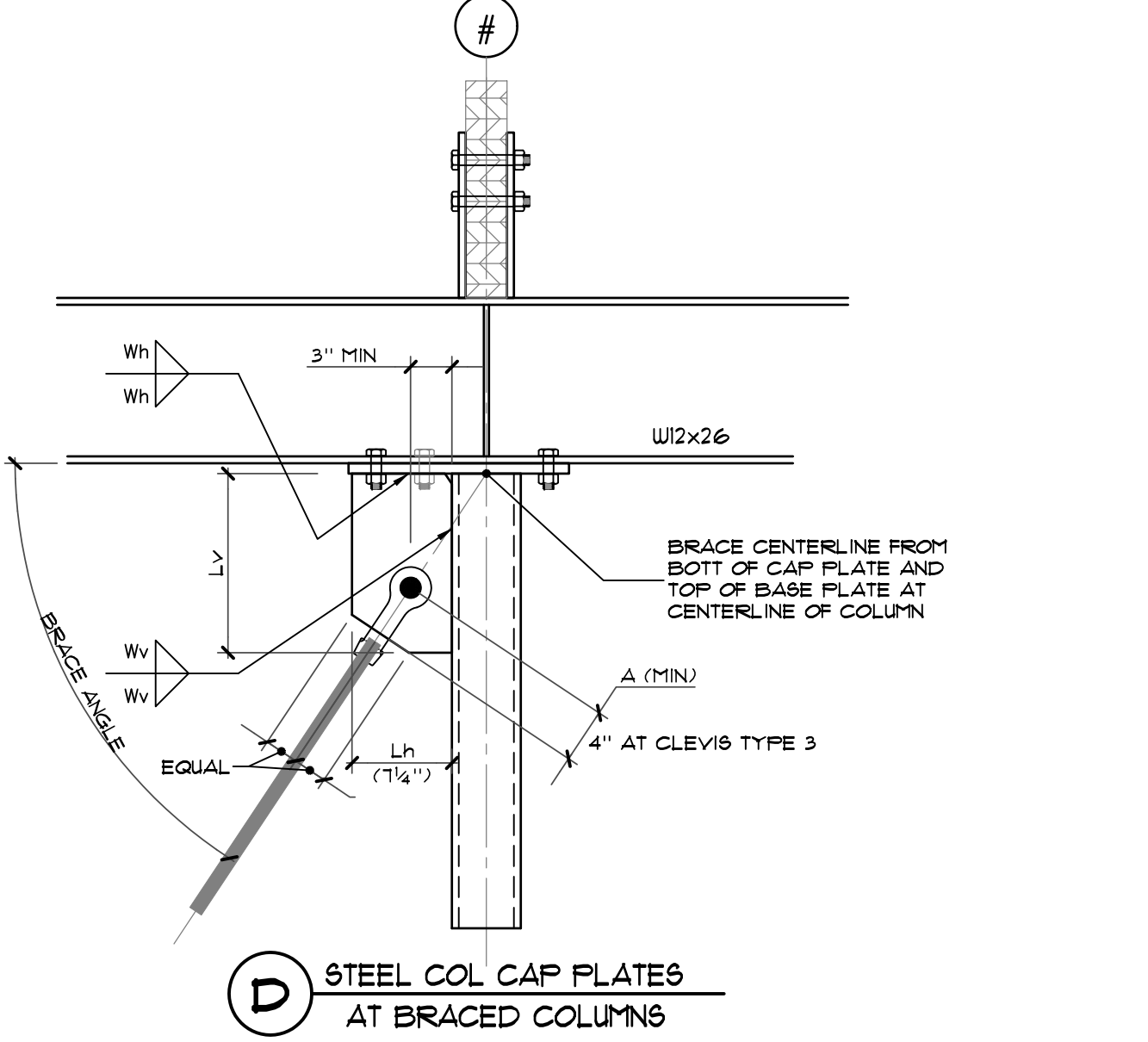
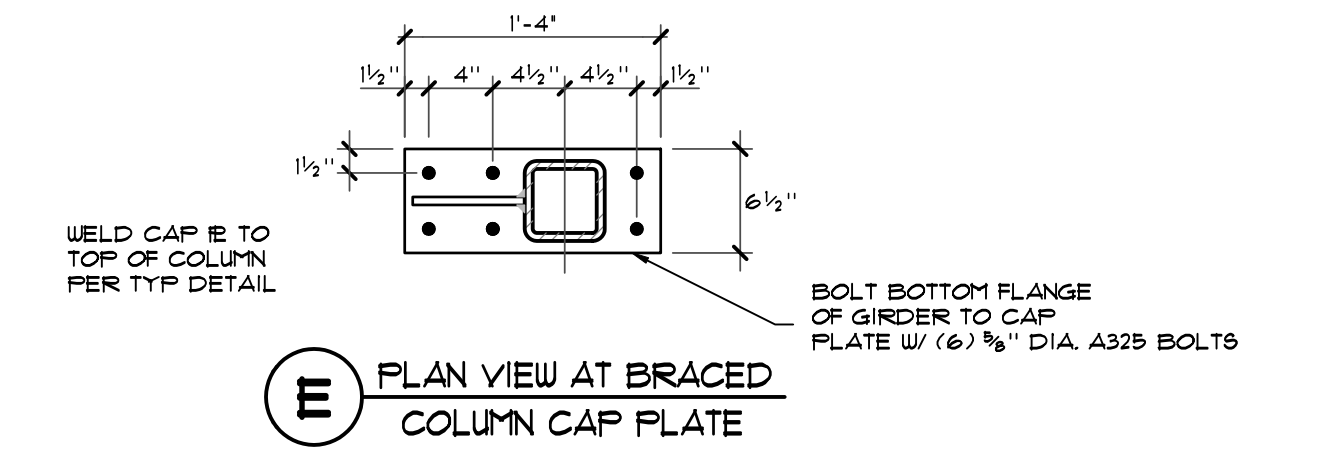
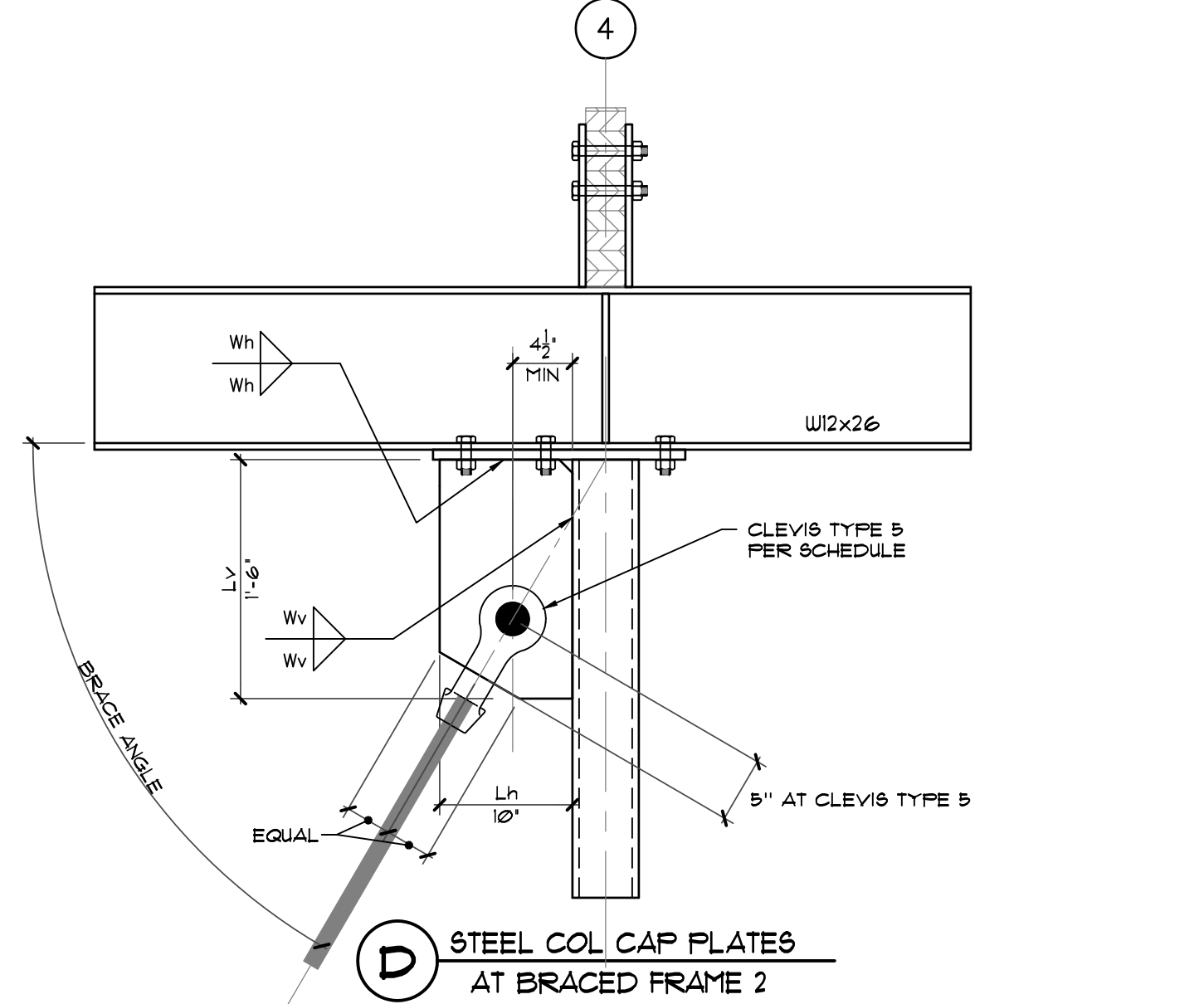
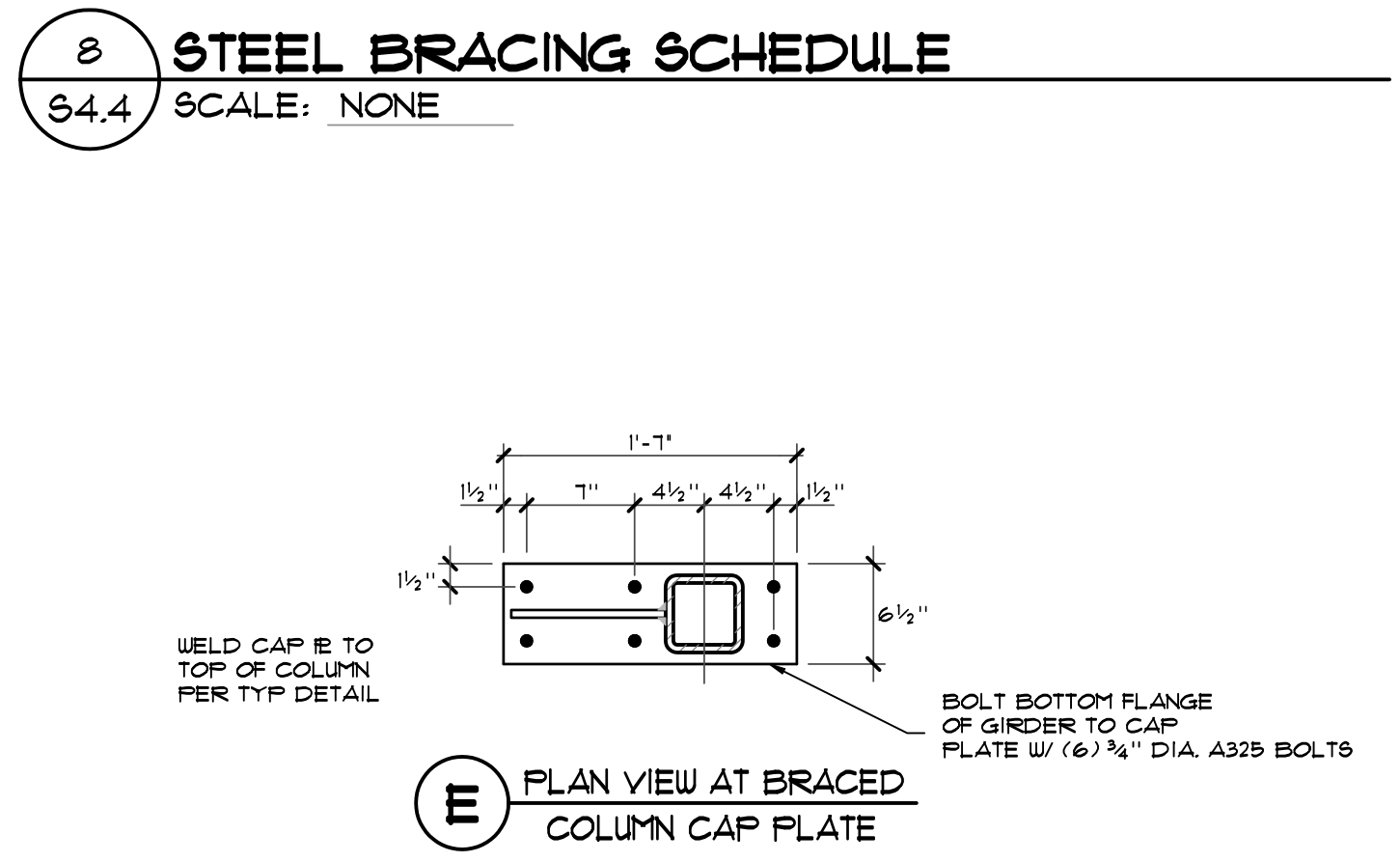
This work was performed by me or under my supervision and construction of this project will be under my observation (Observation of construction as defined in section 16-15-2 of the rules and regulations of the Board of Professional Engineers, Architects and Surveyors of the State of Hawaii).
 Date: 4/26/2009

BRACE # (GRID LINE)	LOAD HOR / VERT	BRACE ANGLE	DIAGONAL BRACING **		STEEL PLATES								
			ROD DIA (AS6 GALV)	CLEVIS TYPE	FN DIA	CAP PLATE	BASE PLATE / AB'x	GUSSET PLATE 1" x Lh x Lv	HORIZ WELD (W)	VERT WELD (WV)			
1 (LINE A)	6.9 kips	20.2 deg	3/4"	TYPE 3	3/4" DIA	3/4" x 6 1/2" x 1'-11" W/ (6) 3/4" DIA x 8" LONG A325N BOLTS	3/4" x 6 1/2" x 1'-11" Long w/ (6) 3/4" DIA x 8" LONG A307 ANCHOR BOLTS	1/2" x 10 1/2" x 6 1/2"	1/4" FILLET x (Lh-7)" LONG EACH SIDE	1/4" FILLET x (Lv-7)" LONG EACH SIDE			
2 (LINE B)	15.1 kips	59.7 deg	1 1/4"	TYPE 5	2 1/2" DIA	3/4" x 6 1/2" x 1'-11" W/ (6) 3/4" DIA A325N BOLTS	3/4" x 10" x 1'-6" Long w/ (6) 3/4" DIA x 8" LONG A307 ANCHOR BOLTS	3/4" x 10" x 1'-6"	3/8" FILLET x (Lh-7)" LONG EACH SIDE	3/8" FILLET x (Lv-6)" LONG EACH SIDE			
3 (LINE C)	1.2 kips	56.5 deg	1"	TYPE 3	3/4" DIA	3/4" x 6 1/2" x 1'-4" W/ (6) 3/4" DIA A325N BOLTS	3/4" x 6 1/2" x 1'-4" Long w/ (6) 3/4" DIA x 8" LONG A307 ANCHOR BOLTS	1/2" x 14" x 1'-11"	1/4" FILLET x (Lh-7)" LONG EACH SIDE	1/4" FILLET x (Lv-7)" LONG EACH SIDE			
4 (LINE D)	8.1 kips	52.9 deg	1"	TYPE 3	3/4" DIA	3/4" x 6 1/2" x 1'-4" W/ (6) 3/4" DIA A325N BOLTS	3/4" x 10" x 1'-3" Long w/ (6) 3/4" DIA x 8" LONG A307 ANCHOR BOLTS	1/2" x 14" x 1'-0"	1/4" FILLET x (Lh-7)" LONG EACH SIDE	1/4" FILLET x (Lv-6)" LONG EACH SIDE			
5 (LINE E)	6.4 kips	54.1 deg	3/4"	TYPE 3	3/4" DIA	3/4" x 6 1/2" x 1'-4" W/ (6) 3/4" DIA A325N BOLTS	3/4" x 10" x 1'-3" Long w/ (6) 3/4" DIA x 8" LONG A307 ANCHOR BOLTS	1/2" x 14" x 1'-0"	1/4" FILLET x (Lh-7)" LONG EACH SIDE	1/4" FILLET x (Lv-6)" LONG EACH SIDE			
6 (LINE G)	5.6 kips	51.1 deg	3/4"	TYPE 3	3/4" DIA	3/4" x 6 1/2" x 1'-4" W/ (6) 3/4" DIA A325N BOLTS	3/4" x 10" x 1'-3" Long w/ (6) 3/4" DIA x 8" LONG A307 ANCHOR BOLTS	1/2" x 14" x 1'-0"	1/4" FILLET x (Lh-7)" LONG EACH SIDE	1/4" FILLET x (Lv-6)" LONG EACH SIDE			

** CRITICAL REQUIREMENT ALL BRACING RODS SHALL BE REVERSE THREADED AT ONE END WITH CLEVIS THREADED TO MATCH IN ORDER TO ALLOW TIGHTENING OF BRACING RODS AFTER INSTALLATION (TURN BUCKLES ARE NOT PERMITTED)



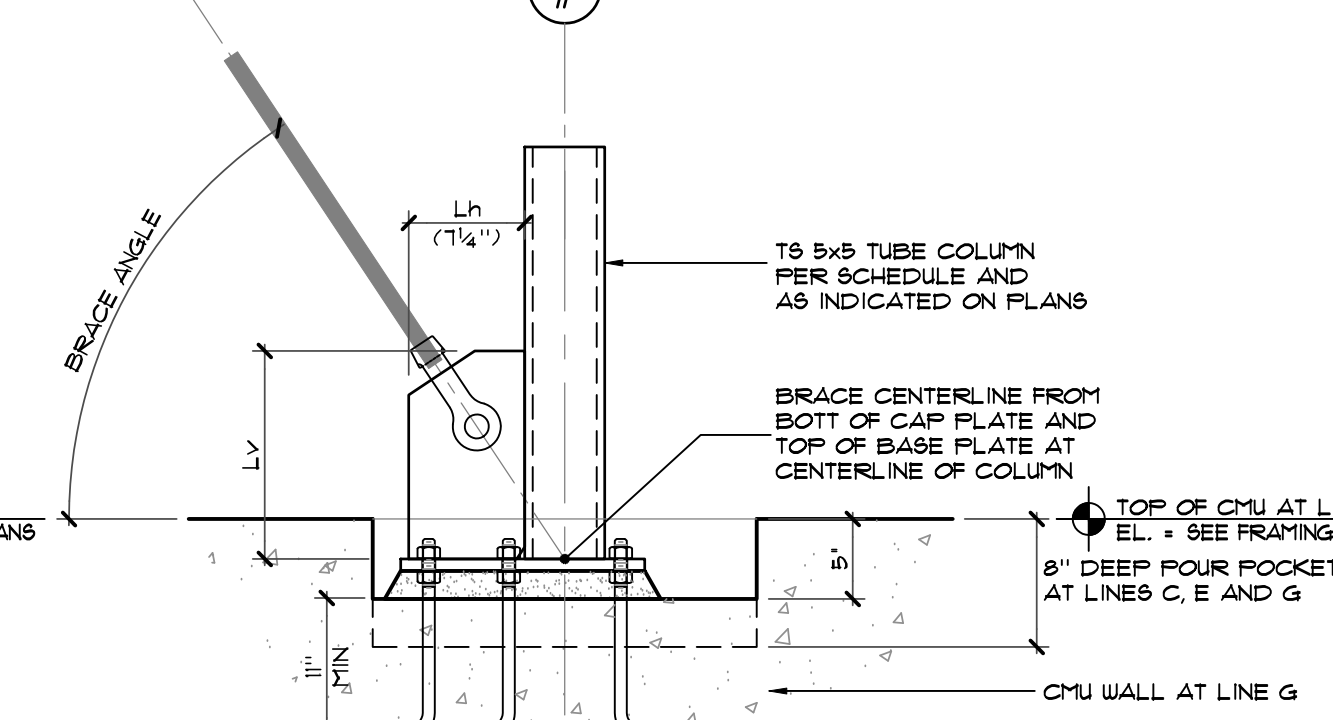
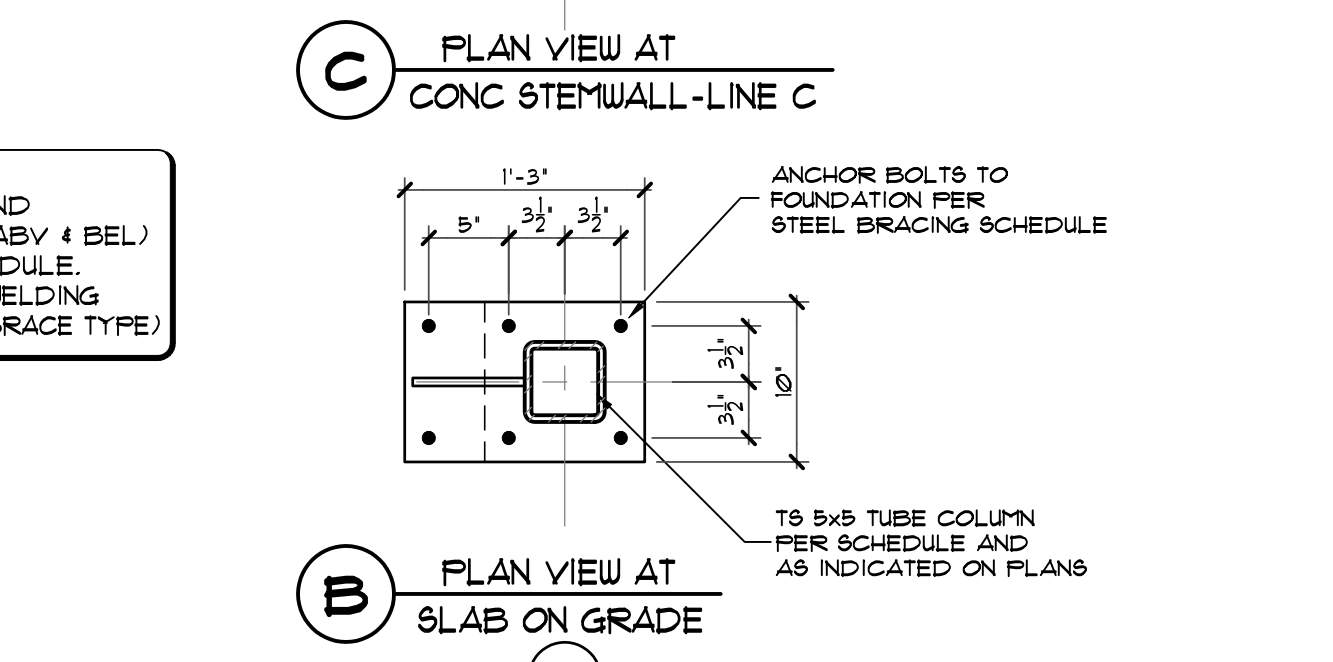
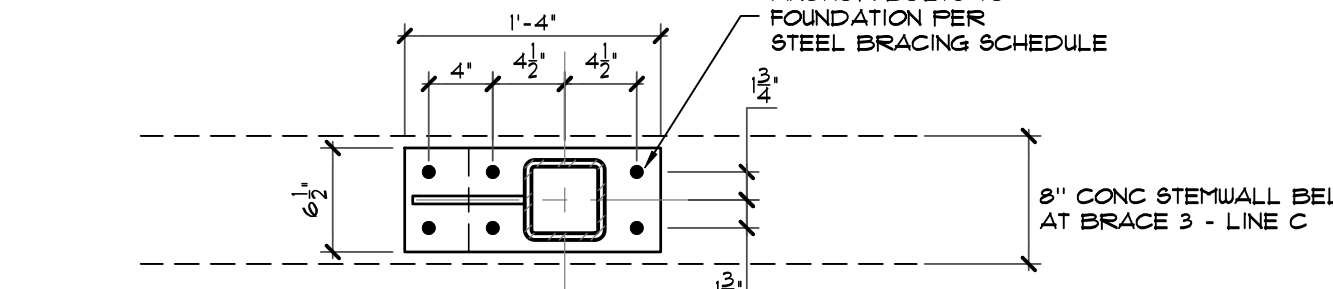
15 FRAMING DETAIL: X-BRACING CONNECTION REQMENTS
 S4.4 SCALE: 1" = 1'-0"



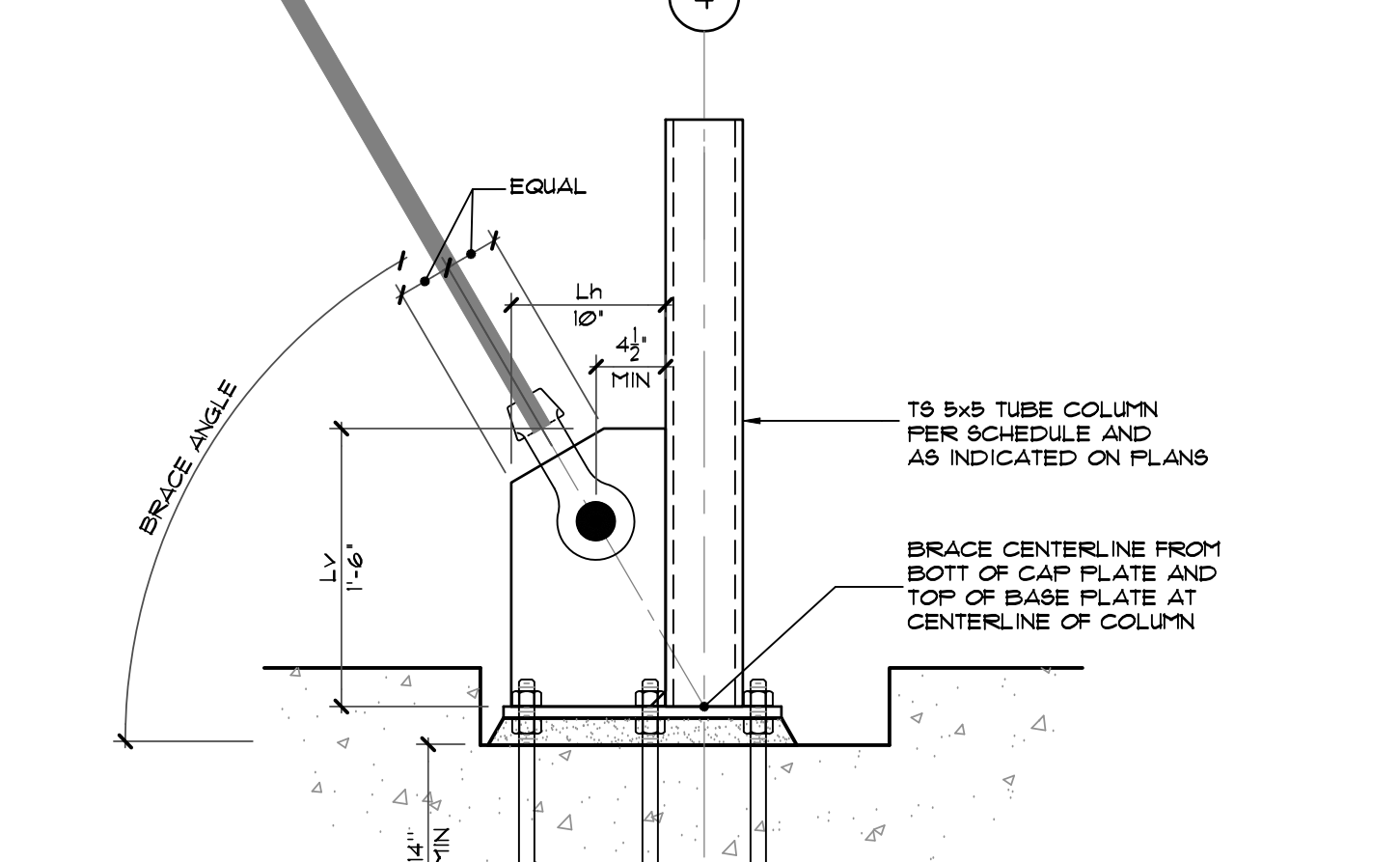
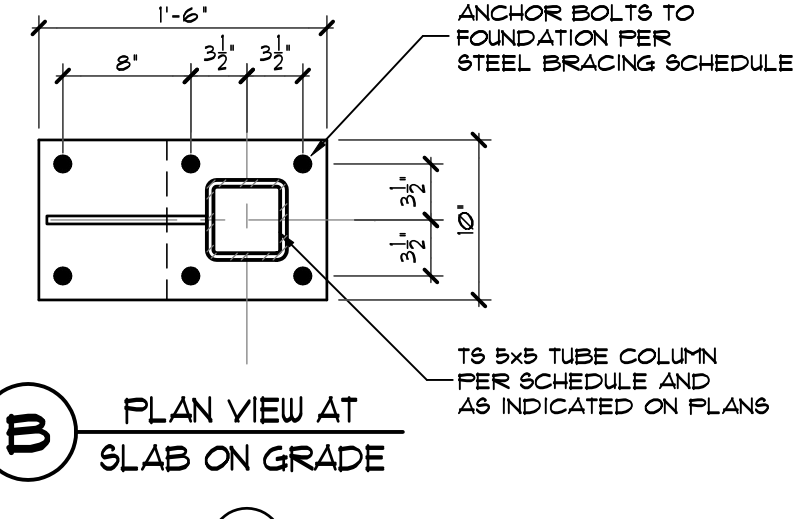
6 FRAMING DETAIL: BRACED COLUMN CAP PLATE REQUIREMENTS
 S4.4 SCALE: 1" = 1'-0"

4 FRAMING DETAIL: BRACED COLUMN CAP PLATE REQUIREMENTS
 S4.4 SCALE: 1" = 1'-0"

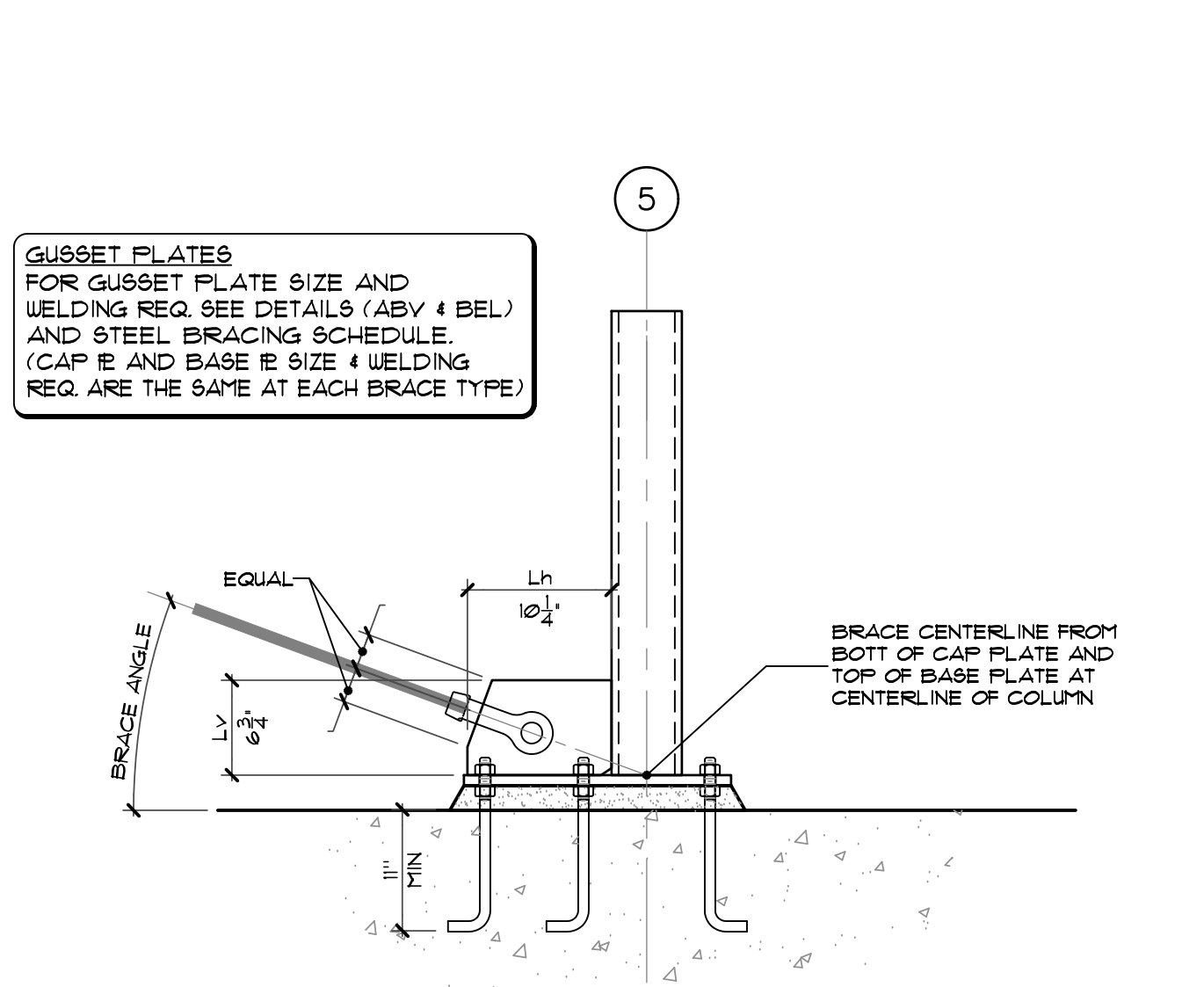
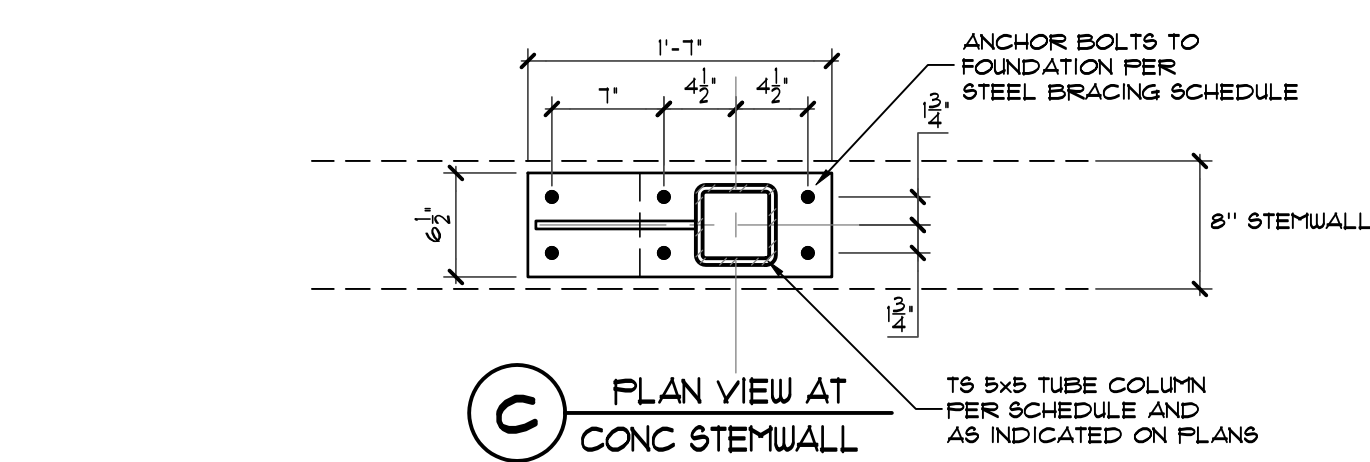
2 FRAMING DETAIL: BRACED COLUMN CAP PLATE REQUIREMENTS
 S4.4 SCALE: 1" = 1'-0"



GUSSET PLATES FOR GUSSET PLATE SIZE AND WELDING REQ. SEE DETAILS (ABV 4 BEL) AND STEEL BRACING SCHEDULE (CAP IE AND BASE IE SIZE 4 WELDING REQ. ARE THE SAME AT EACH BRACE TYPE)



4 FRAMING DETAIL: BRACED COLUMN BASE PLATE REQUIREMENTS
 S4.4 SCALE: 1" = 1'-0"



5 FRAMING DETAIL: BRACED COLUMN BASE PLATE REQUIREMENTS
 S4.4 SCALE: 1" = 1'-0"

PERMIT SET	1/19/09
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STEEL BRACING DETAILS	
PERMIT SET	01-19-09
Drawn by: WTV, RD, KC	Job Number: WVA-28012
Checked by: WTV, RD, KC	Scale: AS NOTED
PERMIT SET	Date: 01/19/2009
S 4.4	