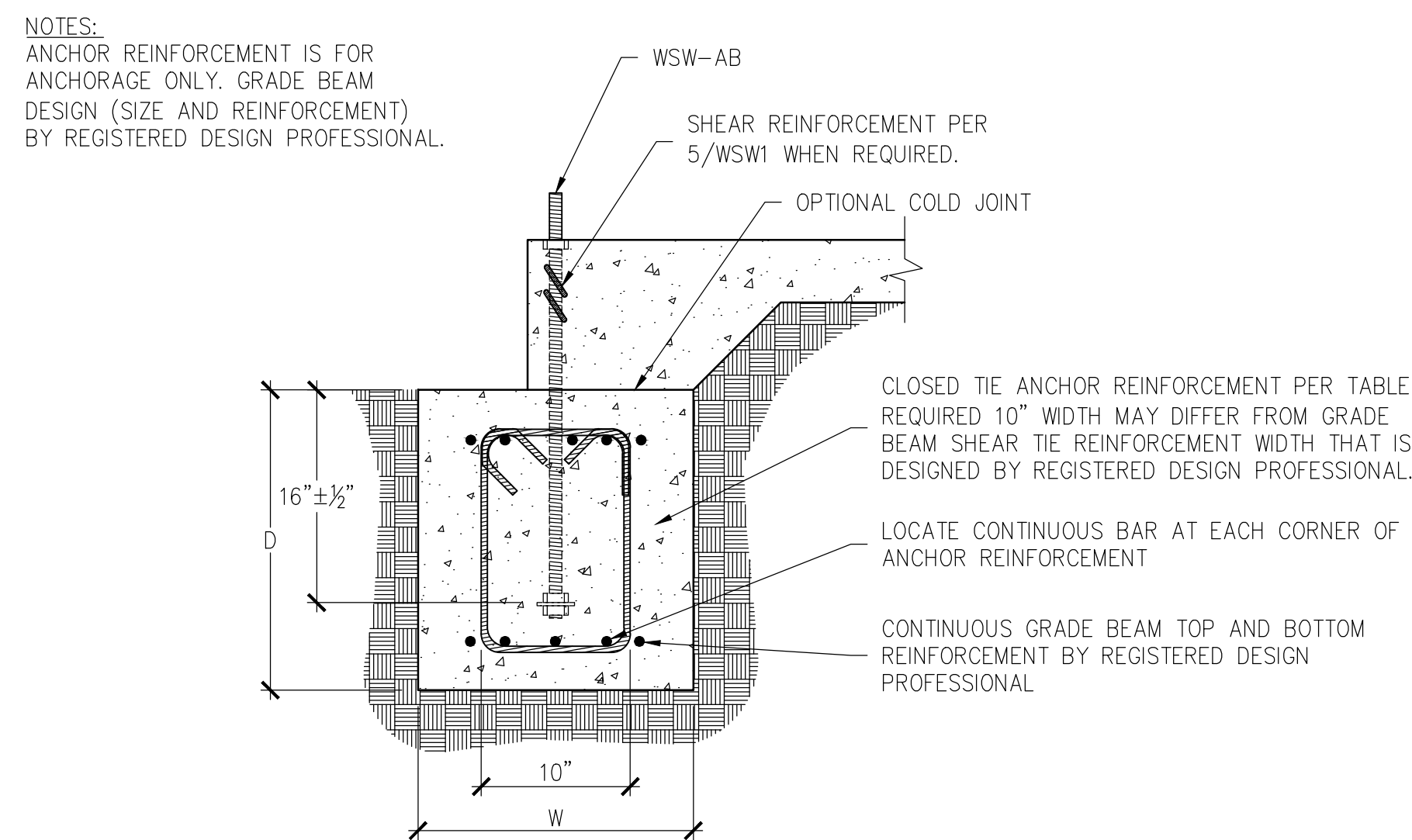


GRADE BEAM ELEVATION AT 24" WALL MODEL

1

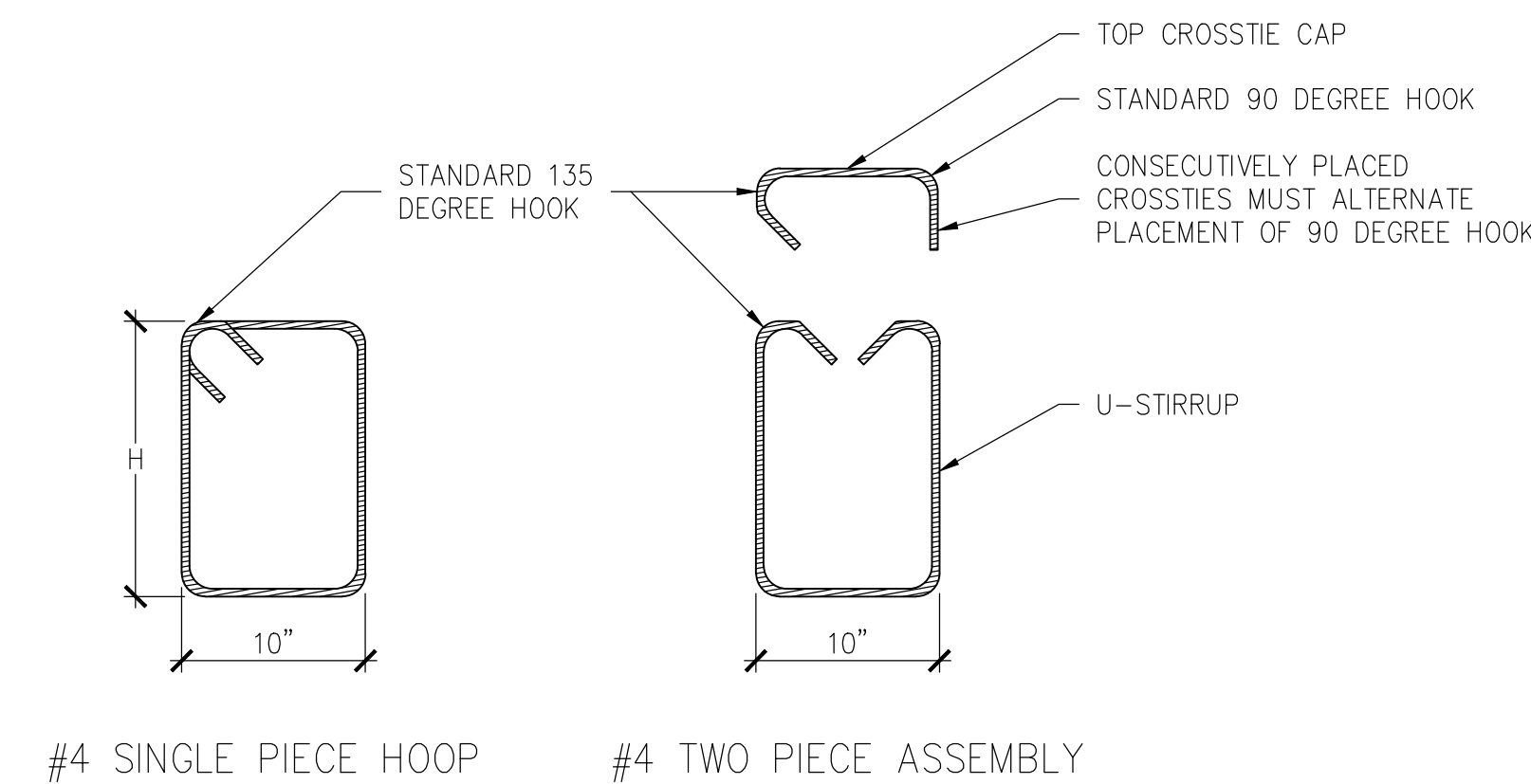


ANCHOR REIN. NOTE:  
MINIMUM DISTANCES FROM THE ANCHOR BOLT PLATE WASHER TO TOP AND BOTTOM OF CLOSED TIE REINFORCEMENT ARE 13" AND 5" RESPECTIVELY.

DIMENSIONING NOTES:  
D: DEPTH BY REGISTERED DESIGN PROFESSIONAL (24" MIN).  
W: WIDTH BY REGISTERED DESIGN PROFESSIONAL (18" MIN).

GRADE BEAM SECTION AT ANCHOR REINFORCEMENT

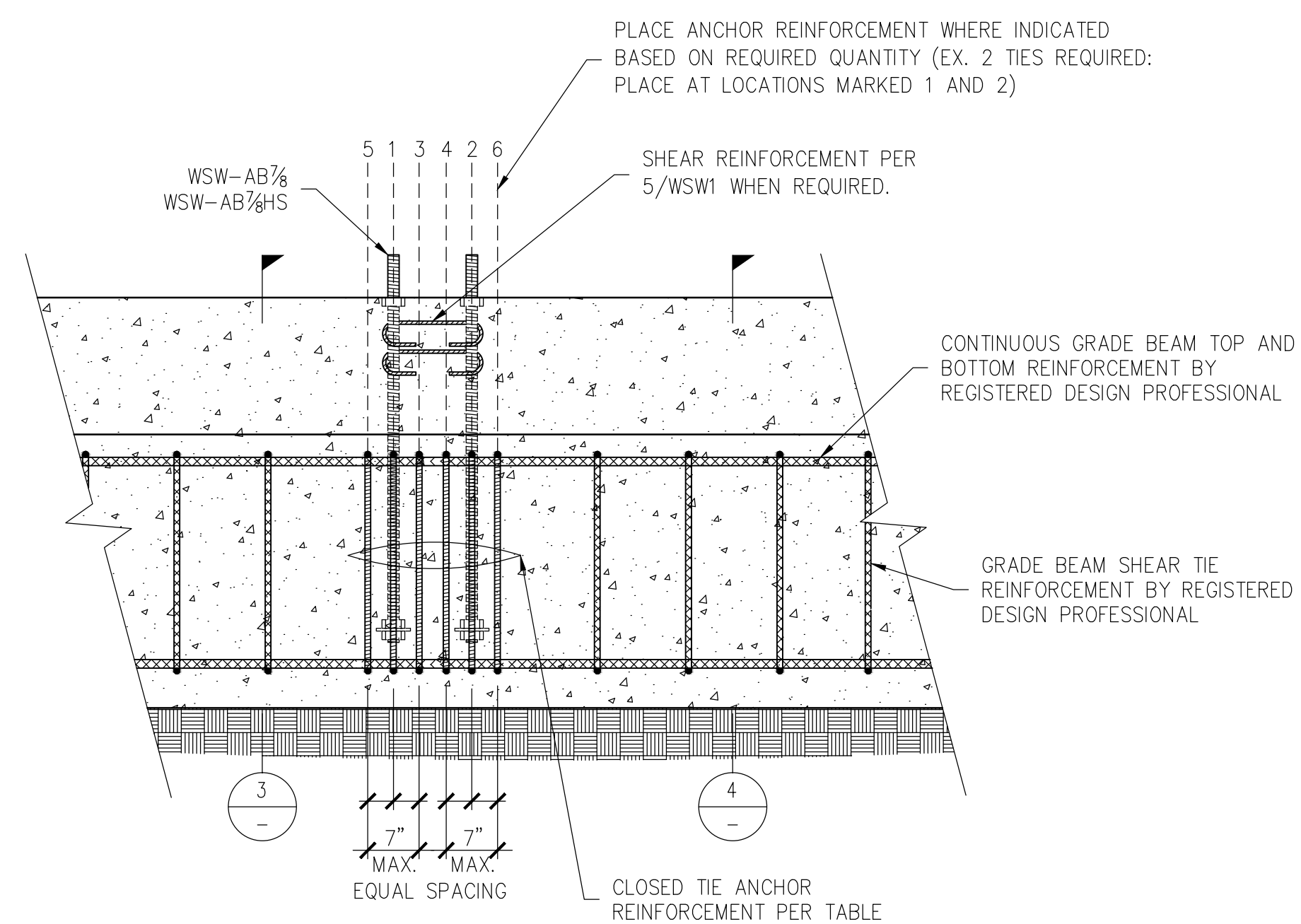
3



DIMENSIONING NOTES:  
H: HEIGHT OF ANCHOR REINFORCEMENT ASSEMBLY BY REGISTERED DESIGN PROFESSIONAL, SEE DETAIL 3-WSW1.1 FOR MINIMUM REQUIREMENTS

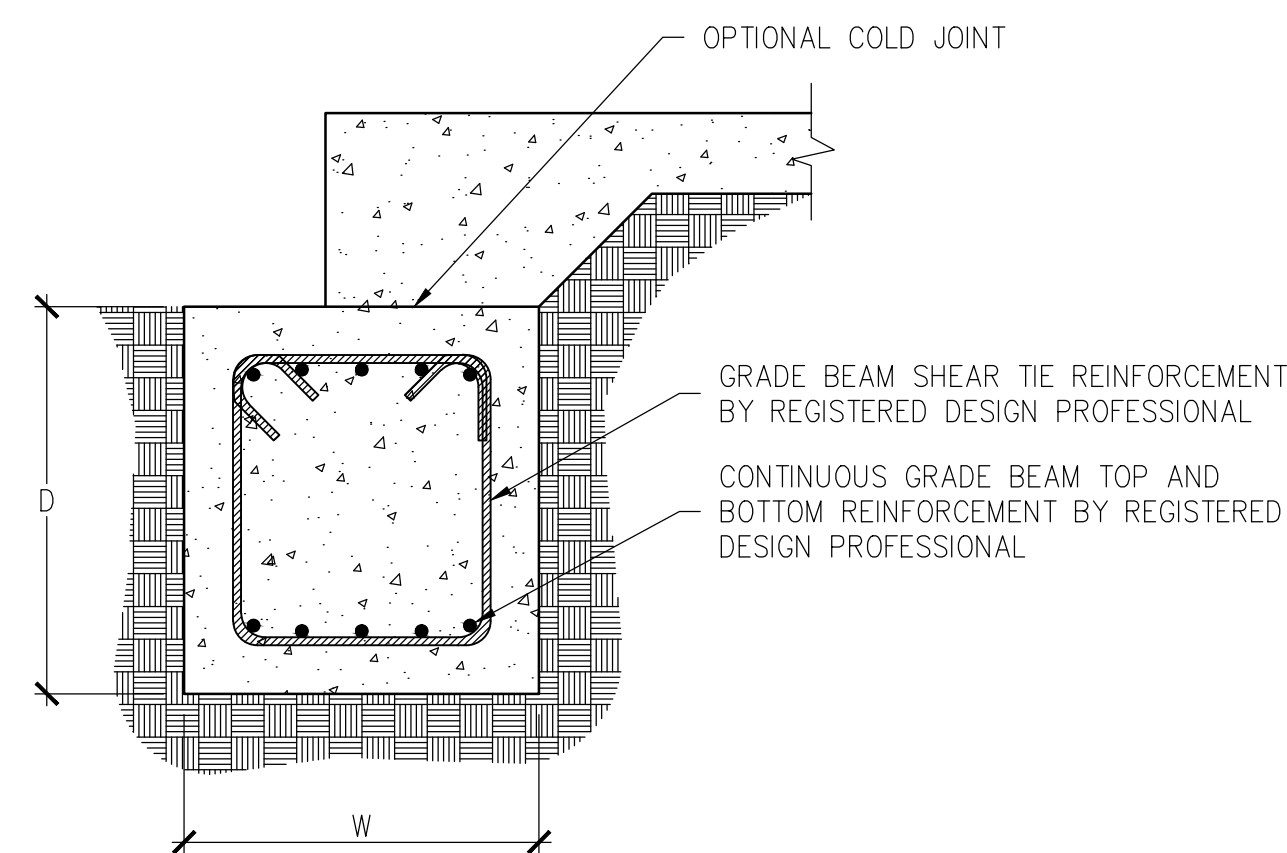
CLOSED TIE ANCHOR REINFORCEMENT

6



GRADE BEAM ELEVATION AT 12" AND 18" WALL MODELS

2



DIMENSIONING NOTES:  
D: DEPTH BY REGISTERED DESIGN PROFESSIONAL (24" MIN).  
W: WIDTH BY REGISTERED DESIGN PROFESSIONAL (18" MIN).

GRADE BEAM SECTION AWAY FROM ANCHOR REINFORCEMENT

4

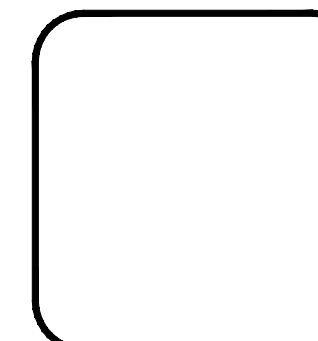
WSW GRADE BEAM ANCHOR REINFORCEMENT						
STRONG-WALL WOOD SHEARWALL WIDTH (in.)	ANCHOR MODEL NO.	ANCHOR DIAMETER (in.)	ANCHOR REINFORCEMENT FOR WIND AND SEISMIC <sup>3,8,9</sup>		AMPLIFIED LRFD APPLIED DESIGN SEISMIC MOMENT (ft.-lbs.) <sup>4,5,6,7</sup>	
			STANDARD STRENGTH WSW-AB	HIGH STRENGTH (HS) WSW-AB	STANDARD STRENGTH WSW-AB	HIGH STRENGTH (HS) WSW-AB
12" MODEL	WSW-AB7/8 WSW-AB7/8HS	7/8	4-#4 CLOSED TIES PER $\frac{2}{-}$	6-#4 CLOSED TIES PER $\frac{2}{-}$	24,700	24,700
18" MODEL			44,100	50,600		
24" MODEL	WSW-AB1 WSW-AB1HS	1	2-#4 CLOSED TIES PER $\frac{1}{-}$	4-#4 CLOSED TIES PER $\frac{1}{-}$	75,600	93,600

- NOTE:
- ANCHOR REINFORCEMENT CONFORMS TO ACI 318-14 SECTION 17.4.2.9 AND ACI 318-11 SECTION D.5.2.9. FULL-SCALE TESTING WAS USED TO VALIDATE ANCHOR REINFORCEMENT CONFIGURATION AND PLACEMENT.
  - MINIMUM CONCRETE COMPRESSIVE STRENGTH,  $f'_c = 2500$  psi.
  - CLOSED TIE ANCHOR REINFORCEMENT TO BE ASTM A615 GRADE 60 (MIN) #4 REBAR.
  - GRADE BEAM LONGITUDINAL AND TIE REINFORCEMENT SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL FOR FLEXURE AND SHEAR LOADING. DESIGN SHOULD CONSIDER PROJECT SPECIFIC DESIGN LOADS AND ALLOWABLE SOIL PRESSURE.
  - SIMPSON STRONG-TIE RECOMMENDS USING THE TABULATED MINIMUM AMPLIFIED LRFD APPLIED SEISMIC DESIGN MOMENT TO ENSURE GRADE BEAM DESIGN FLEXURE AND SHEAR STRENGTH IS ADEQUATE TO PREVENT PLASTIC HINGE FORMATION UNDER DEMANDS ASSOCIATED WITH ANCHORAGE FORCES CORRESPONDING TO ACI 318-14 SECTION 17.2.3.4.3 AND ACI 318-11 SECTION D.3.3.4.3.
  - DESIGNER MAY USE REDUCED MOMENT DUE TO APPLIED WSW LATERAL LOAD. MINIMUM MOMENT SHALL BE THE LESSER OF THE TABULATED MOMENT OR THE AMPLIFIED LRFD DESIGN MOMENT FOR SEISMIC: (ASD DESIGN DEMAND SHEAR/0.7) x  $W_o$  x WSW WALL HEIGHT FOR GRADE BEAM DESIGN.
  - MINIMUM GRADE BEAM DESIGN MOMENT FOR WIND AND SEISMIC IN SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C: (ASD DESIGN DEMAND SHEAR/0.6) x WSW WALL HEIGHT.
  - CLOSED TIE MAY BE SINGLE PIECE HOOP OR TWO PIECE ASSEMBLY WITH A U-STIRRUP WITH STANDARD 135 DEGREE HOOKS AND A TOP CROSS TIE CAP. SEE DETAIL 6/WSW1.1.
  - SEE DETAILS FOR GRADE BEAM ANCHOR REINFORCEMENT PLACEMENT, INSTALLATION AND SPACING REQUIREMENTS. CLOSED TIE ANCHOR REINFORCEMENT QUANTITY IS PER WALL FOR THE 12" AND 18" WALL MODELS, AND PER ANCHOR FOR THE 24" MODEL.

WSW-AB ANCHOR GRADE BEAM REINFORCEMENT AND DESIGN MOMENTS

5

REVISIONS	DATE	NO.
0	07/01/2016	



**SIMPSON Strong-Tie Co. Inc.**  
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 Website: www.strongtie.com

**STRONG-WALL® WSW**  
 ALTERNATE ANCHORAGE DETAILS  
 ENGINEERED DESIGNS

NAME	
DATE	07-01-2016
SCALE	N.T.S.
CHECKED	
SHEET	WSW1.1
OF SHEETS	
JOB NO.	