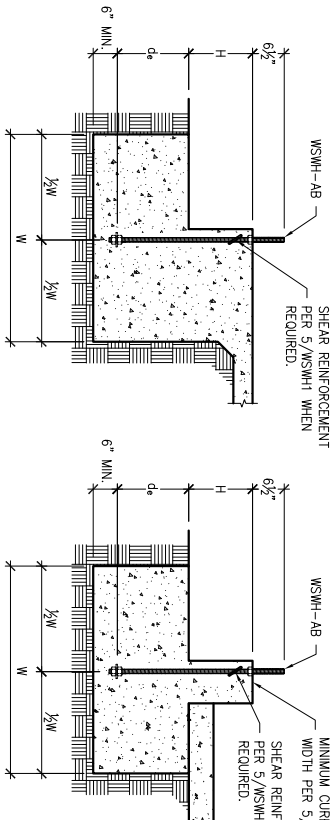
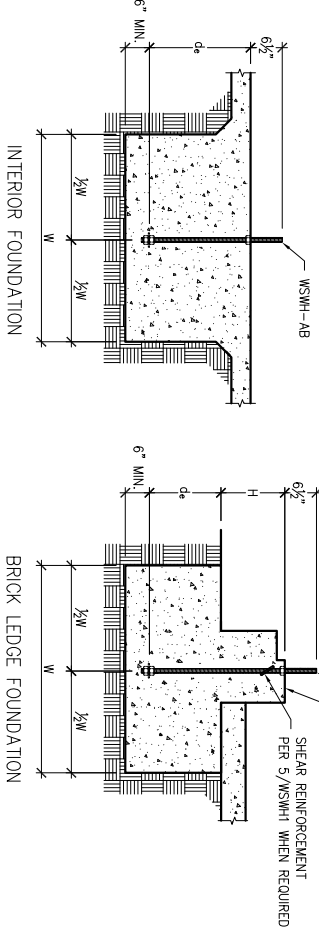




NOTES :
1. SEE 2/WSWH FOR DIMENSIONS AND ADDITIONAL NOTES.
2. SEE 5/WSWH FOR SHEAR REINFORCEMENT WHEN REQUIRED.
3. MAXIMUM H = L_e-d_s. SEE 3/WSWH AND 4/WSWH FOR L_e.

DESIGNER IS PERMITTED TO MODIFY DETAILS FOR SPECIFIC CONDITIONS.



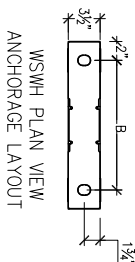
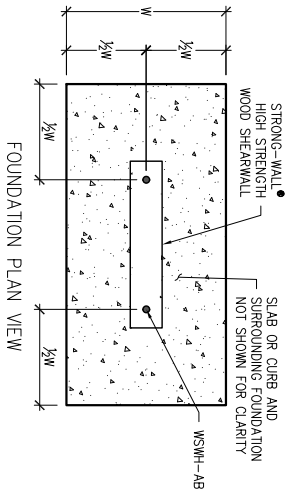
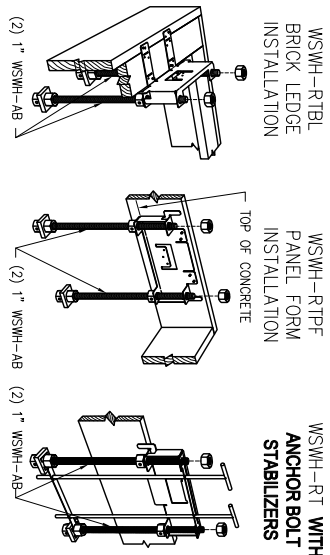
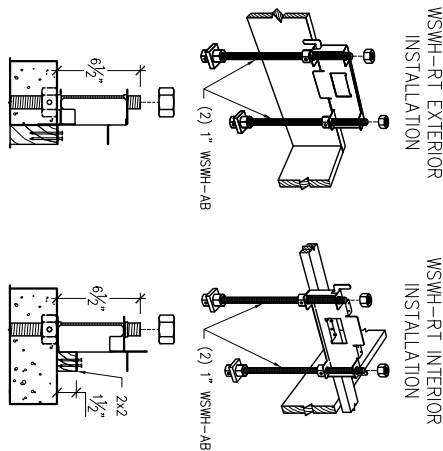
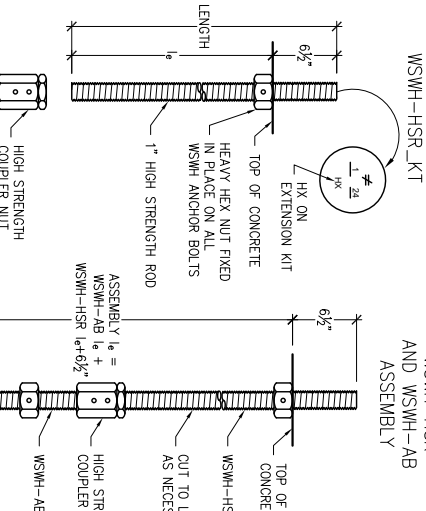
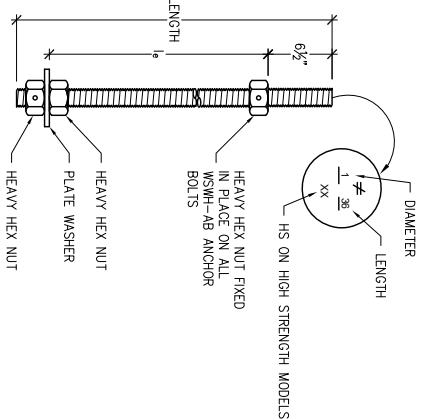
STRONG-WALL® WSWH ANCHORAGE – TYPICAL SECTIONS

1 WSWH ANCHOR BOLTS

3 WSWH ANCHOR BOLT EXTENSION

4 WSWH ANCHOR BOLT TEMPLATES

6



ANCHOR BOLT LAYOUT	
STRONG-WALL® HIGH STRENGTH WOOD SHEARWALL MODEL NO.	DISTANCE FROM CENTER-TO-CENTER OF WSWH-AB, B (in)
WSWH12	8 1/2
WSWH18	14
WSWH24	20

- NOTES :
- ANCHORAGE DESIGNS CONFORM TO ACI 318-14 CHAPTER 17 AND ACI 318-19 CHAPTER 17 WITH NO SUPPLEMENTARY REINFORCEMENT FOR CRACKED OR UNCRACKED CONCRETE, AS NOTED.
 - ANCHOR STRENGTH INDICATES REQUIRED GRADE OF WSWH-AB ANCHOR BOLT: STANDARD (ASTM F1554 GRADE 36) OR HIGH STRENGTH (HS) (ASTM A193 GRADE B7).
 - SEISMIC INDICATES SEISMIC DESIGN CATEGORY C-F; DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS. SEISMIC ANCHORAGE DESIGNS CONFORM TO ACI 318-14 SECTION 17.2.3.4.3 AND ACI 318-19 SECTION 17.10.6.3.3.
 - WIND LOADS SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C.
 - WIND LOADS SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C.
 - THE DESIGNER MAY SPECIFY ALTERNATE EMBEDMENT, FOOTING SIZE OR ANCHOR BOLT.
 - REFER TO 1/WSWH FOR d_s.

WSWH ANCHORAGE SOLUTIONS FOR 2500 PSI CONCRETE				
DESIGN CRITERIA	CONCRETE CONDITION	ANCHOR STRENGTH	WSWH-AB ANCHOR BOLT	
			ASD ALLOWABLE UPLIFT (lbs)	W (in) d _s (in)
SEISMIC	CRACKED	STANDARD	16,000	33 11
		HIGH STRENGTH	17,100	35 12
		HIGH STRENGTH	34,800	32 18
	UNCRACKED	STANDARD	15,700	28 10
		HIGH STRENGTH	33,500	45 15
		HIGH STRENGTH	36,800	48 16
WIND	CRACKED	STANDARD	11,400	24 8
		HIGH STRENGTH	17,100	32 11
		HIGH STRENGTH	21,700	36 12
	UNCRACKED	STANDARD	27,300	42 14
		HIGH STRENGTH	34,100	48 16
		HIGH STRENGTH	36,800	51 17

WSWH ANCHORAGE SOLUTIONS FOR 3000 PSI CONCRETE				
DESIGN CRITERIA	CONCRETE CONDITION	ANCHOR STRENGTH	WSWH-AB ANCHOR BOLT	
			ASD ALLOWABLE UPLIFT (lbs)	W (in) d _s (in)
SEISMIC	CRACKED	STANDARD	16,000	31 11
		HIGH STRENGTH	17,100	33 11
		HIGH STRENGTH	34,800	32 18
	UNCRACKED	STANDARD	16,300	29 10
		HIGH STRENGTH	34,000	43 15
		HIGH STRENGTH	36,800	46 16
WIND	CRACKED	STANDARD	10,200	21 7
		HIGH STRENGTH	17,100	30 10
		HIGH STRENGTH	20,000	33 11
	UNCRACKED	STANDARD	26,500	39 13
		HIGH STRENGTH	33,600	45 15
		HIGH STRENGTH	36,800	48 16

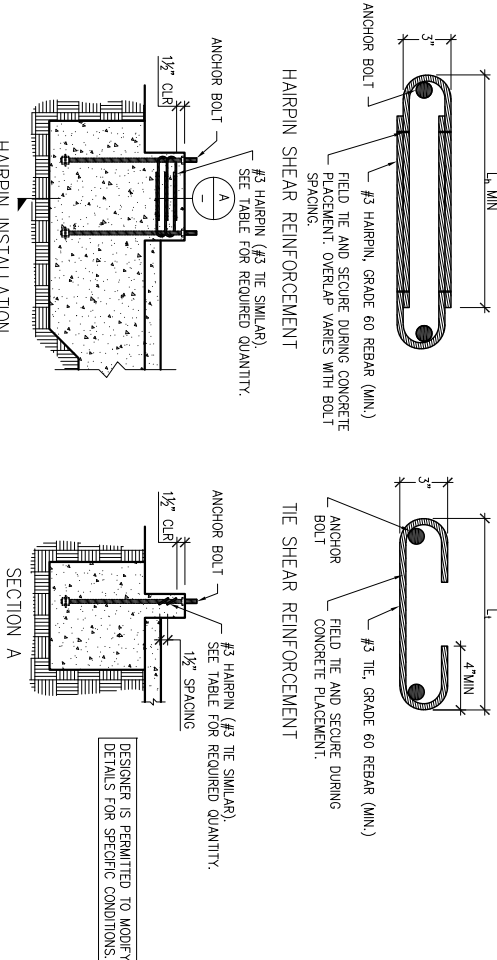
WSWH ANCHORAGE SOLUTIONS FOR 4500 PSI CONCRETE				
DESIGN CRITERIA	CONCRETE CONDITION	ANCHOR STRENGTH	WSWH-AB ANCHOR BOLT	
			ASD ALLOWABLE UPLIFT (lbs)	W (in) d _s (in)
SEISMIC	CRACKED	STANDARD	16,000	27 9
		HIGH STRENGTH	17,100	29 10
		HIGH STRENGTH	34,800	44 15
	UNCRACKED	STANDARD	15,700	25 9
		HIGH STRENGTH	33,500	38 13
		HIGH STRENGTH	36,800	40 14
WIND	CRACKED	STANDARD	6,800	14 6
		HIGH STRENGTH	11,600	20 7
		HIGH STRENGTH	17,100	26 9
	UNCRACKED	STANDARD	21,400	30 10
		HIGH STRENGTH	28,400	36 12
		HIGH STRENGTH	32,400	39 13

WSWH PANEL MODEL	MODEL NO.	DIAMETER	LENGTH	L _e
WSWH12, WSWH18 AND WSWH24	WSWH-AB1x24	1"	24"	15 1/2"
	WSWH-AB1x24HS	1"	24"	15 1/2"
	WSWH-AB1x30	1"	30"	21 1/2"
	WSWH-AB1x30HS	1"	30"	21 1/2"
	WSWH-AB1x36	1"	36"	27 1/2"
	WSWH-AB1x36HS	1"	36"	27 1/2"
WSWH18 AND WSWH24	WSWH-AB1x42	1"	42"	33 1/2"
	WSWH-AB1x42HS	1"	42"	33 1/2"
	WSWH-AB1x48	1"	48"	39 1/2"

WSWH PANEL MODEL	MODEL NO.	DIAMETER	LENGTH	L _e
WSWH12, WSWH18 AND WSWH24	WSWH-HSR1x24KT	1"	24"	17 1/2"
	WSWH-HSR1x36KT	1"	36"	29 1/2"

STRONG-WALL® HIGH STRENGTH WOOD SHEARWALL SHEAR ANCHORAGE				
MODEL	SEISMIC ³			
	L _e OR L _h (in)	SHEAR REINFORCEMENT	MIN. CURB/STEWALL WIDTH (in)	ASD ALLOWABLE SHEAR LOAD, V (lb)
WSWH12	10 1/2	(1) #3 TIE	6	1,080
WSWH18	15	(2) #3 HARPINS ^{4a}	6	770
WSWH24	19	(2) #3 HARPINS ⁵	6	ALLOW SHEAR LOAD OF THE WSWH

- NOTES :
- SHEAR ANCHORAGE DESIGNS CONFORM TO ACI 318-19 AND ACI 318-14 AND ASSUME MINIMUM 2,500 PSI CONCRETE.
 - SHEAR REINFORCEMENT IS NOT REQUIRED FOR INTERIOR FOUNDATION APPLICATIONS (PANEL INSTALLED AWAY FROM EDGE OF CONCRETE), OR BRACED WALL PANEL APPLICATIONS.
 - SEISMIC INDICATES SEISMIC DESIGN CATEGORY C THROUGH F; DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS.
 - SEISMIC SHEAR REINFORCEMENT DESIGNS CONFORM TO ACI 318-19, SECTION 17.10.6.3, ACI 318-14, SECTION 17.2.3.3.3.
 - SEISMIC INDICATES SEISMIC DESIGN CATEGORY A AND B.
 - WIND INCLUDES TIES MAY BE REQUIRED AT GARAGE CURB OR STEMWALL INSTALLATIONS BELOW ANCHOR REINFORCEMENT PER DESIGNER.
 - USE (1) #3 HARPIN FOR WSWH12 WHEN STANDARD SHEAR FORCE EXCEEDS TABULATED ANCHORAGE ALLOWABLE SHEAR LOAD.
 - USE (1) #3 TIE FOR WSWH18 WHEN STANDARD SHEAR FORCE EXCEEDS TABULATED ANCHORAGE ALLOWABLE SHEAR LOAD.
 - GRADE 40 SHEAR REINFORCEMENT MAY BE SUBSTITUTED FOR WSWH SHEAR ANCHORAGE SOLUTIONS.
 - CONCRETE SURFACE IS EXPOSED TO WEATHER OR IN CONTACT WITH GROUND CONSIDER ALTERNATE PROTECTION METHODS IF NECESSARY. ANCHOR AND BOLT ARE CONTINUOUS TO LOCATE THE STRONG WALL INSIDE FACE OF 2x6 FRAMING. HOT DIPPED GALVANIZED ANCHOR BOLTS ARE AVAILABLE.
 - THE DESIGNER MAY SPECIFY ALTERNATE SHEAR ANCHORAGE.



STRONG-WALL® WSWH ANCHORAGE DETAILS ENGINEERED DESIGNS



SIMPSON Strong-Tie, Co. Inc. 5956 W. Las Positas Blvd. Pleasanton, CA 94588 • Tel: (800) 999-5099 • Website: www.strongtie.com

NO.	DATE	REVISIONS
0	02-28-2021	FIRST RELEASE - 2018 IBC
1	03-16-2021	2021 IBC REVISIONS
2	04-29-2022	ADDED WSWH-AB MODELS
3	09-20-2024	UPDATED DETAIL 1, 2 & 6

STRONG-WALL® HIGH STRENGTH WOOD SHEARWALL TENSION ANCHORAGE SCHEDULE 2,500, 3,000 AND 4,500 PSI

2 STRONG-WALL® WSWH SHEAR ANCHORAGE SCHEDULE AND DETAILS

5

NAME		
DATE	09-20-2024	
SCALE	N.T.S.	
CHECKED		
SHEET	WSWH1	
OF	SHEETS	
JOB NO.		