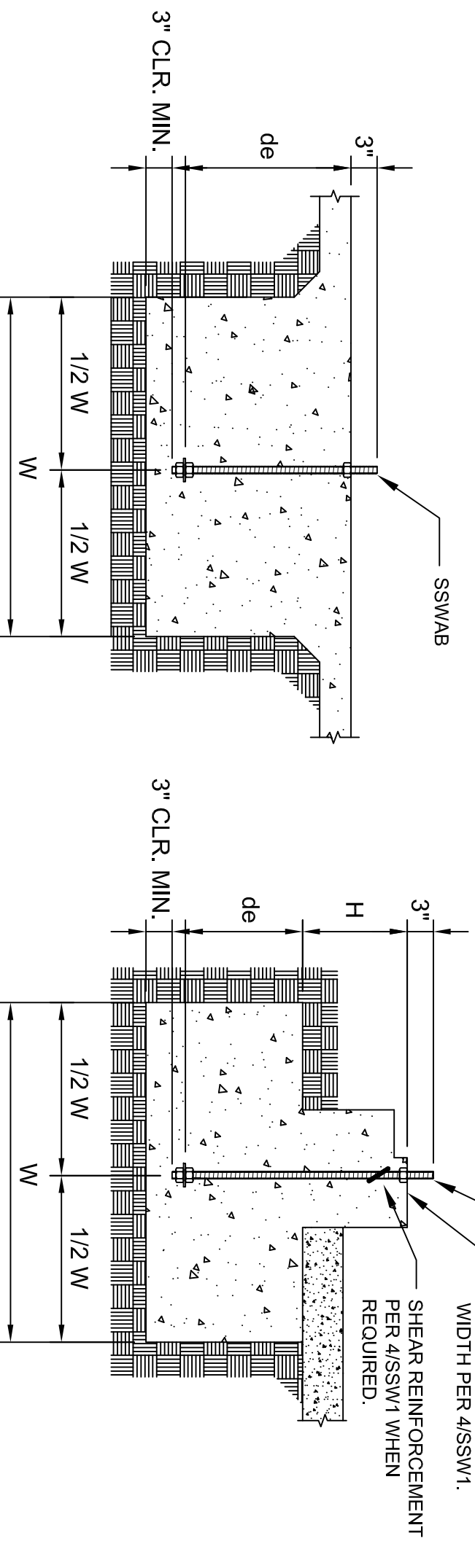


SLAB ON GRADE FOUNDATION

CURB OR STEMWALL FOUNDATION

REGISTERED DESIGN PROFESSIONAL PER 4/SSW1 FOR SPECIFIC CONDITIONS.



INTERIOR FOUNDATION

BRICK LEDGE FOUNDATION

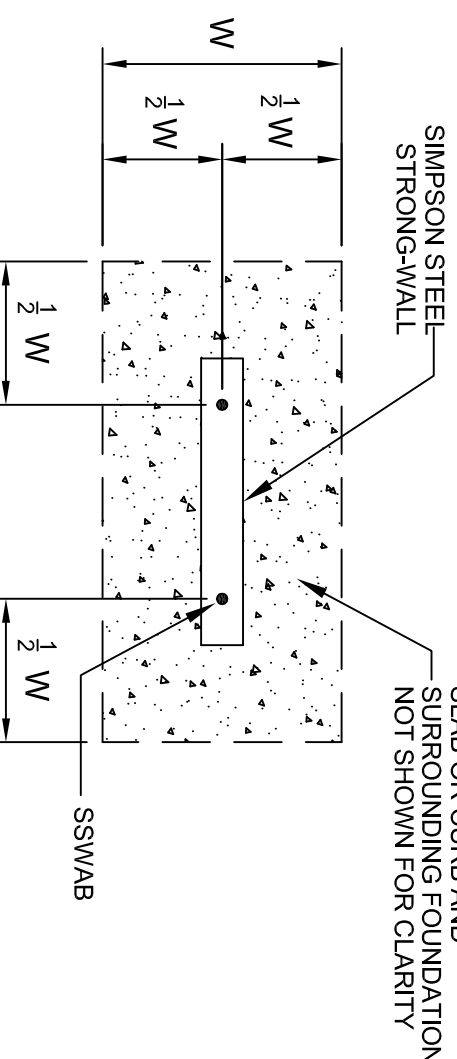
- NOTES:  
 1. ANCHORAGE DESIGNS CONFORM TO ACI 318-05 AND ASSUME MINIMUM  $f_c = 2,500$  PSI CONCRETE.  
 2. SEE 4/SSW1 FOR SHEAR REINFORCEMENT WHEN REQUIRED.  
 3. MAXIMUM  $H - l_e - d_e$ . SEE 4/SSW1 AND 6/SSW1 FOR  $l_e$ .

**STEEL STRONG-WALL ANCHORAGE - TYPICAL SECTIONS**

1

| DESIGN CRITERIA | CONDITION     | ANCHOR STRENGTH | SSWAB 3/4" ANCHOR BOLT     |        |         | SSWAB 1" ANCHOR BOLT       |        |         |
|-----------------|---------------|-----------------|----------------------------|--------|---------|----------------------------|--------|---------|
|                 |               |                 | ASD ALLOWABLE UPLIFT (lbs) | W (in) | de (in) | ASD ALLOWABLE UPLIFT (lbs) | W (in) | de (in) |
| SEISMIC         | CRACKED       | STANDARD        | 9,600                      | 2.5    | 9       | 17,100                     | 3.6    | 12      |
|                 |               | HIGH STRENGTH   | 19,900                     | 3.9    | 13      | 35,300                     | 5.6    | 19      |
|                 |               | STANDARD        | 9,600                      | 2.1    | 7       | 17,100                     | 3.2    | 11      |
|                 |               | HIGH STRENGTH   | 19,900                     | 3.4    | 12      | 35,300                     | 4.9    | 17      |
|                 |               | STANDARD        | 4,500                      | 1.2    | 6       | 5,600                      | 1.4    | 6       |
|                 |               | HIGH STRENGTH   | 6,900                      | 1.6    | 6       | 12,700                     | 2.4    | 8       |
|                 | UNCRACKED     | STANDARD        | 9,600                      | 2.0    | 7       | 17,100                     | 3.0    | 10      |
|                 |               | HIGH STRENGTH   | 11,100                     | 2.2    | 8       | 22,400                     | 3.5    | 12      |
|                 |               | STANDARD        | 13,500                     | 2.5    | 9       | 26,800                     | 3.9    | 13      |
|                 |               | HIGH STRENGTH   | 16,000                     | 2.8    | 10      | 31,600                     | 4.3    | 15      |
|                 |               | STANDARD        | 19,900                     | 3.3    | 11      | 35,300                     | 4.7    | 16      |
|                 |               | HIGH STRENGTH   | 5,600                      | 1.2    | 6       | 5,600                      | 1.2    | 6       |
| WIND            | STANDARD      | 9,600           | 1.5                        | 6      | 12,000  | 2.0                        | 7      |         |
|                 |               | 11,200          | 1.8                        | 6      | 17,100  | 2.6                        | 9      |         |
|                 |               | 13,900          | 2.2                        | 8      | 22,700  | 3.0                        | 10     |         |
|                 | HIGH STRENGTH | 15,800          | 2.4                        | 8      | 32,100  | 3.4                        | 12     |         |
|                 |               | 18,800          | 2.8                        | 8      | 32,100  | 3.8                        | 13     |         |
|                 |               | 19,900          | 2.9                        | 10     | 35,300  | 4.1                        | 14     |         |

SEE TABLES BELOW FOR DIMENSIONS FOUNDATION PLAN VIEW



- NOTES:  
 1. ANCHORAGE DESIGNS CONFORM TO ACI 318-05 APPENDIX D WITH NO SUPPLEMENTARY REINFORCEMENT FOR CRACKED OR UNCRACKED CONCRETE AS NOTED.  
 2. ANCHOR STRENGTH INDICATES REQUIRED GRADE OF SSWAB ANCHOR BOLT. STANDARD (ASTM F1554 GRADE 36) OR HIGH STRENGTH (HS) (ASTM A449).  
 3. SEISMIC INDICATES SEISMIC DESIGN CATEGORY C THROUGH F. DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS. SEISMIC ANCHORAGE DESIGNS CONFORM TO ACI 318-05 SECTION D.3.3.4.  
 4. WIND INCLUDES SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C.  
 5. FOUNDATION DIMENSIONS ARE FOR ANCHORAGE ONLY. FOUNDATION DESIGN (SIZE AND REINFORCEMENT) BY OTHERS.  
 6. THE REGISTERED DESIGN PROFESSIONAL MAY SPECIFY ALTERNATE EMBEDMENT, FOOTING SIZE OR ANCHOR BOLT. REFER TO 1/SSW1 FOR  $l_e$ .

**SSWAB TENSION ANCHORAGE SCHEDULE 2500 PSI**

2

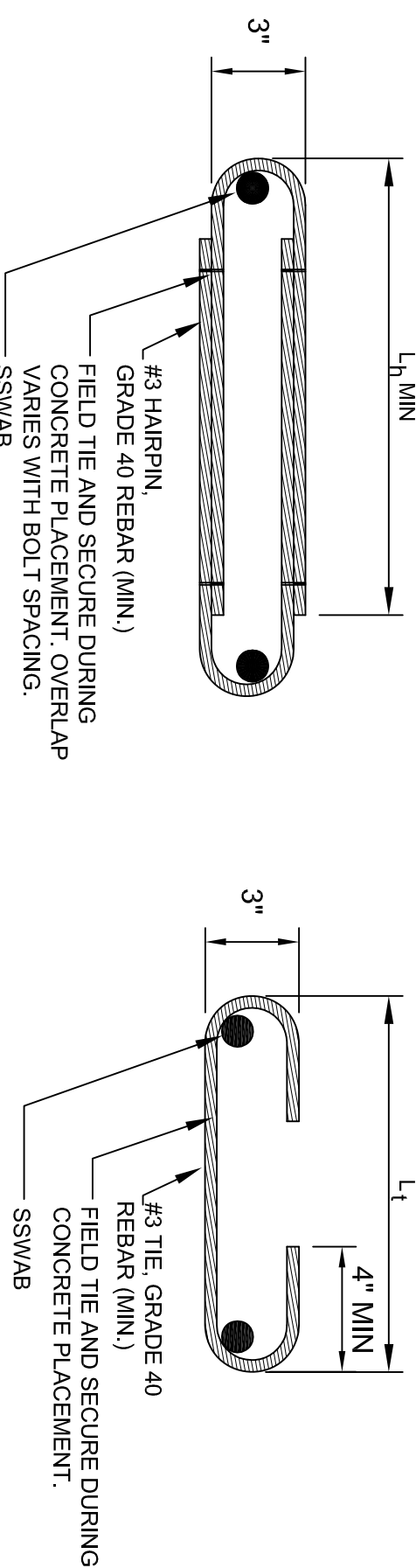
| DESIGN CRITERIA | CONDITION     | ANCHOR STRENGTH | SSWAB 3/4" ANCHOR BOLT     |        |         | SSWAB 1" ANCHOR BOLT       |        |         |
|-----------------|---------------|-----------------|----------------------------|--------|---------|----------------------------|--------|---------|
|                 |               |                 | ASD ALLOWABLE UPLIFT (lbs) | W (in) | de (in) | ASD ALLOWABLE UPLIFT (lbs) | W (in) | de (in) |
| SEISMIC         | CRACKED       | STANDARD        | 9,600                      | 2.2    | 8       | 17,100                     | 3.3    | 11      |
|                 |               | HIGH STRENGTH   | 19,900                     | 3.6    | 12      | 35,300                     | 5.1    | 17      |
|                 |               | STANDARD        | 9,600                      | 1.9    | 7       | 17,100                     | 2.8    | 10      |
|                 |               | HIGH STRENGTH   | 19,900                     | 3.1    | 11      | 35,300                     | 4.4    | 15      |
|                 |               | STANDARD        | 5,300                      | 1.2    | 6       | 6,000                      | 1.3    | 6       |
|                 |               | HIGH STRENGTH   | 7,400                      | 1.6    | 6       | 13,200                     | 2.2    | 8       |
|                 | UNCRACKED     | STANDARD        | 9,600                      | 1.8    | 7       | 17,100                     | 2.7    | 9       |
|                 |               | HIGH STRENGTH   | 11,400                     | 2.0    | 8       | 23,000                     | 3.2    | 11      |
|                 |               | STANDARD        | 14,100                     | 2.3    | 8       | 27,800                     | 3.6    | 12      |
|                 |               | HIGH STRENGTH   | 15,900                     | 2.5    | 9       | 31,700                     | 3.9    | 13      |
|                 |               | STANDARD        | 19,900                     | 3.0    | 10      | 35,300                     | 4.3    | 15      |
|                 |               | HIGH STRENGTH   | 6,300                      | 1.4    | 6       | 6,600                      | 1.2    | 6       |
| WIND            | STANDARD      | 9,600           | 1.6                        | 6      | 17,100  | 2.3                        | 8      |         |
|                 |               | 11,200          | 1.7                        | 6      | 22,400  | 2.7                        | 9      |         |
|                 |               | 14,300          | 2.0                        | 7      | 27,500  | 3.1                        | 11     |         |
|                 | HIGH STRENGTH | 16,400          | 2.2                        | 8      | 33,100  | 3.5                        | 12     |         |
|                 |               | 18,400          | 2.5                        | 8      | 33,100  | 3.8                        | 13     |         |
|                 |               | 19,900          | 2.6                        | 9      | 35,300  | 3.7                        | 13     |         |

- NOTES:  
 1. ANCHORAGE DESIGNS CONFORM TO ACI 318-05 APPENDIX D WITH NO SUPPLEMENTARY REINFORCEMENT FOR CRACKED OR UNCRACKED CONCRETE AS NOTED.  
 2. ANCHOR STRENGTH INDICATES REQUIRED GRADE OF SSWAB ANCHOR BOLT. STANDARD (ASTM F1554 GRADE 36) OR HIGH STRENGTH (HS) (ASTM A449).  
 3. SEISMIC INDICATES SEISMIC DESIGN CATEGORY C THROUGH F. DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS. SEISMIC ANCHORAGE DESIGNS CONFORM TO ACI 318-05 SECTION D.3.3.4.  
 4. WIND INCLUDES SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C.  
 5. FOUNDATION DIMENSIONS ARE FOR ANCHORAGE ONLY. FOUNDATION DESIGN (SIZE AND REINFORCEMENT) BY OTHERS. THE REGISTERED DESIGN PROFESSIONAL MAY SPECIFY ALTERNATE EMBEDMENT, FOOTING SIZE OR ANCHOR BOLT.  
 6. SEE 1/SSW1 AND 4/SSW1 FOR W AND  $l_e$ .

**SSWAB TENSION ANCHORAGE SCHEDULE 3500/4500 PSI**

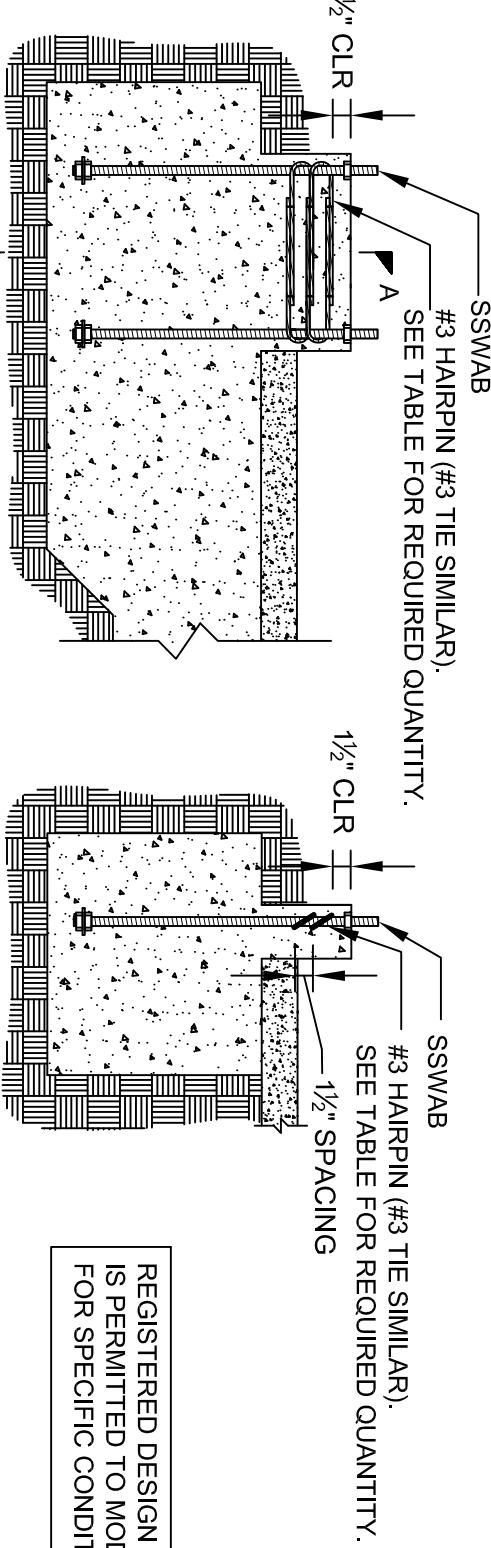
3

| DESIGN CRITERIA | CONDITION     | ANCHOR STRENGTH | SSWAB 3/4" ANCHOR BOLT     |        |         | SSWAB 1" ANCHOR BOLT       |        |         |
|-----------------|---------------|-----------------|----------------------------|--------|---------|----------------------------|--------|---------|
|                 |               |                 | ASD ALLOWABLE UPLIFT (lbs) | W (in) | de (in) | ASD ALLOWABLE UPLIFT (lbs) | W (in) | de (in) |
| SEISMIC         | CRACKED       | STANDARD        | 9,600                      | 3.0    | 7       | 17,100                     | 4.7    | 16      |
|                 |               | HIGH STRENGTH   | 19,900                     | 2.3    | 11      | 35,300                     | 4.7    | 18      |
|                 |               | STANDARD        | 9,600                      | 1.8    | 6       | 17,100                     | 2.6    | 9       |
|                 |               | HIGH STRENGTH   | 19,900                     | 2.8    | 10      | 35,300                     | 4.1    | 14      |
|                 |               | STANDARD        | 6,000                      | 1.2    | 6       | 6,000                      | 1.2    | 6       |
|                 |               | HIGH STRENGTH   | 7,600                      | 1.2    | 6       | 12,900                     | 2.0    | 7       |
|                 | UNCRACKED     | STANDARD        | 9,600                      | 1.7    | 6       | 17,100                     | 2.5    | 9       |
|                 |               | HIGH STRENGTH   | 11,100                     | 1.8    | 6       | 22,600                     | 2.9    | 10      |
|                 |               | STANDARD        | 13,900                     | 2.1    | 7       | 27,400                     | 3.3    | 11      |
|                 |               | HIGH STRENGTH   | 17,000                     | 2.4    | 8       | 31,500                     | 3.6    | 12      |
|                 |               | STANDARD        | 19,900                     | 2.7    | 8       | 35,300                     | 4.0    | 14      |
|                 |               | HIGH STRENGTH   | 7,500                      | 1.2    | 6       | 7,500                      | 1.2    | 6       |
| WIND            | STANDARD      | 8,500           | 1.3                        | 6      | 12,700  | 1.7                        | 6      |         |
|                 |               | 9,600           | 1.5                        | 6      | 17,100  | 2.2                        | 8      |         |
|                 |               | 10,500          | 1.5                        | 6      | 22,600  | 2.5                        | 9      |         |
|                 | HIGH STRENGTH | 13,800          | 1.8                        | 6      | 26,800  | 2.8                        | 10     |         |
|                 |               | 16,200          | 2.0                        | 8      | 32,700  | 3.2                        | 11     |         |
|                 |               | 19,900          | 2.4                        | 8      | 35,300  | 3.5                        | 12     |         |



HAIRPIN SHEAR REINFORCEMENT

THE SHEAR REINFORCEMENT



HAIRPIN INSTALLATION

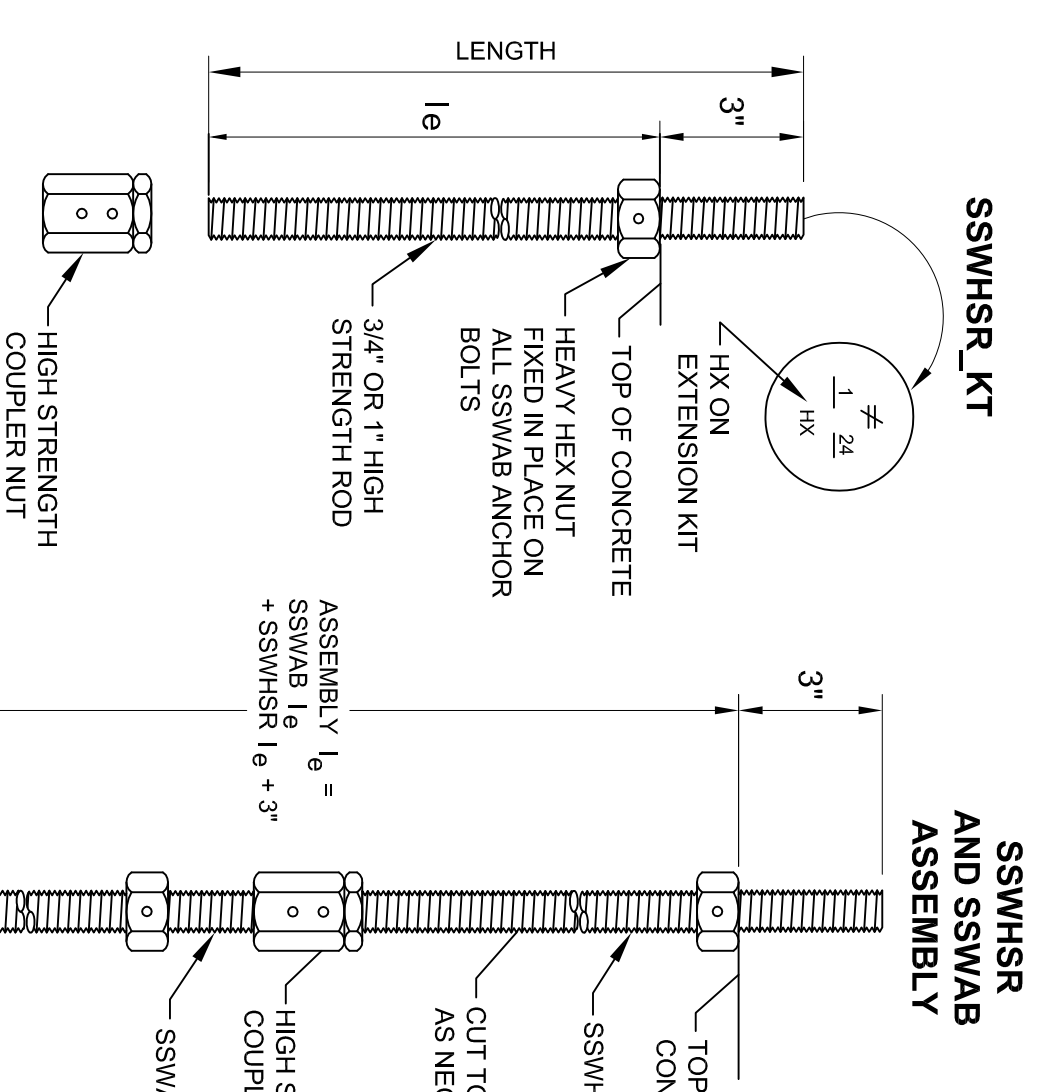
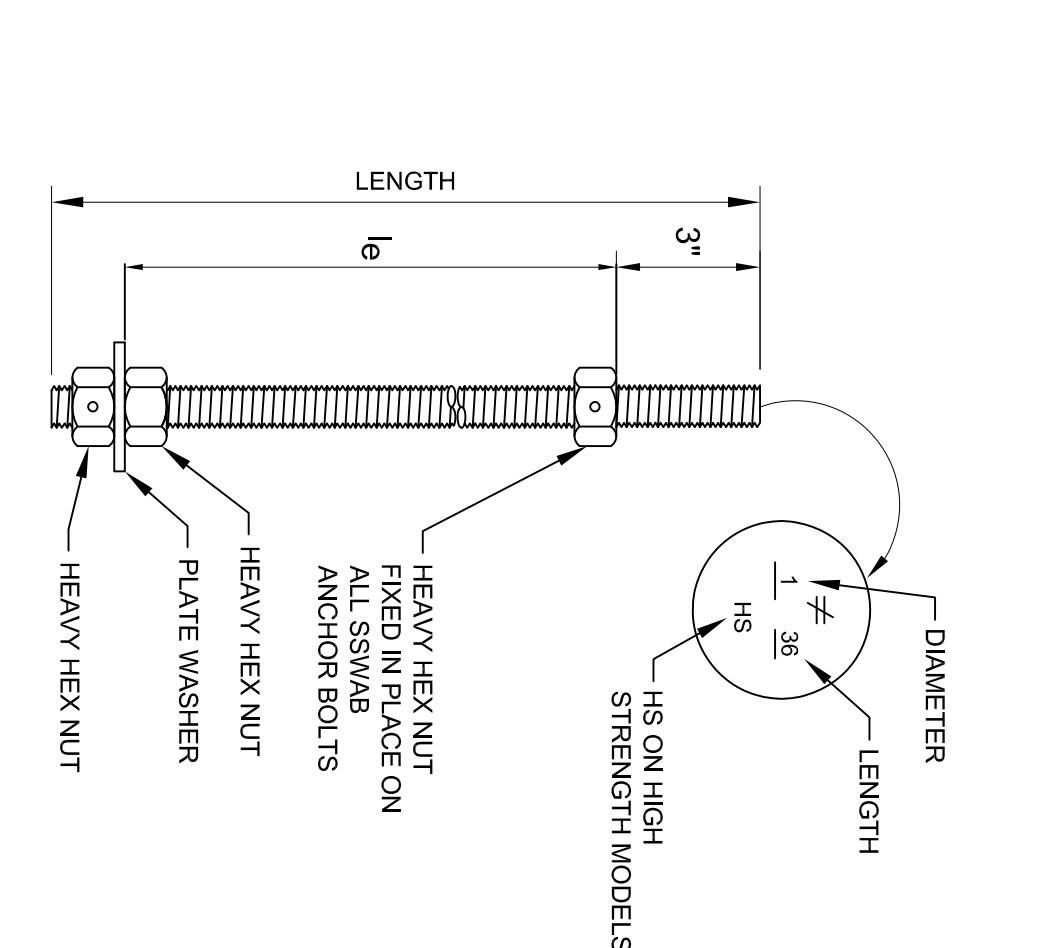
SECTION A-A

**STEEL STRONG-WALL ANCHOR BOLT SHEAR ANCHORAGE**

4

| MODEL | $l_h$ OR $l_e$ (in) | SHEAR REINFORCEMENT WIDTH (in) | SEISMIC <sup>3</sup>                       |  | WIND <sup>4</sup>                |                   |
|-------|---------------------|--------------------------------|--|--|----------------------------------|-------------------|
|       |                     |                                | MINIMUM CURB/WALL REINFORCEMENT WIDTH (in) | MINIMUM CURB/WALL REINFORCEMENT WIDTH (in) | ASD ALLOWABLE SHEAR LOAD V (lbs) | CRACKED           |
| SSW12 | 9                   | (1) #3 TIE                     | 6  | NONE REQUIRED                              | 6                                | 1370              |
| SSW15 | 12                  | (1) #3 TIE                     | 6  | NONE REQUIRED                              | 6                                | 980 <sup>a</sup>  |
| SSW18 | 14                  | (1) #3 HAIRPIN                 | 6 <sup>b</sup>                             | (1) #3 HAIRPIN                             | 6                                | 1785 <sup>c</sup> |
| SSW21 | 15                  | (1) #3 HAIRPIN                 | 6 <sup>b</sup>                             | (1) #3 HAIRPIN                             | 6                                | N/A               |
| SSW24 | 17                  | (2) #3 HAIRPINS                | 6 <sup>b</sup>                             | (2) #3 HAIRPINS                            | 6                                | N/A               |

- NOTES:  
 1. SHEAR ANCHORAGE DESIGNS CONFORM TO ACI 318-05 AND ASSUME MINIMUM  $f_c = 2,500$  PSI CONCRETE.  
 2. SEE DETAILS 1/SSW1 TO 3/SSW1 FOR TENSION ANCHORAGE.  
 3. SHEAR REINFORCEMENT IS NOT REQUIRED FOR PANELS INSTALLED ON A WOOD FLOOR. INTERIOR FOUNDATION APPLICATIONS (PANEL INSTALLED AWAY FROM EDGE OF CONCRETE) OR BRACED WALL PANEL APPLICATIONS.  
 4. SEISMIC INDICATES SEISMIC DESIGN CATEGORY C THROUGH F. DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS.  
 5. IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS.  
 6. MINIMUM CURB/STEMWALL ALLOWABLE SHEAR IS 1145 lbs. USE SEISMIC SHEAR REINFORCEMENT FOR HIGHER SHEAR LOADS.  
 7. 8" MINIMUM CURB/STEMWALL ALLOWABLE SHEAR IS 2015 lbs. UNCRACKED AND 1440 lbs. CRACKED. USE SEISMIC SHEAR REINFORCEMENT FOR HIGHER SHEAR LOADS.  
 8. CONCRETE EDGE DISTANCE FOR ANCHORS MUST COMPLY WITH ACI 318 D.8.2.



| STEEL STRONG-WALL WIDTH      | MODEL NO.    | DIAMETER | LENGTH | $l_e$ |
|------------------------------|--------------|----------|--------|-------|
| 12" MODEL                    | SSWAB24K24   | 3/4"     | 24"    | 16"   |
|                              | SSWAB24K24HS | 3/4"     | 24"    | 16"   |
|                              | SSWAB24K30HS | 3/4"     | 30"    | 21"   |
|                              | SSWAB24K30HS | 3/4"     | 30"    | 21"   |
|                              | SSWAB24K36HS | 3/4"     | 36"    | 31"   |
|                              | SSWAB24K36HS | 3/4"     | 36"    | 31"   |
| 15", 18", 21" AND 24" MODELS | SSWAB1-24HS  | 1"       | 24"    | 16"   |
|                              | SSWAB1-30HS  | 1"       | 30"    | 21"   |
|                              | SSWAB1-30HS  | 1"       | 30"    | 25"   |
|                              | SSWAB1-36HS  | 1"       | 36"    | 25"   |
|                              | SSWAB1-36HS  | 1"       | 36"    | 31"   |
|                              | SSWAB1-36HS  | 1"       | 36"    | 31"   |

| SSW WIDTH                    | MODEL NO.    | DIAMETER | TOTAL LENGTH | $l_e$ |
|------------------------------|--------------|----------|--------------|-------|
| 12" MODEL                    | SSWHR24K24KT | 3/4"     | 24"          | 21"   |
|                              | SSWHR24K30KT | 3/4"     | 30"          | 27"   |
|                              | SSWHR24K30KT | 3/4"     | 30"          | 27"   |
|                              | SSWHR24K36KT | 3/4"     | 36"          | 37"   |
|                              | SSWHR1-24KT  | 1"       | 24"          | 27"   |
|                              | SSWHR1-36KT  | 1"       | 36"          | 37"   |
| 15", 18", 21" AND 24" MODELS | SSWHR1-24KT  | 1"       | 24"          | 27"   |
|                              | SSWHR1-30KT  | 1"       | 30"          | 33"   |
|                              | SSWHR1-30KT  | 1"       | 30"          | 33"   |
|                              | SSWHR1-36KT  | 1"       | 36"          | 43"   |
|                              | SSWHR1-36KT  | 1"       | 36"          | 43"   |
|                              | SSWHR1-36KT  | 1"       | 36"          | 43"   |

**SSW ANCHOR BOLTS**

**SSW ANCHOR BOLT EXTENSION**

**SSW ANCHOR BOLT TEMPLATES**

7

| NO. | DATE      | REVISIONS          |
|-----|-----------|--------------------|
| 1   | 9/21/2009 | 2006 IBC REVISIONS |

**SIMPSON Strong-Tie**  
 SIMPSON STRONG-TIE COMPANY, INC.  
 HOME OFFICE:  
 5956 W. LAS POSITAS BLVD.  
 PLEASANTON, CA 94588  
 TEL: (800) 999-5099

**SIMPSON Strong-Tie**  
**STEEL STRONG-WALL ANCHORAGE DETAILS ENGINEERED DESIGNS**  
 THERE IS NO EQUAL

**SSW1**  
 NAME: 9-21-2009  
 SCALE: N.T.S.  
 CHECKED:  
 SHEET:  
 OF SHEETS: