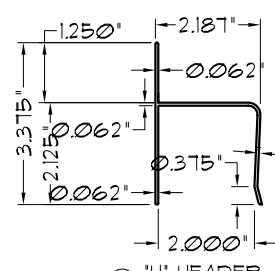
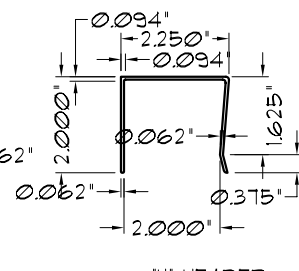


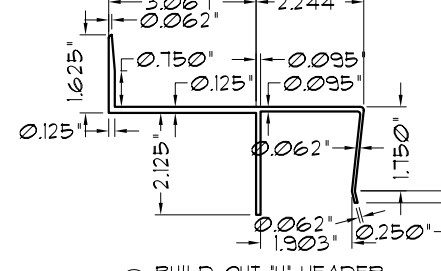
1 STORM PANEL



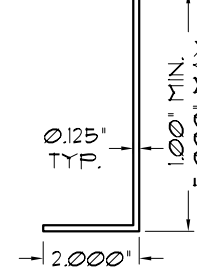
2 "H" HEADER



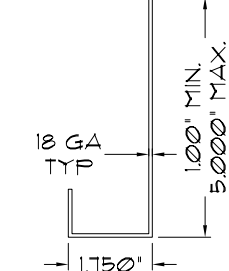
3 "U" HEADER



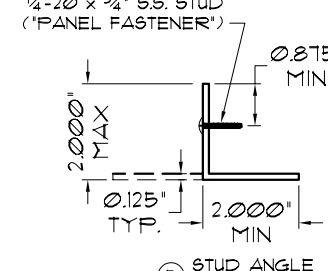
4A BUILD-OUT "U" HEADER



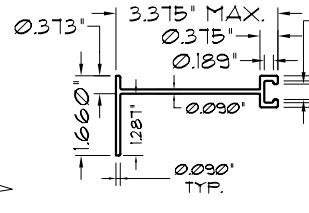
4 ANGLE



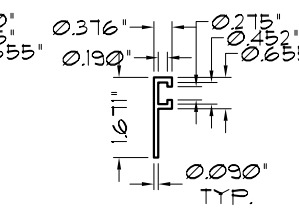
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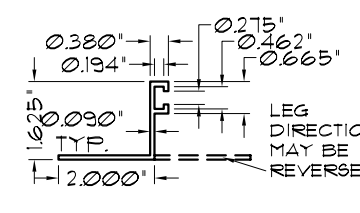
5 STUD ANGLE



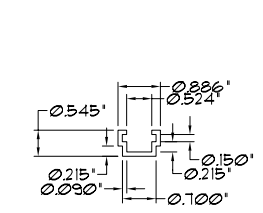
6 BUILD-OUT "F" TRACK



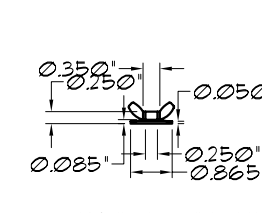
7 "F" TRACK



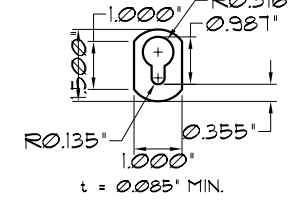
8 "F" ANGLE - TRACK



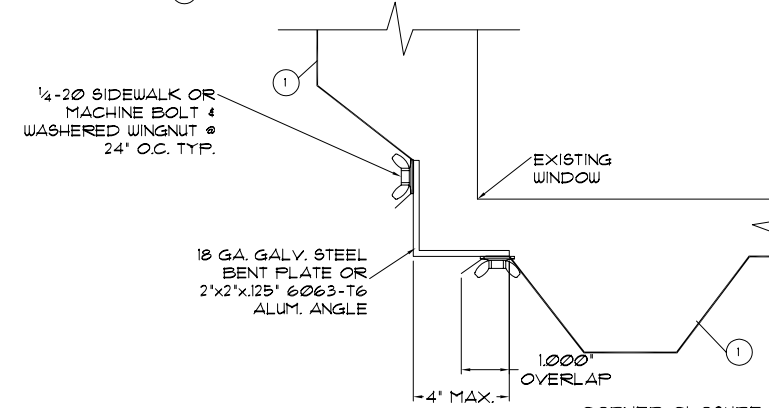
9 "C" TRACK



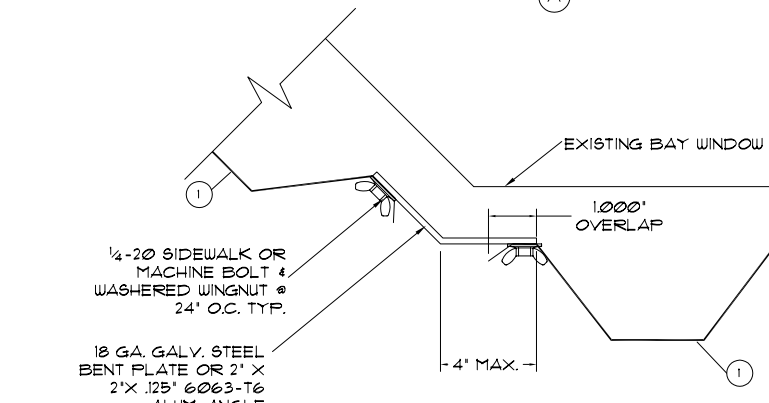
10 WASHERED WINGNUT (ZAMAC 3 ALLOY)



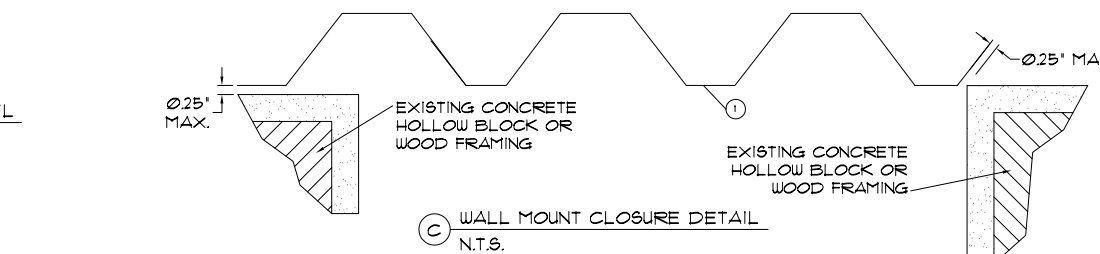
11 KEYHOLE WASHER (OPTIONAL)



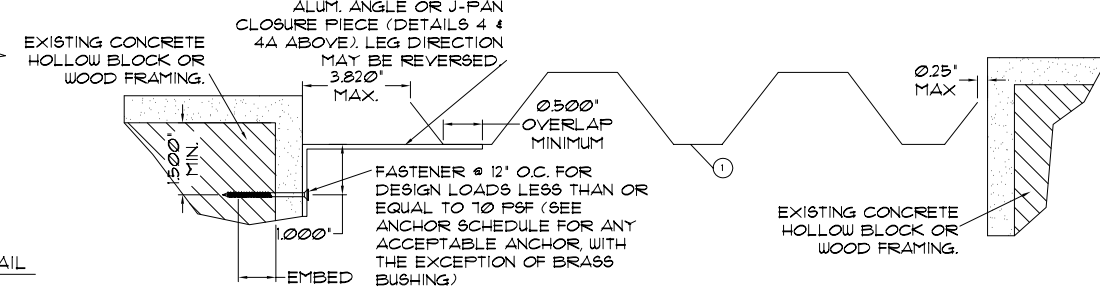
A CORNER CLOSURE DETAIL



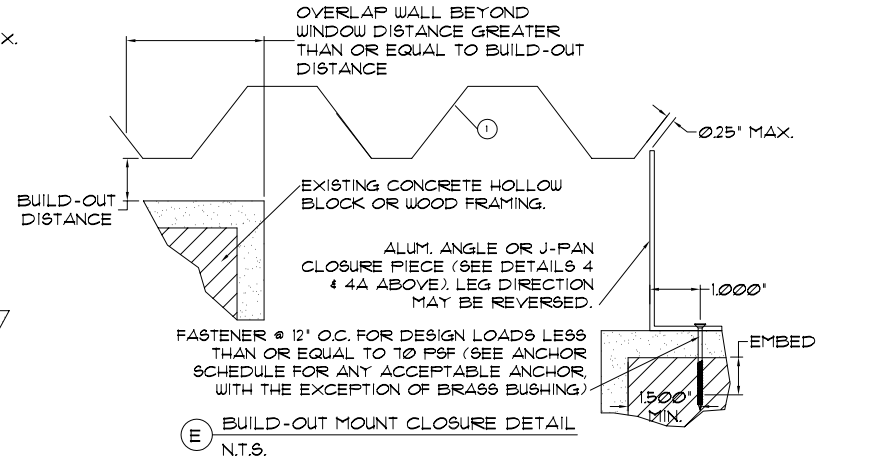
B CORNER CLOSURE DETAIL



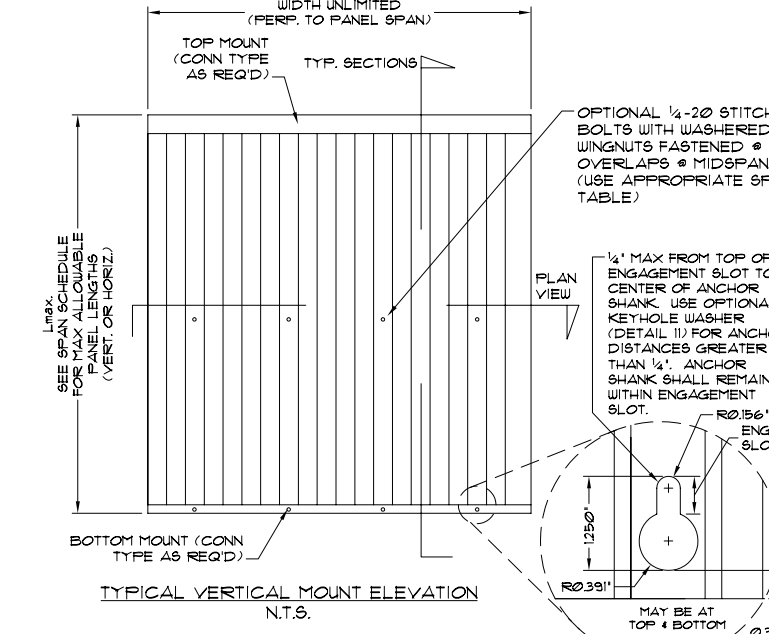
C WALL MOUNT CLOSURE DETAIL N.T.S.



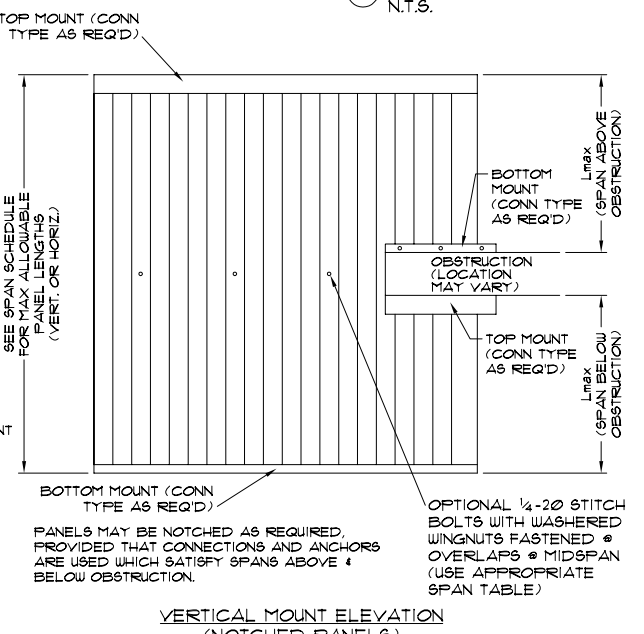
D TRAP MOUNT CLOSURE DETAIL N.T.S.



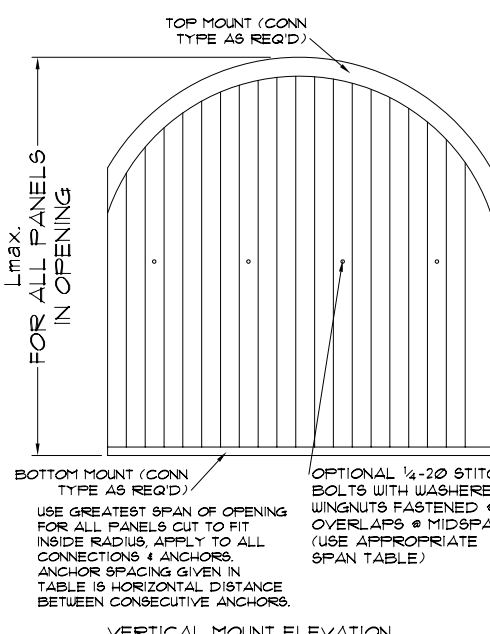
E BUILD-OUT MOUNT CLOSURE DETAIL N.T.S.



TYPICAL VERTICAL MOUNT ELEVATION N.T.S.



VERTICAL MOUNT ELEVATION (NOTCHED PANELS) N.T.S.



VERTICAL MOUNT ELEVATION (RADIUS CUT PANELS) N.T.S.

GENERAL NOTES:

- THIS SHUTTER SYSTEM HAS BEEN DESIGNED AND TESTED AS A LARGE MISSILE IMPACT PROTECTIVE SYSTEM IN ACCORDANCE WITH THE 2001 FLORIDA BUILDING CODE AND THE 1999 STANDARD BUILDING CODE (SSTD 12-99).
- THIS SHUTTER SYSTEM HAS BEEN SUBMITTED TO SBCCI PFT & ESI FOR EVALUATION AS A LARGE MISSILE IMPACT PROTECTIVE SYSTEM.
- NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS PRODUCT.
- POSITIVE AND NEGATIVE DESIGN PRESSURES TO BE USED WITH THESE DRAWINGS SHALL BE DETERMINED BY OTHERS FOR SPECIFIC JOBS IN ACCORDANCE WITH THE GOVERNING CODE.
- THE SHUTTER SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. IF SITE CONDITIONS DEVIATE FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS TO BE USED IN CONJUNCTION WITH THIS DOCUMENT.
- PERMIT HOLDER SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND NEW SUPERIMPOSED LOADS.
- STORM PANELS SHALL BE 22 OR 24 GA STEEL (BARE METAL THICKNESS $t=0.0223"$ OR $t=0.0244"$, RESPECTIVELY) CONFORMING TO ASTM A653, STRUCTURAL QUALITY, G90 GALV. COATING WITH A MIN. $F_y=96$ KSI (22 ga) OR G60 GALV. COATING WITH A MIN. $F_y=56.3$ KSI (24 ga). ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, U.O.N.
- PANELS SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER PANEL AS FOLLOWS:
ALL AMERICAN SHUTTERS
SBCCI PFT & ESI, SSTD 12-99
REPORT #2312A
- STORM PANELS HAVE BEEN DESIGNED AND TESTED TO THE MAXIMUM SPANS AND LOADS SHOWN ON THESE DRAWINGS. REFERENCE CONSTRUCTION TESTING CORPORATION (CTC) OF MIAMI, FL, TEST REPORTS NO. 02-001, 02-002 & 03-001. REFERENCE ALSO CERTIFIED TESTING LABORATORIES (CTL) OF ORLANDO, FL TEST TENSILE TEST RESULTS NO. 0127H, 0198H, & 0053J FOR METAL THICKNESSES AND YIELD STRESSES.
- TOP & BOTTOM DETAILS SHOWN MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE. PANELS MAY BE MOUNTED HORIZONTALLY WHERE APPLICABLE.
- ALL BOLTS & WASHERS SHALL BE ZINC COATED, GALVANIZED OR STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 60 KSI.

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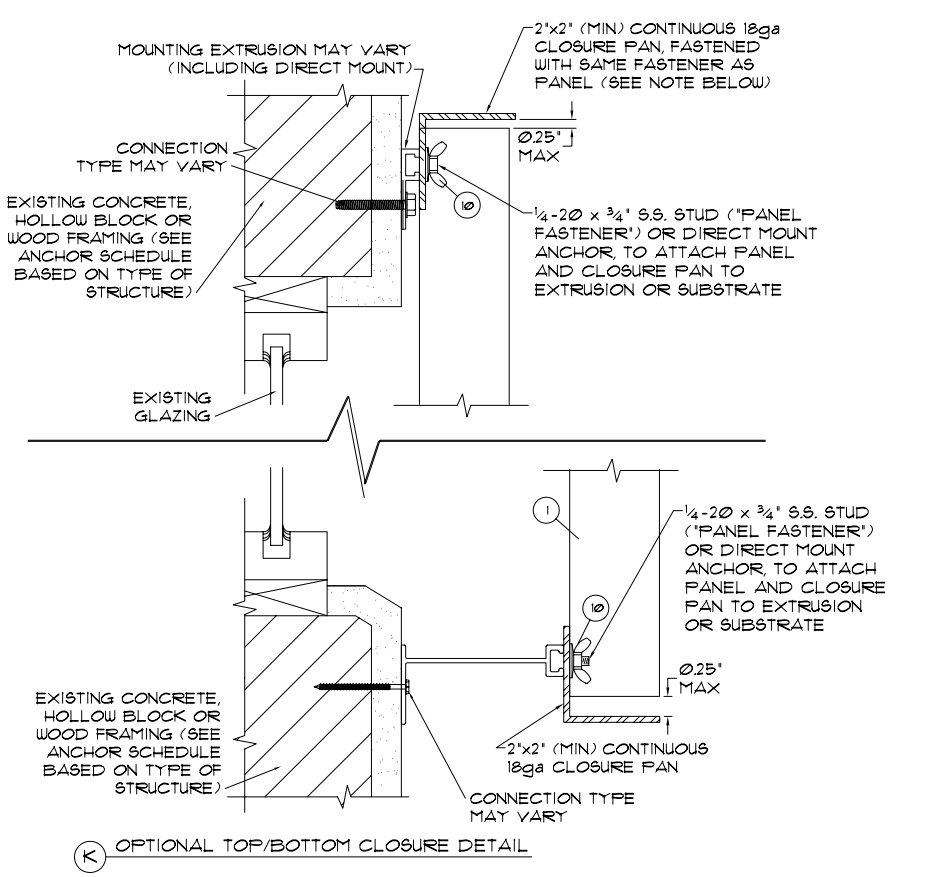
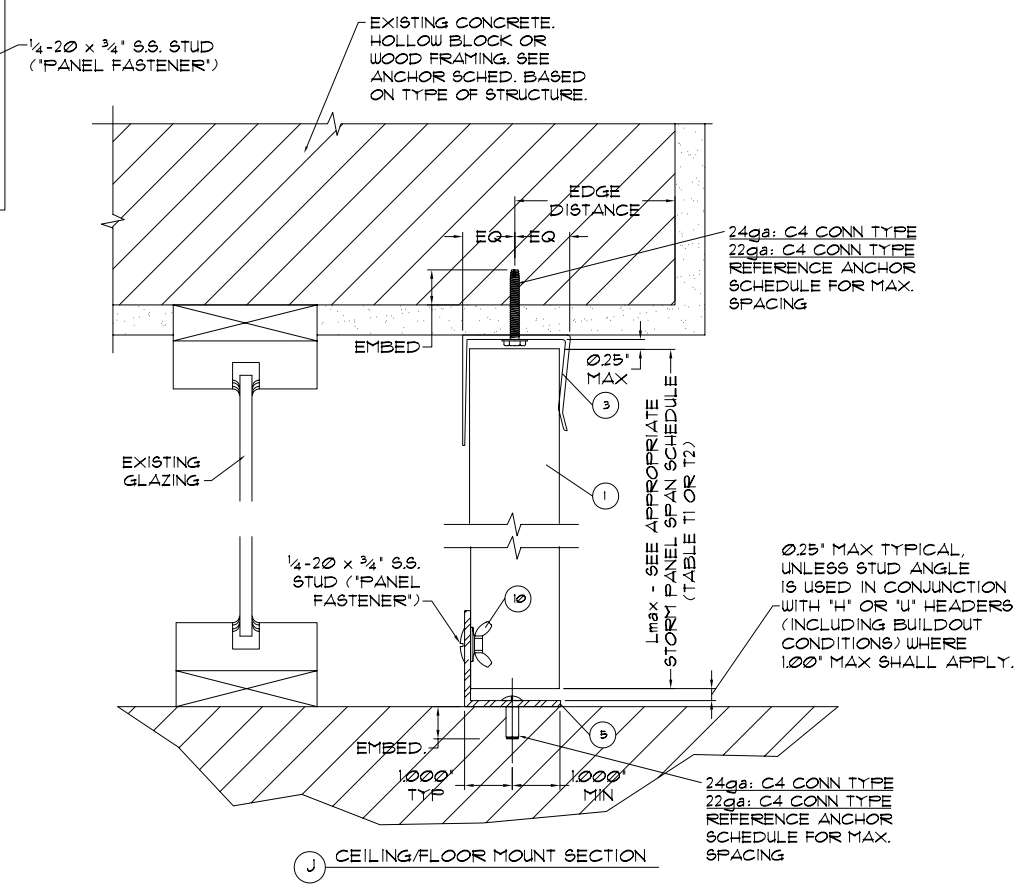
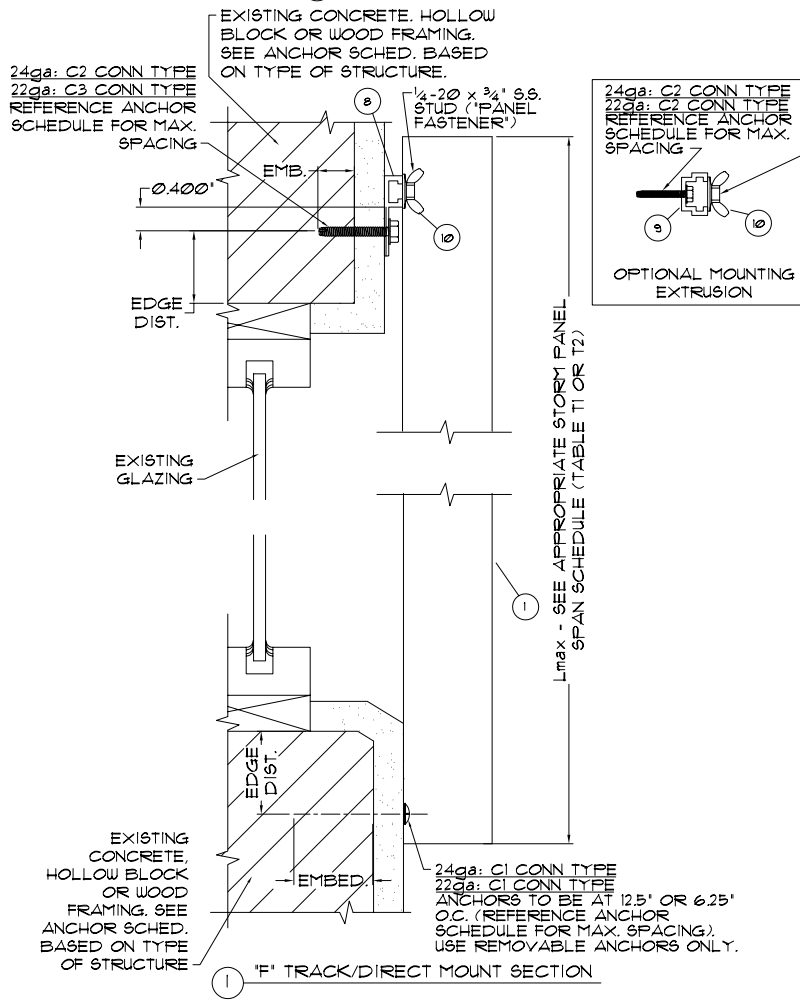
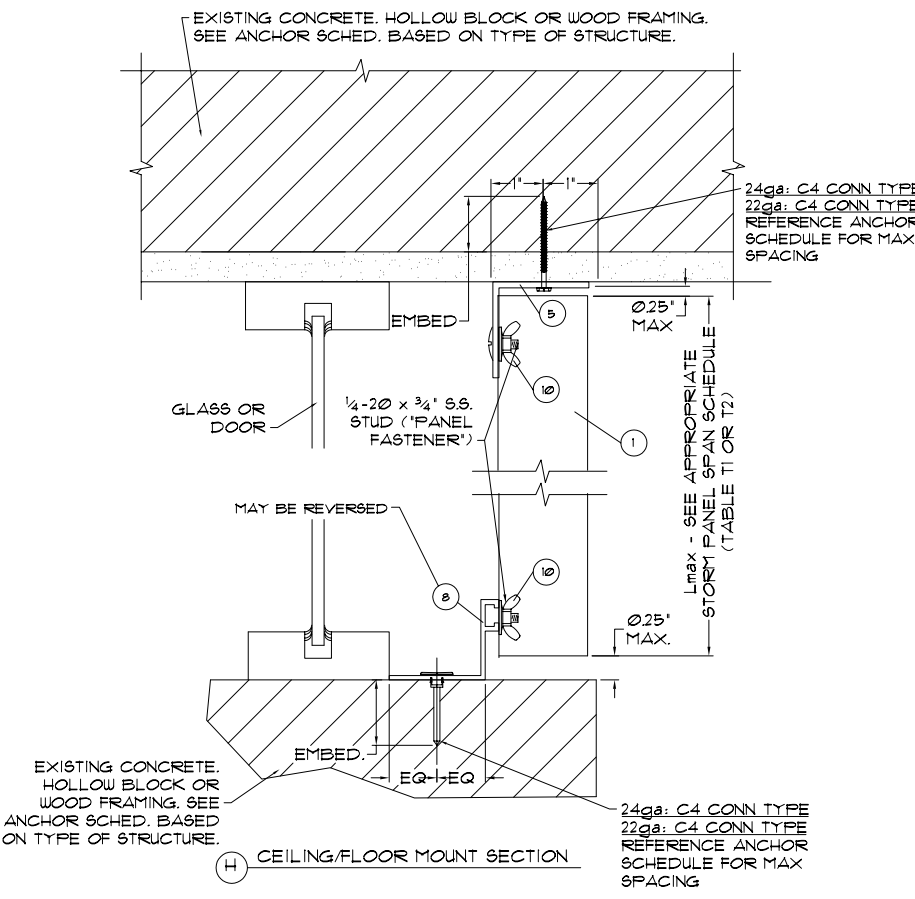
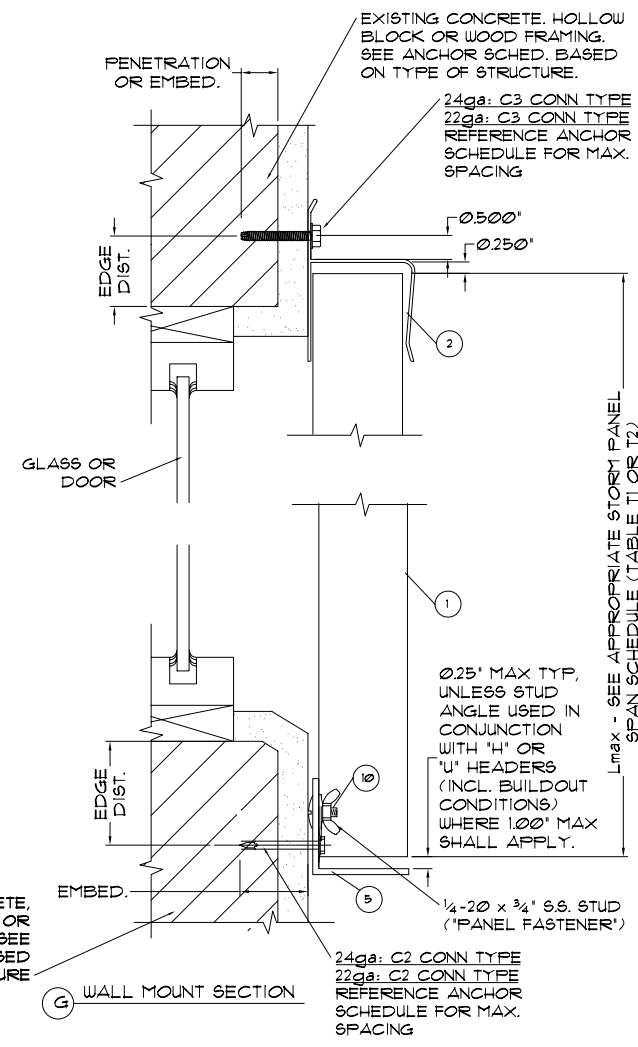
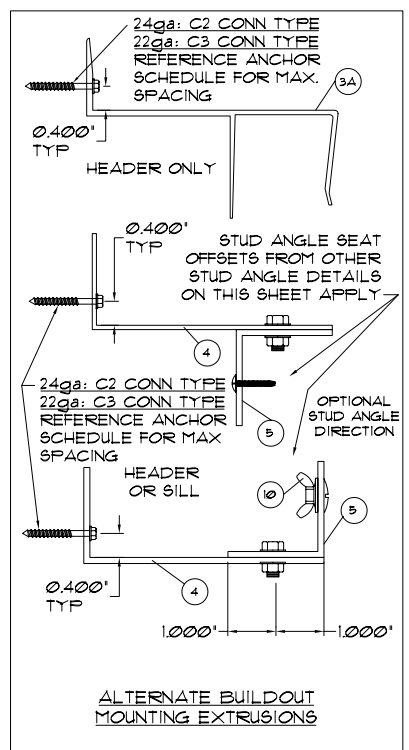
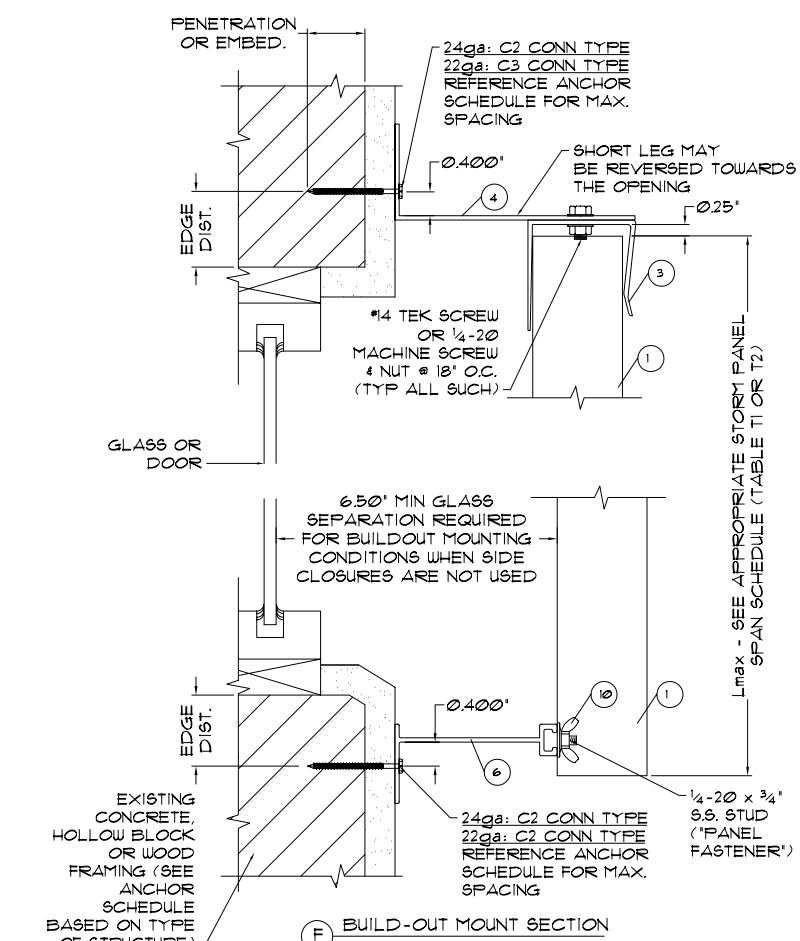
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ALL AMERICAN SHUTTERS
1540 DONNA ROAD
WEST PALM BEACH, FL 33409

22 & 24 GA. GALVANIZED
STEEL STORM PANELS

REVISIONS		
DESCRIPTION	DATE	
TABLES, GEN. NOTES	10/24/02	
WOOD BUSHING	12/04/02	
SBCCI COMMENTS	01/21/03	
PNL FSTNRS @ 6.25'	05/23/03	
SCALE: 3" = 1'		
DRAWN BY: KLU/CL		
CHECKED BY: FILE		
PRINT DATE: 10/23/02		
JOB #: 01-636-85 (A)		
SHEET: 1 OF 1		



STANDARD BUILDING CODE

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ALL AMERICAN SHUTTERS
1540 DONNA ROAD
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STEEL STORM PANELS

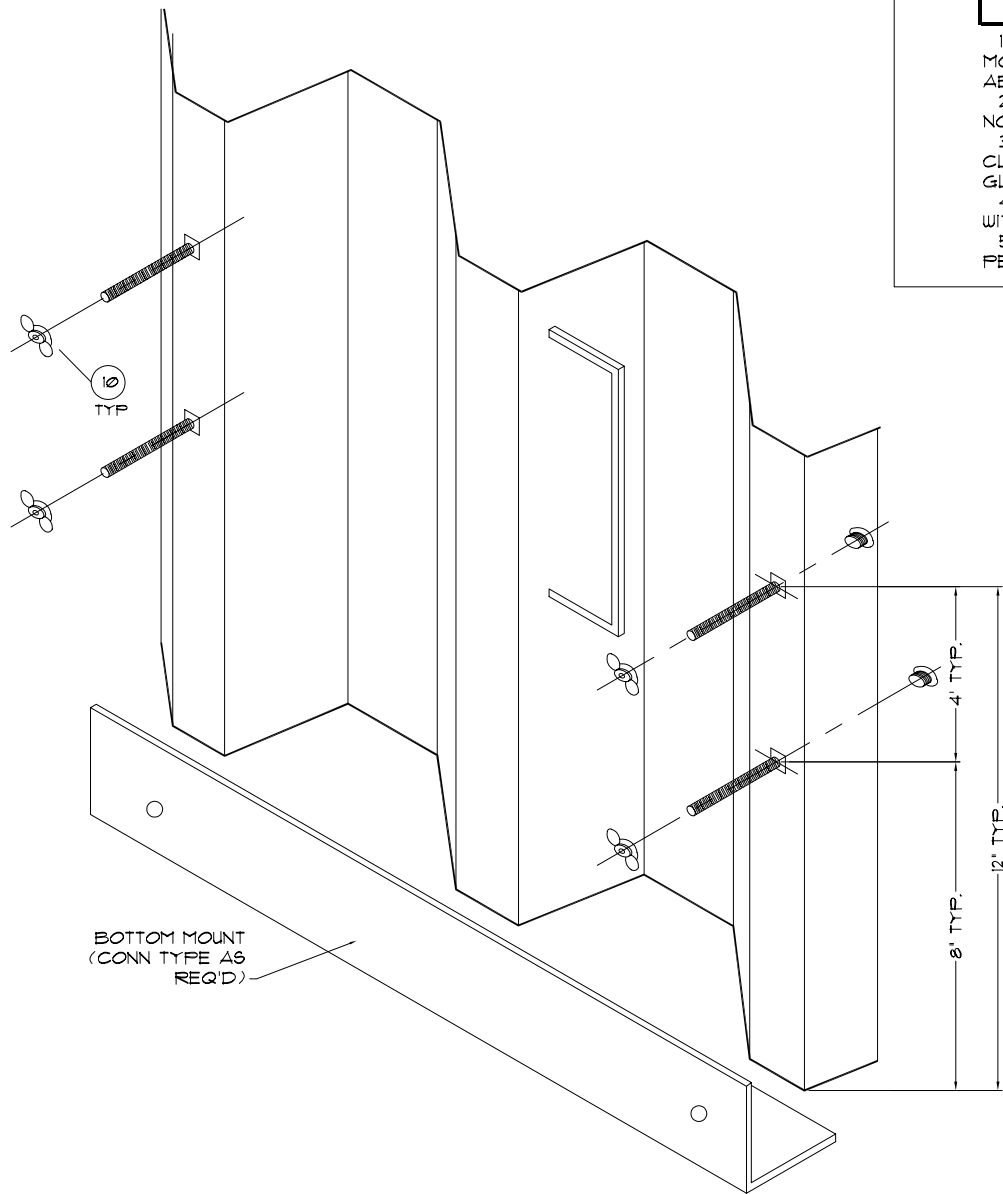
REVISIONS		
DESCRIPTION	DATE	
TABLES, GEN NOTES	10/24/02	
WOOD BUSHING	12/04/02	
SBCCI COMMENTS	01/21/03	
PNL FSTNRS @ 6.25'	05/23/03	
SCALE: N.T.S.		
DRAWN BY: KLU/CL		
CHECKED BY: JLB		
PRINT DATE: 10/23/02		
JOB #: 01-636-85 (A)		
SHEET: 2 OF 7		

MAXIMUM ALLOWABLE
SPAN SCHEDULE
(24 GAUGE PANELS)

Load W (psf)	Panel Fasteners @ 6.25" O.C.	Panel Fasteners @ 12.5" O.C.
	Allowable Span L _{MAX}	Allowable Span L _{MAX}
30	12' - 0"	10' - 2"
33	11' - 6"	9' - 8"
35	11' - 2"	9' - 5"
40	10' - 5"	8' - 10"
41	10' - 3"	8' - 8"
45	9' - 10"	8' - 0"
48	9' - 6"	7' - 6"
50	9' - 4"	7' - 2"
52	9' - 2"	6' - 11"
55	8' - 11"	6' - 6"
60	8' - 6"	6' - 0"
65	8' - 2"	5' - 6"
70	7' - 10"	5' - 1"
75	7' - 7"	4' - 9"
80	7' - 4"	4' - 6"
90	6' - 11"	4' - 0"
100	6' - 7"	3' - 7"
110	6' - 3"	3' - 3"
120	6' - 0"	3' - 0"
130	5' - 6"	2' - 9"

SPAN SCHEDULE NOTES:

1. ENTER SPAN SCHEDULES WITH NEGATIVE DESIGN LOAD & PANEL FASTENER SPACING TO DETERMINE MAXIMUM ALLOWABLE STORM PANEL SPAN. SCHEDULE IS ACCEPTABLE FOR USE WITH POSITIVE LOADS LESS THAN OR EQUAL TO NEGATIVE DESIGN LOADS.
2. "PANEL FASTENERS" ARE STUDS USED IN CONJUNCTION WITH ALL MOUNTING EXTRUSIONS ("F"-TRACK, STUDDED ANGLE, ETC.). USE 6.25" O.C. PANEL FASTENER SPACING TABLE VALUES FOR ALL "H"- AND "U"-HEADERS (INCLUDING BUILDOUT CONDITIONS).
3. LINEAR INTERPOLATION BETWEEN LOADS IS ACCEPTABLE, OTHERWISE USE NEXT HIGHER LOAD.



OPTIONAL INTERIOR FASTENING DETAIL
N.T.S.

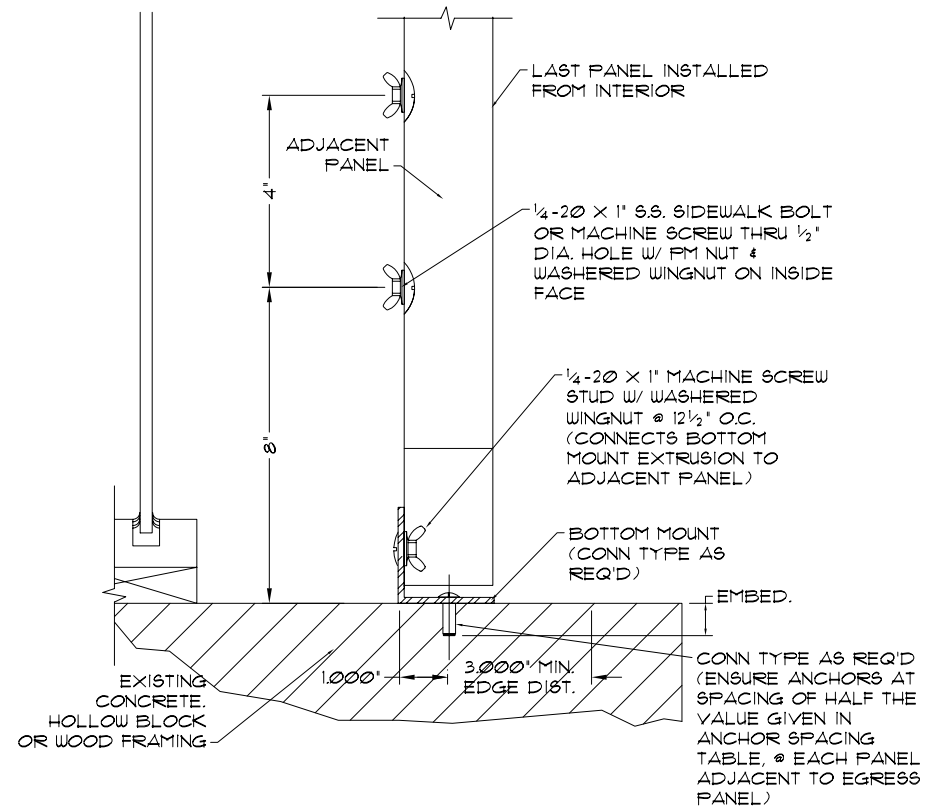
MINIMUM ALLOWABLE SPAN SCHEDULE
(ALL PANELS)

		TOP MOUNT											
		"H" Header	Buildout "U" Header	2x5 & "U" Header	2x5 & Stud Angle	Buildout "F" Track	"F" Track	Stud Angle (Wall Mount)	Direct Mount	"U" Header	"F" Angle Track	Stud Angle (Sill Mount)	"C" Track
BOTTOM MOUNT	"H" Header	0"	0"	0"	23"	24"	25"	22"	24"	0"	24"	23"	26"
	Buildout "U" Header	0"	0"	0"	23"	24"	25"	22"	24"	0"	24"	23"	26"
	2x5 & "U" Header	0"	0"	0"	23"	24"	25"	22"	24"	0"	24"	23"	26"
	2x5 & Stud Angle	23"	23"	23"	11"	30"	31"	11"	30"	23"	30"	11"	33"
	Buildout "F" Track	24"	24"	24"	30"	48"	50"	29"	48"	24"	48"	30"	53"
	"F" Track	25"	25"	25"	31"	50"	52"	30"	50"	25"	50"	31"	55"
	Stud Angle (Wall Mount)	22"	22"	22"	11"	29"	30"	11"	29"	22"	29"	11"	31"
	Direct Mount	24"	24"	24"	30"	48"	50"	29"	48"	24"	48"	30"	53"
	"U" Header	0"	0"	0"	23"	24"	25"	22"	24"	0"	24"	23"	26"
	"F" Angle Track	24"	24"	24"	30"	48"	50"	29"	48"	24"	48"	30"	53"
	Stud Angle (Sill Mount)	23"	23"	23"	11"	30"	31"	11"	30"	23"	30"	11"	33"
	"C" Track	26"	26"	26"	33"	53"	55"	31"	53"	26"	53"	33"	58"

1. SPANS SHOWN HERE ARE MINIMUM ALLOWABLE SPANS BASED ON ANY COMBINATION OF MOUNTING CONDITIONS AT TOP OR BOTTOM. PANEL LENGTHS LESS THAN THOSE NOTED IN TABLE ABOVE ARE NOT ACCEPTABLE.
2. NO SEPARATION FROM GLASS IS REQUIRED WHEN PANEL LENGTH IS GREATER THAN THAT NOTED FOR RESPECTIVE MOUNTING COMBINATION ABOVE.
3. SIDE CLOSURES REQUIRED FOR ALL BUILDOUT MOUNTS IN TABLE ABOVE. WHERE SIDE CLOSURES ARE NOT USED WITH BUILDOUT MOUNTING CONDITIONS, REQUIRED SEPARATION FROM GLASS SHALL BE PER DETAIL 'F'.
4. TABLE APPLIES TO BOTH 22ga (WITH OR WITHOUT STITCH BOLTS) AND 24ga PANELS, & BOTH WITH PANEL FASTENERS @ 12.5" OR 6.25" O.C.
5. PANELS MAY SPAN 36' MINIMUM USING ONE (1) OF THE OPTIONAL TOP OR BOTTOM CLOSURES PER OPENING (PER DETAIL 'K'), USING ANY MOUNTING CONDITION SHOWN IN THESE DRAWINGS.

MAXIMUM ALLOWABLE
SPAN SCHEDULE
(22 GAUGE PANELS)

Load W (psf)	Panel Fasteners @ 6.25" O.C.	Panel Fasteners @ 12.5" O.C.	
	Allowable Span No Stitch Bolts L _{MAX} (ft)	Allowable Span No Stitch Bolts L _{MAX} (ft)	Allowable Span With Stitch Bolts L _{MAX} (ft)
30	12' - 8"	12' - 8"	12' - 8"
33	12' - 8"	12' - 6"	12' - 8"
35	12' - 8"	12' - 2"	12' - 8"
40	12' - 8"	11' - 4"	12' - 2"
41	12' - 8"	11' - 3"	12' - 1"
45	12' - 8"	10' - 9"	11' - 6"
48	12' - 4"	10' - 4"	11' - 2"
50	12' - 1"	10' - 2"	10' - 11"
52	11' - 10"	10' - 0"	10' - 8"
55	11' - 7"	9' - 8"	10' - 5"
60	11' - 1"	9' - 3"	9' - 11"
65	10' - 7"	8' - 11"	9' - 7"
70	10' - 3"	8' - 7"	9' - 0"
75	9' - 11"	8' - 0"	8' - 4"
80	9' - 7"	7' - 6"	7' - 10"
90	9' - 0"	6' - 8"	7' - 0"
100	8' - 7"	6' - 0"	6' - 3"
110	8' - 2"	5' - 5"	5' - 8"
120	7' - 10"	5' - 0"	5' - 3"
130	7' - 6"	4' - 7"	4' - 10"
140	7' - 3"	4' - 3"	4' - 6"
150	7' - 0"	4' - 0"	4' - 2"
160	6' - 9"	3' - 9"	3' - 11"
170	6' - 7"	3' - 6"	3' - 8"
180	6' - 4"	3' - 4"	3' - 6"
190	6' - 2"	3' - 1"	3' - 3"
200	6' - 0"	3' - 0"	3' - 1"



OPTIONAL EGRESS PANEL DETAIL
INTERIOR FASTENING

STANDARD BUILDING CODE

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ALL AMERICAN SHUTTERS
1540 DONNA ROAD
WEST PALM BEACH, FL 33409
22 & 24 GA. GALVANIZED
STEEL STORM PANELS

REVISIONS		
DESCRIPTION	DATE	
TABLES, GEN NOTES	10/24/02	
WOOD BUSHING	12/04/02	
SECCI COMMENTS	01/21/03	
PNL FSTNRS @ 6.25"	05/23/03	
SCALE: N.T.S.		
DRAWN BY: KLU/CL		
CHECKED BY: FLE		
PRINT DATE: 10/23/02		
JOB #: 01-696-85 (A)		

SHEET:
3 OF 7

T4

CONCRETE

HOLLOW CONC BLOCK

⑦5

WOOD

1. SPANS AND LOADS SHOWN HERE ARE FOR DETERMINING ANCHOR SPACING ONLY. ALLOWABLE STORM PANEL SPANS FOR SPECIFIC LOADS MUST BE LIMITED TO THOSE SHOWN IN ANCHOR TABLE (THIS PAGE).
2. ENTER ANCHOR SCHEDULE BASED ON PANEL FASTENER SPACING, THE EXISTING STRUCTURE MATERIAL, & ANCHOR TYPE. SELECT DESIGN LOAD GREATER THAN OR EQUAL TO NEGATIVE DESIGN LOAD ON SHUTTER AND SELECT SPAN GREATER THAN OR EQUAL TO SHUTTER SPAN.
3. SELECT CONNECTION TYPE BASED ON APPROPRIATE MOUNTING CONDITION (SEE MOUNTING DETAILS ON SHEET 2 FOR IDENTIFICATION OF CONNECTION TYPE).
4. "PANEL FASTENERS" ARE STUDS USED IN CONJUNCTION WITH ALL MOUNTING EXTRUSIONS ("F"-TRACK, STUDDED ANGLE, ETC.). USE 6/25" O.C. PANEL FASTENER SPACING TABLE VALUES FOR ALL "H"- AND "U"-HEADERS (INCLUDING BUILDOUT CONDITIONS).
5. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS & RESPECTIVE SBCCI FST & EST EVALUATION REPORTS. ALL CONCRETE AND HOLLOW BLOCK ANCHOR CAPACITIES USED ARE "WITH SPECIAL INSPECTION".
6. FASTENER TENSILE & SHEAR CAPACITIES ARE BASED ON A FACTOR OF SAFETY OF 4:1 (SEE SBCCI EVALUATION REPORTS #2040A, #3444A, #245, & #3807A) WITH THE EXCEPTION OF THE WOOD ANCHORS. THE LAG & WOOD SCREW CAPACITIES ARE BASED ON NDS REQUIREMENTS, AND THE 1/4" BRASS BUSHING CAPACITY IS BASED ON SBCCI TESTING REQUIREMENTS.
7. WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT PLYWOOD. FASTENING TO PLYWOOD IS ACCEPTABLE ONLY FOR SIDE CLOSURE PIECES.
8. WHERE LAG SCREWS FASTEN TO NARROW FACE OF STUD FRAMING, FASTENER SHALL BE LOCATED IN CENTER OF NOMINAL 2" X 4" (MIN.) WOOD STUD (3/4" EDGE DISTANCE IS ACCEPTABLE FOR WOOD FRAMING). WOOD STUD SHALL BE "SOUTHERN PINE" G=0.55 OR GREATER DENSITY. LAG SCREW SHALL HAVE PHILLIPS PAN HEAD OR HEX HEAD.
9. REMOVABLE ANCHORS ARE: POWERS CALK-IN, ELCO PANELMATE, & BRASS BUSHING.
10. MACHINE SCREWS SHALL HAVE MINIMUM OF 1/2" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD (SIDEWALK BOLT) U.N.O.
11. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO OR OTHER WALL FINISHES.
12. ■ DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE USES.
13. * DESIGNATES REMOVABLE ANCHORS, WHICH ARE REQUIRED FOR USE WITH DIRECT MOUNTING CONDITIONS.

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ALL AMERICAN SHUTTERS

1540 DONNA ROAD

WEST PALM BEACH, FL 33409

22 & 24 GA. GALVANIZED

STEEL STORY PANELS

REVISIONS	
DESCRIPTION	DATE
TABLES, GEN NOTES	10/24/02
WOOD BUSHING	12/04/02
SBCCI COMMENTS	01/27/03
PNL FSTNRS @ 625'	05/23/00

SCALE: N.T.S.
 DRAWN BY: KLU/CL
 CHECKED BY: FLB
 PRINT DATE: 10/28/02
 JOB #: 01-636-85 (A)

SHEET:
4 OF 7

T6 ANCHOR SPACING TABLE

(24 GAUGE PANELS TO CONC/CBS,
WITH PANEL FASTENERS @ 6.25" O.C.)

EXIST. STRUCT.	ANCHOR TYPE	LOAD (psf)	2.5" EDGE DISTANCE											
			SPAN UP TO 6'-0"				SPAN UP TO 8'-8"				SPAN UP TO 12'-8"			
			CONN TYPE				CONN TYPE				CONN TYPE			
			C1	C2	C3	C4	C1	C2	C3	C4	C1	C2	C3	C4
CONCRETE	3/16" x 1-3/4" EMBED ELCO TAPCON (MIN 3350 PSI CONC) 	33	12.5"	16.0"	12.8"	10.8"	12.5"	16.0"	8.9"	7.5"	12.5"	16.0"	6.7"	5.6"
		41	12.5"	16.0"	10.3"	8.7"	12.5"	16.0"	7.1"	6.0"	12.5"	15.6"	6.0"	5.1"
		48	12.5"	16.0"	8.8"	7.4"	12.5"	15.9"	6.1"	5.1"	12.5"	14.4"	5.5"	4.7"
		52	12.5"	16.0"	8.1"	6.9"	12.5"	14.6"	5.6"	4.7"	12.5"	13.8"	5.3"	4.5"
		70	12.5"	15.7"	6.0"	5.1"	####	11.9"	4.6"	3.9"	####	11.9"	4.6"	3.9"
	1/4" x 1-3/4" EMBED ELCO TAPCON (MIN 3350 PSI CONC) 	33	12.5"	16.0"	16.0"	16.0"	12.5"	16.0"	16.0"	13.9"	12.5"	16.0"	12.8"	10.5"
		41	12.5"	16.0"	16.0"	16.0"	12.5"	16.0"	13.7"	11.2"	12.5"	16.0"	11.5"	9.4"
		48	12.5"	16.0"	16.0"	13.8"	12.5"	16.0"	11.7"	9.6"	12.5"	16.0"	10.6"	8.7"
		52	12.5"	16.0"	15.6"	12.8"	12.5"	16.0"	10.8"	8.8"	12.5"	16.0"	10.2"	8.3"
		70	12.5"	16.0"	11.6"	9.5"	12.5"	16.0"	8.8"	7.2"	12.5"	16.0"	8.8"	7.2"
	1/4" x 7/8" EMBED POWERS CALK-IN (MIN 3000 PSI CONC) 	33	12.5"	16.0"	16.0"	13.0"	12.5"	16.0"	11.1"	9.0"	12.5"	16.0"	8.3"	6.8"
		41	12.5"	16.0"	12.9"	10.5"	12.5"	16.0"	8.9"	7.3"	12.5"	16.0"	7.5"	6.1"
		48	12.5"	16.0"	11.0"	9.0"	12.5"	16.0"	7.6"	6.2"	12.5"	16.0"	6.9"	5.6"
		52	12.5"	16.0"	10.2"	8.3"	12.5"	16.0"	7.0"	5.7"	12.5"	16.0"	6.6"	5.4"
		70	12.5"	16.0"	7.5"	6.1"	12.5"	14.9"	5.7"	4.7"	12.5"	14.9"	5.7"	4.7"
	1/4"x7/8" EMBED ALL-POINTS SOLID-SET (MIN 3000 PSI CONC) 	33	12.5"	16.0"	16.0"	16.0"	12.5"	16.0"	15.7"	13.4"	12.5"	16.0"	11.8"	10.1"
		41	12.5"	16.0"	16.0"	15.6"	12.5"	16.0"	12.6"	10.8"	12.5"	16.0"	10.6"	9.1"
		48	12.5"	16.0"	15.6"	13.3"	12.5"	16.0"	10.8"	9.2"	12.5"	16.0"	9.8"	8.4"
		52	12.5"	16.0"	14.4"	12.3"	12.5"	16.0"	10.0"	8.5"	12.5"	16.0"	9.4"	8.0"
		70	12.5"	16.0"	10.7"	9.1"	12.5"	16.0"	8.1"	6.9"	12.5"	16.0"	8.1"	6.9"
	1/4" x 1-3/4" EMBED ELCO PANELMATE (MIN 3350 PSI CONC) 	33	12.5"	16.0"	16.0"	16.0"	12.5"	16.0"	16.0"	14.2"	12.5"	16.0"	14.7"	10.7"
		41	12.5"	16.0"	16.0"	16.0"	12.5"	16.0"	15.7"	11.4"	12.5"	16.0"	13.2"	9.6"
		48	12.5"	16.0"	16.0"	14.1"	12.5"	16.0"	13.4"	9.7"	12.5"	16.0"	12.2"	8.8"
		52	12.5"	16.0"	16.0"	13.0"	12.5"	16.0"	12.4"	9.0"	12.5"	16.0"	11.7"	8.5"
		70	12.5"	16.0"	13.3"	9.7"	12.5"	16.0"	10.1"	7.3"	12.5"	16.0"	10.1"	7.3"

HOLLOW CONC BLOCK	3/16" x 1-1/4" EMBED ELCO TAPCON (MIN 2000 PSI CMU) 	33	12.5"	16.0"	10.3"	8.3"	12.5"	16.0"	7.1"	5.7"	12.5"	14.0"	5.4"	4.3"
		41	12.5"	16.0"	8.3"	6.6"	12.5"	14.9"	5.7"	4.6"	12.5"	12.5"	4.8"	3.9"
		48	12.5"	16.0"	7.1"	5.7"	12.5"	12.8"	4.9"	3.9"	6.25"	11.6"	4.5"	3.6"
		52	12.5"	16.0"	6.5"	5.2"	6.25"	11.8"	4.5"	3.6"	6.25"	11.1"	4.3"	3.4"
		70	12.5"	12.6"	4.9"	3.9"	6.25"	9.6"	3.7"		6.25"	9.6"	3.7"	
	1/4" x 1-1/4" EMBED ELCO TAPCON (MIN 2000 PSI CMU) 	33	12.5"	16.0"	15.8"	13.3"	12.5"	16.0"	10.9"	9.2"	12.5"	16.0"	8.2"	6.9"
		41	12.5"	16.0"	12.7"	10.7"	12.5"	16.0"	8.8"	7.4"	12.5"	16.0"	7.4"	6.2"
		48	12.5"	16.0"	10.8"	9.1"	12.5"	16.0"	7.5"	6.3"	12.5"	16.0"	6.8"	5.7"
		52	12.5"	16.0"	10.0"	8.4"	12.5"	16.0"	6.9"	5.8"	12.5"	16.0"	6.5"	5.5"
		70	12.5"	16.0"	7.4"	6.3"	12.5"	14.7"	5.6"	4.7"	12.5"	14.7"	5.6"	4.7"
	1/4" x 7/8" EMBED POWERS CALK-IN (MIN GRADE N, TYPE 1 CMU) 	33	12.5"	12.7"	4.9"	5.3"	6.25"	8.8"	3.4"	3.7"	6.25"	6.6"		
		41	6.25"	10.2"	3.9"	4.3"	6.25"	7.1"			5.9"			
		48	6.25"	8.8"	3.4"	3.6"		6.1"			5.5"			
		52	6.25"	8.1"	3.1"	3.4"		5.6"			5.3"			
		70		6.0"				4.6"			4.6"			
	1/4" x 7/8" EMBED ALL-POINTS SOLID-SET (MIN 1800 PSI CMU) 	33	12.5"	16.0"	16.0"	14.1"	12.5"	16.0"	12.2"	9.8"	12.5"	16.0"	9.2"	7.4"
		41	12.5"	16.0"	14.1"	11.4"	12.5"	16.0"	9.8"	7.9"	12.5"	16.0"	8.2"	6.6"
		48	12.5"	16.0"	12.1"	9.7"	12.5"	16.0"	8.4"	6.7"	12.5"	16.0"	7.6"	6.1"
		52	12.5"	16.0"	11.1"	9.0"	12.5"	16.0"	7.7"	6.2"	12.5"	16.0"	7.3"	5.9"
		70	12.5"	16.0"	8.3"	6.7"	12.5"	16.0"	6.3"	5.1"	12.5"	16.0"	6.3"	5.1"
	1/4" x 1-1/4" EMBED ELCO PANELMATE (MIN 2000 PSI CMU) 	33	12.5"	16.0"	8.0"	7.4"	12.5"	14.4"	5.6"	5.1"	6.25"	10.9"	4.2"	3.9"
		41	12.5"	16.0"	6.5"	6.0"	6.25"	11.6"	4.5"	4.1"	6.25"	9.7"	3.8"	3.5"
		48	12.5"	14.3"	5.5"	5.1"	6.25"	9.9"	3.8"	3.5"	6.25"	9.0"	3.5"	3.2"
		52	12.5"	13.2"	5.1"	4.7"	6.25"	9.2"	3.5"	3.3"	6.25"	8.7"	3.3"	3.1"
		70	6.25"	9.8"	3.8"	3.5"	6.25"	7.5"			6.25"	7.5"		

T7 ANCHOR SPACING TABLE

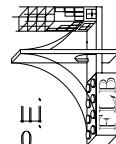
(24 GAUGE PANELS TO WOOD, WITH
PANEL FASTENERS @ 6.25" O.C.)

EXIST. STRUCT.	ANCHOR TYPE	LOAD (psf)	3/4" EDGE DISTANCE											
			SPAN UP TO 6'-0"				SPAN UP TO 8'-8"				SPAN UP TO 12'-8"			
			CONN TYPE				CONN TYPE				CONN TYPE			
			C1	C2	C3	C4	C1	C2	C3	C4	C1	C2	C3	C4
WOOD	1/4" x 2" EMBED LAG SCREW 	33	12.5"	16.0"	16.0"	10.9"	12.5"	16.0"	16.0"	7.5"	12.5"	16.0"	14.0"	5.7"
		41	12.5"	16.0"	16.0"	8.8"	12.5"	16.0"	15.0"	6.1"	12.5"	16.0"	12.5"	5.1"
		48	12.5"	16.0"	16.0"	7.5"	12.5"	16.0"	12.8"	5.2"	12.5"	16.0"	11.6"	4.7"
		52	12.5"	16.0"	16.0"	6.9"	12.5"	16.0"	11.8"	4.8"	12.5"	16.0"	11.1"	4.5"
		70	12.5"	16.0"	12.7"	5.1"	12.5"	16.0"	9.6"	3.9"	12.5"	16.0"	9.6"	3.9"
	#14 x 1 1/2" EMBED WOOD SCREW 	33	12.5"	16.0"	16.0"	10.1"	12.5"	16.0"	12.1"	7.0"	12.5"	16.0"	9.1"	5.3"
		41	12.5"	16.0"	14.1"	8.1"	12.5"	16.0"	9.7"	5.6"	12.5"	16.0"	8.2"	4.7"
		48	12.5"	16.0"	12.0"	7.0"	12.5"	16.0"	8.3"	4.8"	12.5"	16.0"	7.5"	4.4"
		52	12.5"	16.0"	11.1"	6.4"	12.5"	16.0"	7.7"	4.4"	12.5"	16.0"	7.3"	4.2"
		70	12.5"	16.0"	8.2"	4.8"	12.5"	16.0"	6.2"	3.6"	12.5"	16.0"	6.2"	3.6"
	1/4" x 1-1/4" EMBED TAP GRIP "CFAS" 	33	12.5"	16.0"	16.0"		12.5"	16.0"	11.5"		12.5"	16.0"	8.6"	
		41	12.5"	16.0"	13.3"		12.5"	16.0"	9.2"		12.5"	16.0"	7.7"	
		48	12.5"	16.0"	11.4"		12.5"	16.0"	7.9"		12.5"	16.0"	7.2"	
		52	12.5"	16.0"	10.5"		12.5"	16.0"	7.3"		12.5"	16.0"	6.9"	
		70	12.5"	16.0"	7.8"		12.5"	15.4"	5.9"		12.5"	15.4"	5.9"	
	7/16" x 5/8" EMBED ALL POINTS BRASS WOOD BUSHING 	33	12.5"	16.0"	8.6"	7.3"	12.5"	15.5"	6.0"	5.1"	6.25"	11.7"	4.5"	3.8"
		41	12.5"	16.0"	7.0"	5.9"	12.5"	12.5"	4.8"	4.1"	6.25"	10.5"	4.0"	3.4"
		48	12.5"	15.4"	5.9"	5.0"	6.25"	10.7"	4.1"	3.5"	6.25"	9.7"	3.7"	3.2"
		52	12.5"	14.2"	5.5"	4.7"	6.25"	9.9"	3.8"	3.2"	6.25"	9.3"	3.6"	3.0"
		70	6.25"	10.6"	4.1"	3.5"	6.25"	8.0"	3.1"		6.25"	8.0"	3.1"	

ANCHOR NOTES:

- SPANS AND LOADS SHOWN HERE ARE FOR DETERMINING ANCHOR SPACING ONLY. ALLOWABLE STORM PANEL SPANS FOR SPECIFIC LOADS MUST BE LIMITED TO THOSE SHOWN IN ANCHOR TABLE (THIS PAGE).
- ENTER ANCHOR SCHEDULE BASED ON PANEL FASTENER SPACING, THE EXISTING STRUCTURE MATERIAL, & ANCHOR TYPE. SELECT DESIGN LOAD GREATER THAN OR EQUAL TO NEGATIVE DESIGN LOAD ON SHUTTER AND SELECT SPAN GREATER THAN OR EQUAL TO SHUTTER SPAN.
- SELECT CONNECTION TYPE BASED ON APPROPRIATE MOUNTING CONDITION (SEE MOUNTING DETAILS ON SHEET 2 FOR IDENTIFICATION OF CONNECTION TYPE).
- "PANEL FASTENERS" ARE STUDS USED IN CONJUNCTION WITH ALL MOUNTING EXTRUSIONS ("F"-TRACK, STUDDED ANGLE, ETC.). USE 6.25" O.C. PANEL FASTENER SPACING TABLE VALUES FOR ALL "H"- AND "U"-HEADERS (INCLUDING BUILDOUT CONDITIONS).
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS & RESPECTIVE SBCCI P&T & EST EVALUATION REPORTS. ALL CONCRETE AND HOLLOW BLOCK ANCHOR CAPACITIES USED ARE "WITH SPECIAL INSPECTION".
- FASTENER TENSILE & SHEAR CAPACITIES ARE BASED ON A FACTOR OF SAFETY OF 4:1 (SEE SBCCI EVALUATION REPORTS #2040A, #3944A, #2245, & #3807A), WITH THE EXCEPTION OF THE WOOD ANCHORS. THE LAG & WOOD SCREW CAPACITIES ARE BASED ON NDS REQUIREMENTS, AND THE 1/4" BRASS BUSHING CAPACITY IS BASED ON SBCCI TESTING REQUIREMENTS.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT PLYWOOD. FASTENING TO PLYWOOD IS ACCEPTABLE ONLY FOR SIDE CLOSURE PIECES.
- WHERE LAG SCREWS FASTEN TO NARROW FACE OF STUD FRAMING, FASTENER SHALL BE LOCATED IN CENTER OF NOMINAL 2" x 4" (MIN.) WOOD STUD (3/4" EDGE DISTANCE IS ACCEPTABLE FOR WOOD FRAMING). WOOD STUD SHALL BE "SOUTHERN PINE" G=0.55 OR GREATER DENSITY. LAG SCREW SHALL HAVE PHILLIPS PAN HEAD OR HEX HEAD.
- REMOVABLE ANCHORS ARE: POWERS CALK-IN, ELCO PANELMATE, & BRASS BUSHING.
- MACHINE SCREWS SHALL HAVE MINIMUM OF 1/2" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD (SIDEWALK BOLT) U.N.O.
- MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO OR OTHER WALL FINISHES.
- DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE USES.
- * DESIGNATES REMOVABLE ANCHORS, WHICH ARE REQUIRED FOR USE WITH DIRECT MOUNTING CONDITIONS.

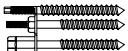
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T8 ANCHOR SPACING TABLE
(ALL 22 GAUGE PANELS TO CONC/CBS,
WITH PANEL FASTENERS @ 12.5" O.C.)

			2.5" EDGE DISTANCE											
EXIST. STRUCT.	ANCHOR TYPE	LOAD (psf)	SPAN UP TO 6'-0"				SPAN UP TO 8'-8"				SPAN UP TO 12'-8"			
			CONN TYPE				CONN TYPE				CONN TYPE			
			C1	C2	C3	C4	C1	C2	C3	C4	C1	C2	C3	C4
CONCRETE	3/16" x 1-3/4" EMBED ELCO TAPCON (MIN 3350 PSI CONC) 	33	12.5"	16.0"	12.1"	10.8"	12.5"	16.0"	8.4"	7.5"	12.5"	15.8"	5.7"	5.1"
		41	12.5"	16.0"	9.7"	8.7"	12.5"	16.0"	6.7"	6.0"	12.5"	13.3"	4.8"	4.3"
		48	12.5"	16.0"	8.3"	7.4"	12.5"	15.9"	5.8"	5.1"	6.25"	12.3"	4.5"	4.0"
		52	12.5"	16.0"	7.7"	6.9"	12.5"	14.6"	5.3"	4.7"	6.25"	11.8"	4.3"	3.8"
	70	12.5"	15.7"	5.7"	5.1"	6.25"	10.9"	3.9"	3.5"	6.25"	10.5"	3.8"	3.4"	
	1/4" x 1-3/4" EMBED ELCO TAPCON (MIN 3350 PSI CONC) 	33	12.5"	16.0"	16.0"	16.0"	12.5"	16.0"	16.0"	13.9"	12.5"	16.0"	11.0"	9.5"
		41	12.5"	16.0"	16.0"	16.0"	12.5"	16.0"	12.9"	11.2"	12.5"	16.0"	9.2"	8.0"
		48	12.5"	16.0"	15.9"	13.8"	12.5"	16.0"	11.0"	9.6"	12.5"	16.0"	8.5"	7.4"
		52	12.5"	16.0"	14.7"	12.8"	12.5"	16.0"	10.2"	8.8"	12.5"	16.0"	8.2"	7.1"
	70	12.5"	16.0"	10.9"	9.5"	12.5"	16.0"	7.5"	6.6"	12.5"	16.0"	7.3"	6.3"	
	1/4" x 7/8" EMBED POWERS CALK-IN (MIN 3000 PSI CONC) * 	33	12.5"	16.0"	15.1"	13.0"	12.5"	16.0"	10.4"	9.0"	12.5"	16.0"	7.1"	6.2"
		41	12.5"	16.0"	12.1"	10.5"	12.5"	16.0"	8.4"	7.3"	12.5"	16.0"	6.0"	5.2"
		48	12.5"	16.0"	10.4"	9.0"	12.5"	16.0"	7.2"	6.2"	12.5"	15.4"	5.6"	4.8"
		52	12.5"	16.0"	9.6"	8.3"	12.5"	16.0"	6.6"	5.7"	12.5"	14.8"	5.4"	4.6"
	70	12.5"	16.0"	7.1"	6.1"	12.5"	13.6"	4.9"	4.3"	12.5"	13.1"	4.7"	4.1"	
	1/4"x7/8" EMBED ALL-POINTS SOLID-SET (MIN 3000 PSI CONC) * 	33	12.5"	16.0"	16.0"	16.0"	12.5"	16.0"	14.8"	13.4"	12.5"	16.0"	10.1"	9.2"
		41	12.5"	16.0"	16.0"	15.6"	12.5"	16.0"	11.9"	10.8"	12.5"	16.0"	8.5"	7.7"
		48	12.5"	16.0"	14.7"	13.3"	12.5"	16.0"	10.2"	9.2"	12.5"	16.0"	7.9"	7.2"
		52	12.5"	16.0"	13.6"	12.3"	12.5"	16.0"	9.4"	8.5"	12.5"	16.0"	7.6"	6.9"
70	12.5"	16.0"	10.1"	9.1"	12.5"	16.0"	7.0"	6.3"	12.5"	16.0"	6.7"	6.1"		
1/4" x 2" EMBED ELCO PANELMATE (MIN 3350 PSI CONC) * 	33	12.5"	16.0"	16.0"	16.0"	12.5"	16.0"	16.0"	14.2"	12.5"	16.0"	12.6"	9.7"	
	41	12.5"	16.0"	16.0"	16.0"	12.5"	16.0"	14.8"	11.4"	12.5"	16.0"	10.6"	8.2"	
	48	12.5"	16.0"	16.0"	14.1"	12.5"	16.0"	12.6"	9.7"	12.5"	16.0"	9.8"	7.6"	
	52	12.5"	16.0"	16.0"	13.0"	12.5"	16.0"	11.6"	9.0"	12.5"	16.0"	9.4"	7.3"	
70	12.5"	16.0"	12.5"	9.7"	12.5"	16.0"	8.6"	6.7"	12.5"	16.0"	8.3"	6.4"		

T10

ANCHOR SPACING TABLE

(ALL 22 GAUGE PANELS TO CONC/CBS,
WITH PANEL FASTENERS @ 6.25" O.C.)

EXIST. STRUCT.	ANCHOR TYPE	LOAD (psf)	2.5" EDGE DISTANCE															
			SPAN UP TO 6'-0"				SPAN UP TO 8'-8"				SPAN UP TO 12'-8"							
			CONN TYPE				CONN TYPE				CONN TYPE							
CONCRETE		33	12.5"	16.0"	12.1"	10.8"	12.5"	16.0"	8.4"	7.5"	12.5"	15.8"	5.7"	5.1"				

HOLLOW CONC BLOCK		33	12.5"	16.0"	9.7"	8.3"	12.5"	16.0"	6.7"	5.7"	12.5"	12.7"	4.6"	3.9"				
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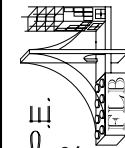
ANCHOR SPACING TABLE

(ALL 22 GAUGE PANELS TO WOOD,
WITH PANEL FASTENERS @ 6.25" O.C.)

EXIST. STRUCT.	ANCHOR TYPE	LOAD (psf)	3/4" EDGE DISTANCE															
			SPAN UP TO 6'-0"				SPAN UP TO 8'-8"				SPAN UP TO 12'-8"							
			CONN TYPE				CONN TYPE				CONN TYPE							
WOOD		33	12.5"	16.0"	16.0"	10.9"	12.5"	16.0"	16.0"	7.5"	12.5"	16.0"	12.0"	5.2"				

ANCHOR NOTES:

- SPANS AND LOADS SHOWN HERE ARE FOR DETERMINING ANCHOR SPACING ONLY. ALLOWABLE STORM PANEL SPANS FOR SPECIFIC LOADS MUST BE LIMITED TO THOSE SHOWN IN ANCHOR TABLE (THIS PAGE).
- ENTER ANCHOR SCHEDULE BASED ON PANEL FASTENER SPACING, THE EXISTING STRUCTURE MATERIAL, & ANCHOR TYPE. SELECT DESIGN LOAD GREATER THAN OR EQUAL TO NEGATIVE DESIGN LOAD ON SHUTTER AND SELECT SPAN GREATER THAN OR EQUAL TO SHUTTER SPAN.
- SELECT CONNECTION TYPE BASED ON APPROPRIATE MOUNTING CONDITION (SEE MOUNTING DETAILS ON SHEET 2 FOR IDENTIFICATION OF CONNECTION TYPE).
- 'PANEL FASTENERS' ARE STUDS USED IN CONJUNCTION WITH ALL MOUNTING EXTRUSIONS ('F'-TRACK, STUDDED ANGLE, ETC.). USE 6.25" O.C. PANEL FASTENER SPACING TABLE VALUES FOR ALL 'H'- AND 'U'-HEADERS (INCLUDING BUILDOUT CONDITIONS).
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS & RESPECTIVE SBCCI P&T & E&T EVALUATION REPORTS. ALL CONCRETE AND HOLLOW BLOCK ANCHOR CAPACITIES USED ARE 'WITH SPECIAL INSPECTION'.
- FASTENER TENSILE & SHEAR CAPACITIES ARE BASED ON A FACTOR OF SAFETY OF 4:1 (SEE SBCCI EVALUATION REPORTS #2040A, #3944A, #2245, & #9801A), WITH THE EXCEPTION OF THE WOOD ANCHORS. THE LAG & WOOD SCREW CAPACITIES ARE BASED ON NDS REQUIREMENTS, AND THE 1/4" BRASS BUSHING CAPACITY IS BASED ON SBCCI TESTING REQUIREMENTS.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT PLYWOOD. FASTENING TO PLYWOOD IS ACCEPTABLE ONLY FOR SIDE CLOSURE PIECES.
- WHERE LAG SCREWS FASTEN TO NARROW FACE OF STUD FRAMING, FASTENER SHALL BE LOCATED IN CENTER OF NOMINAL 2" X 4" (MIN.) WOOD STUD (3/4" EDGE DISTANCE IS ACCEPTABLE FOR WOOD FRAMING). WOOD STUD SHALL BE 'SOUTHERN FINE' G=0.55 OR GREATER DENSITY. LAG SCREW SHALL HAVE PHILLIPS PAN HEAD OR HEX HEAD.
- REMOVABLE ANCHORS ARE: POWERS CALK-IN, ELCO PANELMATE, & BRASS BUSHING.
- MACHINE SCREWS SHALL HAVE MINIMUM OF 1/2" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD (SIDEWALK BOLT) U.N.O.
- MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO OR OTHER WALL FINISHES.
- DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE USES.
- * DESIGNATES REMOVABLE ANCHORS, WHICH ARE REQUIRED FOR USE WITH DIRECT MOUNTING CONDITIONS.

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ALL AMERICAN SHUTTERS

1540 DONNA ROAD
WEST PALM BEACH, FL 3340922 & 24 GA. GALVANIZED
STEEL STORM PANELS

REVISIONS

DESCRIPTION	DATE
TABLES, GEN NOTES	10/24/02
WOOD BUSHING	12/04/02
SBCCI COMMENTS	01/21/03
P&T F&T NRS @ 6.25'	05/23/03

SCALE: NTS
DRAWN BY: KLU/CL
CHECKED BY: HLB
PRINT DATE: 10/28/02
JOB #: 01-696-85 (A)SHEET:
1 OF 1