

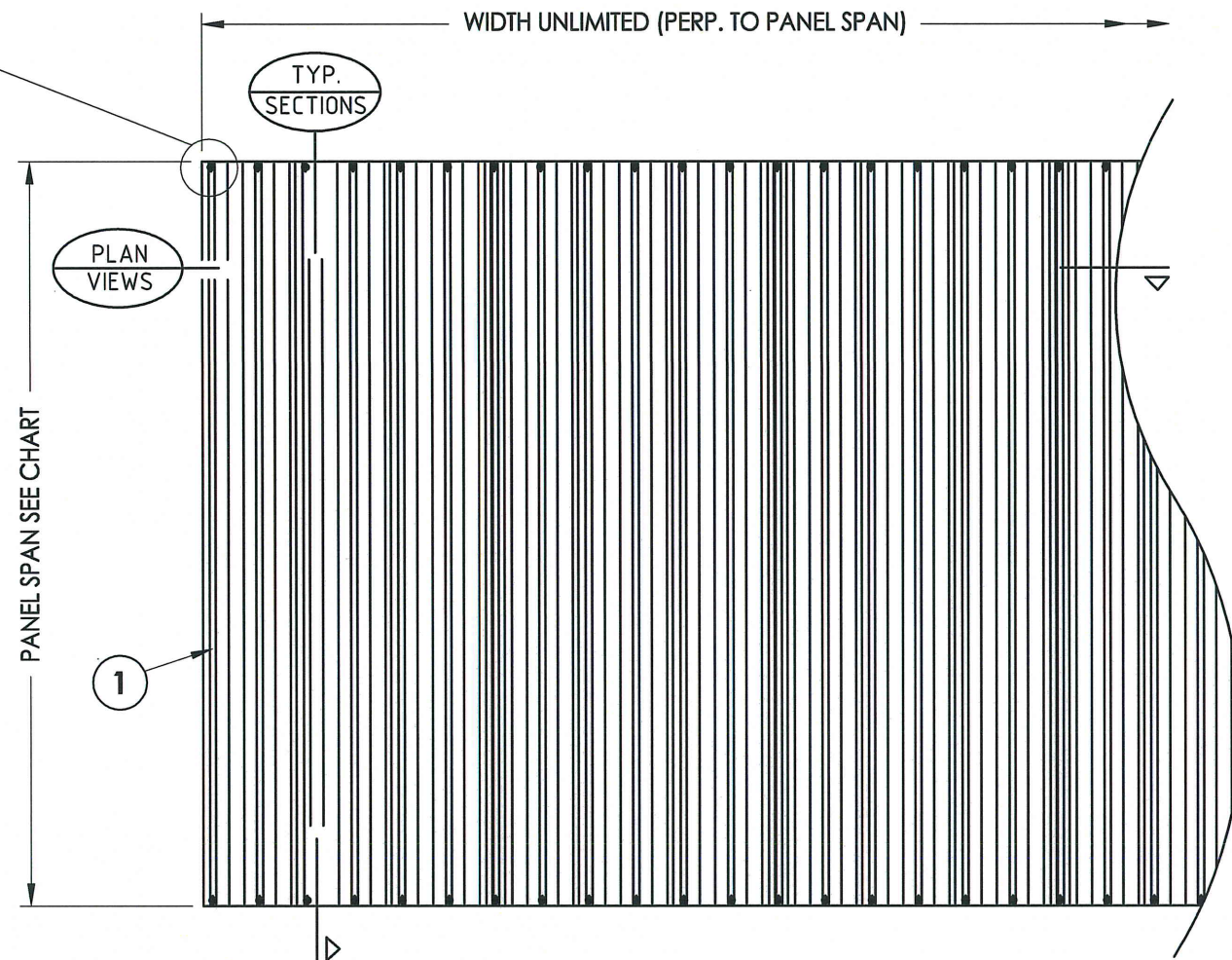
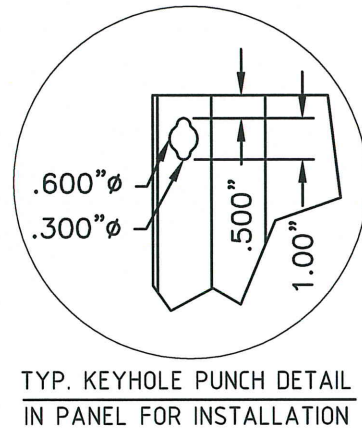


ASI BUILDING PRODUCTS
CORPORATE OFFICE, 4720 EAST ADAMO DRIVE
TAMPA, FL 33605

28 GAUGE GALV. STEEL STORM PANEL

- Steel storm panels shall be ASTM A653 CS-B, 0.18" thickness.
- This product has been evaluated and is in compliance with the 2007 Florida Building Code (FBC) structural requirements excluding the "High Velocity Hurricane Zone" (HVHZ). When used in areas requiring wind borne debris protection this product complies with Section 1609.1.2 of the FBC and does not require an impact resistant covering. This product meets missile level "D" and excludes Wind Zone 4 as defined in ASTM E1996.
- Product markings shall be rolled into each panel with spacing in between marking no greater than 36".
- 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 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.
- All aluminum extrusions shall be 6063-T6 aluminum alloy, unless noted otherwise.
- 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 steel, galvanized steel or stainless steel.
- Anchors shall be installed in accordance with anchor manufacturer's recommendations. Embedment lengths and edge distances shall be as recommended by the anchor manufacturer but in no instance shall they be less than as shown on these approved drawings. Embedment and edge distances shall not include stucco or other finishes.

TABLE OF CONTENTS	
SHEET #	DESCRIPTION
1	Typical elevation, general notes & details
2	Bill of materials & components
3	Cross sections, corner & closure details
4	Anchoring schedule - concrete & block
5	Anchoring schedule - wood



PANEL SPAN	DIRECT MOUNT DESIGN PRESSURE (PSF)	"F" BUILD-OUT MOUNT DESIGN PRESSURE (PSF)
12" - 53"	+70.0 -70.0	+70.0 -70.0
53" - 70"	+53.0 -53.0	+53.0 -53.0
70" - 88"	+42.0 -42.0	+42.0 -42.0
88" - 106"	+35.0 -35.0	+35.0 -35.0

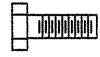
Documents Prepared By:
R.W. BUILDING CONSULTANTS, INC.
P.O. Box 230 Valrico FL 33595
Phone No.: 813.659.9197
Florida Board of Professional Engineers
Certificate of Authorization No. 9813
1796 3-5-09
Lyndon F. Schmidt, P.E. No. 43409

PRODUCT:
ASI ANCHOR SAFE
PANEL SHUTTER SYSTEM
28 GAUGE GALV. STEEL PANEL
PART OR ASSEMBLY:
TYPICAL ELEVATIONS,
GENERAL NOTES & DETAILS

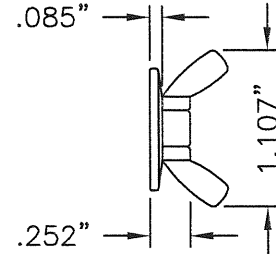
NO.	DATE	BY	REVISIONS

DATE: 3/4/09
SCALE: N.T.S.
DWG. BY: AL
CHK. BY: LFS
DRAWING NO.: FL-7989.1
SHEET 1 OF 5

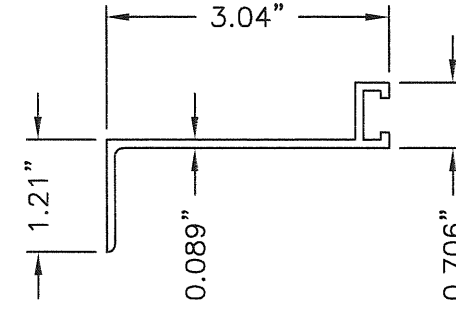
ITEM	DESCRIPTION	MATERIAL
1	STEEL STORM PANEL (28 GAUGE - .018" GALV. STEEL)	STEEL
2	1/4-20 x 3/4" H.H. BOLT	S.S.
3	BUILD-OUT "F" TRACK	ALUMINUM
4	WASHERED WINGNUT	STEEL



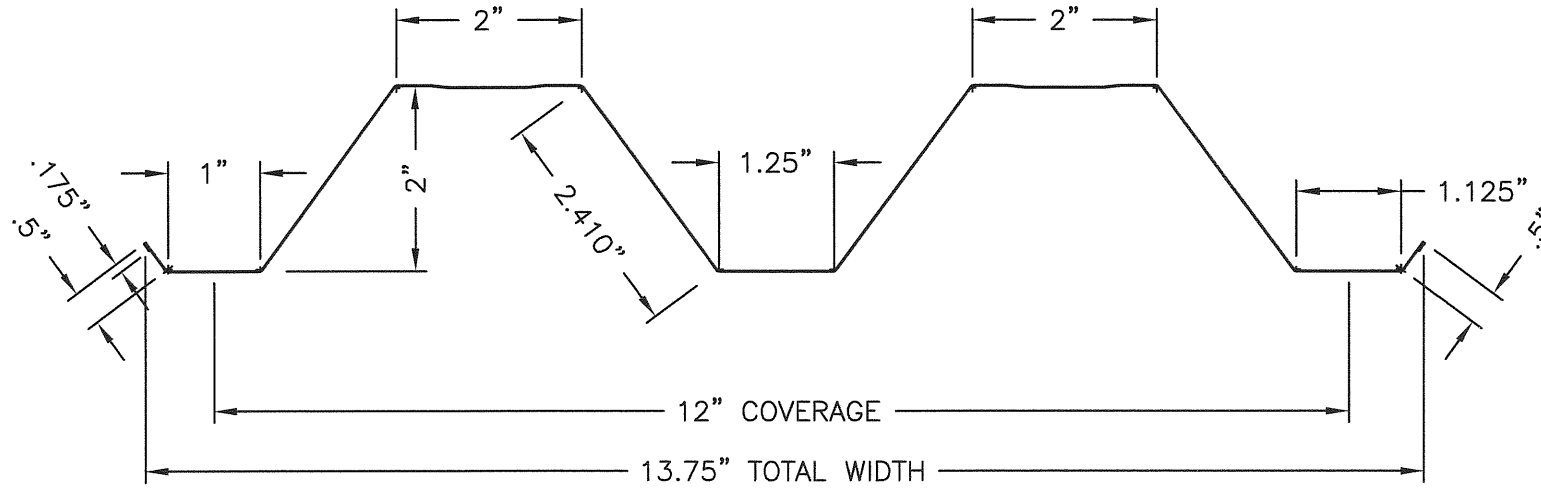
2 H. H. BOLT



4 WING NUT



3 BUILD-OUT "F" TRACK



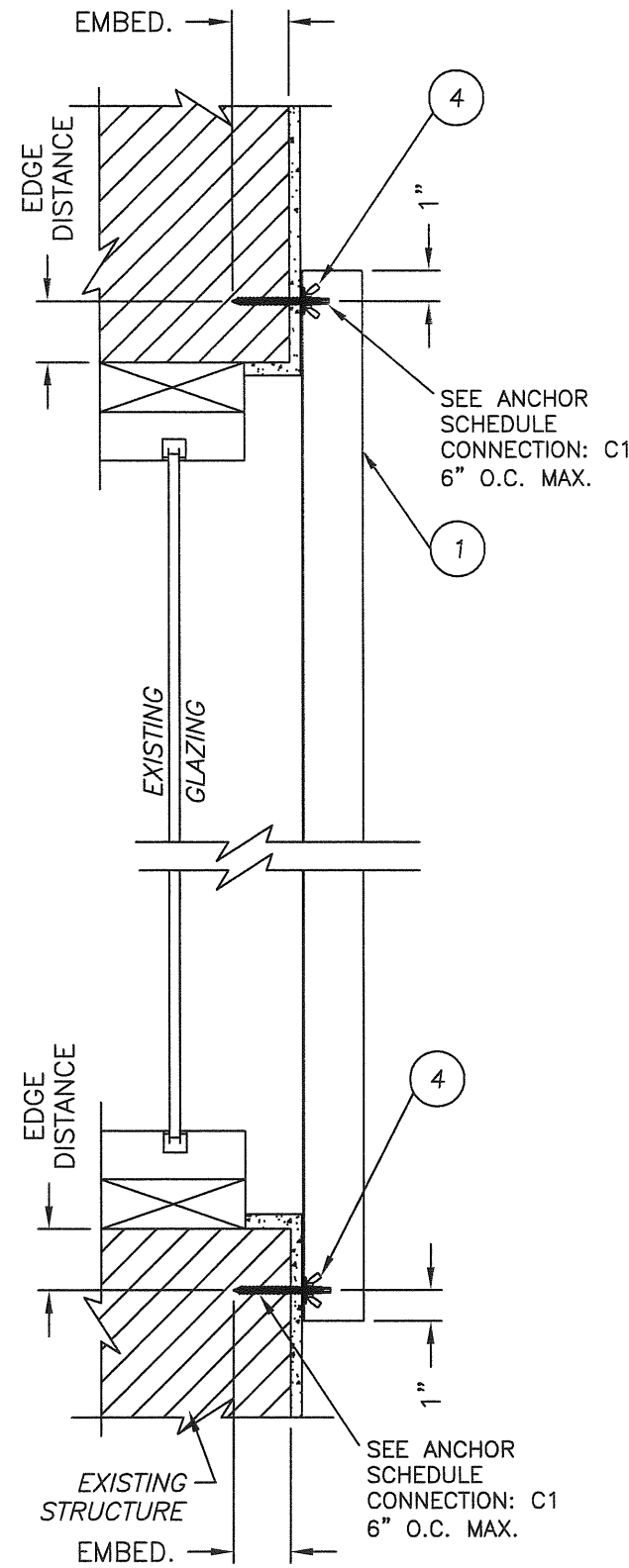
1 STEEL STORM PANEL PROFILE

Documents Prepared By:
R.W. BUILDING CONSULTANTS, INC.
 P.O. Box 230 Valrico FL, 33595
 Phone No.: 813.659.9197
 Florida Board of Professional Engineers
 Certificate of Authorization No. 9813
17-564 3-5-09
 Lyndon F. Schmidt, P.E. No. 43409

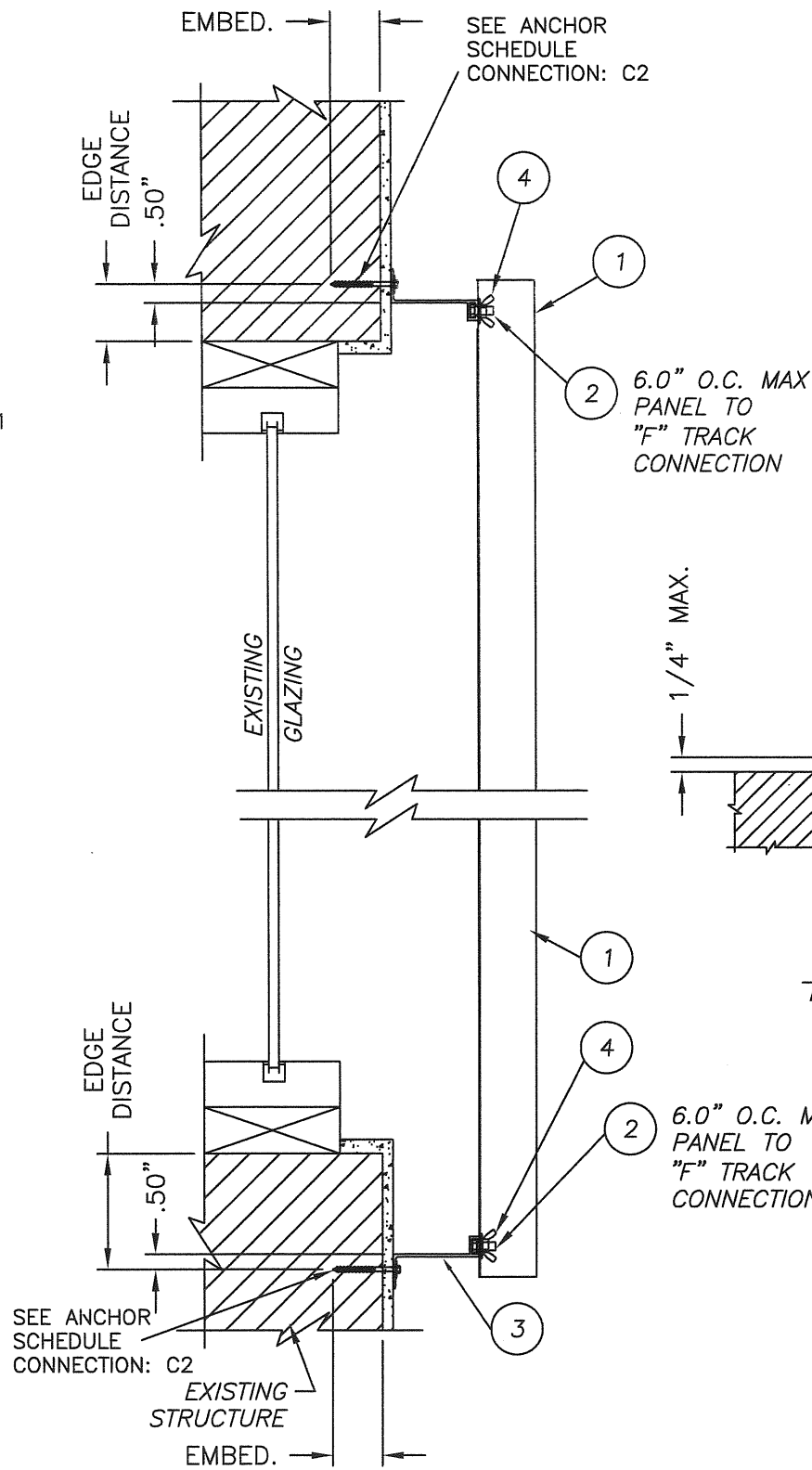
PRODUCT:
 ASI ANCHOR SAFE
 PANEL SHUTTER SYSTEM
 28 GAUGE GALV. STEEL PANEL
 PART OR ASSEMBLY:
 BILL OF MATERIALS
 & COMPONENTS

NO.	DATE	BY

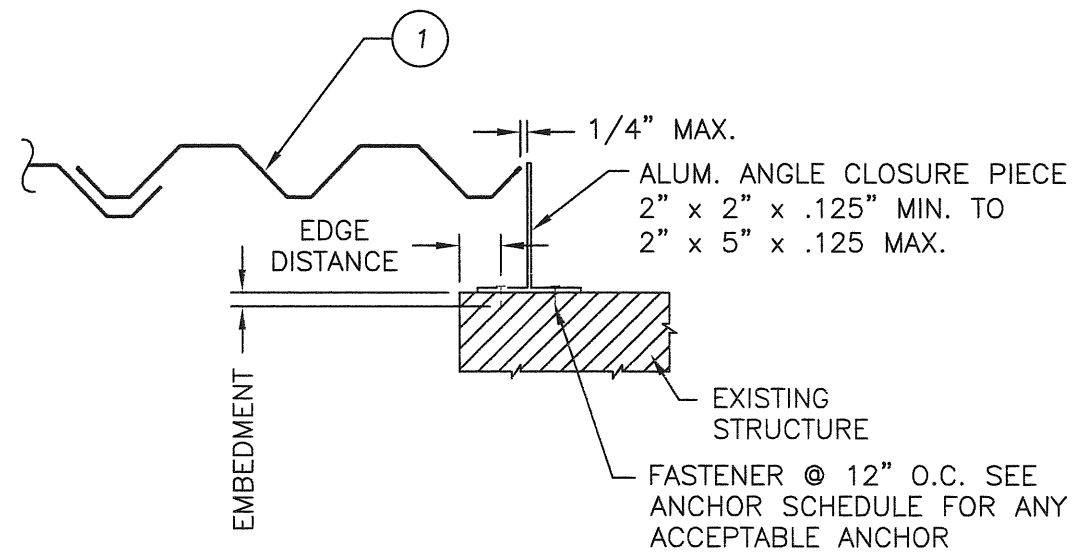
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 SCALE: N.T.S.
 DWG. BY: AL
 CHK. BY: LFS
 DRAWING NO.:
 FL-7989.1
 SHEET 2 OF 5



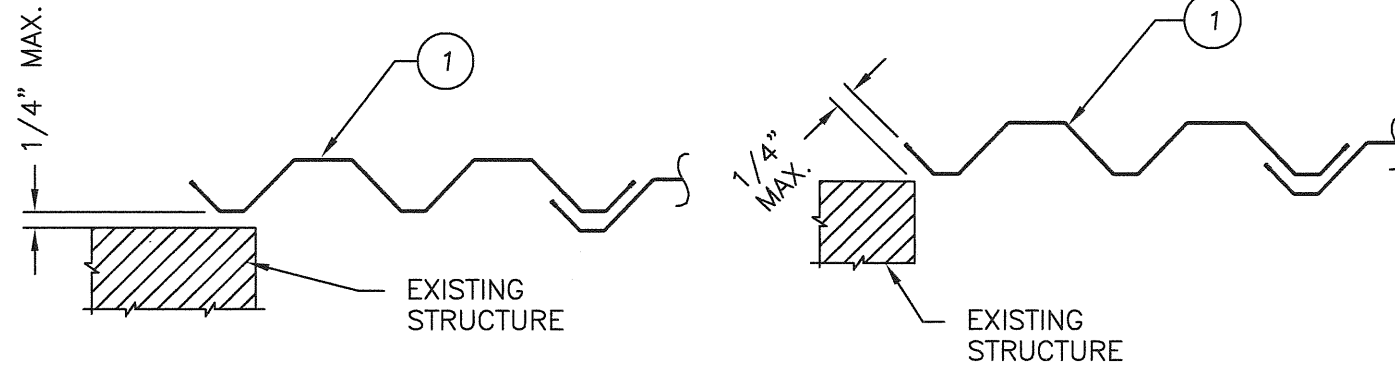
DIRECT MOUNT SECTION



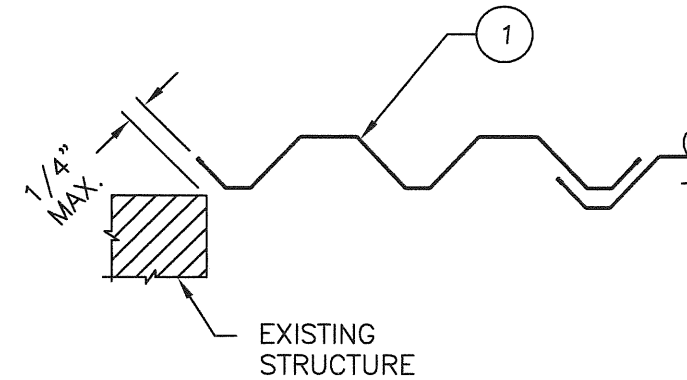
"F" TRACK BUILD-OUT



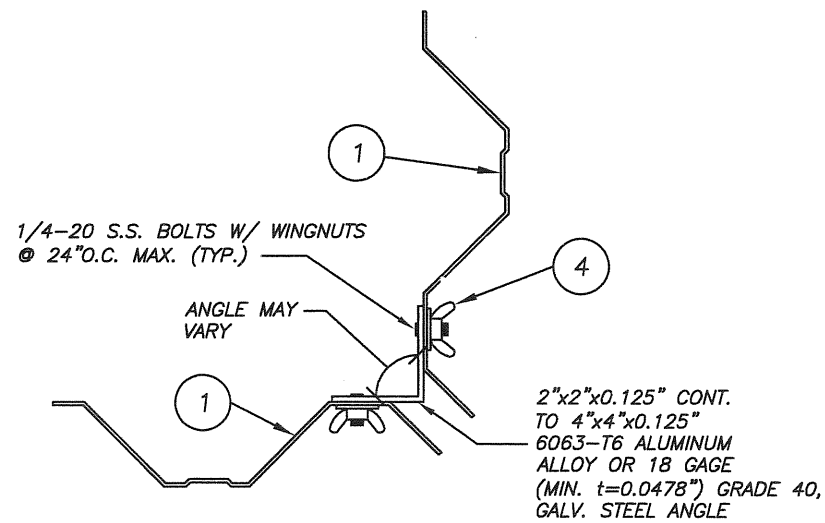
BUILD-OUT
PLAN VIEW



WALL MOUNT
PLAN VIEW



FACE MOUNT
PLAN VIEW



ALT CORNER DETAIL
PLAN VIEW

Documents Prepared By:

RW BUILDING CONSULTANTS, INC.
P.O. Box 230 Valrico FL 33595
Phone No.: 813.659.9197
Florida Board of Professional Engineers
Certificate Of Authorization No. 9813
LFS 3-5-09
Lyndon F. Schmidt, P.E. No. 43409


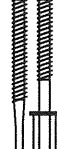
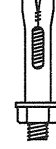

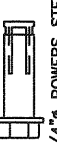


PRODUCT:
ASI ANCHOR SAFE
PANEL SHUTTER SYSTEM
28 GAUGE GALV. STEEL PANEL
PART OR ASSEMBLY:
CROSS SECTION, CORNER
& CLOSURE DETAILS

NO.	DATE	BY	REVISIONS

DATE: 3/4/09
SCALE: N.T.S.
DWG. BY: AL
CHK. BY: LFS
DRAWING NO.: FL-7989.1
SHEET 3 of 5


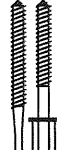


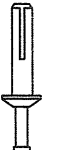

R.W. - BUILDING CONSULTANTS, INC. 1001-1100 PM AVENUE / FL-7909 / FL-7909-0000, 1-1

ANCHOR SCHEDULE

ANCHOR	LOAD (psf)	CONNECTION TYPE		
		C1**	C2	
 3/8" ELCO OR ITW TAPCON EM = 1.75" CL = 3" (ITW) 4" (ELCO) ED = 2.5" (3000 psi MIN. CONC.)	30	Spans Up to 53"	Spans Up to 106"	Spans Up to 106"
	35	12.0"	12.0"	12.0"
	40	12.0"	12.0"	10.9
	45	12.0"	12.0"	9.7"
	50	12.0"	12.0"	8.7"
	58	12.0"	12.0"	7.5"
	70	12.0"	12.0"	7.5"
	30	12.0"	12.0"	12.0"
	35	12.0"	12.0"	12.0"
	40	12.0"	12.0"	12.0"
 1/4" PANELMATE (PLUS OR FEMALE) EM = 2" CL = 3" ED = 2.5" (3000 psi MIN. CONC.)	45	12.0"	12.0"	11.1"
	50	12.0"	12.0"	10.0"
	58	12.0"	12.0"	8.6"
	70	12.0"	12.0"	8.6"
	30	12.0"	12.0"	10.2"
	35	12.0"	12.0"	8.8"
	40	12.0"	12.0"	7.7"
	45	12.0"	12.0"	6.8"
	50	12.0"	12.0"	6.1"
	58	12.0"	12.0"	5.3"
 1/4" ITW RED HEAD DYNABOLT SLEEVE ANCHOR EM = 1.125" CL = 3" ED = 1.5" (3000 psi MIN. CONC.)	70	12.0"	12.0"	8.8"
	30	12.0"	12.0"	10.2"
	35	12.0"	12.0"	8.8"
	40	12.0"	12.0"	7.7"
	45	12.0"	12.0"	6.8"
	50	12.0"	12.0"	6.1"
	58	12.0"	10.6"	5.3"
	70	12.0"	8.8"	8.8"
	30	12.0"	12.0"	10.2"
	35	12.0"	12.0"	8.8"
 1/4" POWERS CALK-IN & 1/4"-20 SCREW EM = 0.875" CL = 3.0" ED = 3.75" (3000psi MIN. CONC.)	40	12.0"	12.0"	7.7"
	45	12.0"	12.0"	6.8"
	50	12.0"	12.0"	6.1"
	58	12.0"	12.0"	5.3"
	70	12.0"	12.0"	5.3"
	30	12.0"	12.0"	10.2"
	35	12.0"	12.0"	8.8"
	40	12.0"	12.0"	7.7"
	45	12.0"	12.0"	6.8"
	50	12.0"	12.0"	6.1"
 1/4" POWERS STEEL DROP-IN & 1/4"-20 SIDEWALK BOLT (3/4" HEAD) EM = 1.0" CL = 3.0" ED = 3.5" (3000psi MIN. CONC.)	50	12.0"	12.0"	4.5"
	58	12.0"	12.0"	4.5"
	70	12.0"	12.0"	7.5"
	30	12.0"	12.0"	7.9"
	35	12.0"	12.0"	6.7"
	40	12.0"	12.0"	5.9"
	45	12.0"	12.0"	5.2"
	50	12.0"	10.5"	5.2"
	58	12.0"	9.0"	4.5"
	70	12.0"	7.5"	4.5"
 1/4" ZAMAC NAILIN EM = 1.125" CL = 2.5" ED = 3.0"	30	12.0"	12.0"	7.9"
	35	12.0"	12.0"	6.7"
	40	12.0"	12.0"	5.9"
	45	12.0"	12.0"	5.2"
	50	12.0"	12.0"	4.5"
	58	12.0"	12.0"	4.5"
	70	12.0"	12.0"	7.5"
	30	12.0"	12.0"	7.9"
	35	12.0"	12.0"	6.7"
	40	12.0"	12.0"	5.9"
 1/4" ALL POINTS SOLID-SET ANCHOR x 7/8" EMBED EM = 0.875" CL = 3" ED = 2" (3,000 PSI MIN. CONC.)	45	12.0"	10.5"	5.2"
	50	12.0"	9.4"	4.7"
	58	12.0"	8.1"	4.0"
	70	12.0"	12.0"	12.0"
	30	12.0"	12.0"	12.0"
	35	12.0"	12.0"	11.6"
	40	12.0"	12.0"	10.1"
	45	12.0"	12.0"	9.0"
	50	12.0"	12.0"	8.1"
	58	12.0"	12.0"	7.0"

CONCRETE

ANCHOR SCHEDULE

ANCHOR	LOAD (psf)	CONNECTION TYPE		
		C1	C2	
 3/8" ELCO OR ITW TAPCON EM = 1.25" CL = 3" (ITW) 4" (ELCO) ED = 2.5"	30	Spans Up to 53"	Spans Up to 106"	Spans Up to 106"
	35	12.0"	12.0"	5.3"
	40	12.0"	12.0"	4.6"
	45	12.0"	12.0"	4.0"
	50	12.0"	10.5"	8.9"
	58	12.0"	9.5"	8.0"
	70	12.0"	8.2"	6.9"
	30	12.0"	12.0"	5.7"
	35	12.0"	12.0"	8.3"
	40	12.0"	12.0"	7.1"
 1/4" PANELMATE (PLUS OR FEMALE) EM = 1.25" CL = 3" ED = 2.5"	45	12.0"	12.0"	6.2"
	50	12.0"	12.0"	5.5"
	58	12.0"	12.0"	5.0"
	70	12.0"	12.0"	4.3"
	30	12.0"	12.0"	7.1"
	35	12.0"	12.0"	8.6"
	40	12.0"	12.0"	7.3"
	45	12.0"	12.0"	6.4"
	50	12.0"	12.0"	5.7"
	58	12.0"	12.0"	5.1"
 1/4" ITW RED HEAD DYNABOLT SLEEVE ANCHOR EM = 1.125" CL = 3" ED = 1.5"	70	12.0"	12.0"	4.4"
	30	12.0"	12.0"	7.3"
	35	12.0"	12.0"	10.7"
	40	12.0"	12.0"	9.2"
	45	12.0"	11.8"	8.0"
	50	12.0"	10.5"	7.1"
	58	12.0"	9.5"	6.4"
	70	12.0"	8.2"	5.5"
	30	12.0"	12.0"	4.6"
	35	12.0"	12.0"	5.3"
 1/4" POWERS CALK-IN & 1/4"-20 SCREW EM = 0.875" CL = 3.0" ED = 3.75"	40	12.0"	11.8"	4.0"
	45	12.0"	10.5"	7.1"
	50	12.0"	9.5"	6.4"
	58	12.0"	8.2"	5.5"
	70	12.0"	12.0"	4.6"
	30	12.0"	12.0"	12.0"
	35	12.0"	12.0"	11.0"
	40	12.0"	12.0"	9.6"
	45	12.0"	12.0"	8.6"
	50	12.0"	11.4"	7.7"
 1/4" ZAMAC NAILIN EM = 1.125" CL = 2.5" ED = 3.0"	58	12.0"	9.8"	6.6"
	70	12.0"	12.0"	5.5"
	30	12.0"	12.0"	12.0"
	35	12.0"	12.0"	11.0"
	40	12.0"	12.0"	9.6"
	45	12.0"	12.0"	8.6"
	50	12.0"	12.0"	7.7"
	58	12.0"	12.0"	6.6"
	70	12.0"	12.0"	5.5"
	30	12.0"	12.0"	11.0"
 1/4" ALL POINTS SOLID-SET ANCHOR x 7/8" EMBED EM = 0.875" CL = 3" ED = 2"	35	12.0"	12.0"	9.4"
	40	12.0"	12.0"	8.2"
	45	12.0"	12.0"	7.3"
	50	12.0"	12.0"	6.5"
	58	12.0"	12.0"	5.6"
	70	12.0"	12.0"	4.7"
	30	12.0"	12.0"	11.0"
	35	12.0"	12.0"	9.4"
	40	12.0"	12.0"	8.2"
	45	12.0"	12.0"	7.3"

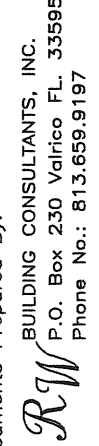
HOLLOW BLOCK

EM = MINIMUM EDGE DISTANCE.
 CL = MINIMUM SPACING OF ANCHOR CENTERLINE TO CENTERLINE.
 EM = MINIMUM EMBEDMENT OF ANCHOR INTO STRUCTURAL SUBSTRATE.




**NOTE:
 FOR DIRECT MOUNT CONDITIONS, ANCHOR SPACING MUST NOT EXCEED 6" MAXIMUM ON CENTER REGARDLESS OF THE ANCHOR SPACING SHOWN IN THESE SCHEDULES.

DATE:	3/4/09		
SCALE:	N.T.S.		
DWG. BY:	AL		
CHK. BY:	LFS		
DRAWING NO.:	FL-7989.1		
SHEET	4 of 5		
NO.	DATE	REVISIONS	BY

PRODUCT:
 ASI ANCHOR SAFE
 PANEL SHUTTER SYSTEM
 28 GAUGE GALV. STEEL PANEL
 PART OR ASSEMBLY:
 ANCHORING SCHEDULE
 - CONCRETE & BLOCK

Documents Prepared By:

 BUILDING CONSULTANTS, INC.
 P.O. Box 230 Vairico FL 33595
 Phone No.: 813.659.9197
 Florida Board of Professional Engineers
 Certificate Of Authorization No. 9813
 67-56 3-5-09
 Lyndon F. Schmidt, P.E. No. 43409

ANCHOR SCHEDULE

ANCHOR	CONNECTION TYPE				
	C1**	C1**	C2	C2	
 <p>1/4" PANELMATE (PLUS OR FEMALE) EM = 2" CL = 3" ED = 2.5"</p>	LOAD (psf)	Spans Up to 5.3"	Spans Up to 10.6"	Spans Up to 10.6"	
	30	12.0"	12.0"	12.0"	
	35	12.0"	12.0"	12.0"	
	40	12.0"	12.0"	12.0"	
	45	12.0"	12.0"	12.0"	
	50	12.0"	12.0"	12.0"	
	58	12.0"	12.0"	10.4"	
	70	12.0"			
	 <p>1/4" LAG SCREW EM = 2.0" CL = 2.1" ED = 0.75"</p>	30	12.0"	12.0"	11.4"
		35	12.0"	12.0"	9.8"
		40	12.0"	12.0"	8.5"
		45	12.0"	12.0"	7.6"
		50	12.0"	12.0"	6.8"
		58	12.0"	11.2"	5.9"
70		12.0"			
 <p>#14 WOOD SCREW EM = 2.34" CL = 2.1" ED = 0.75"</p>	30	12.0"	12.0"	7.9"	
	35	12.0"	12.0"	6.7"	
	40	12.0"	12.0"	5.9"	
	45	12.0"	12.0"	5.2"	
	50	12.0"	12.0"	4.7"	
	58	12.0"	8.2"	4.0"	
	70	12.0"			

WOOD

NOTES:

- THE DESIGN PRESSURES AND SPANS LISTED IN THE ANCHOR SCHEDULE TABLES ARE FOR DETERMINING ANCHOR SPACING ONLY; SEE SHEET 1 FOR THE DESIGN PRESSURE RATING AT VARIOUS SPANS FOR THE STORM PANELS.
- MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURERS' RECOMMENDATIONS.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT PLYWOOD.
- WHERE ANCHORS FASTEN TO NARROW FACE OF STUD FRAMING, ANCHOR SHALL BE LOCATED IN CENTER OF NOMINAL 2X4 (MIN) WOOD STUDS. WOOD STUDS SHALL BE "SOUTHERN PINE" SG=0.55 OR GREATER DENSITY.
- MACHINE SCREWS SHALL HAVE MINIMUM OF 1/4" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFFER HEAD ("SIDEWALK BOLT") U.N.O.
- MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90

ED = MINIMUM EDGE DISTANCE.
CL = MINIMUM SPACING OF ANCHOR CENTERLINE TO CENTERLINE.
EM = MINIMUM EMBEDMENT OF ANCHOR INTO STRUCTURAL SUBSTRATE.

**NOTE:
FOR DIRECT MOUNT CONDITIONS, ANCHOR SPACING MUST NOT EXCEED 6" MAXIMUM ON CENTER REGARDLESS OF THE ANCHOR SPACING SHOWN IN THE THESE SCHEDULES.

DATE:	3/4/09
SCALE:	N.T.S.
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CHK. BY:	LFS
DRAWING NO.:	FL-7989.1
SHEET	5 OF 5

NO.	DATE	BY

REVISIONS

PRODUCT:

ASI ANCHOR SAFE
PANEL SHUTTER SYSTEM
28 GAUGE GALV. STEEL PANEL
PART OR ASSEMBLY:
ANCHORING SCHEDULE
- WOOD

Documents Prepared By:

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