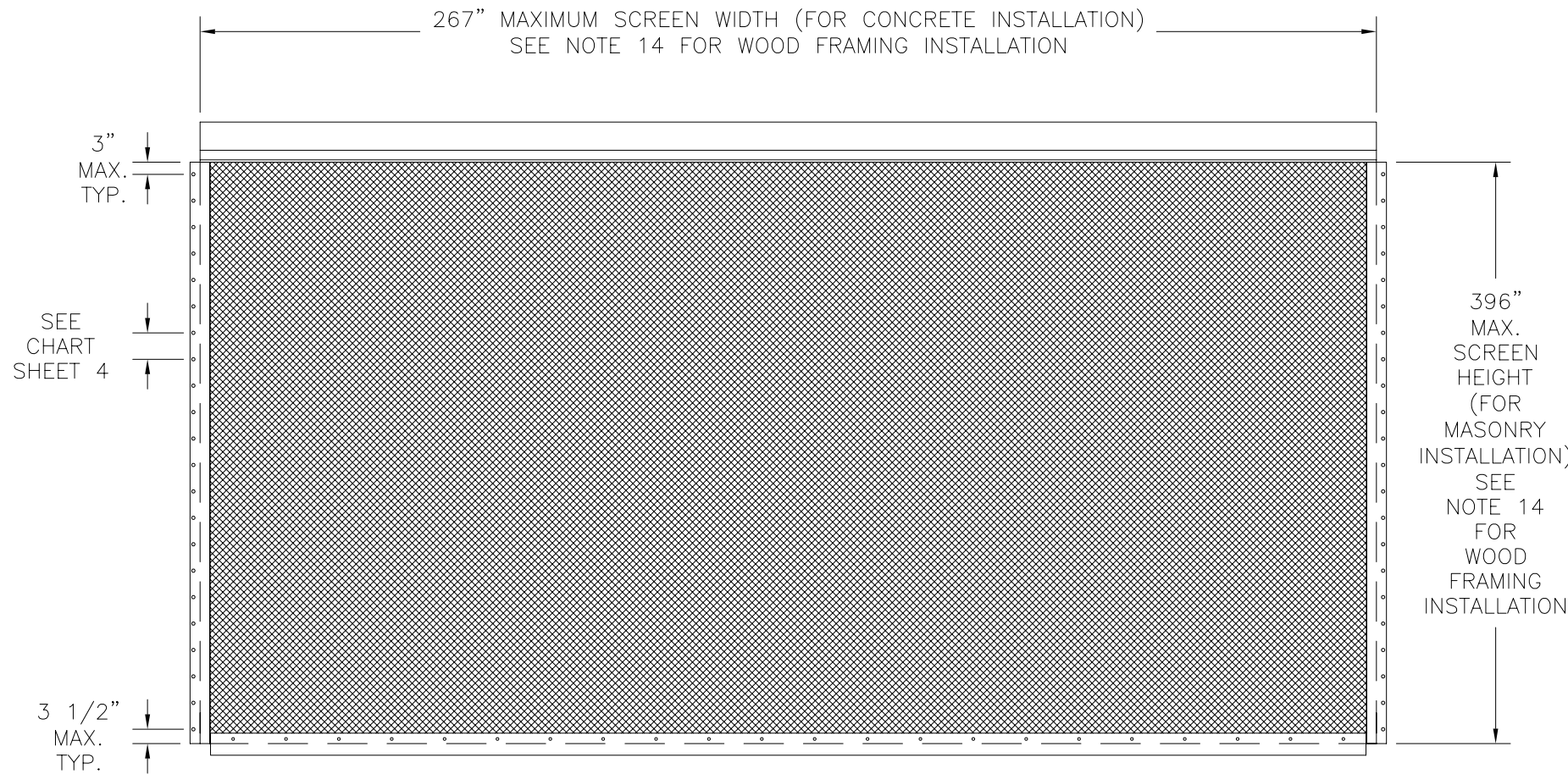


REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	REVISED D.P. CHART FOR HVHZ	05/10/10	R.L.
B	REVISED DP CHARTS	8/15/10	R.L.
C	REVISED DP CHARTS	8/27/10	R.L.



MAESTRAN ROLL-UP HURRICANE SCREEN - IMPACT RESISTANT
EXTERIOR VIEW

DESIGN PRESSURE RATING	IMPACT RATING
±61.3PSF	LARGE AND SMALL MISSILE IMPACT

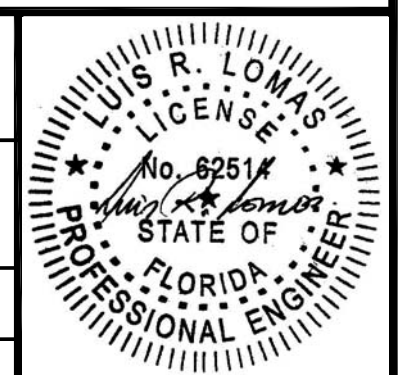
FOR ADDITIONAL SIZES AND DESIGN PRESSURES SEE CHARTS SHEET 2

NOTES:

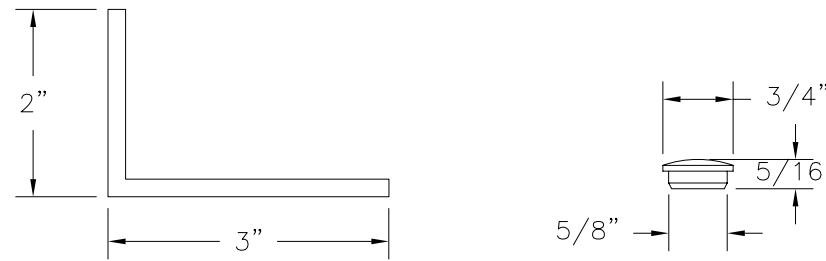
- 1) THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, THE INTERNATIONAL RESIDENTIAL CODE AND THE FLORIDA BUILDING CODE INCLUDING THE HVHZ. THIS SYSTEM WAS TESTED IN COMPLIANCE WITH ASTM E330, ASTM E1886, ASTM E1996, TAS 201, TAS 202 AND TAS 203 STANDARDS.
- 2) WOOD FRAMING, STEEL FRAMING, ALUMINUM FRAMING AND CONCRETE OPENING TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE. FRAMING AND MASONRY OPENING IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD. CONTRACTOR MUST VERIFY THAT EXISTING STRUCTURE DOES NOT DEVIATE IN EITHER FORM OR MATERIAL FROM STRUCTURAL SUBSTRATES LISTED HEREIN.
- 3) ALLOWABLE STRESS INCREASE OF 1/3 WAS NOT USED IN THE DESIGN OF THE PRODUCT SHOWN HEREIN. WIND LOAD DURATION FACTOR Cd=1.6 WAS USED FOR WOOD ANCHOR CALCULATIONS.
- 4) FRAME MATERIAL: EXTRUDED ALUMINUM 6063-T5 .140" THICK.
- 5) FABRIC MATERIAL TO BE ARAMID FIBER AND STAINLESS STEEL 520 X 390 STRANDS PER SQUARE METER AND 27% OPEN AREA WITH 1500 DENIER ARAMID FIBER CORE.
- 6) APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS.
- 7) FOR ANCHORING INFORMATION SEE CHART ON SHEET 4 AND DETAILS ON SHEETS 4 - 6.
- 8) ALL FASTENERS TO BE CORROSION RESISTANT.
- 9) MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BELOW:
 - A. WOOD - MINIMUM SPECIFIC GRAVITY OF G=0.42
 - B. CONCRETE - MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI.
 - C. 2X BACKED STEEL FRAMING - 16GA. (.063") MINIMUM.
 - D. ALUMINUM 6063-T5 MIN. FRAMING - 3/16" MINIMUM WALL.
- 10) OPERATION OF ROLLUP MECHANISM IS NOT PART OF THIS APPROVAL. CARE SHOULD BE TAKEN WHEN HURRICANE SCREEN IS IN MOTION TO ENSURE THAT PERSONAL INJURY OR DAMAGE TO THIS PRODUCT DOES NOT OCCUR.
- 11) HOOD ASSEMBLY IS IMPACT RATED AND CAN BE PLACED INSIDE FRAME OPENING AS AN EXPOSED FEATURE.
- 12) EQUIPMENT INSIDE HOOD ASSEMBLY IS NOT PART OF THIS APPROVAL.
- 13) WHEN CONDITIONS DEVIATE FROM THOSE LISTED IN THIS DOCUMENT, SITE SPECIFIC ENGINEERING PREPARED BY A LICENSED PROFESSIONAL MAY BE REQUIRED BY THE JURISDICTION WHERE PRODUCT IS INSTALLED.
- 14) WOOD FRAME INSTALLATION TO BE LIMITED TO 12' WIDE AND 10' HIGH. OTHER SIZES WILL REQUIRE CALCULATIONS AND APPROVAL BY A LICENSED PROFESSIONAL.

TABLE OF CONTENTS	
SHEET NO.	DESCRIPTION
1	ELEVATION, ANCHORING LAYOUT AND NOTES
2	B.O.M., COMPONENTS AND DESIGN PRESSURE CHART
3	CROSS SECTIONS AND HOOD ASSEMBLY
4 - 6	INSTALLATION DETAILS

USA SHUTTER COMPANY 1450 RAIL HEAD BLVD. NAPLES, FL 34110		
MAESTRAN ROLL-UP HURRICANE SCREEN IMPACT RESISTANT ELEVATION, ANCHORING LAYOUT AND NOTES		
DRAWN: TJH	DWG NO. 08-00935	REV C
SCALE NTS	DATE 03/12/10	SHEET 1 OF 6



PARTS LIST				
NO.	PART NUMBER	DESCRIPTION	MANUFACTURER	MATERIAL
1	EX01-70	LUFF ROPE SIDE RAIL	MAESTROSHIELD	ALUMINUM 6063-T5
2		HOOD	MAESTROSHIELD	ALUMINUM
3		HOOD FRONT	MAESTROSHIELD	ALUMINUM
4		BRACKET RIGHT	MAESTROSHIELD	ALUMINUM
5		MOTOR TUBE, $\phi 3 \frac{1}{4}$ "	MAESTROSHIELD	ALUMINUM
6		MOTOR		
7		BRACKET LEFT	MAESTROSHIELD	ALUMINUM
8		MOTOR MOUNT NUTS		
9		BEARING HOUSING	MAESTROSHIELD	ALUMINUM
10		INSTALLATION ANCHOR CAP	MAESTROSHIELD	RIGID PVC
11		SCREEN	MAESTROSHIELD	ARAMID FIBER & SS
12	EX01-80	OPTIONAL BOTTOM BAR FRONT	MAESTROSHIELD	ALUMINUM 6063-T5
13	EX01-81	OPTIONAL BOTTOM BAR BACK	MAESTROSHIELD	ALUMINUM 6063-T5
14	EX01-81	1/4" RIVET		
15		3/16" POP RIVET		ALUMINUM
16		STANDARD BUILD-OUT	MAESTROSHIELD	ALUMINUM 6063-T5
17		OPTIONAL BUILD-OUT	MAESTROSHIELD	ALUMINUM 6063-T5
18		WALL-MOUNT ANGLE	MAESTROSHIELD	ALUMINUM 6063-T5
19		BOTTOM BAR	MAESTROSHIELD	ALUMINUM 6063-T5



⑱ **WALL MOUNT ANGLE**
EXTRUDED ALUMINUM 6063-T5 .1875" THICK

⑩ **CAP**
RIGID PVC

Maximum design pressure and separation from glass
HVHZ

Panel		Design pressure (psf)	Deflection (in)		Minimum separation from glass (in)
Width (in)	Height (in)		Static	Impact	
48.0	396.0	± 61.3	0.208	1.355	1.355
60.0	396.0	± 61.3	0.407	2.118	2.118
72.0	396.0	± 61.3	0.702	2.926	2.926
84.0	396.0	± 61.3	1.115	3.817	3.817
96.0	396.0	± 61.3	1.665	4.695	4.695
108.0	396.0	± 61.3	2.371	5.538	5.538
120.0	396.0	± 61.3	3.252	6.284	6.284
132.0	396.0	± 61.3	4.328	7.016	7.016

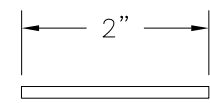
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	REVISED D.P. CHART FOR HVHZ	05/10/10	R.L.
B	REVISED DP CHARTS	8/15/10	R.L.
C	REVISED DP CHARTS	8/27/10	R.L.

Maximum design pressure and separation from glass
Wind Zone 4

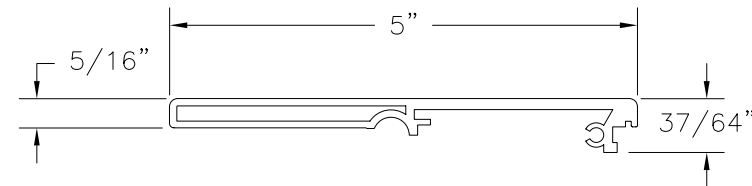
Panel		Design pressure (psf)	Deflection (in)		Minimum separation from glass (in)
Width (in)	Height (in)		Static	Impact	
48.0	396.0	± 61.3	0.208	1.355	1.355
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120.0	396.0	± 61.3	3.252	6.284	6.284
132.0	396.0	± 61.3	4.328	7.016	7.016
144.0	396.0	± 61.3	5.619	7.548	7.548
156.0	396.0	± 61.3	7.145	8.079	8.931
168.0	396.0	± 61.3	8.924	8.472	11.155
180.0	396.0	± 61.3	10.976	8.832	13.720
192.0	396.0	± 61.3	13.320	9.120	16.650
204.0	396.0	± 61.3	15.494	9.353	19.368
216.0	396.0	± 61.3	18.197	9.552	22.746
228.0	396.0	± 61.3	21.125	9.691	26.406
240.0	396.0	± 61.3	24.301	9.818	30.376
252.0	396.0	± 61.3	27.693	9.907	34.616
264.0	396.0	± 61.3	31.204	9.995	39.005
267.0	396.0	± 61.3	32.125	10.250	40.156

NOTES:

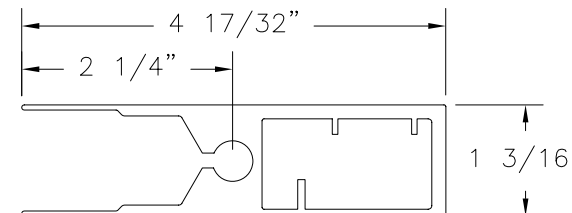
- SEPARATION FROM GLASS INSIDE WIND ZONES 1, 2 AND 3 IS NOT REQUIRED.
- BASIC WIND SPEED PER ZONES:
WIND ZONE 1: 110MPH TO <120MPH.
WIND ZONE 2: 120MPH TO <130MPH.
WIND ZONE 3: 130MPH TO ≤140MPH.
WIND ZONE 4: >140MPH.
- HVHZ IS DEFINED AS MIAMI-DADE COUNTY AND BROWARD COUNTY IN FLORIDA.



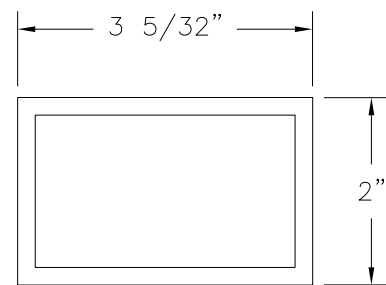
⑲ **BOTTOM BAR**
EXTRUDED ALUMINUM 6063-T5 .125" THICK MINIMUM
SEE NOTE SHEET 2



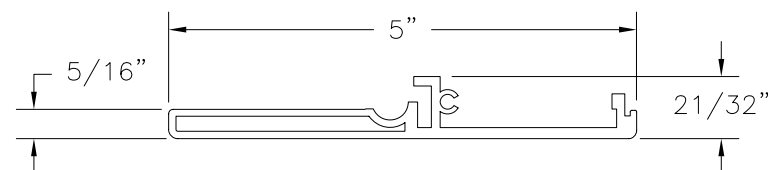
⑬ **OPTIONAL BOTTOM BAR BACK**
EXTRUDED ALUMINUM 6063-T5 .079" THICK
SEE NOTE SHEET 2



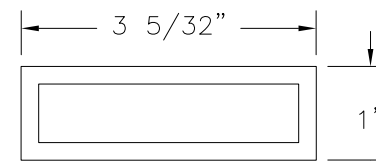
① **LUFF ROPE SIDE RAIL**
EXTRUDED ALUMINUM 6063-T5 .140" THICK



⑰ **OPTIONAL BUILD-OUT**
EXTRUDED ALUMINUM 6063-T5 .1875" THICK



⑫ **OPTIONAL BOTTOM BAR FRONT**
EXTRUDED ALUMINUM 6063-T5 .079" THICK
SEE NOTE SHEET 2



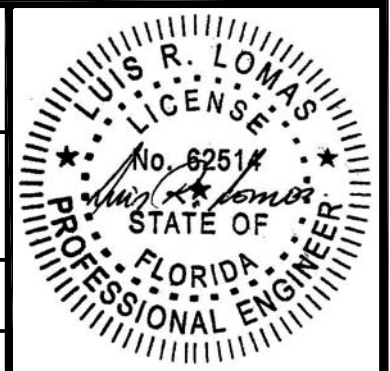
⑯ **STANDARD BUILD-OUT**
EXTRUDED ALUMINUM 6063-T5 .1875" THICK

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1450 RAIL HEAD BLVD.
NAPLES, FL 34110

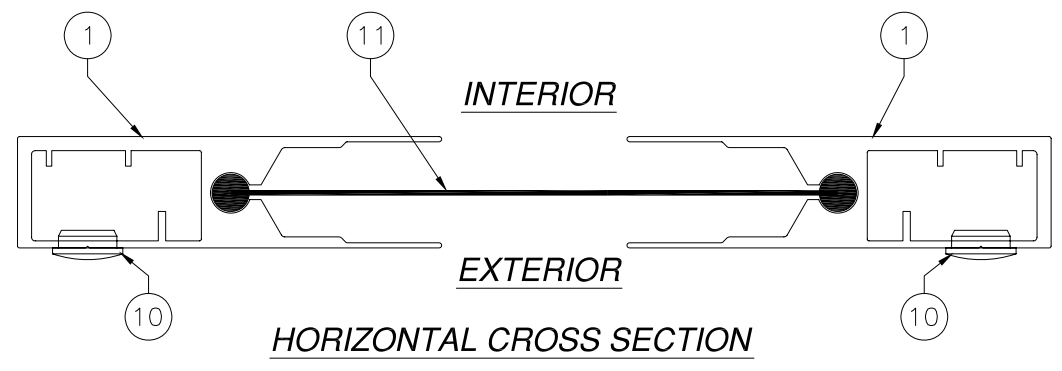
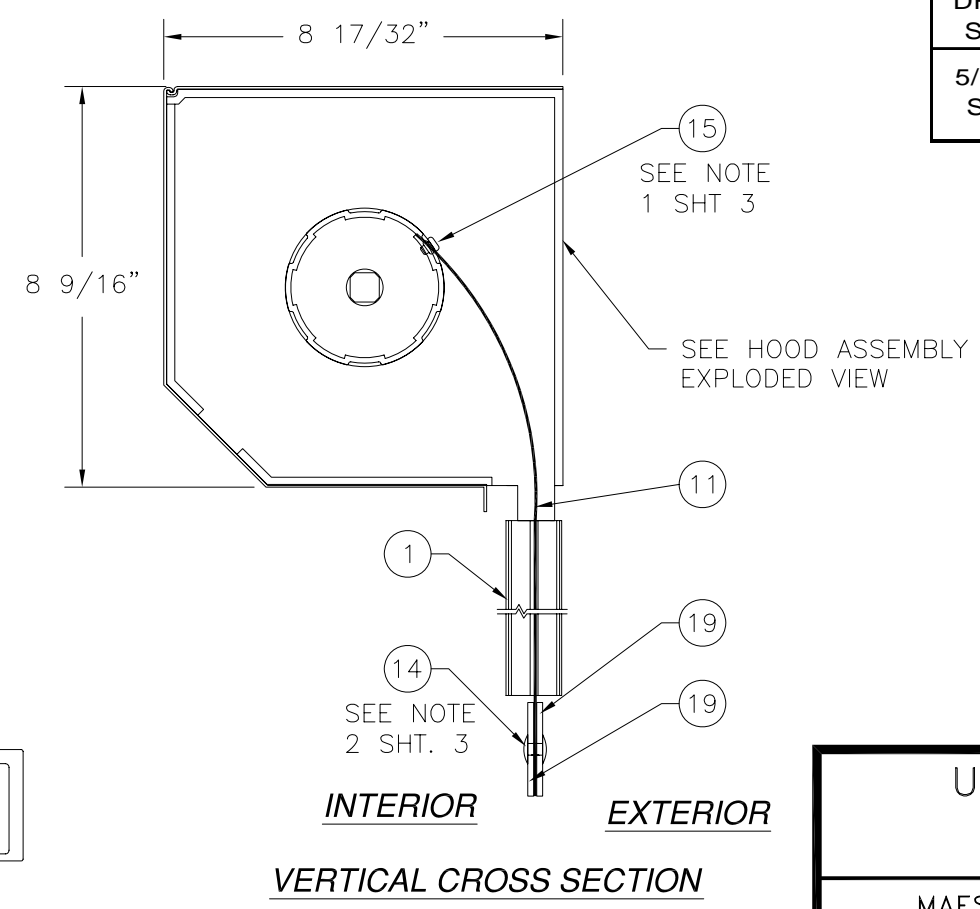
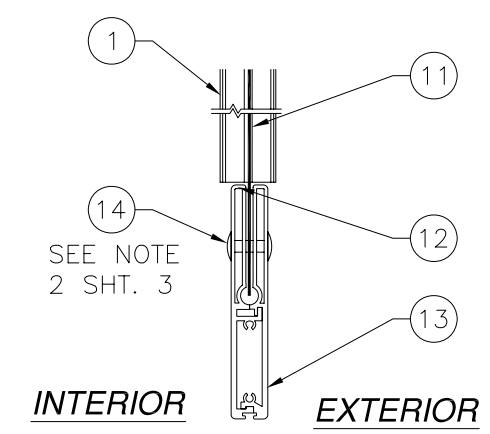
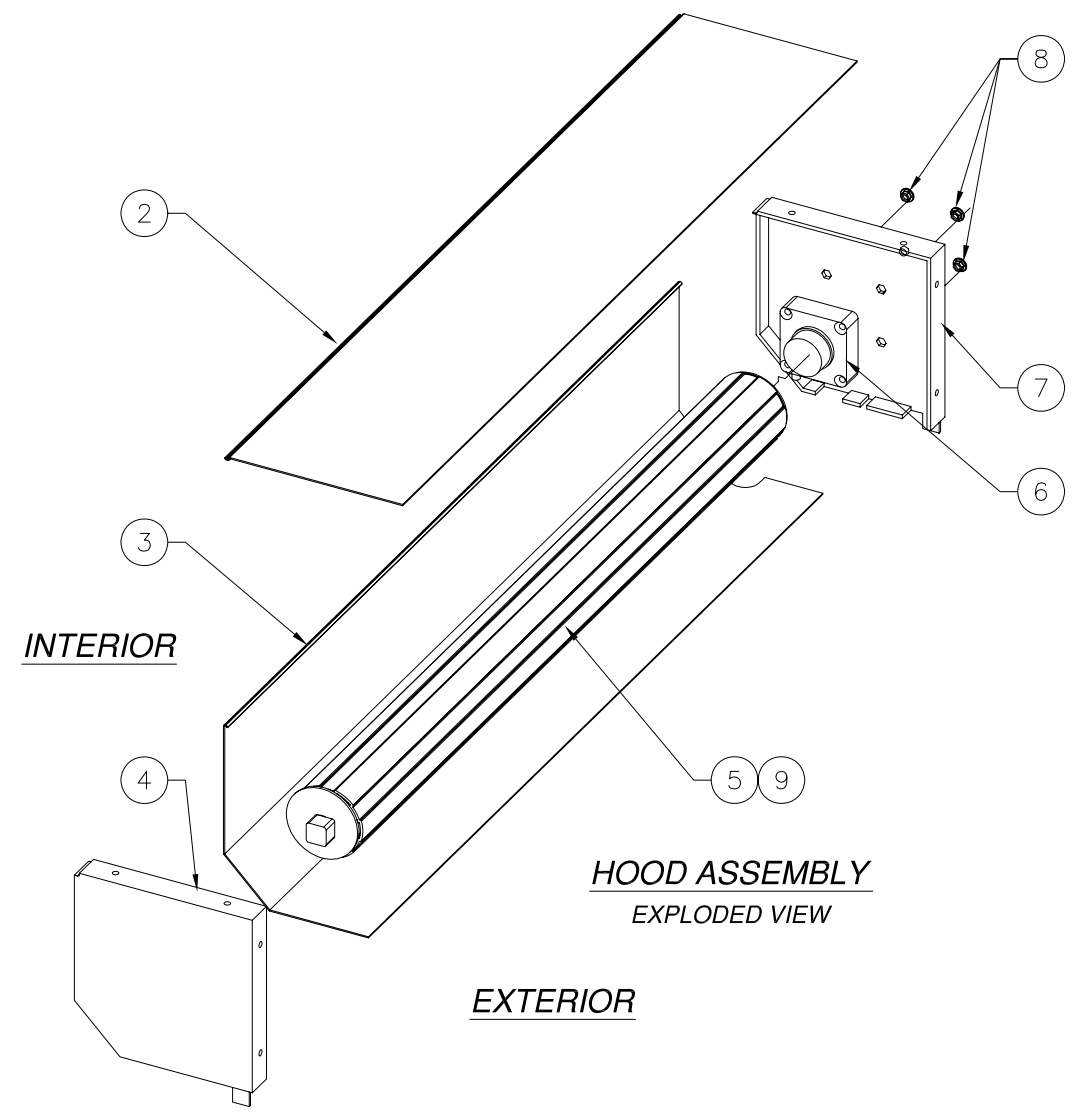
MAESTRAN ROLL-UP HURRICANE SCREEN
IMPACT RESISTANT
B.O.M., COMPONENTS AND DESIGN PRESSURE CHART

DRAWN: TJH DWG NO. 08-00935 REV C

SCALE NTS DATE 03/12/10 SHEET 2 OF 6



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	REVISED D.P. CHART FOR HVHZ	05/10/10	R.L.
B	REVISED DP CHARTS	8/15/10	R.L.
C	REVISED DP CHARTS	8/27/10	R.L.



INSTALLATION ANCHORS				
ANCHOR TYPE	MINIMUM EMBEDMENT	MINIMUM EDGE DISTANCE	MAXIMUM O.C. SPACING	SUBSTRATE TYPE
5/16" ITW TAPCON	1 3/4"	3 1/2"	5"	CONCRETE
5/16" ELCO ULTRACON	1 3/4"	3 1/2"	6"	CONCRETE
3/8" WEDGE BOLT	2"	3 1/2"	6"	CONCRETE
3/8" POWER BOLT	2"	3 1/2"	5 1/2"	CONCRETE
5/16" SELF DRILLING SCREW	3-THREADS BEYOND SUBSTRATE	N/A	6"	6063-T5 ALUMINUM .188" THICK MINIMUM
5/16" LAG SCREW	2 1/2"	N/A	4 3/8"	DOUBLE 2X BUCKWOOD FRAMING

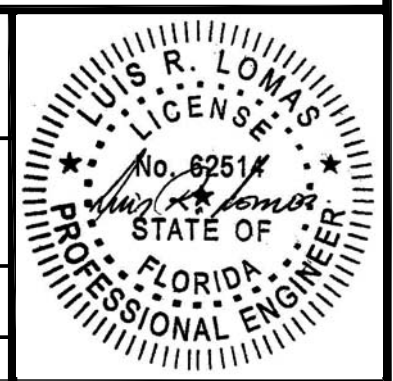
- NOTES:
- 1) SCREEN IS ATTACHED TO MOTOR TUBE WITH A SINGLE ROW OF 3/16" PH POP RIVETS 12" O.C.
 - 2) SCREEN BOTTOM WEIGHT IS ATTACHED TO SCREEN WITH 1/4" RIVETS 12" O.C.

USA SHUTTER COMPANY
1450 RAIL HEAD BLVD.
NAPLES, FL 34110

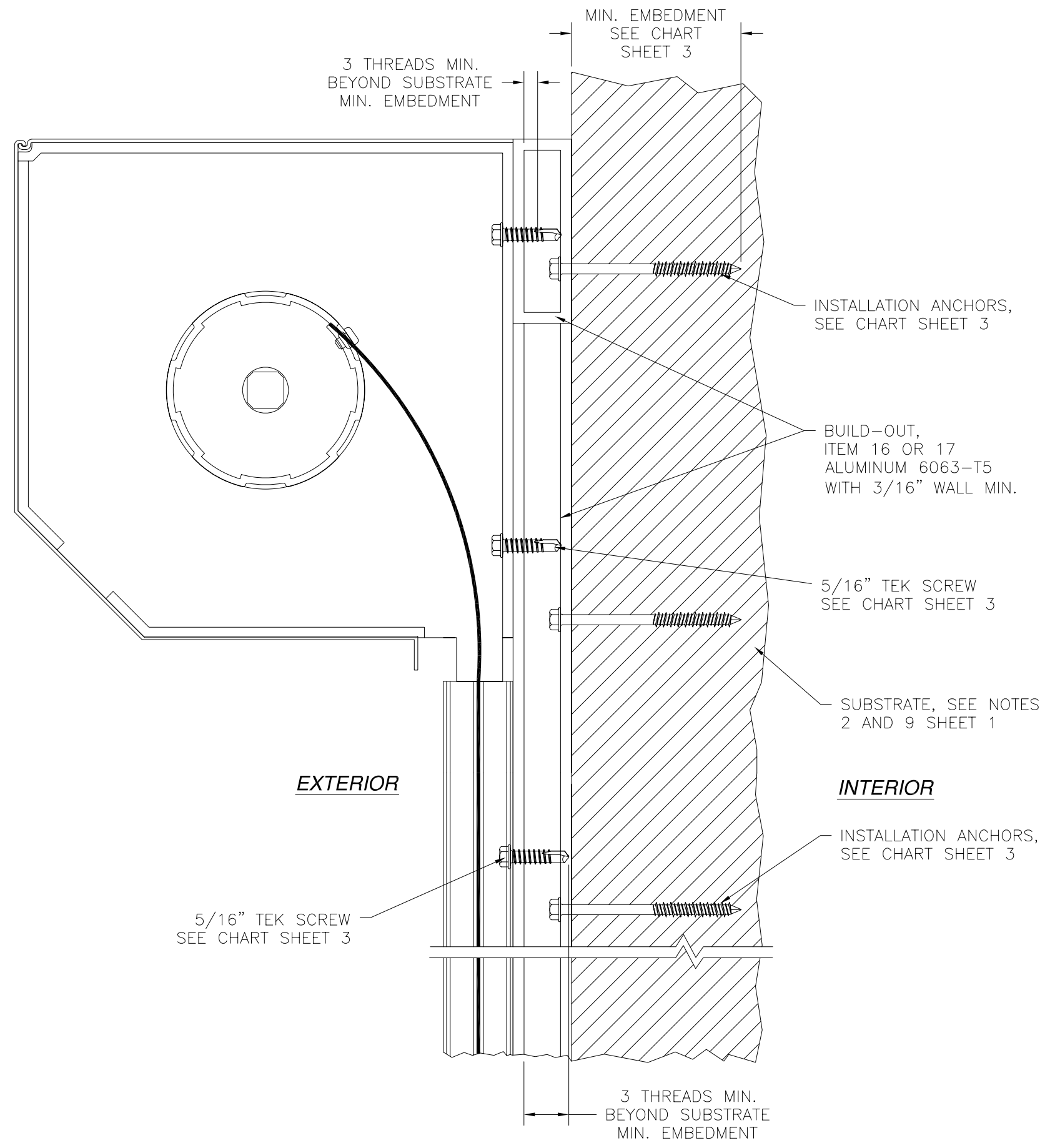
MAESTRAN ROLL-UP HURRICANE SCREEN
IMPACT RESISTANT
CROSS SECTIONS AND HOOD ASSEMBLY

DRAWN: TJH DWG NO. 08-00935 REV C

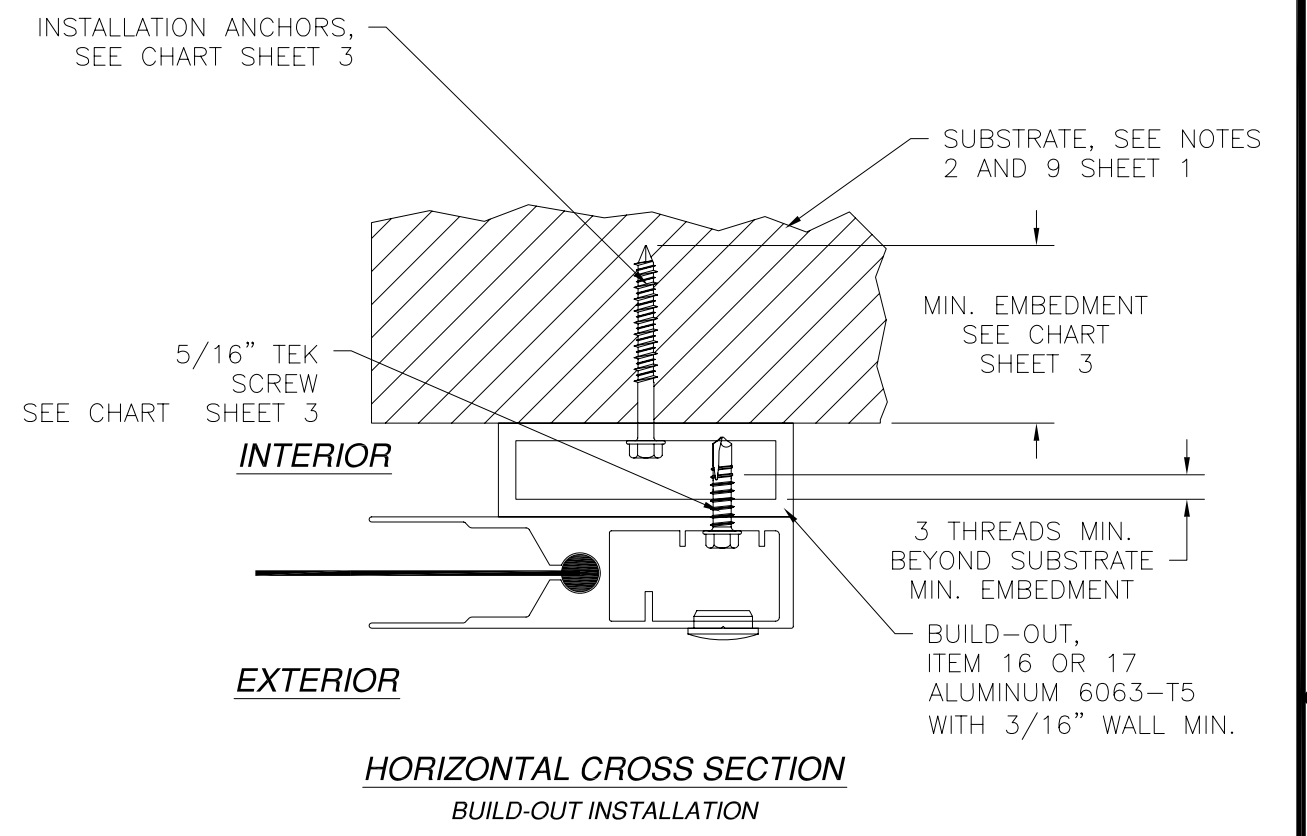
SCALE NTS DATE 03/12/10 SHEET 3 OF 6



REVISIONS			
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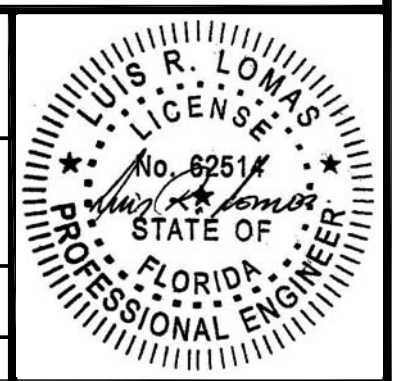
VERTICAL CROSS SECTION
BUILD-OUT INSTALLATION

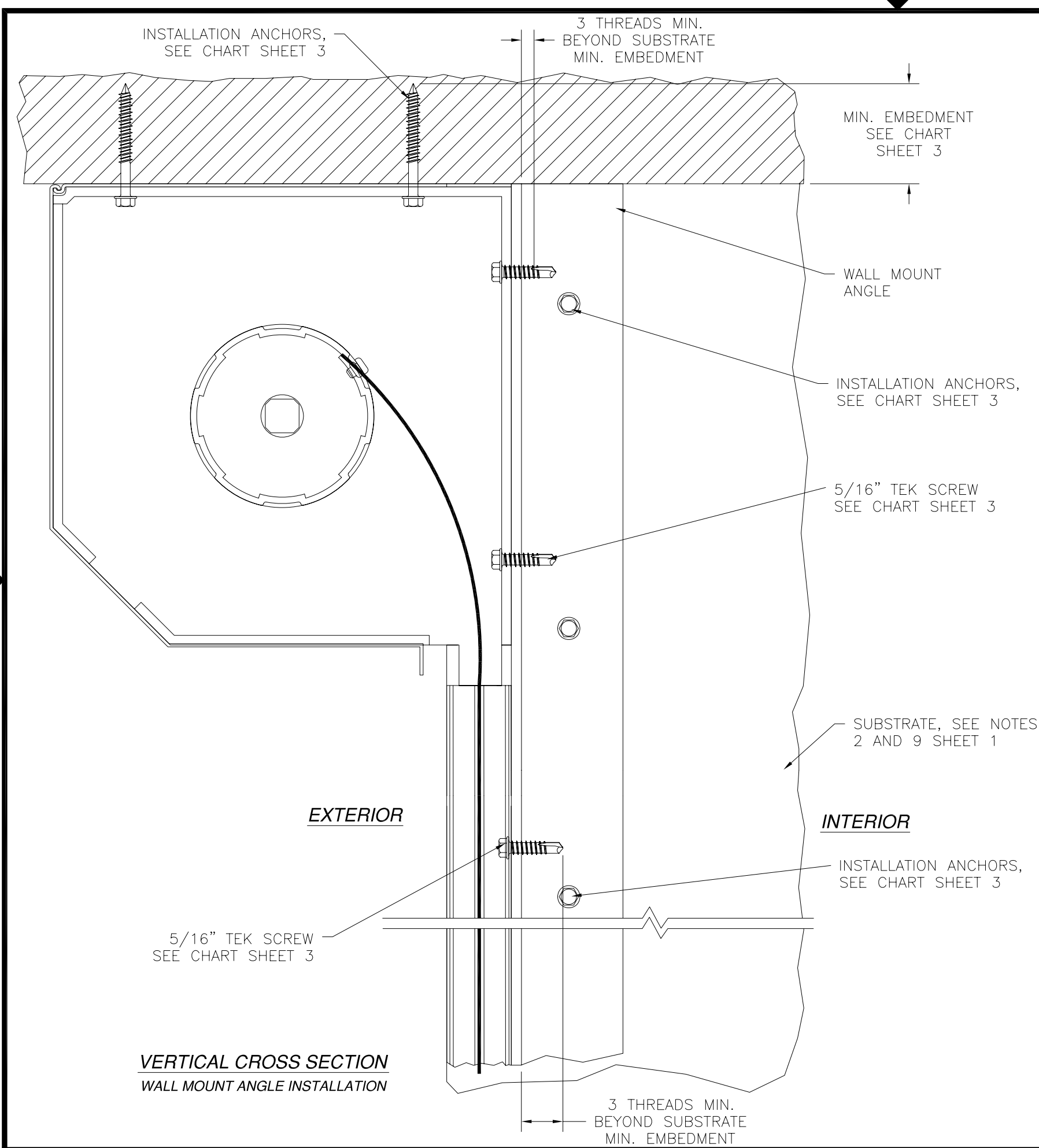


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NAPLES, FL 34110

**MAESTRAN ROLL-UP HURRICANE SCREEN
IMPACT RESISTANT
INSTALLATION DETAILS**

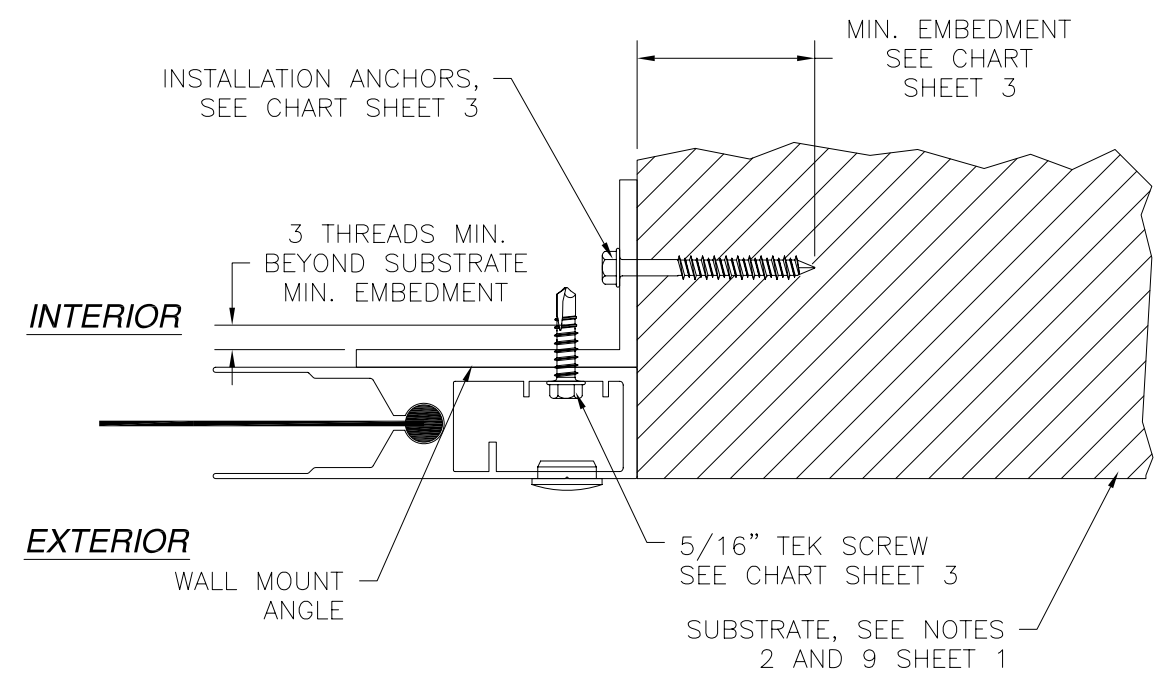
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SCALE NTS	DATE 03/12/10	SHEET 5 OF 6





VERTICAL CROSS SECTION
WALL MOUNT ANGLE INSTALLATION

REVISIONS			
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B	REVISED DP CHARTS	8/15/10	R.L.
C	REVISED DP CHARTS	8/27/10	R.L.



HORIZONTAL CROSS SECTION
WALL MOUNT ANGLE INSTALLATION

USA SHUTTER COMPANY
1450 RAIL HEAD BLVD.
NAPLES, FL 34110

MAESTRAN ROLL-UP HURRICANE SCREEN
IMPACT RESISTANT
INSTALLATION DETAILS

DRAWN: TJH	DWG NO. 08-00935	REV C
SCALE NTS	DATE 03/12/10	SHEET 6 OF 6

