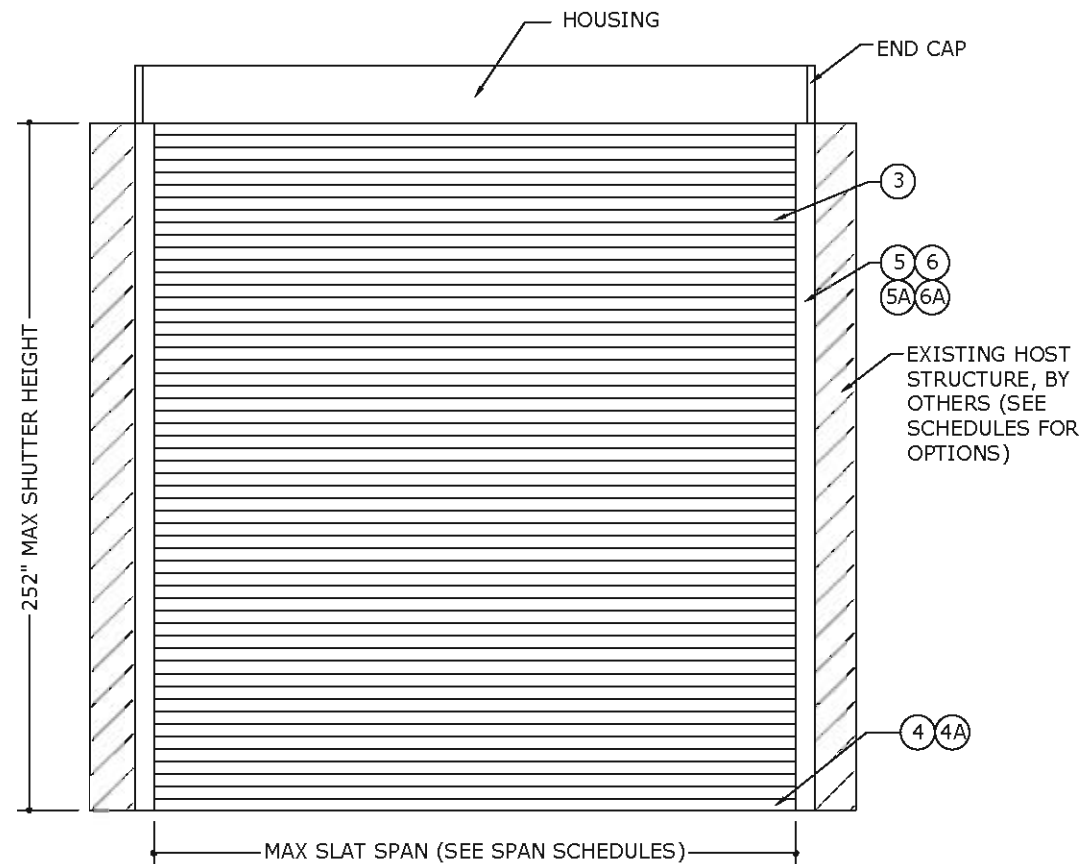


SINGLE WALL ROLL-UP HURRICANE SHUTTER



SLAT SPAN SCHEDULE	
SLAT SPAN	ALLOWABLE DESIGN PRESSURE
76.5"	± 150.0 PSF
80.0"	± 143.1 PSF
83.5"	± 137.0 PSF
87.0"	± 131.7 PSF
90.5"	± 127.0 PSF
94.0"	± 122.7 PSF
97.5"	± 118.9 PSF
101.0"	± 115.5 PSF
104.5"	± 112.3 PSF
108.0"	± 109.4 PSF
111.5"	± 106.8 PSF
115.0"	± 104.3 PSF
118.5"	± 102.1 PSF
121.9"	± 100.0 PSF
134.0"	± 94.4 PSF
146.0"	± 88.9 PSF
158.0"	± 83.4 PSF
170.0"	± 77.9 PSF
182.0"	± 72.4 PSF
194.0"	± 66.8 PSF
206.0"	± 61.3 PSF
218.0"	± 55.8 PSF
230.0"	± 50.3 PSF
241.5"	± 45.0 PSF

GLASS SEPARATION SCHEDULE		
SLAT SPAN	INSTALLATIONS ≤ 30' ABOVE GRADE	INSTALLATIONS > 30' ABOVE GRADE
76.5"	5.8"	4.9"
80.0"	7.0"	5.0"
83.5"	7.0"	5.2"
87.0"	7.0"	5.3"
90.5"	7.0"	5.5"
94.0"	7.0"	5.6"
97.5"	7.0"	5.8"
101.0"	7.0"	6.0"
104.5"	7.0"	6.1"
108.0"	7.2"	6.3"
111.5"	7.5"	6.6"
115.0"	7.7"	6.8"
118.5"	8.0"	7.1"
121.9"	8.3"	7.4"
134.0"	10.1"	7.5"
146.0"	10.1"	7.6"
158.0"	10.1"	7.7"
170.0"	10.1"	7.8"
182.0"	10.1"	7.9"
194.0"	10.1"	8.0"
206.0"	10.1"	8.1"
218.0"	10.1"	8.2"
230.0"	10.1"	8.3"
241.5"	10.1"	8.3"

1 TYPICAL ROLL-UP SHUTTER
1 N.T.S. EXTERIOR ELEV
SEE REMAINING SHEETS FOR COMPLETE ELEVATION OPTIONS

GENERAL NOTES

- THE SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE SEVENTH EDITION (2020), FOR USE INSIDE AND OUTSIDE OUTSIDE THE HIGH VELOCITY HURRICANE ZONE, PER ASTM E330, E1886, AND E1996 AND TAS 201, 202 & 203 STANDARDS. SEE PRODUCT APPROVAL EVALUATION FOR ADDITIONAL INFORMATION.
- NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM. WIND LOAD DURATION FACTOR $C_d=1.6$ HAS BEEN USED FOR WOOD ANCHOR DESIGN.
- POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED PER SEPARATE ENGINEERING IN ACCORDANCE WITH THE GOVERNING CODE. PRESSURE REQUIREMENTS AS DETERMINED IN ACCORDANCE WITH ASCE 7 AND CHAPTER 1609 OF THE FLORIDA BUILDING CODE SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE ASD DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.
- DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
- THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
- ROLL-UP MECHANISM AND HOOD ASSEMBLY ARE NOT PART OF THIS APPROVAL.
- THIS DOCUMENT CONTAINS INFORMATION RELEVANT TO THE NECESSARY STRUCTURAL REQUIREMENTS OF THE SYSTEM INSTALLATION. COMPONENTS AND FASTENERS NOT REFERENCED WHICH ARE PART OF THE INTERNAL FABRICATION OF THE SPECIFIED SYSTEMS OR ASSEMBLIES SHALL BE PER MANUFACTURER PUBLISHED SPECIFICATIONS.
- THE STRUCTURAL ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS BY THIS SYSTEM SHALL BE VERIFIED BY OTHERS.

SPAN SCHEDULE NOTES:

- SLAT SPAN IS DEFINED AS THE DISTANCE BETWEEN RAILS FOR SINGLE SPAN ASSEMBLIES.
- LINEAR INTERPOLATION BETWEEN SHUTTER SPANS IS NOT PERMITTED. FOR SPANS BETWEEN THOSE INDICATED ABOVE, THE DESIGN PRESSURES FOR THE NEXT HIGHER SPAN SHALL BE USED.
- FOR INSTALLATIONS TO WOOD FRAMING HOST, SEE SPAN CHARTS TO WOOD FRAMING (SHEET 4)

GLASS SEPARATION NOTES:

- SLAT SPAN IS DEFINED AS THE DISTANCE BETWEEN RAILS FOR SINGLE SPAN ASSEMBLIES
- SEPARATION FROM GLAZING IS REQUIRED **ONLY** IN ASTM ESSENTIAL FACILITIES AND WIND ZONE 4.
- LINEAR INTERPOLATION BETWEEN SHUTTER SPANS IS NOT PERMITTED. FOR SPANS BETWEEN THOSE INDICATED ABOVE, THE SEPARATION FROM GLASS FOR THE NEXT HIGHER SPAN SHALL BE USED.

- ALL EXTRUSIONS SHALL BE MINIMUM 6063-T6 ALUMINUM ALLOY, UNLESS NOTED OTHERWISE.
- EACH SHUTTER ASSEMBLY SHALL BEAR A PERMANENT LABEL ON THE BOTTOM OF THE HOOD FACING THE EXTERIOR, OR ANYWHERE ELSE ALLOWED PER SECTION 1709.9 OF THE FBC 2020 WITH THE FOLLOWING MINIMUM INFORMATION:
AMERICAN SHUTTER SYSTEMS ASSOC., INC.
WEST PALM BEACH, FL
MISSILE LEVEL D - ASTM E1886, E1996 & E330 - TAS 201, 202 & 203
FLORIDA PRODUCT APPROVAL NUMBER
- ALL BOLTS & WASHERS SHALL BE ZINC COATED STEEL, GALVANIZED STEEL, OR STAINLESS STEEL WITH A MINIMUM TENSILE YIELD STRENGTH OF 60 KSI. ALL ALUMINUM 3/16"Ø OR 1/4"Ø POP RIVETS SHALL BE 7075-T6 OR STRONGER.
- ALL STEEL IN CONTACT WITH ALUMINUM SHALL BE PAINTED OR PLATED AS PRESCRIBED IN THE ABOVE-NOTED BUILDING CODE.

VISIT ECALC.IO/31266

FOR SITE SPECIFIC DEVIATIONS
& MORE INFORMATION ABOUT THIS DOCUMENT
OR SCAN THIS QR CODE
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FOR ADDITIONAL PLANS, REPORTS & RESOURCES



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AMERICAN SHUTTER SYSTEMS ASSOCIATION, INC.
4268 West Roads Dr.
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SINGLE WALL ROLL-UP HURRICANE SHUTTER

PRODUCT APPROVAL #FL31658.1

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	GD	RWN	2/4/2020
2020-FBC	CCB	RWN	9/02/2020

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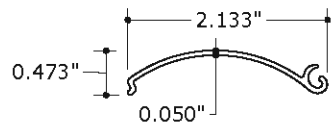
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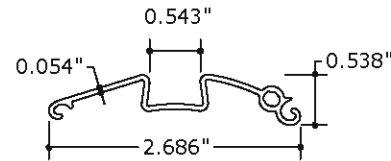
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13

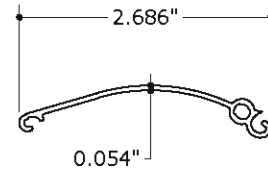
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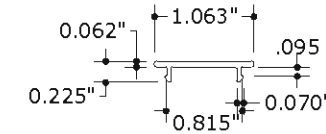
1 STARTER SLAT
N.T.S. 6063-T6 ALUM



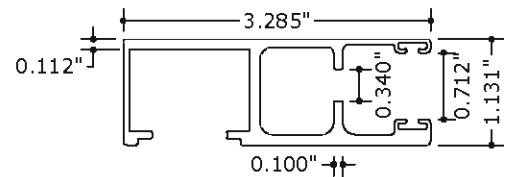
2 FINGER PULL SLAT
N.T.S. 6063-T6 ALUM
(1) PER SHUTTER AS APPLICABLE



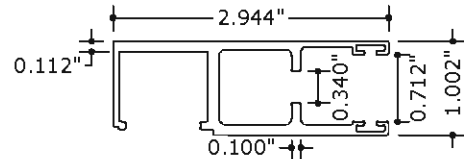
3 SINGLE WALL SLAT
N.T.S. 6063-T6 ALUM



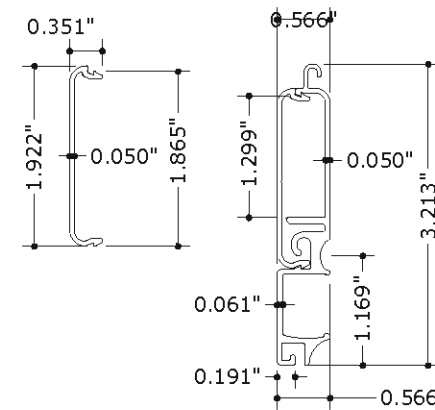
7 SNAP CAP
N.T.S. 6063-T6 ALUM



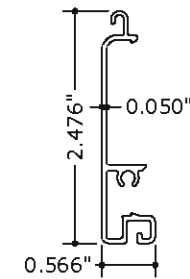
6 SIDE RAIL TYPE 2
N.T.S. 6063-T6 ALUM



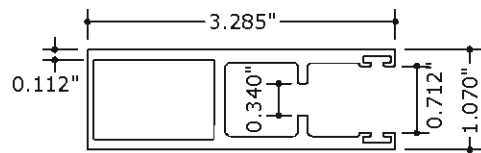
5 SIDE RAIL TYPE 1
N.T.S. 6063-T6 ALUM



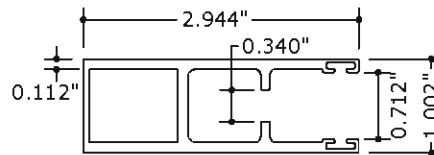
4 BASE SLAT
N.T.S. 6063-T6 ALUM
(OPTIONAL COMPONENT)



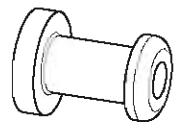
4A SHORT BASE SLAT
N.T.S. 6063-T6 ALUM
(OPTIONAL COMPONENT)



6A SIDE RAIL TYPE 2 (CLOSED)
N.T.S. 6063-T6 ALUM

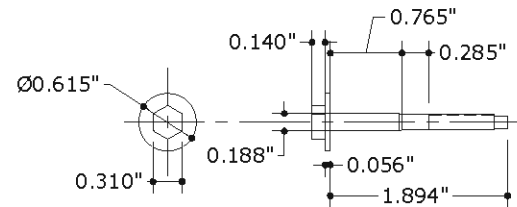


5A SIDE RAIL TYPE 1 (CLOSED)
N.T.S. 6063-T6 ALUM

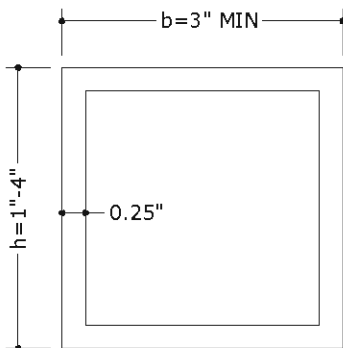


8 END CAP W/ MONOLITHIC SCREW SLEEVE

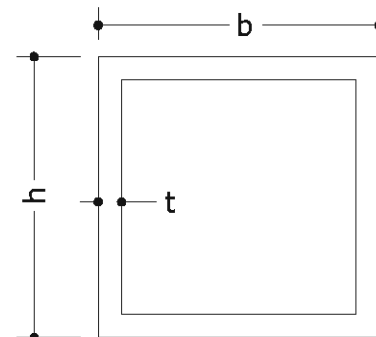
N.T.S. (LEFT SHOWN, RIGHT IS MIRROR)
RIGID NYLON, 76-78 TYPE "O" SHORE HARDNESS



11 #8-32 410 S.S. SCREW
#8-32 X 1.894" AISI 410 S.S. SCREW W/ 0.31" DIAM HV MARKED HEAD & T=0.064" X 0.620" DIAM MONOLITHIC WASHER W/ BERTHA H.V. DACROSHIELD COATING SYSTEM AS MANUFACTURED BY APPROVED COATING APPLICATORS REGISTERED WITH AMERICAN SHUTTER SYSTEM ASSOCIATION. **SCREW AT EVERY SLAT, INCLUDING BASE SLAT FOR POURED CONCRETE, GROUTED BLOCK & WOOD INSTALLATIONS**

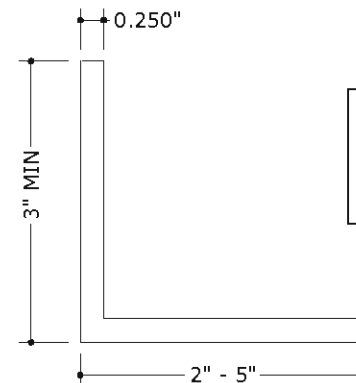


12 BUILD-OUT MOUNTED TUBES
N.T.S. 6063-T6



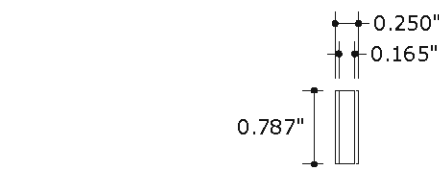
MULLIONS	b	h	t
(24)	4"	6"	0.250"
(25)	4"	8"	0.250"
(26)	4"	4"	0.250"

MULLIONS
N.T.S. 6061-T6 OR 6005-T5

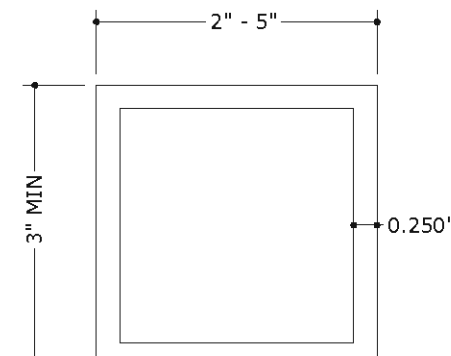


13 TRAPPED ANGLE
N.T.S. 6063-T6 ALUM

BUILD-OUT TUBES AND TRAPPED ANGLE NOTES: FOR 2X ANGLES OR TUBES, THE LONG SIDE OF THE ANGLE OR TUBE SHALL BE FLUSH AGAINST THE HOST WALL



9 EXTENDED SCREW SLEEVE W/O END CAP
N.T.S. RIGID NYLON, 76-78 TYPE "O" SHORE HARDNESS



14 OPTIONAL TRAPPED MOUNTED TUBE TO (13)
N.T.S. 6063-T6 ALUM

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SINGLE WALL ROLL-UP HURRICANE SHUTTER

PRODUCT APPROVAL #FL31658-1

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	GD	RWN	2/4/2020
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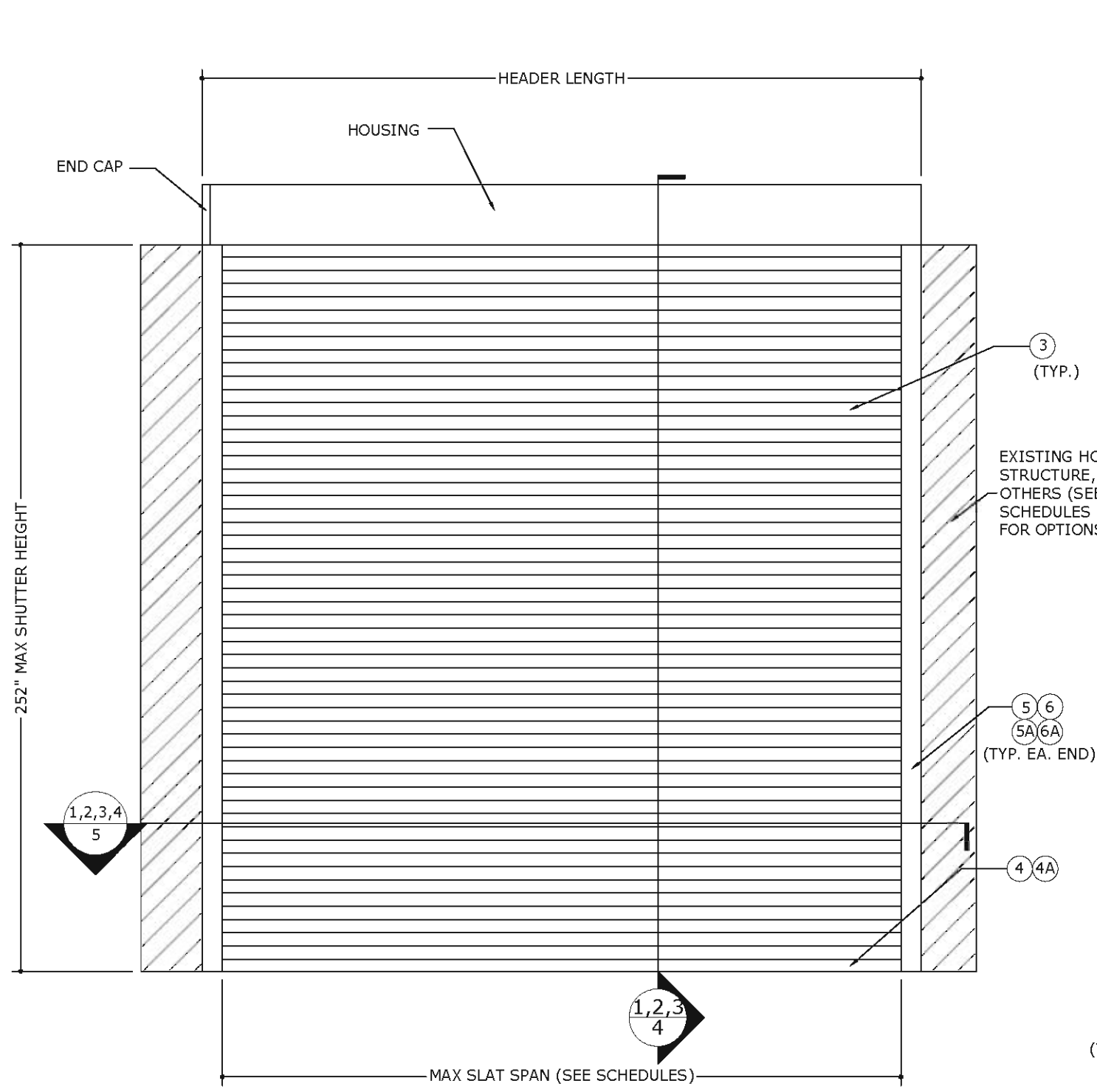
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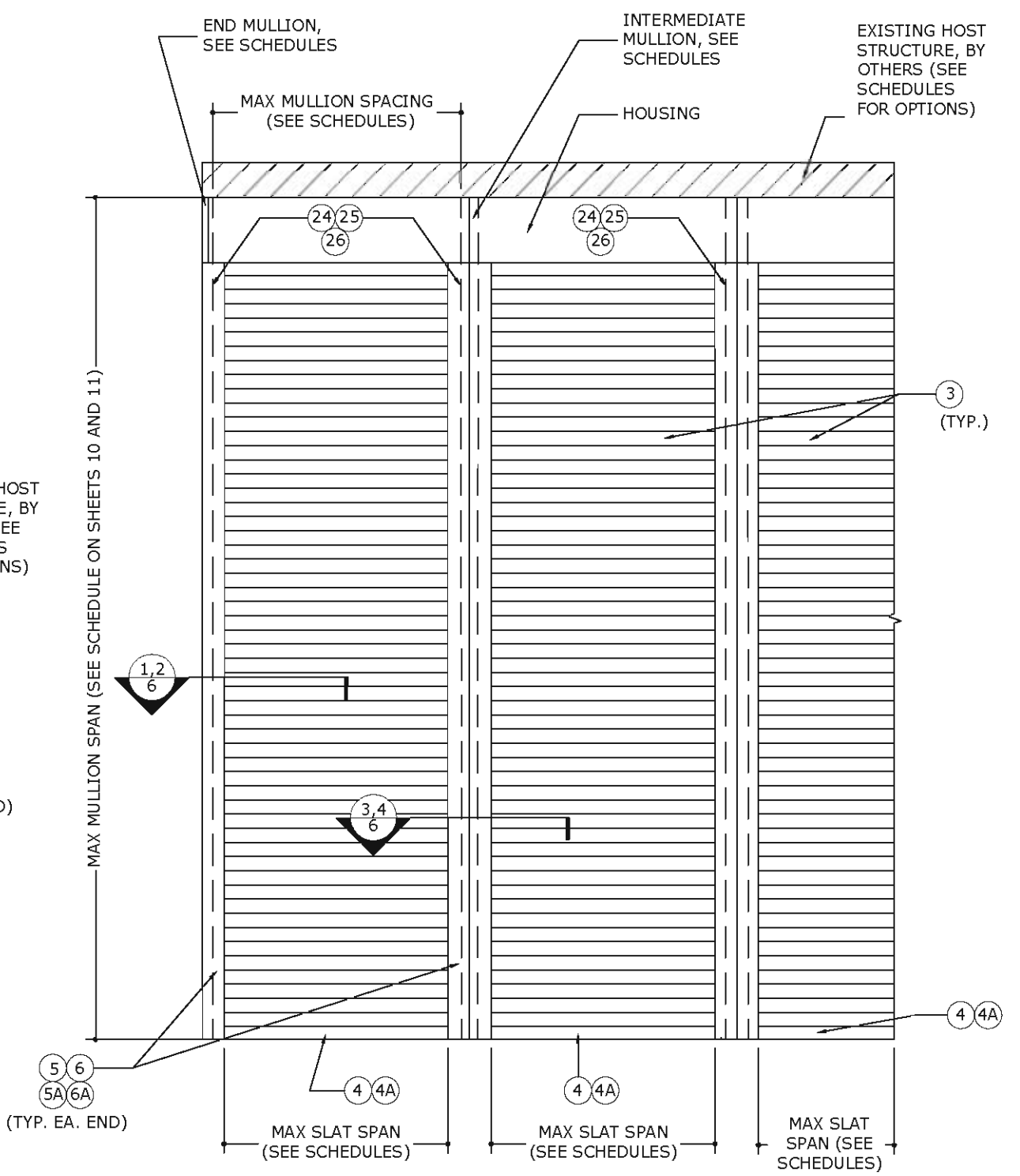
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1
3 TYPICAL SINGLE UNIT ELEVATION W/O MULLIONS
N.T.S. EXTERIOR ELEV



2
3 TYPICAL CONSECUTIVE SINGLE UNIT ELEVATION WITH MULLIONS
N.T.S. EXTERIOR ELEV

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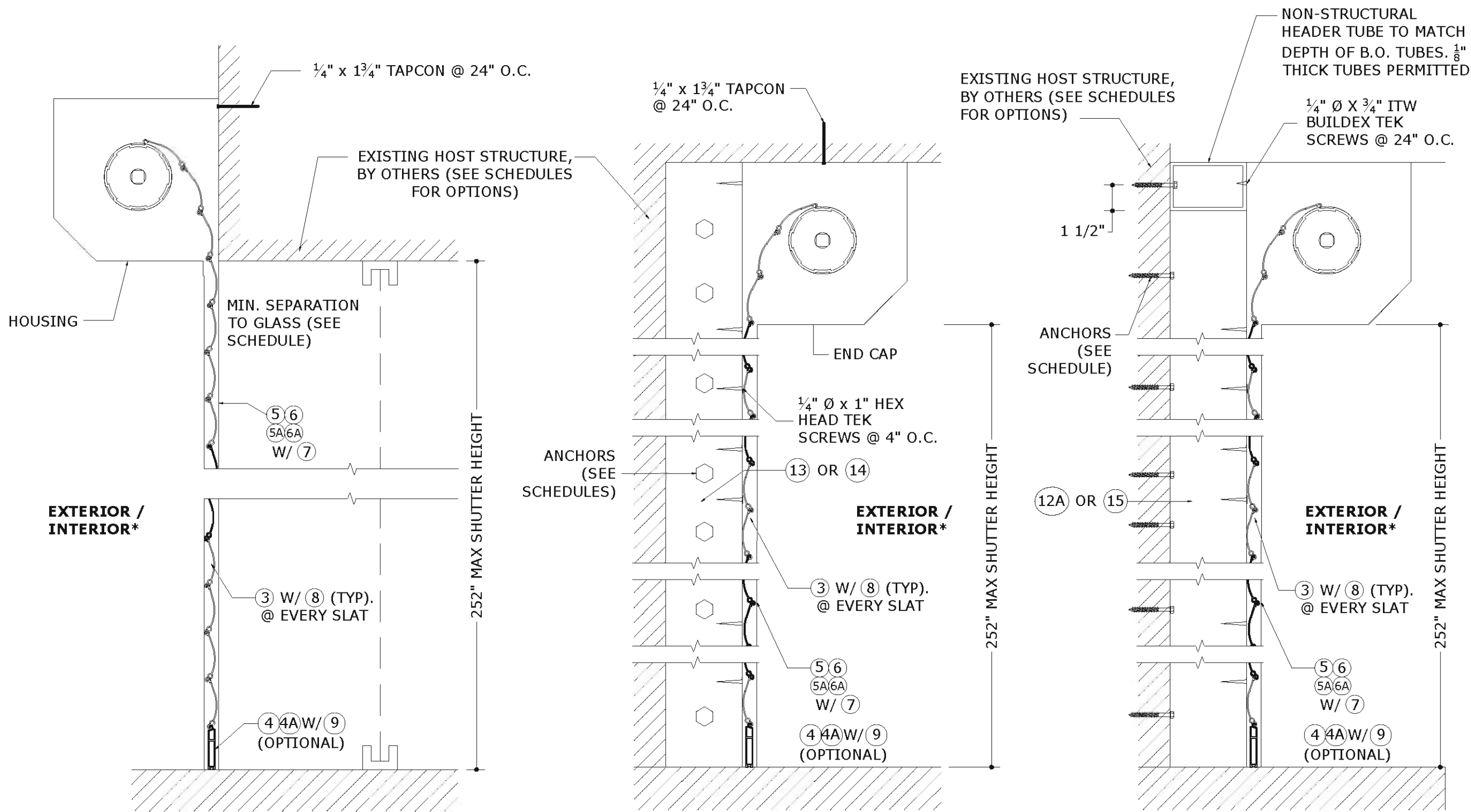
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3

SHUTTER ATTACHMENT TO HOST



* WHEN REVERSE MOUNTED ADD 1" OF GLASS SEPARATION PER "GLASS SEPARATION SCHEDULE" ON SHEET 1

1 WALL MOUNT
4 N.T.S. SECTION VIEW

2 INSIDE/TRAPPED MOUNT
4 N.T.S. SECTION VIEW

3 BUILD-OUT MOUNT
4 N.T.S. SECTION VIEW

HOUSING NOTES:

1. HOUSING (0.040" THICK ALUM, 3105-H14 MIN)
2. END CAP (CAST ALUM, SHALL BE CAPABLE OF SUPPORTING SLAT AND LIFT MECHANISM WEIGHT)
3. 3/16" ALUM POP RIVETS (6 TOTAL PER SIDE CAP, 2 AT TO, 2 AT REAR, 2 AT BOTTOM)
4. HOOD HAS BEEN TESTED FOR IMPACT / CYCLING AND MAY BE INSTALLED WITHIN OPENING

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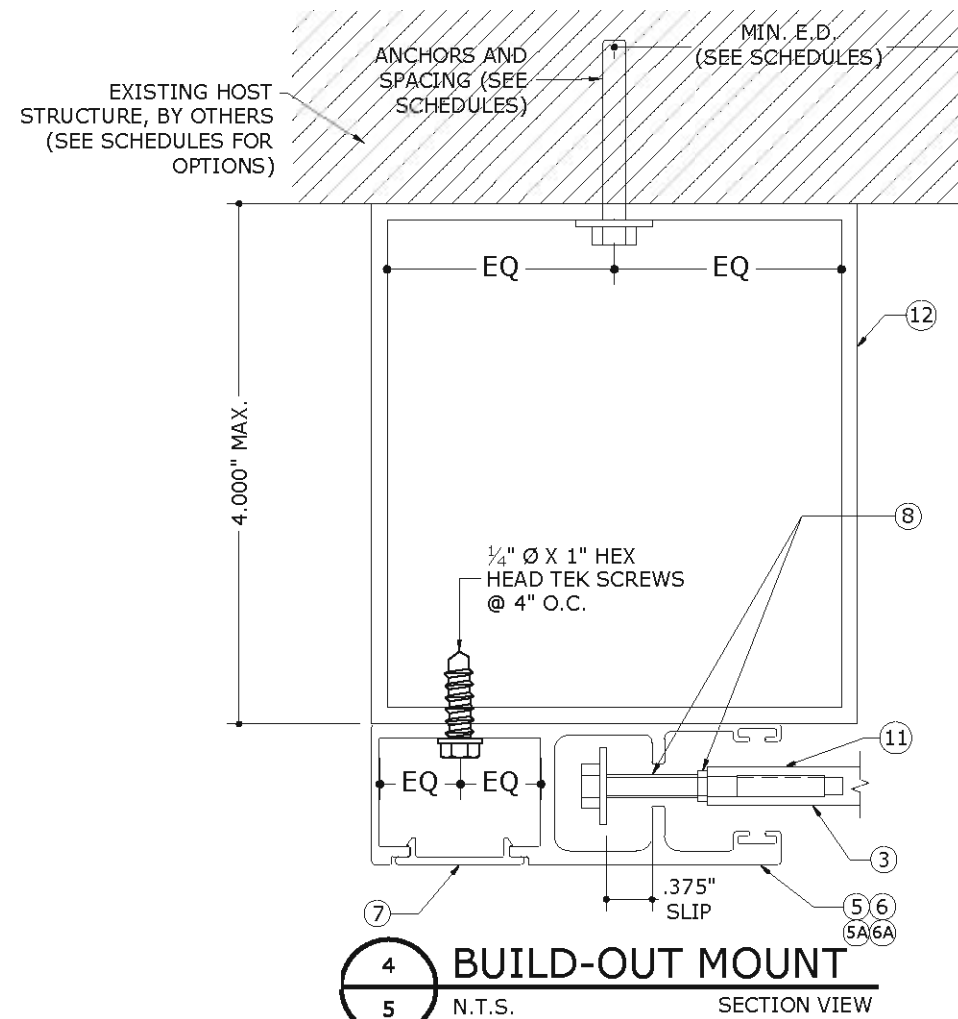
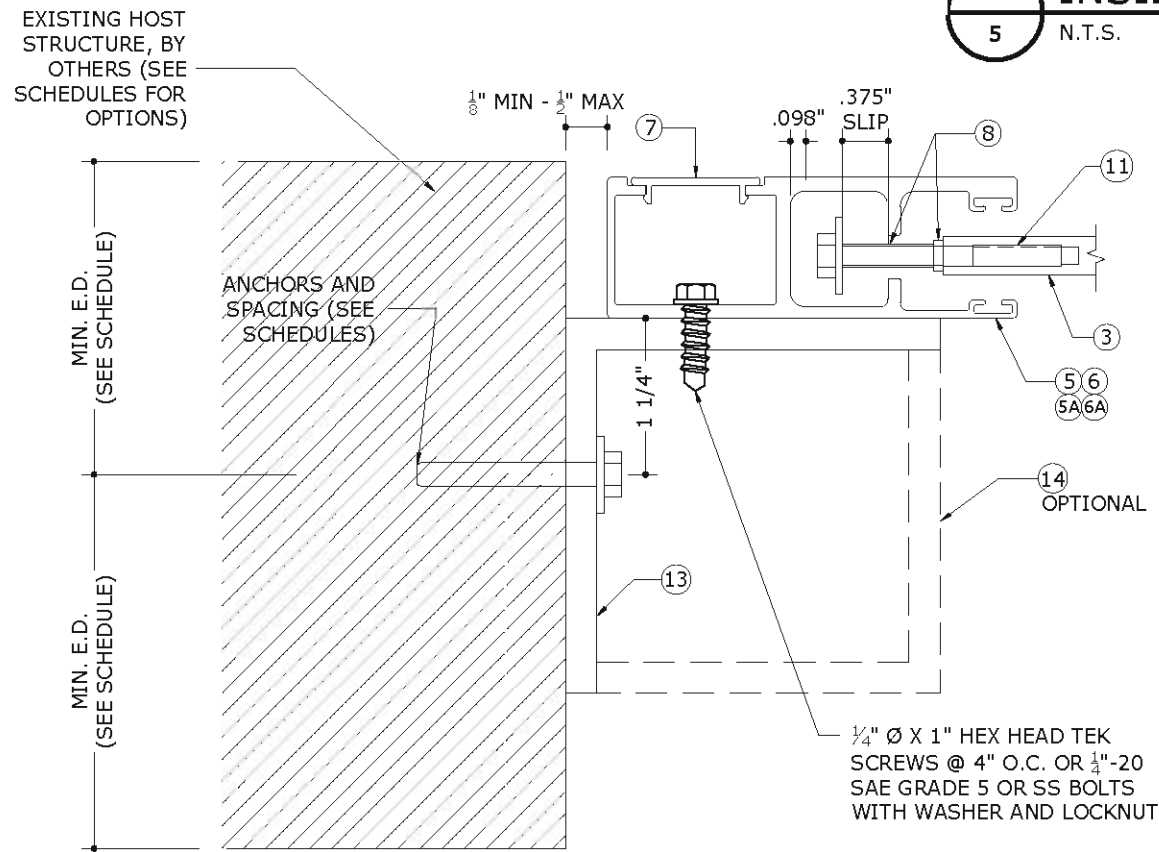
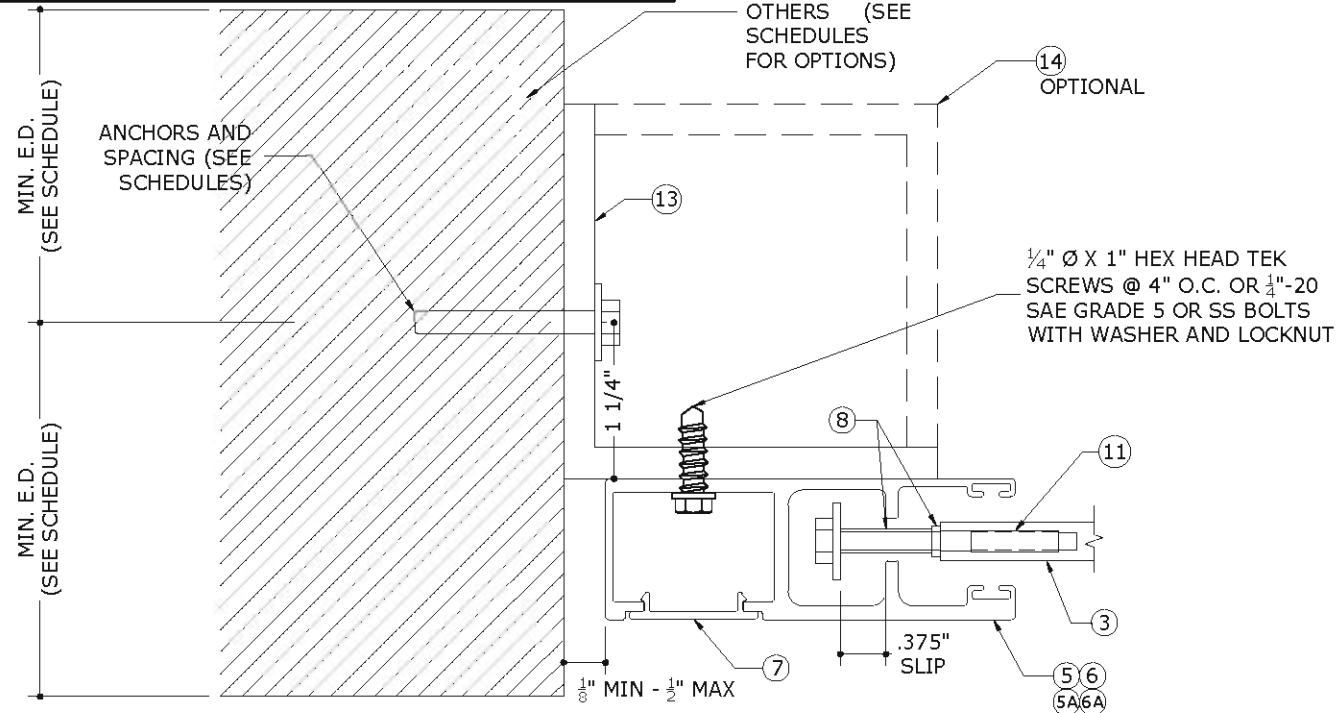
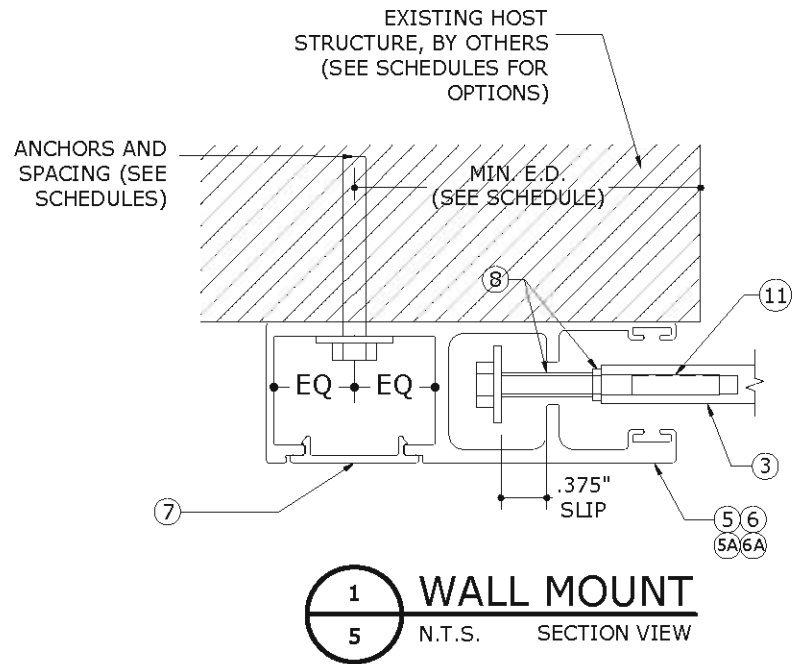
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4

13

SHUTTER ATTACHMENT TO HOST



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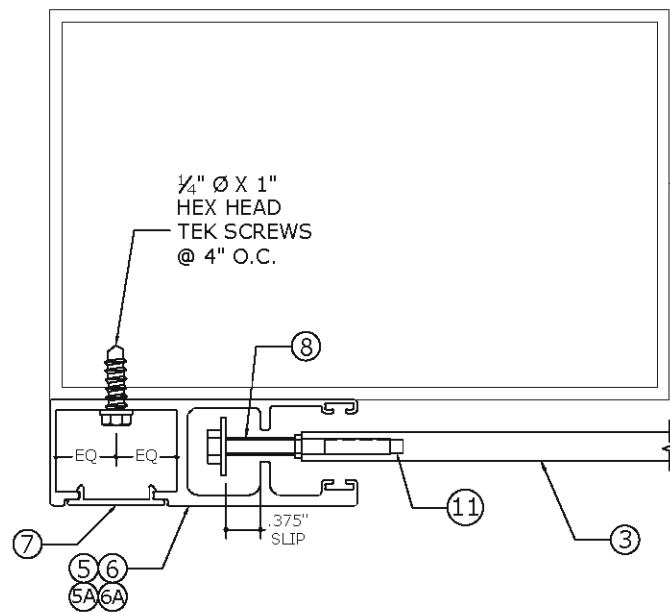
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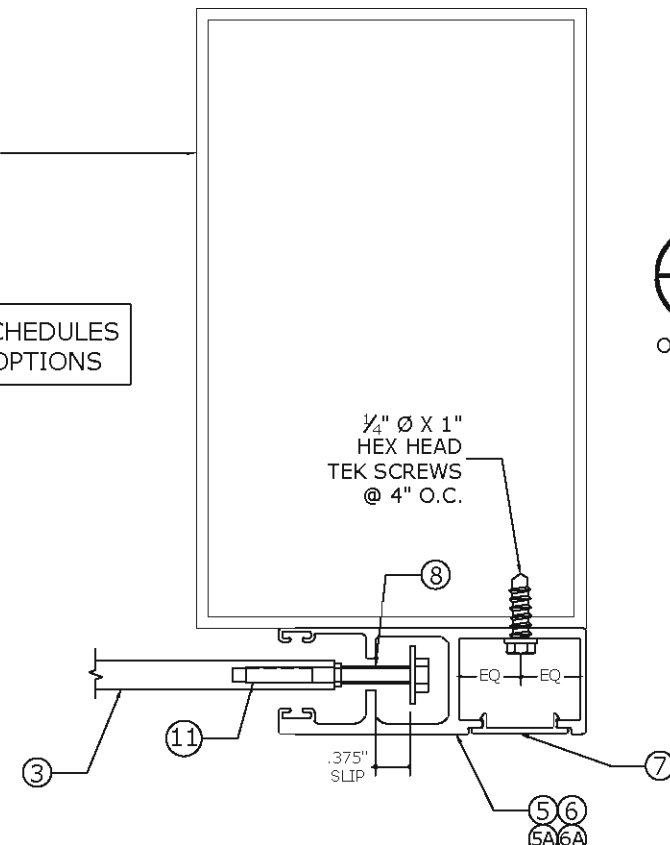
5 of 13

SHUTTER ATTACHMENT OPTION TO ALUMINUM MULLIONS

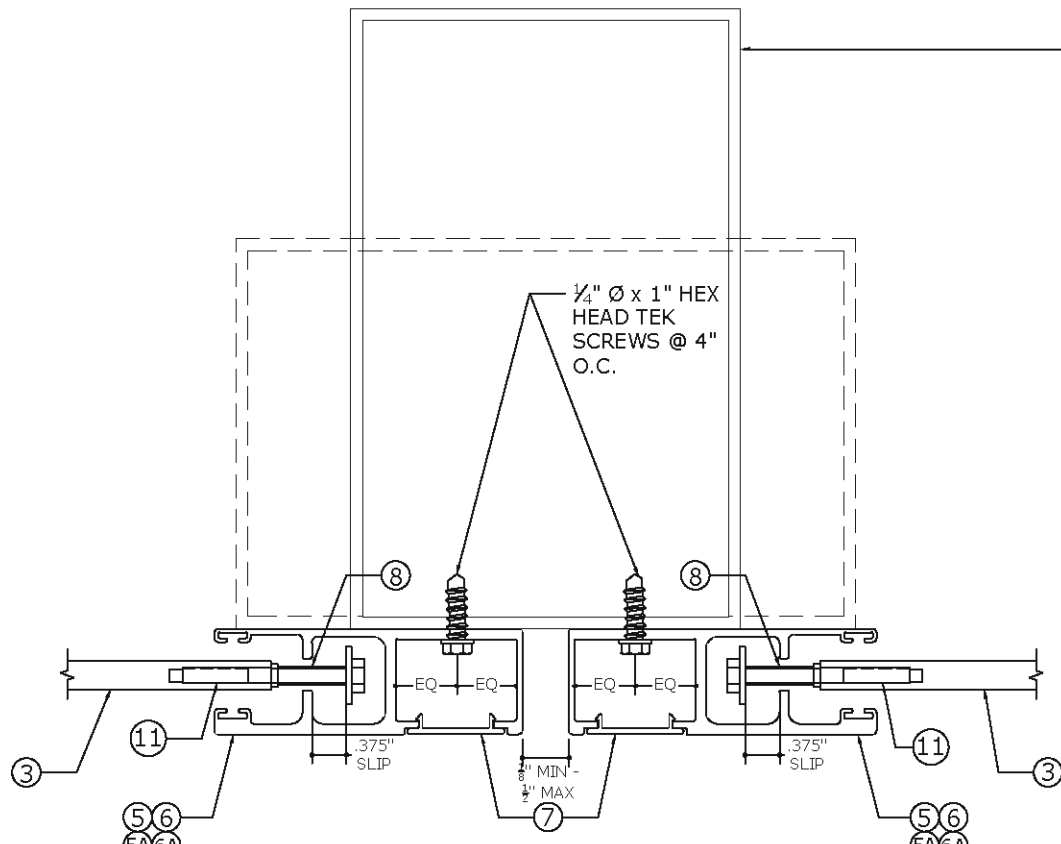


1 FACE MOUNT (END MULLION)
6 N.T.S. SECTION VIEW

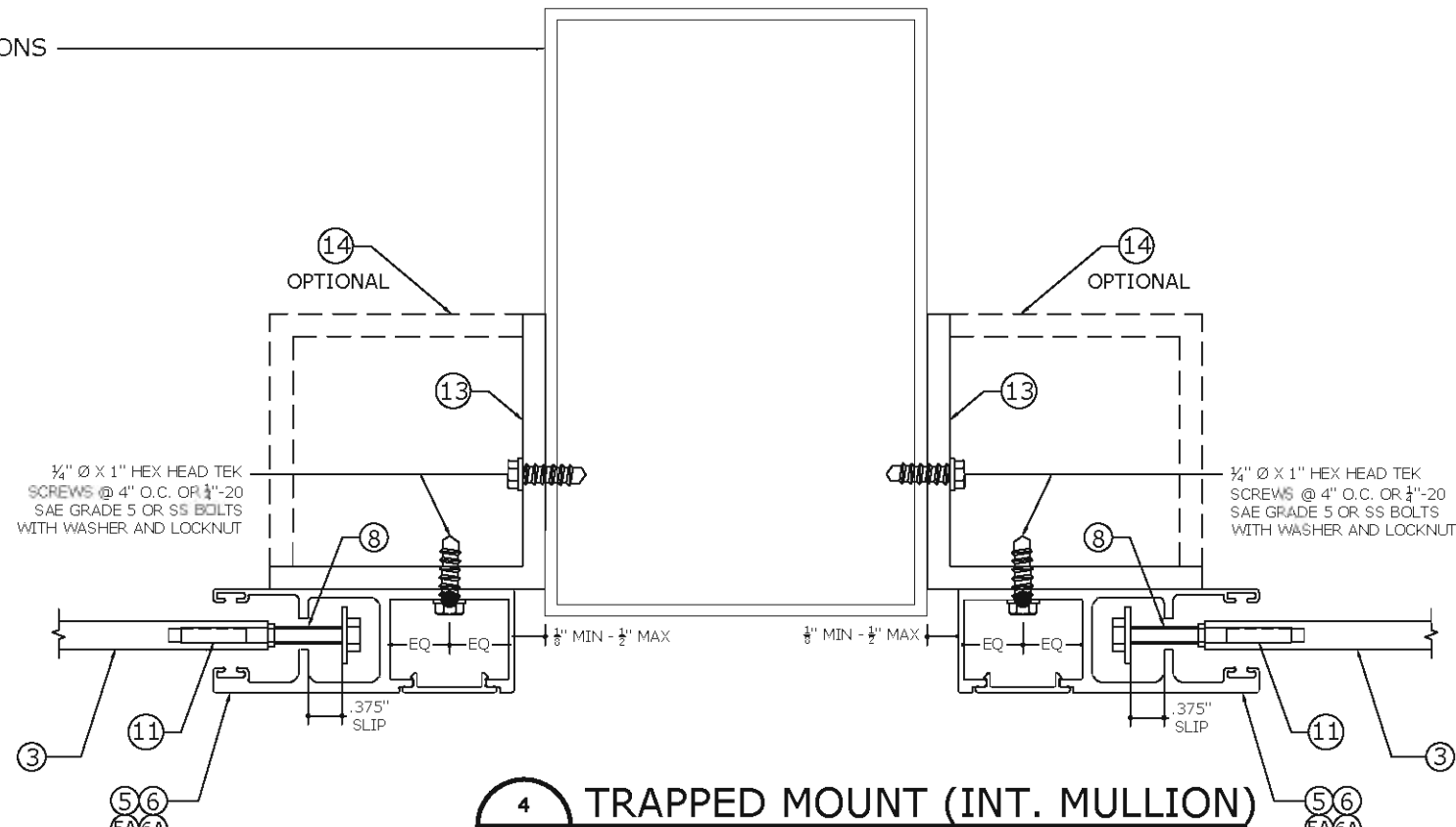
SEE MULLION SCHEDULES FOR MULLION OPTIONS



2 FACE MOUNT (END MULLION)
6 N.T.S. SECTION VIEW
ORIENTATION #2 FACE MOUNT END MULLION



3 FACE MOUNT (INT. MULLION)
6 N.T.S. SECTION VIEW



4 TRAPPED MOUNT (INT. MULLION)
6 N.T.S. SECTION VIEW

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PE# 86488 CA# 9885



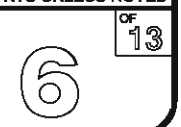
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SINGLE WALL ROLL-UP HURRICANE SHUTTER
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ANCHOR SCHEDULE: WALL MOUNT

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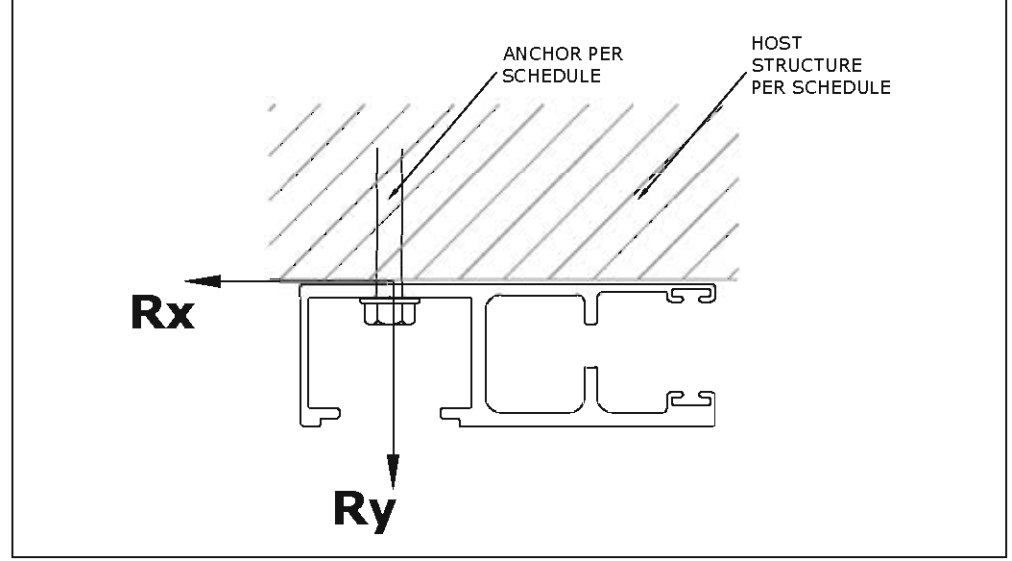


SLAT SPAN	DESIGN PRESSURE	Rx	Ry	MAXIMUM SPACING [O.C.]																					
				1/4" DEWALT ULTRACON TO 2700 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	5/16" DEWALT ULTRACON TO 3500 PSI MIN. CONCRETE; 2" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" ITW TAPCON			1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	1/4" ALL-POINTS SOLID-SET		1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 410 SS SMS W/ FULL THREAD PENETRATION OR 1/4-20 410 SS THRU-BOLT TO 0.125" MIN. 6063-T6 ALUM; 0.5" MIN. EDGE DISTANCE	5/16" 410 SS SMS W/ FULL THREAD PENETRATION OR 5/16-18 410 SS THRU-BOLT TO 0.25" MIN. 6063-T6 ALUM; 0.625" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	3/8" DEWALT CONFLX						
				TO 2899 PSI MIN. CONCRETE; 2.25" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	TO GROUT-FILLED CONCRETE BLOCK; 2.25" MIN. EMBEDMENT; 4" MIN. EDGE DISTANCE	TO HOLLOW CONCRETE BLOCK; 1.75" MIN. EMBEDMENT; 4" MIN. EDGE DISTANCE		TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	TO HOLLOW BLOCK; 0.875" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE																
76.5"	40 PSF	225.4 LB/FT	212.5 LB/FT	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"			
	68 PSF	623.6 LB/FT	358.7 LB/FT	5.50"	6.00"	6.00"	6.00"	6.00"	3.75"	6.00"	6.00"	3.75"	2.75"	2.50"	3.00"	5.25"	5.25"	6.00"	6.00"	6.00"	6.00"	6.00"			
	95 PSF	1021.3 LB/FT	504.8 LB/FT	3.50"	3.75"	6.00"	6.00"	5.00"	2.50"	4.50"	4.25"	2.25"	2.75"	2.50"	2.00"	3.50"	3.50"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"		
	123 PSF	1418.6 LB/FT	650.9 LB/FT	2.50"	2.75"	4.75"	4.75"	3.75"	3.00"	3.50"	3.00"	3.00"	3.00"	3.00"	2.50"	2.75"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	
	150 PSF	1815.4 LB/FT	797.0 LB/FT	2.00"	2.25"	3.75"	3.75"	3.00"	2.75"	2.50"	2.75"	2.50"	2.00"	2.00"	2.00"	2.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
108"	40 PSF	796.9 LB/FT	300.1 LB/FT	4.75"	5.25"	6.00"	6.00"	6.00"	3.75"	6.00"	6.00"	3.25"	2.25"	2.00"	2.50"	5.00"	5.50"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	
	57 PSF	1219.4 LB/FT	436.1 LB/FT	3.25"	3.50"	6.00"	6.00"	4.75"	2.50"	4.25"	4.00"	2.25"	2.75"	2.50"	2.00"	3.50"	3.75"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	75 PSF	1641.3 LB/FT	596.2 LB/FT	2.25"	2.50"	4.50"	4.25"	3.50"	3.25"	3.25"	2.75"	2.50"	2.25"	2.00"	2.00"	2.50"	2.75"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	92 PSF	2062.6 LB/FT	760.8 LB/FT	2.00"	2.00"	3.50"	3.50"	2.75"	2.50"	2.50"	2.25"	2.25"	2.00"	2.00"	2.00"	2.00"	2.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	109 PSF	2483.2 LB/FT	929.9 LB/FT	2.75"	2.75"	2.75"	2.75"	2.25"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	5.75"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
146"	40 PSF	1436.7 LB/FT	462.8 LB/FT	2.75"	3.00"	5.25"	5.25"	4.00"	2.00"	3.75"	3.50"	2.00"	2.00"	2.00"	2.00"	3.00"	3.25"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	52 PSF	1903.7 LB/FT	631.1 LB/FT	2.00"	2.25"	4.00"	3.75"	3.00"	2.75"	2.75"	2.50"	2.00"	2.00"	2.00"	2.25"	2.50"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	64 PSF	2369.7 LB/FT	807.8 LB/FT	3.00"	3.00"	3.00"	3.00"	2.25"	2.25"	2.25"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	77 PSF	2834.6 LB/FT	992.8 LB/FT	2.50"	2.50"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	5.00"	5.25"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	89 PSF	3298.3 LB/FT	1186.2 LB/FT	2.25"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	4.25"	4.50"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
170"	40 PSF	1850.9 LB/FT	622.5 LB/FT	2.00"	2.25"	4.00"	4.00"	3.00"	2.75"	2.75"	2.50"	2.00"	2.00"	2.00"	2.25"	2.50"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	49 PSF	2301.8 LB/FT	810.6 LB/FT	3.25"	3.00"	3.00"	3.00"	2.50"	2.25"	2.25"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	59 PSF	2750.7 LB/FT	1012.3 LB/FT	2.50"	2.50"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	5.25"	5.25"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	68 PSF	3197.6 LB/FT	1227.5 LB/FT	2.25"	2.25"	2.25"	2.25"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	4.50"	4.50"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	78 PSF	3642.4 LB/FT	1456.0 LB/FT	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	3.75"	4.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
206"	35 PSF	2212.8 LB/FT	547.3 LB/FT	3.50"	3.50"	2.75"	2.75"	2.50"	2.25"	2.50"	2.25"	2.00"	2.00"	2.00"	2.25"	2.50"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	42 PSF	2638.2 LB/FT	652.7 LB/FT	3.00"	3.00"	2.25"	2.25"	2.00"	2.25"	2.25"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	5.75"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	48 PSF	3063.5 LB/FT	758.3 LB/FT	2.50"	2.50"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	5.00"	5.25"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	55 PSF	3488.8 LB/FT	863.9 LB/FT	2.25"	2.25"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	4.25"	4.75"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	61 PSF	3914.1 LB/FT	969.6 LB/FT	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	4.00"	4.25"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
241.5"	30 PSF	2427.4 LB/FT	553.7 LB/FT	3.25"	3.25"	2.50"	2.50"	2.50"	2.25"	2.50"	2.25"	2.00"	2.00"	2.00"	2.00"	2.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	34 PSF	2735.3 LB/FT	624.0 LB/FT	3.00"	2.75"	2.25"	2.25"	2.25"	2.25"	2.25"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	5.75"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	38 PSF	3043.3 LB/FT	694.3 LB/FT	2.50"	2.50"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	5.00"	5.50"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	41 PSF	3351.2 LB/FT	764.6 LB/FT	2.25"	2.25"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	4.50"	5.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	45 PSF	3659.1 LB/FT	834.9 LB/FT	2.25"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	2.00"	4.25"	4.50"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"

ANCHOR NOTES:

- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
- WHERE ANCHORS FASTEN TO NARROW FACE OF STUD FRAMING, ANCHOR SHALL BE LOCATED IN CENTER OF NOMINAL 2x (MIN) WOOD STUD (i.e. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR ANCHORS TO WOOD FRAMING).
- MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
- ANCHOR SCHEDULE APPLIES TO ALL PRODUCTS CERTIFIED HEREIN, BUT ONLY PROVIDES MAXIMUM ALLOWABLE ANCHOR SPACING. MAXIMUM ALLOWABLE SPANS AND PRESSURES INDICATED IN SPAN SCHEDULE SHALL APPLY.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.
- WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
- 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.
- SHEET METAL SCREWS SHALL BE INSTALLED WITH FULL ENGAGEMENT OF THREADS INTO METAL HOST STRUCTURE.
- DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE FOR USE.
- ANCHORS TO GROUT-FILLED BLOCK SHALL PENETRATE THROUGH FACE SHELL INTO GROUTED CELL.

WALL MOUNT DIRECTIVE



AMERICAN SHUTTER SYSTEMS ASSOCIATION, INC.
4268 West Roads Dr.
West Palm Beach, FL 33407

SINGLE WALL ROLL-UP HURRICANE SHUTTER
PRODUCT APPROVAL #FL31658.1

REMARKS	DRWN/CHKD	DATE
INIT ISSUE	RWN	2/4/2020
2020-FBC	CCB	3/02/2020

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20-31266
SCALE: NTS UNLESS NOTED

C:\Users\colby\Engineering\Express\Production - Documents\Projects\20-31266 - Single Wall Roll Shutter\WP\2020\FBC\20-31266 - FL31658.1 - DWG.dwg 09/02/2020 - 1:14pm colby

ANCHOR SCHEDULE: INTERIOR MOUNT

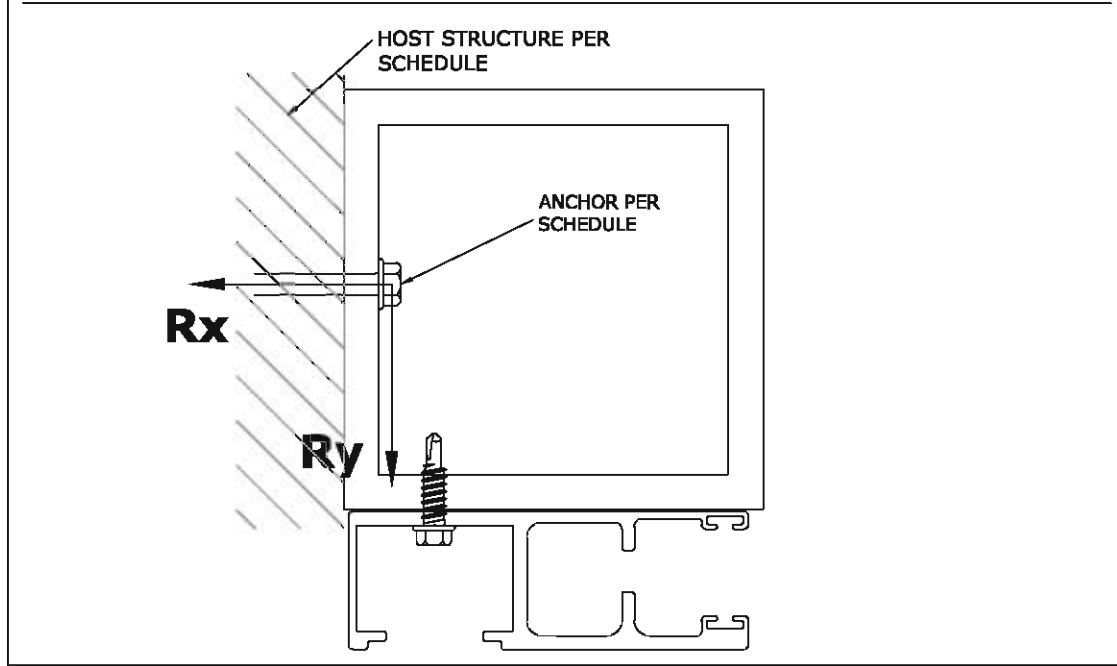
RICHARD NEET, P.E.
PE# 86488 CA# 9885



SLAT SPAN	DESIGN PRESSURE	Rx	Ry	MAXIMUM SPACING (O.C.)																	
				1/4" DEWALT ULTRACON TO 2700 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	5/16" DEWALT ULTRACON TO 3500 PSI MIN. CONCRETE; 2" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" ITW TAPCON			1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	1/4" ALL-POINTS SOLID-SET		1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 410 SS SMS W/ FULL THREAD PENETRATION OR 1/4-20 410 SS THRU-BOLT TO 0.125" MIN. 6063-T6 ALUM; 0.5" MIN. EDGE DISTANCE	5/16" 410 SS SMS W/ FULL THREAD PENETRATION OR 5/16-18 410 SS THRU-BOLT TO 0.25" MIN. 6063-T6 ALUM; 0.625" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	3/8" DEWALT/DEWALT CONFLX		
				TO 2899 PSI MIN. CONCRETE; 2.25" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	TO GROUT-FILLED CONCRETE BLOCK; 2.25" MIN. EMBEDMENT; 4" MIN. EDGE DISTANCE	TO HOLLOW CONCRETE BLOCK; 1.75" MIN. EMBEDMENT; 4" MIN. EDGE DISTANCE		TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	TO HOLLOW BLOCK; 0.875" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE										TO 1819 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 3.75" MIN. EDGE DISTANCE	TO 4510 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 3.75" MIN. EDGE DISTANCE	
76.5"	+/- 40 PSF	225.4 LB/FT	127.5 LB/FT	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 68 PSF	623.6 LB/FT	215.2 LB/FT	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 95 PSF	1021.3 LB/FT	302.8 LB/FT	4.00"	4.25"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 123 PSF	1418.6 LB/FT	390.5 LB/FT	2.75"	3.00"	5.50"	5.50"	4.25"	4.00"	3.50"	2.00"										
108"	+/- 40 PSF	796.9 LB/FT	180.0 LB/FT	5.50"	5.75"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 57 PSF	1219.4 LB/FT	261.6 LB/FT	3.50"	3.75"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
	+/- 75 PSF	1641.3 LB/FT	357.6 LB/FT	2.50"	2.75"	5.00"	5.00"	3.75"	3.75"	3.25"											
	+/- 92 PSF	2062.6 LB/FT	456.4 LB/FT	2.00"	2.25"	4.00"	3.75"	3.00"	3.00"	2.50"											
146"	+/- 40 PSF	1436.7 LB/FT	277.6 LB/FT	3.00"	3.25"	5.75"	5.75"	4.50"	4.25"	3.75"	2.00"										
	+/- 52 PSF	1903.7 LB/FT	378.6 LB/FT	2.25"	2.50"	4.25"	4.25"	3.25"	3.25"	2.75"											
	+/- 64 PSF	2369.7 LB/FT	484.6 LB/FT		2.00"	3.50"	3.50"	2.50"	2.50"	2.25"											
	+/- 77 PSF	2834.6 LB/FT	595.6 LB/FT			2.75"	2.75"	2.25"	2.00"												
170"	+/- 40 PSF	1850.9 LB/FT	373.4 LB/FT	2.25"	2.50"	4.50"	4.50"	3.25"	3.25"	3.00"											
	+/- 49 PSF	2301.8 LB/FT	486.3 LB/FT		2.00"	3.50"	3.50"	2.75"	2.75"	2.25"											
	+/- 59 PSF	2750.7 LB/FT	607.3 LB/FT			3.00"	3.00"	2.25"	2.25"	2.00"											
	+/- 68 PSF	3197.6 LB/FT	736.3 LB/FT			2.50"	2.50"														
206"	+/- 35 PSF	2212.8 LB/FT	328.3 LB/FT	2.00"	2.25"	4.00"	3.75"	3.00"	3.00"	2.50"											
	+/- 42 PSF	2638.2 LB/FT	391.6 LB/FT			3.25"	3.25"	2.50"	2.50"	2.00"											
	+/- 48 PSF	3063.5 LB/FT	454.9 LB/FT			2.75"	2.75"	2.00"	2.00"												
	+/- 55 PSF	3488.8 LB/FT	518.2 LB/FT			2.50"	2.50"														
241.5"	+/- 30 PSF	2427.4 LB/FT	332.1 LB/FT		2.00"	3.50"	3.50"	2.75"	2.75"	2.25"											
	+/- 34 PSF	2735.3 LB/FT	374.3 LB/FT			3.25"	3.25"	2.25"	2.25"	2.00"											
	+/- 38 PSF	3043.3 LB/FT	416.5 LB/FT			2.75"	2.75"	2.00"	2.00"												
	+/- 45 PSF	3659.1 LB/FT	500.9 LB/FT			2.25"	2.25"														

ANCHOR NOTES: SEE SHEET 7 FOR ANCHOR NOTES.

INTERIOR MOUNT DIRECTIVE



AMERICAN SHUTTER SYSTEMS ASSOCIATION, INC.

4268 West Roads Dr.
West Palm Beach, FL 33407

SINGLE WALL ROLL-UP HURRICANE SHUTTER

PRODUCT APPROVAL #FL31658.1

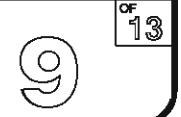
REMARKS	DRWN	CHKD	DATE
INIT ISSUE	GD	RWN	2/4/2020
2020-FBC	CCB	RWN	9/02/2020

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INTERMEDIATE MULLION SCHEDULES

MULLION SCHEDULE: INTERMEDIATE MULLIONS											
		4"x6"x0.25" ALUM TUBE		6"x4"x0.25" ALUM TUBE		4"x8"x0.25" ALUM TUBE		8"x4"x0.25" ALUM TUBE		4"x4"x0.25" ALUM TUBE	
SLAT SPAN	DESIGN PRESSURE	MAX MULLION LENGTH	END REACTION Rt	MAX MULLION LENGTH	END REACTION Rt	MAX MULLION LENGTH	END REACTION Rt	MAX MULLION LENGTH	END REACTION Rt	MAX MULLION LENGTH	END REACTION Rt
77"	+/- 40 PSF	144.0"	1530.0 LB	144.0"	1530.0 LB	144.0"	1530.0 LB	144.0"	1530.0 LB	139.0"	1476.8 LB
	+/- 68 PSF	144.0"	2581.9 LB	130.6"	2341.1 LB	144.0"	2581.9 LB	142.0"	2545.2 LB	116.7"	2093.3 LB
	+/- 95 PSF	144.0"	3633.8 LB	116.5"	2940.1 LB	144.0"	3633.8 LB	126.7"	3196.5 LB	104.2"	2628.9 LB
	+/- 123 PSF	132.6"	4314.8 LB	107.0"	3483.1 LB	144.0"	4685.6 LB	116.4"	3786.9 LB	95.7"	3114.5 LB
	+/- 150 PSF	123.7"	4929.7 LB	100.1"	3986.6 LB	138.9"	5534.0 LB	108.8"	4334.3 LB	89.5"	3564.7 LB
108"	+/- 40 PSF	144.0"	2160.0 LB	138.6"	2078.6 LB	144.0"	2160.0 LB	144.0"	2160.0 LB	123.9"	1858.5 LB
	+/- 57 PSF	144.0"	3139.2 LB	122.3"	2666.9 LB	144.0"	3139.2 LB	133.0"	2899.5 LB	109.4"	2384.6 LB
	+/- 75 PSF	136.5"	4069.4 LB	110.2"	3285.1 LB	144.0"	4291.7 LB	119.8"	3571.5 LB	98.6"	2937.3 LB
	+/- 92 PSF	125.9"	4787.6 LB	101.6"	3864.8 LB	142.2"	5406.7 LB	110.5"	4201.9 LB	90.9"	3455.8 LB
	+/- 109 PSF	114.5"	5324.7 LB	95.0"	4418.2 LB	128.6"	5977.4 LB	103.3"	4803.5 LB	85.0"	3950.5 LB
146"	+/- 40 PSF	144.0"	3331.5 LB	119.9"	2774.7 LB	144.0"	3331.5 LB	130.4"	3016.7 LB	107.2"	2481.0 LB
	+/- 52 PSF	134.0"	4226.7 LB	108.2"	3412.1 LB	144.0"	4543.0 LB	117.6"	3709.6 LB	96.7"	3050.9 LB
	+/- 64 PSF	122.9"	4962.8 LB	99.6"	4022.4 LB	138.0"	5571.2 LB	108.3"	4373.2 LB	89.1"	3596.7 LB
	+/- 77 PSF	110.9"	5502.0 LB	93.0"	4615.4 LB	124.4"	6176.4 LB	101.1"	5017.9 LB	83.1"	4126.9 LB
	+/- 89 PSF	101.4"	6013.9 LB	87.6"	5196.7 LB	113.9"	6751.1 LB	95.3"	5649.9 LB	76.2"	4516.9 LB
170"	+/- 40 PSF	134.6"	4188.1 LB	108.7"	3380.9 LB	144.0"	4480.9 LB	118.1"	3675.8 LB	97.2"	3023.1 LB
	+/- 49 PSF	122.7"	4971.4 LB	99.5"	4031.7 LB	137.7"	5580.8 LB	108.2"	4383.3 LB	89.0"	3605.0 LB
	+/- 59 PSF	109.8"	5555.6 LB	92.4"	4675.5 LB	123.2"	6236.7 LB	100.5"	5083.3 LB	82.5"	4172.7 LB
	+/- 68 PSF	99.7"	6117.6 LB	86.6"	5316.6 LB	111.9"	6867.6 LB	94.2"	5780.2 LB	74.9"	4594.8 LB
	+/- 78 PSF	91.5"	6662.8 LB	81.3"	5918.7 LB	102.8"	7479.5 LB	89.0"	6477.0 LB	68.8"	5004.3 LB
206"	+/- 35 PSF	140.5"	3843.8 LB	113.4"	3102.9 LB	144.0"	3939.8 LB	123.3"	3373.5 LB	101.4"	2774.5 LB
	+/- 42 PSF	132.5"	4322.9 LB	106.9"	3489.7 LB	144.0"	4698.8 LB	116.3"	3794.0 LB	95.6"	3120.3 LB
	+/- 48 PSF	126.0"	4777.0 LB	101.7"	3856.3 LB	142.4"	5397.7 LB	110.6"	4192.6 LB	91.0"	3448.1 LB
	+/- 55 PSF	118.8"	5132.2 LB	97.4"	4206.5 LB	133.4"	5761.3 LB	105.9"	4573.4 LB	87.1"	3761.3 LB
	+/- 61 PSF	112.2"	5437.1 LB	93.7"	4543.0 LB	125.9"	6103.6 LB	101.9"	4939.2 LB	83.8"	4062.1 LB
242"	+/- 30 PSF	140.0"	3873.5 LB	113.0"	3126.9 LB	144.0"	3985.5 LB	122.8"	3399.6 LB	101.0"	2796.0 LB
	+/- 34 PSF	134.5"	4194.8 LB	108.6"	3386.3 LB	144.0"	4491.6 LB	118.0"	3681.6 LB	97.1"	3027.9 LB
	+/- 38 PSF	129.8"	4504.3 LB	104.8"	3636.1 LB	144.0"	4997.7 LB	113.9"	3953.2 LB	93.7"	3251.3 LB
	+/- 41 PSF	125.7"	4803.5 LB	101.5"	3877.7 LB	141.8"	5420.1 LB	110.3"	4215.9 LB	90.7"	3467.3 LB
	+/- 45 PSF	120.9"	5045.5 LB	98.5"	4112.0 LB	135.7"	5664.0 LB	107.1"	4470.6 LB	88.1"	3676.8 LB

MULLION SCHEDULE NOTES:

- VALUES SHOWN IN MULLION SCHEDULES ARE MAXIMUM ALLOWABLE MULLION LENGTHS AT EACH RESPECTIVE SLAT SPAN AND DESIGN PRESSURE.
- "INTERMEDIATE MULLIONS" ARE AS DEFINED IN ELEVATION 2/3.
- "END MULLIONS" ARE AS DEFINED IN ELEVATION 2/3
- ALL MULLIONS SHALL BE 6061-T6 ALUMINUM OR EQUIVALENT.
- ALLOWABLE DESIGN PRESSURES AND SLAT SPANS INDICATED ARE FOR DETERMINING PERMISSIBLE MULLION LENGTHS ONLY. ACTUAL SLAT SPANS AND DESIGN PRESSURES SHALL NOT EXCEED THOSE INDICATED IN SPAN SCHEDULES.
- "END REACTIONS" ARE LISTED FOR EACH COMBINATION OF DESIGN LOAD, MULLION TYPE, SLAT TYPE (OPEN OR CLOSED) & SLAT SPAN. CHOOSE MOUNTING CONNECTIONS (PER APPLICABLE CONNECTION DETAILS HEREIN) THAT PROVIDES "CONNECTION CAPACITY" GREATER THAN OR EQUAL TO "END REACTIONS" GIVEN ABOVE.
- "INTERMEDIATE MULLIONS" SHALL HAVE EQUAL SLAT SPANS (+/- 12") ON ADJACENT SIDES OF MULLION. OTHERWISE, USE "END MULLION" TABLES.

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4268 West Roads Dr.
West Palm Beach, FL 33407

SINGLE WALL ROLL-UP HURRICANE SHUTTER

PRODUCT APPROVAL #FL31658.1

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	GD	RWN	2/4/2020
2020-FBC	CCB	RWN	9/02/2020

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END MULLION SCHEDULES

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MULLION SCHEDULE: END MULLIONS																					
SLAT SPAN	DESIGN PRESSURE	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	END REACTION Rsum
77"	+/- 40 PSF	144.0"	1352.6 LB	765.0 LB	1553.9 LB	144.0"	1352.6 LB	765.0 LB	1553.9 LB	144.0"	1352.6 LB	765.0 LB	1553.9 LB	144.0"	1352.6 LB	765.0 LB	1553.9 LB	144.0"	1352.6 LB	765.0 LB	1553.9 LB
	+/- 68 PSF	120.7"	3135.0 LB	1081.7 LB	3316.4 LB	115.4"	2997.8 LB	1034.4 LB	3171.3 LB	136.5"	3546.5 LB	1223.7 LB	3751.7 LB	125.4"	3259.3 LB	1124.6 LB	3447.8 LB	99.2"	2578.0 LB	889.5 LB	2727.2 LB
	+/- 95 PSF	95.7"	4073.9 LB	1208.0 LB	4249.2 LB	97.9"	4165.3 LB	1235.1 LB	4344.6 LB	108.3"	4609.7 LB	1366.8 LB	4808.1 LB	106.4"	4528.6 LB	1342.8 LB	4723.5 LB	79.0"	3360.5 LB	996.4 LB	3505.1 LB
	+/- 123 PSF	81.8"	4834.4 LB	1330.7 LB	5014.2 LB	87.5"	5169.9 LB	1423.0 LB	5362.1 LB	92.6"	5470.7 LB	1505.9 LB	5674.2 LB	95.4"	5637.7 LB	1551.8 LB	5847.4 LB	67.6"	3993.4 LB	1099.2 LB	4141.9 LB
	+/- 150 PSF	72.6"	5490.2 LB	1445.9 LB	5677.4 LB	77.8"	5881.5 LB	1549.0 LB	6082.0 LB	82.1"	6213.3 LB	1636.4 LB	6425.2 LB	87.5"	6618.5 LB	1743.1 LB	6844.2 LB	60.0"	4538.8 LB	1195.4 LB	4693.6 LB
108"	+/- 40 PSF	110.9"	3682.8 LB	831.9 LB	3775.6 LB	106.3"	3530.4 LB	797.4 LB	3619.3 LB	125.6"	4168.7 LB	941.6 LB	4273.7 LB	115.6"	3838.3 LB	867.0 LB	3935.0 LB	91.9"	3052.7 LB	689.6 LB	3129.7 LB
	+/- 57 PSF	90.0"	4573.0 LB	981.1 LB	4677.1 LB	92.3"	4688.0 LB	1005.7 LB	4794.6 LB	101.9"	5176.7 LB	1110.6 LB	5294.5 LB	100.3"	5096.8 LB	1093.5 LB	5212.8 LB	74.7"	3793.9 LB	813.9 LB	3880.2 LB
	+/- 75 PSF	77.5"	5299.5 LB	1154.8 LB	5423.8 LB	83.6"	5714.9 LB	1245.3 LB	5849.1 LB	87.7"	5999.0 LB	1307.2 LB	6139.7 LB	90.9"	6213.4 LB	1353.9 LB	6359.2 LB	64.3"	4395.4 LB	957.8 LB	4498.6 LB
	+/- 92 PSF	69.0"	5934.1 LB	1313.0 LB	6077.6 LB	74.5"	6398.2 LB	1415.7 LB	6553.0 LB	78.2"	6717.2 LB	1486.3 LB	6879.7 LB	83.8"	7197.9 LB	1592.7 LB	7372.0 LB	57.3"	4920.6 LB	1088.8 LB	5039.6 LB
	+/- 109 PSF	62.9"	6503.9 LB	1461.0 LB	6665.9 LB	67.7"	7008.8 LB	1574.4 LB	7183.5 LB	71.2"	7362.0 LB	1653.8 LB	7545.5 LB	76.2"	7884.9 LB	1771.2 LB	8081.4 LB	52.1"	5391.7 LB	1211.2 LB	5526.0 LB
146"	+/- 40 PSF	83.5"	4999.9 LB	966.2 LB	5092.4 LB	87.4"	5229.5 LB	1010.6 LB	5326.3 LB	94.6"	5660.6 LB	1093.9 LB	5765.3 LB	95.0"	5685.6 LB	1098.7 LB	5790.8 LB	69.4"	4154.6 LB	802.8 LB	4231.5 LB
	+/- 52 PSF	72.4"	5744.4 LB	1142.4 LB	5856.9 LB	78.4"	6216.2 LB	1236.2 LB	6338.0 LB	82.0"	6503.3 LB	1293.3 LB	6630.7 LB	86.5"	6859.2 LB	1364.1 LB	6993.5 LB	60.2"	4771.3 LB	948.8 LB	4864.7 LB
	+/- 64 PSF	64.8"	6396.8 LB	1308.1 LB	6529.2 LB	70.0"	6915.8 LB	1414.2 LB	7058.9 LB	73.3"	7241.6 LB	1480.8 LB	7391.5 LB	78.8"	7779.1 LB	1590.7 LB	7940.1 LB	53.8"	5310.8 LB	1086.0 LB	5420.7 LB
	+/- 77 PSF	59.1"	6982.8 LB	1467.2 LB	7135.3 LB	63.9"	7542.5 LB	1584.8 LB	7707.2 LB	66.9"	7904.8 LB	1660.9 LB	8077.4 LB	71.8"	8484.4 LB	1782.7 LB	8669.6 LB	49.1"	5795.0 LB	1217.6 LB	5921.5 LB
	+/- 89 PSF	54.7"	7518.1 LB	1621.9 LB	7691.1 LB	59.0"	8113.3 LB	1750.3 LB	8300.0 LB	61.9"	8510.5 LB	1836.0 LB	8706.3 LB	66.4"	9126.9 LB	1969.0 LB	9336.9 LB	45.4"	6236.6 LB	1345.5 LB	6380.1 LB
170"	+/- 40 PSF	73.4"	5658.7 LB	1141.6 LB	5772.7 LB	79.4"	6120.5 LB	1234.8 LB	6243.8 LB	83.1"	6406.1 LB	1292.4 LB	6535.2 LB	87.3"	6731.8 LB	1358.1 LB	6867.4 LB	60.9"	4699.0 LB	948.0 LB	4793.7 LB
	+/- 49 PSF	65.6"	6290.0 LB	1328.8 LB	6428.8 LB	70.8"	6792.8 LB	1435.0 LB	6942.8 LB	74.2"	7120.4 LB	1504.2 LB	7277.6 LB	79.7"	7641.2 LB	1614.2 LB	7809.8 LB	54.4"	5219.5 LB	1102.6 LB	5334.7 LB
	+/- 59 PSF	59.8"	6854.0 LB	1513.1 LB	7019.1 LB	64.5"	7390.7 LB	1631.6 LB	7568.7 LB	67.7"	7758.5 LB	1712.8 LB	7945.4 LB	72.5"	8314.3 LB	1835.5 LB	8514.5 LB	49.6"	5683.6 LB	1254.7 LB	5820.4 LB
	+/- 68 PSF	55.3"	7366.4 LB	1696.3 LB	7559.1 LB	59.5"	7931.2 LB	1826.4 LB	8138.8 LB	62.6"	8338.0 LB	1920.1 LB	8556.3 LB	67.0"	8923.0 LB	2054.8 LB	9156.6 LB	45.8"	6104.2 LB	1405.7 LB	6263.9 LB
	+/- 78 PSF	51.6"	7837.2 LB	1879.3 LB	8059.3 LB	55.5"	8425.7 LB	2020.4 LB	8664.5 LB	58.4"	8870.5 LB	2127.1 LB	9121.9 LB	62.5"	9480.0 LB	2273.2 LB	9748.7 LB	42.8"	6489.8 LB	1556.2 LB	6673.8 LB
206"	+/- 35 PSF	68.4"	6302.8 LB	935.1 LB	6371.8 LB	74.6"	6880.1 LB	1020.8 LB	6955.4 LB	77.4"	7137.6 LB	1059.0 LB	7215.8 LB	82.2"	7583.0 LB	1125.1 LB	7666.0 LB	57.0"	5256.0 LB	779.8 LB	5313.5 LB
	+/- 42 PSF	62.6"	6881.8 LB	1021.4 LB	6957.2 LB	68.3"	7512.0 LB	1115.0 LB	7594.3 LB	70.9"	7793.3 LB	1156.7 LB	7878.7 LB	76.8"	8445.9 LB	1253.6 LB	8538.4 LB	52.2"	5738.8 LB	851.8 LB	5801.6 LB
	+/- 48 PSF	58.1"	7415.6 LB	1101.1 LB	7496.9 LB	63.4"	8094.7 LB	1201.9 LB	8183.4 LB	65.8"	8397.9 LB	1246.9 LB	8489.9 LB	71.3"	9101.0 LB	1351.3 LB	9200.7 LB	48.4"	6183.9 LB	918.2 LB	6251.7 LB
	+/- 55 PSF	54.4"	7913.5 LB	1175.5 LB	8000.3 LB	59.4"	8638.1 LB	1283.1 LB	8732.9 LB	61.6"	8961.7 LB	1331.2 LB	9060.0 LB	66.8"	9711.9 LB	1442.6 LB	9818.5 LB	45.4"	6599.1 LB	980.2 LB	6671.5 LB
	+/- 61 PSF	51.4"	8381.8 LB	1245.5 LB	8473.8 LB	56.1"	9149.2 LB	1359.5 LB	9249.6 LB	58.2"	9492.0 LB	1410.5 LB	9596.2 LB	63.1"	10286.5 LB	1528.5 LB	10399.5 LB	42.9"	6989.6 LB	1038.6 LB	7066.3 LB
242"	+/- 30 PSF	65.5"	6628.4 LB	906.9 LB	6690.1 LB	71.7"	7250.7 LB	992.1 LB	7318.3 LB	74.2"	7506.9 LB	1027.1 LB	7576.8 LB	79.7"	8065.6 LB	1103.6 LB	8140.7 LB	54.7"	5532.8 LB	757.0 LB	5584.3 LB
	+/- 34 PSF	61.7"	7036.2 LB	962.8 LB	7101.8 LB	67.5"	7696.8 LB	1053.2 LB	7768.6 LB	69.9"	7968.8 LB	1090.4 LB	8043.0 LB	75.9"	8652.8 LB	1184.0 LB	8733.4 LB	51.5"	5873.2 LB	803.7 LB	5927.9 LB
	+/- 38 PSF	58.5"	7421.7 LB	1015.7 LB	7490.8 LB	64.0"	8118.5 LB	1111.0 LB	8194.1 LB	66.3"	8405.3 LB	1150.3 LB	8483.6 LB	72.0"	9126.7 LB	1249.0 LB	9211.8 LB	48.9"	6194.9 LB	847.8 LB	6252.7 LB
	+/- 41 PSF	55.8"	7788.0 LB	1065.9 LB	7860.6 LB	61.0"	8519.2 LB	1166.0 LB	8598.6 LB	63.2"	8820.2 LB	1207.2 LB	8902.5 LB	68.6"	9577.3 LB	1310.8 LB	9666.6 LB	46.6"	6500.7 LB	889.7 LB	6561.3 LB
	+/- 45 PSF	53.4"	8137.9 LB	1113.9 LB	8213.8 LB	58.4"	8901.9 LB	1218.5 LB	8984.9 LB	60.5"	9216.5 LB	1261.5 LB	9302.5 LB	65.6"	10007.5 LB	1369.8 LB	10100.8 LB	44.6"	6792.8 LB	929.8 LB	6856.1 LB

MULLION SCHEDULE NOTES:
SEE SHEET 10 FOR MULLION
SCHEDULE NOTES.

AMERICAN SHUTTER SYSTEMS ASSOCIATION, INC.
4268 West Roads Dr.
West Palm Beach, FL 33407

SINGLE WALL ROLL-UP HURRICANE SHUTTER

PRODUCT APPROVAL #FL31658-1

REMARKS	CHKD	DATE
INIT ISSUE	RWN	2/4/2020
2020-FBC	CCB	3/02/2020

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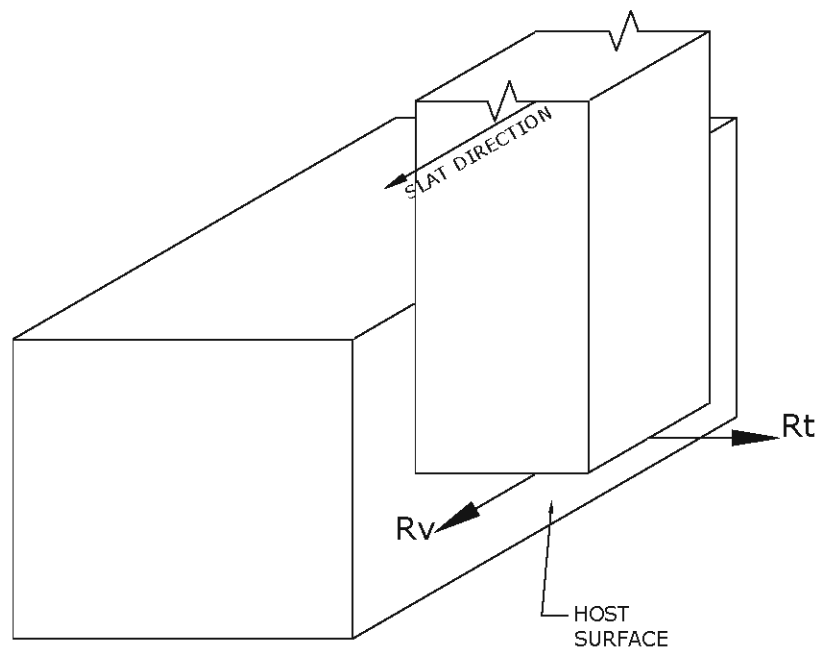
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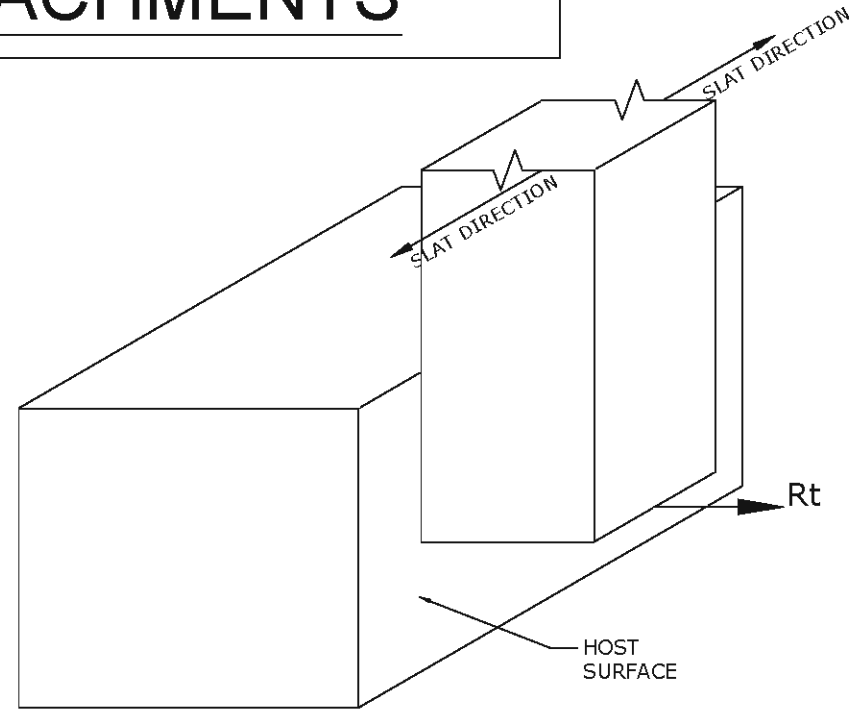
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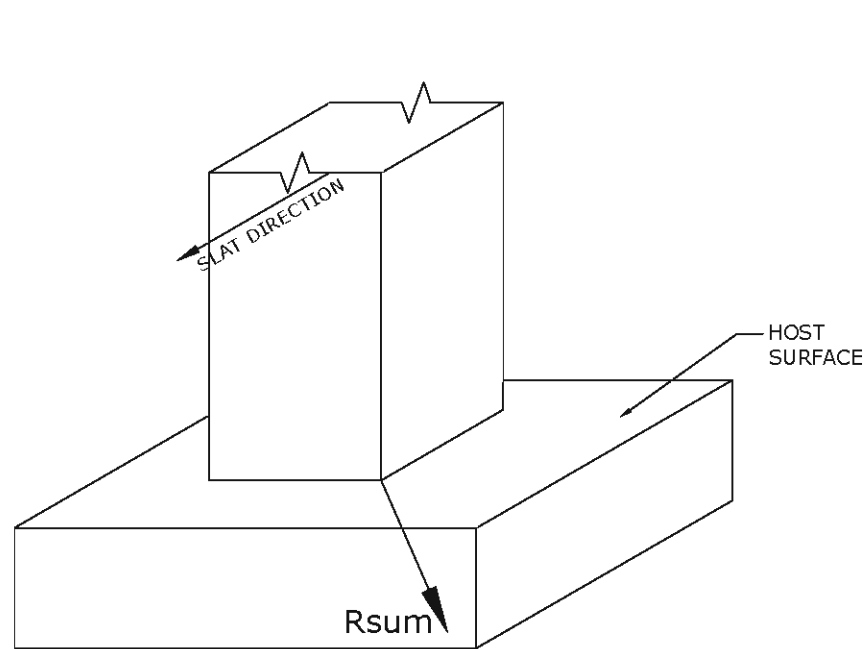
MULLION END ATTACHMENTS



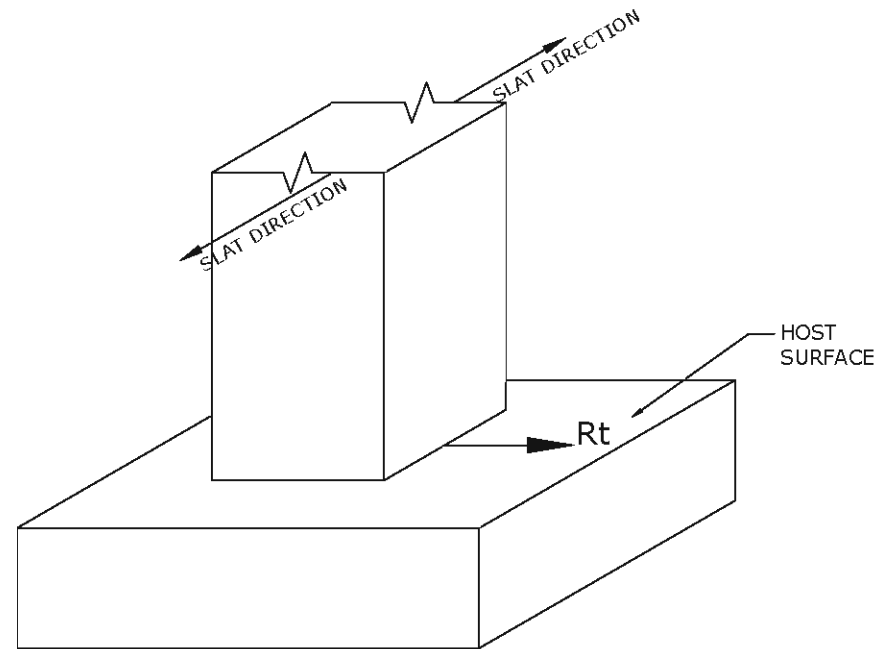
1
12 N.T.S. ISOMETRIC
END MULLION "FACE MOUNT" DIAGRAM



2
12 N.T.S. ISOMETRIC
INTERIOR MULLION "FACE MOUNT" DIAGRAM



3
12 N.T.S. ISOMETRIC
END MULLION "TRAPPED MOUNT" DIAGRAM



4
12 N.T.S. ISOMETRIC
INTERIOR MULLION "TRAPPED MOUNT" DIAGRAM

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SINGLE WALL ROLL-UP HURRICANE SHUTTER

PRODUCT APPROVAL #FL31658.1

REMARKS	DRWN	CHKD	DATE
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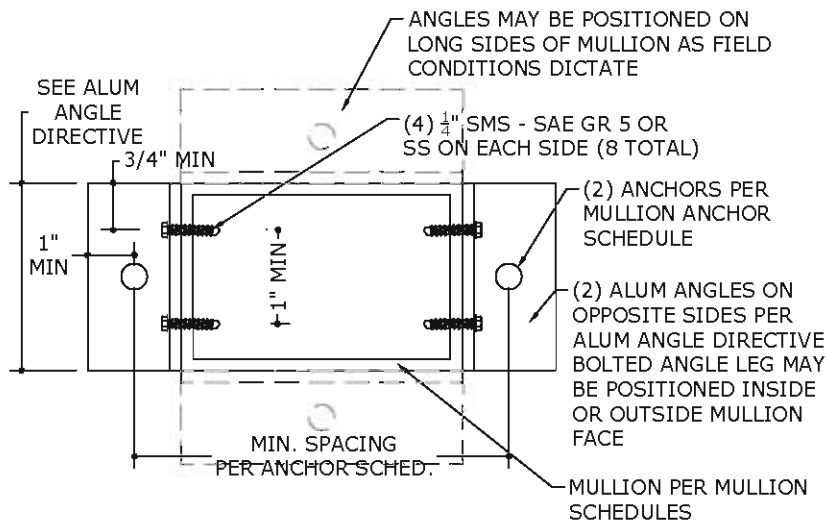
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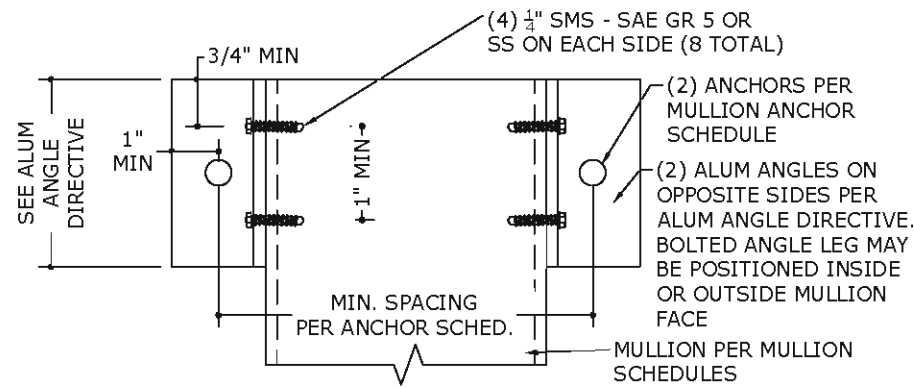
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C:\Users\colby\Engineering\Express\Production - Documents\Projects\20-31266 - Single Wall Roll Shutter\WP\2020\FBC\20-31266-1-DWG.dwg 09/02/2020 - 1:14pm colby



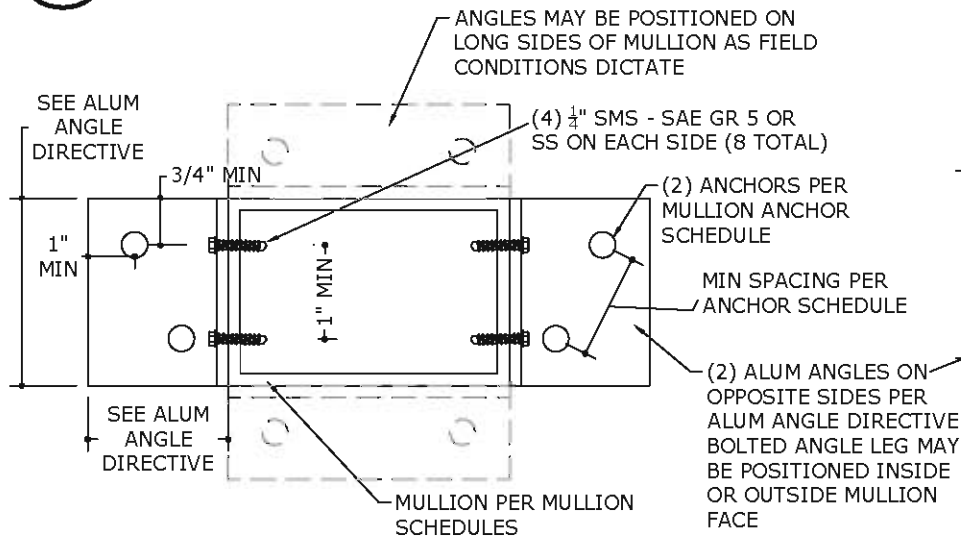
1A TRAPPED MOUNT OPTION 1

13 N.T.S.



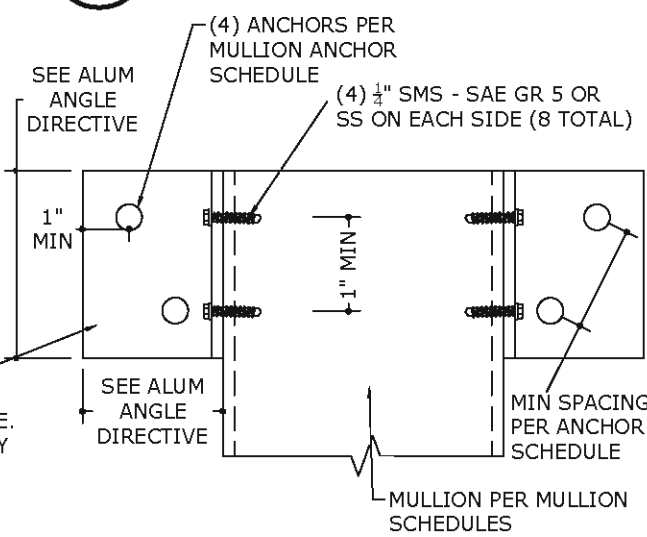
1B FACE MOUNT OPTION 1

13 N.T.S.



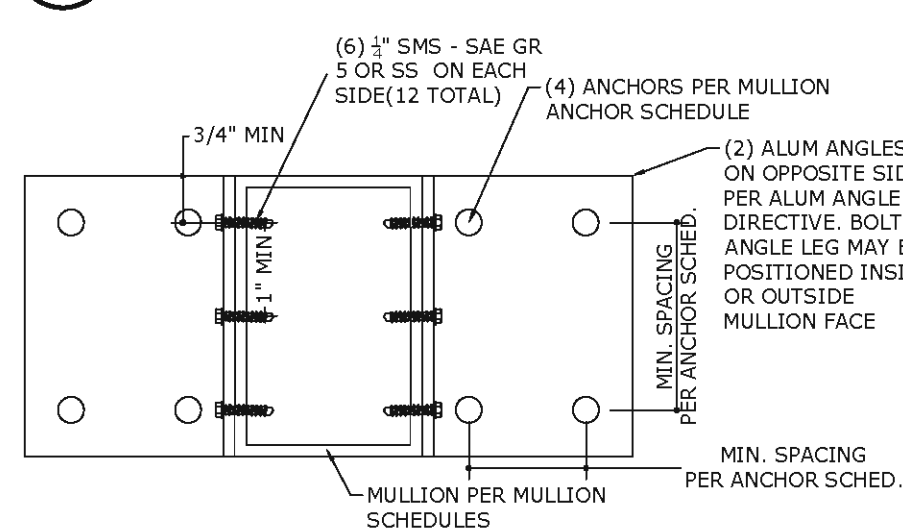
2A TRAPPED MOUNT OPTION 2

13 N.T.S.



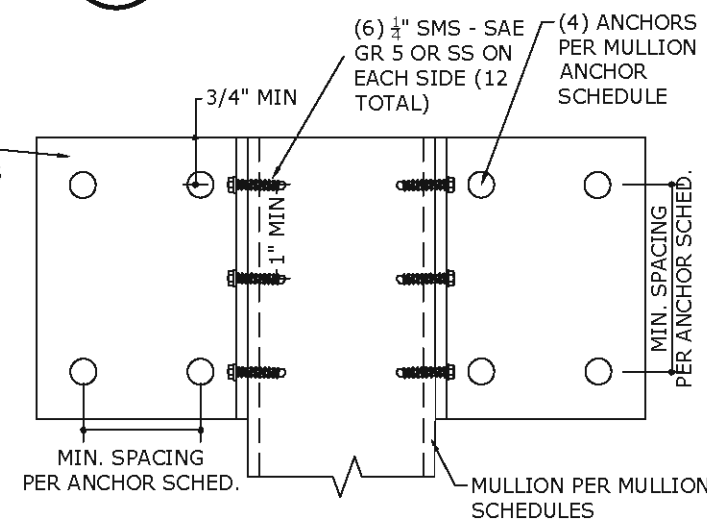
2B FACE MOUNT OPTION 2

13 N.T.S.



3A TRAPPED MOUNT OPTION 3

13 N.T.S.



3B FACE MOUNT OPTION 3

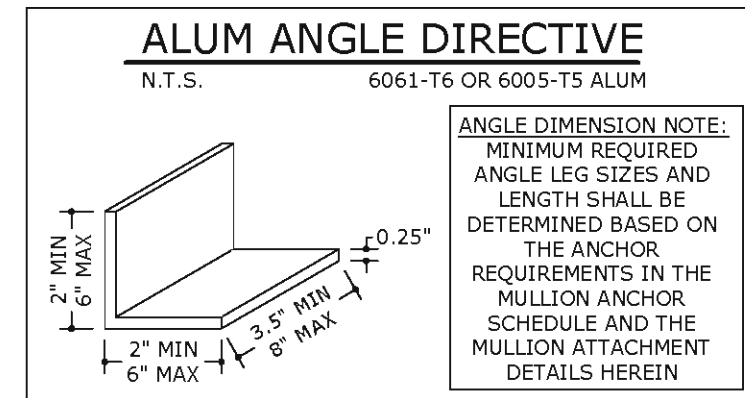
13 N.T.S.

MULLION ANCHOR SCHEDULE

ANCHOR TYPE	MINIMUM SPACING	MINIMUM EDGE DISTANCE	CONNECTION DETAIL	CONNECTION CAPACITY	
				Tcap	Vcap
1/2" DEWALT SCREW BOLTS (OR EQUIV.) W/ 2-1/2" EMBED TO 3KSI MIN. CONCRETE	6"	4.5"	1A/13, 1B/13	Tcap	3660 LB
	4.0"	4.5"	2A/13, 2B/13	Tcap	6442 LB
	4.0"	4.5"	3A/13, 3B/13	Tcap	4106 LB
3/8" DEWALT SCREW BOLTS (OR EQUIV.) W/ 2" EMBED TO 3KSI MIN. CONCRETE	6.0"	2.5"	1A/13, 1B/13	Tcap	12883 LB
	3.0"	2.5"	2A/13, 2B/13	Tcap	8213 LB
	3.0"	2.5"	3A/13, 3B/13	Tcap	1905 LB
3/8" DEWALT SCREW BOLTS (OR EQUIV.) W/ 2" EMBED TO 3KSI MIN. CONCRETE	6.0"	2.5"	1A/13, 1B/13	Vcap	1007 LB
	3.0"	2.5"	2A/13, 2B/13	Vcap	3801 LB
	3.0"	2.5"	3A/13, 3B/13	Vcap	1700 LB
3/8" DEWALT SCREW BOLTS (OR EQUIV.) W/ 3-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK*	6.0"	4.5"	1A/13, 1B/13	Tcap	7622 LB
	3.0"	4.5"	2A/13, 2B/13	Tcap	3399 LB
	3.0"	4.5"	3A/13, 3B/13	Tcap	4934 LB
5/16" LAG SCREW W/ 2" MIN. THREAD PENETRATION TO G=0.42 MIN WOOD	2.0"	1.25"	1A/13, 1B/13	Tcap	1310 LB
	2.0"	1.25"	2A/13, 2B/13	Tcap	302 LB
	2.0"	1.25"	3A/13, 3B/13	Tcap	2620 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2" EMBED TO 3.5KSI MIN CONCRETE	2.0"	1.25"	3A/13, 3B/13	Vcap	604 LB
	5.0"	3.125"	1A/13, 1B/13	Tcap	3930 LB
	3.75"	3.125"	2A/13, 2B/13	Vcap	906 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK	5.0"	3.125"	3A/13, 3B/13	Tcap	1670 LB
	3.75"	3.125"	1A/13, 1B/13	Vcap	1700 LB
	3.75"	3.125"	2A/13, 2B/13	Tcap	1820 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK	5.0"	2.5"	1A/13, 1B/13	Vcap	2840 LB
	5.0"	2.5"	2A/13, 2B/13	Tcap	3640 LB
	5.0"	2.5"	3A/13, 3B/13	Vcap	5680 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK	5.0"	2.5"	1A/13, 1B/13	Tcap	580 LB
	5.0"	2.5"	2A/13, 2B/13	Vcap	750 LB
	5.0"	2.5"	3A/13, 3B/13	Tcap	1160 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK	5.0"	2.5"	2A/13, 2B/13	Vcap	1500 LB
	5.0"	2.5"	3A/13, 3B/13	Tcap	2320 LB
	5.0"	2.5"	1A/13, 1B/13	Vcap	3000 LB

MULLION ANCHOR SCHEDULE NOTES:

- FOR "TRAPPED MOUNT" CONDITIONS WITH END MULLIONS, 'Rsum' VALUES IN MULLION SCHEDULE SHALL NOT EXCEED MAX 'Vcap' VALUES NOTED IN THIS SCHEDULE.
- FOR "FACE MOUNT" CONDITIONS WITH END MULLIONS, **Rv/Vcap + Rt/Tcap SHALL BE LESS THAN OR EQUAL TO 1.0**, WHERE 'Rv' AND 'Rt' ARE PER MULLION SCHEDULES, AND 'Tcap' AND 'Vcap' ARE PER THIS SCHEDULE.
- FOR "TRAPPED MOUNT" CONDITIONS WITH INTERMEDIATE MULLIONS, 'Rt' VALUES IN MULLION SCHEDULES SHALL NOT EXCEED 'Vcap' VALUES NOTED IN THIS SCHEDULE.
- FOR "FACE MOUNT" CONDITIONS WITH INTERMEDIATE MULLIONS, 'Rt' VALUES IN MULLION SCHEDULES SHALL NOT EXCEED 'Tcap' VALUES NOTED IN THIS SCHEDULE.
- * ANCHORS SHALL PENETRATE THROUGH FACE SHELL INTO GROUTED CELL.
- ALTERNATE ANCHORS AND OR END CONNECTION CONFIGURATIONS MAY BE DESIGNED/CERTIFIED ON A SITE SPECIFIC BASIS BASED ON THE END LOADINGS LISTED IN THE MULLION SCHEDULES.
- 1/2" UNC THRU BOLTS MAY BE USED IN LEIU OF 1/4" SMS PER THE FOLLOWING DIRECTIVE
 - (4) SMS PER SIDE = (2) 1/2" UNC THRU BOLTS / (6) SMS PER SIDE = (3) 1/2" UNC THRU BOLTS



ANGLE DIMENSION NOTE:
MINIMUM REQUIRED ANGLE LEG SIZES AND LENGTH SHALL BE DETERMINED BASED ON THE ANCHOR REQUIREMENTS IN THE MULLION ANCHOR SCHEDULE AND THE MULLION ATTACHMENT DETAILS HEREIN

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SINGLE WALL ROLL-UP HURRICANE SHUTTER

PRODUCT APPROVAL #FL31658.1

REMARKS	DATE	DRWN	CHKD	DATE
INIT ISSUE	2/4/2020	GD	RWN	2/4/2020
2020-FBC		CCB	RWN	9/02/2020

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20-31266

SCALE: NTS UNLESS NOTED

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