

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH REQUIREMENTS OF THE 2006 IBC AND THE 2006 IRC WITH STATE OF TEXAS MODIFICATIONS AND WITH THE 2015 IBC, 2015 IRC, 2018 IBC AND 2018 IRC.
2. WOOD FRAMING TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE. FRAMING IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
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. APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS UP TO WIND ZONE 3.
5. DESIGN PRESSURE AND INSTALLATION DETAILS SHOWN IN THIS DOCUMENT APPLY ONLY TO MULLION. WINDOWS MUST BE APPROVED UNDER SEPARATE APPROVAL.
6. SINGLE WINDOWS TO BE MULLED ARE NOT LIMITED TO THOSE SHOWN IN THIS DRAWING. WINDOWS MUST BE MANUFACTURED BY MI WINDOWS AND DOORS, INC.
7. DESIGN PRESSURE OF MULLED UNIT SHALL BE CONTROLLED BY THE LESSER DESIGN PRESSURE OF THE MULLION OR THE INDIVIDUAL WINDOW OR DOOR UNIT.
8. UNITS MAY BE MULLED TOGETHER INDEFINITELY AS LONG AS SINGLE UNIT WIDTH AND HEIGHT ARE NOT EXCEEDED AND MULLION IS ANCHORED AS SHOWN HEREIN.
9. MULLION VERTICAL INSTALLATION IS SHOWN, MULLION MAY BE USED IN HORIZONTAL APPLICATIONS AS LONG AS DIMENSIONS INDICATED HEREIN ARE NOT EXCEEDED AND MULLION IS ANCHORED ACCORDING TO THIS DOCUMENT.

DESIGN PRESSURE TABLE INSTRUCTIONS:

1. DEFINE REQUIRED DESIGN LOAD PER TEXAS BUILDING CODE CHAPTER 16.
2. DETERMINE TRIBUTARY WIDTH AND MULLION SPAN BASED ON PRODUCT TO BE INSTALLED. SEE FORMULA FOR TRIBUTARY WIDTH.
3. LOCATE MULLION SPAN (UNIT HEIGHT) AND TRIBUTARY WIDTH. AT THE INTERSECTION OF ROW AND COLUMN CONTAINING THE MULLION SPAN AND TRIBUTARY WIDTH RESPECTIVELY IS THE MULLION RATING FOR PRODUCT IN STEP 2.  
MULLION RATING MUST BE EQUAL OR GREATER THAN REQUIRED DESIGN PRESSURE OBTAINED IN STEP 1.

$$\text{TRIBUTARY WIDTH} = \frac{W1 + W2}{2}$$

ANCHORING NOTES:

1. FOR ANCHORING INTO WOOD FRAMING OR 2X BUCK USE #10 WOOD SCREW WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/8" MINIMUM EMBEDMENT. LOCATE ANCHORS AS SHOWN IN INSTALLATION DETAILS SHEET 3.
2. FOR ANCHORING INTO CONCRETE USE 3/16" ELCO ULTRACON TAPCON WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/4" MINIMUM EMBEDMENT WITH 1" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN INSTALLATION DETAILS SHEET 3.
3. FOR ANCHORING INTO METAL FRAMING USE #10 SMS OR SELF DRILLING SCREW WITH SUFFICIENT LENGTH TO ACHIEVE A 3 THREADS MINIMUM BEYOND STRUCTURE INTERIOR WALL. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
4. FOR ATTACHING WINDOW UNITS TO MULLION USE #10 SELF TAPPING SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE A MINIMUM EMBEDMENT OF THREE THREADS PAST THE MULLION WALL. LOCATE SCREWS 6" FROM EACH MULLION END AND 12" MAX. O.C. THEREAFTER. STAGGER SCREWS AT EACH WINDOW.
5. ALL FASTENERS TO BE CORROSION RESISTANT.
6. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR 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 3,200 PSI.
  - C. GROUT FILLED MASONRY – STRENGTH CONFORMANCE TO ASTM C-90, GRADE N, TYPE 1 (OR GREATER).
  - D. METAL STRUCTURE – STEEL 18GA (.048") FY=33KSI/FU=52KSI OR ALUMINUM 6063-T5 FU=30KSI .062" THICK MINIMUM.

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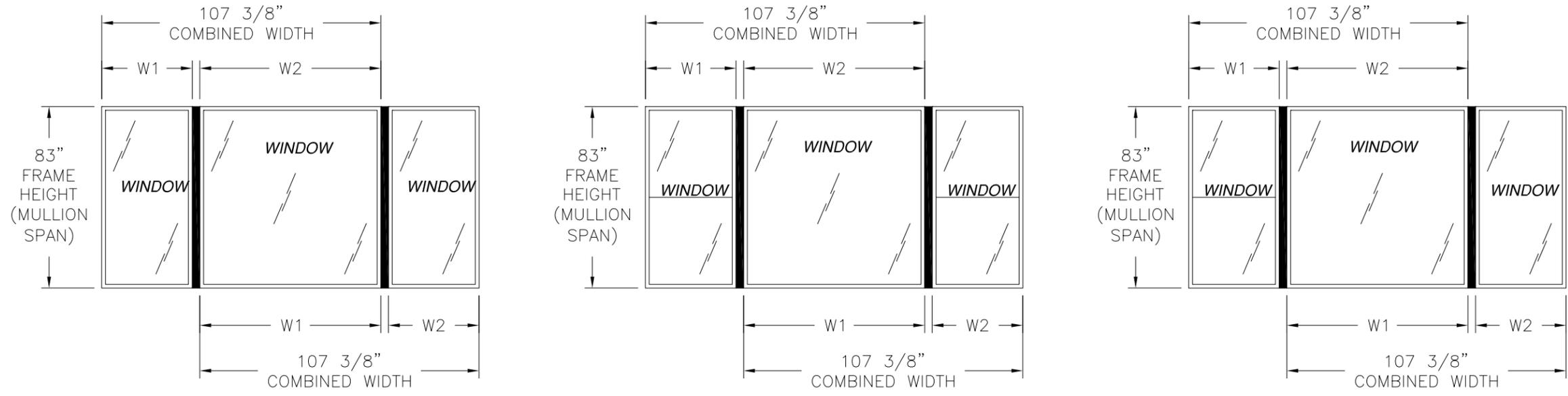
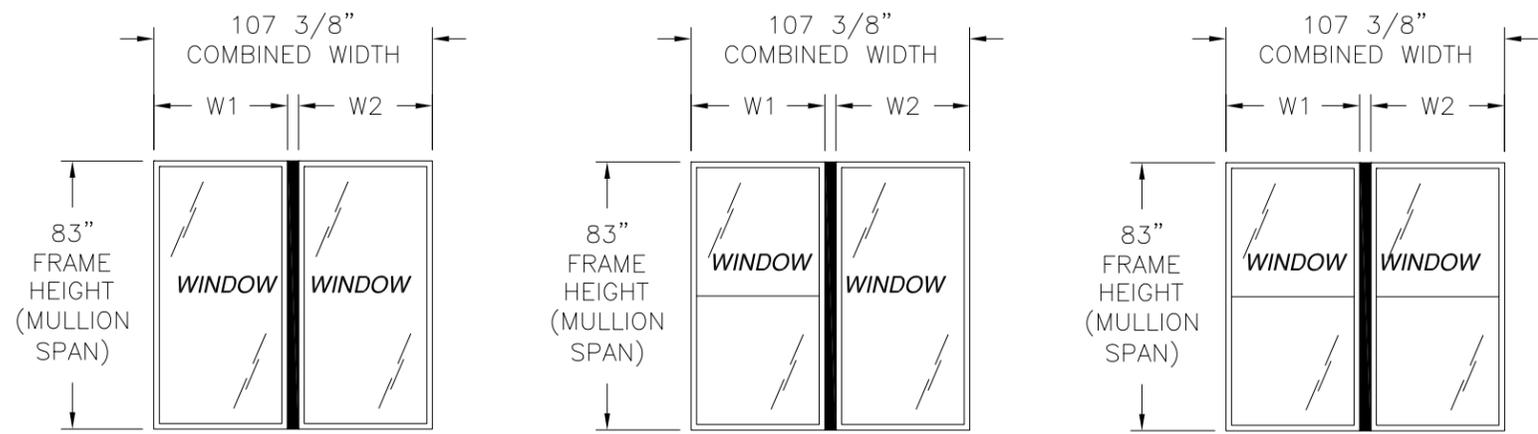
<b>MI WINDOWS AND DOORS, LLC</b> 650 WEST MARKET STREET GRATZ, PA 17030-0370		
M-2302 – VERTICAL MULLION 83" MULLION SPAN GENERAL NOTES		
DRAWN: A.R.	DWG NO. 08-03266	REV -
SCALE NTS	DATE 06/05/18	SHEET 1 OF 4
L. ROBERTO LOMAS P.E. 1432 WOODFORD RD LEWISVILLE, NC 27023 434-688-0609 rllomas@rlomaspe.com		

SIGNED: 12/12/2019



Luis R. Lomas P.E.  
TX No.: 101889

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**APPROVED CONFIGURATIONS**  
 MULTIPLE UNITS MAYBE MULLED TOGETHER AS LONG AS COMBINED WIDTH DOES NOT EXCEED 107 3/8" AS SHOWN HEREIN.

Design pressure rating (psf) Units anchored into wood and metal framing						
Mullion span (in)	Tributary width (in)					
	18.13	25.50	36.00	42.00	48.00	52.13
25.00	120.0	120.0	120.0	120.0	120.0	120.0
37.38	120.0	120.0	120.0	120.0	120.0	120.0
49.63	120.0	98.3	81.2	76.9	75.2	75.1
62.00	96.4	73.6	58.4	53.7	50.7	49.4
65.63	90.2	68.6	53.9	49.3	46.3	44.8
72.00	81.0	61.2	47.6	43.2	40.1	38.6
84.00	68.1	50.9	38.0	33.4	30.0	28.3

Design pressure rating (psf) Units anchored into masonry/concrete						
Mullion span (in)	Tributary width (in)					
	18.13	25.50	36.00	42.00	48.00	52.13
25.00	120.0	120.0	120.0	120.0	120.0	120.0
37.38	120.0	120.0	120.0	120.0	120.0	120.0
49.63	120.0	109.2	90.2	85.4	83.5	83.4
62.00	107.1	81.8	64.8	59.7	56.3	54.8
65.63	100.2	76.2	59.9	54.8	51.4	49.8
72.00	90.0	68.0	52.8	46.9	42.8	40.6
84.00	72.0	52.0	38.0	33.4	30.0	28.3

LARGE AND SMALL MISSILE IMPACT, LEVEL D, WIND ZONE 3  
 DIMENSIONS IN CHART ARE FRAME DIMENSIONS AND DO NOT INCLUDE FLANGE

MI WINDOWS AND DOORS, LLC  
 650 WEST MARKET STREET  
 GRATZ, PA 17030-0370

M-2302 – VERTICAL MULLION  
 83" MULLION SPAN  
 CONFIGURATIONS AND DP CHARTS

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SCALE NTS	DATE 06/05/18	SHEET 2 OF 4

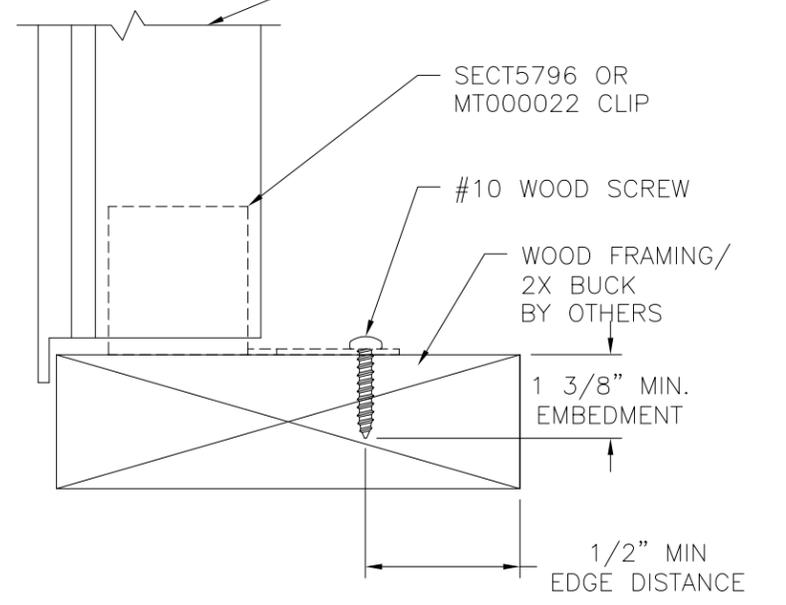
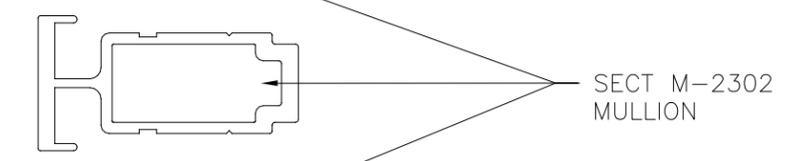
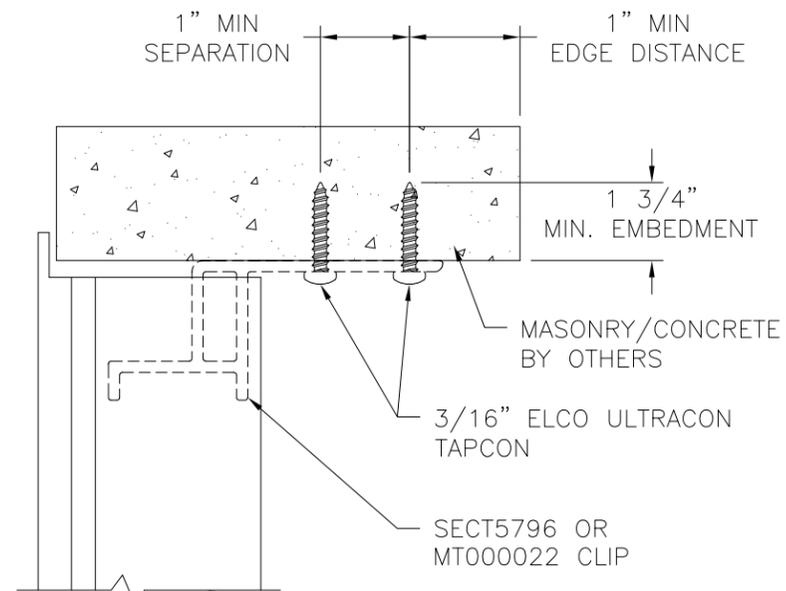
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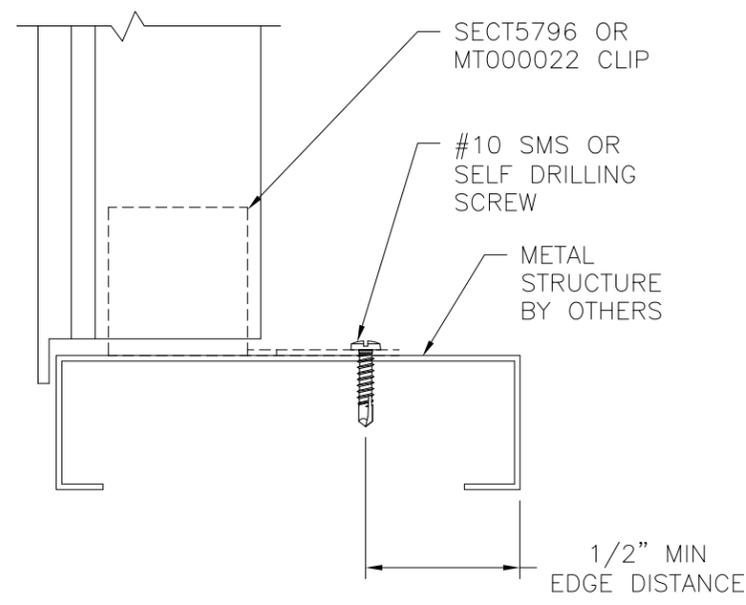


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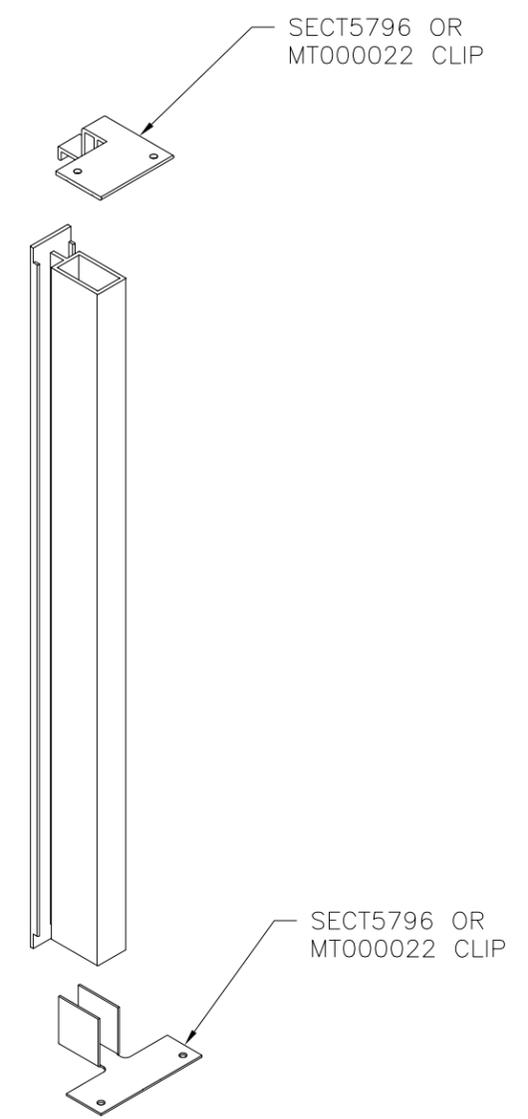
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**VERTICAL CROSS SECTION**  
MASONRY/CONCRETE AND WOOD FRAMING  
INSTALLATION



**VERTICAL CROSS SECTION**  
METAL STRUCTURE INSTALLATION



**CLIP INSTALLATION**

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MI WINDOWS AND DOORS, LLC  
650 WEST MARKET STREET  
GRATZ, PA 17030-0370

M-2302 - VERTICAL MULLION  
83" MULLION SPAN  
INSTALLATION DETAILS

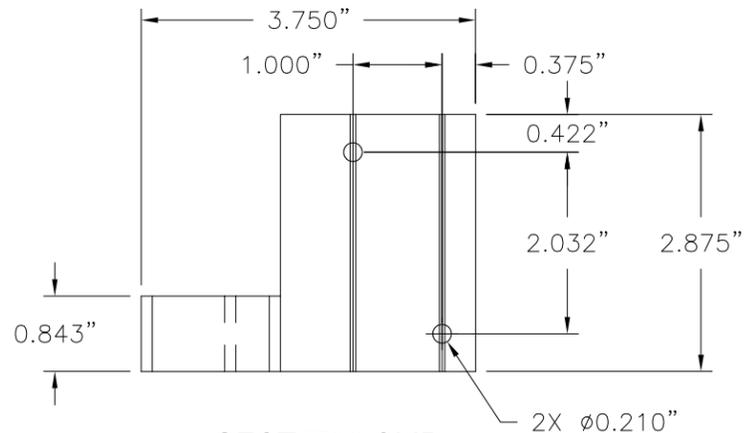
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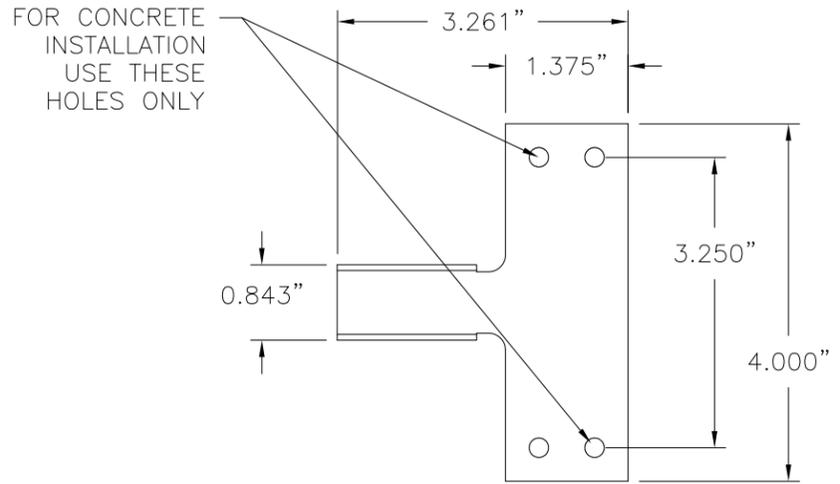


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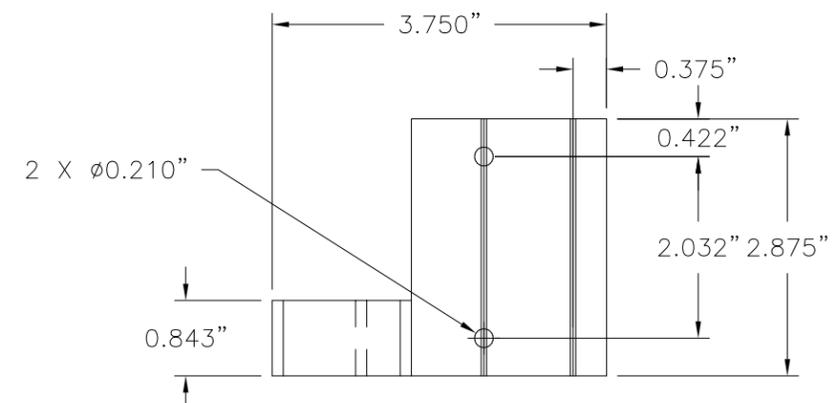
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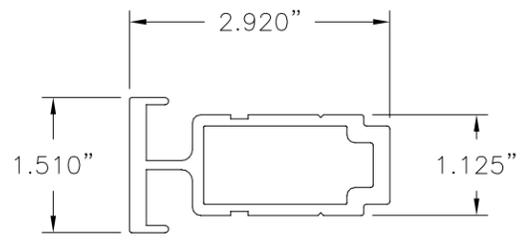
**SECT5796 CLIP**  
FOR CONCRETE INSTALLATION  
ALUMINUM 6063-T5 .125" THICK



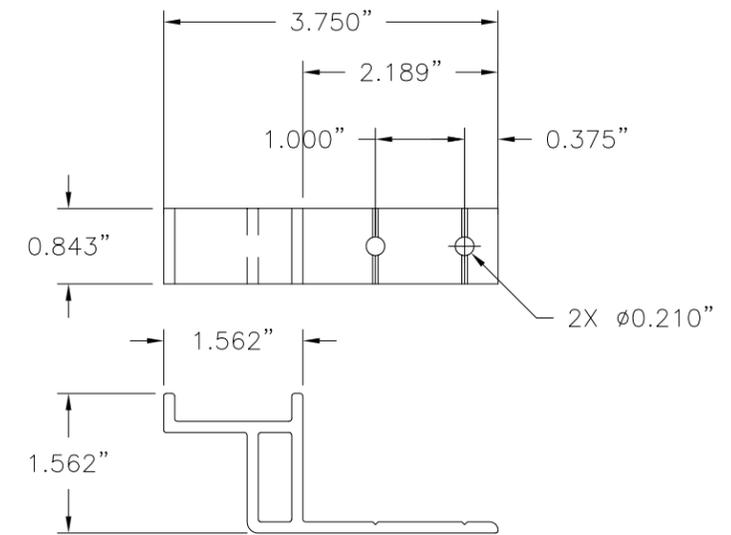
**MT000022 CLIP**  
16GA (.063") GALVANIZED STEEL  
FOR WOOD AND METAL FRAMING INSTALL (4)  
ANCHORS PER CLIP  
FOR MASONRY/CONCRETE INSTALLATION USE (2)  
ANCHORS PER CLIP AS SHOWN



**SECT5796 CLIP**  
FOR CONCRETE INSTALLATION  
ALUMINUM 6063-T5 .125" THICK



**SECT M-2302 MULLION**  
ALUMINUM 6063-T5 .125" THICK



**SECT5796 CLIP**  
FOR WOOD AND METAL FRAMING INSTALLATION  
ALUMINUM 6063-T5 .125" THICK

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