

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	REVISED PER NEW CODE	11/03/2021	R.L.

NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH REQUIREMENTS OF THE 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  $C_d=1.6$  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 VISTAMARK ENTERPRISES, LLC.
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.

ANCHORING NOTES:

1. FOR ANCHORING INTO WOOD FRAMING OR 2X BUCK USE #10 WOOD SCREW WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/4" MINIMUM EMBEDMENT. LOCATE ANCHORS AS SHOWN IN INSTALLATION DETAILS SHEET 3.
2. FOR ANCHORING INTO CONCRETE USE 3/16" TAPCON WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/4" MINIMUM EMBEDMENT WITH 2" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN INSTALLATION DETAILS SHEET 4.
3. FOR ATTACHING WINDOW UNITS TO MULLION USE #10 SELF DRILLING SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE A MINIMUM EMBEDMENT OF THREE THREADS PAST THE MULLION WALL. LOCATE SCREWS IN ACCORDANCE WITH WINDOW ANCHORING SCHEDULE AS SHOWN IN WINDOW SEPARATE APPROVAL.
4. ALL FASTENERS TO BE CORROSION RESISTANT.
5. 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. MASONRY – STRENGTH CONFORMANCE TO ASTM C-90, GRADE N, TYPE 1 (OR GREATER).
6. TO ATTACH MULLION TO CLIP USE (4) #8 x 1/2" SELF DRILLING SCREWS PER CLIP. SCREWS MUST BE FIELD INSTALLED. HOLES FOR SCREWS ARE NOT PRE-DRILLED BY MANUFACTURER.

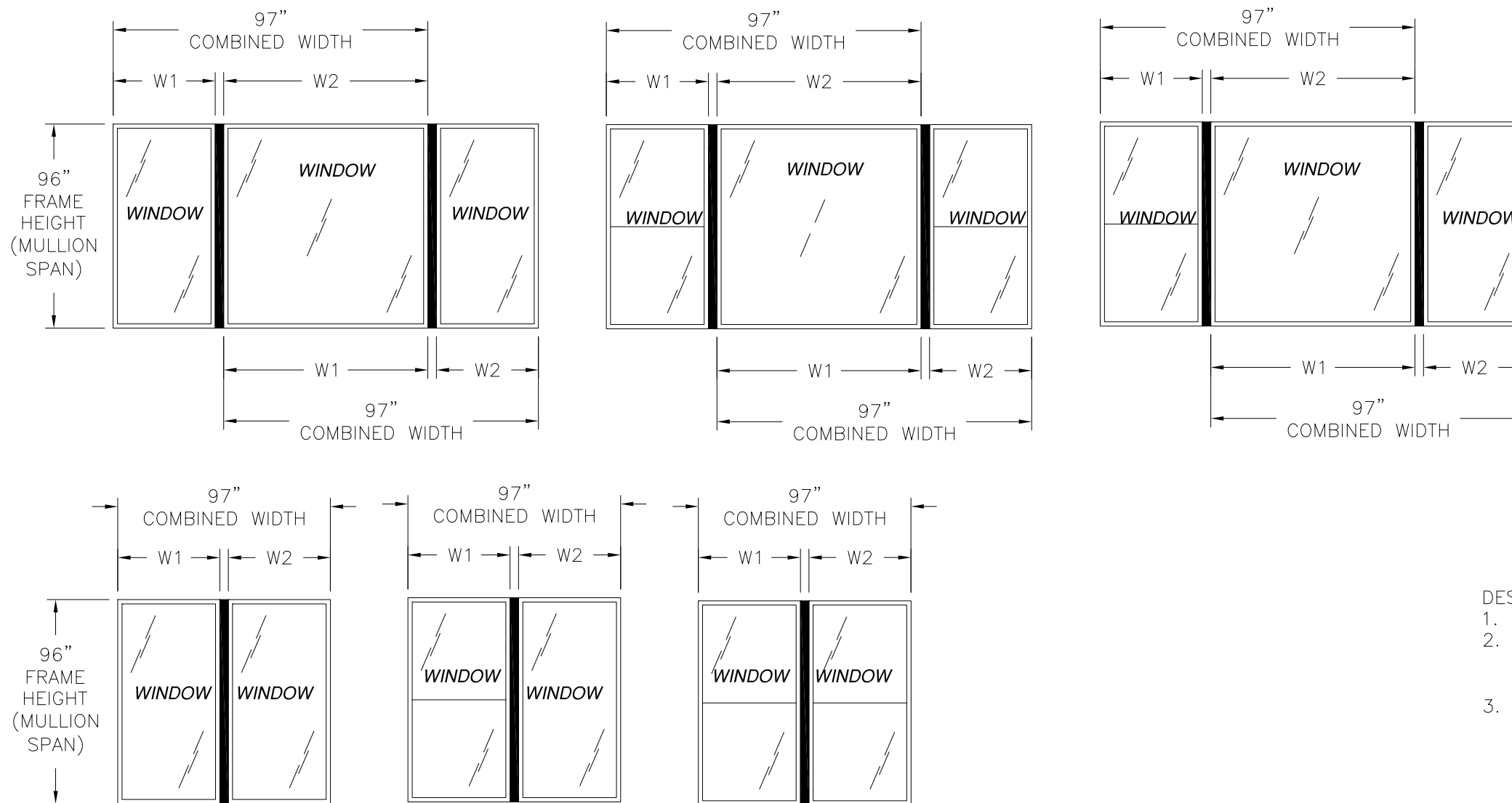
SIGNED: 11/11/2021

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VISTAMARK ENTERPRISES, LLC 3637 N HIGHWAY 77, SUITE C WAXAHACHIE, TX 75165		
793.800 VERTICAL MULLION IMPACT NOTES		
DRAWN: R.L.	DWG NO. 08-02748	REV A
SCALE NTS	DATE 07/23/2015	SHEET 1 OF 9
L. ROBERTO LOMAS P.E. 1432 WOODFORD RD LEWISVILLE, NC 27023 434-688-0609 rllomas@rlomaspe.com		



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



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- DESIGN PRESSURE TABLE INSTRUCTIONS:
1. DEFINE REQUIRED DESIGN LOAD PER 2006 IBC 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.

**APPROVED CONFIGURATIONS**

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

New construction									
Design pressure rating (psf)									
Mullion span (in)	Tributary width (in)								
	24.00	27.00	30.00	33.00	36.00	39.00	42.00	45.00	48.00
24.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
30.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
36.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
42.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
48.00	120.0	120.0	117.8	112.2	108.0	104.9	102.9	101.6	101.3
54.00	115.7	106.7	99.7	94.3	90.0	86.7	84.2	82.3	81.0
60.00	101.3	92.9	86.4	81.3	77.1	73.8	71.2	69.1	67.5
66.00	84.0	75.8	69.3	64.2	60.0	56.6	53.9	51.6	49.8
72.00	64.2	57.7	52.7	48.6	45.3	42.6	40.4	38.5	36.9
78.00	50.1	45.0	41.0	37.7	35.1	32.9	31.1	29.5	28.2
84.00	39.9	35.8	32.5	29.9	27.8	26.0	24.5	23.2	22.1
90.00	32.3	28.9	26.3	24.1	22.3	20.9	19.6	18.6	17.7
96.00	26.5	23.7	21.5	19.7	18.3	17.0	16.0	15.1	-

IMPACT RATED UP TO WIND ZONE 3

Replacement construction									
Design pressure rating (psf)									
Mullion span	Tributary width (in)								
	24.00	27.00	30.00	33.00	36.00	39.00	42.00	45.00	48.00
24.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
30.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
36.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
42.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
48.00	120.0	120.0	120.0	120.0	120.0	119.5	117.1	115.7	115.3
54.00	120.0	120.0	113.5	107.3	102.5	98.7	95.4	92.5	90.4
60.00	113.1	102.3	93.9	87.3	81.8	77.3	73.7	70.8	68.6
66.00	84.0	75.8	69.3	64.2	60.0	56.6	53.9	51.6	49.8
72.00	64.2	57.7	52.7	48.6	45.3	42.6	40.4	38.5	36.9
78.00	50.1	45.0	41.0	37.7	35.1	32.9	31.1	29.5	28.2
84.00	39.9	35.8	32.5	29.9	27.8	26.0	24.5	23.2	22.1
90.00	32.3	28.9	26.3	24.1	22.3	20.9	19.6	18.6	17.7
96.00	26.5	23.7	21.5	19.7	18.3	17.0	16.0	15.1	-

IMPACT RATED UP TO WIND ZONE 3

VISTAMARK ENTERPRISES, LLC  
 3637 N HIGHWAY 77, SUITE C  
 WAXAHACHIE, TX 75165

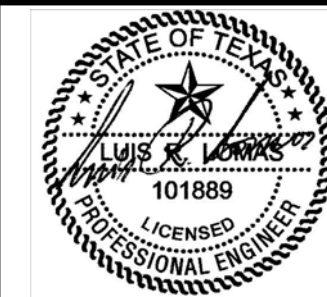
793.800 VERTICAL MULLION  
 IMPACT  
 APPROVED CONFIGURATIONS

DRAWN: R.L. DWG NO. 08-02748 REV A

SCALE NTS DATE 07/23/2015 SHEET 2 OF 9

L. ROBERTO LOMAS P.E.  
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 434-688-0609 rllomas@rlomaspe.com

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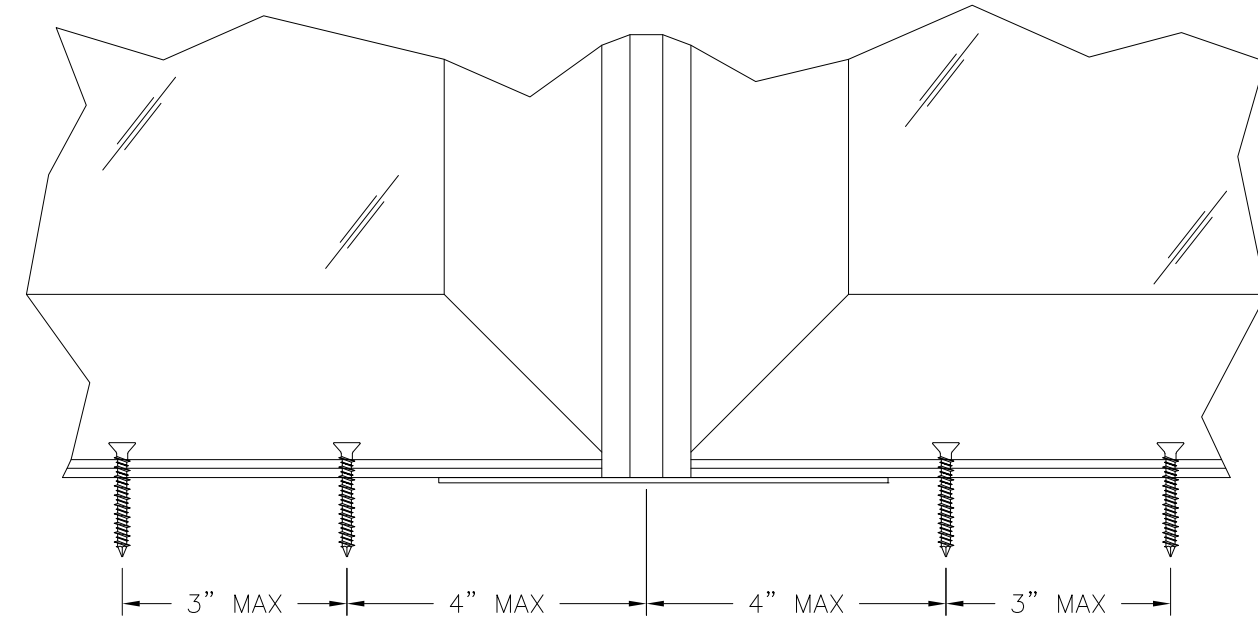
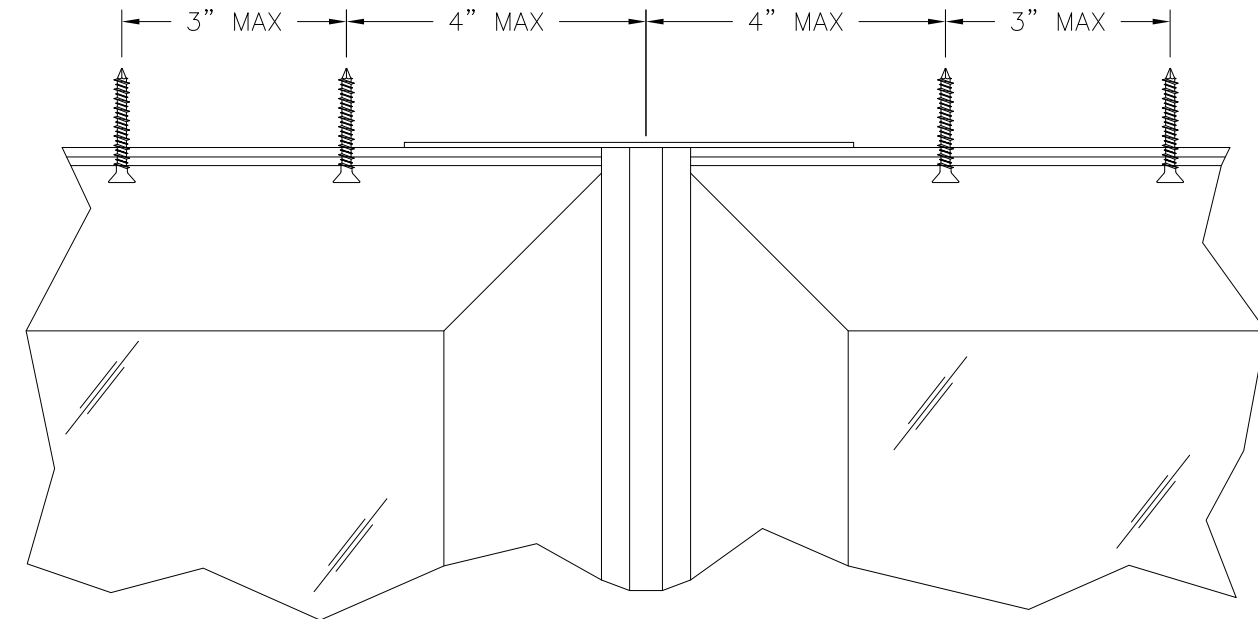
#8 X 1/2" PH SCREW  
4 PL. INTO FRAMES

#8 X 1" PH SCREW  
4" EACH END, 12" O.C.

WINDOW FRAME  
REFERENCE ONLY

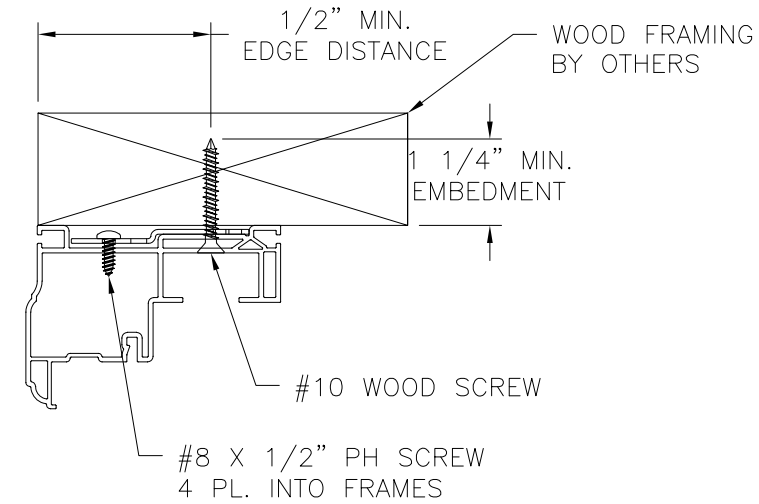
CLIP

MULLION PART 2411-A



**VERTICAL SECTION**  
WOOD FRAMING OR 2X BUCK INSTALLATION

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<b>VISTAMARK ENTERPRISES, LLC</b> 3637 N HIGHWAY 77, SUITE C WAXAHACHIE, TX 75165		
793.800 VERTICAL MULLION IMPACT INSTALLATION DETAILS		
DRAWN: R.L.	DWG NO. 08-02748	REV A
SCALE NTS	DATE 07/23/2015	SHEET 3 OF 9
L. ROBERTO LOMAS P.E. 1432 WOODFORD RD LEWISVILLE, NC 27023 434-688-0609 rllomas@rlomaspe.com		

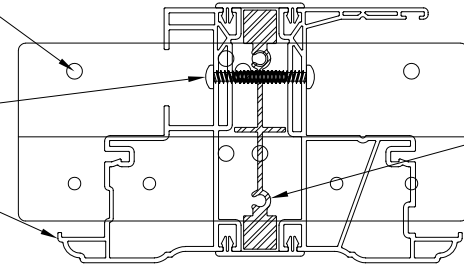


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4 PL. INTO FRAMES

#8 X 1" PH SCREW  
4" EACH END, 12" O.C.

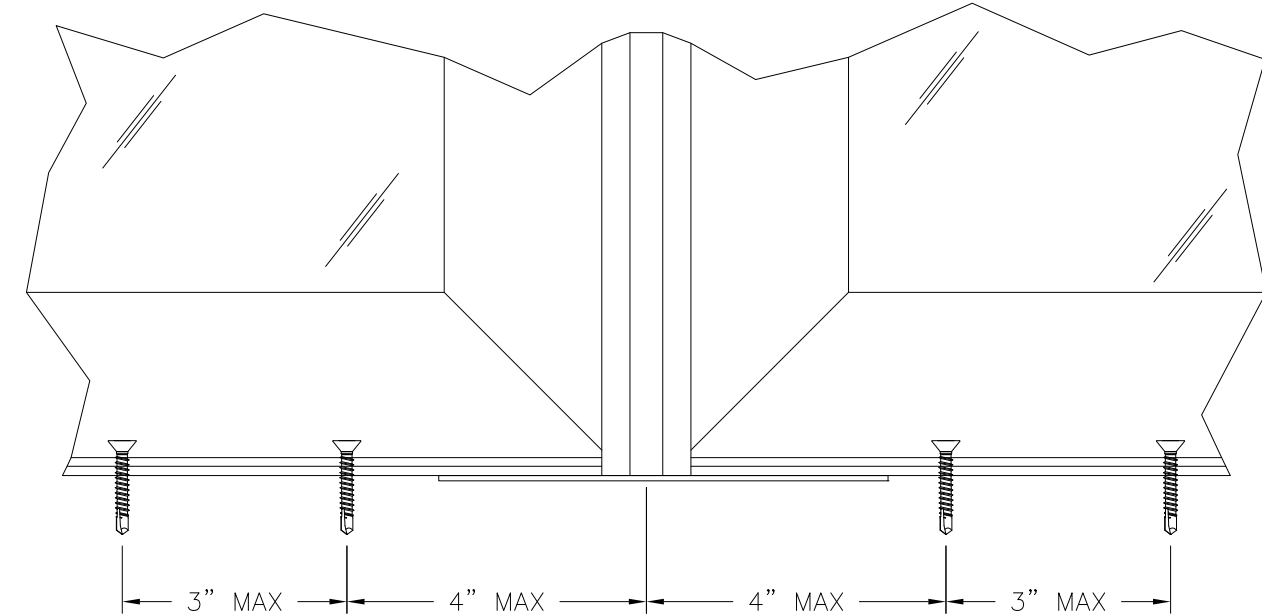
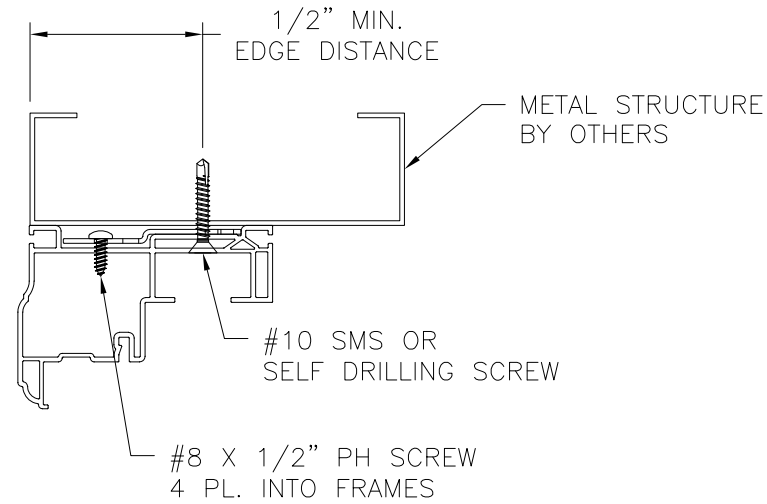
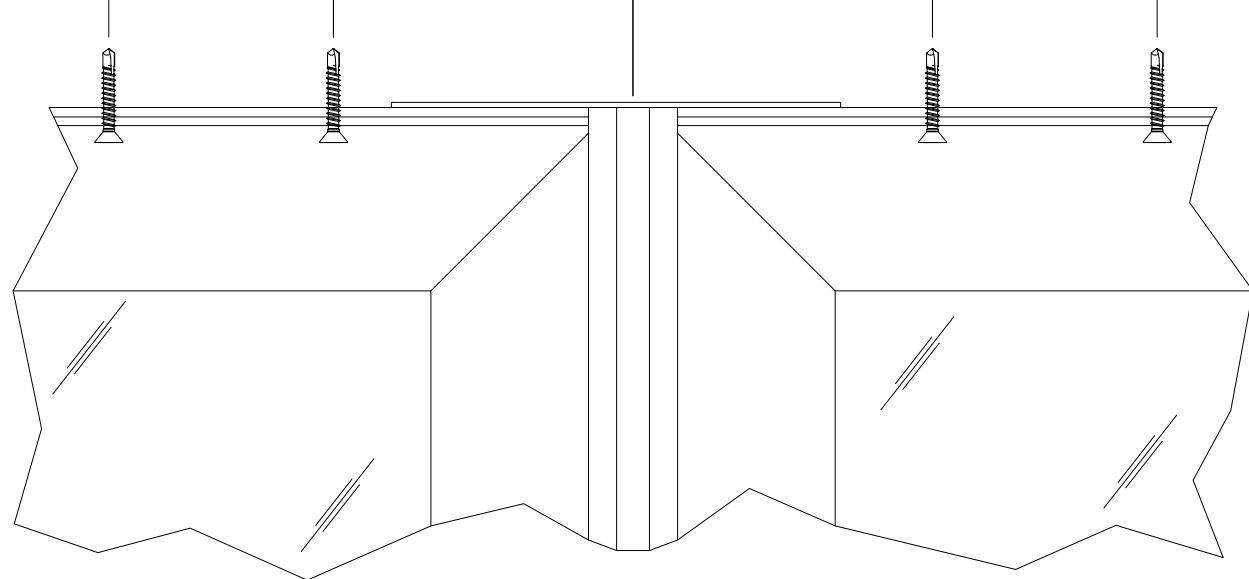
WINDOW FRAME  
REFERENCE ONLY



CLIP

MULLION PART 2411-A

3" MAX    4" MAX    4" MAX    3" MAX



**VERTICAL SECTION**  
METAL STRUCTURE INSTALLATION

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793.800 VERTICAL MULLION IMPACT INSTALLATION DETAILS		
DRAWN: R.L.	DWG NO. 08-02748	REV A
SCALE NTS	DATE 07/23/2015	SHEET 4 OF 9
L. ROBERTO LOMAS P.E. 1432 WOODFORD RD LEWISVILLE, NC 27023 434-688-0609 rllomas@rlomaspe.com		

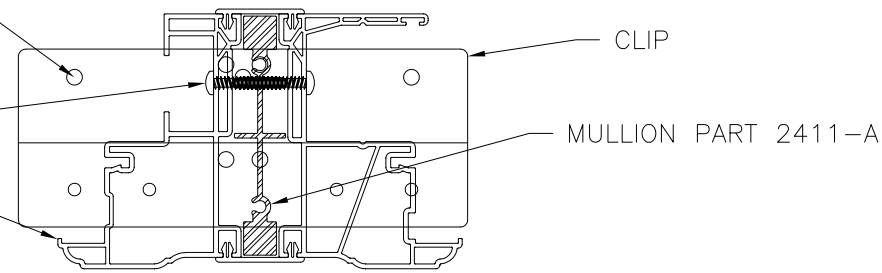


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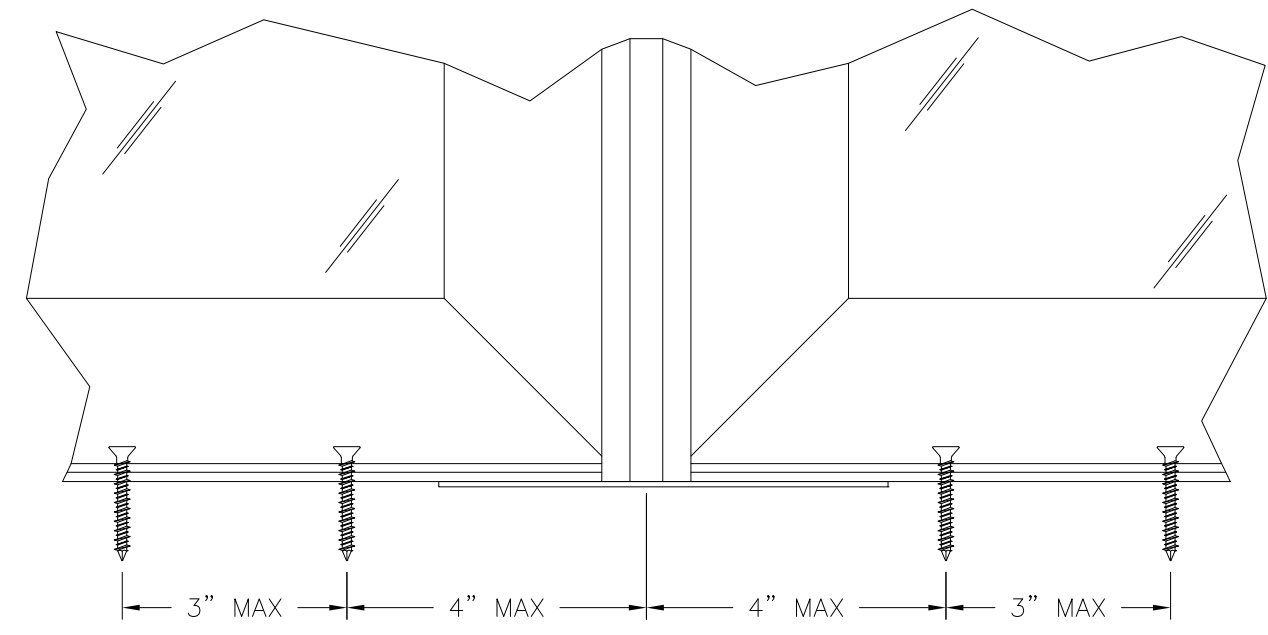
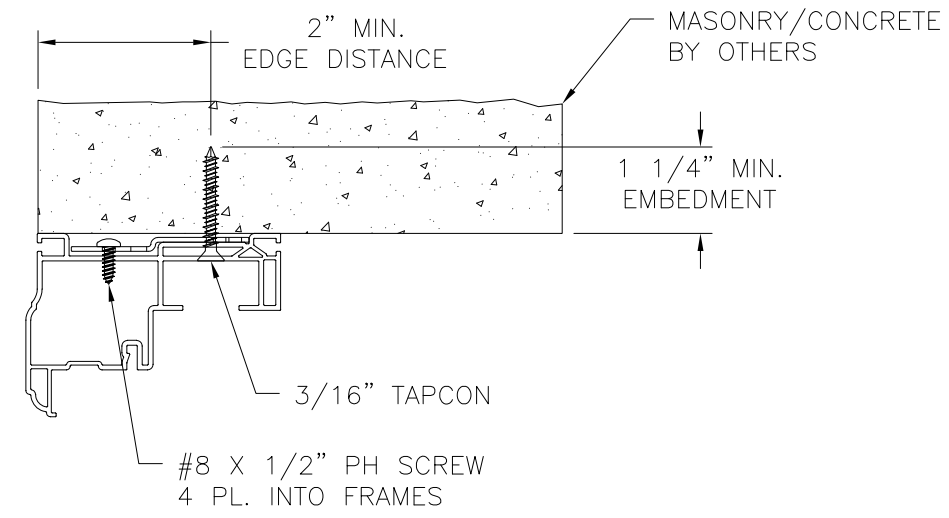
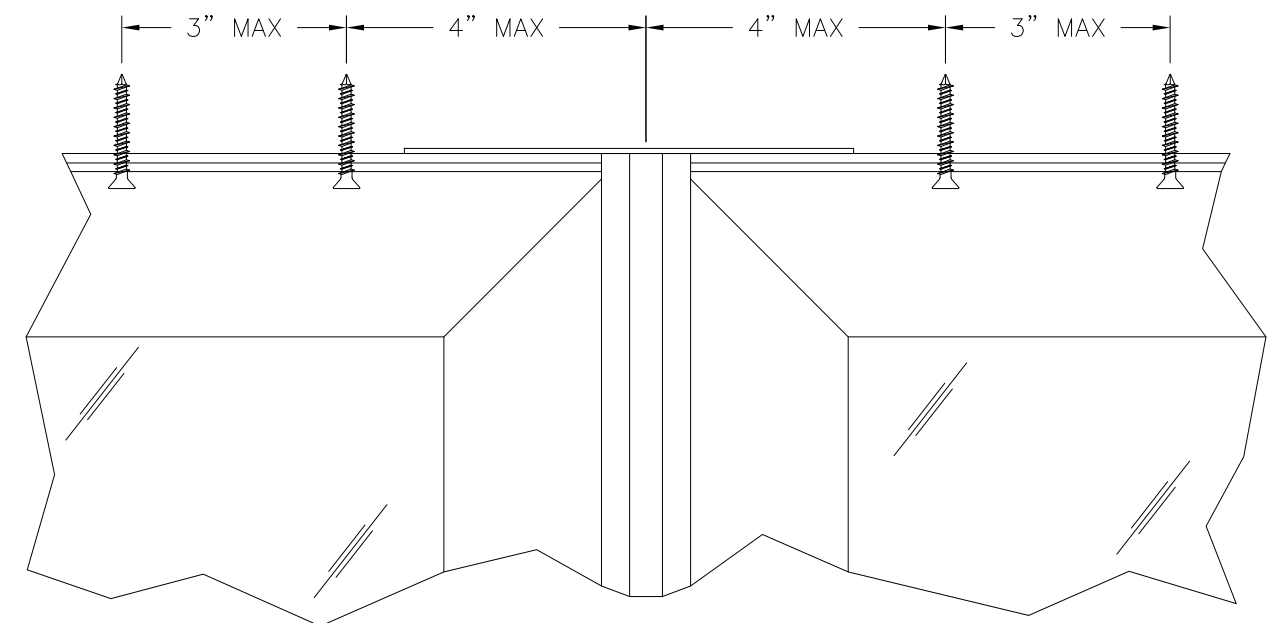
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**VERTICAL SECTION**  
MASONRY/CONCRETE INSTALLATION

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VISTAMARK ENTERPRISES, LLC  
3637 N HIGHWAY 77, SUITE C  
WAXAHACHIE, TX 75165

793.800 VERTICAL MULLION  
IMPACT  
INSTALLATION DETAILS

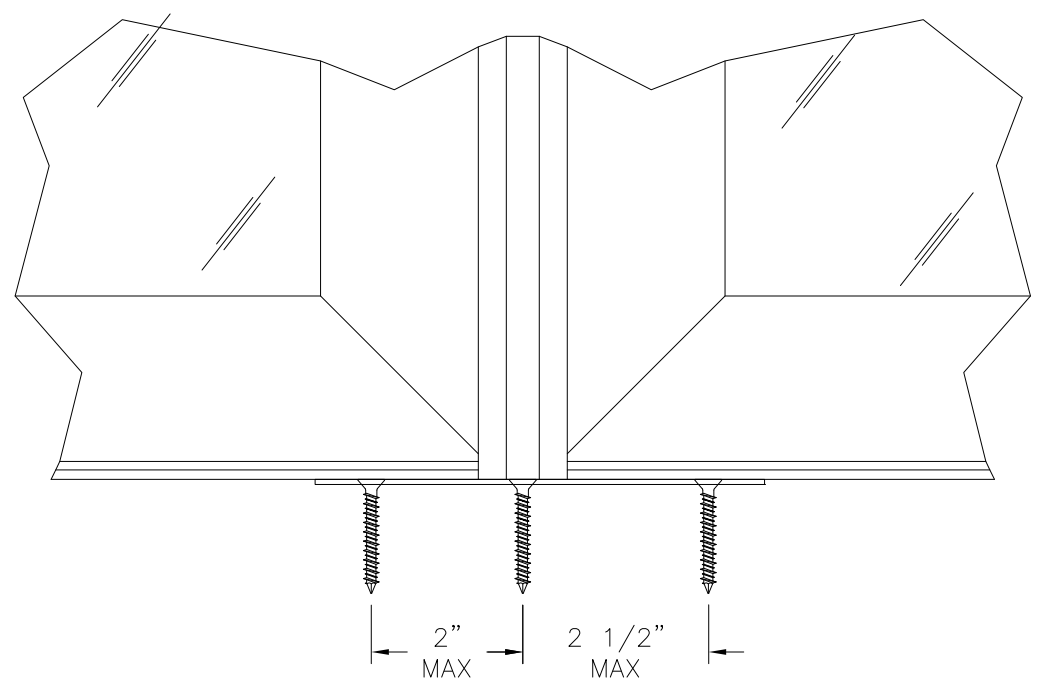
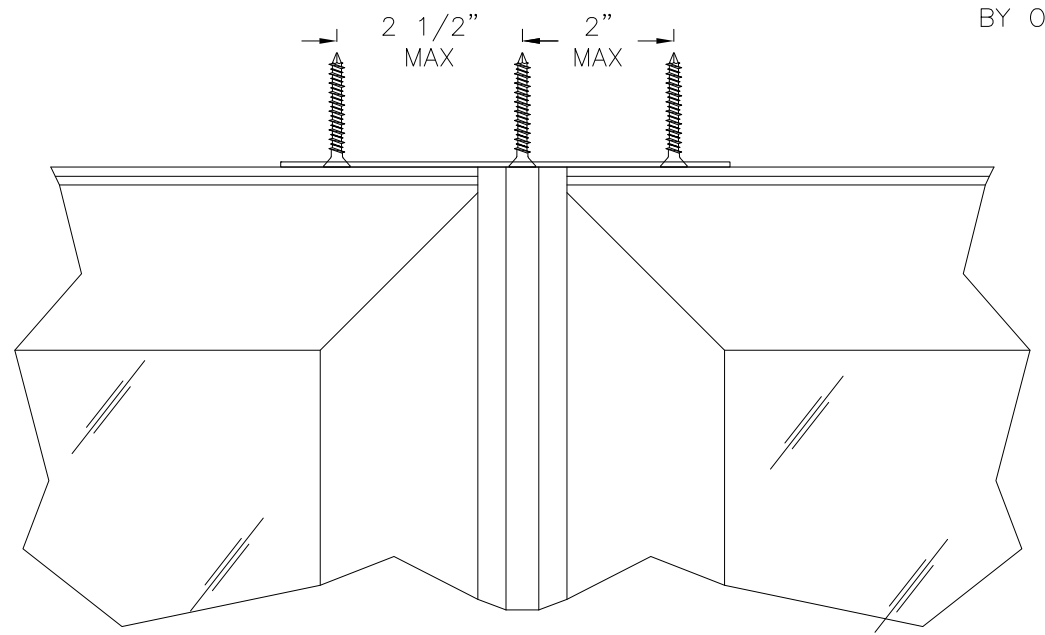
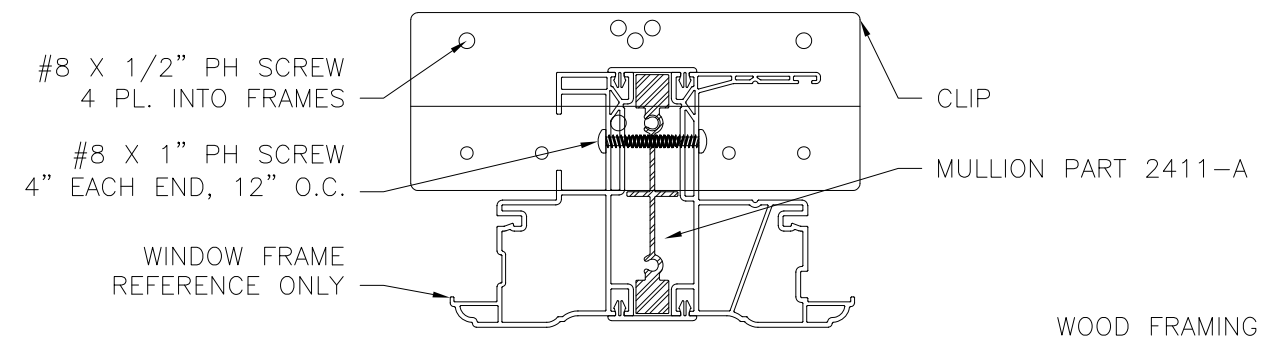
DRAWN: R.L.	DWG NO. 08-02748	REV A
SCALE NTS	DATE 07/23/2015	SHEET 5 OF 9

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**VERTICAL SECTION**  
WOOD FRAMING OR 2X BUCK INSTALLATION

VISTAMARK ENTERPRISES, LLC  
3637 N HIGHWAY 77, SUITE C  
WAXAHACHIE, TX 75165

793.800 VERTICAL MULLION  
IMPACT  
INSTALLATION DETAILS

DRAWN: R.L.	DWG NO. 08-02748	REV A
SCALE NTS	DATE 07/23/2015	SHEET 6 OF 9

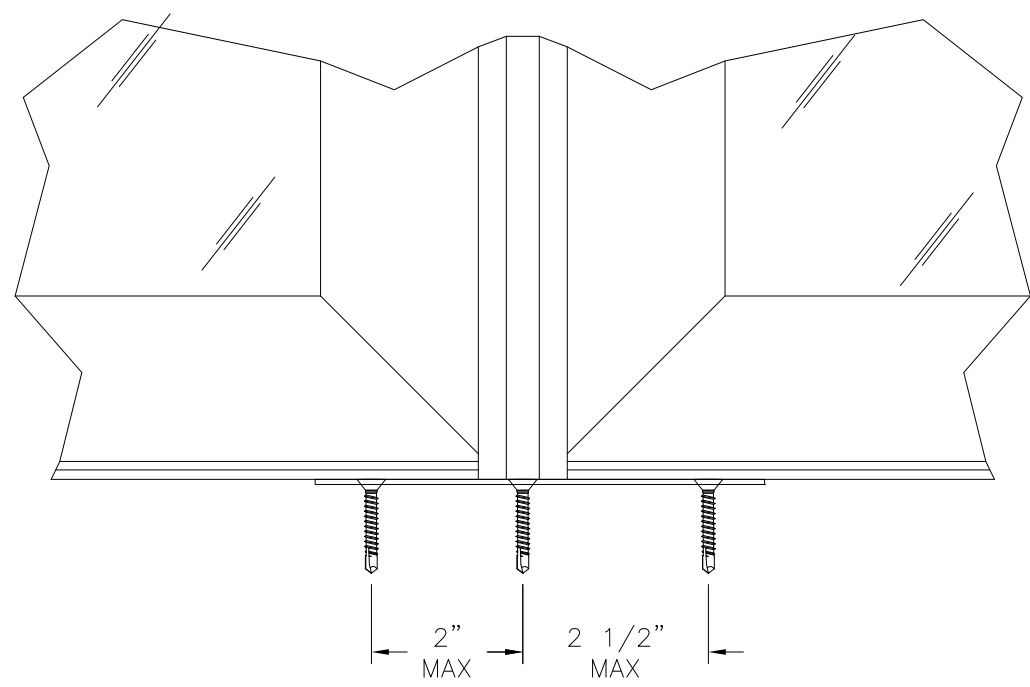
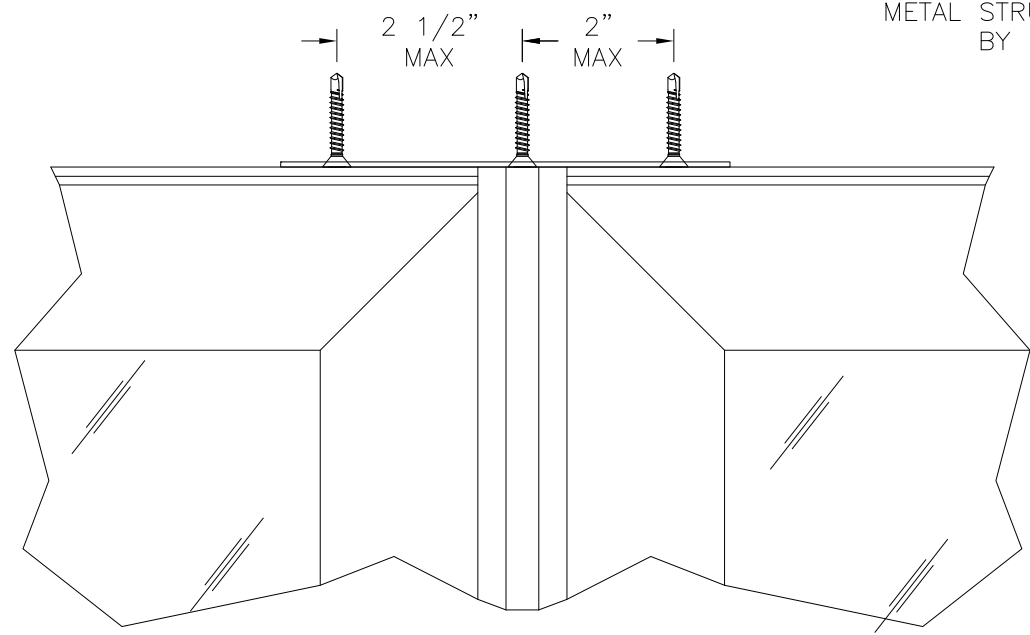
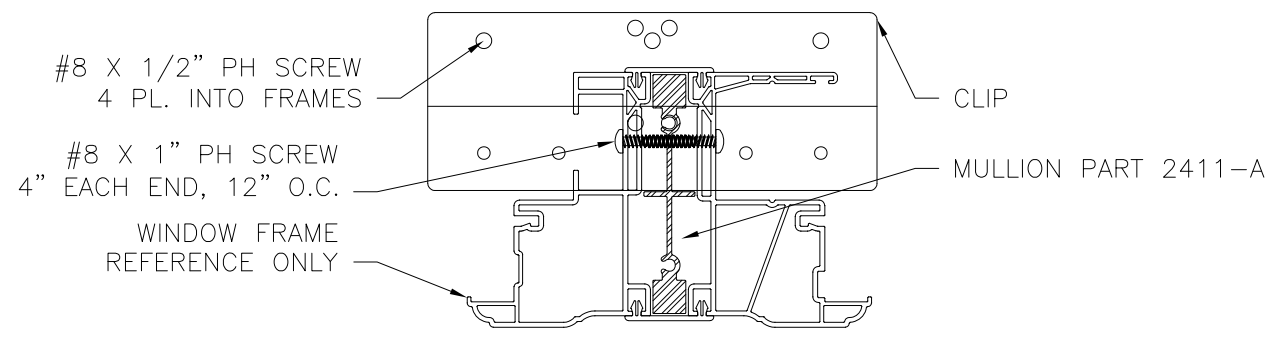
L. ROBERTO LOMAS P.E.  
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434-688-0609 rllomas@lrlomaspe.com

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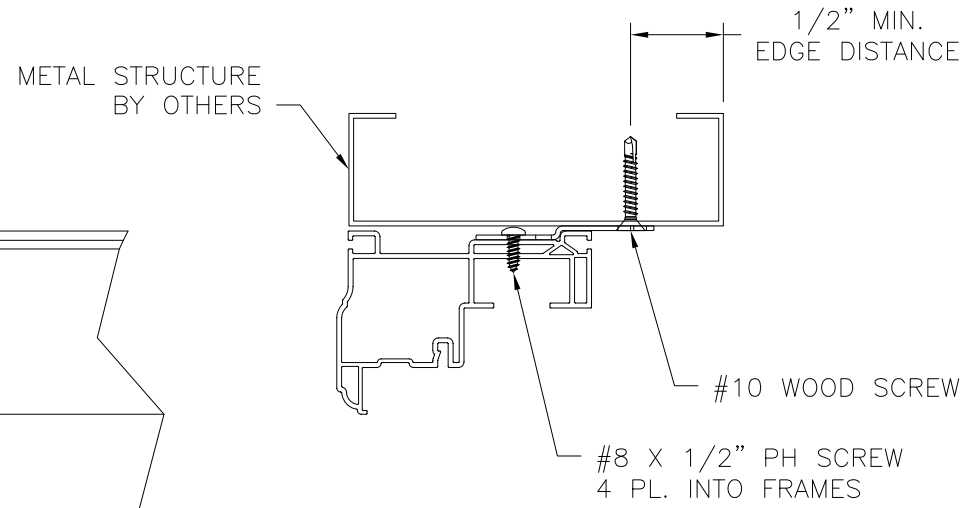


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**VERTICAL SECTION  
METAL STRUCTURE INSTALLATION**



VISTAMARK ENTERPRISES, LLC  
3637 N HIGHWAY 77, SUITE C  
WAXAHACHIE, TX 75165

793.800 VERTICAL MULLION  
IMPACT  
INSTALLATION DETAILS

DRAWN: R.L.	DWG NO. 08-02748	REV A
SCALE NTS	DATE 07/23/2015	SHEET 7 OF 9

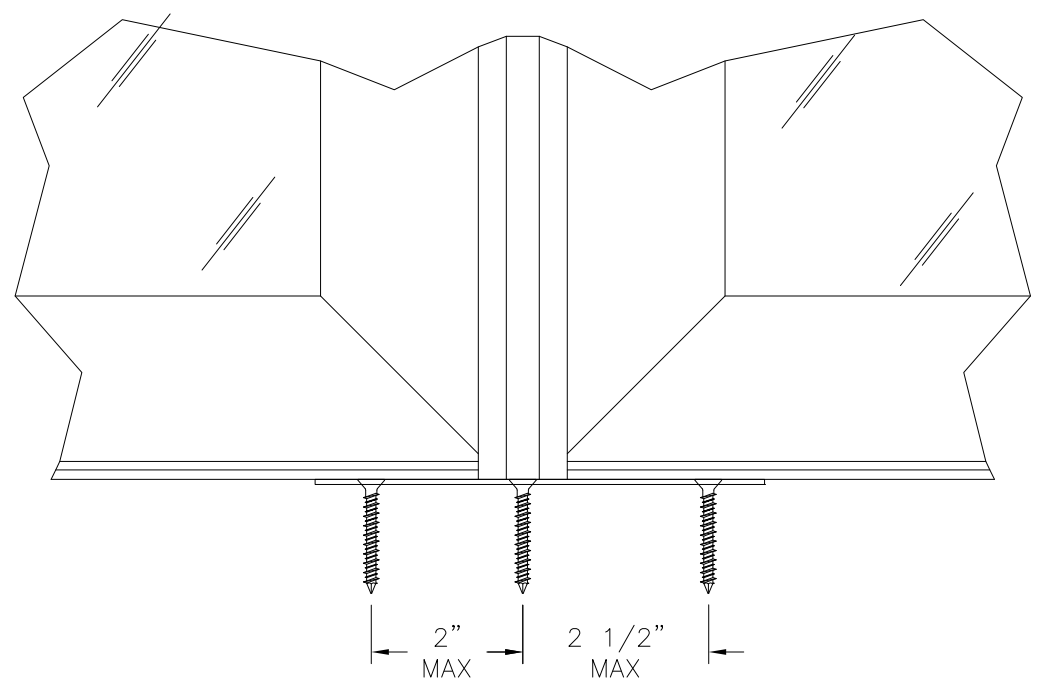
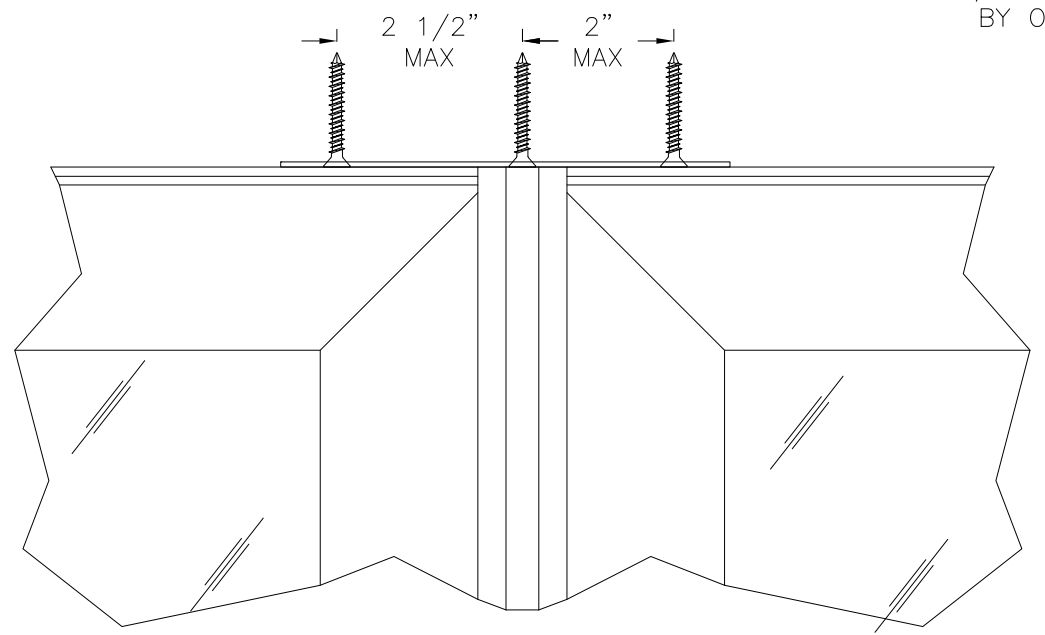
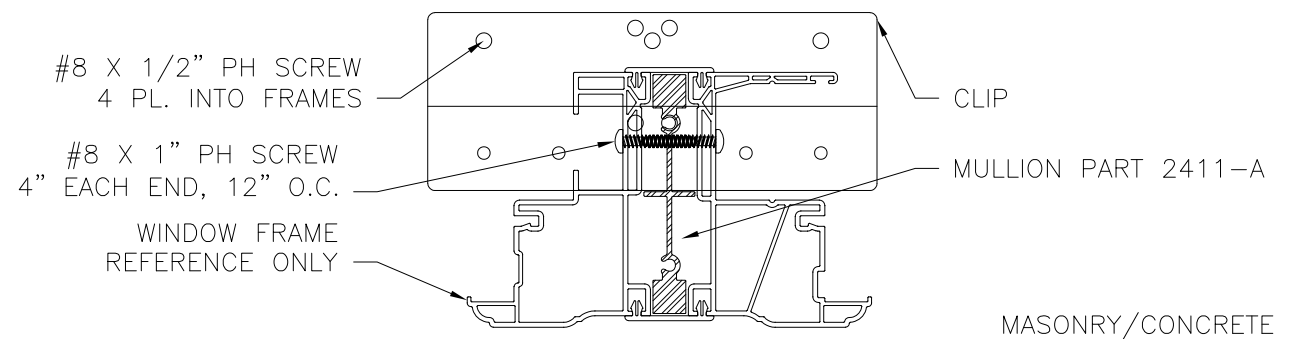
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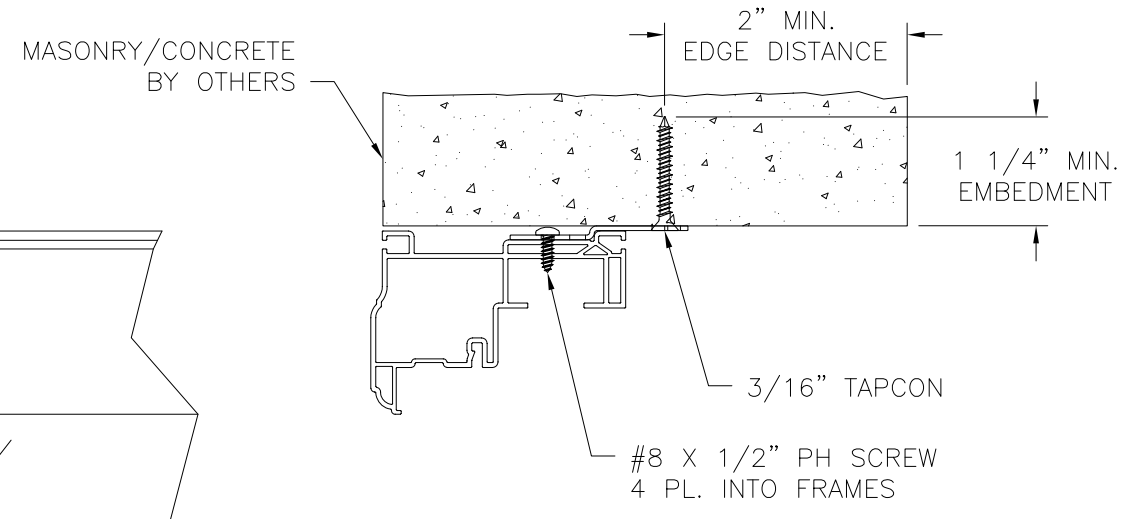


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**VERTICAL SECTION**  
MASONRY/CONCRETE INSTALLATION



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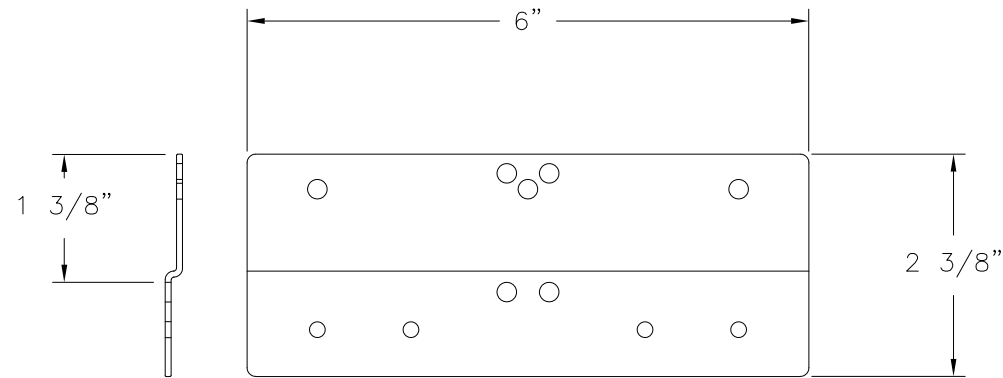
<b>VISTAMARK ENTERPRISES, LLC</b> 3637 N HIGHWAY 77, SUITE C WAXAHACHIE, TX 75165		
793.800 VERTICAL MULLION IMPACT INSTALLATION DETAILS		
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L. ROBERTO LOMAS P.E. 1432 WOODFORD RD LEWISVILLE, NC 27023 434-688-0609 rllomas@rlomaspe.com		



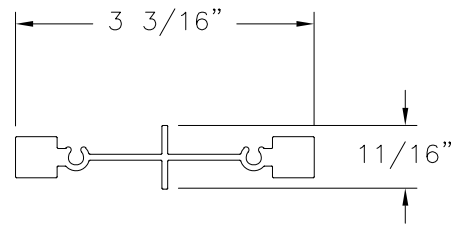
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**CLIP DETAIL**  
GALVANIZED STEEL .0635" THICK



**MULLION PART 2411-A**  
ALUMINUM 6063-T6  
MOMENT OF INERTIA: .861 IN<sup>4</sup>  
SECTION MODULUS: .540 IN<sup>3</sup>

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VISTAMARK ENTERPRISES, LLC 3637 N HIGHWAY 77, SUITE C WAXAHACHIE, TX 75165		
793.800 VERTICAL MULLION IMPACT COMPONENTS		
DRAWN: R.L.	DWG NO. 08-02748	REV A
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