

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.

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.
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.
3. FOR ATTACHING WINDOW UNITS TO MULLION USE #8 X 1" PH SELF DRILLING SCREWS. LOCATE SCREWS IN ACCORDANCE WITH WINDOW ANCHORING SCHEDULE AS SHOWN IN WINDOW SEPARATE APPROVAL OR AS SHOWN HEREIN.
4. FOR ANCHORING THROUGH FRAME INTO METAL STRUCTURE USE #8 SMS OR SELF DRILLING SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE 3 THREADS MINIMUM BEYOND STRUCTURE INTERIOR WALL. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
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. 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 $FU=30KSI$ 1/8" THICK MINIMUM.
7. TO ATTACH MULLION TO CLIP USE (1) #10 x 2" SELF DRILLING SCREWS PER CLIP. SCREWS MUST BE FIELD INSTALLED. SEE INSTALLATION DETAILS.

SIGNED: 11/11/2021

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VISTAMARK ENTERPRISES, LLC 3637 N HIGHWAY 77, SUITE C WAXAHACHIE, TX 75165		
793.800 HORIZONTAL MULLION IMPACT NOTES		
DRAWN: R.L.	DWG NO. 08-02750	REV A
SCALE NTS	DATE 07/23/2015	SHEET 1 OF 11
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

THESE CHARTS APPLY TO TRIPLE W/SINGLE TRANSOM CONFIGURATIONS WITH FOUR DIFFERENT TRANSOM HEIGHTS

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CHART #5 (12" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Span and Tributary width (in)						
		72.00	81.00	90.00	99.00	108.00	117.00	126.00
Window	Transom	24.00	27.00	30.00	33.00	36.00	39.00	42.00
24.00	12.00	83.3	58.2	42.2	31.6	24.3	19.0	15.2
30.00	12.00	72.2	50.4	36.6	27.3	21.0	16.4	-
36.00	12.00	63.7	44.5	32.3	24.1	18.5	-	-
42.00	12.00	57.0	39.8	28.9	21.6	16.6	-	-
48.00	12.00	51.5	36.0	26.2	19.6	15.0	-	-
54.00	12.00	47.0	32.9	23.9	17.9	-	-	-
60.00	12.00	43.3	30.3	22.0	16.5	-	-	-
66.00	12.00	40.1	28.0	20.4	15.3	-	-	-
72.00	12.00	37.3	26.1	19.0	-	-	-	-
78.00	12.00	34.9	24.4	17.8	-	-	-	-
84.00	12.00	32.8	23.0	16.7	-	-	-	-
90.00	12.00	30.9	21.6	15.7	-	-	-	-
96.00	12.00	29.2	20.5	-	-	-	-	-

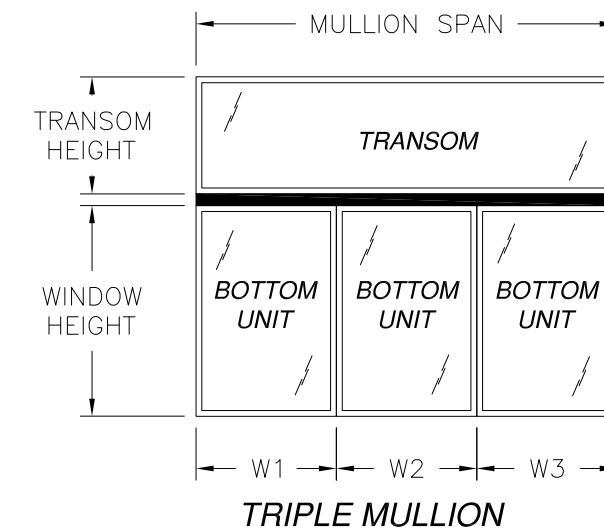
IMPACT RATED UP TO WIND ZONE 3

CHART #6 (18" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Span and Tributary width (in)					
		72.00	81.00	90.00	99.00	108.00	117.00
Window	Transom	24.00	27.00	30.00	33.00	36.00	39.00
24.00	18.00	71.8	50.1	36.3	27.2	20.9	16.4
30.00	18.00	63.4	44.2	32.0	24.0	18.4	-
36.00	18.00	56.7	39.6	28.7	21.5	16.5	-
42.00	18.00	51.3	35.9	26.0	19.5	-	-
48.00	18.00	46.9	32.8	23.8	17.8	-	-
54.00	18.00	43.1	30.2	21.9	16.4	-	-
60.00	18.00	39.9	27.9	20.3	15.2	-	-
66.00	18.00	37.2	26.0	18.9	-	-	-
72.00	18.00	34.8	24.3	17.7	-	-	-
78.00	18.00	32.7	22.9	16.6	-	-	-
84.00	18.00	30.8	21.6	15.7	-	-	-
90.00	18.00	29.2	20.4	-	-	-	-
96.00	18.00	27.7	19.4	-	-	-	-

IMPACT RATED UP TO WIND ZONE 3



DESIGN PRESSURE TABLE INSTRUCTIONS:

1. DEFINE REQUIRED DESIGN LOAD WITH 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.
4. IF ACTUAL TRANSOM HEIGHT IS BETWEEN TWO HEIGHTS USE VALUES WITH HIGHER TRANSOM.

$$\text{TRIBUTARY WIDTH} = \frac{W1 + W2 + W3}{3}$$

CHART #7 (24" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Span and Tributary width (in)				
		72.00	81.00	90.00	99.00	108.00
Window	Transom	24.00	27.00	30.00	33.00	36.00
24.00	24.00	63.4	44.2	32.0	23.9	18.4
30.00	24.00	56.8	39.6	28.6	21.4	16.4
36.00	24.00	51.4	35.8	25.9	19.4	-
42.00	24.00	46.9	32.7	23.7	17.7	-
48.00	24.00	43.2	30.1	21.8	16.3	-
54.00	24.00	40.0	27.9	20.2	15.1	-
60.00	24.00	37.2	26.0	18.9	-	-
66.00	24.00	34.8	24.3	17.7	-	-
72.00	24.00	32.7	22.9	16.6	-	-
78.00	24.00	30.8	21.6	15.7	-	-
84.00	24.00	29.2	20.4	-	-	-
90.00	24.00	27.7	19.4	-	-	-
96.00	24.00	26.3	18.4	-	-	-

IMPACT RATED UP TO WIND ZONE 3

CHART #8 (30" TRANSOM)

Maximum design pressure capacity chart (psf)

Height (in)		Span and Tributary width (in)				
		72.00	81.00	90.00	99.00	108.00
Window	Transom	24.00	27.00	30.00	33.00	36.00
24.00	30.00	57.3	39.8	28.7	21.4	16.4
30.00	30.00	51.8	36.0	26.0	19.4	-
36.00	30.00	47.2	32.9	23.8	17.7	-
42.00	30.00	43.4	30.2	21.9	16.3	-
48.00	30.00	40.2	28.0	20.3	15.1	-
54.00	30.00	37.4	26.1	18.9	-	-
60.00	30.00	35.0	24.4	17.7	-	-
66.00	30.00	32.9	22.9	16.6	-	-
72.00	30.00	31.0	21.6	15.7	-	-
78.00	30.00	29.3	20.5	-	-	-
84.00	30.00	27.8	19.4	-	-	-
90.00	30.00	26.4	18.5	-	-	-
96.00	30.00	25.2	17.6	-	-	-

IMPACT RATED UP TO WIND ZONE 3

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

793.800 HORIZONTAL MULLION
IMPACT
APPROVED CONFIGURATIONS

DRAWN: R.L.	DWG NO. 08-02750	REV A
SCALE NTS	DATE 07/23/2015	SHEET 3 OF 11

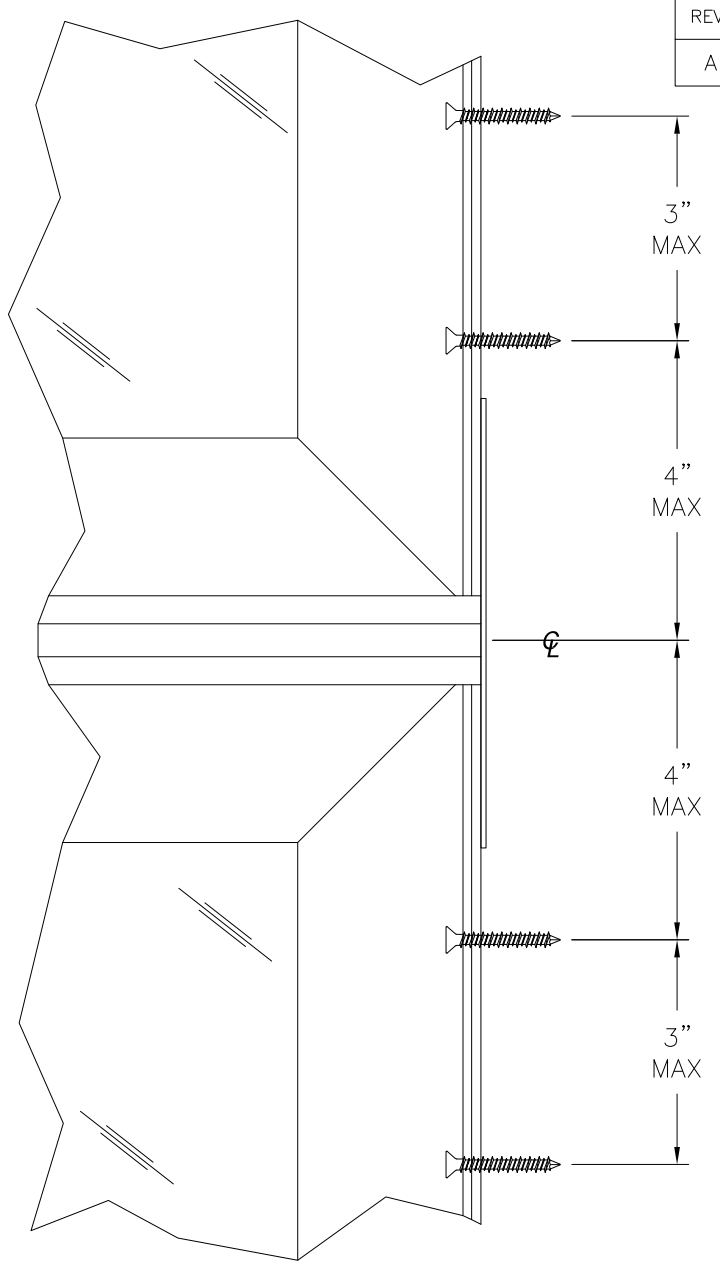
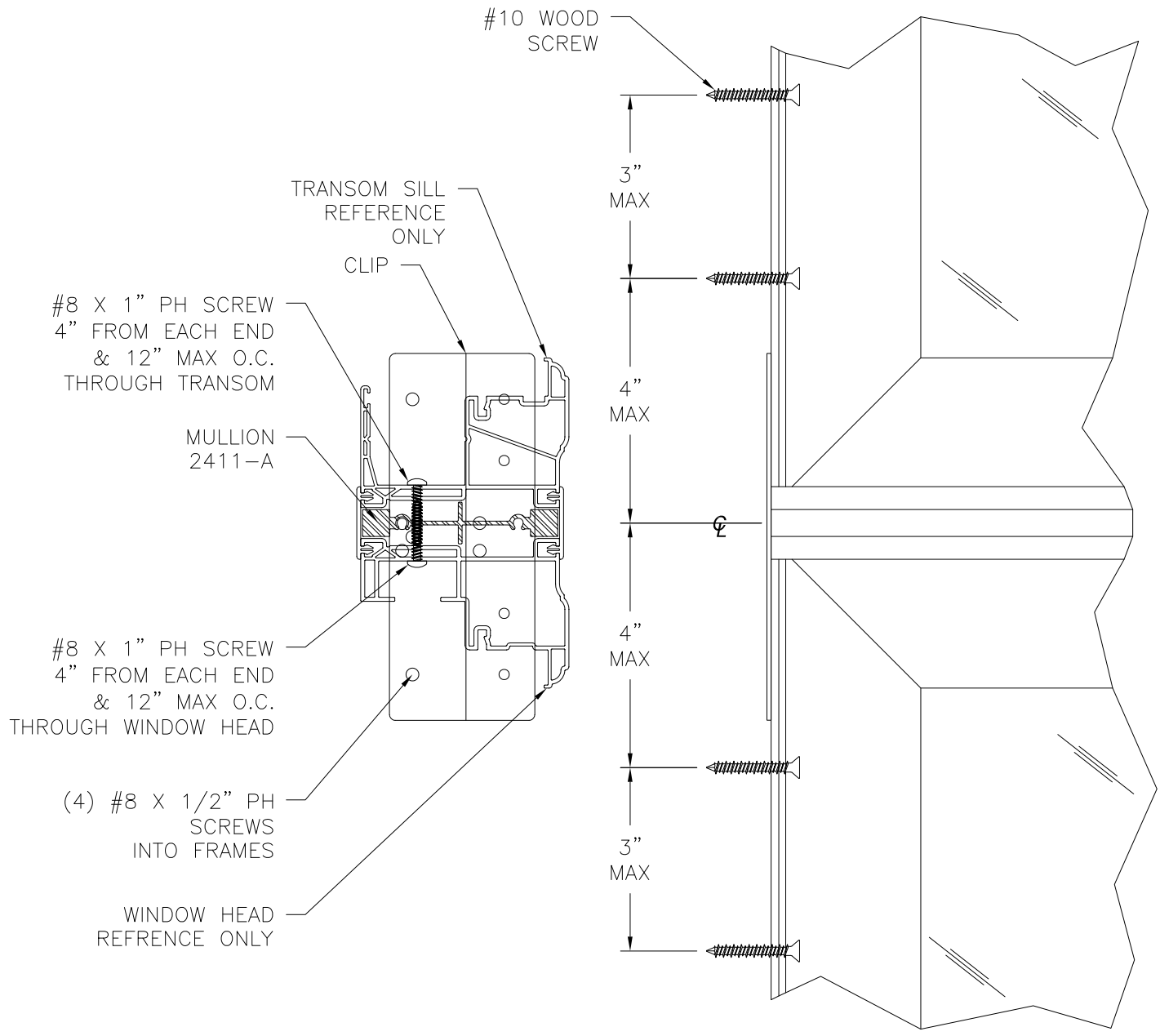
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1432 WOODFORD RD LEWISVILLE, NC 27023
434-688-0609 rllomas@rlomaspe.com

SIGNED: 11/11/2021



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

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
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#8 X 1" PH SCREW
4" FROM EACH END
& 12" MAX O.C.
THROUGH TRANSOM

MULLION
2411-A

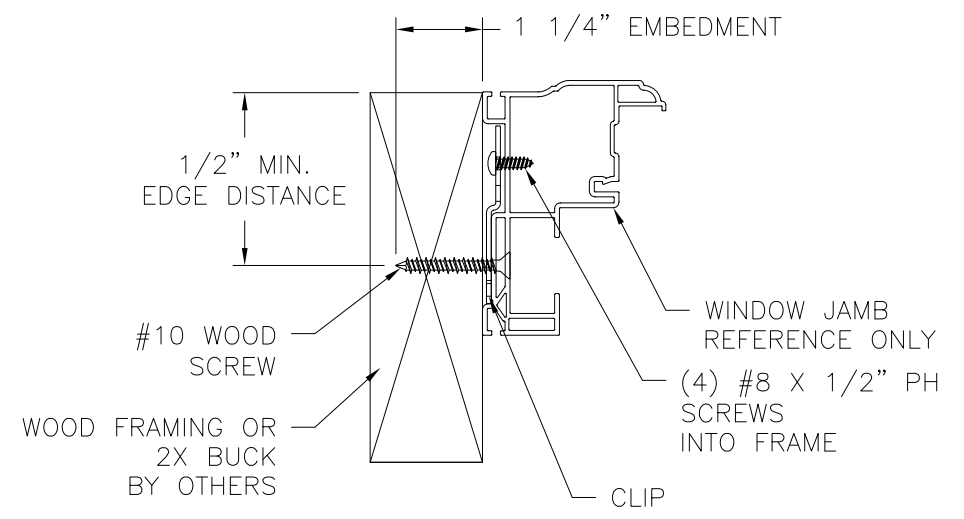
#8 X 1" PH SCREW
4" FROM EACH END
& 12" MAX O.C.
THROUGH WINDOW HEAD

(4) #8 X 1/2" PH
SCREWS
INTO FRAMES

WINDOW HEAD
REFERENCE ONLY

TRANSOM SILL
REFERENCE
ONLY

CLIP



VERTICAL SECTION
WOOD FRAMING OR 2X BUCK INSTALLATION

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

793.800 HORIZONTAL MULLION
IMPACT
REPLACEMENT INSTALLATION DETAILS

DRAWN: R.L.	DWG NO. 08-02750	REV A
SCALE NTS	DATE 07/23/2015	SHEET 4 OF 11

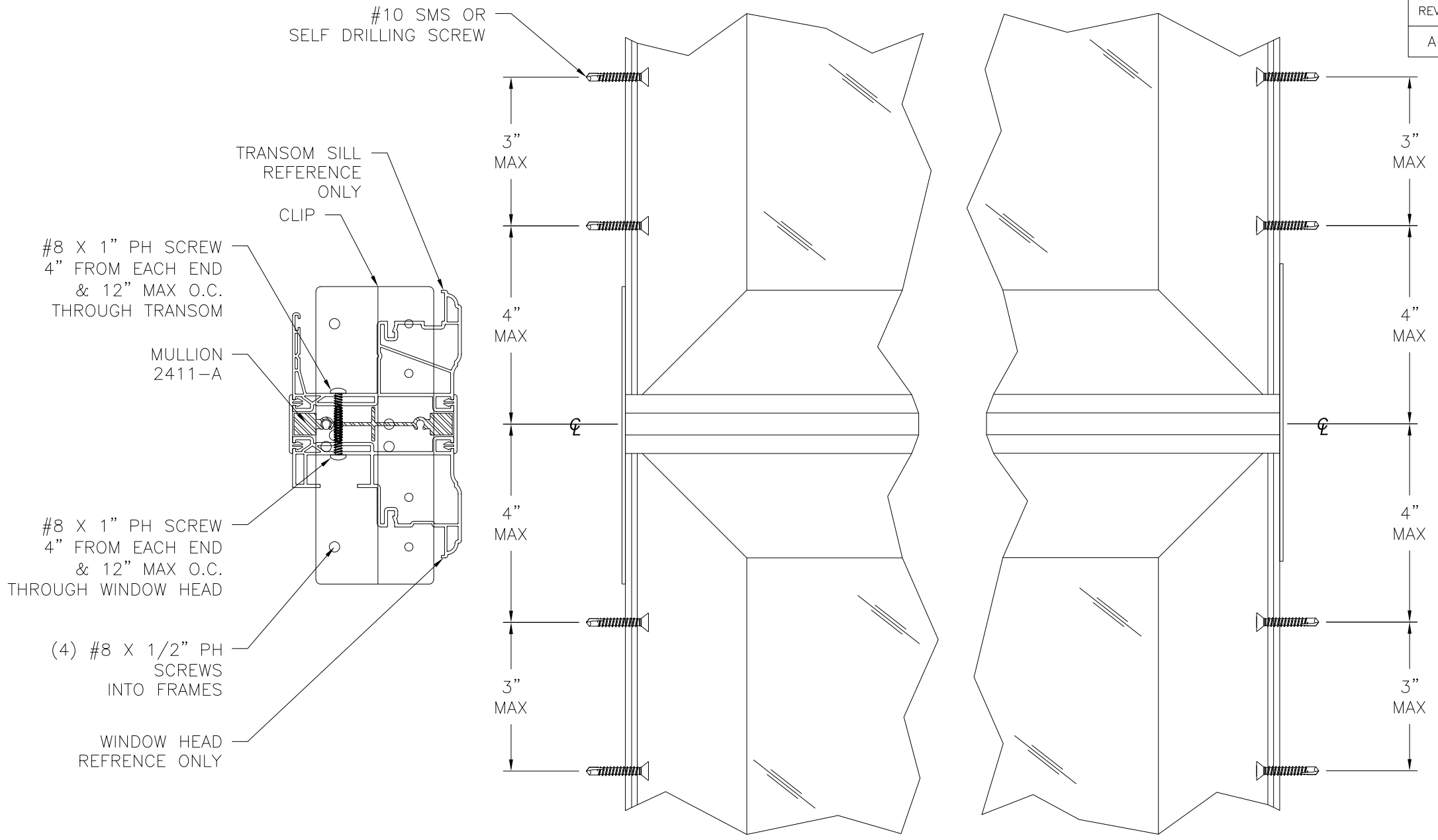
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#8 X 1" PH SCREW
4" FROM EACH END
& 12" MAX O.C.
THROUGH TRANSOM

MULLION
2411-A

#8 X 1" PH SCREW
4" FROM EACH END
& 12" MAX O.C.
THROUGH WINDOW HEAD

(4) #8 X 1/2" PH
SCREWS
INTO FRAMES

WINDOW HEAD
REFERENCE ONLY

TRANSOM SILL
REFERENCE
ONLY
CLIP

#10 SMS OR
SELF DRILLING SCREW

3"
MAX

4"
MAX

4"
MAX

3"
MAX

3"
MAX

4"
MAX

4"
MAX

3"
MAX

1/2" MIN.
EDGE DISTANCE

#10 SMS OR
SELF DRILLING SCREW

METAL STRUCTURE
BY OTHERS

WINDOW JAMB
REFERENCE ONLY

(4) #8 X 1/2" PH
SCREWS
INTO FRAME

CLIP

VERTICAL SECTION
METAL STRUCTURE INSTALLATION

VISTAMARK ENTERPRISES, LLC
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WAXAHACHIE, TX 75165

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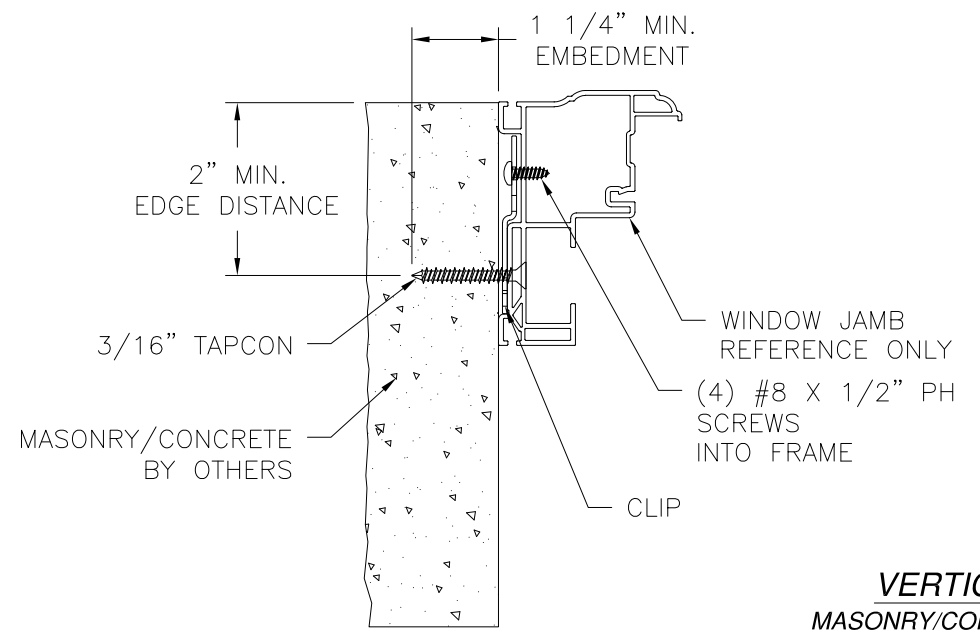
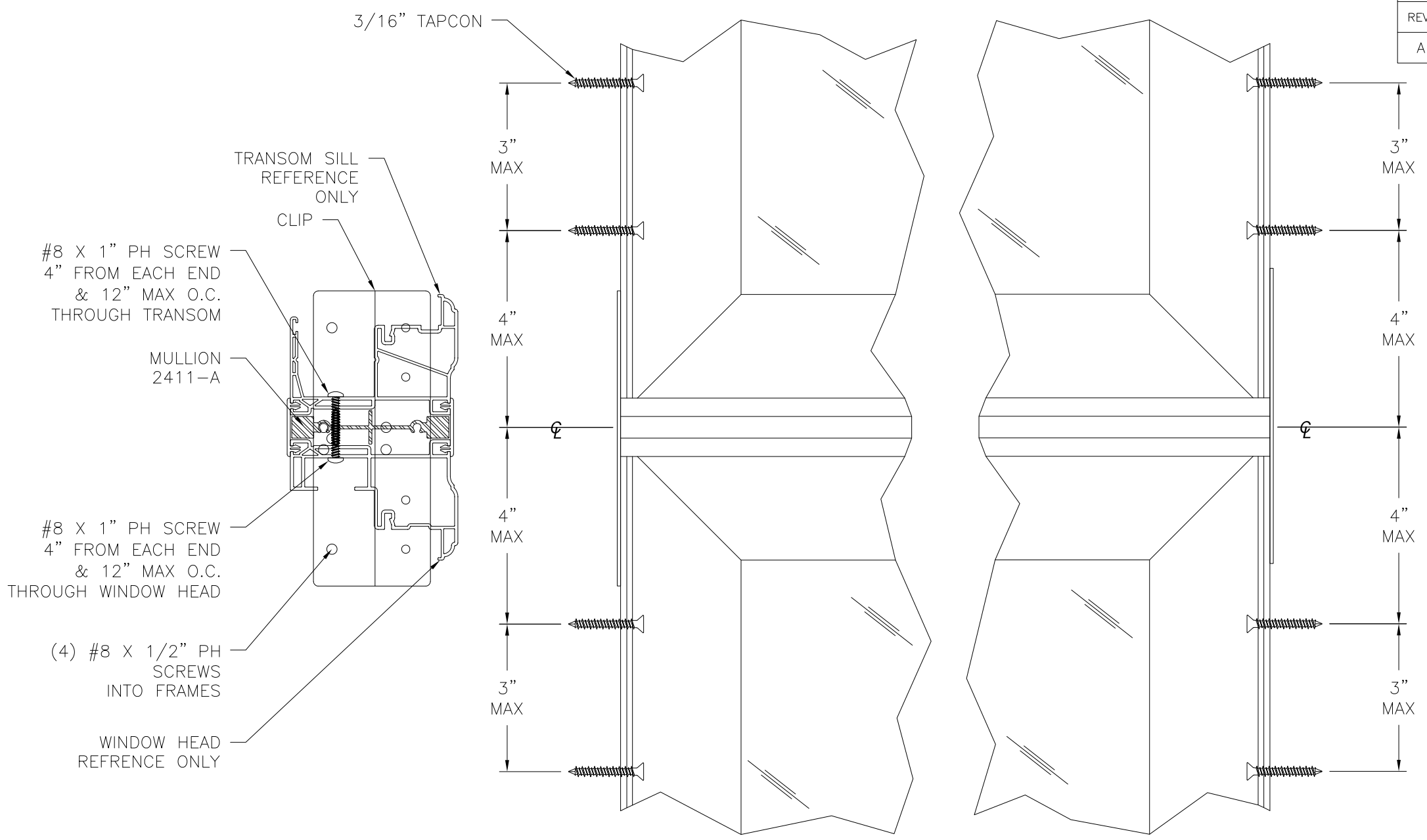
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434-688-0609 rllomas@rlomaspe.com

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VERTICAL SECTION
MASONRY/CONCRETE INSTALLATION

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

793.800 HORIZONTAL MULLION
 IMPACT
 REPLACEMENT INSTALLATION DETAILS

DRAWN: R.L.	DWG NO. 08-02750	REV A
SCALE NTS	DATE 07/23/2015	SHEET 6 OF 11

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TRANSOM SILL
REFERENCE ONLY

CLIP

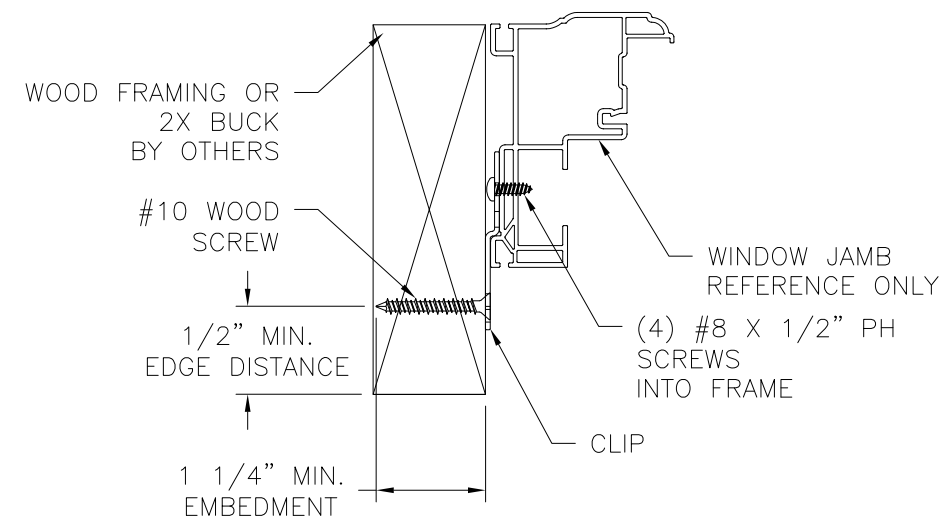
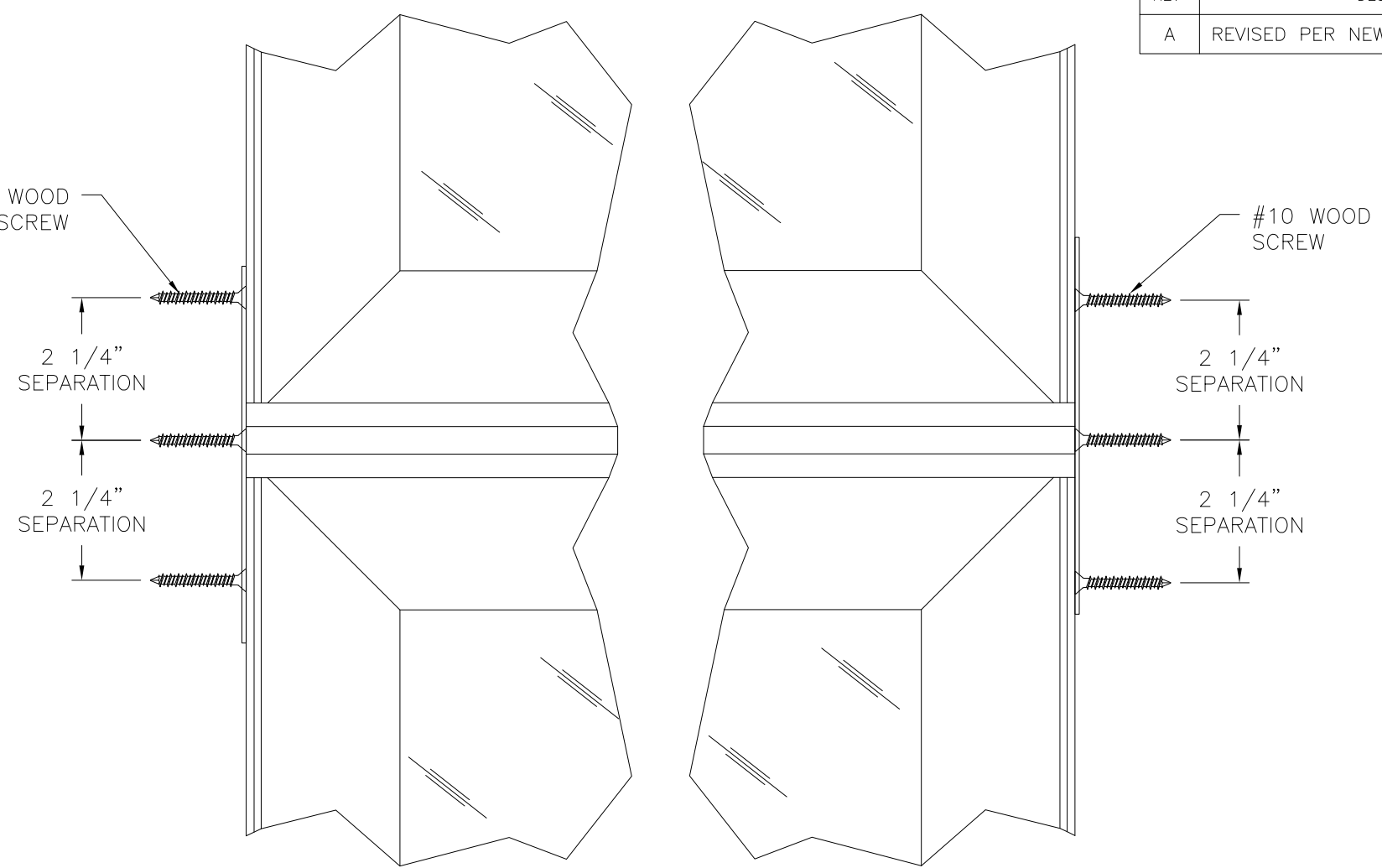
#8 X 1" PH SCREW
4" FROM EACH END
& 12" MAX O.C.
THROUGH TRANSOM

MULLION
2411-A

#8 X 1" PH SCREW
4" FROM EACH END
& 12" MAX O.C.
THROUGH WINDOW HEAD

(4) #8 X 1/2" PH
SCREWS
INTO FRAMES

WINDOW HEAD
REFERENCE ONLY



VERTICAL SECTION
WOOD FRAMING OR 2X BUCK INSTALLATION

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

793.800 HORIZONTAL MULLION
IMPACT
NEW CONSTRUCTION INSTALLATION DETAILS

DRAWN: R.L.	DWG NO. 08-02750	REV A
SCALE NTS	DATE 07/23/2015	SHEET 7 OF 11

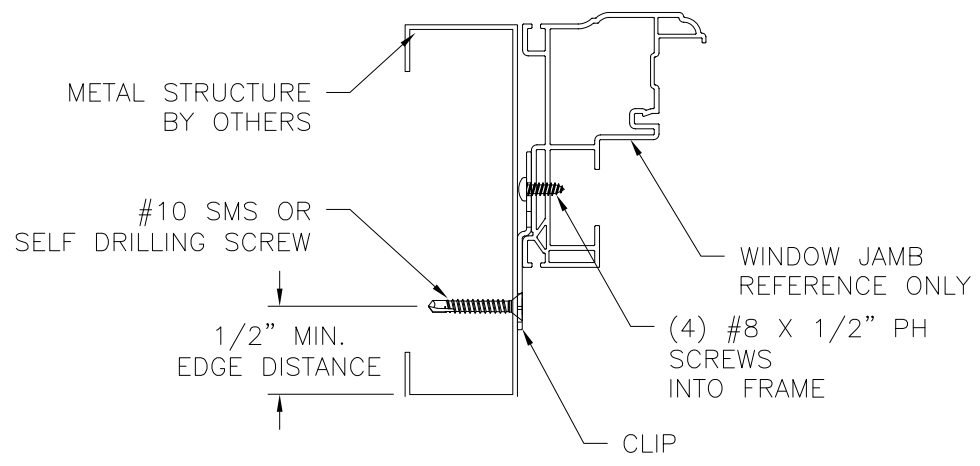
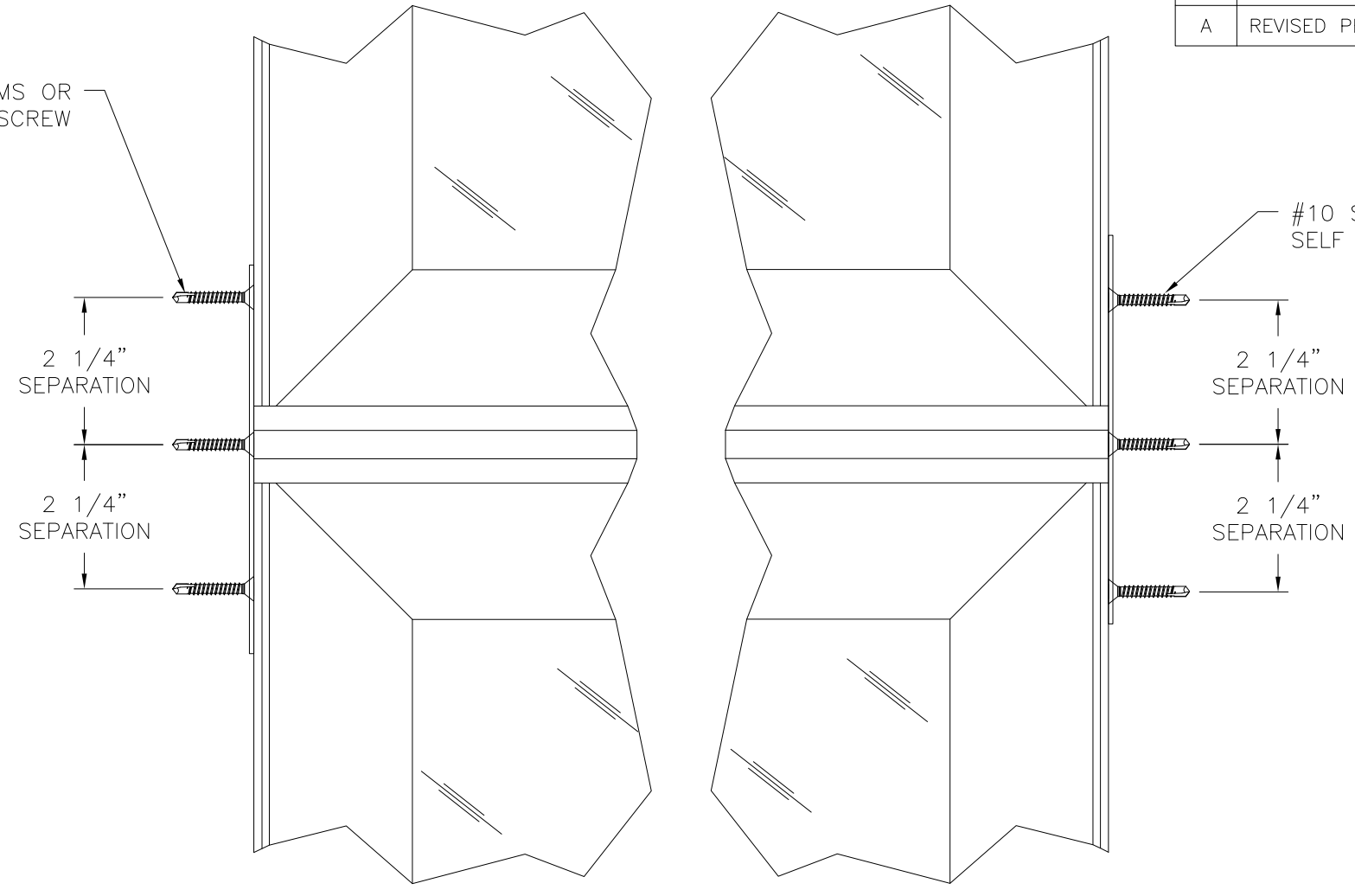
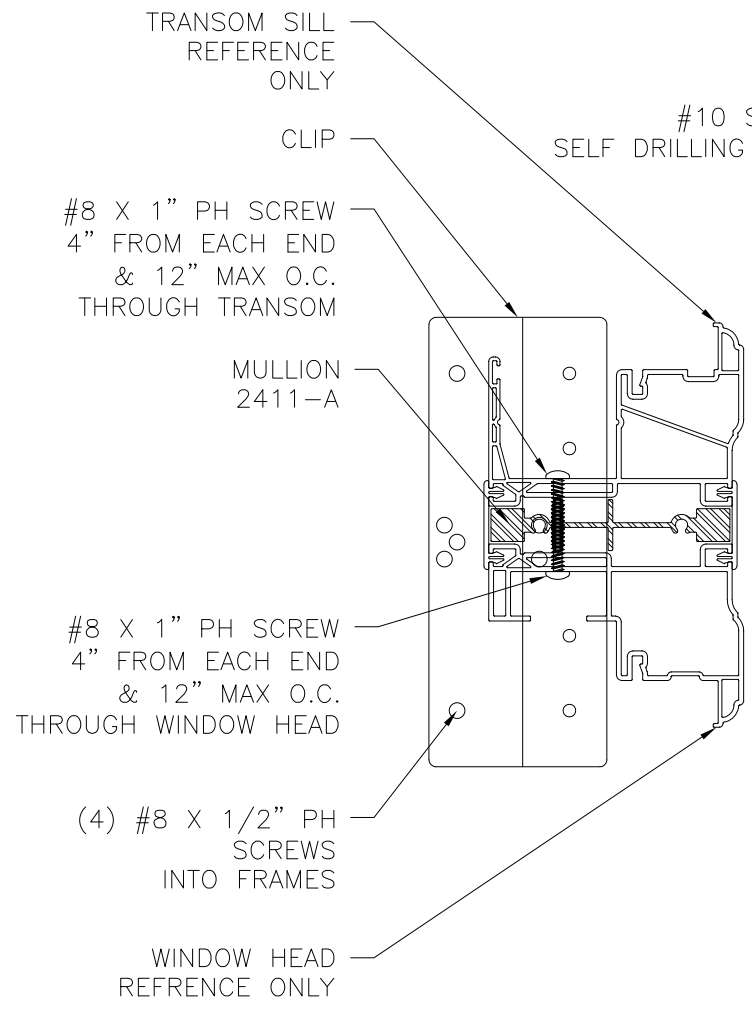
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VERTICAL SECTION
METAL STRUCTURE INSTALLATION

VISTAMARK ENTERPRISES, LLC
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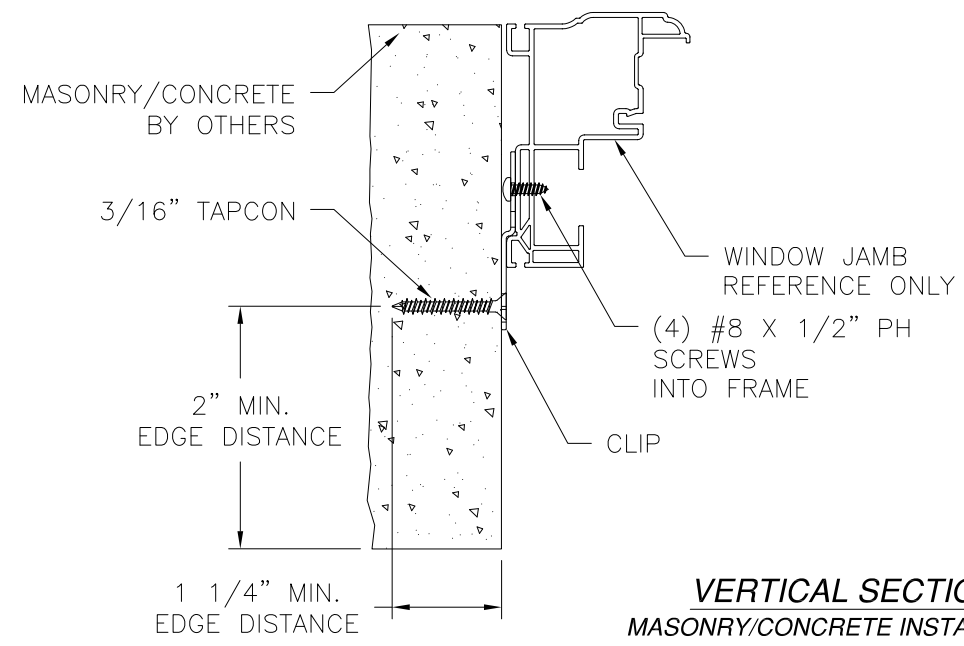
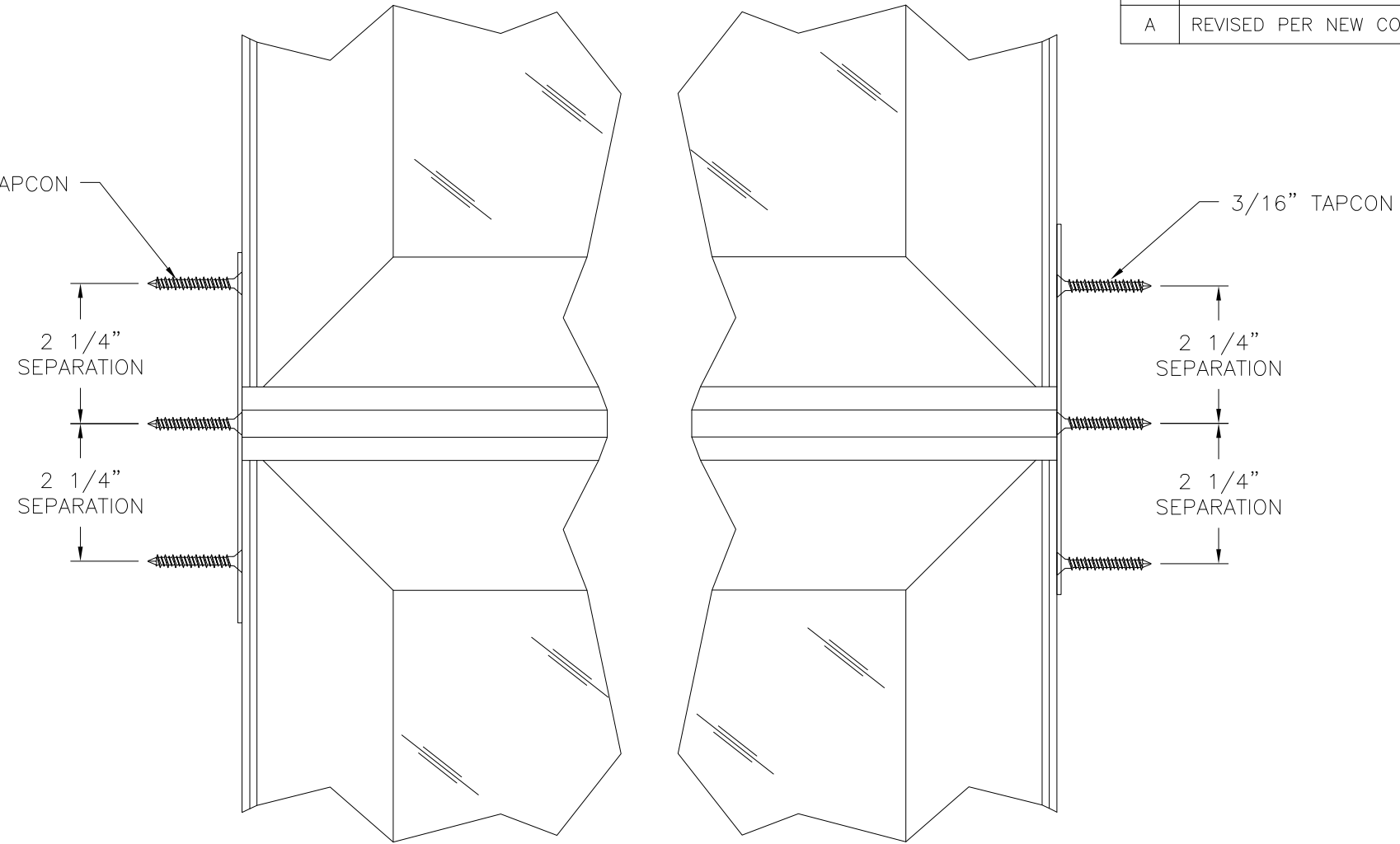
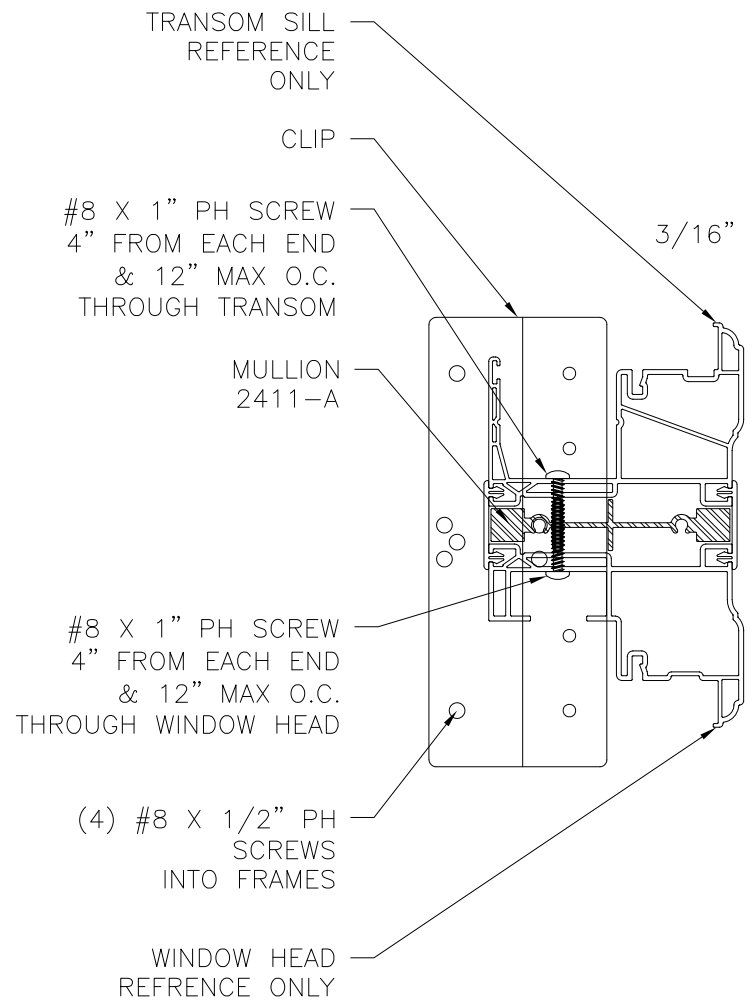
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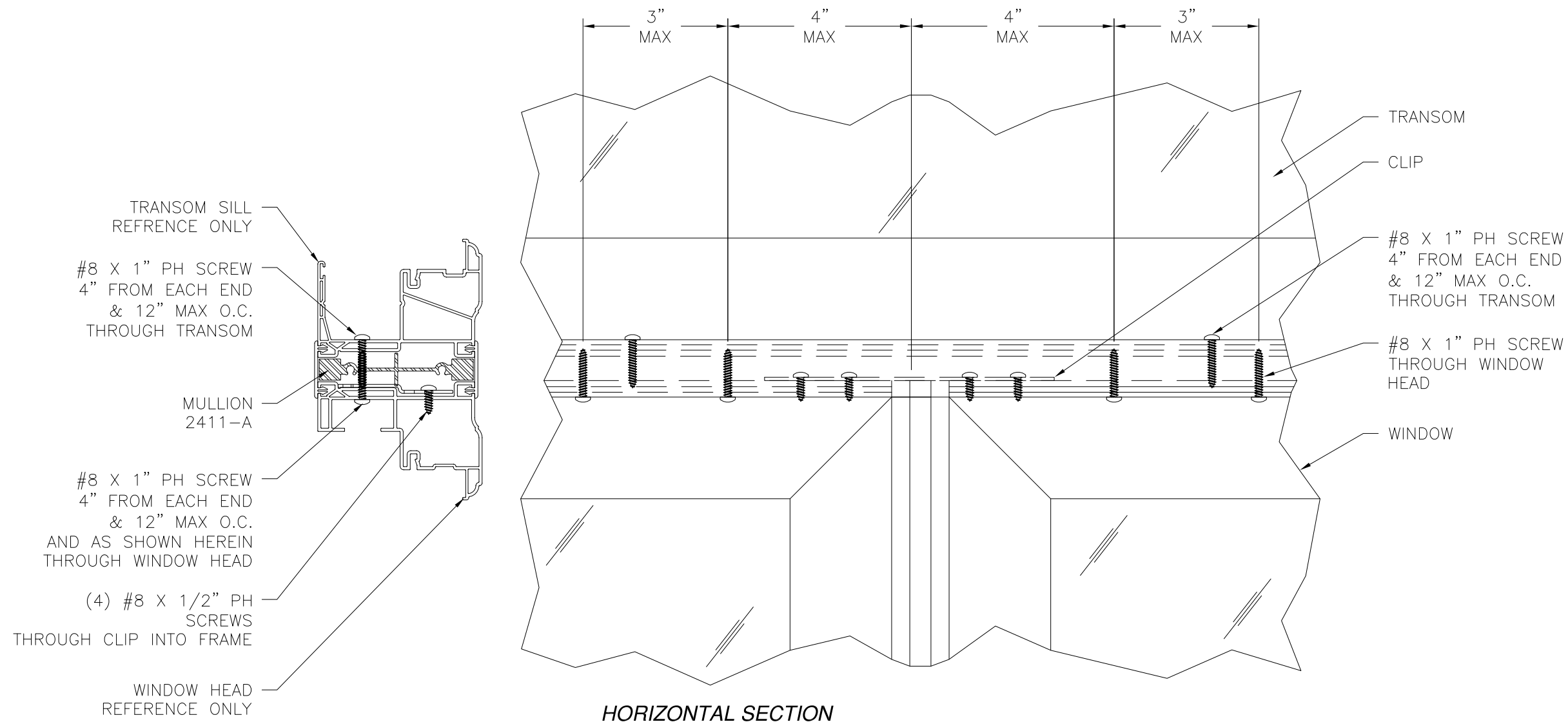
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HORIZONTAL SECTION
 VERTICAL TO HORIZONTAL MULLION CONNECTION
 T MULLION ANCHORAGE/INSTALLATION SHOWN, TRIPLE CONFIGURATION SIMILAR.

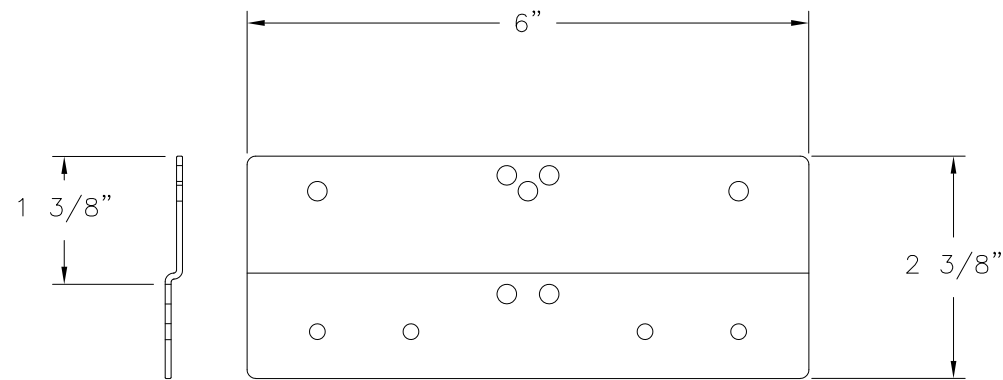
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VISTAMARK ENTERPRISES, LLC 3637 N HIGHWAY 77, SUITE C WAXAHACHIE, TX 75165		
793.800 HORIZONTAL MULLION IMPACT INSTALLATION DETAILS		
DRAWN: R.L.	DWG NO. 08-02750	REV A
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L. ROBERTO LOMAS P.E. 1432 WOODFORD RD LEWISVILLE, NC 27023 434-688-0609 rllomas@rlomaspe.com		

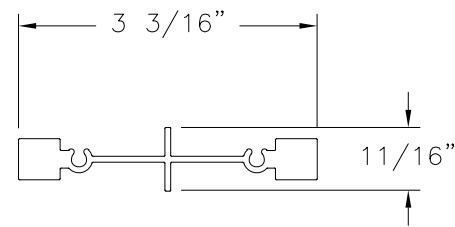


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CLIP DETAIL
GALVANIZED STEEL .0635" THICK



MULLION PART 2411-A
ALUMINUM 6063-T6
MOMENT OF INERTIA: .861 IN⁴
SECTION MODULUS: .540 IN³

SIGNED: 11/11/2021

VISTAMARK ENTERPRISES, LLC 3637 N HIGHWAY 77, SUITE C WAXAHACHIE, TX 75165		
793.800 HORIZONTAL MULLION IMPACT COMPONENTS		
DRAWN: R.L.	DWG NO. 08-02750	REV A
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