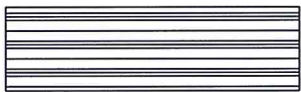


R:\Clients\Eagle Window and Door PERMANENT\Florida Product Approvals\FL-15267 - Windows - Mullions\C - Drawings\FL 15267 (2014)\FL-15267.4.dwg, FL-8566.4

LVL WOOD MULLION



1" x 3.5" LVL WOOD MULLION

GENERAL NOTES:

1. This product has been evaluated and is in compliance with the 5th Edition (2014) Florida Building Code (FBC) structural requirements excluding the "High Velocity Hurricane Zone".
2. When used in areas requiring wind borne debris protection this product complies with Section 1609.1.2 of the FBC and does not require an impact resistant covering. This product meets missile level "D" and excludes Wind Zone 4 as defined in ASTM E 1996 and Section 1609.1.2.2 of the FBC.
3. Wood bucks by others, must be anchored properly to transfer loads to the structure and be reviewed by the Building Official.
4. Mullion anchor embedment to base material shall be beyond wall dressing or stucco.
5. Separate product approvals for each glazing product used with these mullions must be submitted along with this mullion product approval.
6. Anchoring of each glazing product to the mullion shall be as shown in each individual glazing product approval.
7. Any conditions not covered in this evaluation are subject to separate Engineering evaluation.
8. Mullion design pressure rating, see load rating table sheets 2 - 4 of this drawing.
9. The design pressure rating of the assembly shall be the lesser of the load capacity of the mullion as determined using this approval or the design pressure rating of the individual glazing products used.

TABLE OF CONTENTS	
SHEET #	DESCRIPTION
1	Typical Elevations & General Notes
2	Mullion Load Table: Anchor Clip B4 (Concrete Screws)
3	Mullion Load Table: Anchor Clip B4 (Wood Screws)
4	Mullion Load Table: Anchor Plate (Wood/Concrete Screws)
5	Anchor Clip B4: Anchoring Details
6	Mullion Anchor Plate: Anchoring Details



TYPICAL MULLION CONFIGURATIONS

4/27/15

FLORIDA

ENGINEER

PROFESSIONAL

LYNDON F. SCHMIDT

LICENSE

No. 43409

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

RW

BUILDING CONSULTANTS, INC.

P.O. Box 230, Valrico, FL 33595

Phone No.: 813.659.9197

FBPE C.A. No. 9813

PRODUCT:	STRUCTURAL MULLION
PART OR ASSEMBLY:	TYPICAL ELEVATION & GENERAL NOTES
NO.	1
DATE	4/17/15
REVISIONS	UPDATE TO 5TH ED. (2014) FBC
LFS	BY

DATE: 02/28/12

SCALE: NTS

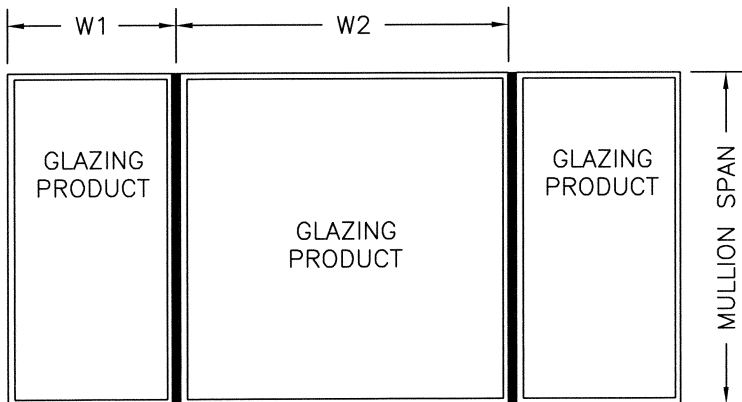
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CHK. BY: LFS

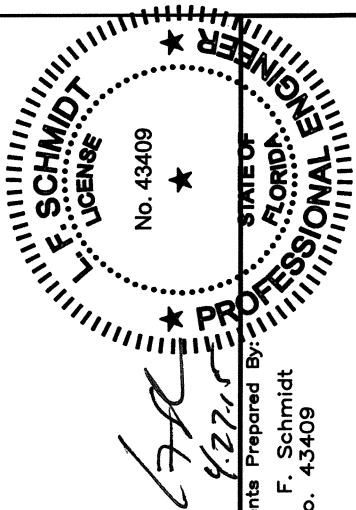
DRAWING NO.: FL-15267.4

SHEET 1 OF 6

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

[illegible]

1. DETERMINE THE DESIGN LOAD REQUIREMENT PER CHAPTER 16 OF THE FBC FOR THE PARTICULAR OPENING.
2. FOR THE PARTICULAR OPENING, DETERMINE THE TRIBUTARY WIDTH AND MULLION SPAN. REFERENCE THE SKETCHES ON THIS SHEET FOR MULLION SPAN AND TRIBUTARY WIDTH DETERMINATION.
3. IN THE FIRST COLUMN OF THE TABLE, LOCATE THE MULLION SPAN. IN THE FIRST ROW OF THE TABLE, LOCATE THE TRIBUTARY WIDTH. AT THE INTERSECTION OF THE ROW CONTAINING THE MULLION SPAN AND THE COLUMN CONTAINING THE TRIBUTARY WIDTH, READ THE MULLION LOAD RATING GIVEN IN PSF. THE MULLION LOAD RATING MUST BE EQUAL TO OR GREATER THAN THE DESIGN LOAD REQUIREMENT DETERMINED IN STEP 1 ABOVE.



Documents Prepared By:
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BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE C.A. No. 9813

PRODUCT: STRUCTURAL MULLION

PART OR ASSEMBLY:
MULLION LOAD TABLE: ANCHOR
CLIP B4 (CONCRETE SCREWS)

[illegible]

DATE: 02/28/12

SCALE: *NTS*

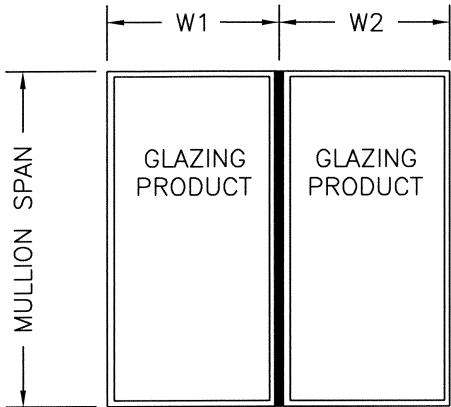
DWG. BY: EW

CHK. BY: LFS

DRAWING NO.:

FL-15267.4

SHEET 2 OF 6



TRIBUTARY WIDTH

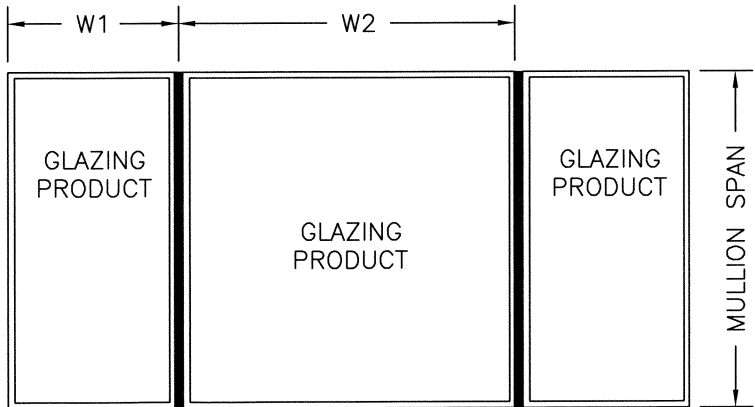
=

W1

+

W2

2



WOOD SCREW		1" x 3.5" LVL STRUCTURAL BEAM MULLION LOAD TABLE (PSF) - ANCHOR CLIP B4												
		TRIBUTARY WIDTH												
		24.0"	28.0"	30.0"	32.0"	34.0"	36.0"	38.0"	40.0"	42.0"	44.0"	46.0"	48.0"	50.0"
MULLION SPAN	120.0"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	116.0"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	112.0"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	108.0"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	104.0"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	100.0"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	96.0"	15.23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	92.0"	17.36	15.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	88.0"	19.90	17.29	16.25	15.34	NA	NA	NA	NA	NA	NA	NA	NA	NA
	84.0"	22.97	19.97	18.77	17.73	16.81	15.99	15.26	NA	NA	NA	NA	NA	NA
	80.0"	26.70	23.23	21.85	20.64	19.58	18.63	17.79	17.03	16.35	15.71	15.12	NA	NA
	76.0"	31.29	27.25	25.64	24.23	22.99	21.89	20.91	20.03	19.21	18.46	17.76	17.12	16.52
	72.0"	37.00	32.25	30.36	28.70	27.25	25.96	24.80	23.74	22.77	21.87	21.04	20.27	19.56
	68.0"	44.18	38.55	36.31	34.35	32.63	31.09	29.69	28.41	27.24	26.15	25.16	24.23	23.37
	64.0"	53.34	46.61	43.93	41.59	39.51	37.63	35.92	34.35	32.92	31.61	30.39	29.27	28.22
	60.0"	65.24	57.08	53.84	50.97	48.40	46.08	43.96	42.04	40.27	38.65	37.15	35.77	34.48
	56.0"	80.94	70.95	66.92	63.33	60.10	57.19	54.54	52.13	49.93	47.90	46.03	44.30	42.70
	52.0"	102.14	89.62	84.48	79.90	75.79	72.08	68.72	65.66	62.85	60.28	57.91	55.72	53.69
	48.0"	125.67	113.10	107.71	101.68	95.70	90.38	85.63	81.35	77.47	73.95	70.73	67.79	65.08
	44.0"	141.01	126.55	120.37	114.77	109.67	105.01	100.72	96.77	92.20	88.01	84.18	80.67	77.45
	40.0"	150.00	142.86	135.72	129.26	123.38	118.02	113.10	108.58	104.40	100.53	96.94	93.60	90.48
	36.0"	150.00	150.00	150.00	147.12	140.28	134.04	128.34	123.10	118.27	113.81	109.67	105.82	102.24
	32.0"	150.00	150.00	150.00	150.00	150.00	150.00	147.52	141.38	135.72	130.50	125.67	121.18	117.00
	28.0"	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	146.33	141.01	136.06
	24.0"	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00
	20.0"	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00

INSTRUCTIONS FOR USE OF THE MULLION LOAD TABLE:

1. DETERMINE THE DESIGN LOAD REQUIREMENT PER CHAPTER 16 OF THE FBC FOR THE PARTICULAR OPENING.
2. FOR THE PARTICULAR OPENING, DETERMINE THE TRIBUTARY WIDTH AND MULLION SPAN. REFERENCE THE SKETCHES ON THIS SHEET FOR MULLION SPAN AND TRIBUTARY WIDTH DETERMINATION.
3. IN THE FIRST COLUMN OF THE TABLE, LOCATE THE MULLION SPAN. IN THE FIRST ROW OF THE TABLE, LOCATE THE TRIBUTARY WIDTH. AT THE INTERSECTION OF THE ROW CONTAINING THE MULLION SPAN AND THE COLUMN CONTAINING THE TRIBUTARY WIDTH, READ THE MULLION LOAD RATING GIVEN IN PSF. THE MULLION LOAD RATING MUST BE EQUAL TO OR GREATER THAN THE DESIGN LOAD REQUIREMENT DETERMINED IN STEP 1 ABOVE.

FLORIDA

REGISTERED PROFESSIONAL ENGINEER

E. SCHMIDT

FLORIDA LICENSE

No. 43409

Documents Prepared By:

Lyndon F. Schmidt

P.E. No. 43409

STATE OF

FLORIDA

REGISTERED PROFESSIONAL ENGINEER

R. W.

BUILDING CONSULTANTS, INC.

P.O. Box 230, Valrico, FL 33595

Phone No.: 813.659.9197

FBPE C.A. No. 9813

PRODUCT:

STRUCTURAL MULLION

PART OR ASSEMBLY:

MULLION LOAD TABLE: ANCHOR CLIP B4 (WOOD SCREWS)

DATE

4/17/15

UPDATE TO 5TH ED. (2014) FBC

NO

1

BY

LFS

REVISIONS

DATE: 02/28/12

SCALE: NTS

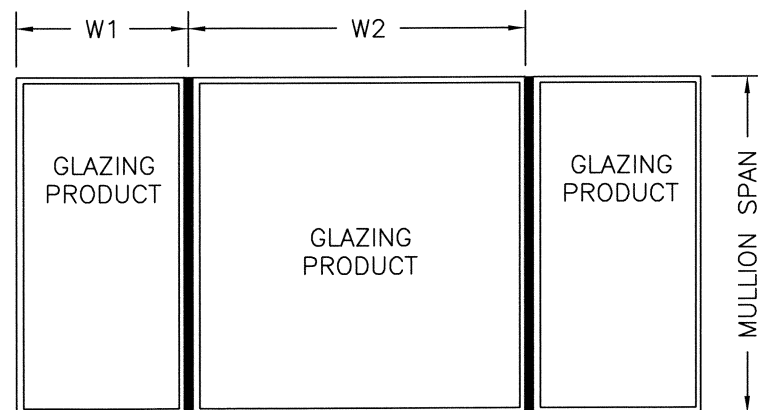
DWG. BY: EW

CHK. BY: LFS

DRAWING NO.: FL-15267.4

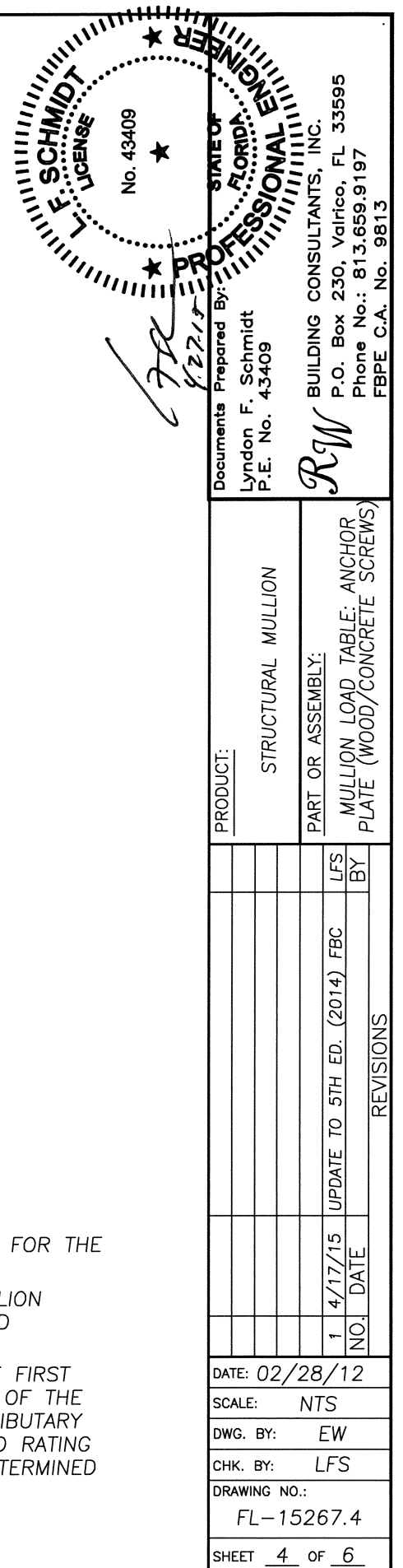
SHEET 3 OF 6

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



WOOD OR CONCRETE SCREW		1" x 3.5" LVL STRUCTURAL BEAM MULLION LOAD TABLE (PSF) - ANCHOR PLATE												
		TRIBUTARY WIDTH												
		24.0"	28.0"	30.0"	32.0"	34.0"	36.0"	38.0"	40.0"	42.0"	44.0"	46.0"	48.0"	50.0"
MULLION SPAN	120.0"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	116.0"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	112.0"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	108.0"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	104.0"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	100.0"	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	96.0"	15.23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	92.0"	17.36	15.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	88.0"	19.90	17.29	16.25	15.34	NA	NA	NA	NA	NA	NA	NA	NA	NA
	84.0"	22.97	19.97	18.77	17.73	16.81	15.99	15.26	NA	NA	NA	NA	NA	NA
	80.0"	26.70	23.23	21.85	20.64	19.58	18.63	17.79	17.03	16.35	15.71	15.12	NA	NA
	76.0"	31.29	27.25	25.64	24.23	22.99	21.89	20.91	20.03	19.21	18.46	17.76	17.12	16.52
	72.0"	37.00	32.25	30.36	28.70	27.25	25.96	24.80	23.74	22.77	21.87	21.04	20.27	19.56
	68.0"	44.18	38.55	36.31	34.35	32.63	31.09	29.69	28.41	27.24	26.15	25.16	24.23	23.37
	64.0"	52.62	46.61	43.93	41.59	39.51	37.63	35.92	34.35	32.92	31.61	30.39	29.27	28.22
	60.0"	57.00	50.98	48.64	46.57	44.67	42.92	41.30	39.80	38.40	37.10	35.88	34.74	33.67
	56.0"	62.18	55.84	53.30	50.98	48.86	46.90	45.10	43.43	41.88	40.43	39.09	37.82	36.64
	52.0"	68.40	61.60	58.73	56.12	53.73	51.54	49.52	47.65	45.92	44.31	42.81	41.40	40.09
	48.0"	76.00	68.40	65.14	62.18	59.48	57.00	54.72	52.62	50.67	48.86	47.17	45.60	44.13
	44.0"	85.28	76.53	72.80	69.41	66.33	63.50	60.91	58.52	56.32	54.27	52.36	50.59	48.93
40.0"	96.56	86.40	82.08	78.17	74.62	71.37	68.40	65.66	63.14	60.80	58.63	56.61	54.72	
36.0"	110.55	98.59	93.54	88.98	84.84	81.07	77.62	74.45	71.53	68.83	66.33	64.00	61.83	
32.0"	128.25	114.00	108.00	102.60	97.71	93.27	89.22	85.50	82.08	78.92	76.00	73.29	70.76	
28.0"	150.00	134.01	126.76	120.26	114.40	109.08	104.23	99.79	95.72	91.97	88.50	85.28	82.29	
24.0"	150.00	150.00	150.00	144.00	136.80	130.29	124.36	118.96	114.00	109.44	105.23	101.33	97.71	
20.0"	150.00	150.00	150.00	150.00	150.00	150.00	150.00	145.92	139.71	134.01	128.75	123.89	119.39	

1. DETERMINE THE DESIGN LOAD REQUIREMENT PER CHAPTER 16 OF THE FBC FOR THE PARTICULAR OPENING.
2. FOR THE PARTICULAR OPENING, DETERMINE THE TRIBUTARY WIDTH AND MULLION SPAN. REFERENCE THE SKETCHES ON THIS SHEET FOR MULLION SPAN AND TRIBUTARY WIDTH DETERMINATION.
3. IN THE FIRST COLUMN OF THE TABLE, LOCATE THE MULLION SPAN. IN THE FIRST ROW OF THE TABLE, LOCATE THE TRIBUTARY WIDTH. AT THE INTERSECTION OF THE ROW CONTAINING THE MULLION SPAN AND THE COLUMN CONTAINING THE TRIBUTARY WIDTH, READ THE MULLION LOAD RATING GIVEN IN PSF. THE MULLION LOAD RATING MUST BE EQUAL TO OR GREATER THAN THE DESIGN LOAD REQUIREMENT DETERMINED IN STEP 1 ABOVE.



Technical drawing of a mechanical part with the following dimensions and tolerances:

- Overall width: 7"
- Overall height: 7"
- Top horizontal segment width: 2.094"
- Left vertical segment height: 0.75"
- Horizontal distance from left edge to center of top-left hole: 2.656"
- Vertical distance from top edge to center of top-left hole: 0.375" TYP.
- Horizontal distance from left edge to center of bottom-left hole: 0.672"
- Vertical distance from bottom edge to center of bottom-left hole: 0.75"
- Horizontal distance from center of top-left hole to center of top-right hole: 2.25" REF
- Vertical distance from top edge to center of top-right hole: 0.938" TYP.
- Horizontal distance from center of top-right hole to center of bottom-right hole: 3.125" TYP.
- Vertical distance from bottom edge to center of bottom-right hole: 0.375" TYP.
- Radius of fillet: R0.125" TYP.

3.5"

.015 X 45° SCORE LINE
(TYP.)

0.075"
TYP.

MULLION ANCHOR BRACKET ANCHOR SCHEDULE				
ANCHOR	SUBSTRATE	EMBEDMENT (MIN.)	EDGE DISTANCE (MIN.)	CENTER-TO-CENTER SPACING (MIN.)
#10 PFH WOOD SCREW 	WOOD	1-3/8"	1"	1"
1/4" Ø PFH HILTI KWIK-CON II+ 	HOLLOW BLOCK	1-1/4"	2-1/2"	3"
	CONCRETE	1-1/4"	2-1/2"	3"

MULLION CLIP B4

(2) #10 x 1-1/2" WOOD SCREWS EACH SIDE

1" x 3.5" LVL MULLION

(2) #10 x 1-1/2" WOOD SCREWS (1) EACH SIDE

2X FRAMING

ANCHOR TO 2X

1-3/8" MIN. EMBED.

0.375" TYP.

Diagram illustrating the connection between the substrate material and the mull reinforcement. The diagram shows a cross-section of a wall assembly. The exterior side is labeled "EXTERIOR" and the interior side is labeled "INTERIOR". The substrate material is shown on the exterior side, and the mull reinforcement is shown on the interior side. The connection is made using two #10 x 1-1/2" wood screws. A mullion clip B4 is also shown.

MIN.
ED.

MULLION CLIP
B4

1" x 3.5"
LVL MULLION

(2) #10 x 1-1/2"
WOOD SCREWS
(1) EACH SIDE

1X FRAMING

(2) 1/4" x 2-1/4"
HILTI CONCRETE SCREWS
(1) SCREW ON EACH
SIDE OF MULLION CLIP
DIAGONALLY OPPOSING
OTHER SCREW

1-1/4" MIN.
EMBED.

CONCRETE

(2) 1/4" x 2-1/4"
HILTI CONCRETE SCREWS
(1) SCREW ON EACH
SIDE OF MULLION CLIP
DIAGONALLY OPPOSING
OTHER SCREW

ANCHOR THROUGH 1X BUCK
USING 1/4" x 2-1/4"
HILTI CONCRETE SCREWS

1-1/4" MIN. EMBED.

1-1/4" MIN. EMBED.

MULLION CLIP B4

1" x 3.5" LVL MULLION

CONCRETE

(2) #10 x 1-1/2" WOOD SCREWS
(1) EACH SIDE

(2) 1/4" X 1-3/4" HILTI CONCRETE SCREWS
(1) SCREW ON EACH SIDE OF MULLION CLIP DIAGONALLY OPPOSING OTHER SCREW

CONCRETE

SCHMIDT LICENSE No. 43409

ANCHOR TO MASONRY
USING 1/4" X 1-3/4" HILTI CONCRETE SCREWS

1" x 3.5"
LVL MULLION

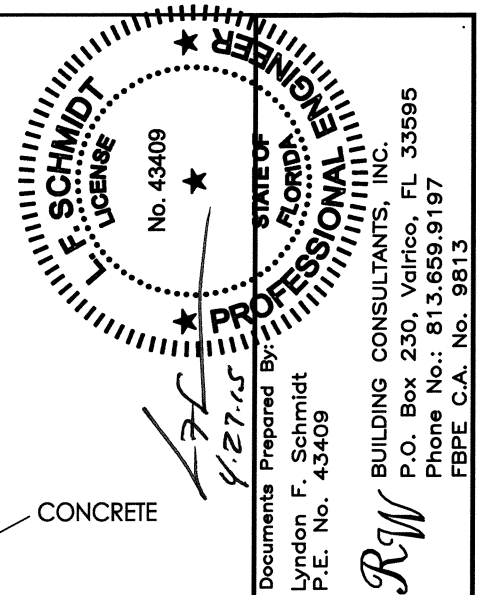
#10 x 3/4"
WOOD SCREW
(2) EACH SIDE

MULLION CLIP
B4

(2) #10 x 1-1/2"
WOOD SCREWS
(1) EACH SIDE

1" x 3.5"
LVL MULLION

MULLION TO MULLION ANCHORING



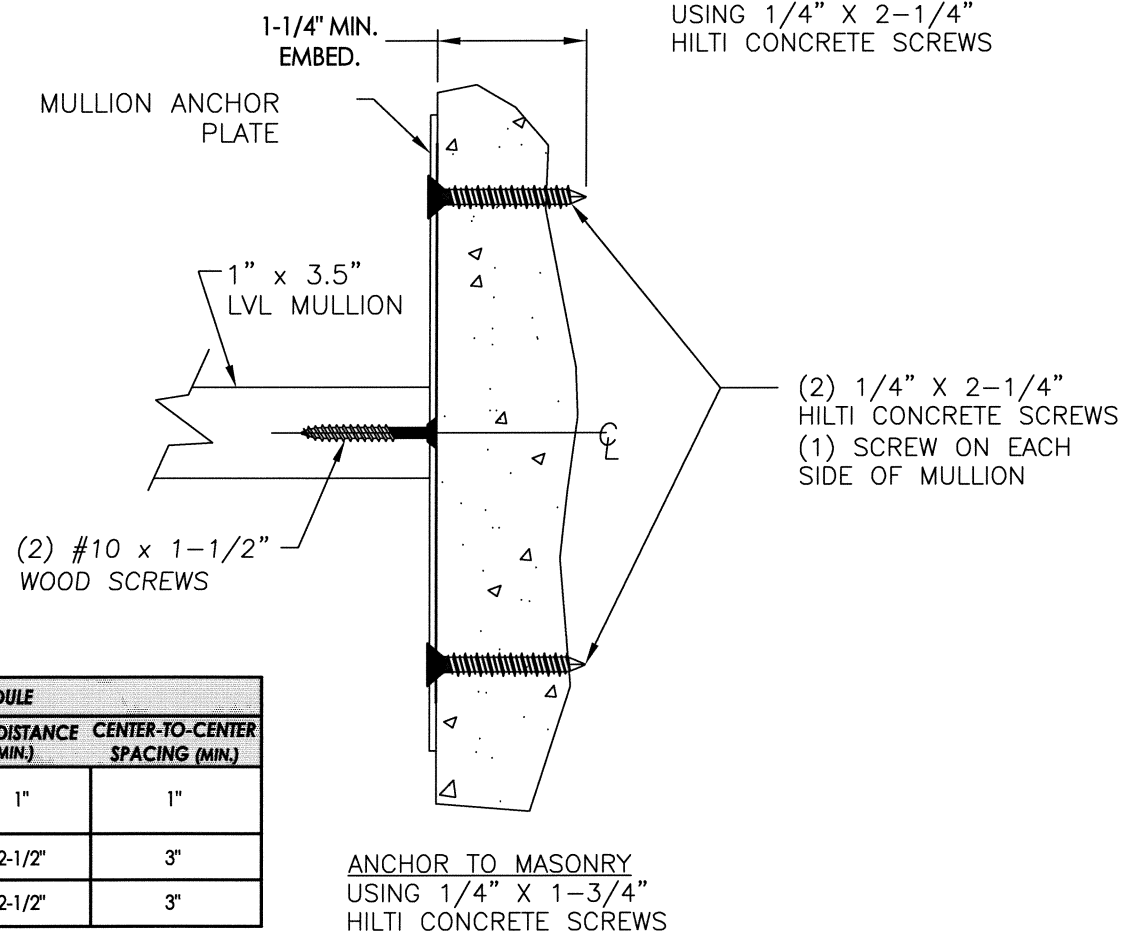
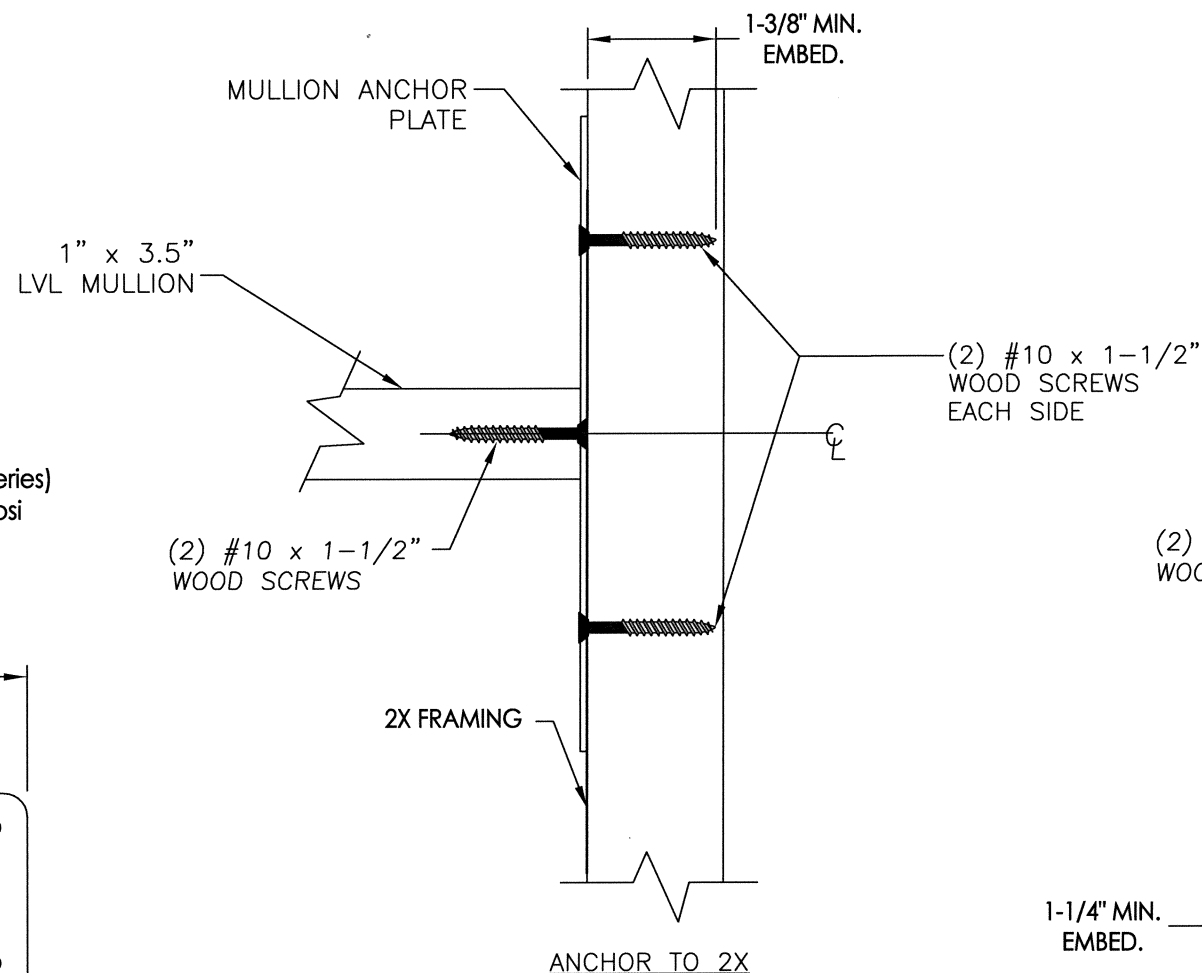
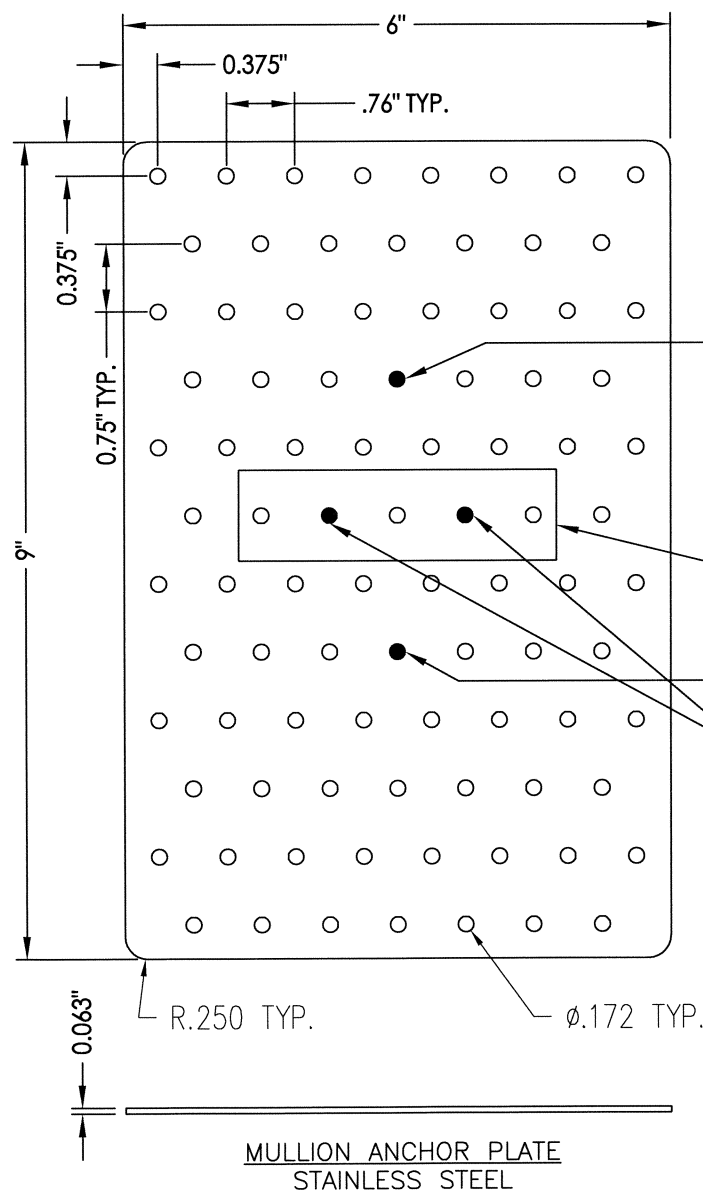
PRODUCT: STRUCTURAL MULLION

PART OR ASSEMBLY: ANCHOR CLIP B4; ANCHORING DETAILS

[illegible]

DATE: 02/28/12
SCALE: NTS
DWG. BY: EW
CHK. BY: LFS
DRAWING NO.: FL-15267.4
SHEET 5 OF 6

Pacific Wood Laminates Douglas-Fir LVL (PacWorks Series)
Minimum Design Properties: F = 2400 psi, E = 1.8 x 10⁶ psi



MULLION ANCHOR BRACKET ANCHOR SCHEDULE				
ANCHOR	SUBSTRATE	EMBEDMENT (MIN.)	EDGE DISTANCE (MIN.)	CENTER-TO-CENTER SPACING (MIN.)
#10 PFH WOOD SCREW 	WOOD	1-3/8"	1"	1"
1/4" Ø PFH HILTI KWIK-CON II+ 	HOLLOW BLOCK	1-1/4"	2-1/2"	3"
	CONCRETE	1-1/4"	2-1/2"	3"

CONCRETE CONFORMING TO ACI 301 (3,000 PSI MIN.) OR HOLLOW BLOCK CONFORMING TO ASTM C90
WOOD FRAMING (S.G. ≥ 0.42)

1-1/4" MIN. EMBED

MULLION ANCHOR PLATE

1" x 3.5" LVL MULLION

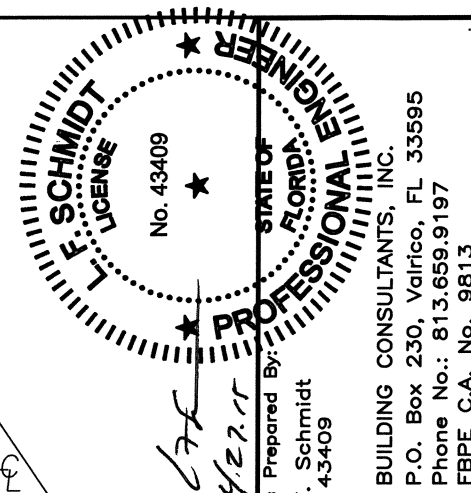
#10 x 1-1/2" OD SCREWS

1X FRAMING

(2) 1/4" x 2-1/4" HILTI CONCRETE SCREWS
(1) SCREW ON EACH SIDE OF MULLION

ANCHOR THROUGH 1X BUCK
USING 1/4" x 2-1/4" HILTI CONCRETE SCREWS

F. SCHMIDT
LICENSE
No. 43409



Documents Prepared By
Lyndon F. Schmidt
P.E. No. 43409

R^W BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33487
Phone No.: 813.659.9197
FAX No.: 813.659.9133

PRODUCT:		STRUCTURAL MULLION	
PART OR ASSEMBLY:		MULLION ANCHOR PLATE: ANCHORING DETAILS	
1	4/17/15	UPDATE TO 5TH ED. (2014)	FBC
NO.	DATE		
			REVISIONS
DATE: 02/28/12			
SCALE: NTS			
DWG. BY:		EW	
CHK. BY:		LFS	
DRAWING NO.: FL-15267.4			
SHEET 6		OF 6	