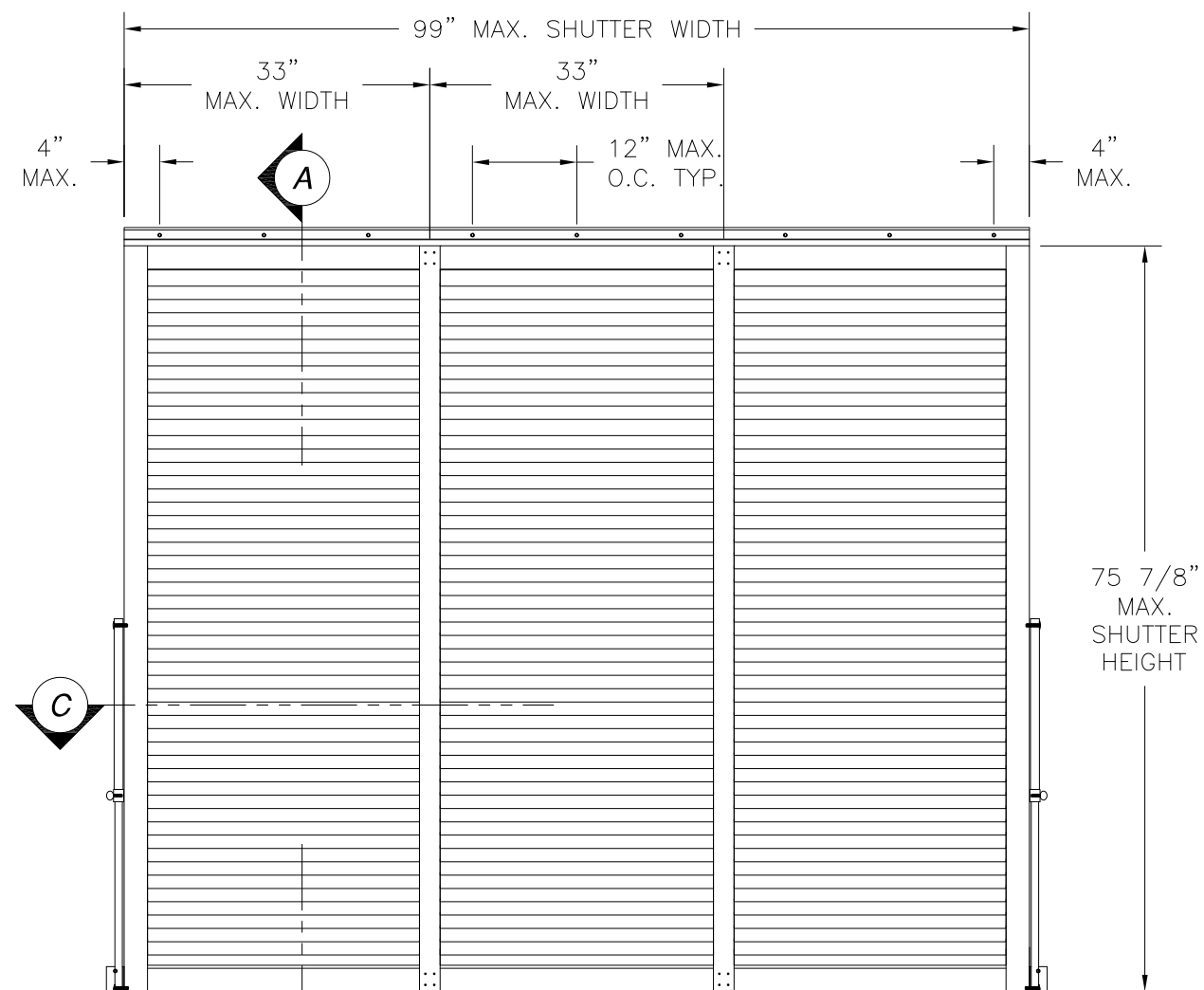


| REVISIONS | | | |
|-----------|------------------------------|------------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| B | REVISED PER NEW REQUIREMENTS | 12/29/2020 | R.L. |



- NOTES:
1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH REQUIREMENTS OF THE 2018 IBC AND THE 2018 IRC.
 2. WOOD FRAMING AND MASONRY OPENING TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE. FRAMING AND MASONRY OPENING 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. SHUTTER FRAME: 6063-T6. BLADE MATERIAL: 6061-T6.
 5. APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS.
 6. FOR ANCHORING INTO MASONRY USE 1/4" ITW TAPCONS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/4" MINIMUM EMBEDMENT INTO SUBSTRATE WITH 3" MINIMUM EDGE DISTANCE AND 2" MINIMUM SEPARATION. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
 7. FOR ANCHORING INTO WOOD FRAMING OR 2X BUCK OR THROUGH BRICK VEENER INTO WOOD FRAMING OR 2X BUCK USE #12 WOOD SCREW WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/4" MINIMUM EMBEDMENT INTO SUBSTRATE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION.
 8. ALL FASTENERS TO BE CORROSION RESISTANT.
 9. 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 2,000 PSI.
 - C. MASONRY – STRENGTH CONFORMANCE TO ASTM C-90, GRADE N, TYPE 1 (OR GREATER).

B BAHAMA SHUTTER - DOUBLE MULLED
EXTERIOR VIEW

| DESIGN PRESSURE RATING | IMPACT RATING |
|------------------------|--------------------------------|
| ±45.0PSF | LARGE AND SMALL MISSILE IMPACT |

SIGNED: 12/29/2020

| TABLE OF CONTENTS | |
|-------------------|----------------------------------|
| SHEET NO. | DESCRIPTION |
| 1 - 2 | ELEVATIONS AND NOTES |
| 3 - 4 | BILL OF MATERIALS AND COMPONENTS |
| 5 - 6 | CROSS SECTIONS |
| 7 - 11 | INSTALLATION DETAILS |

LAS ENTERPRISES
2413 L & A ROAD
METAIRIE, LA 70001

BAHAMA SHUTTER
LARGE AND SMALL MISSILE IMPACT RATED
DOUBLE MULLED ELEVATION AND NOTES

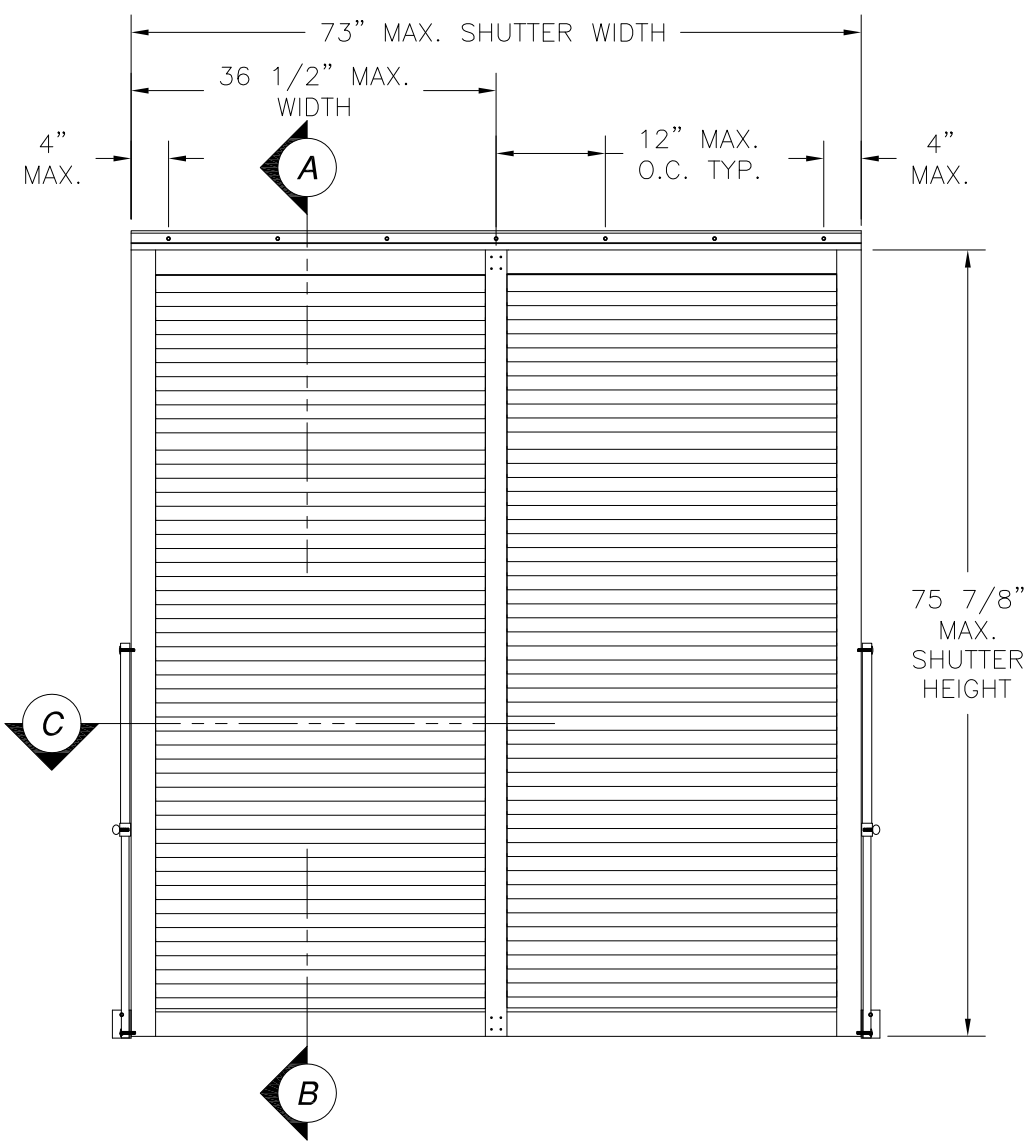
| | | |
|----------------|---------------------|------------------|
| DRAWN: V.L. | DWG NO. 08-02482 | REV B |
| SCALE NTS | DATE 09/09/14 | SHEET 1 OF 11 |

L. ROBERTO LOMAS P.E.
1432 WOODFORD RD LEWISVILLE, NC 27023
434-688-0609 rllomas@rlomaspe.com



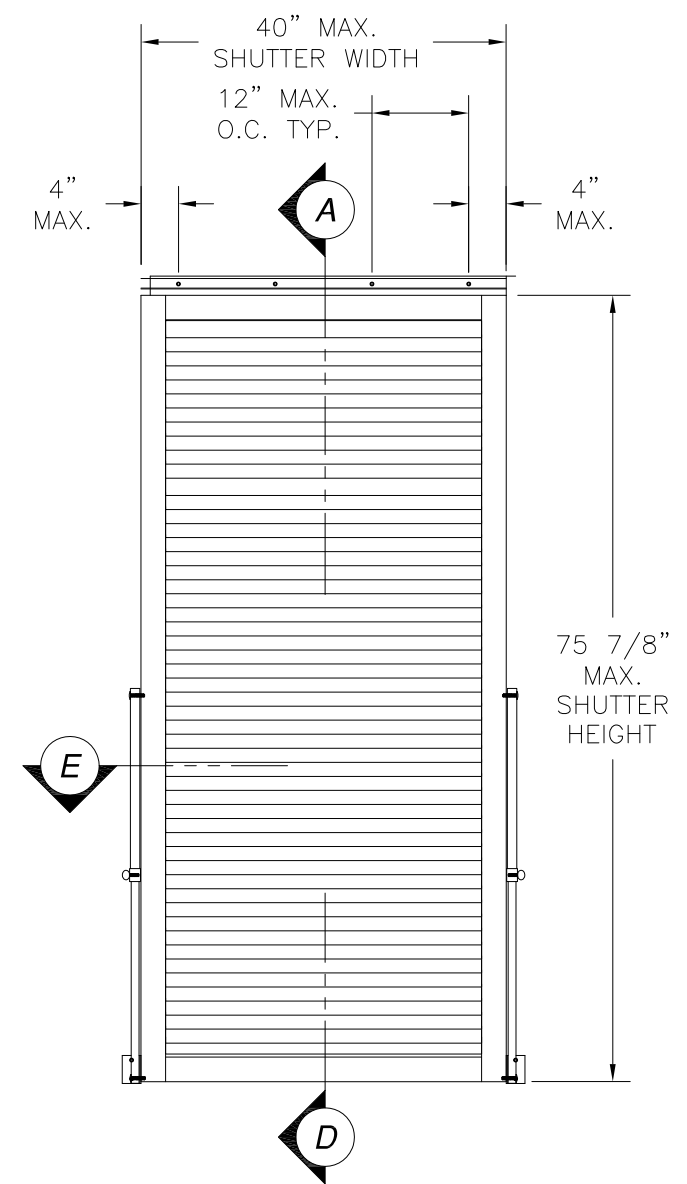
Luis R. Lomas P.E.
TX No.: 101889

| REVISIONS | | | |
|-----------|------------------------------|------------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| B | REVISED PER NEW REQUIREMENTS | 12/29/2020 | R.L. |



BAHAMA SHUTTER - SINGLE MULLED
EXTERIOR VIEW

| DESIGN PRESSURE RATING | IMPACT RATING |
|------------------------|--------------------------------|
| ±45.0PSF | LARGE AND SMALL MISSILE IMPACT |



BAHAMA SHUTTER - SINGLE PANEL
EXTERIOR VIEW

| DESIGN PRESSURE RATING | IMPACT RATING |
|------------------------|--------------------------------|
| ±50.0PSF | LARGE AND SMALL MISSILE IMPACT |

- GLASS SEPARATION NOTES:
1. DOUBLE MULLED UNITS SHALL HAVE A 2 5/8" MINIMUM SEPARATION FROM EXISTING GLASS.
 2. SINGLE MULLED UNITS SHALL HAVE A 2 1/8" MINIMUM SEPARATION FROM EXISTING GLASS.
 3. SINGLE PANEL UNITS SHALL HAVE A 1 5/8" MINIMUM SEPARATION FROM EXISTING GLASS.

LAS ENTERPRISES
2413 L & A ROAD
METAIRIE, LA 70001

BAHAMA SHUTTER
LARGE AND SMALL MISSILE IMPACT RATED
SINGLE MULLED & SINGLE PANEL ELEVATIONS

| | | |
|----------------|---------------------|------------------|
| DRAWN: V.L. | DWG NO. 08-02482 | REV B |
| SCALE NTS | DATE 09/09/14 | SHEET 2 OF 11 |

L. ROBERTO LOMAS P.E.
1432 WOODFORD RD LEWISVILLE, NC 27023
434-688-0609 rllomas@rlomaspe.com

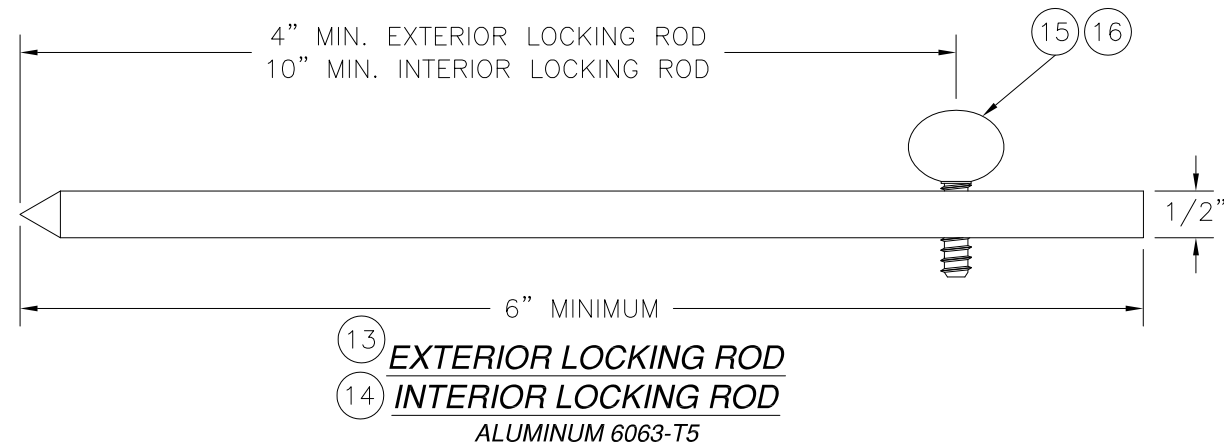
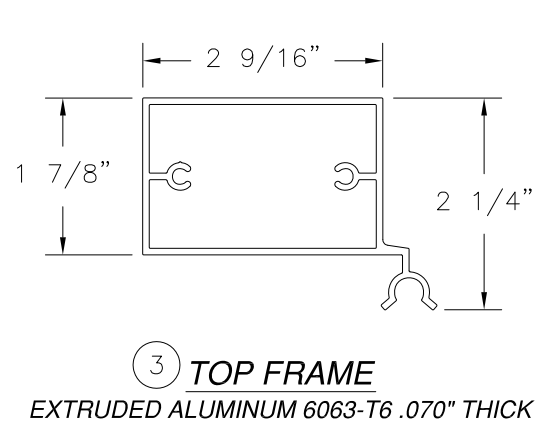
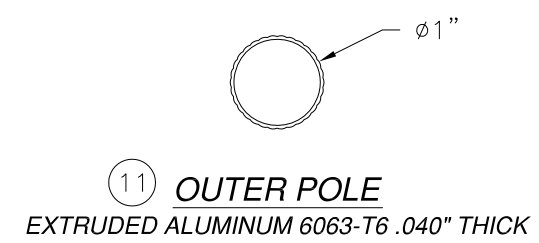
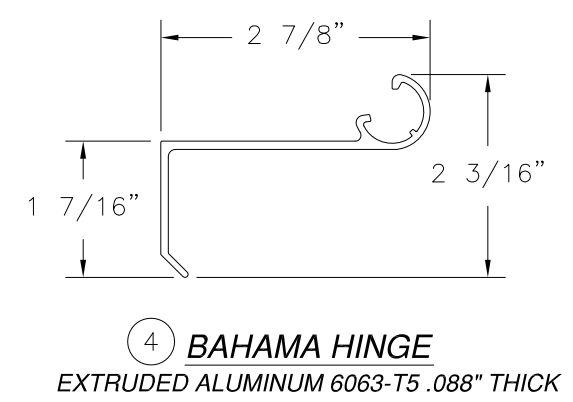
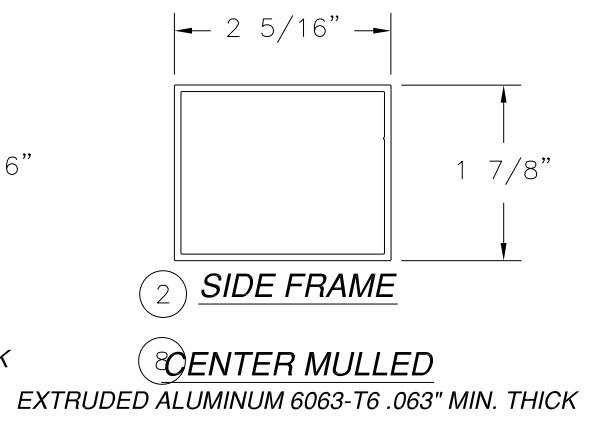
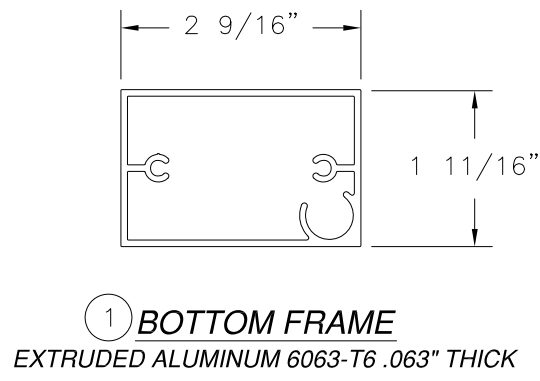
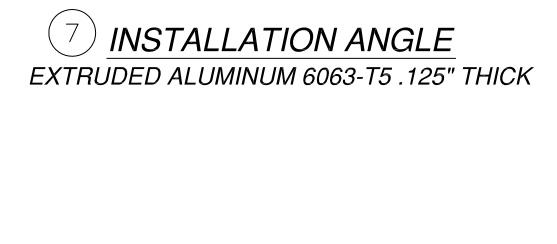
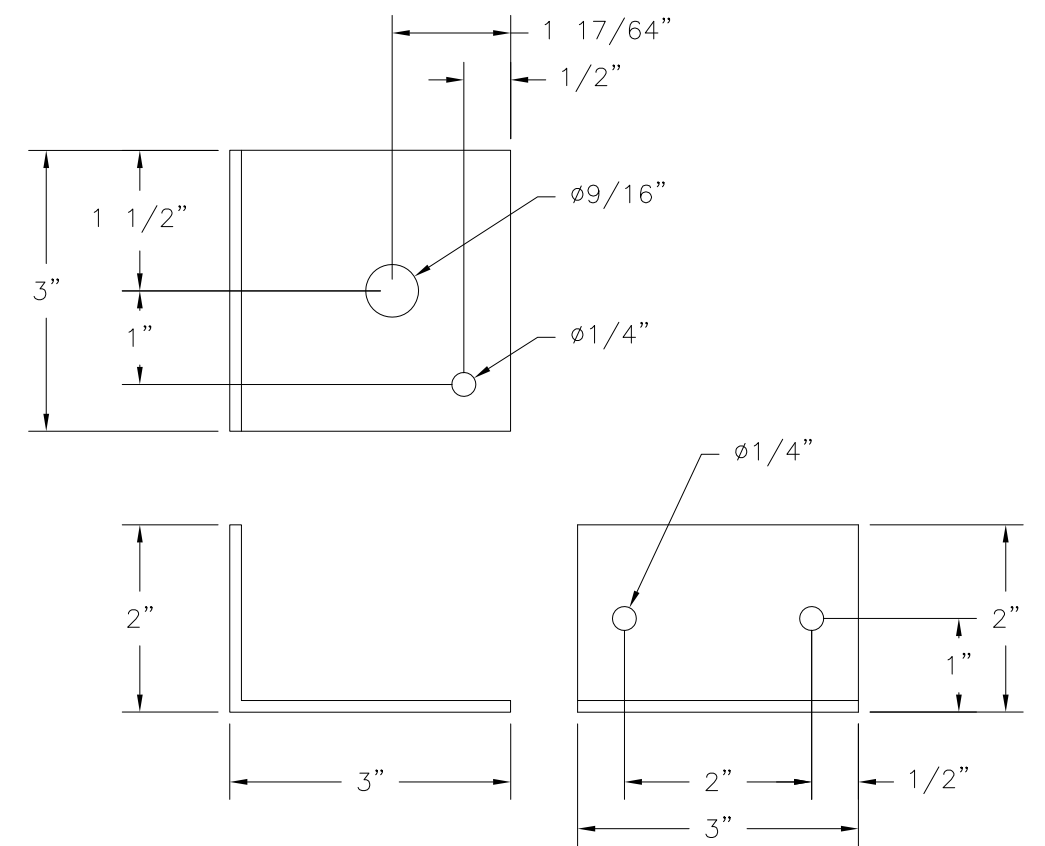
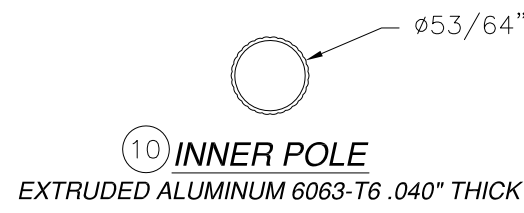
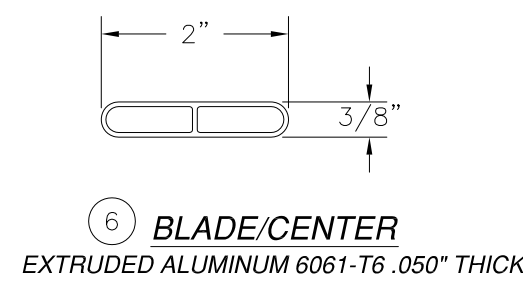
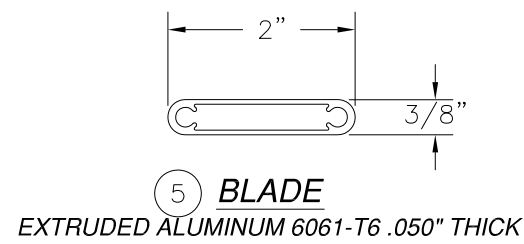
SIGNED: 12/29/2020



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

| BILL OF MATERIALS | | | | |
|-------------------|-------------|-------------------------------|--------------|------------------|
| ITEM NO.: | PART NUMBER | DESCRIPTION | MANUFACTURER | MATERIAL |
| 1 | AF-3398 | BOOTOM FRMAE | LAS | ALUMINUM 6063-T6 |
| 2 | AF-3400 | SIDE FRAME | LAS | ALUMINUM 6063-T6 |
| 3 | AF-3399 | TOP FRAME | LAS | ALUMINUM 6063-T6 |
| 4 | 11792 | 2 7/8" BAHAMA HINGE | LAS | ALUMINUM 6063-T6 |
| 5 | LAS 8 | .050 BLADE #14 COGS | LAS | ALUMINUM 6063-T6 |
| 6 | LAS 9 | .050 BLADE CENTER - WALL | LAS | ALUMINUM 6063-T6 |
| 7 | | 2"X3"X3" ANGLE 1/8" THICK | AEI | ALUMINUM 6063-T6 |
| 8 | AF-3400 | CENTER MULL | LAS | ALUMINUM 6063-T6 |
| 9 | | 3"X3"X3" ANGLE 1/8" THICK | SAPA | ALUMINUM 6063-T6 |
| 10 | 12156 | INNER POLE | LAS | ALUMINUM 6063-T6 |
| 11 | 12157 | OUTER POLE | LAS | ALUMINUM 6063-T6 |
| 12 | 12155 | 1/2" PIN | LAS | ALUMINUM 6063-T6 |
| 13 | LP 12 | EXTRIOR LOCKING ROD | ALL POINTS | ALUMINUM 6063-T5 |
| 14 | LP 12 | INTERIOR LOCKING ROD | ALL POINTS | ALUMINUM 6063-T5 |
| 15 | | 1/4-20 X 1" THUMB SCREW | ALL POINTS | |
| 16 | | 1/4" SIDEWALK BOLT | ALL POINTS | |
| 17 | LP 12 | SUPPORT POLE COLLAR | ALL POINTS | ALUMINUM 6063-T5 |
| 18 | | 2"X3"X4" ANGLE 1/8" THICK | LAS | ALUMINUM 6063-T5 |
| 19 | | 3"X3"X5 1/2" ANGLE 1/8" THICK | LAS | ALUMINUM 6063-T5 |

| REVISIONS | | | |
|-----------|------------------------------|------------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| B | REVISED PER NEW REQUIREMENTS | 12/29/2020 | R.L. |



LAS ENTERPRISES
2413 L & A ROAD
METAIRIE, LA 70001

BAHAMA SHUTTER
LARGE AND SMALL MISSILE IMPACT RATED
B.O.M. AND COMPONENTS

| | | |
|----------------|---------------------|------------------|
| DRAWN: V.L. | DWG NO. 08-02482 | REV B |
| SCALE NTS | DATE 09/09/14 | SHEET 3 OF 11 |

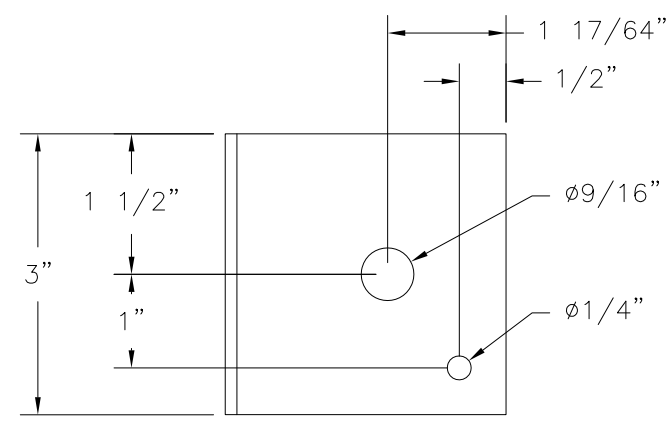
L. ROBERTO LOMAS P.E.
1432 WOODFORD RD LEWISVILLE, NC 27023
434-688-0609 rllomas@rlomaspe.com

SIGNED: 12/29/2020

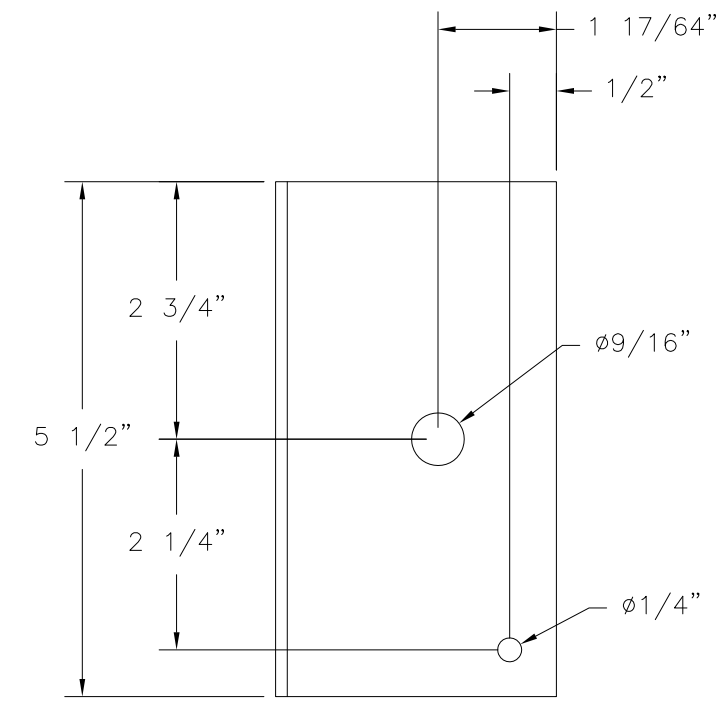
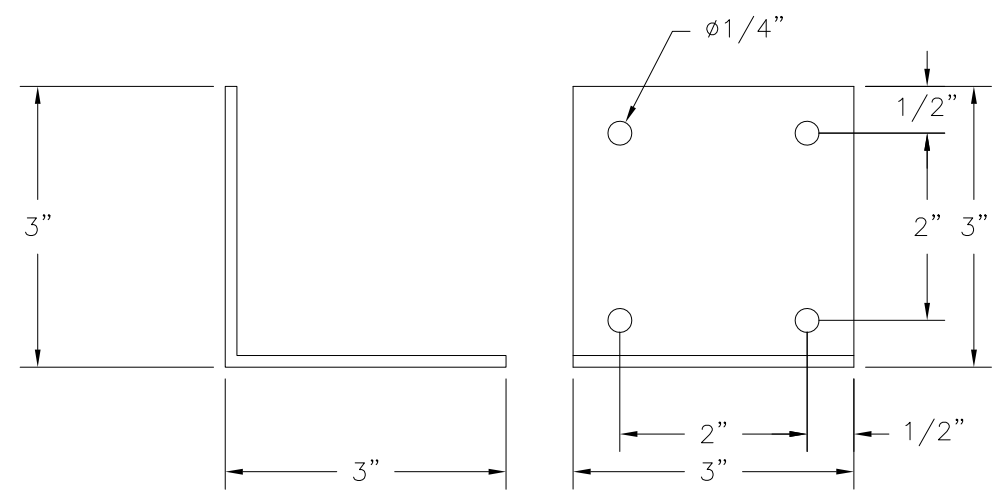


Luis R. Lomas P.E.
TX No.: 101889

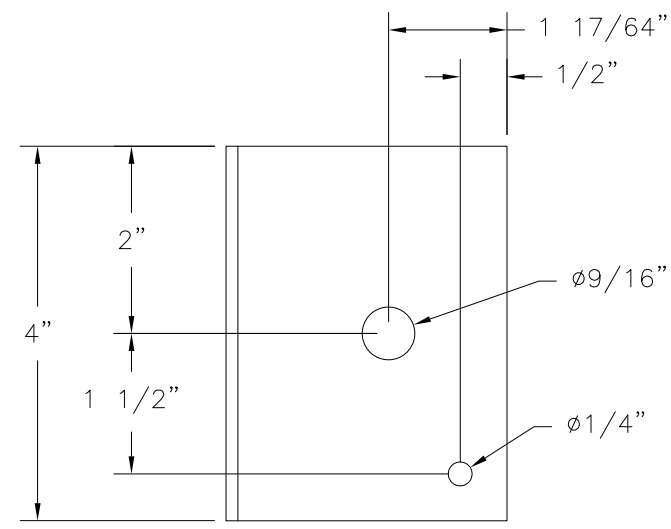
| REVISIONS | | | |
|-----------|------------------------------|------------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| B | REVISED PER NEW REQUIREMENTS | 12/29/2020 | R.L. |



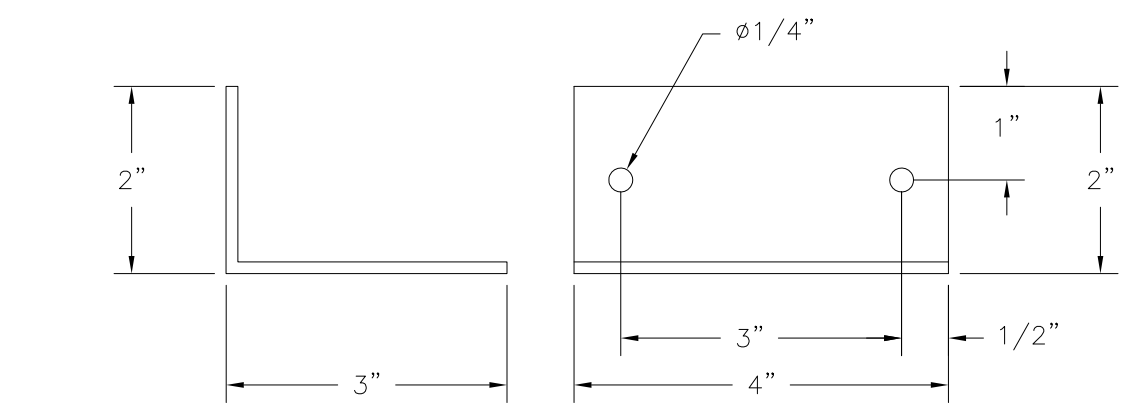
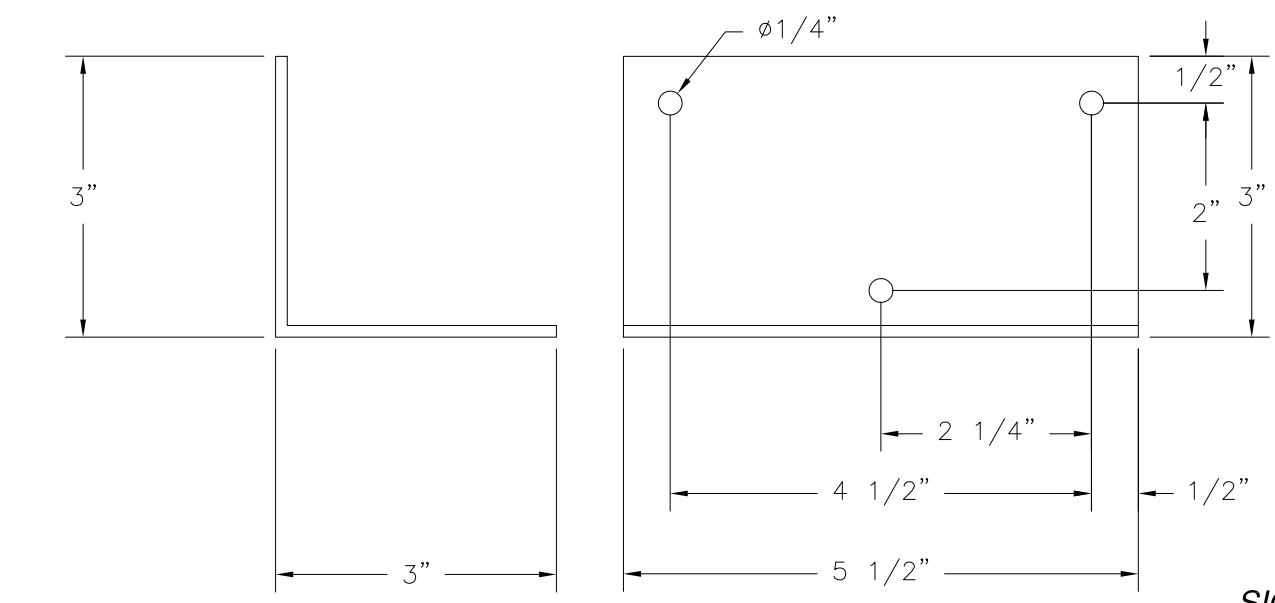
⑨ **INSTALLATION ANGLE**
EXTRUDED ALUMINUM 6063-T5 .125" THICK



⑰ **INSTALLATION ANGLE**
EXTRUDED ALUMINUM 6063-T5 .125" THICK



⑱ **INSTALLATION ANGLE**
EXTRUDED ALUMINUM 6063-T5 .125" THICK



SIGNED: 12/29/2020

LAS ENTERPRISES
2413 L & A ROAD
METAIRIE, LA 70001

BAHAMA SHUTTER
LARGE AND SMALL MISSILE IMPACT RATED
COMPONENTS

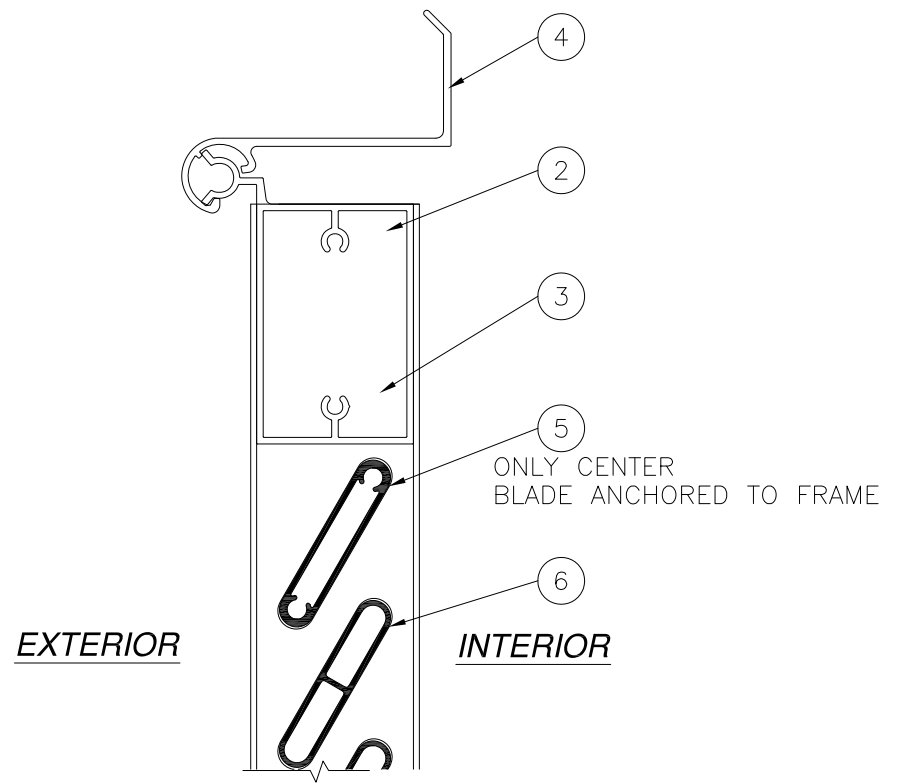
| | | |
|----------------|---------------------|------------------|
| DRAWN: V.L. | DWG NO. 08-02482 | REV B |
| SCALE NTS | DATE 09/09/14 | SHEET 4 OF 11 |

L. ROBERTO LOMAS P.E.
1432 WOODFORD RD LEWISVILLE, NC 27023
434-688-0609 rllomas@rlomaspe.com

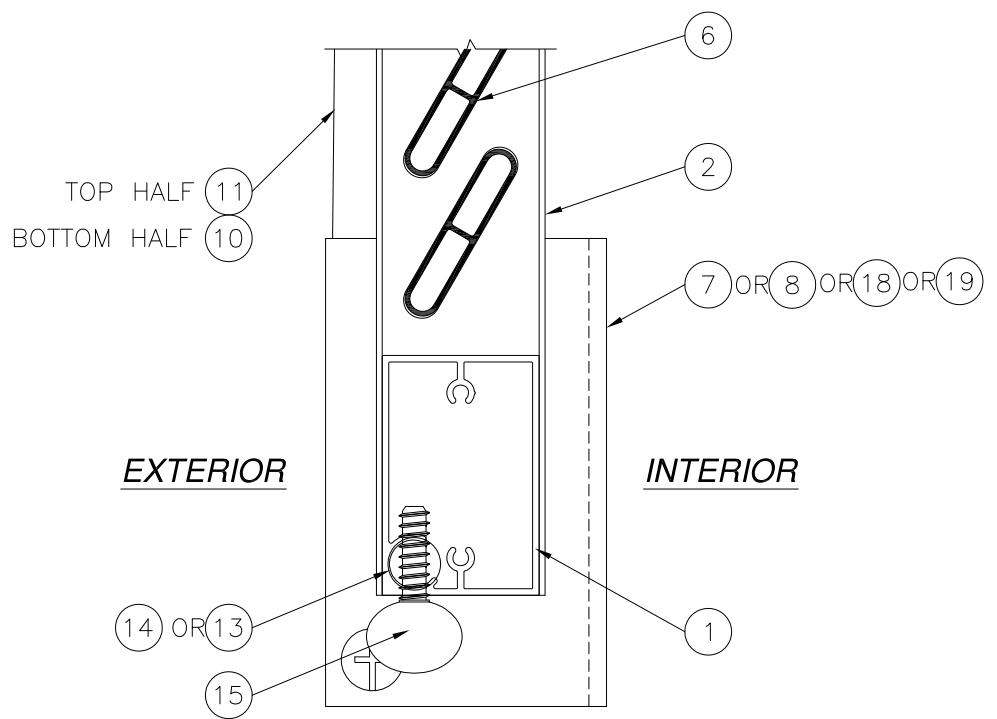


Luis R. Lomas P.E.
TX No.: 101889

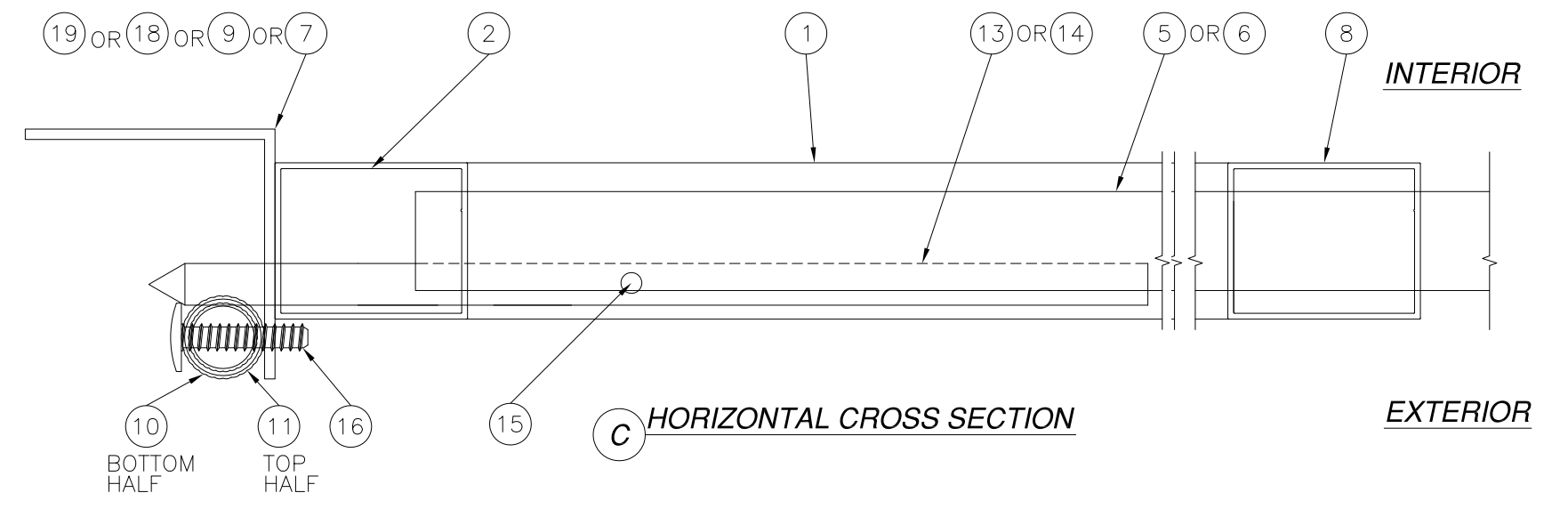
| REVISIONS | | | |
|-----------|------------------------------|------------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| B | REVISED PER NEW REQUIREMENTS | 12/29/2020 | R.L. |



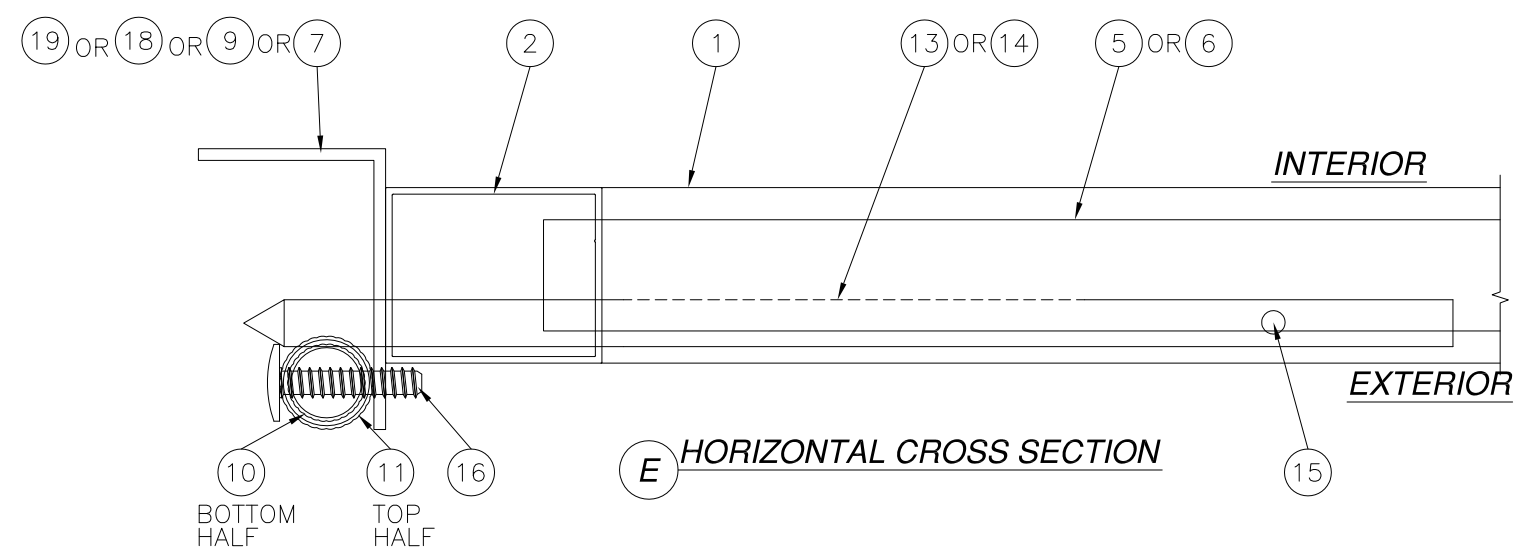
A VERTICAL CROSS SECTION



B VERTICAL CROSS SECTION



C HORIZONTAL CROSS SECTION



E HORIZONTAL CROSS SECTION

SIGNED: 12/29/2020

LAS ENTERPRISES
2413 L & A ROAD
METAIRIE, LA 70001

BAHAMA SHUTTER
LARGE AND SMALL MISSILE IMPACT RATED
CROSS SECTIONS

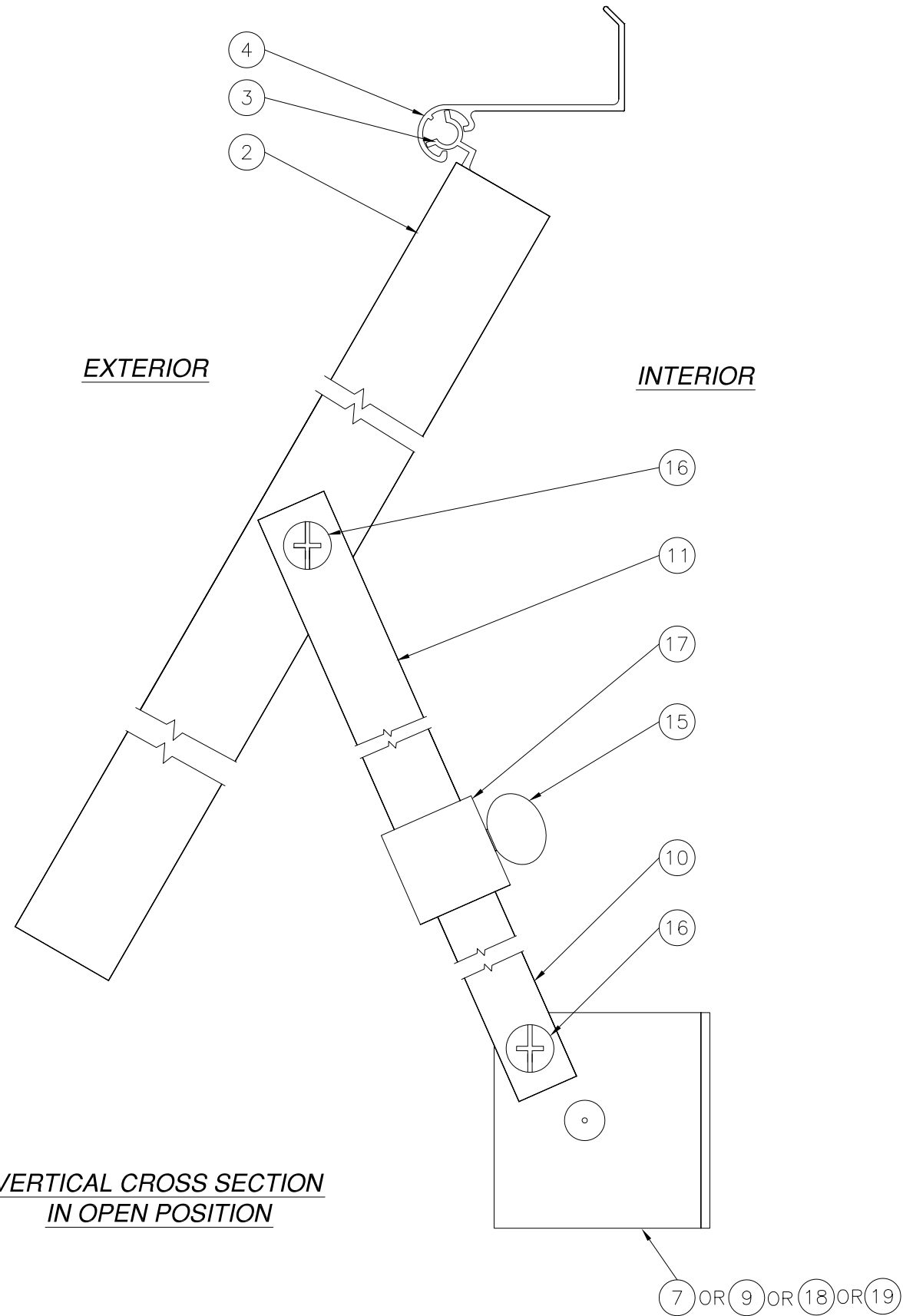
| | | |
|----------------|---------------------|------------------|
| DRAWN: V.L. | DWG NO. 08-02482 | REV B |
| SCALE NTS | DATE 09/09/14 | SHEET 5 OF 11 |

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

| REVISIONS | | | |
|-----------|------------------------------|------------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| B | REVISED PER NEW REQUIREMENTS | 12/29/2020 | R.L. |



VERTICAL CROSS SECTION
IN OPEN POSITION

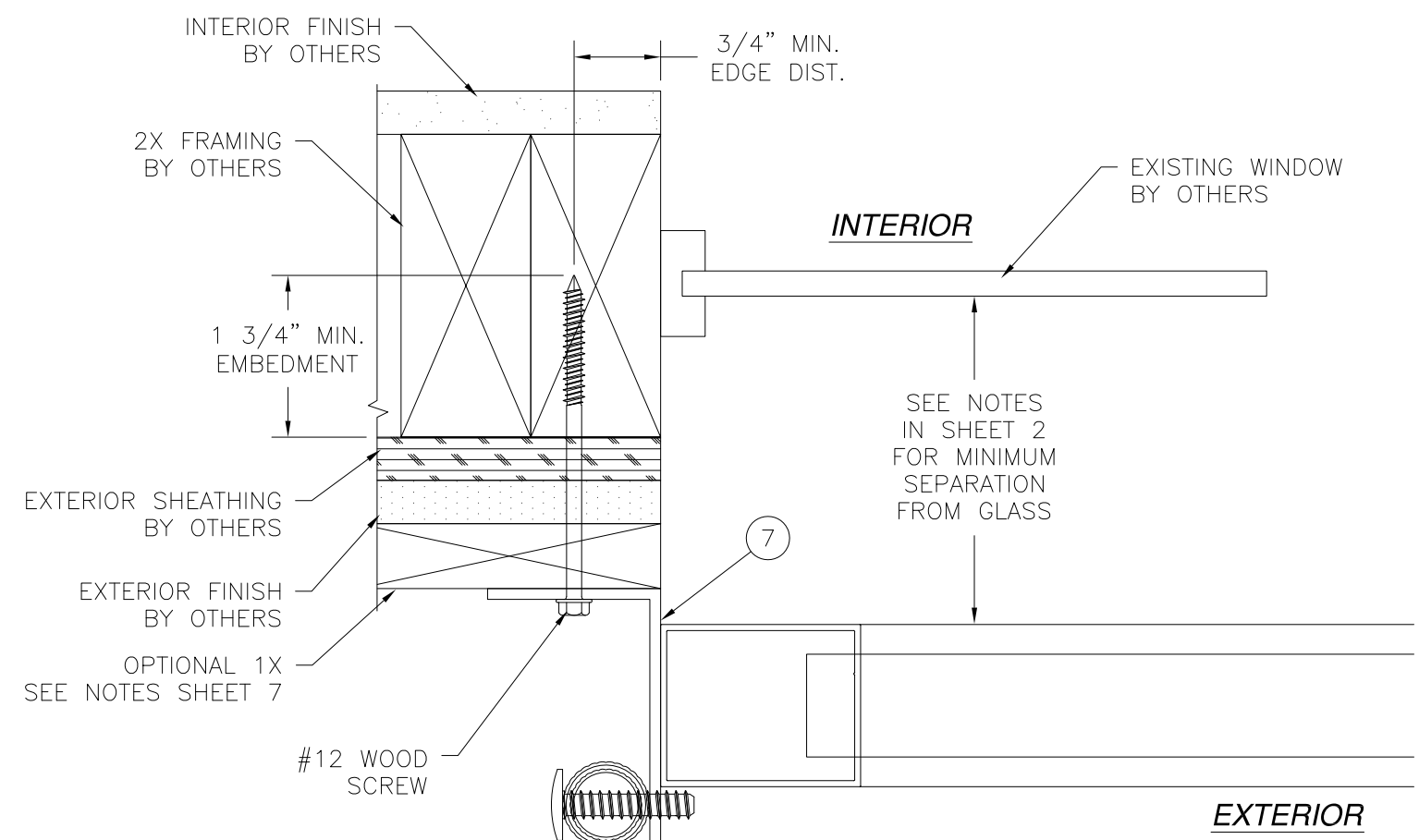
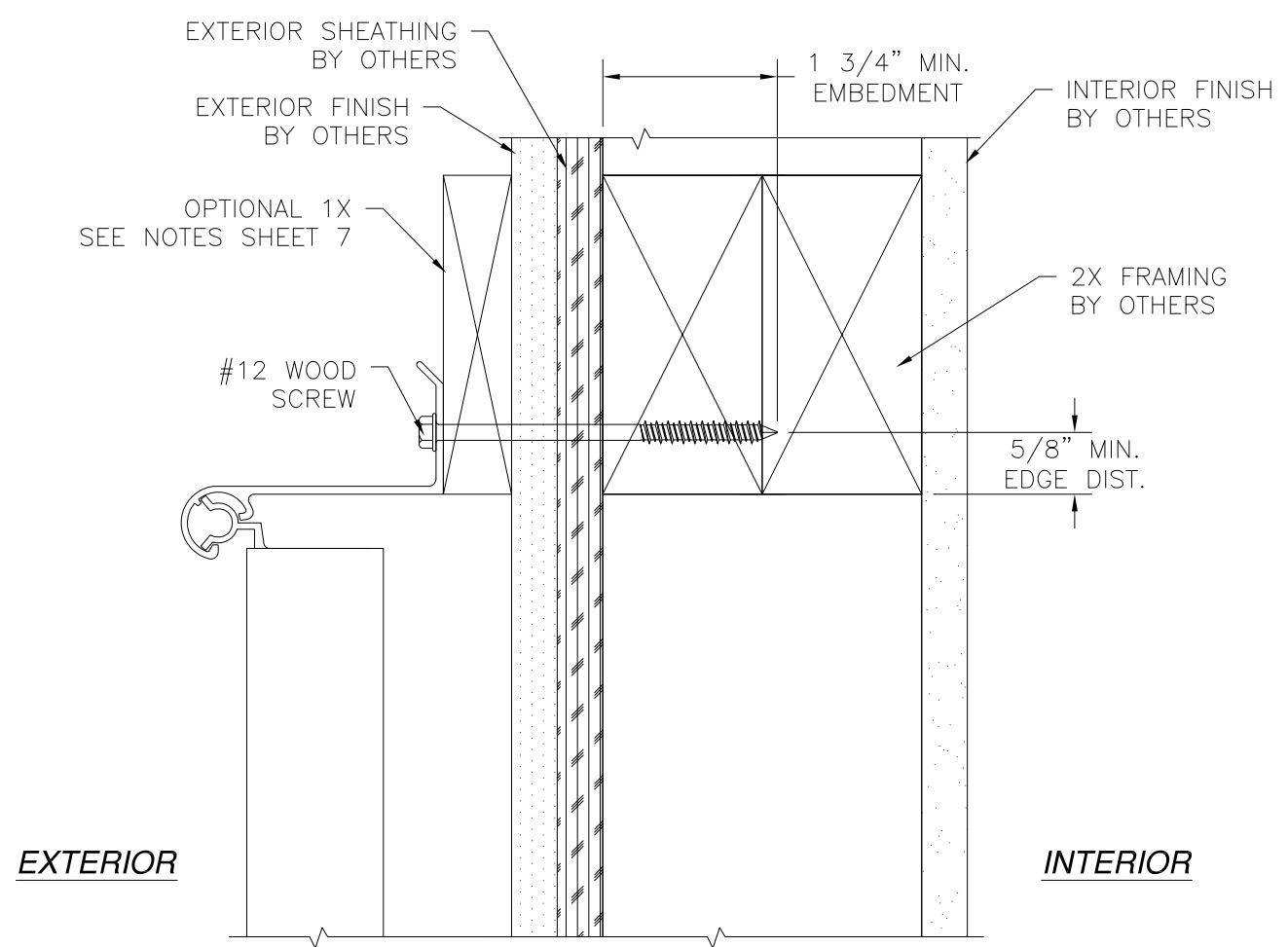
SIGNED: 12/29/2020

| | | |
|---|---------------------|---------------|
| LAS ENTERPRISES 2413 L & A ROAD METAIRIE, LA 70001 | | |
| BAHAMA SHUTTER LARGE AND SMALL MISSILE IMPACT RATED CROSS SECTIONS | | |
| DRAWN: V.L. | DWG NO. 08-02482 | REV B |
| SCALE NTS | DATE 09/09/14 | SHEET 6 OF 11 |
| L. ROBERTO LOMAS P.E. 1432 WOODFORD RD LEWISVILLE, NC 27023 434-688-0609 rllomas@rlomaspe.com | | |



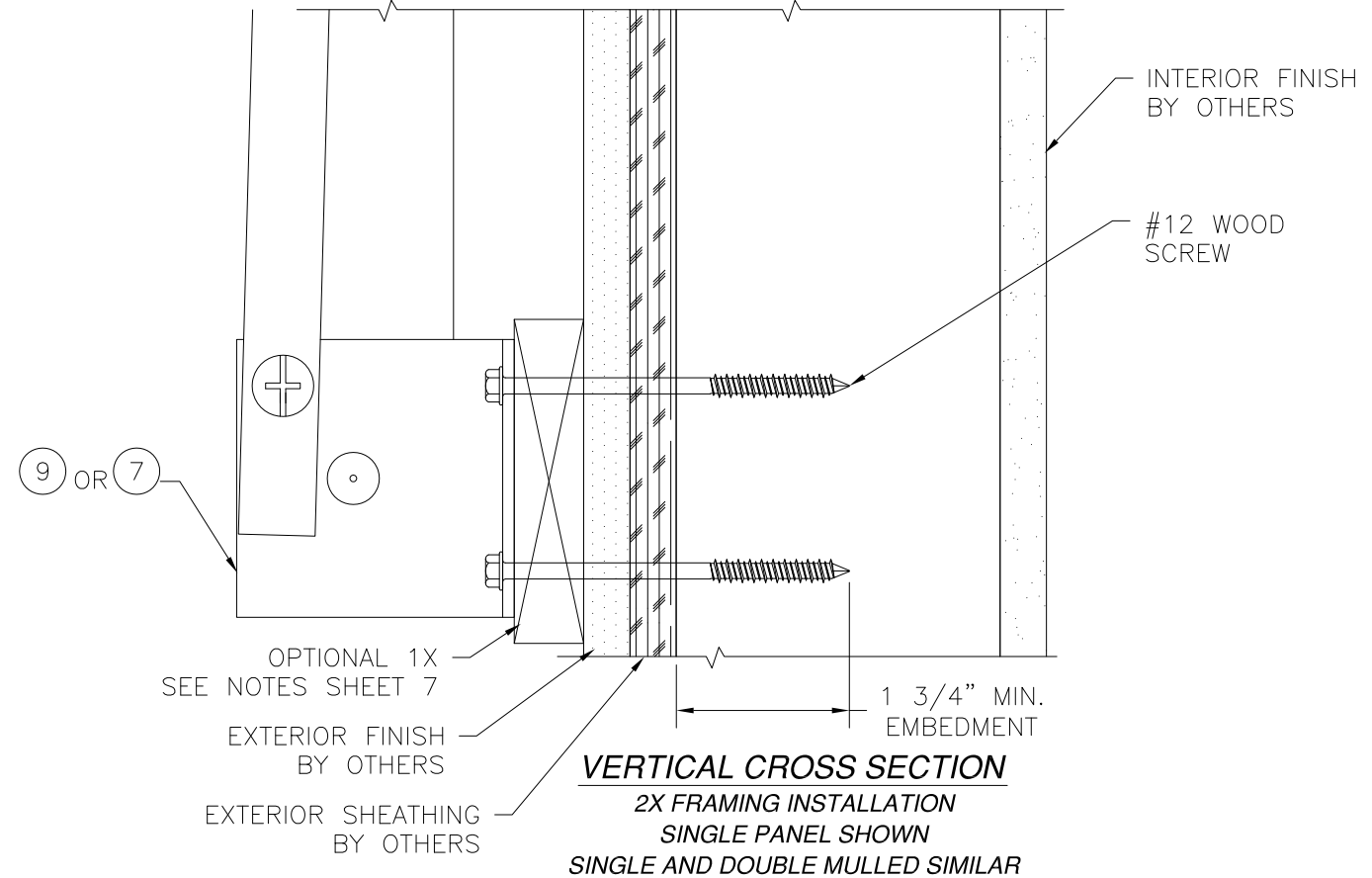
Luis R. Lomas P.E.
TX No.: 101889

| REVISIONS | | | |
|-----------|------------------------------|------------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| B | REVISED PER NEW REQUIREMENTS | 12/29/2020 | R.L. |



HORIZONTAL CROSS SECTION
2X FRAMING INSTALLATION
SINGLE PANEL SHUTTER

- 1X INSTALLATION NOTES:
1. 1X BUCK TO BE INSTALLED WHEN EXTERIOR FINISH IS NOT ABLE TO WITHSTAND LOAD FROM SHUTTER.
 2. ANCHOR 1X BUCK TO 2X FRAMING USING #10 WOOD SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/8" MINIMUM EMBEDMENT. LOCATE ANCHORS 4" FROM EACH CORNER AND 16" MAXIMUM O.C. THEREAFTER.
 3. ANCHOR 1X BUCK TO MASONRY USING 3/16" TAPCONS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/4" MINIMUM EMBEDMENT. LOCATE ANCHORS 4" FROM EACH CORNER AND 16" MAXIMUM O.C. THEREAFTER.



VERTICAL CROSS SECTION
2X FRAMING INSTALLATION
SINGLE PANEL SHOWN
SINGLE AND DOUBLE MULLED SIMILAR

SIGNED: 12/29/2020

LAS ENTERPRISES
2413 L & A ROAD
METAIRIE, LA 70001

BAHAMA SHUTTER
LARGE AND SMALL MISSILE IMPACT RATED
INSTALLATION DETAILS

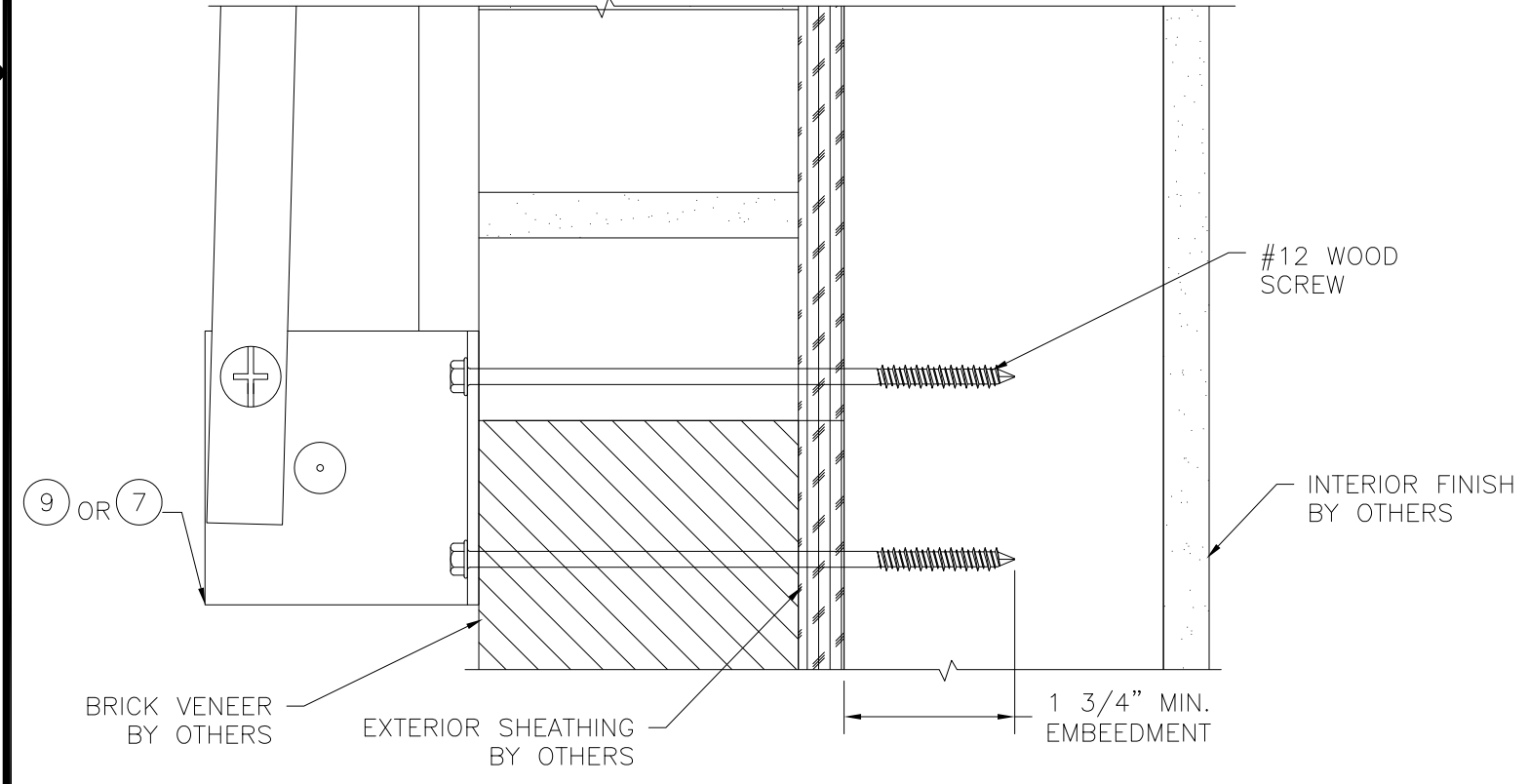
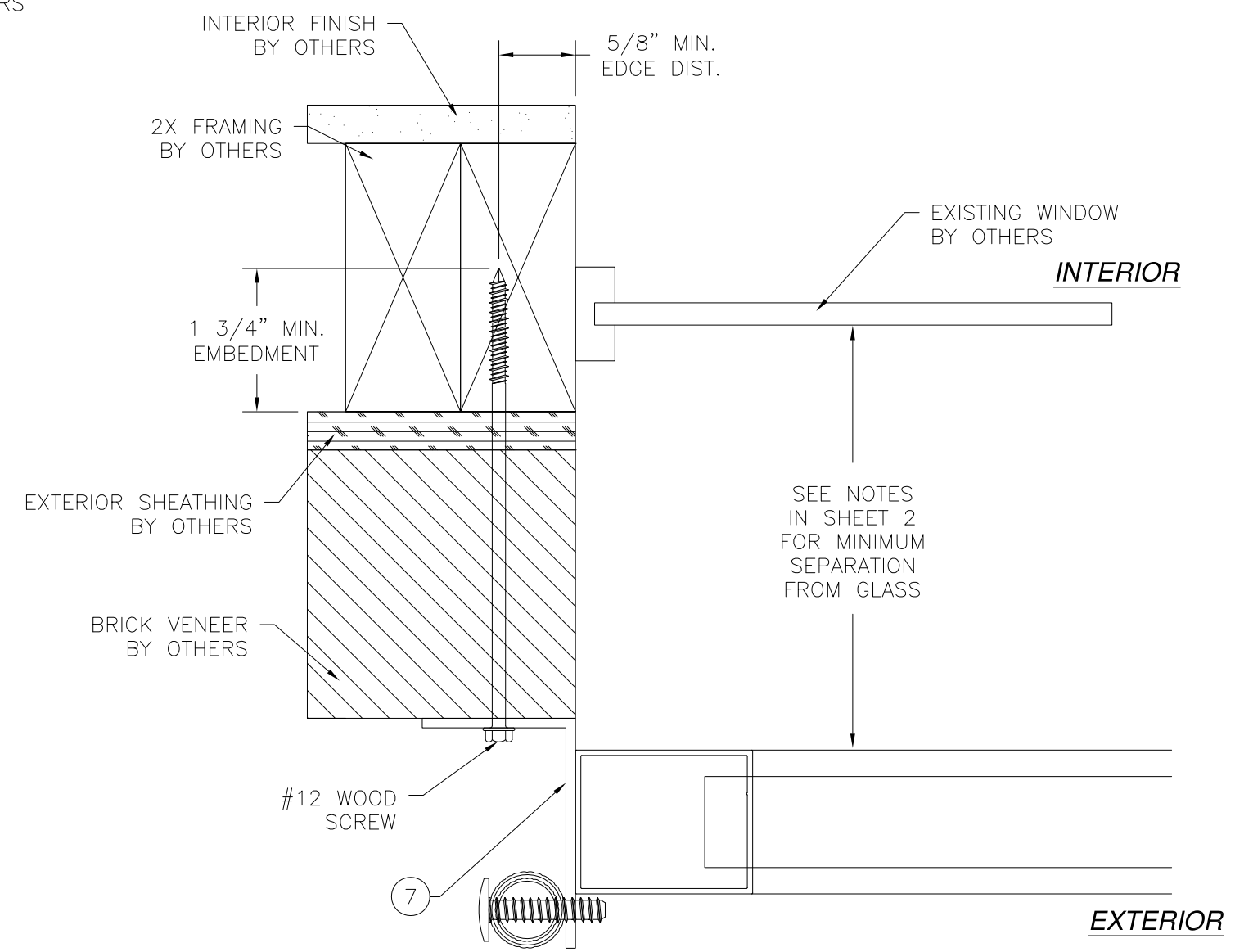
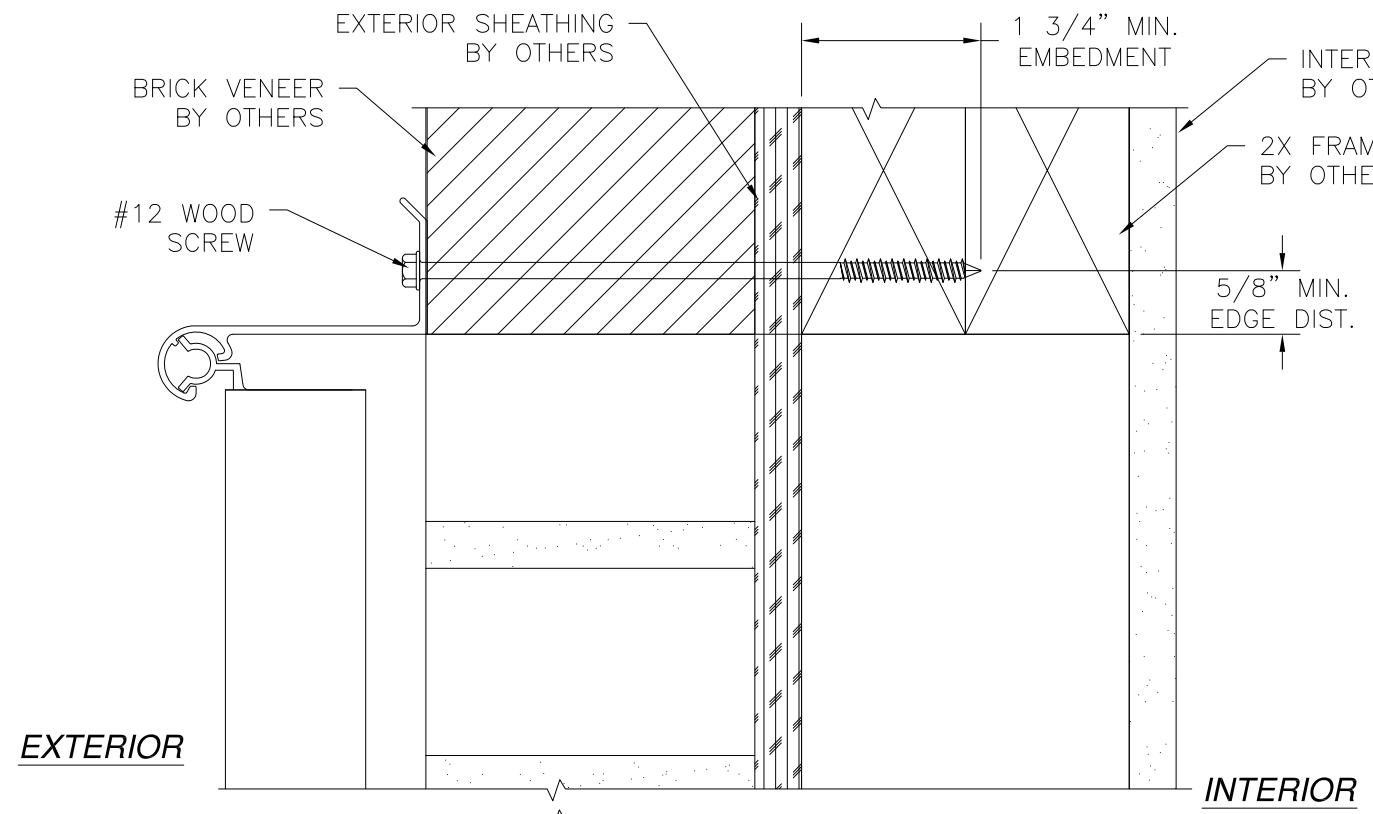
| | | |
|----------------|---------------------|------------------|
| DRAWN: V.L. | DWG NO. 08-02482 | REV B |
| SCALE NTS | DATE 09/09/14 | SHEET 7 OF 11 |

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

| REVISIONS | | | |
|-----------|------------------------------|------------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| B | REVISED PER NEW REQUIREMENTS | 12/29/2020 | R.L. |



HORIZONTAL CROSS SECTION
 2X FRAMING W/BRICK VENEER INSTALLATION
 SINGLE PANEL

VERTICAL CROSS SECTION
 2X FRAMING W/BRICK VENEER INSTALLATION
 SINGLE PANEL SHUTTER SHOWN,
 SINGLE AND DOUBLE MULLED SHUTTER SIMILAR

SIGNED: 12/29/2020

LAS ENTERPRISES
 2413 L & A ROAD
 METAIRIE, LA 70001

BAHAMA SHUTTER
 LARGE AND SMALL MISSILE IMPACT RATED
 INSTALLATION DETAILS

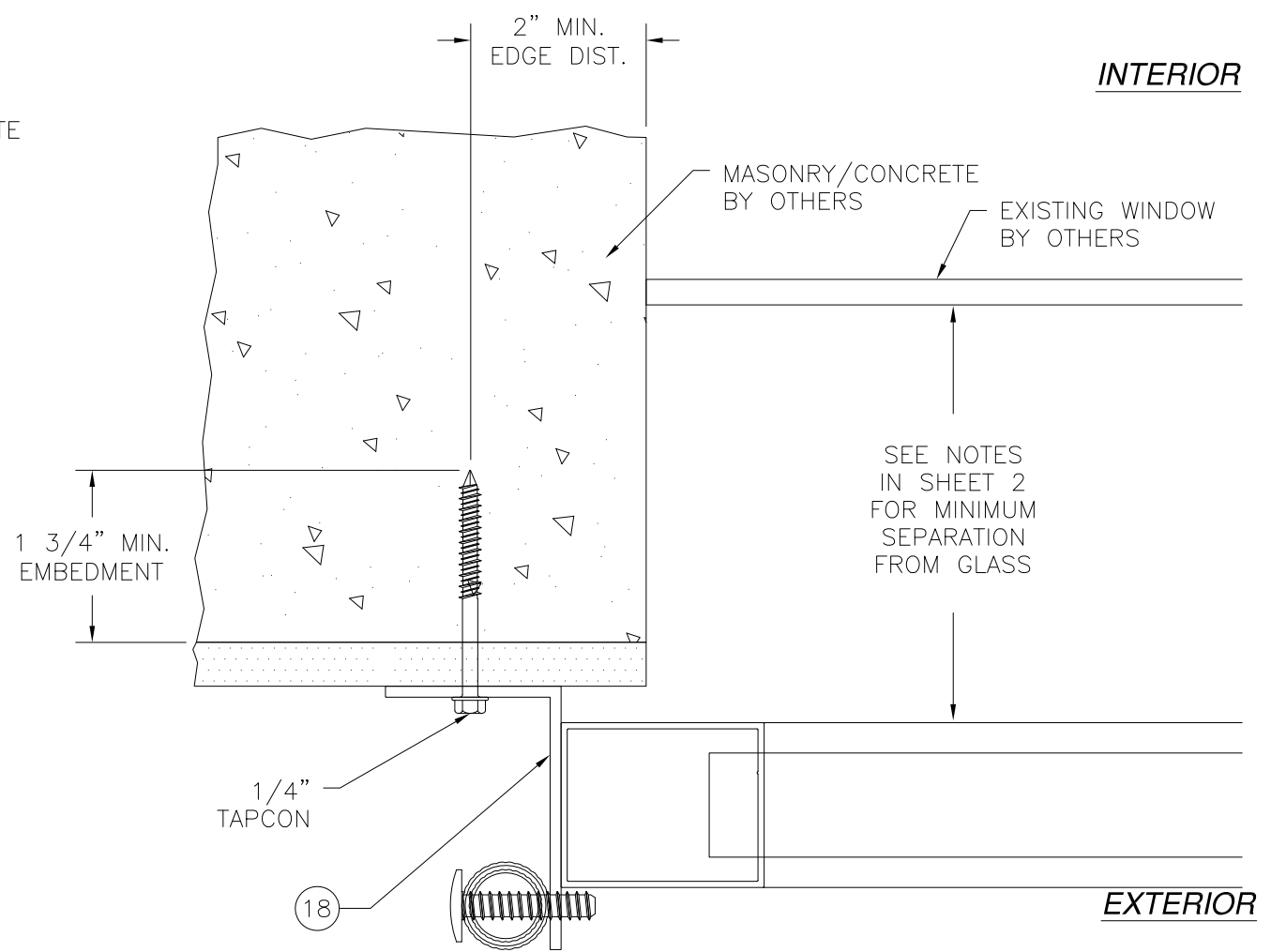
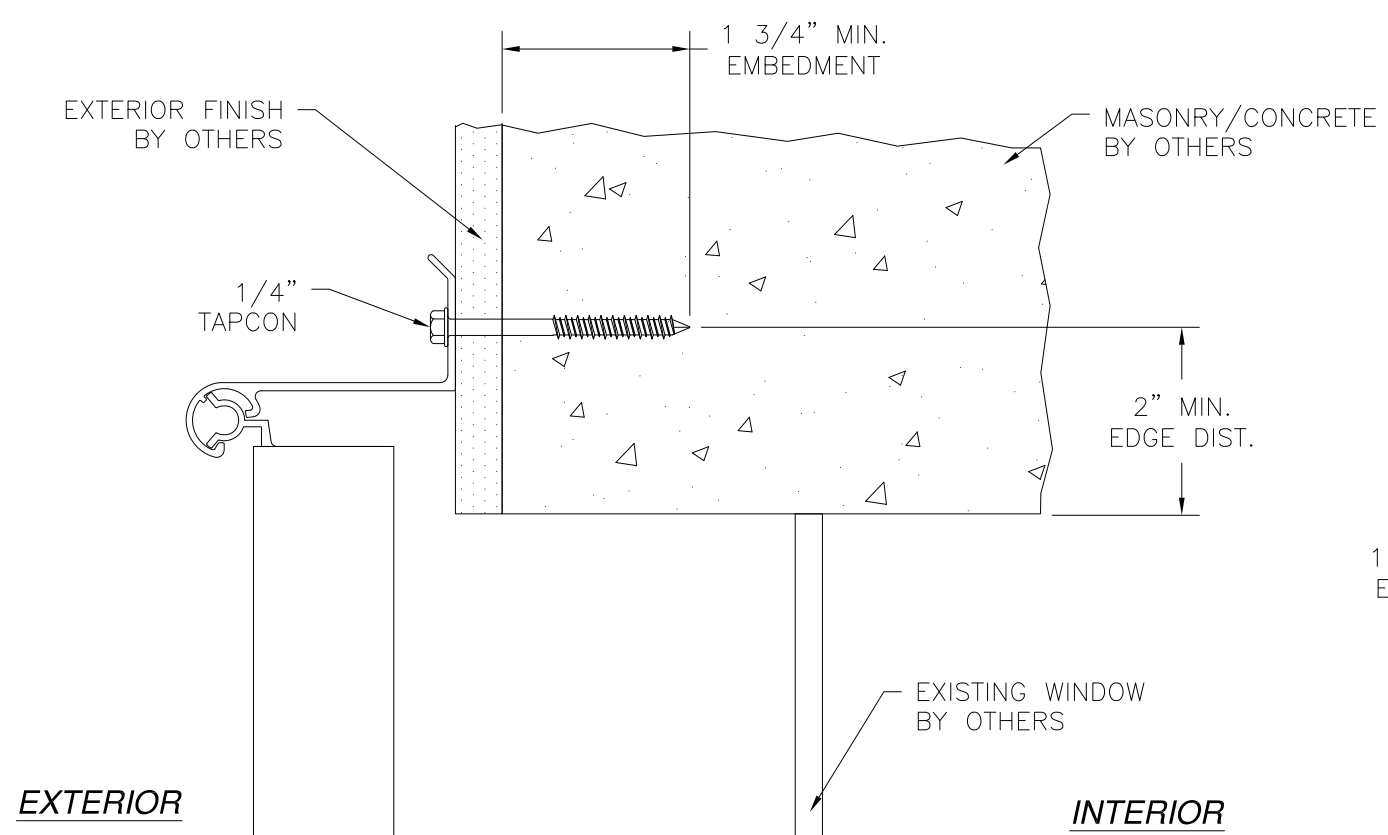
| | | |
|----------------|---------------------|------------------|
| DRAWN: V.L. | DWG NO. 08-02482 | REV B |
| SCALE NTS | DATE 09/09/14 | SHEET 8 OF 11 |

L. ROBERTO LOMAS P.E.
 1432 WOODFORD RD LEWISVILLE, NC 27023
 434-688-0609 rllomas@rlomaspe.com

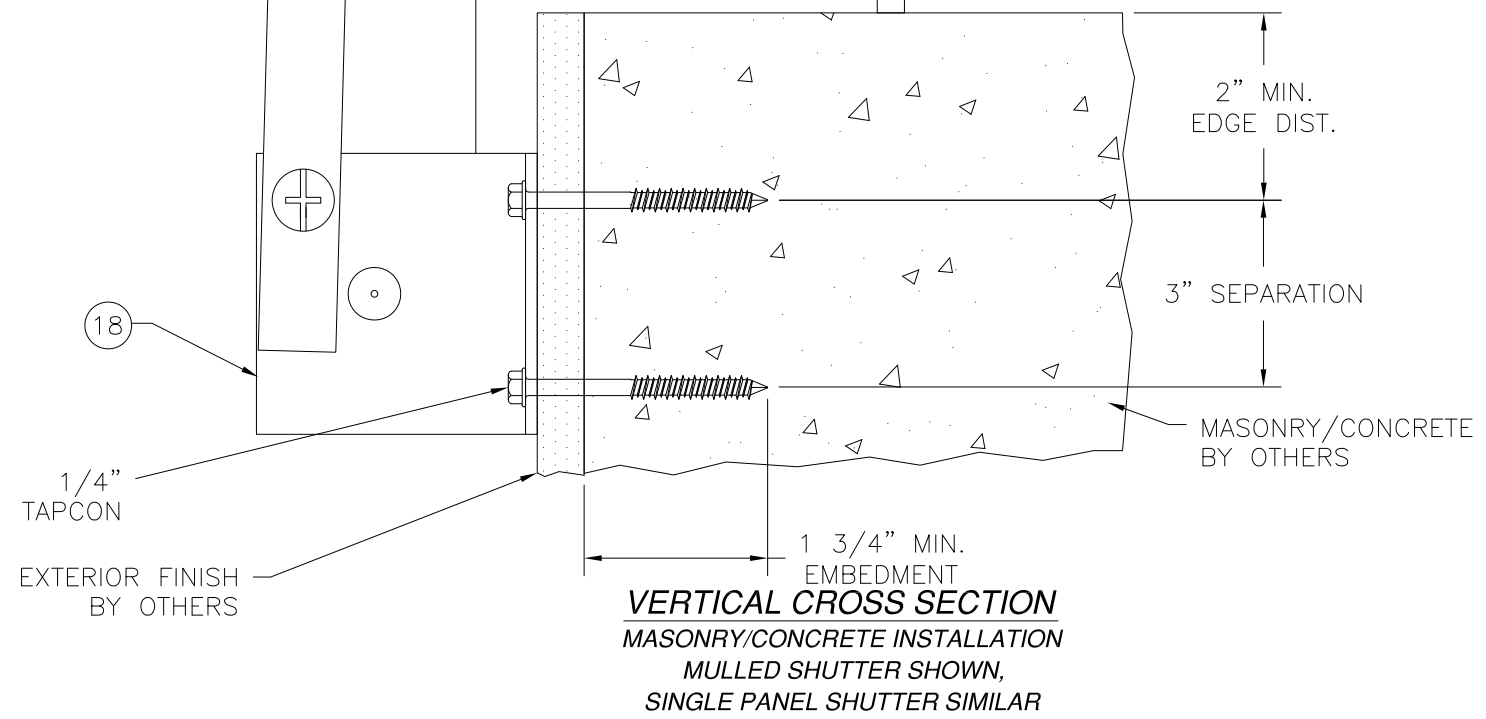


Luis R. Lomas P.E.
 TX No.: 101889

| REVISIONS | | | |
|-----------|------------------------------|------------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| B | REVISED PER NEW REQUIREMENTS | 12/29/2020 | R.L. |



HORIZONTAL CROSS SECTION
MASONRY/CONCRETE INSTALLATION
SINGLE PANEL SHUTTER SHOWN
SINGLE MULLED SIMILAR



VERTICAL CROSS SECTION
MASONRY/CONCRETE INSTALLATION
MULLED SHUTTER SHOWN,
SINGLE PANEL SHUTTER SIMILAR

SIGNED: 12/29/2020

LAS ENTERPRISES
2413 L & A ROAD
METAIRIE, LA 70001

BAHAMA SHUTTER
LARGE AND SMALL MISSILE IMPACT RATED
INSTALLATION DETAILS

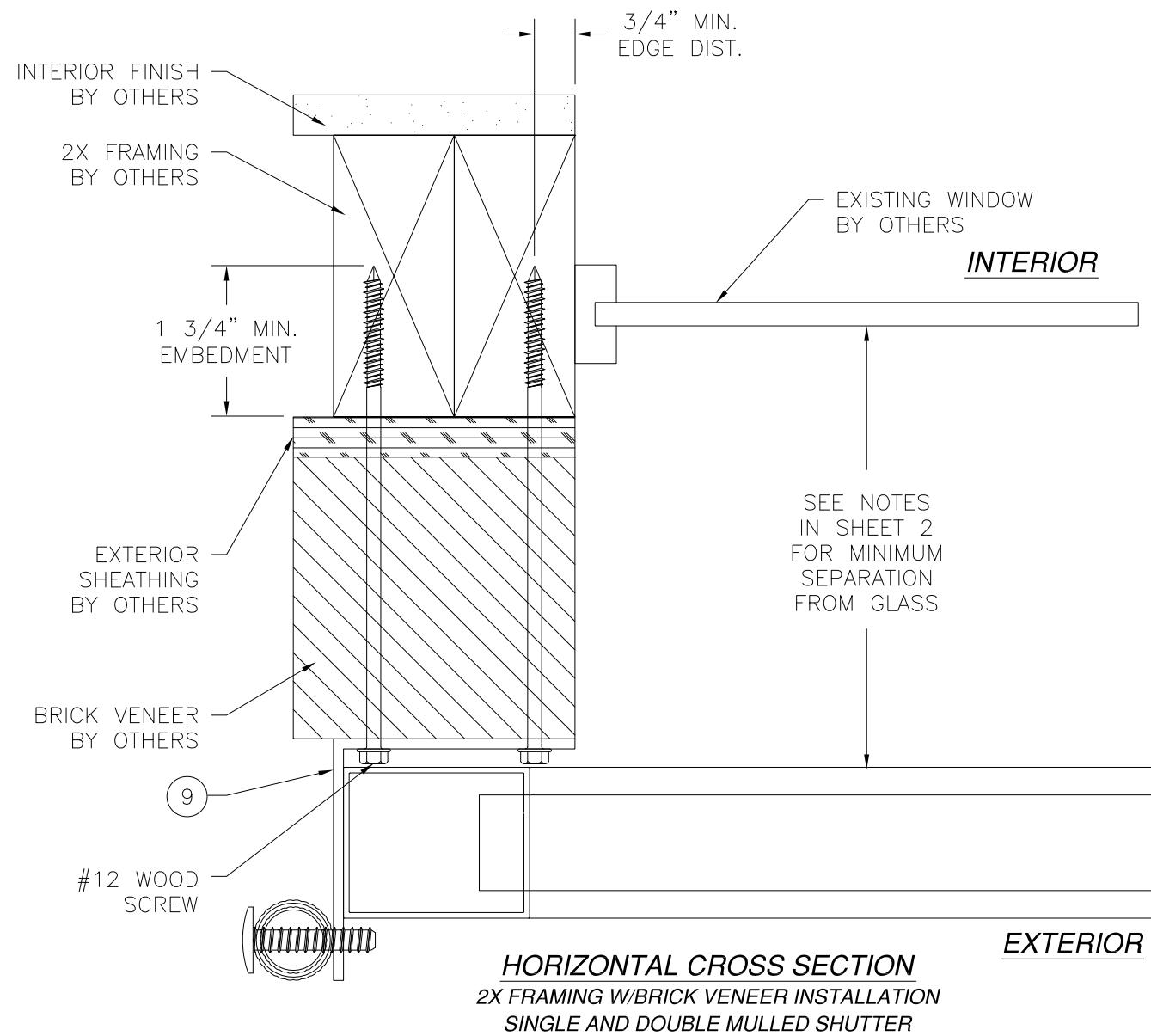
| | | |
|----------------|---------------------|------------------|
| DRAWN: V.L. | DWG NO. 08-02482 | REV B |
| SCALE NTS | DATE 09/09/14 | SHEET 9 OF 11 |

L. ROBERTO LOMAS P.E.
1432 WOODFORD RD LEWISVILLE, NC 27023
434-688-0609 rllomas@rlomaspe.com

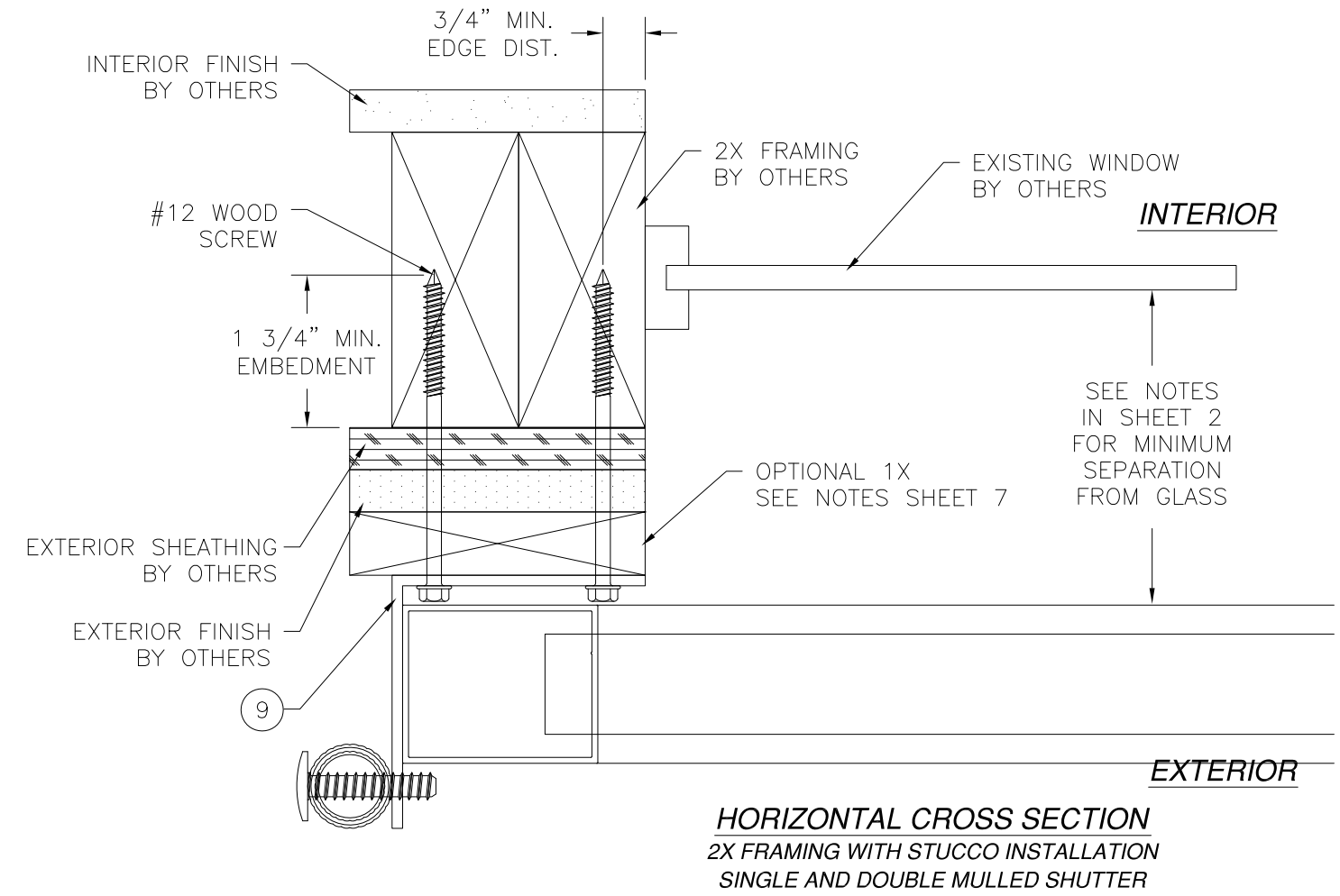


Luis R. Lomas P.E.
TX No.: 101889

| REVISIONS | | | |
|-----------|------------------------------|------------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| B | REVISED PER NEW REQUIREMENTS | 12/29/2020 | R.L. |



HORIZONTAL CROSS SECTION
2X FRAMING W/BRICK VENEER INSTALLATION
SINGLE AND DOUBLE MULLED SHUTTER



HORIZONTAL CROSS SECTION
2X FRAMING WITH STUCCO INSTALLATION
SINGLE AND DOUBLE MULLED SHUTTER

SIGNED: 12/29/2020

LAS ENTERPRISES
 2413 L & A ROAD
 METAIRIE, LA 70001

BAHAMA SHUTTER
 LARGE AND SMALL MISSILE IMPACT RATED
 INSTALLATION DETAILS

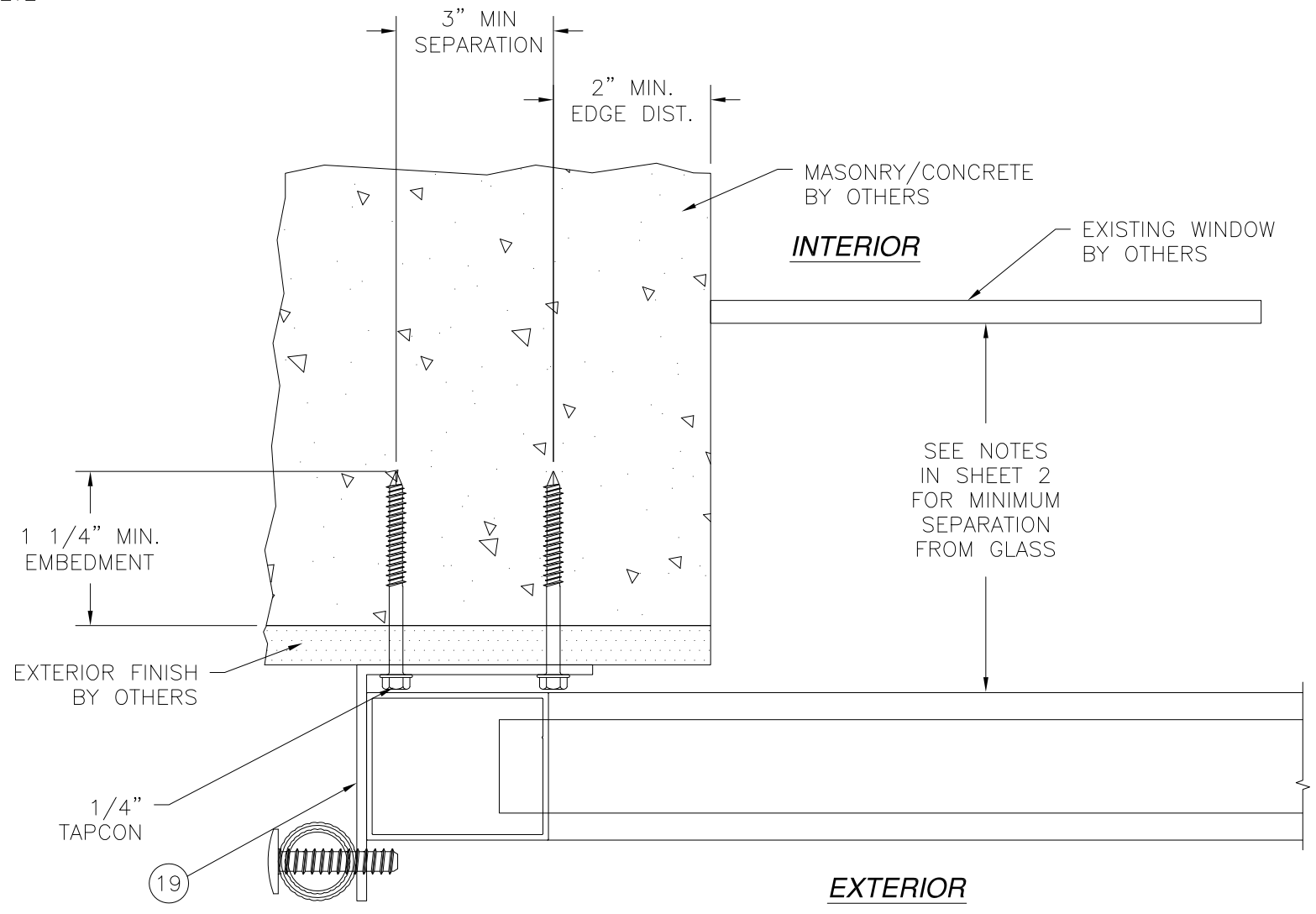
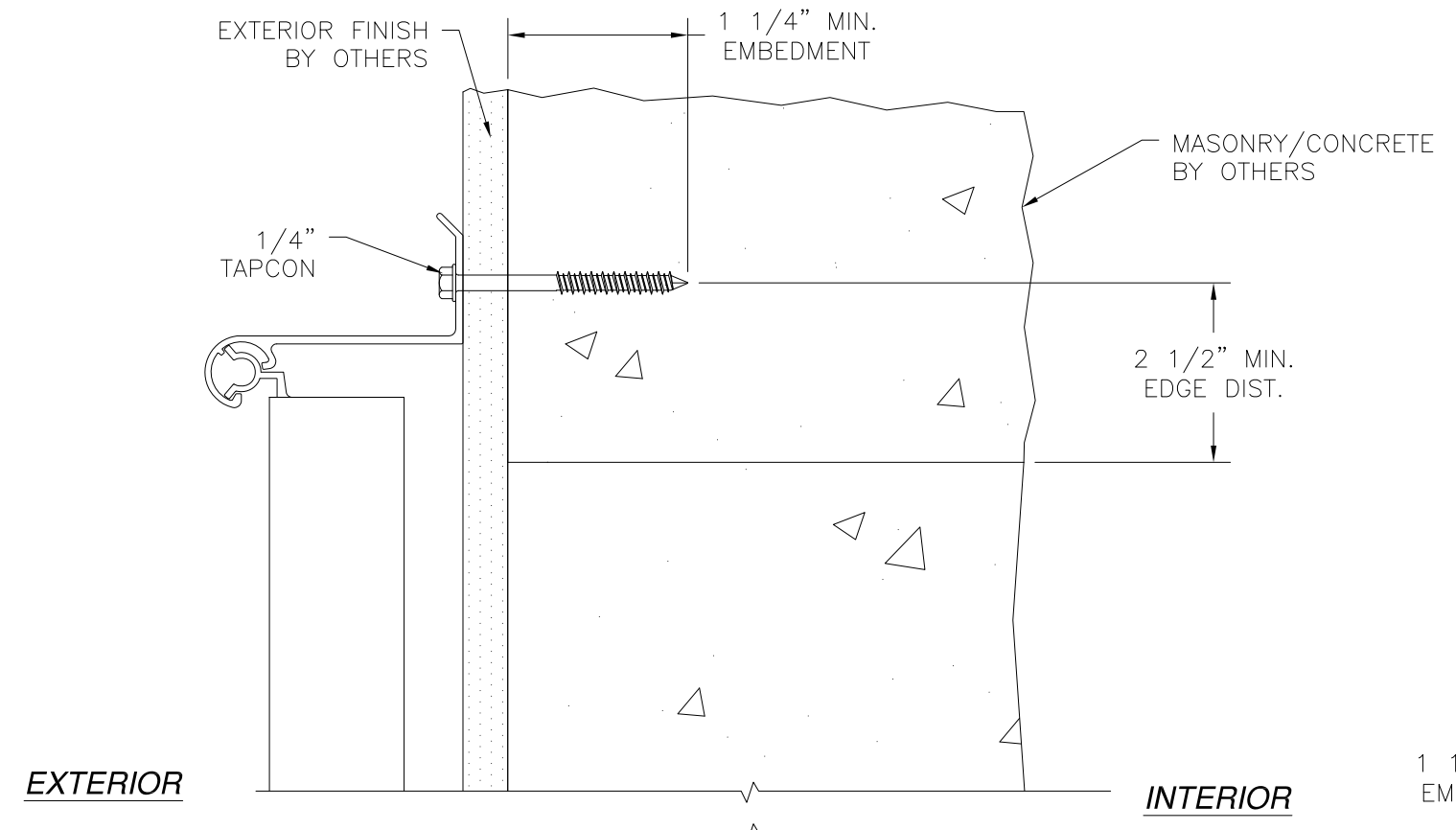
| | | |
|----------------|---------------------|-------------------|
| DRAWN: V.L. | DWG NO. 08-02482 | REV B |
| SCALE NTS | DATE 09/09/14 | SHEET 10 OF 11 |

L. ROBERTO LOMAS P.E.
 1432 WOODFORD RD LEWISVILLE, NC 27023
 434-688-0609 rllomas@rlomaspe.com



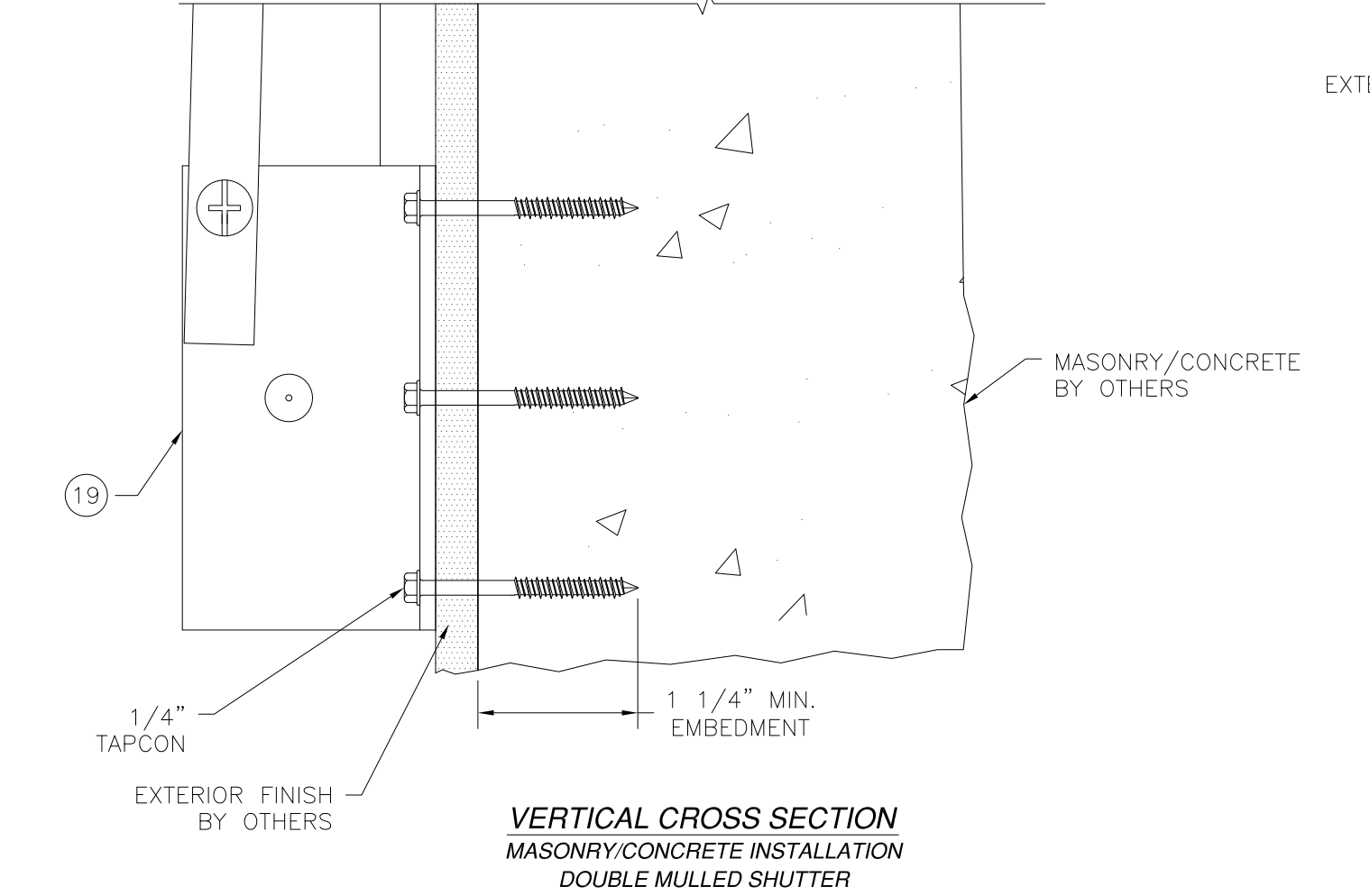
Luis R. Lomas P.E.
 TX No.: 101889

| REVISIONS | | | |
|-----------|------------------------------|------------|----------|
| REV | DESCRIPTION | DATE | APPROVED |
| B | REVISED PER NEW REQUIREMENTS | 12/29/2020 | R.L. |



HORIZONTAL CROSS SECTION
MASONRY/CONCRETE INSTALLATION
DOUBLE MULLED SHUTTER

SIGNED: 12/29/2020



VERTICAL CROSS SECTION
MASONRY/CONCRETE INSTALLATION
DOUBLE MULLED SHUTTER

LAS ENTERPRISES
2413 L & A ROAD
METAIRIE, LA 70001

BAHAMA SHUTTER
LARGE AND SMALL MISSILE IMPACT RATED
INSTALLATION DETAILS

| | | |
|----------------|---------------------|----------------|
| DRAWN: V.L. | DWG NO. 08-02482 | REV B |
| SCALE NTS | DATE 09/09/14 | SHEET 11 OF 11 |

L. ROBERTO LOMAS P.E.
1432 WOODFORD RD LEWISVILLE, NC 27023
434-688-0609 rllomas@lrlomaspe.com



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