

GENERAL NOTES:

1. BERTHA H.V. COLONIAL SHUTTER SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE **2023 (8th EDITION)** OF THE FLORIDA BUILDING CODE. THIS COLONIAL SHUTTER SHALL **NOT** BE INSTALLED AT HIGH VELOCITY HURRICANE ZONES (MIAMI DADE/BROWARD COUNTY).

DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION **1609** OF THE ABOVE MENTIONED CODE, FOR A BASIC WIND SPEED AS REQUIRED BY THE JURISDICTION WHERE THESE SHUTTERS WILL BE INSTALLED FOR A DIRECTIONALITY FACTOR $K_d=0.85$. **ASCE 7-22** AND SHALL NOT EXCEED THE MAXIMUM (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON NOTE 2.

IN ORDER TO VERIFY THE ABOVE CONDITION, ULTIMATE DESIGN WIND LOADS DETERMINED PER **ASCE 7-22** SHALL BE FIRST REDUCED TO A.S.D. DESIGN WIND LOADS BY MULTIPLYING THEM BY 0.6 IN ORDER TO TO COMPARE THESE W/ MAX. (A.S.D) DESIGN PRESSURE RATINGS INDICATED ON NOTE 2.

IN ORDER TO VERIFY THAT ANCHORS ON THIS P.E.D., AS TESTED, WERE NOT OVERSTRESSED, A 33% INCREASE IN ALLOWABLE STRESS FOR WIND LOADS WAS NOT USED IN THEIR ANALYSIS. HOWEVER, FOR CONNECTIONS INTO WOOD, A 1.60 WIND LOAD DURATION FACTOR WAS USED TO CALCULATE SCREWS SPACINGS.

BERTHA H.V. COLONIAL SHUTTER'S ADEQUACY FOR IMPACT AND CYCLIC RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION **1609.1.2** OF THE ABOVE MENTIONED CODE AS PER ATL REPORTS # 1215.01-06, # 0131.01-07 WITH ADDENDUM, AND 1222.01-20 AS PER ASTM E 1886, ASTM E 1996 AND ASTM E 330 STANDARDS, QUALIFIED FOR WIND ZONES 1, 2 & 3, MISSILE TYPE D & SMALL MISSILE (BASIC PROTECTION).

2. SEE ELEVATIONS ON SHEETS 3, 3A, 4 & 9 FOR MAX. A.S.D. DESIGN PRESSURE RATING & MAX. SHUTTERS DIMENSIONS.

3. ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION 6063-T6 ALLOY AND TEMPER, WITH $F_y = 25.0$ ksi MINIMUM (UNLESS OTHERWISE NOTED). ALL ALUMINUM EXTRUSIONS IN CONTACT WITH DISSIMILAR MATERIALS SHALL COMPLY WITH SECTION III-6 OF THE 2020 ALUMINUM DESIGN MANUAL.

4. ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES WITH 50 ksi YIELD POINT AND 90 ksi TENSILE STRENGTH & SHALL COMPLY W/ FLORIDA BUILDING CODE SECTION 2411.3.3.4.

5. BOLTS TO BE AISI 304 SERIES STAINLESS STEEL WITH 35 ksi MINIMUM YIELD STRENGTH.

6. ALL ALUMINUM POP RIVETS TO BE 5052 ALUMINUM ALLOY WITH ALUMINUM MANDREL.

7. ANCHORS TO WALL SHALL BE AS FOLLOWS: (UNLESS OTHERWISE NOTED)

- (A) TO EXISTING WOOD FRAME WALL: SOUTHERN PINE No.2, $G=0.55$.
- 1/4" ϕ TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX, INC.

NOTES:

A.1) MINIMUM THREADED PENETRATION OF TAPCON ANCHORS INTO WOOD SHALL BE 1 1/2".

A.2) IN CASE THAT PRECAST STONE OR PRECAST CONCRETE PANELS BE FOUND ON THE EXISTING WALL, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS. ANCHORAGE SHALL BE AS INDICATED ON NOTES A.1).

- (B) TO EXISTING POURED CONCRETE MIN. ($f'_c = 3192$ p.s.i) OR ASTM C-90 CONCRETE BLOCK
- 1/4" ϕ TAPCON ANCHORS AS MANUFACTURED BY I.T.W./BUILDEX.

THIS DRAWING SHALL ONLY BE USED TO OBTAIN PERMITS IN THE STATE OF FLORIDA

NOTES:

B.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO THE POURED CONCRETE UNIT SHALL BE 1 3/4" AND IN CONCRETE BLOCK UNIT SHALL BE 1 1/4".

B.2) IN CASE THAT PRECAST STONE OR PRECAST CONCRETE PANELS BE FOUND ON THE EXISTING WALL, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS. ANCHORAGE SHALL BE AS INDICATED ON NOTES B.1).

(C) ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.

8. EACH SHUTTER SHALL HAVE A LEGIBLE AND READILY VISIBLE MARKING INSTRUCTING OWNER OR TENANT TO SECURE SHUTTER WITH STORM BARS & SAFETY PINS DURING PERIODS OF HURRICANE WARNINGS.

9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE WHERE SHUTTER IS TO BE ATTACHED TO INSURE PROPER ANCHORAGE. CONTRACTOR TO SEAL/CAULK ALL SHUTTER COMPONENT EDGES WHICH REMAIN IN CONTINUOUS CONTACT WITH THE BUILDING TO PREVENT WIND/RAIN INTRUSION.

10. OWNER TO BE RESPONSIBLE FOR PROVIDING A SUITABLE PLATFORM OR BALCONY WHEN SECURING UNIT DURING HURRICANE WARNINGS.

11. BERTHA H.V. COLONIAL SHUTTER'S INSTALLATION SHALL COMPLY WITH SPECS INDICATED IN THIS DRAWING PLUS ANY BUILDING AND ZONING REGULATIONS PROVIDED BY THE JURISDICTION WHERE PERMIT IS APPLIED TO.

12. SHUTTER MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT COLONIAL SHUTTER IN ACCORDANCE WITH SECTION 1709.9.2 OF FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY OPENING.

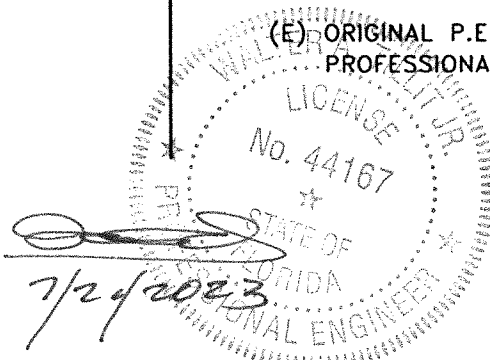
13. (A) THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; I. E. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.

(B) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT, BASED ON THIS PRODUCT EVALUATION DOCUMENT, PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.

(C) THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.

(D) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.E.D. ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.E.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.

(E) ORIGINAL P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.



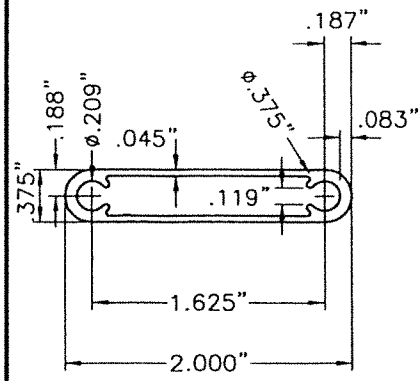
©2023 TILTECO, INC.

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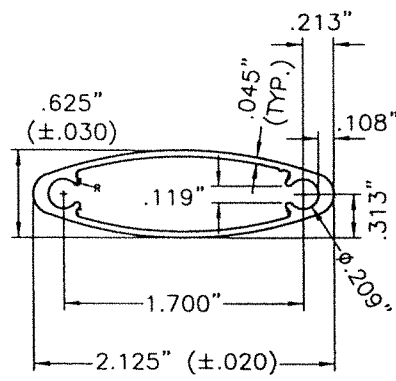
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 . Fax : (305)871-1531
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

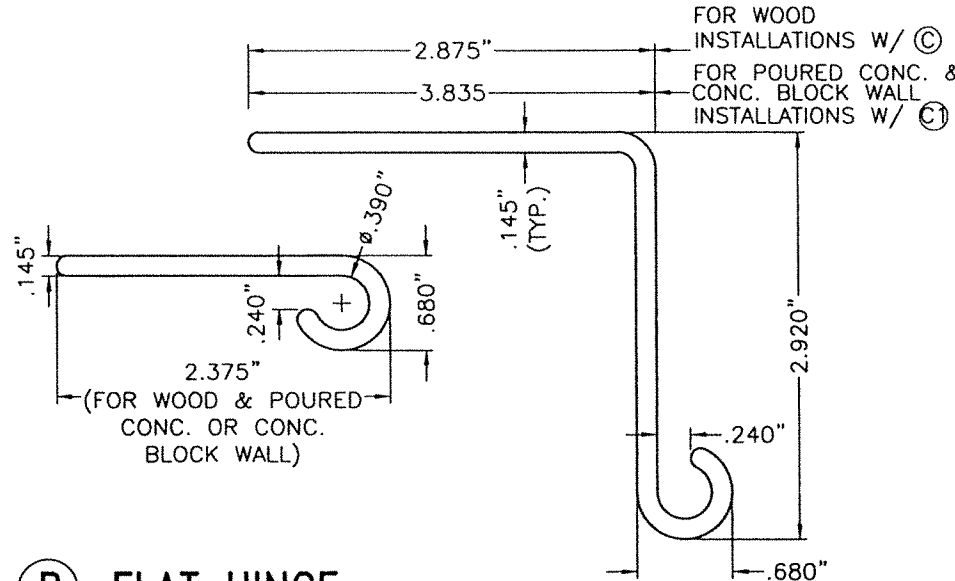
ASSA / BERTHA H.V. COLONIAL SHUTTER (LARGE & SMALL MISSILE)				Y.M. DRAWN BY:	
AMERICAN SHUTTER SYSTEMS ASSOC., INC.				7/21/2023 DATE:	
4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (800)432-2204 FAX: (561)209-8380				23-134 DRAWING No:	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-170	7/21/2023	3		
2			4		
					SHEET 1 OF 14



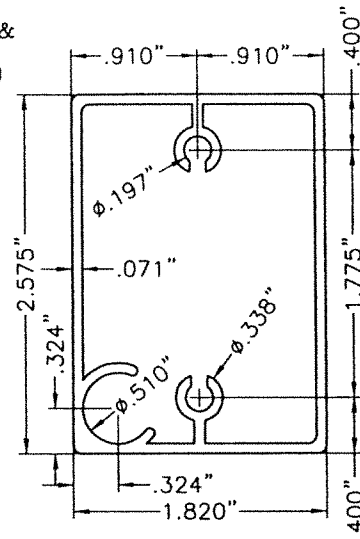
(A) LOUVER BLADE
6063-T6 Alum. ALLOY



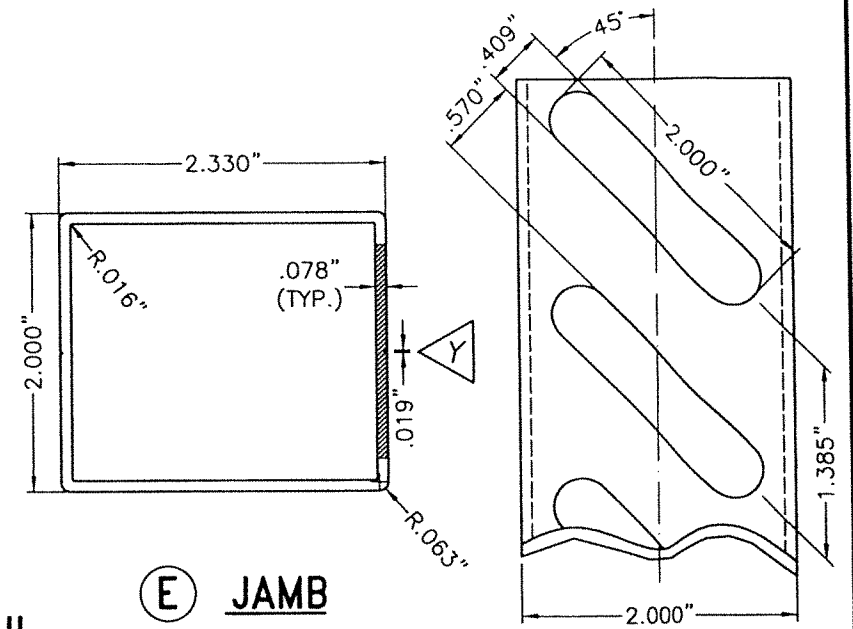
(A1) AIRFOIL OPTIONAL LOUVER BLADE TO (A)
6063-T6 Alum. ALLOY



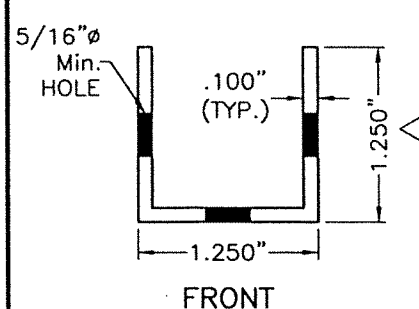
(B) FLAT HINGE
6063-T6 Alum. ALLOY
2" LONG.



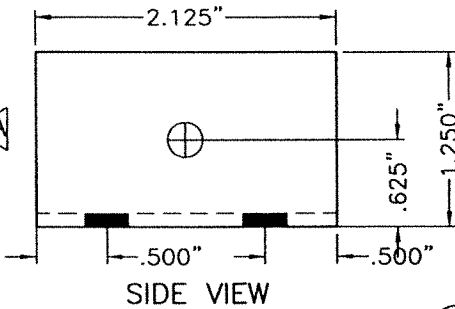
(D) TOP & BOTTOM RAIL
6063-T6 Alum. ALLOY



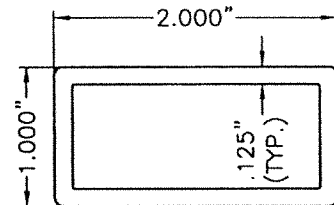
(E) JAMB



(F) H.V. STORM BAR CLIP
6063-T6 Alum. ALLOY
2 1/8" LONG.



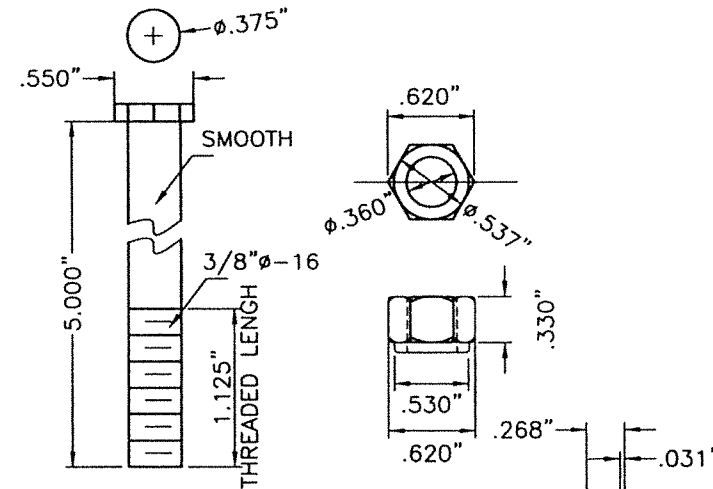
(G) STORM BAR TYPE 1



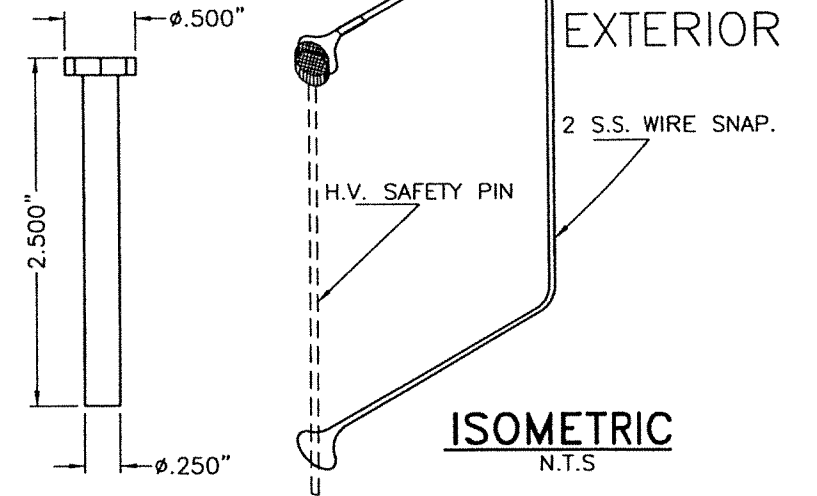
(G1) STORM BAR TYPE 2

(C) DOUBLE HINGE
6063-T6 Alum. ALLOY
2" LONG.

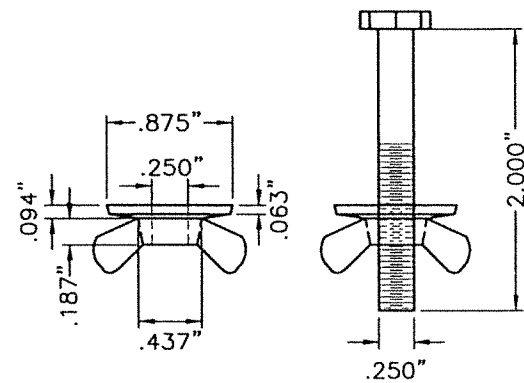
(C1) DOUBLE HINGE
6063-T6 Alum. ALLOY
2" LONG.



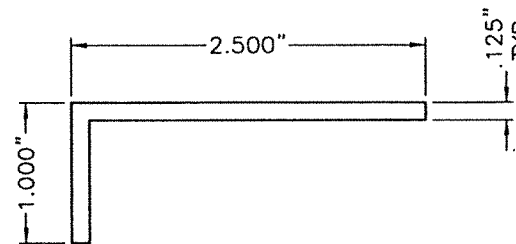
(H) S.S. HINGE PIN W/ LOCK NUT.



(I) S.S. H.V. SAFETY PIN W/ 2 S.S. WIRE SNAP

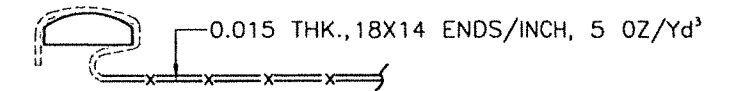


(11) 1/4" - 20x2" S.S. HEX HEAD BOLT W/DIE CAST ZINC NICKEL PLATED WASHER WINGNUT



(J) NON HURRICANE BRACKET ANGLE
6063-T6 Alum. ALLOY
2 1/8" LONG.

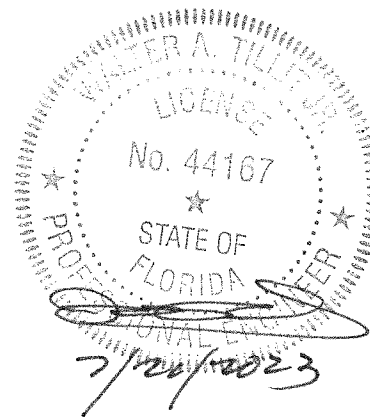
(L) SCREEN SPLINE FLANGE FOR (M)
6005-T5 Alum. ALLOY



(M) PVC COATED FIBERGLASS SCREEN
18.0 Lb TEAR WARP CAPACITY
(MODEL 1814013 FIB, By ADFORS-ST-GOBAIN)

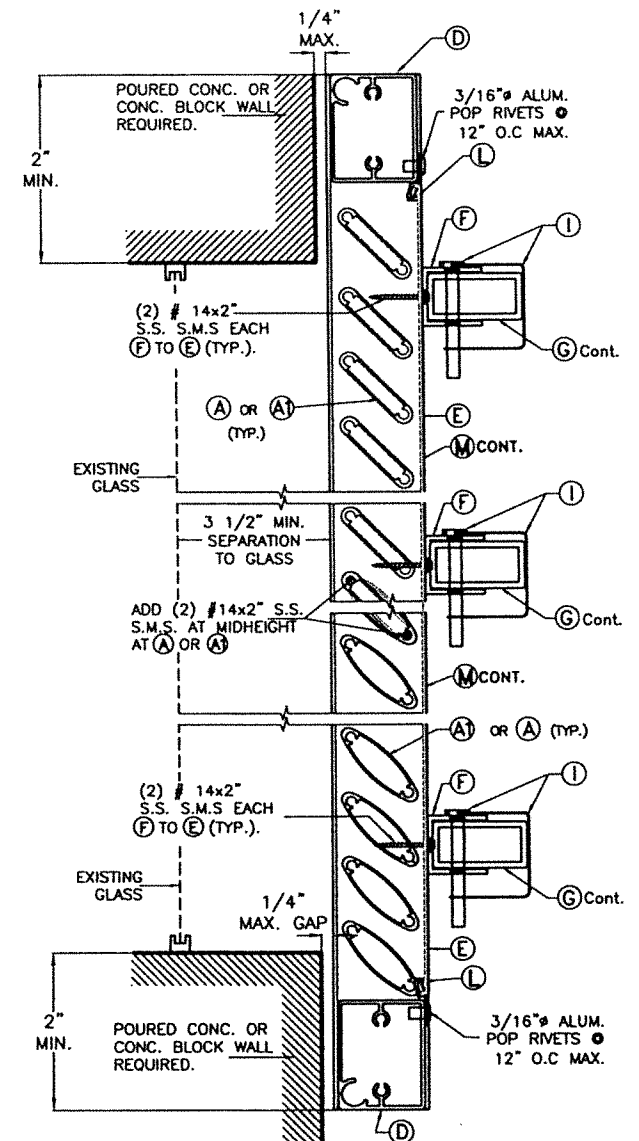
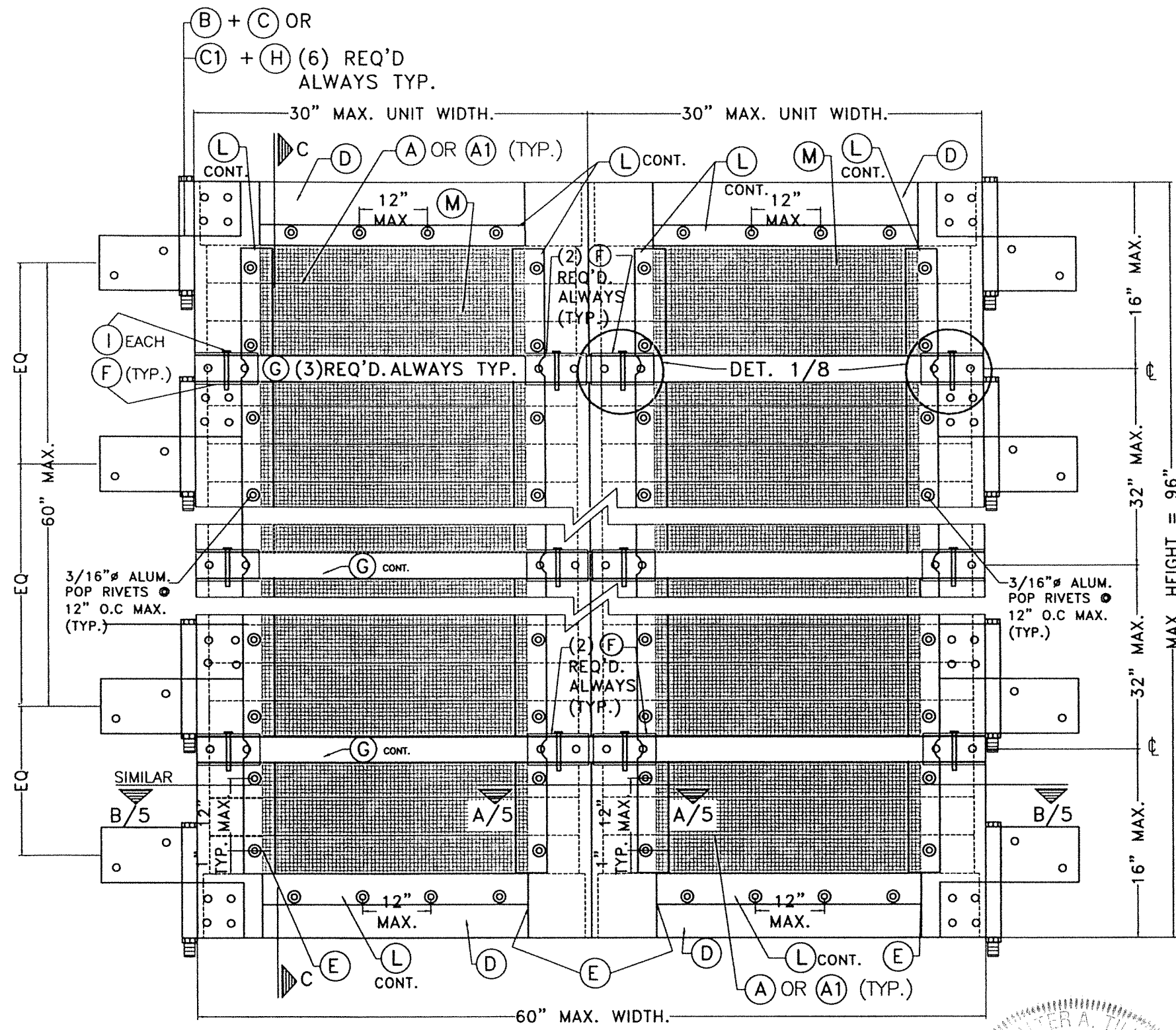
COMPONENTS

SCALE: 3/4" = 1"



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

©2023 TILTECO, INC.		ASSA / BERTHA H.V. COLONIAL SHUTTER (LARGE & SMALL MISSILE)		Y.M. DRAWN BY:	
TILTECO INC.		AMERICAN SHUTTER SYSTEMS ASSOC., INC.		7/21/2023 DATE:	
TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone : (305)871-1530 . Fax : (305)871-1531 CA-0006719 WALTER A. TILLIT Jr. P.E. FLORIDA Lic. # 44167		4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (800)432-2204 FAX: (561)209-8380		23-134 DRAWING No:	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-170	7/21/2023	3		
2			4		
					SHEET 2 OF 14

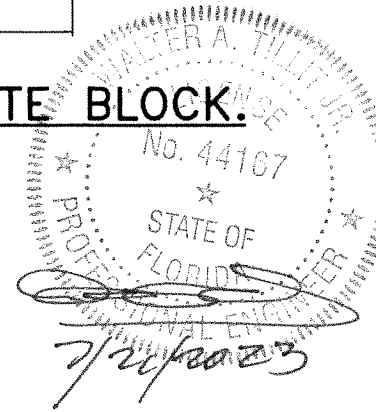


SECTION C-C
(WALL MOUNT)
HURRICANE POSITION
SCALE: 1/4" = 1"

TYPICAL EXTERIOR ELEV. DOUBLE PANEL FOR CONCRETE BLOCK.
(HURRICANE POSITION)

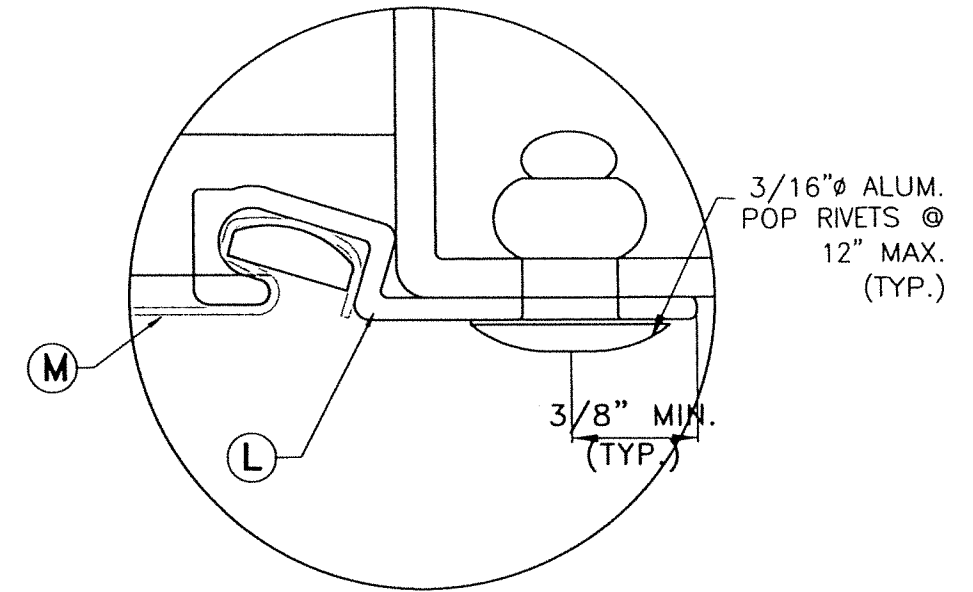
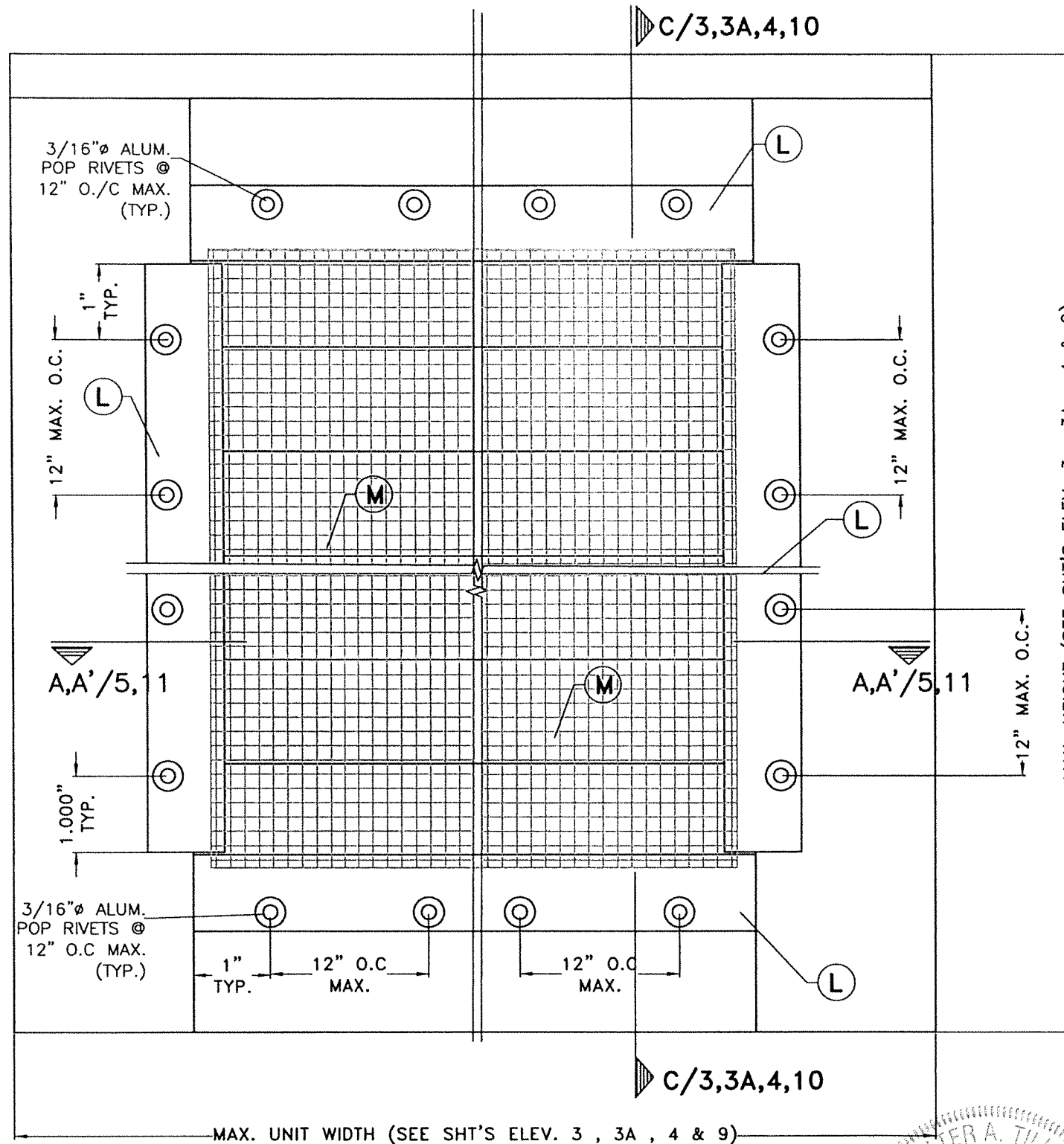
N.T.S.

MAXIMUM A.S.D. DESIGN PRESSURE RATING = +45, -55 psf.



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REV. NO	DESCRIPTION	DATE	REV. NO	DESCRIPTION	DATE
1	OLD 20-170	7/21/2023	3		
2			4		



INTERIOR ELEVATION Δ FOR TYPICAL SINGLE PANEL HV COLONIAL SCREEN ATTACHMENT
N.T.S.

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER
7/21/2023

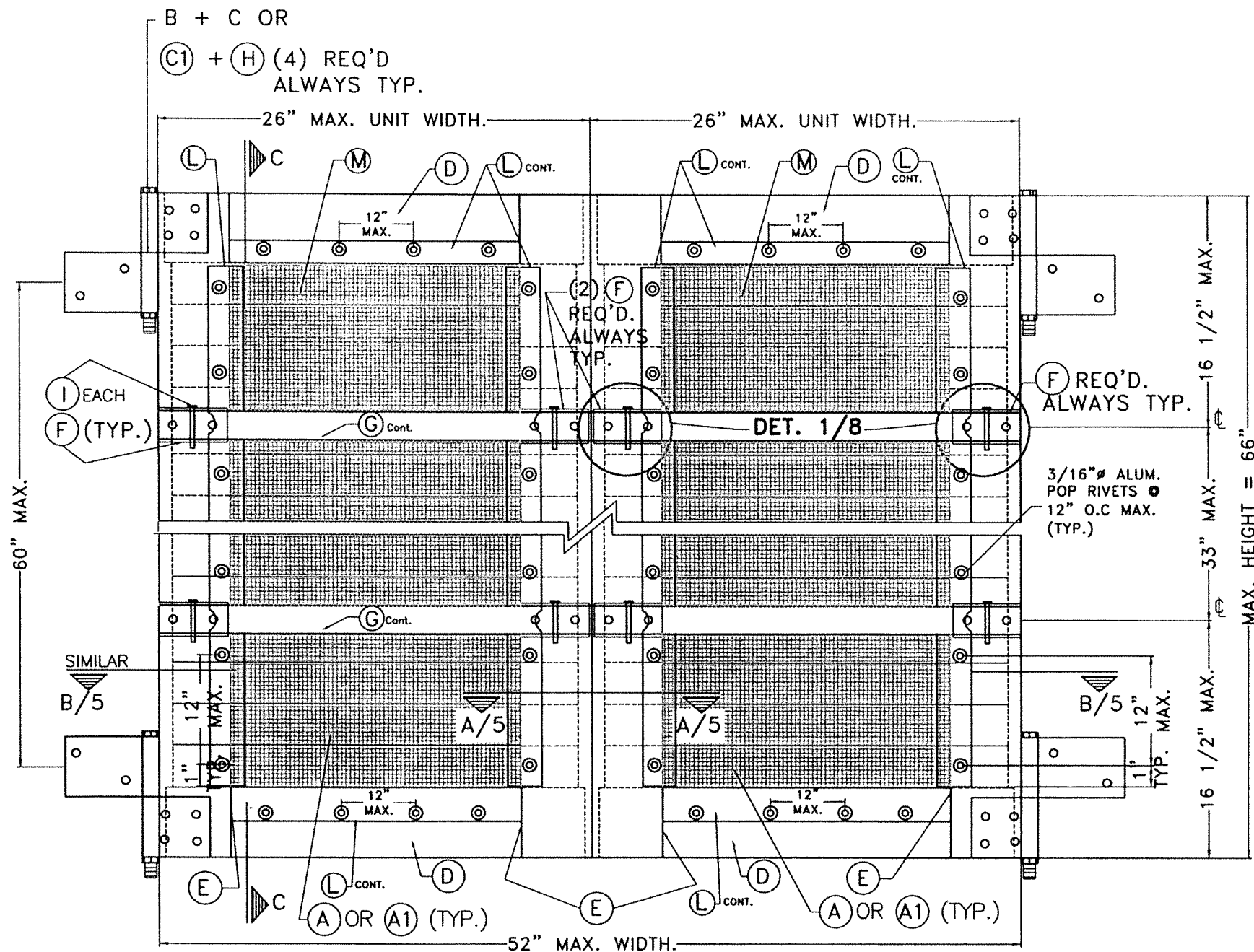
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ASSA / BERTHA H.V. COLONIAL SHUTTER
(LARGE & SMALL MISSILE)
AMERICAN SHUTTER SYSTEMS ASSOC., INC.
4268 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407
PHONE: (800)432-2204
FAX: (561)209-8380

Y.M.
DRAWN BY:
7/21/2023
DATE:
23-134
DRAWING No:
SHEET 3B OF 14

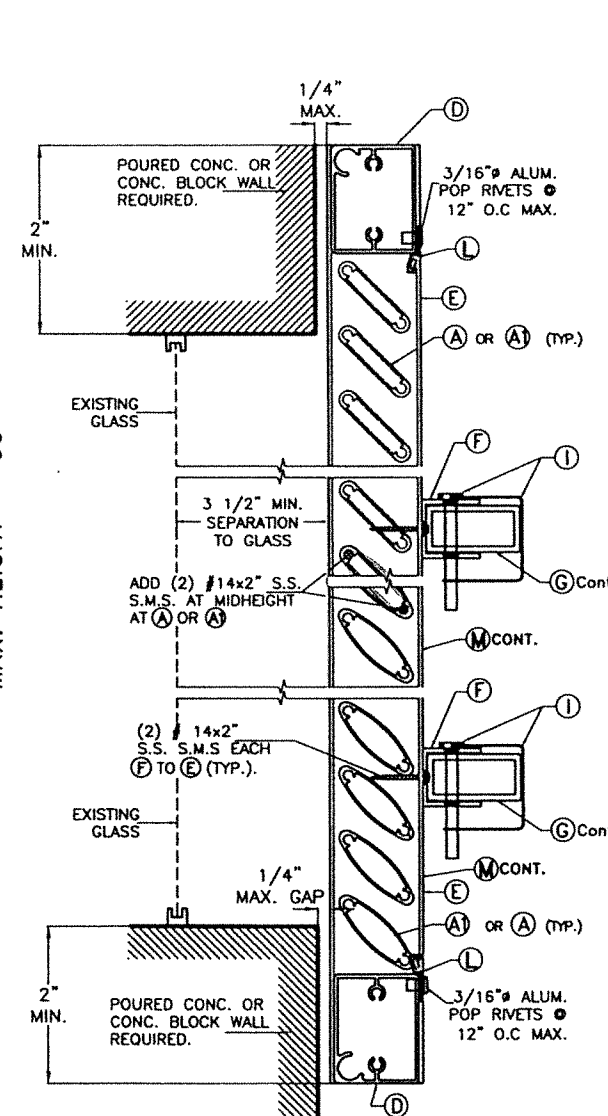
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2			4		



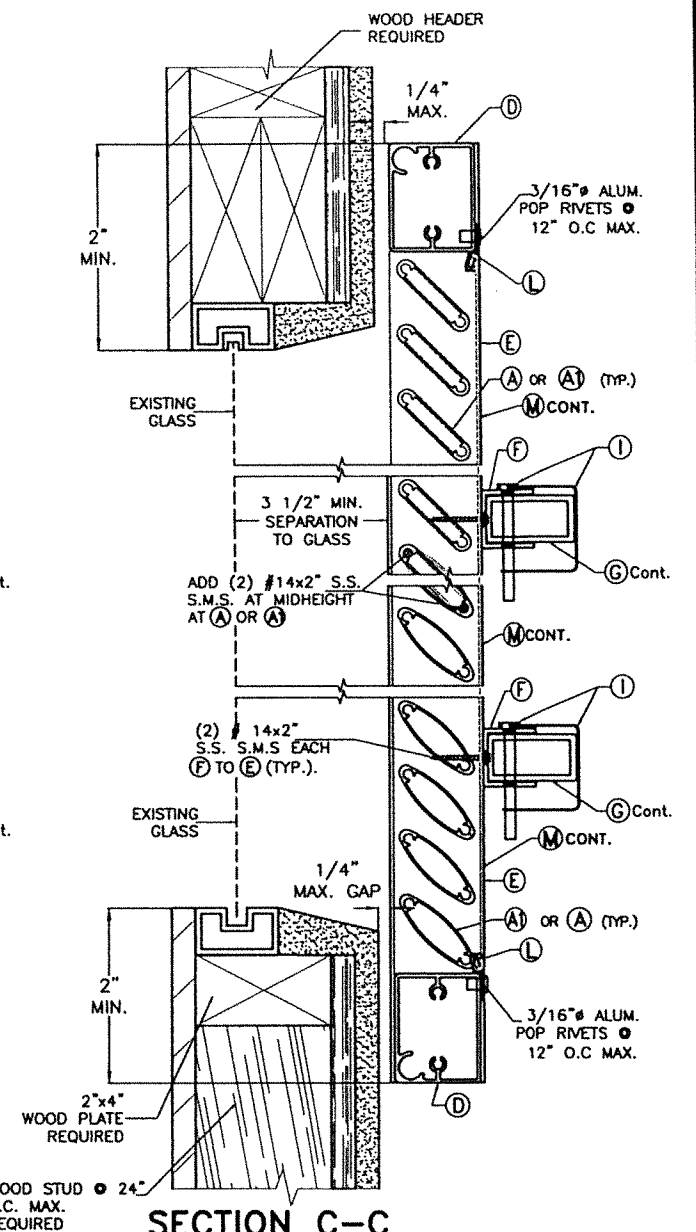
**TYPICAL EXTERIOR ELEV. DOUBLE PANEL
(HURRICANE POSITION)**

N.T.S.

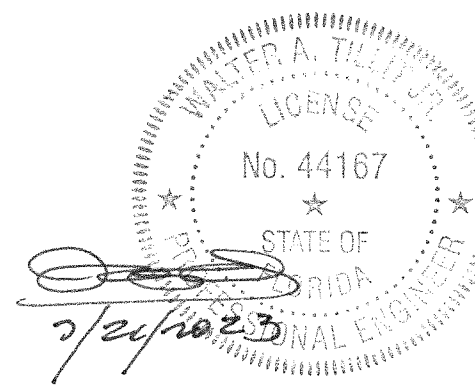
**MAXIMUM A.S.D. DESIGN
PRESSURE RATING = +45, -55 psf.**



**SECTION C-C
(WALL MOUNT)
HURRICANE POSITION
SCALE: 1/4" = 1"**



**SECTION C-C
(WALL MOUNT)
HURRICANE POSITION
SCALE: 1/4" = 1"**



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CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

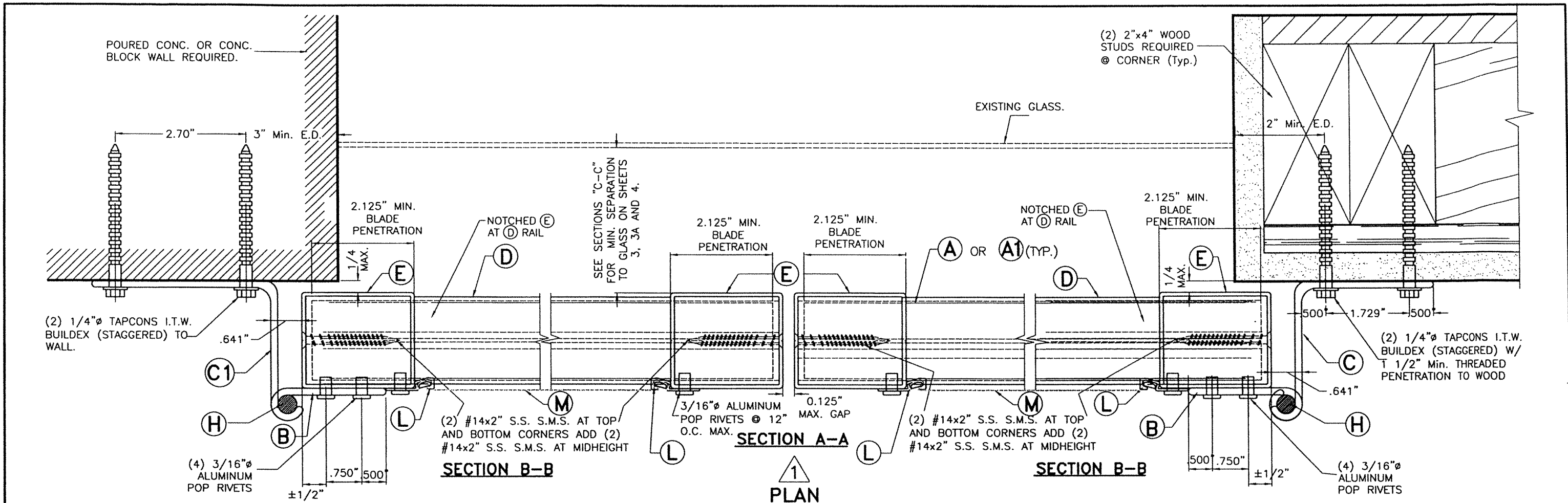
**ASSA / BERTHA H.V. COLONIAL SHUTTER
(LARGE & SMALL MISSILE)**

AMERICAN SHUTTER SYSTEMS ASSOC., INC.

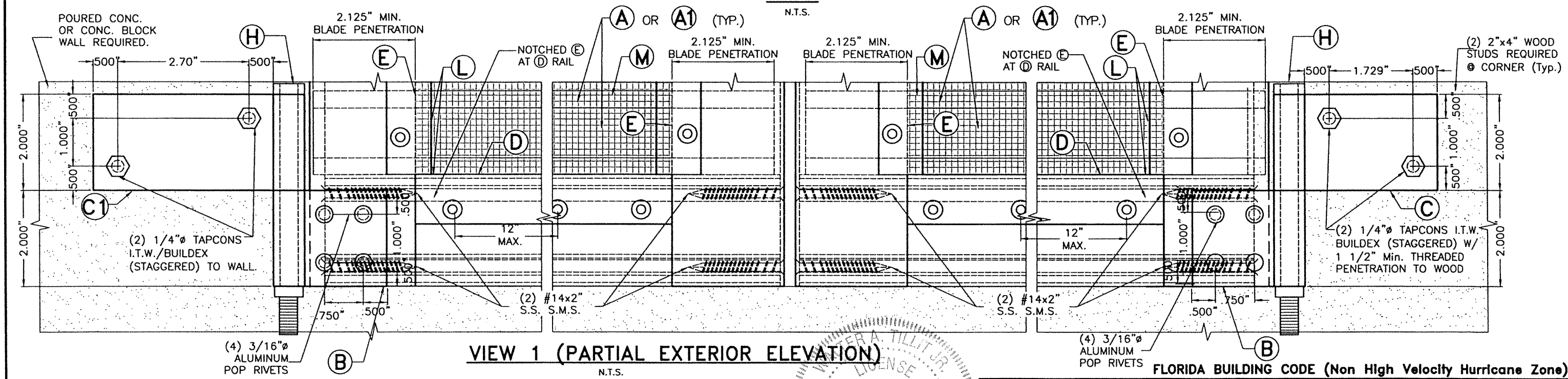
4268 WEST ROADS DRIVE
WEST PALM BEACH, FL. 33407
PHONE: (800)432-2204
FAX: (561)209-8380

Y.M.
DRAWN BY:
7/21/2023
DATE:
23-134
DRAWING No:
SHEET 4 OF 14

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-170	7/21/2023	3		
2			4		



SECTION A-A
SECTION B-B
PLAN
N.T.S.



VIEW 1 (PARTIAL EXTERIOR ELEVATION)
N.T.S.

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER
7/24/2023

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TILTECO INC.

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6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166
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CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

ASSA / BERTHA H.V. COLONIAL SHUTTER (LARGE & SMALL MISSILE)

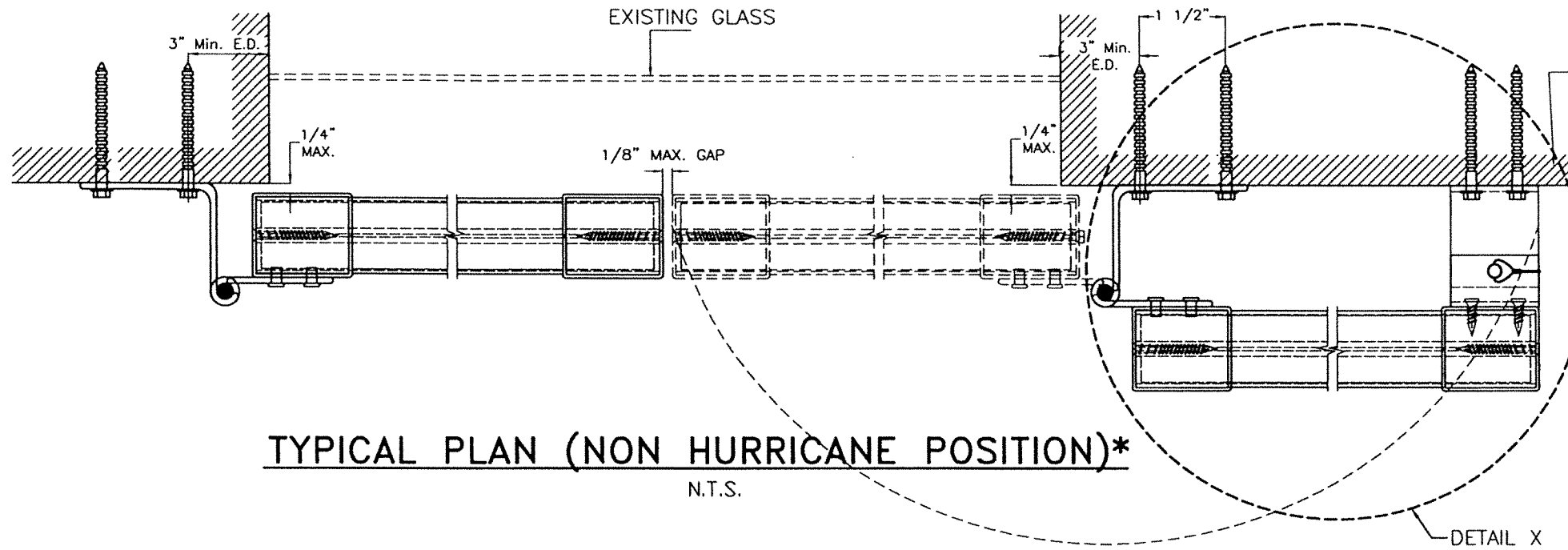
AMERICAN SHUTTER SYSTEMS ASSOC., INC.

4268 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407
PHONE: (800)432-2204
FAX: (561)209-8380

Y.M. DRAWN BY:
7/21/2023 DATE:
23-134 DRAWING No:
SHEET 5 OF 14

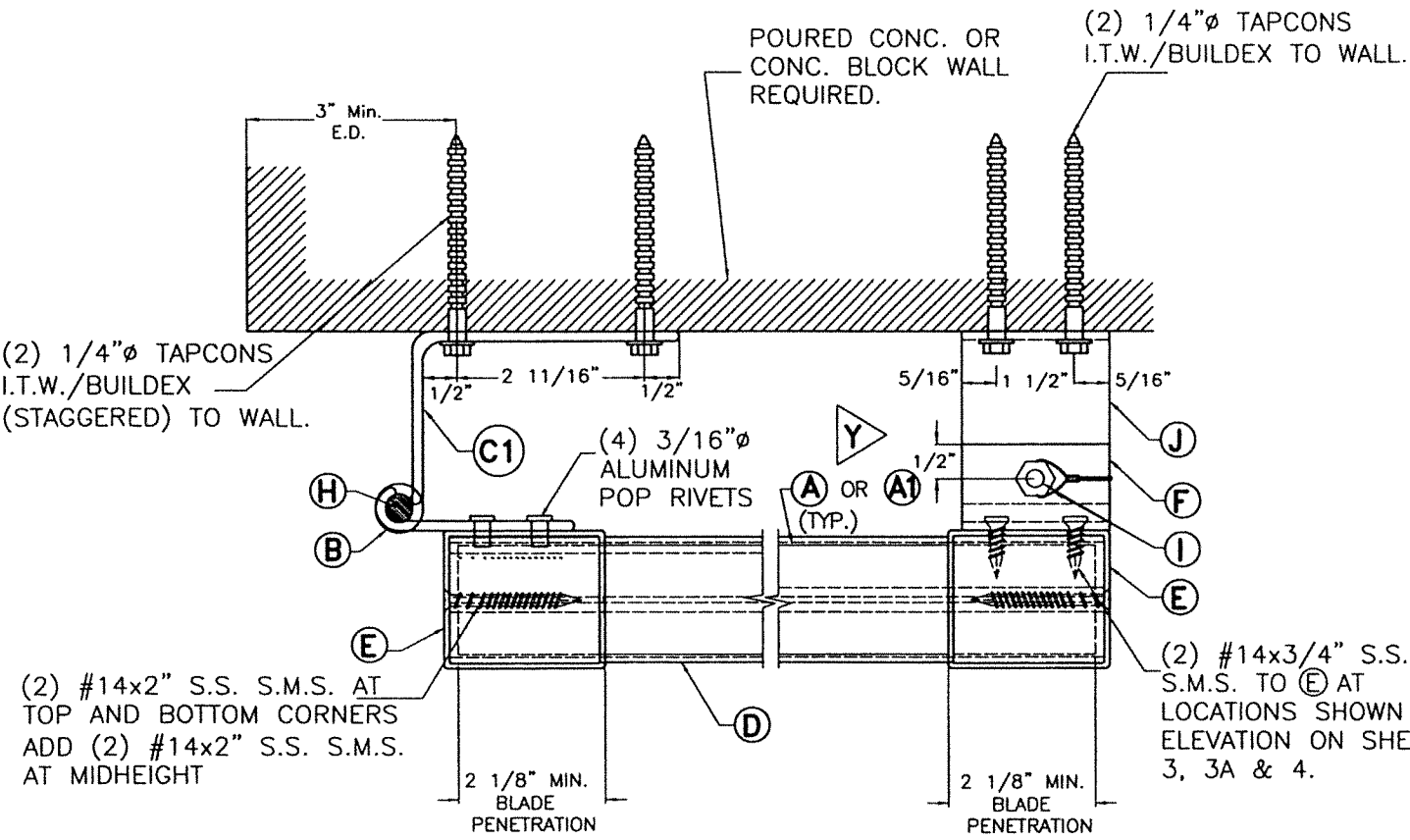
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-170	7/21/2023	3		
2			4		

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)



TYPICAL PLAN (NON HURRICANE POSITION)*

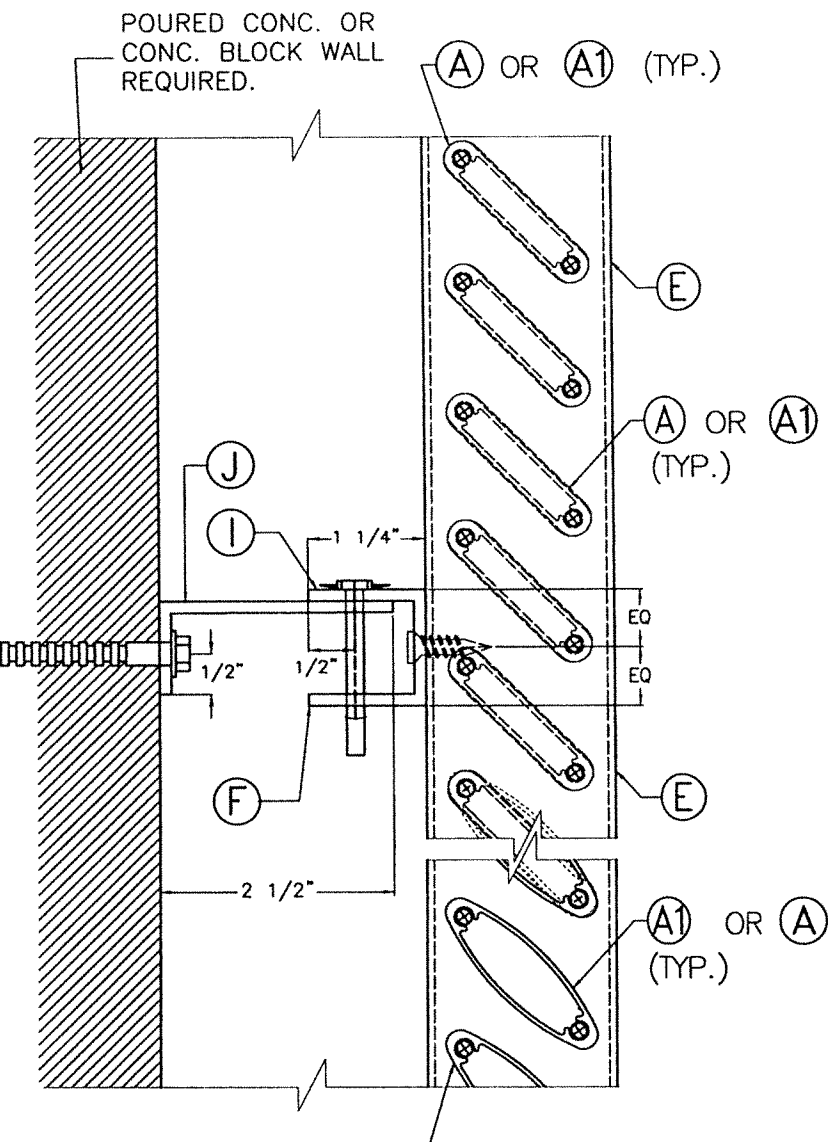
N.T.S.



DETAIL X (NON HURRICANE POSITION)

SCALE: 3/8"=1"

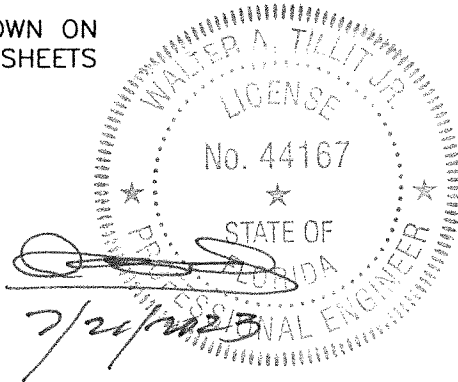
POURED CONC. OR CONC. BLOCK WALL REQUIRED.



ELEVATION Y-Y

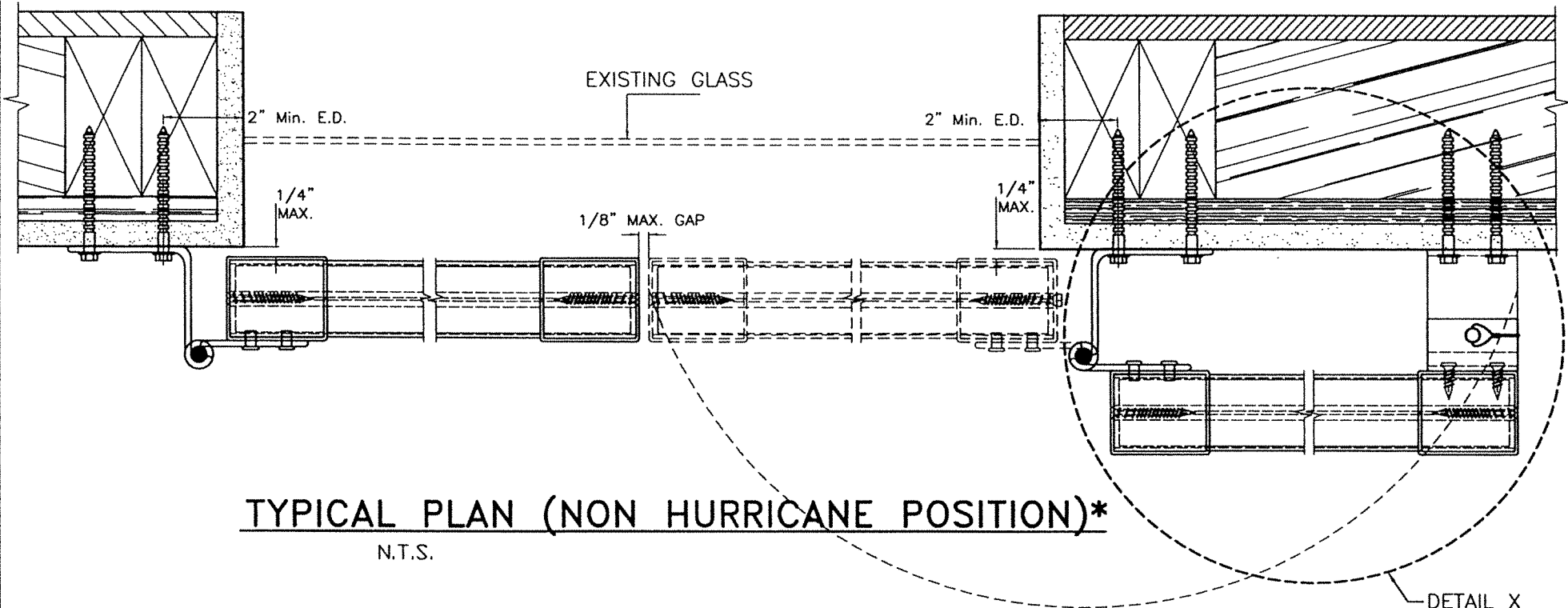
SCALE: 1/2"=1"

***NOTE:**
SCREEN (M) & (L) NOT SHOWN FOR CLARITY (SEE ELEVATIONS)

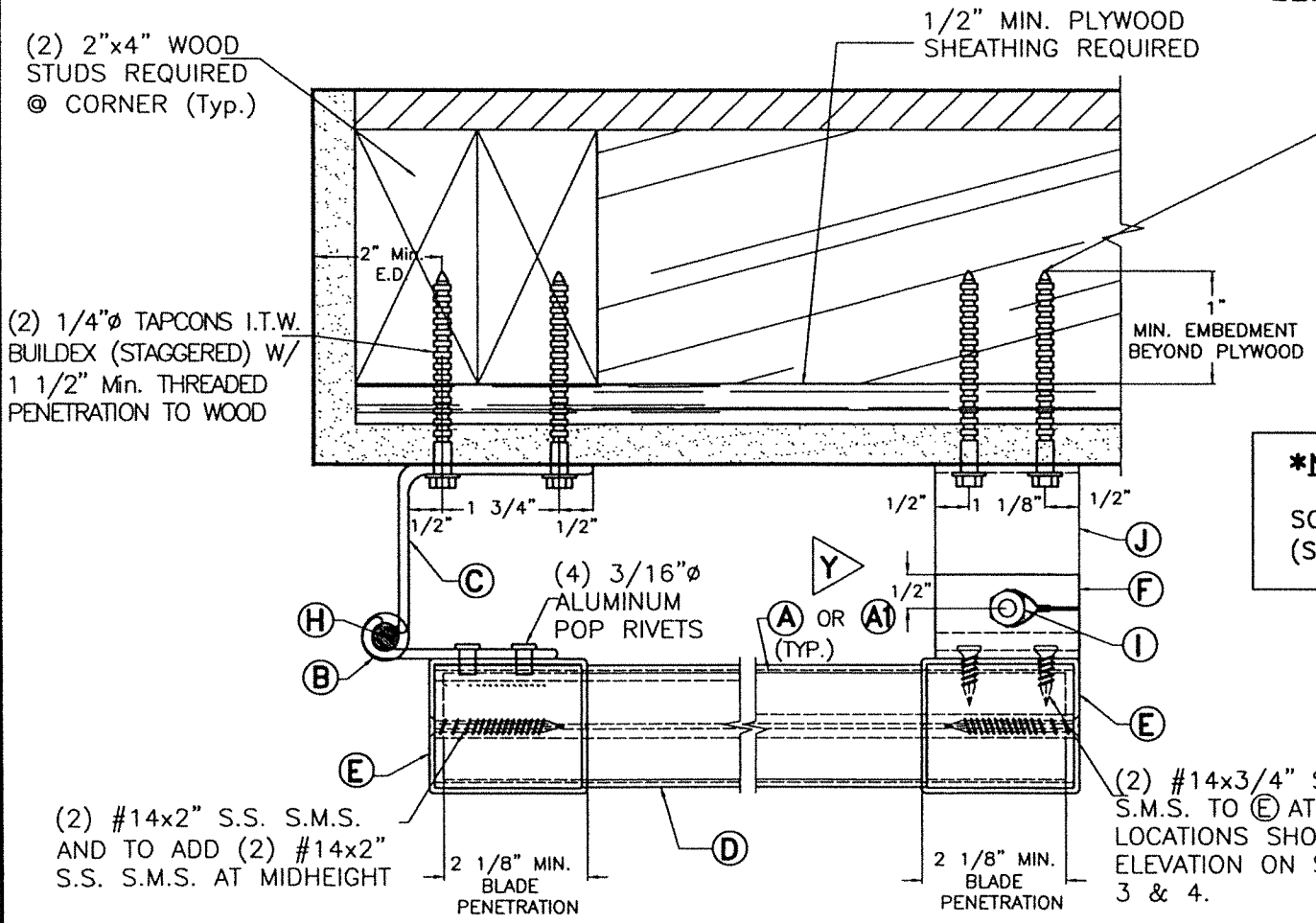


FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

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TILTECO INC.		AMERICAN SHUTTER SYSTEMS ASSOC., INC.		7/21/2023 DATE:
TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL. 33166 Phone : (305)871-1530 . Fax : (305)871-1531 CA-0006719 WALTER A. TILLIT Jr. P.E. FLORIDA Lic. # 44167		4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (800)432-2204 FAX: (561)209-8380		23-134 DRAWING No:
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION
1	OLD 20-170	7/21/2023	3	
2			4	
				SHEET 6 OF 14

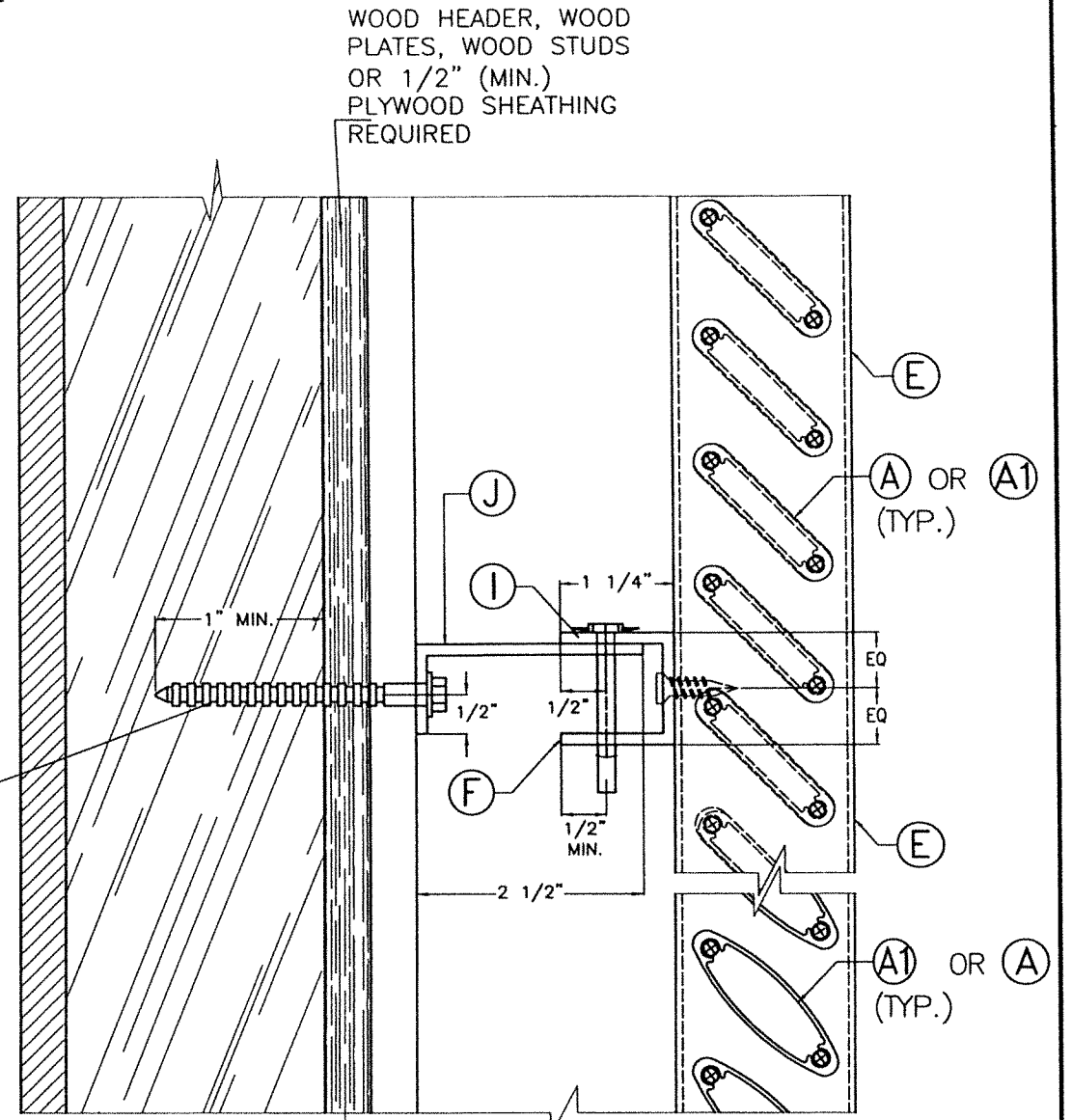


TYPICAL PLAN (NON HURRICANE POSITION)*
N.T.S.

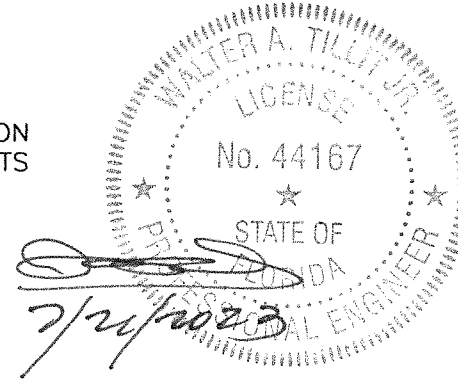


DETAIL X (NON HURRICANE POSITION)
SCALE: 3/8"=1"

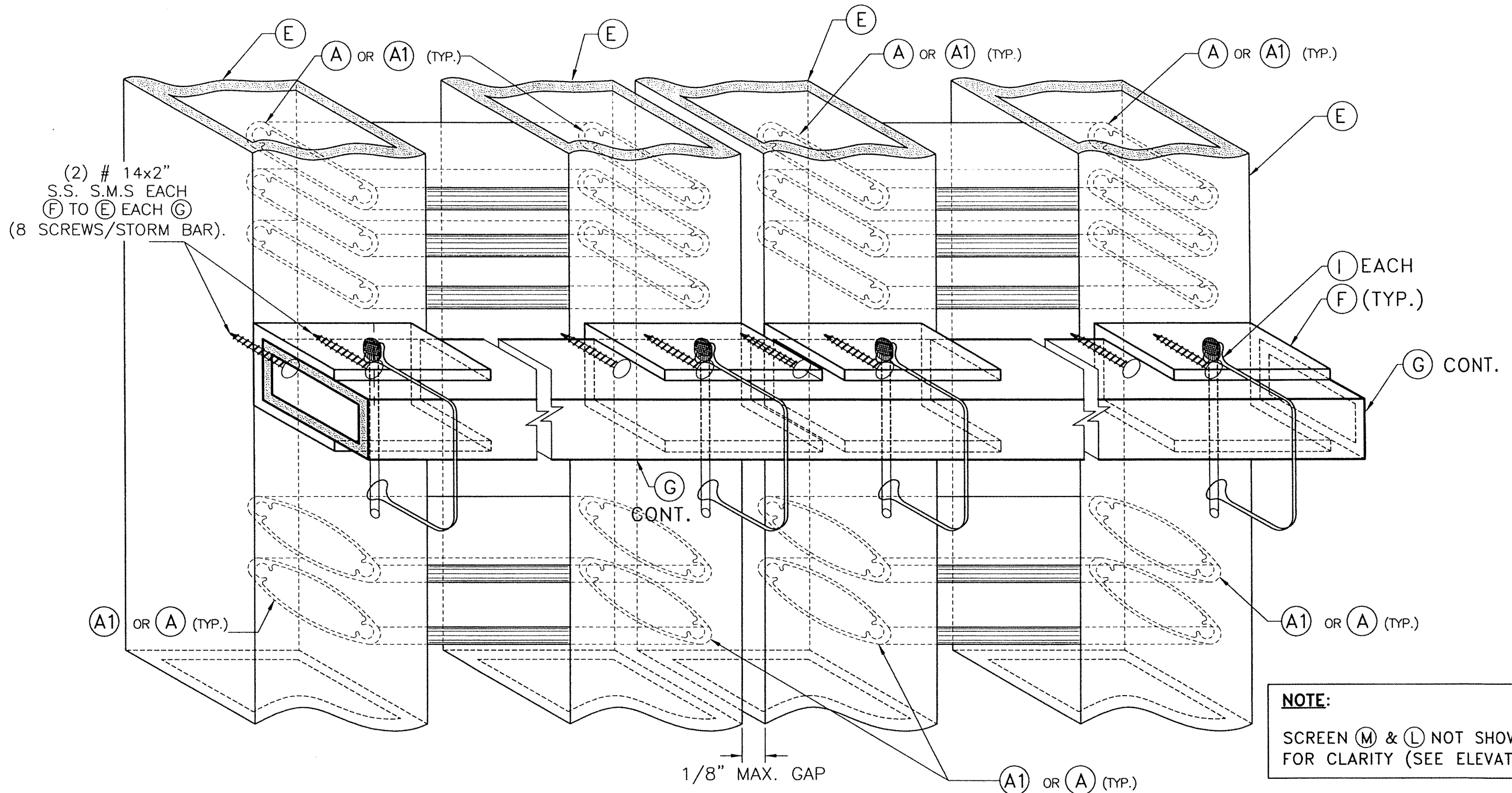
***NOTE:**
SCREEN (M) & (L) NOT SHOWN FOR CLARITY (SEE ELEVATIONS).



ELEVATION Y-Y
SCALE: 1/2"=1"



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REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-170	7/21/2023	3		
2			4		



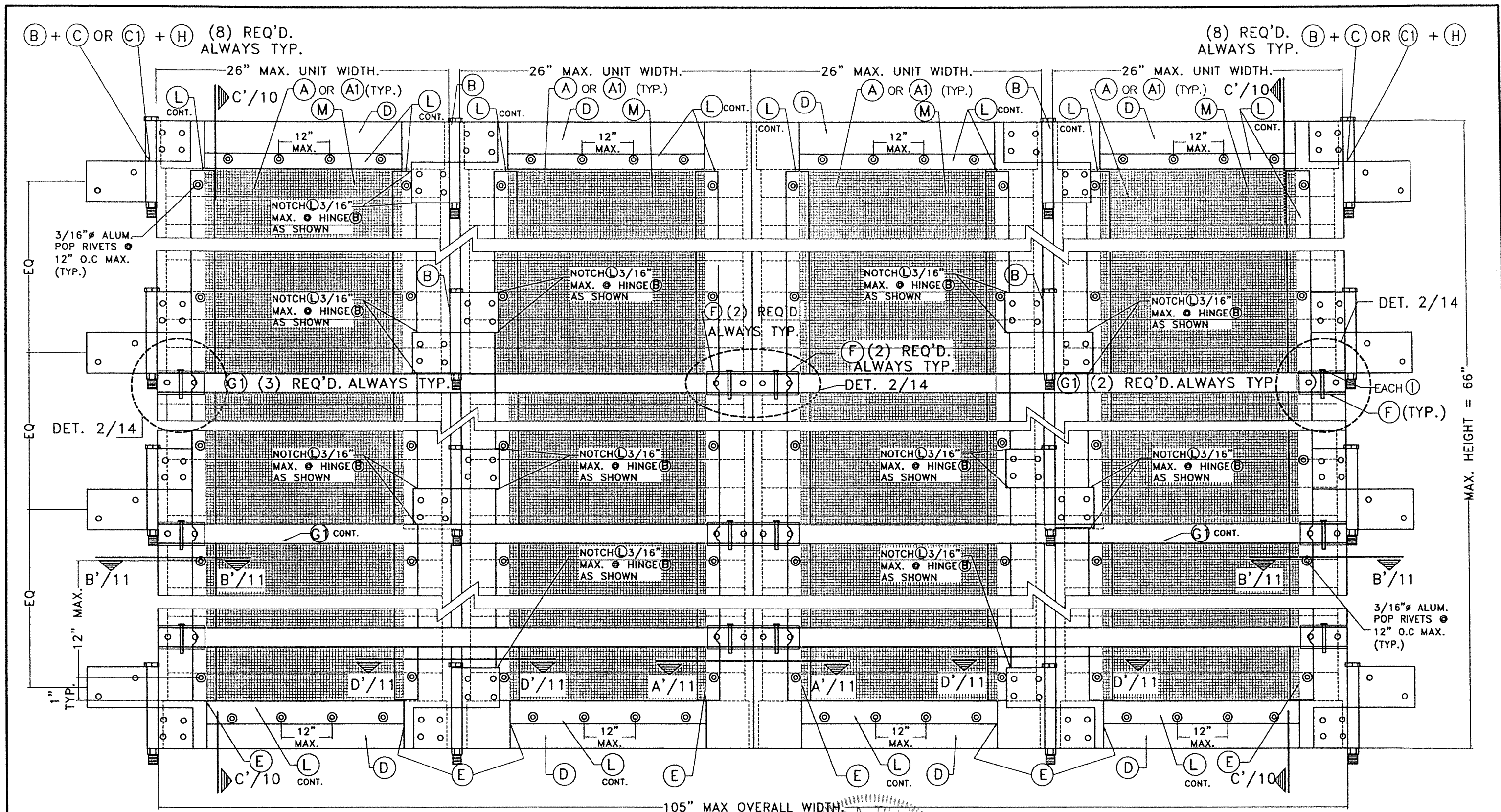
DETAIL 1 (ISOMETRIC): EXTERIOR VIEW

N.T.S

7/21/2023
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FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

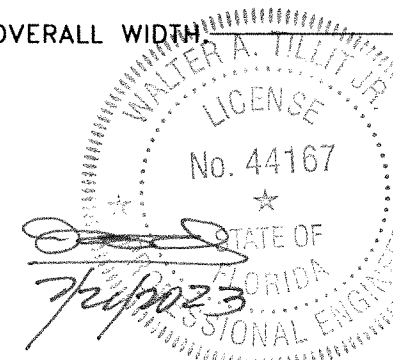
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REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-170	7/21/2023	3		
2			4		



**TYPICAL EXTERIOR ELEV. QUADRUPLE PANEL
(HURRICANE POSITION)**

N.T.S.

- MAXIMUM A.S.D. DESIGN PRESSURE RATING: +45,-45 PSF FOR CONCRETE OR CONCRETE BLOCK WALL.
- MAXIMUM A.S.D. DESIGN PRESSURE RATING: +40,-45 PSF FOR WOOD.



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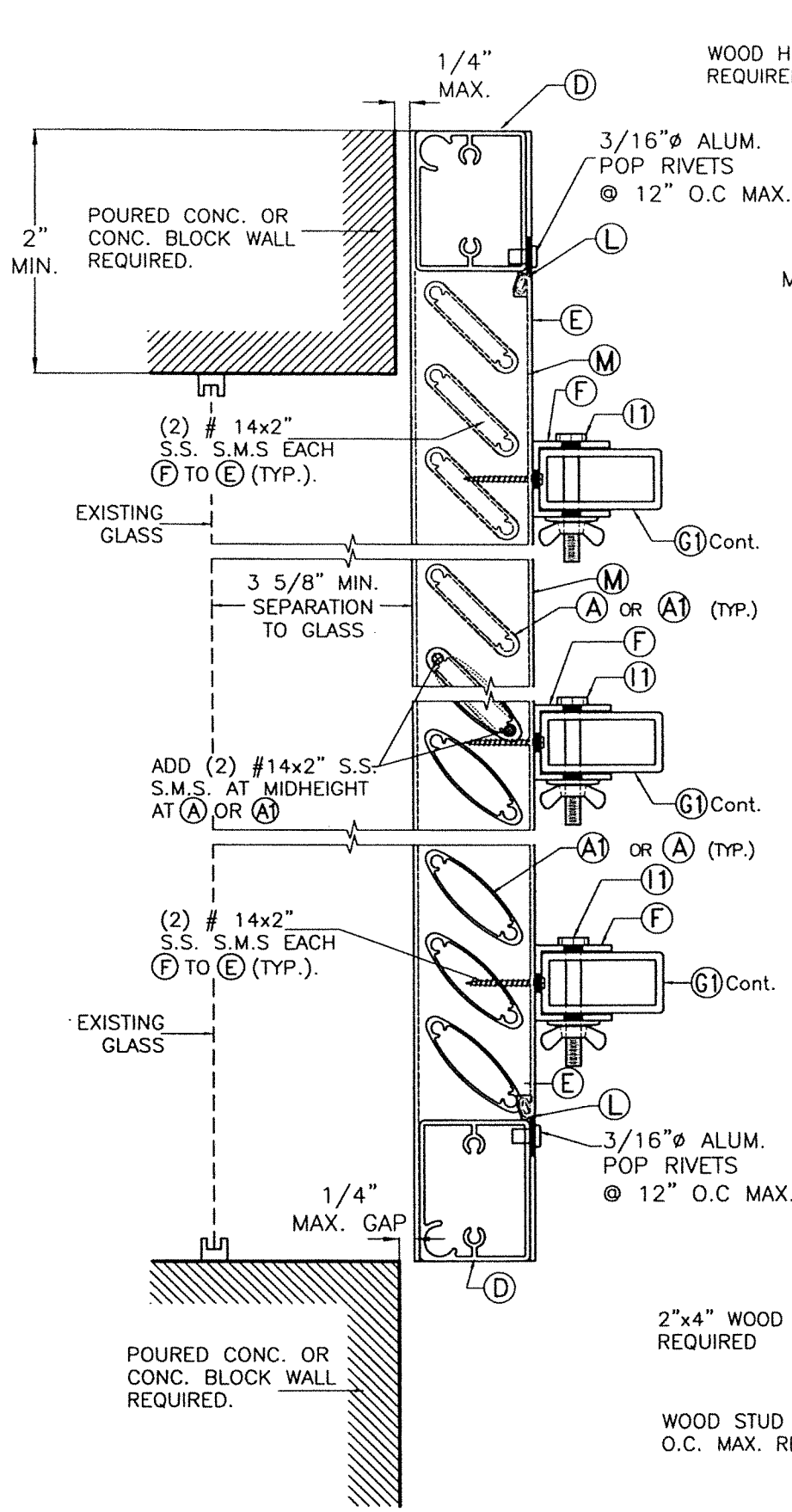
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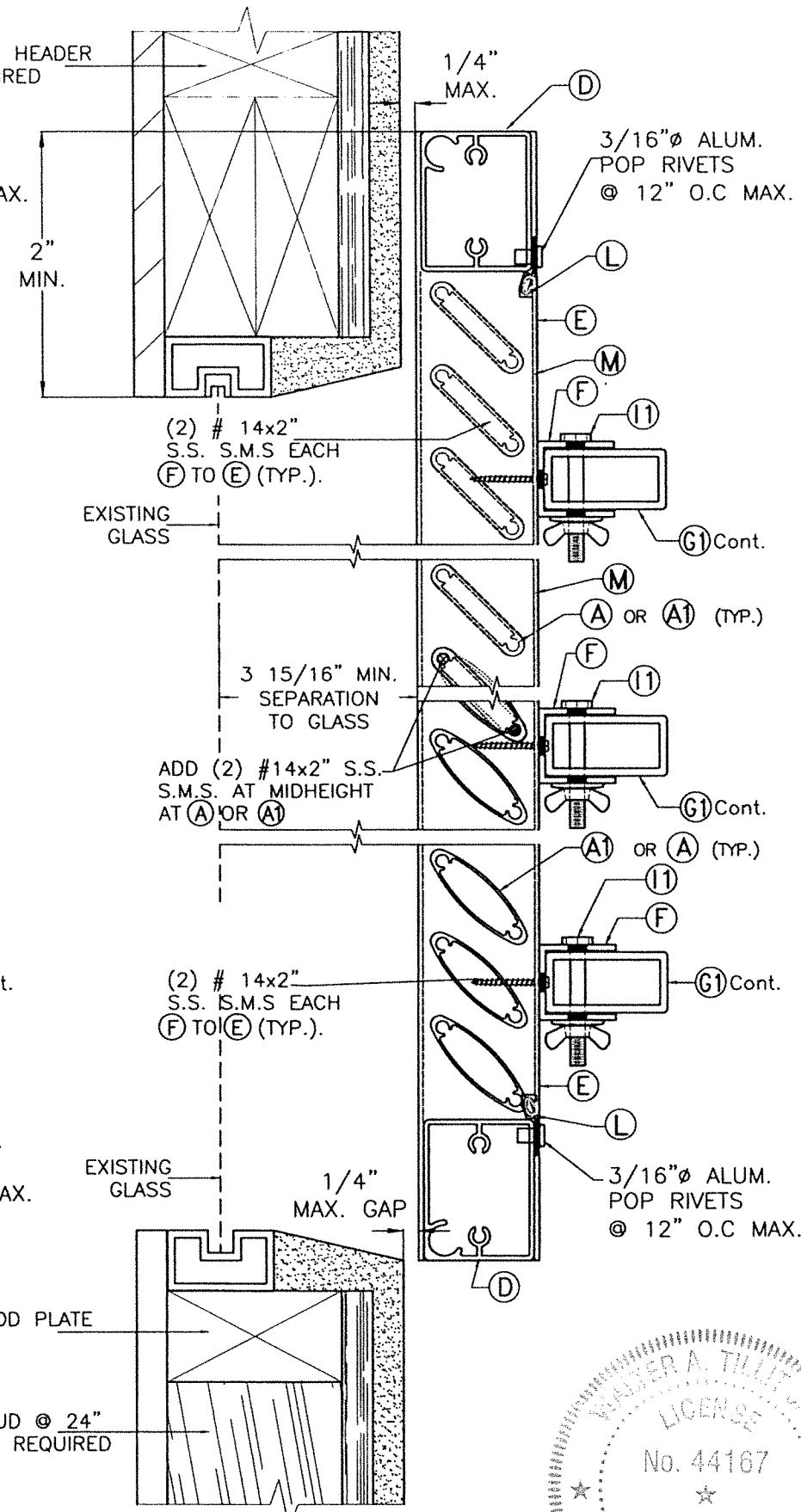
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REV. No	DESCRIPTION	DATE	REV. No
1	OLD 20-170	7/21/2023	3
2			4

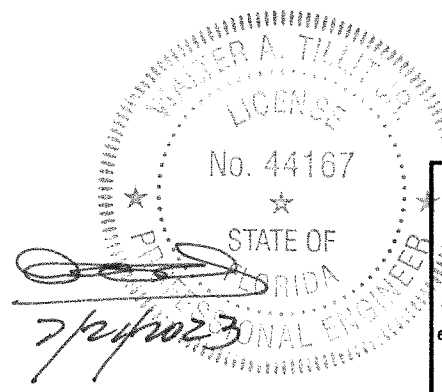
SHEET 9 OF 14



SECTION C-C
(WALL MOUNT)
HURRICANE POSITION
SCALE: 1/4" = 1"



SECTION C-C
(WALL MOUNT)
HURRICANE POSITION
SCALE: 1/4" = 1"



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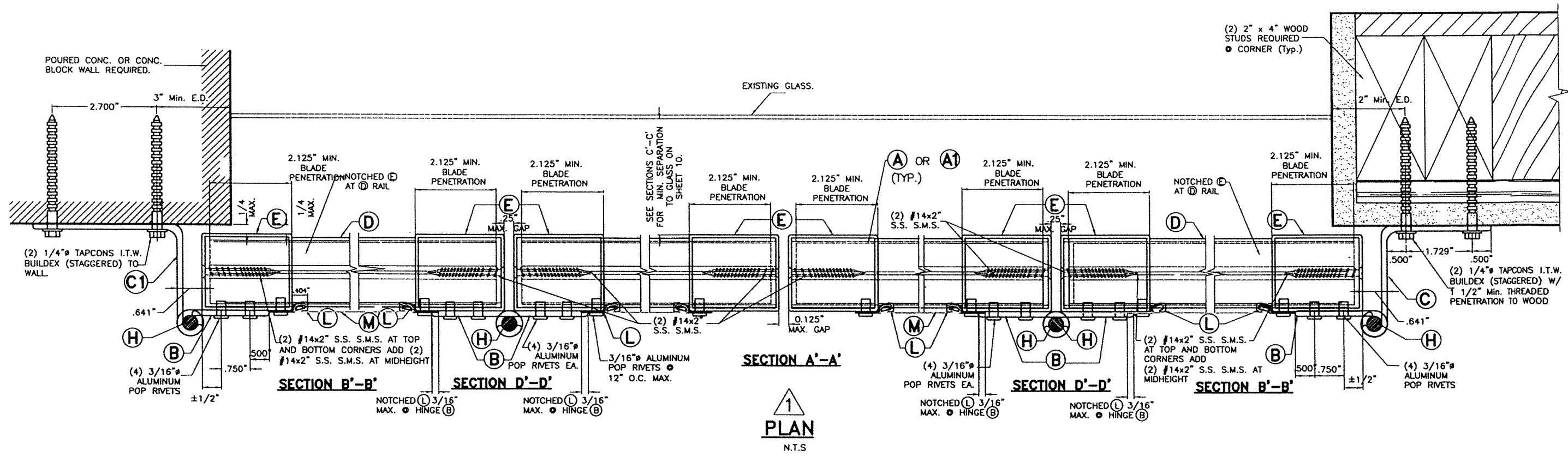
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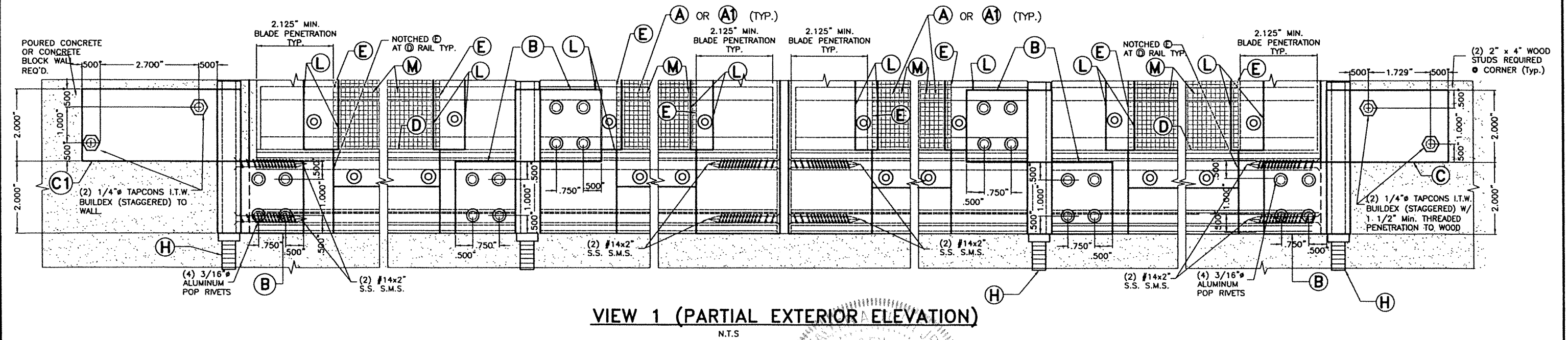
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REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-170	7/21/2023	3		
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SHEET 10 OF 14



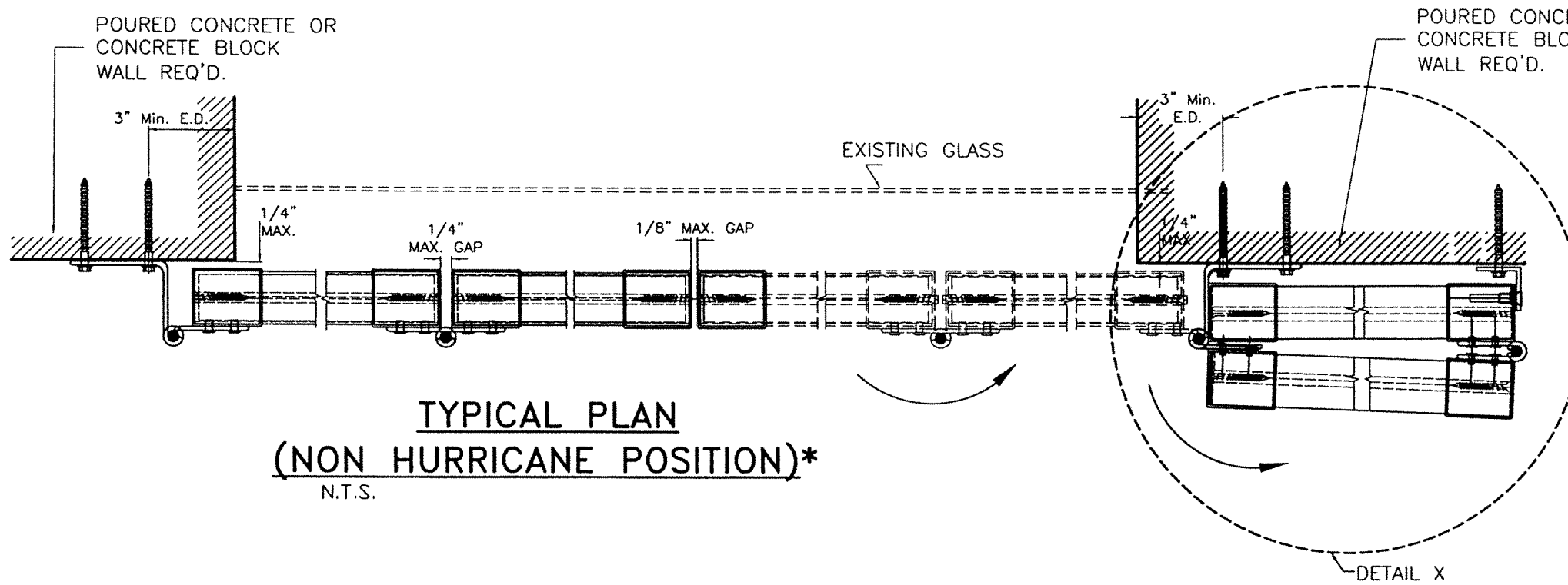
SECTION A-A'
1
PLAN
 N.T.S.



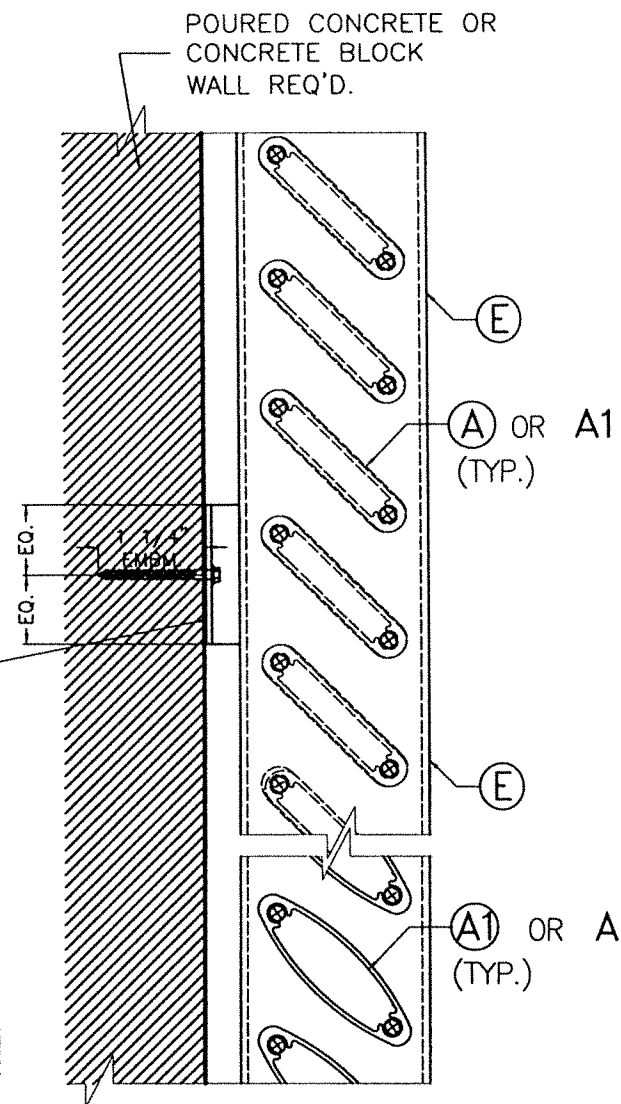
VIEW 1 (PARTIAL EXTERIOR ELEVATION)
 N.T.S.

No. 44167
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER
 7/21/2023

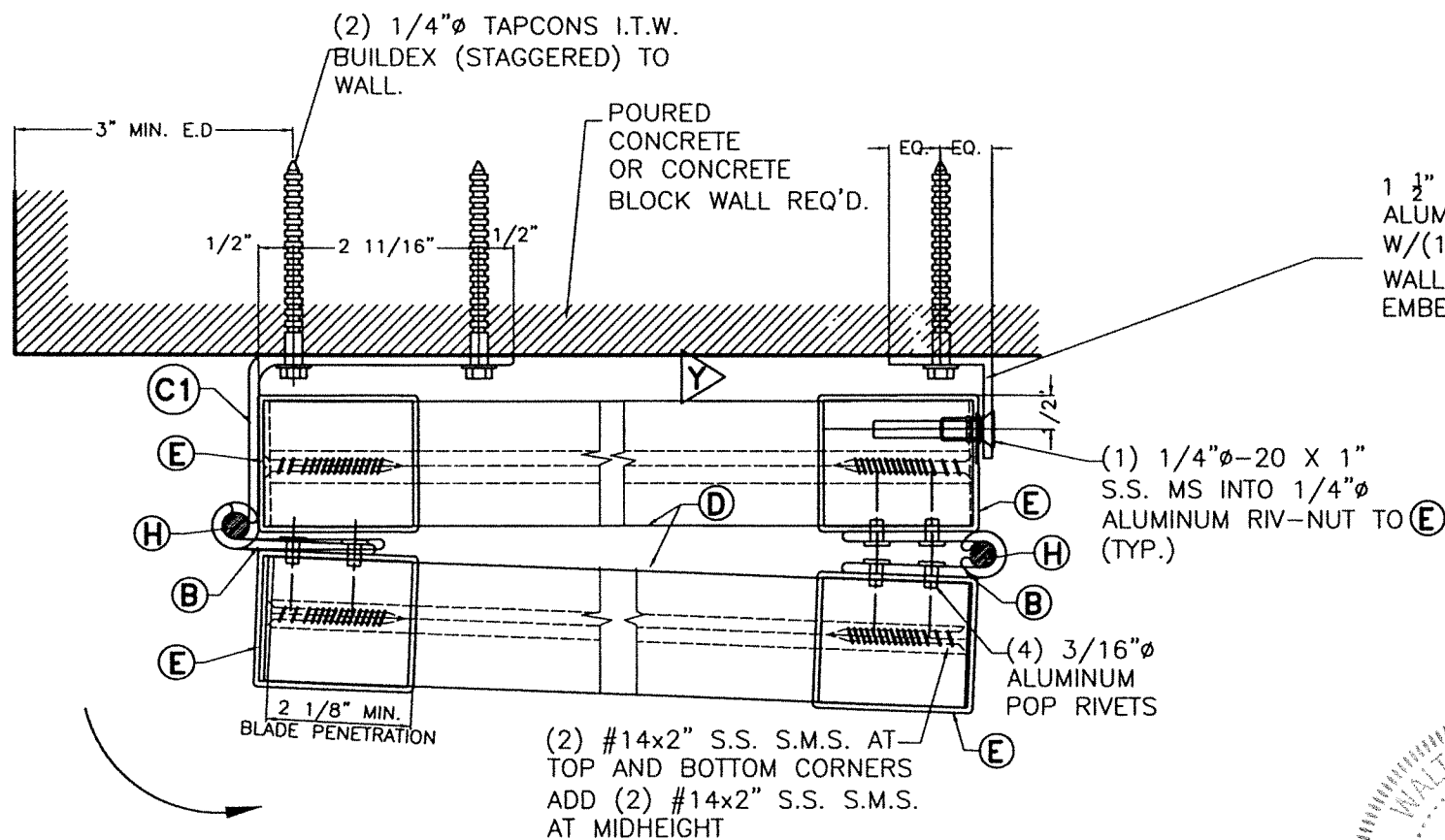
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REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-170	7/21/2023	3		
2			4		



**TYPICAL PLAN
(NON HURRICANE POSITION)***
N.T.S.



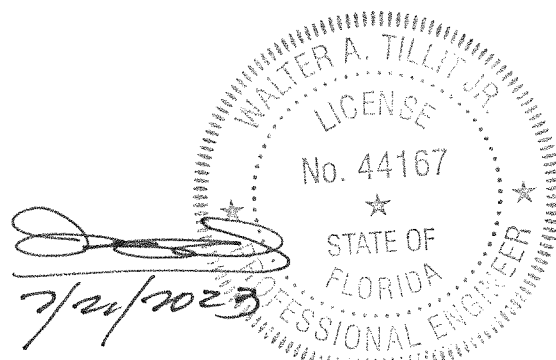
ELEVATION Y-Y
SCALE: 1/2"=1"



**DETAIL "X"
(NON HURRICANE POSITION)**
SCALE: 3/8"=1"

1 1/2" X 1 1/2" X 1/8" X 0'-2"
ALUMINUM L EA. STORM BAR
W/(1) 1/4"Ø TAPCON TO
WALL W/ 1 1/4" MIN.
EMBEDMENT

***NOTE:**
SCREEN (M) & (L) NOT SHOWN FOR CLARITY
(SEE ELEVATIONS).



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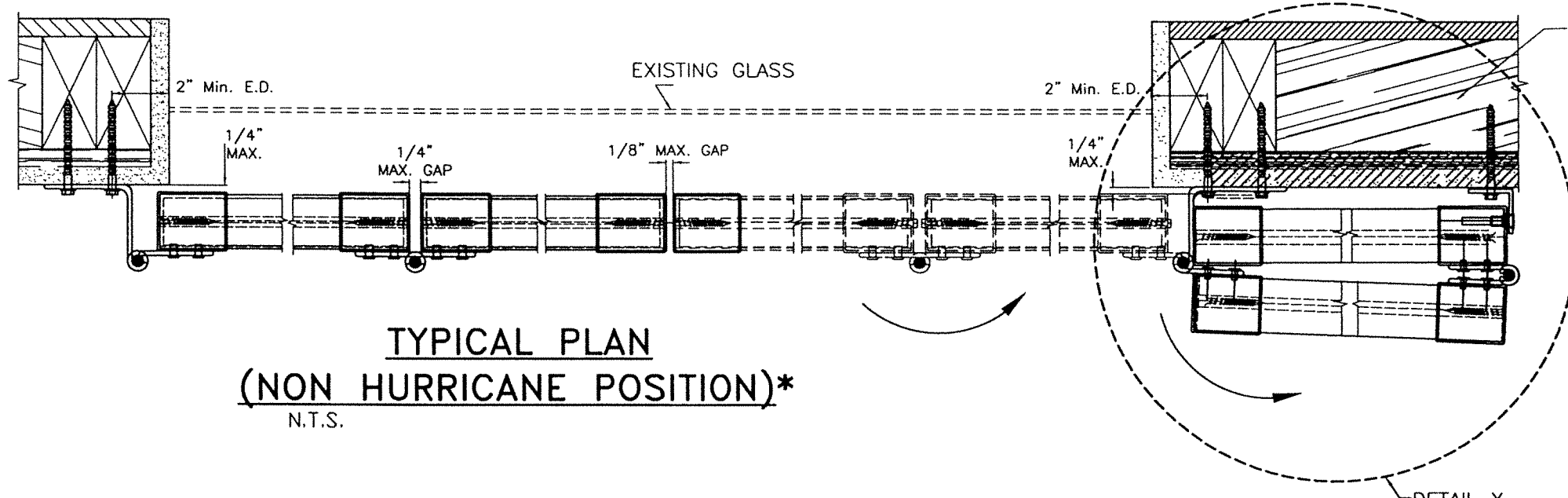
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Y.M.
DRAWN BY:
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DATE:
23-134
DRAWING No:
SHEET 12 OF 14

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-170	7/21/2023	3		
2			4		



**TYPICAL PLAN
(NON HURRICANE POSITION)***
N.T.S.

WOOD HEADER, WOOD PLATES, WOOD STUDS OR 1/2" (MIN.) PLYWOOD SHEATHING REQUIRED

WOOD HEADER, WOOD PLATES, WOOD STUDS OR 1/2" (MIN.) PLYWOOD SHEATHING REQUIRED

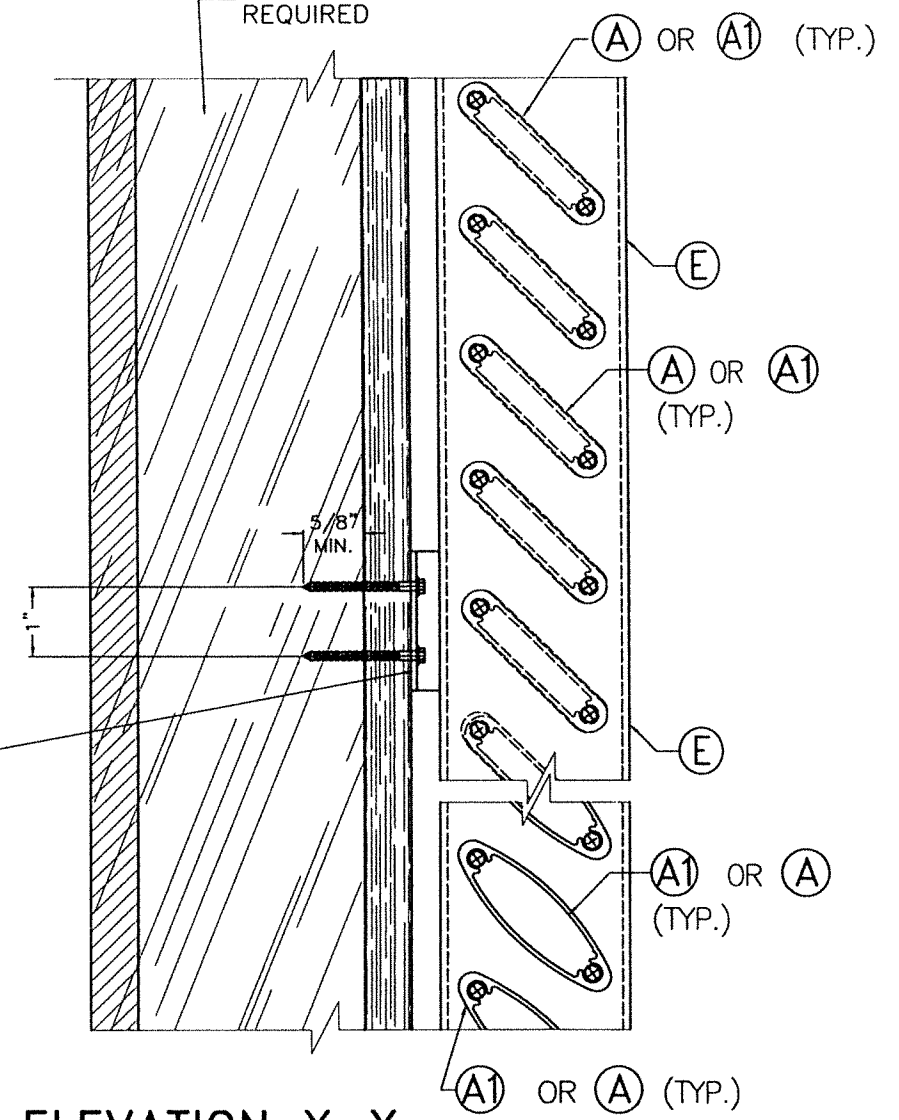
***NOTE:**
SCREEN (M) & (L) NOT SHOWN FOR CLARITY (SEE ELEVATIONS).

1 1/2" X 1 1/2" X 1/8" X 0'-2"
ALUMINUM L EA. STORM BAR
W/(2) 1/4"Ø TAPCON TO
WALL @ 1" O.C. W/
5/8 MIN. PENETRATION
BEYOND PLYWOOD.

(1) 1/4"Ø-20 X 1"
S.S. MS INTO 1/2 Ø
ALUMINUM RIV-NUT TO (E)
(TYP.)

(4) 3/16"Ø
ALUMINUM
POP RIVETS

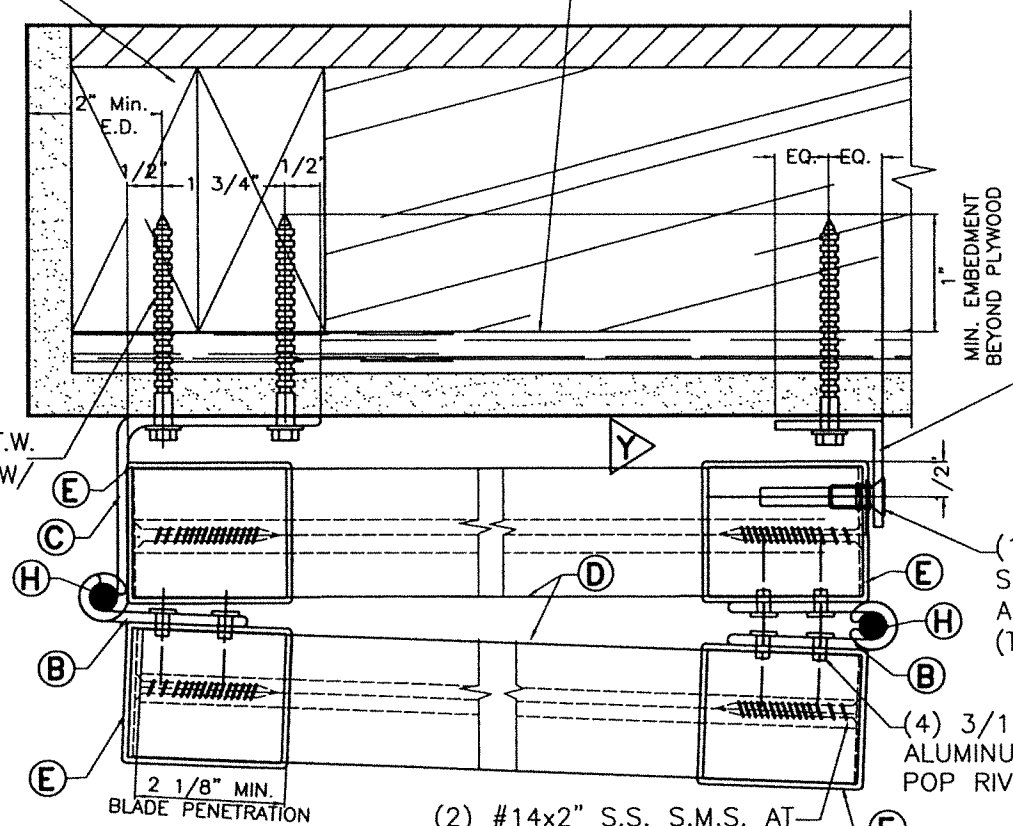
(2) #14x2" S.S. S.M.S. AT
TOP AND BOTTOM CORNERS
ADD (2) #14x2" S.S. S.M.S.
AT MIDHEIGHT



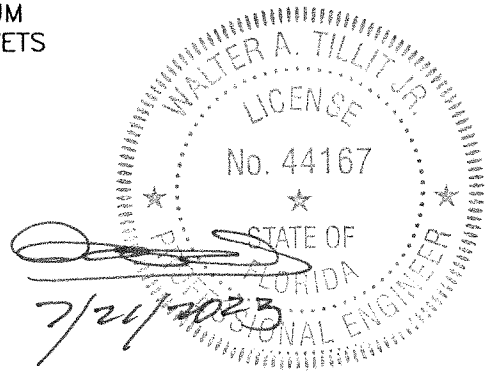
ELEVATION Y-Y
SCALE: 1/2"=1"

(2) 2" x 4" WOOD STUDS REQUIRED @ CORNER (Typ.)

(2) 1/4"Ø TAPCONS I.T.W. BUILDDEX (STAGGERED) W/ 1 1/2" Min. THREADED PENETRATION TO WOOD

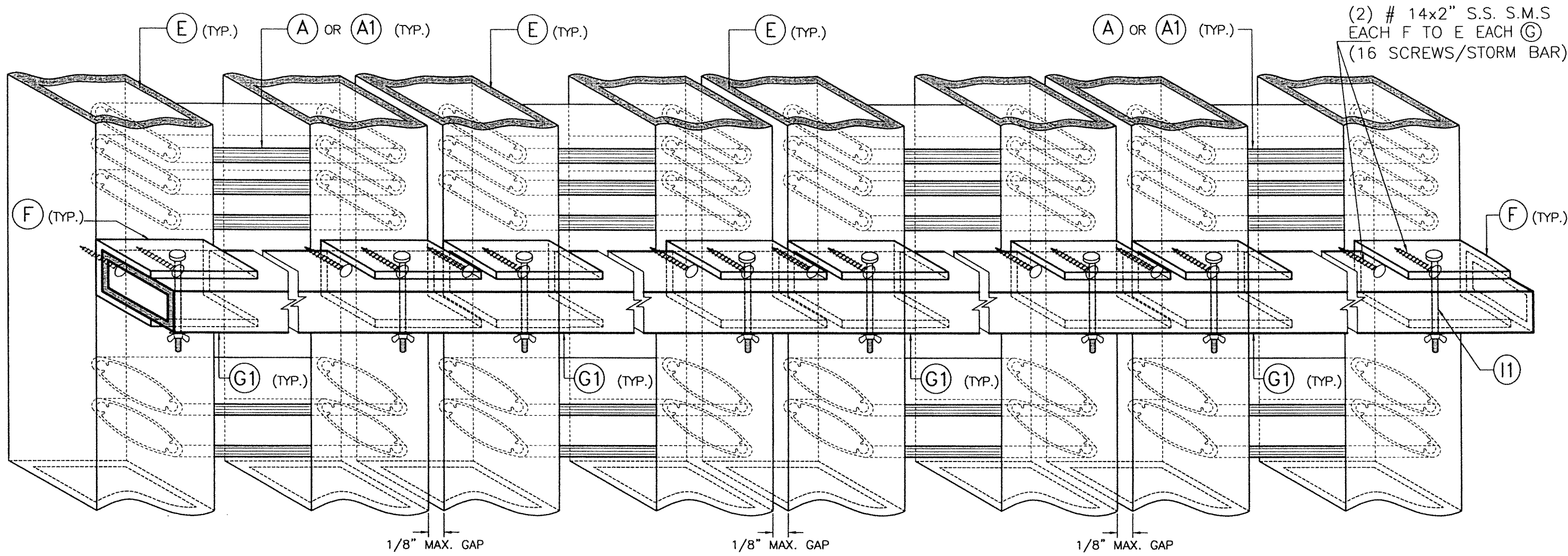


**DETAIL X
(NON HURRICANE POSITION)**
SCALE: 3/8"=1"



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

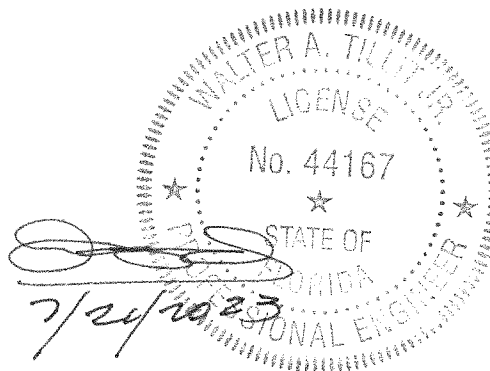
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REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-170	7/21/2023	3		
2			4		
					SHEET 13 OF 14



DETAIL 1 (ISOMETRIC): EXTERIOR VIEW

N.T.S

NOTE:
SCREEN (M) & (L) NOT SHOWN FOR CLARITY (SEE ELEVATIONS).



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SHEET 14 OF 14