

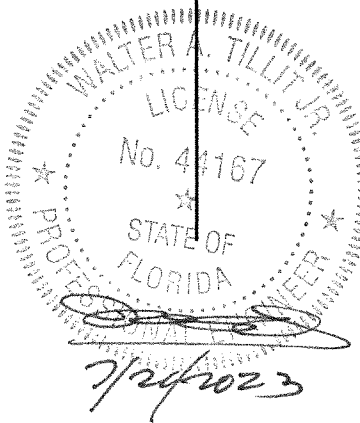
GENERAL NOTES:

1. EXTRUDED BERTHA BAHAMA 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 BAHAMA 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 REQUIRED BY THE JURISDICTION WHERE SHUTTER WILL BE INSTALLED. **USING ASCE 7-22** AND SHALL NOT EXCEED THE MAXIMUM (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 7, 8 & 9.
- 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 COMPARE THESE W/ MAX. (A.S.D) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 7, 8 & 9.
- 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 USED IN THEIR ANALYSIS. HOWEVER, FOR LAG SCREWS INTO WOOD, A 1.60 WIND LOAD DURATION FACTOR WAS USED TO CALCULATE SCREWS SPACINGS.
- EXTRUDED BERTHA BAHAMA SHUTTER'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.1.2 OF THE ABOVE MENTIONED CODE AS PER ATL REPORTS #0923.01-97 AND #0309.01-04 AS PER TAS-201, TAS-202 AND TAS-203 PROTOCOLS.
2. 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.
3. ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES OR CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018 WITH 50 ksi YIELD POINT AND 90 ksi TENSILE STRENGTH AND SHALL COMPLY W/ FLORIDA BUILDING CODE SECTION 2411.3.3.4.
4. BOLTS TO BE ASTM A-307 GALVANIZED STEEL, OR AISI 304 SERIES STAINLESS STEEL WITH 35 ksi MINIMUM YIELD STRENGTH.
5. ALL ALUMINUM POP RIVETS TO BE 5052 ALUMINUM ALLOY WITH ALUMINUM MANDREL.
6. ANCHORS TO WALL SHALL BE AS FOLLOWS (UNLESS OTHERWISE NOTED):
- (A) TO EXISTING POURED CONCRETE: (Min. $f'_c = 3000$ p.s.i.)
- 1/4" $\varnothing$ TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX.
 - 1/4" $\varnothing$ x 7/8" CALK-IN ANCHORS AS MANUFACTURED BY DEWALT, INC.
- NOTES:
- A.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO POURED CONCRETE IS 1 1/2".
- A.2) CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE POURED CONCRETE. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED.
- 1/4" $\varnothing$ -20 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST AND 1" MINIMUM FOR WALLS WITH NO STUCCO.
- A.3) IN CASE THAT PRECAST STONE, PRECAST CONCRETE PANELS, OR PAVERS BE FOUND ON THE EXISTING WALL OR FLOOR, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS. ANCHORAGE SHALL BE AS INDICATED ON NOTES A.1) & A.2) ABOVE.
- (B) TO EXISTING CONCRETE BLOCK WALL:
- 1/4" $\varnothing$ TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX.
 - 1/4" $\varnothing$ x 7/8" CALK-IN ANCHORS AS MANUFACTURED BY DEWALT, INC.

NOTES:

- B.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO THE CONCRETE BLOCK UNIT SHALL BE 1 1/4".
- B.2) CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE CONCRETE BLOCK UNIT. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4" $\varnothing$ -20 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST AND 1" MINIMUM FOR WALLS WITH NO STUCCO.
- B.3) 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) & B.2) ABOVE.
- (C) ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.
7. EACH SHUTTER SHALL HAVE A LEGIBLE AND READILY VISIBLE MARKING INSTRUCTING OWNER OR TENANT TO SECURE SHUTTER WITH SIDE & SILL BRACKETS DURING PERIODS OF HURRICANE WARNINGS.
8. 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. CAULK AND SEAL SHUTTER TRACKS ALL AROUND FULL LENGTH.
9. BERTHA BAHAMA 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.
10. SHUTTER MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT SURFACE OF THE BAHAMA FRAME (E) OR (C) IN ACCORDANCE WITH SECTION 1709.9.2 OF FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY OPENING.
11. (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.

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

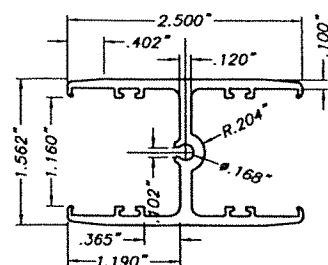


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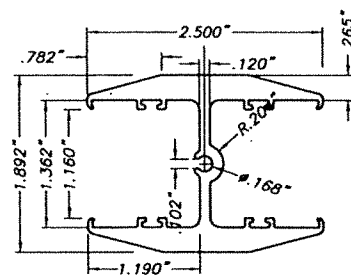
TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY
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Phone : (305)871-1530 • Fax : (305)871-1531
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FLORIDA Lic. # 44167

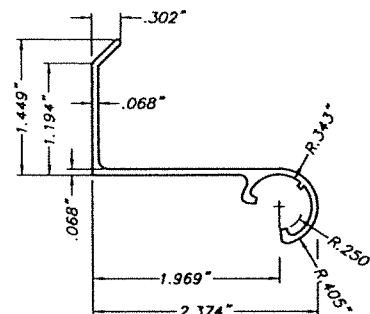
FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)					
COMBINATION DRAWING:					
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)					
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)					
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER				Y.M. DRAWN BY:	
AMERICAN SHUTTER SYSTEMS ASSOC., INC.				7/21/2023 DATE:	
4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (800)432-2204 FAX: (561)209-8380				23-131 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
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2			4	-	-
				SHEET 1 OF 33	



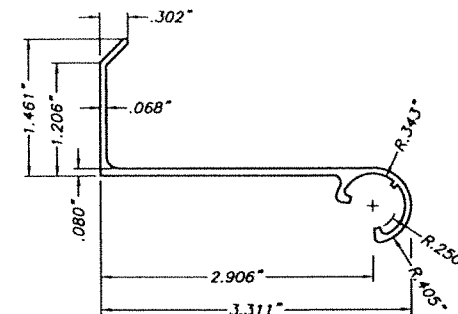
(A1) REGULAR INTERIOR MULLION
6005-T5 Alum. ALLOY
SCALE: 1/2" = 1"



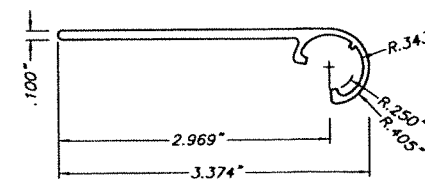
(A2) HEAVY INTERIOR MULLION
6005-T5 Alum. ALLOY
SCALE: 1/2" = 1"



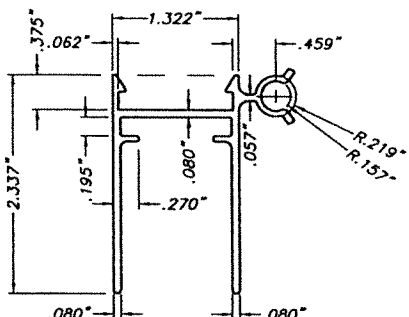
(B) FEMALE HINGE
SCALE: 1/2" = 1"



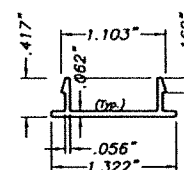
(C) 1" B. O. FEMALE HINGE
SCALE: 1/2" = 1"



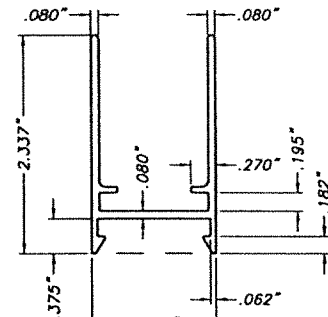
(D) FLAT FEMALE HINGE
SCALE: 1/2" = 1"



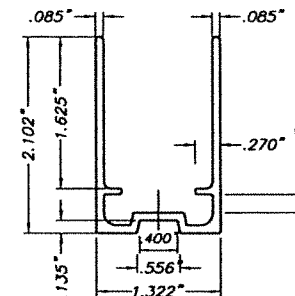
(E) BAHAMA MALE TOP FRAME
SCALE: 1/2" = 1"



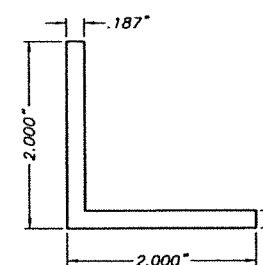
(F) SNAP CAP
SCALE: 1/2" = 1"



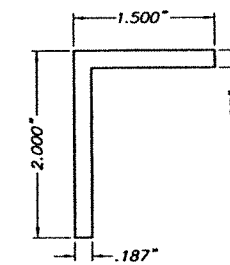
(G) BAHAMA FRAME
SCALE: 1/2" = 1"



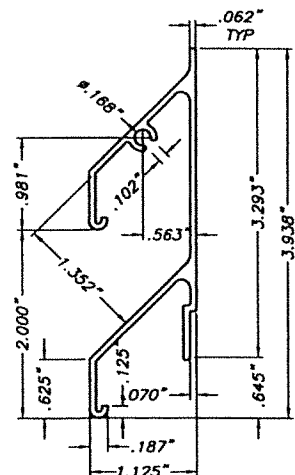
(G1) ALTERNATE BAHAMA FRAME
SCALE: 1/2" = 1"



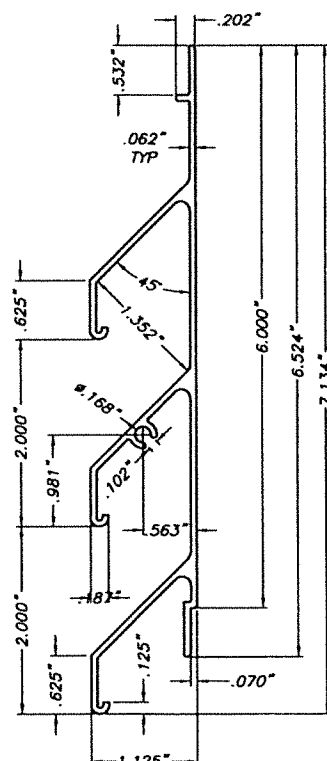
(H) CORNER KEY
1" LONG
SCALE: 1/2" = 1"



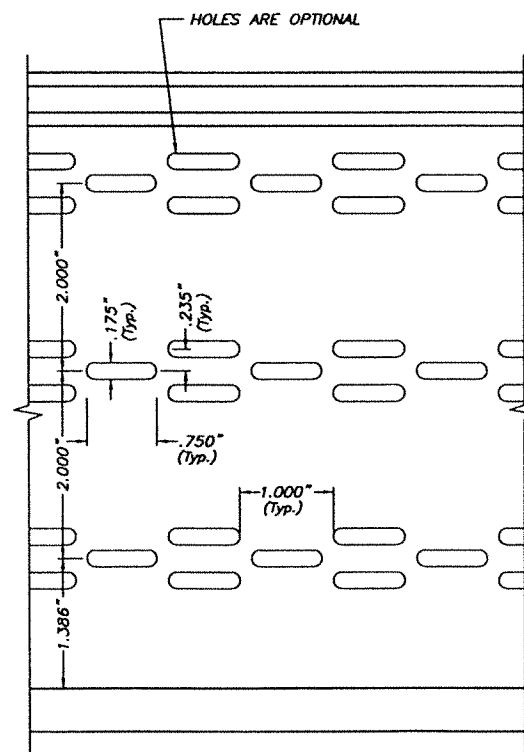
(N) WALL MOUNT Alum. BRACKET
7" LONG
SCALE: 1/2" = 1"



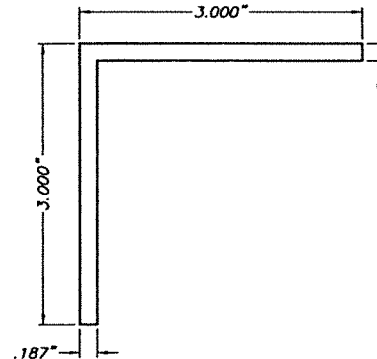
(I) HALF SHUTTER BLADE
SCALE: 1/2" = 1"



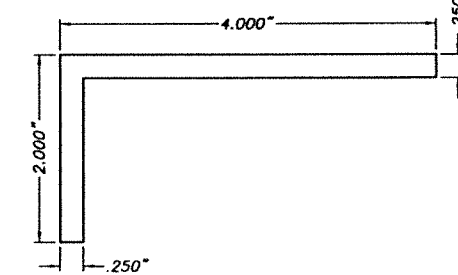
(J) SHUTTER BLADE
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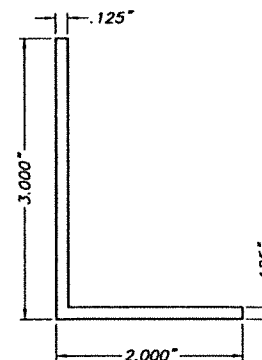
SHUTTER BLADE ELEVATION
SCALE: 1/2" = 1"



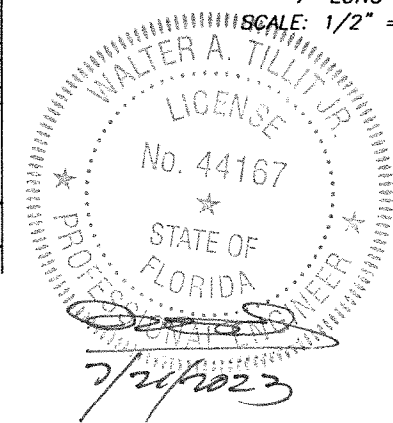
(O) BUILD-OUT Alum. BRACKET
7" LONG
SCALE: 1/2" = 1"



(P) BUILD-OUT SIDE BRACKET
7" LONG
SCALE: 1/2" = 1"



(Q) SILL ANGLE
SCALE: 1/2" = 1"



COMPONENTS

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TILTECO INC.

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e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / EXTRUDED BERTHA BAHAMA SHUTTER				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				23-131 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-187	7/21/23	3	-	-
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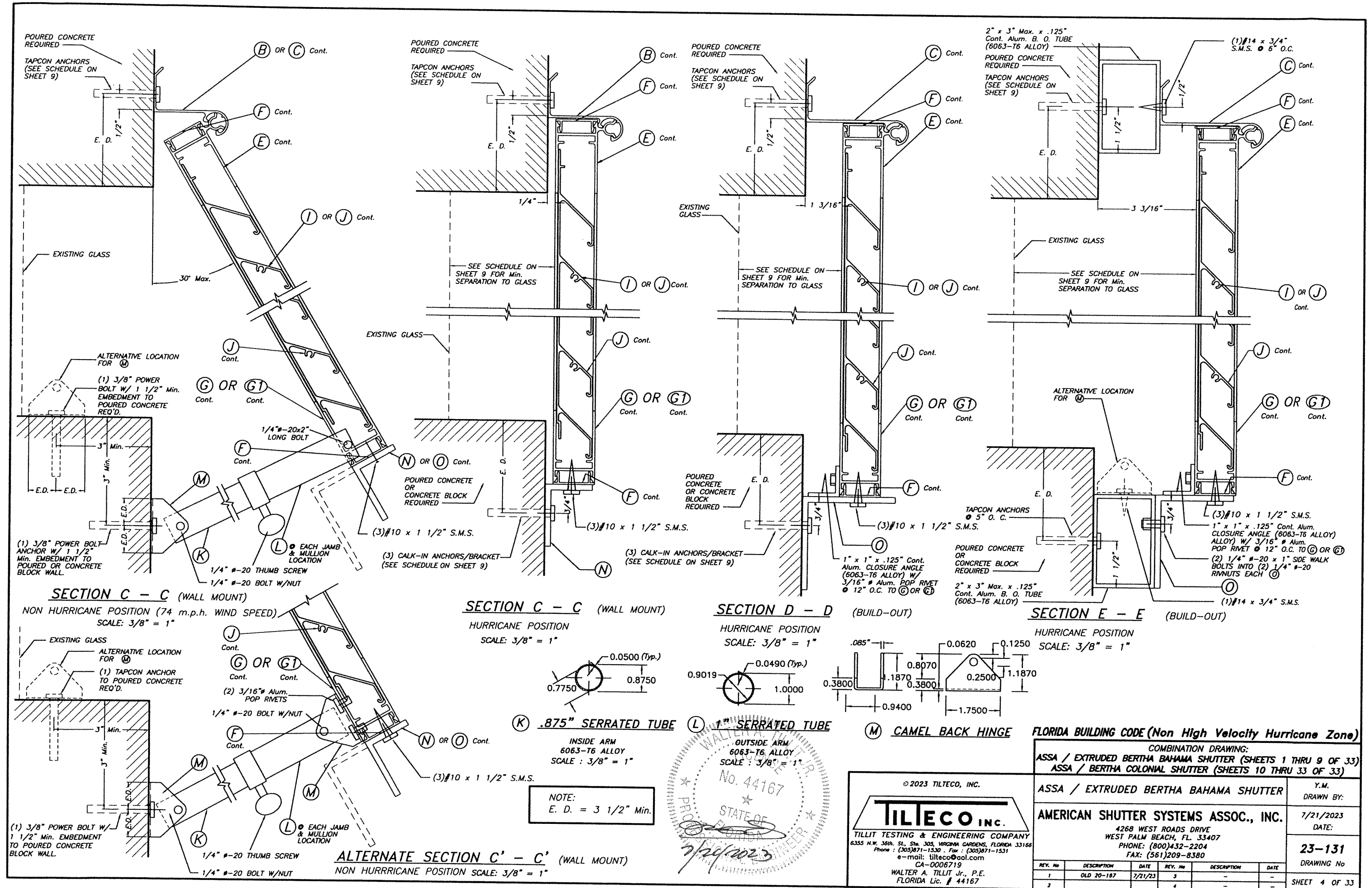
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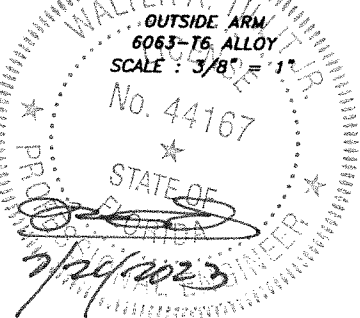
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER			Y.M. DRAWN BY:		
AMERICAN SHUTTER SYSTEMS ASSOC., INC.			7/21/2023 DATE:		
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(K) .875" SERRATED TUBE

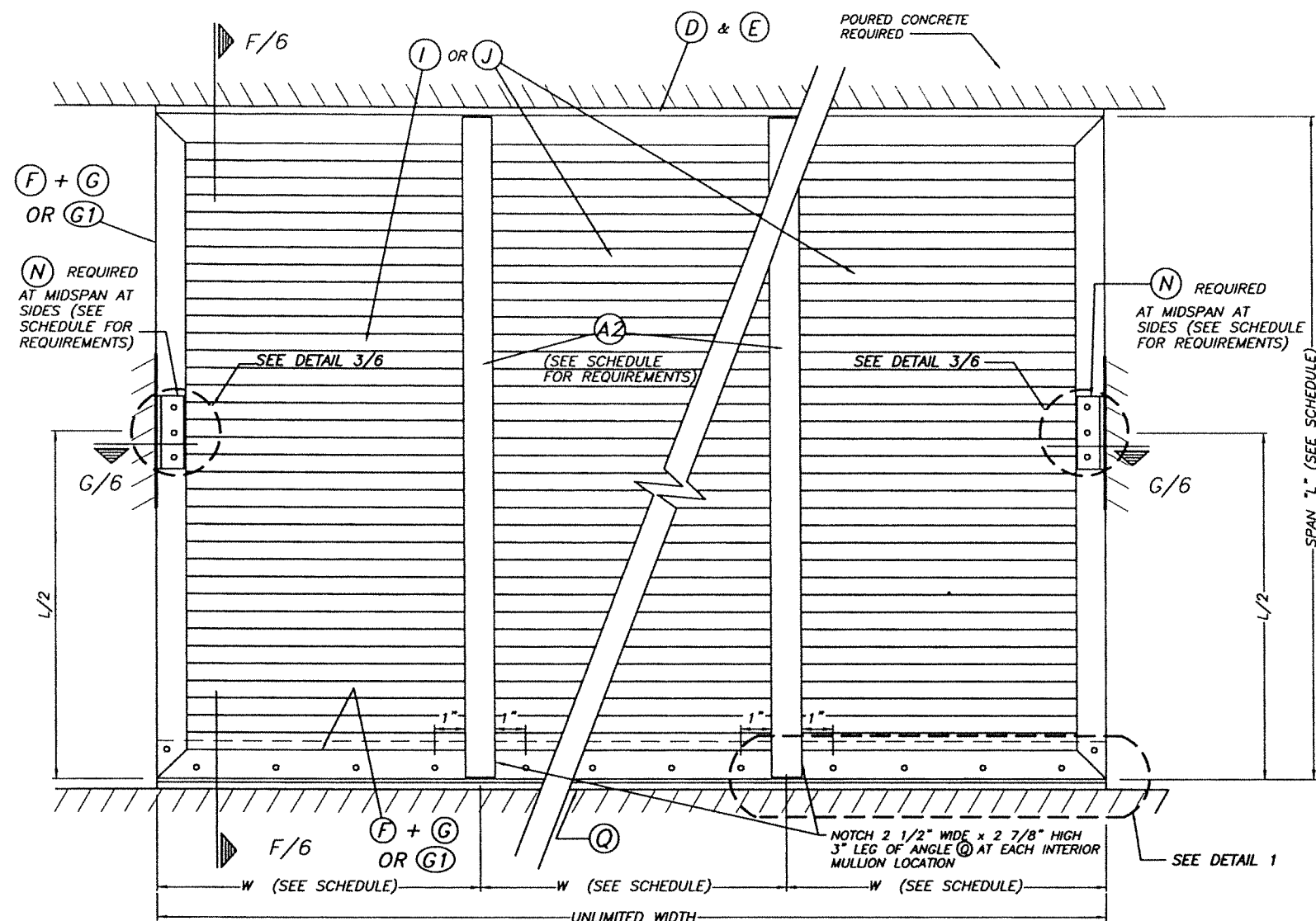
INSIDE ARM
6063-T6 ALLOY
SCALE: 3/8" = 1"

NOTE:
E.D. = 3 1/2" Min.

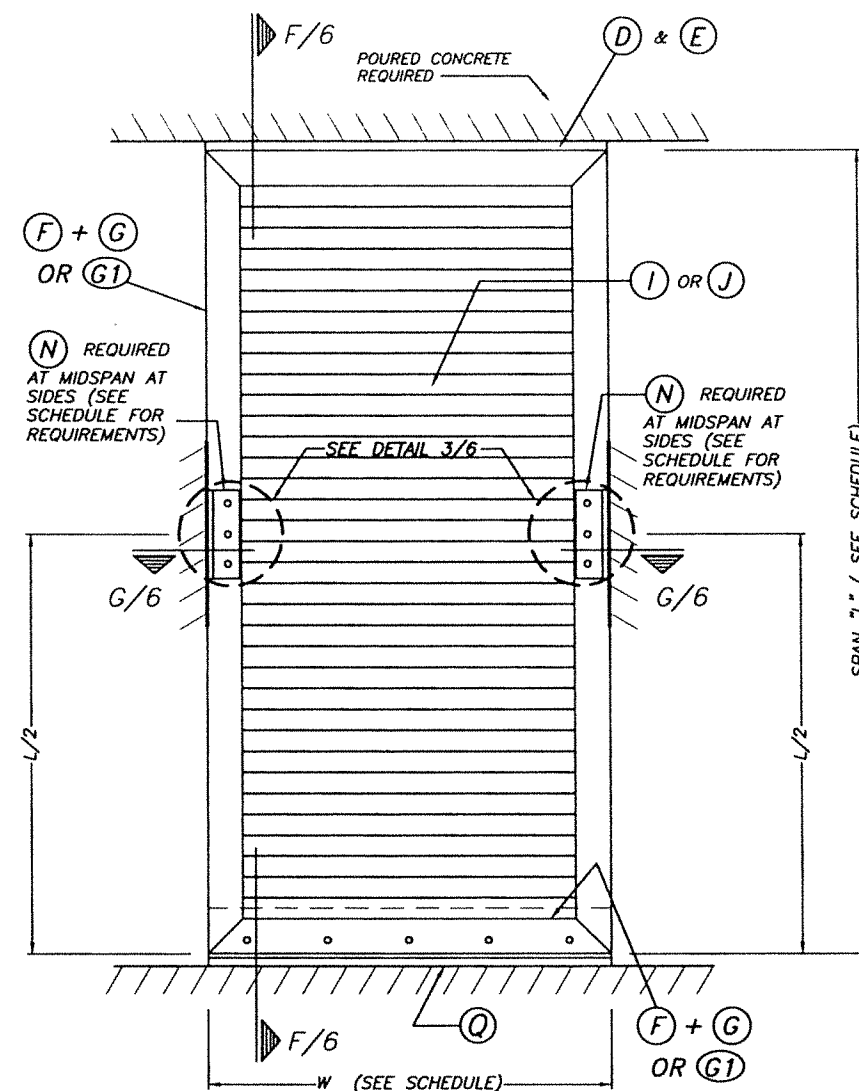
(L) 1" SERRATED TUBE

OUTSIDE ARM
6063-T6 ALLOY
SCALE: 3/8" = 1"

(M) CAMEL BACK HINGE



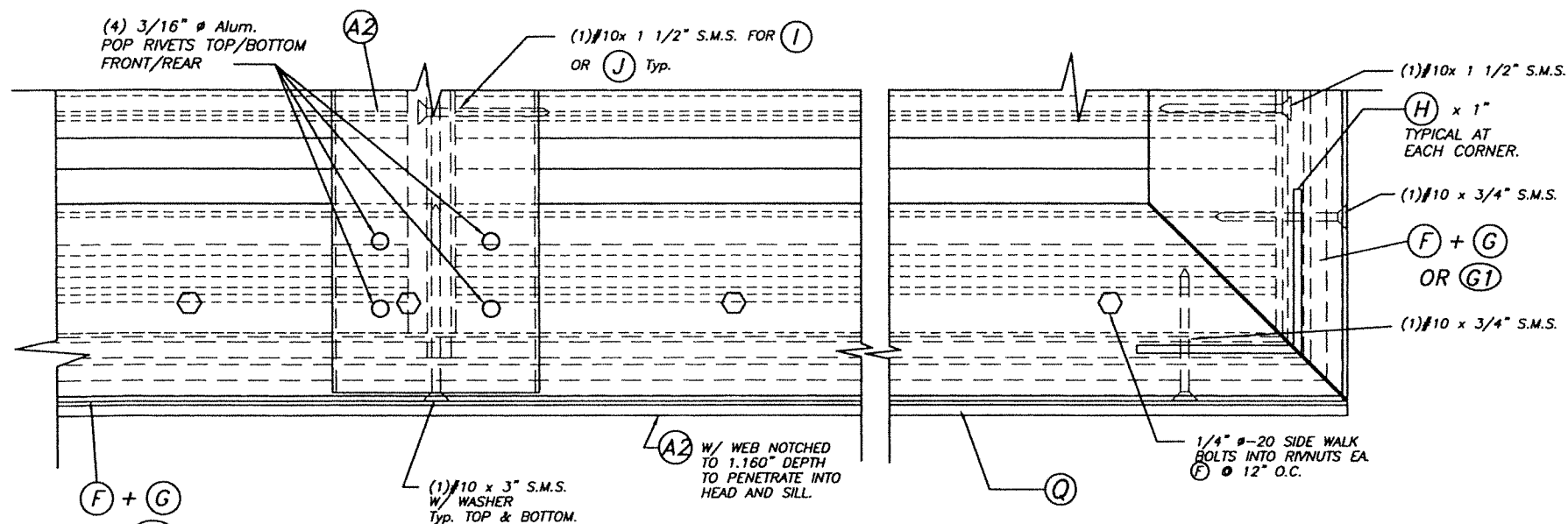
MULTIPLE UNIT



SINGLE UNIT

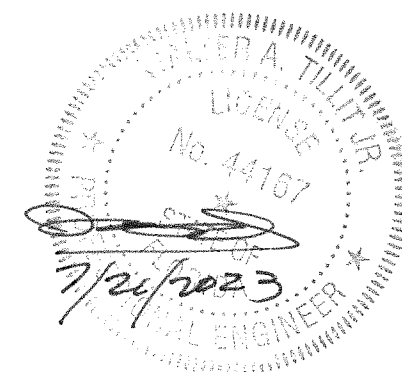
ELEVATIONS

N. T. S.



DETAIL 1

SCALE : 1/2" = 1"



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

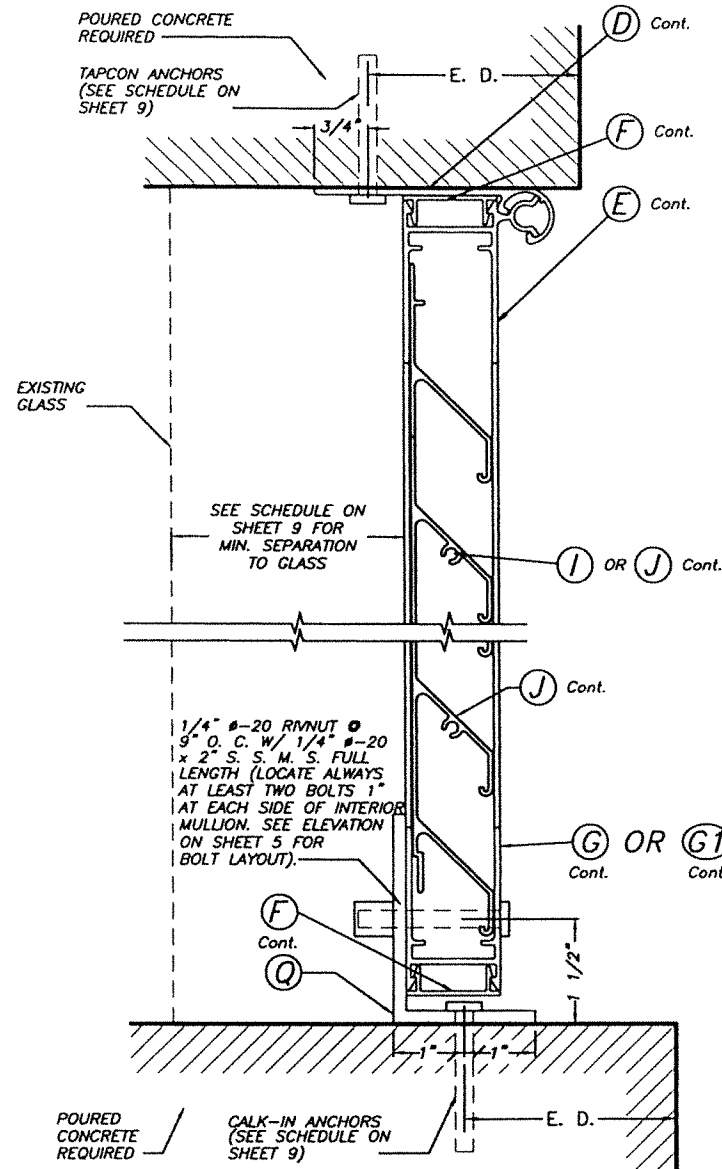
COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

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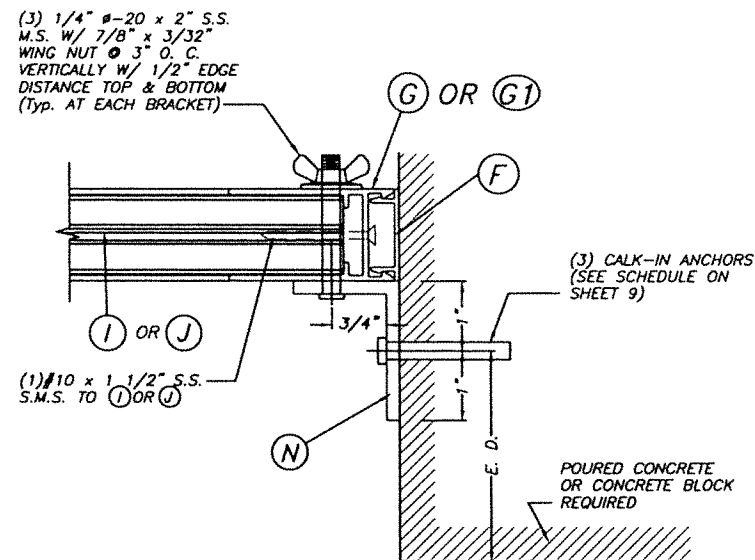
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REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	SHEET 5 OF 33
1	OLD 20-187	7/21/23	3	-	-	
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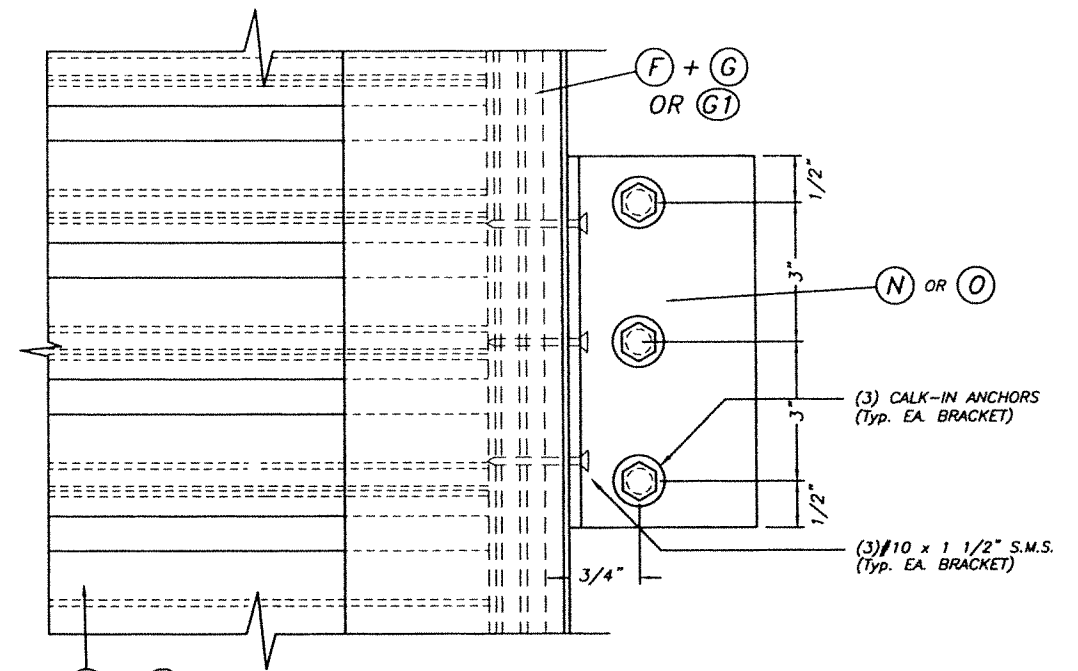


SECTION F - F (TRAPPED MOUNT)
HURRICANE POSITION
SCALE: 3/8" = 1"

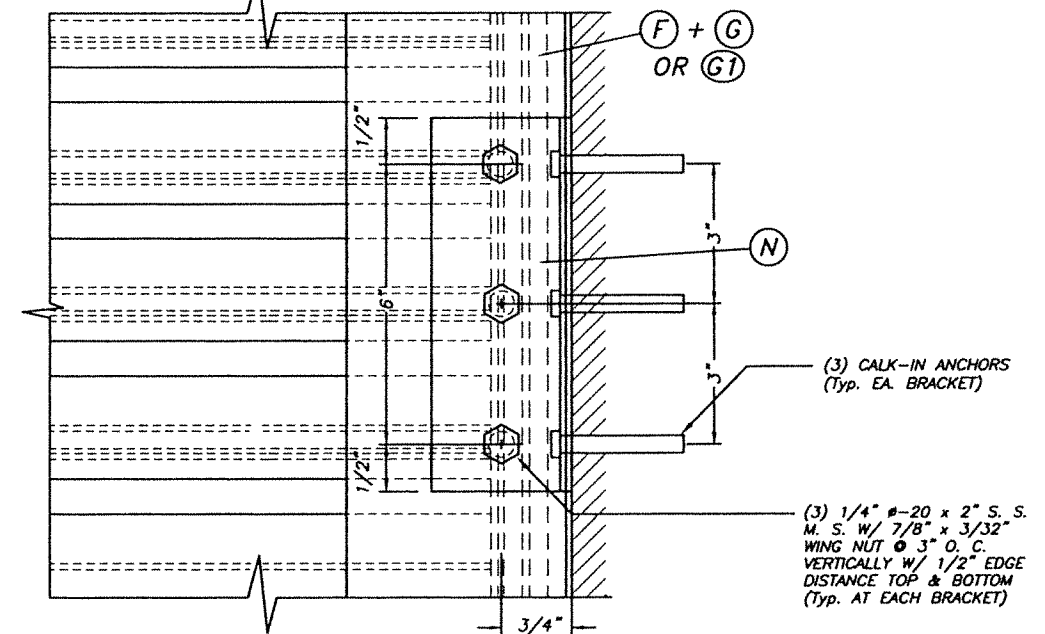


SECTION G - G (TRAPPED MOUNT)
HURRICANE POSITION
SCALE: 3/8" = 1"

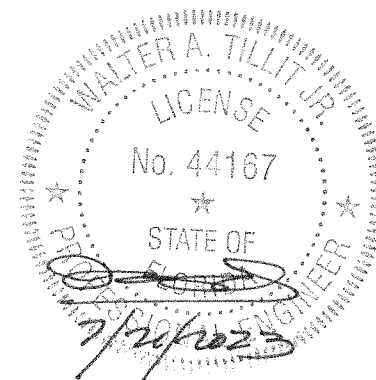
NOTE:
E. D. = 3 1/2" Min.



DETAIL 2 WALL MOUNT.
SCALE: 1/2" = 1"



DETAIL 3 TRAPPED
SCALE: 1/2" = 1"



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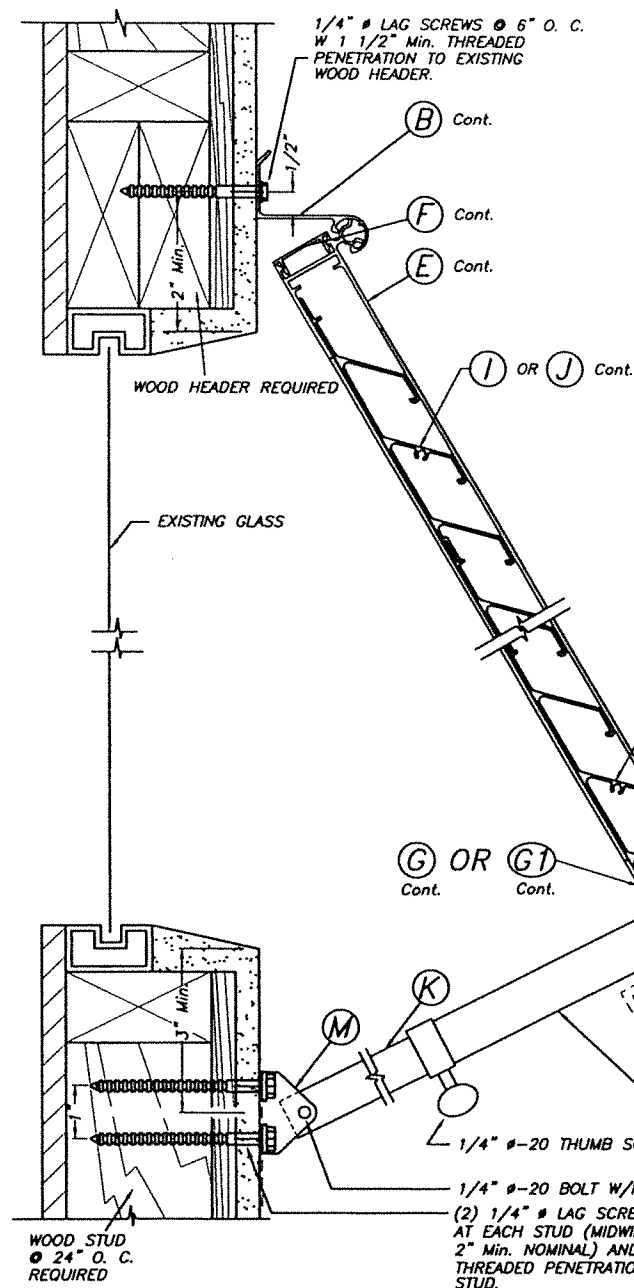
TILTECO INC.

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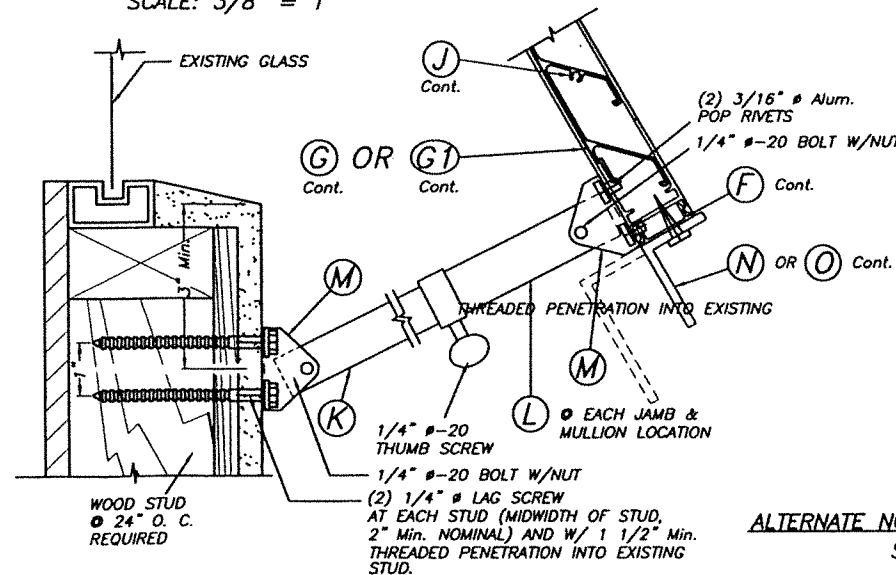
FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

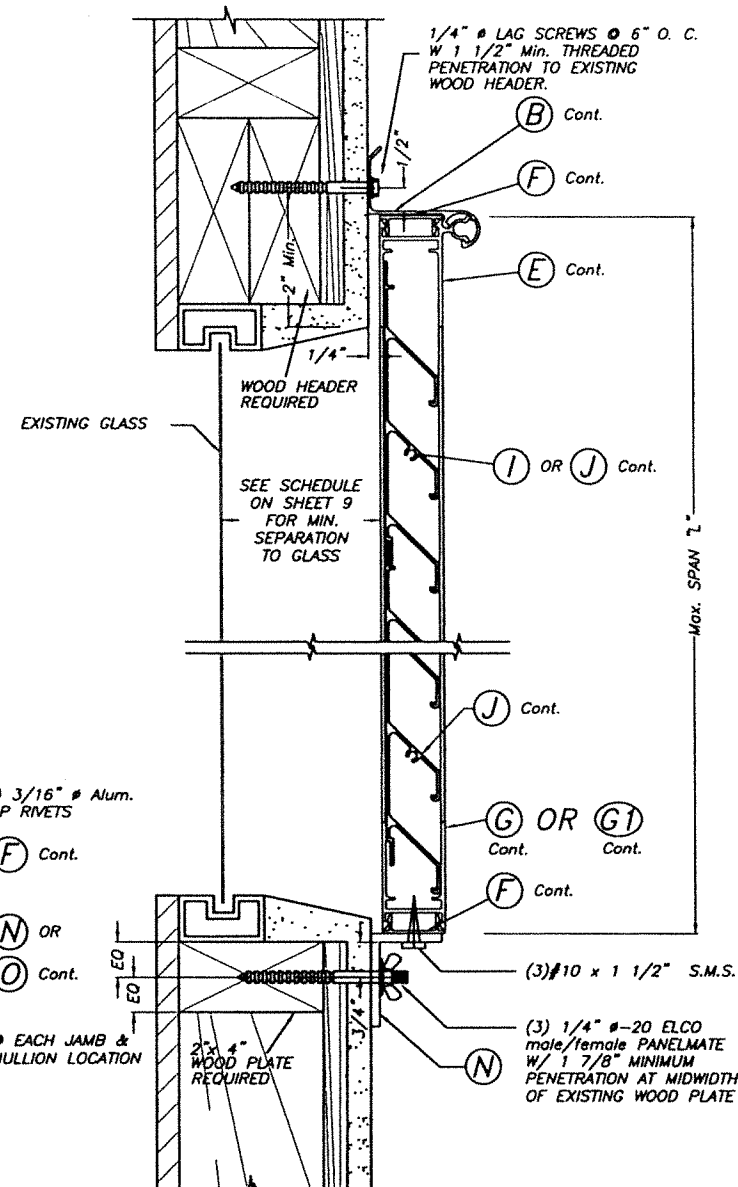
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER				Y.M. DRAWN BY:	
AMERICAN SHUTTER SYSTEMS ASSOC., INC.				7/21/2023 DATE:	
4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (800) 432-2204 FAX: (561) 209-8380				23-131 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-187	7/21/23	3	-	-
2	-	-	4	-	-
					SHEET 6 OF 33



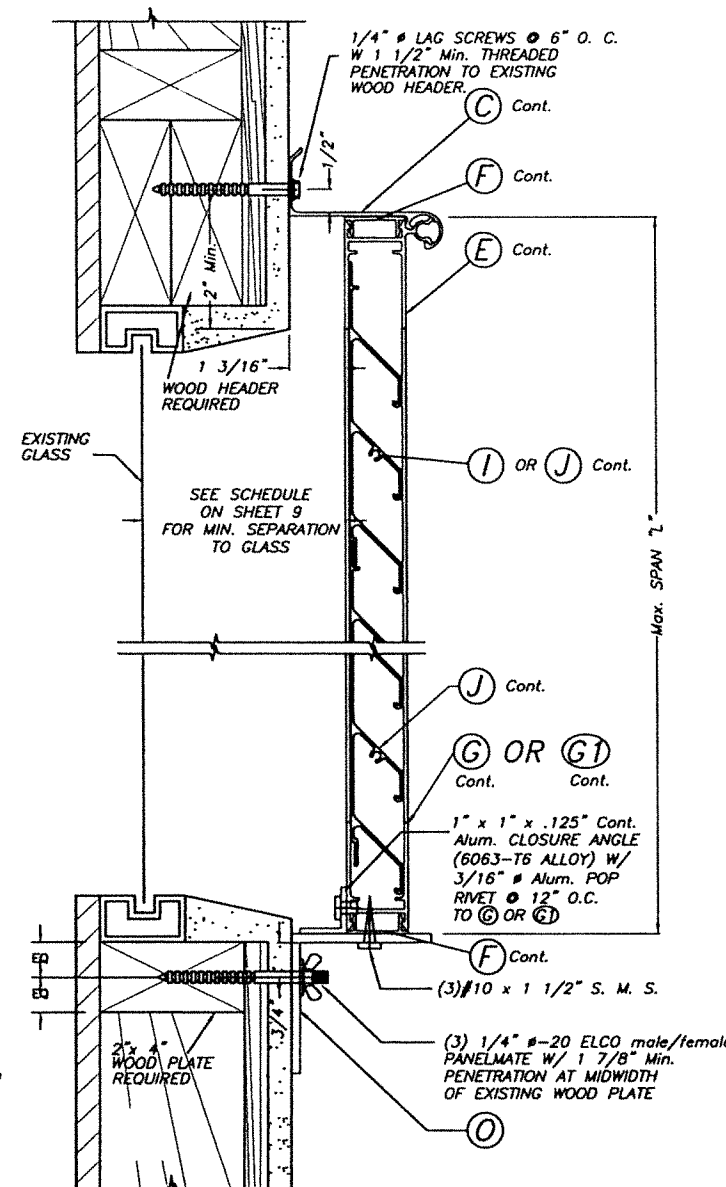
NON HURRICANE POSITION DETAIL: (74 m.p.h. OR LESS WIND SPEED)
SCALE: 3/8" = 1"



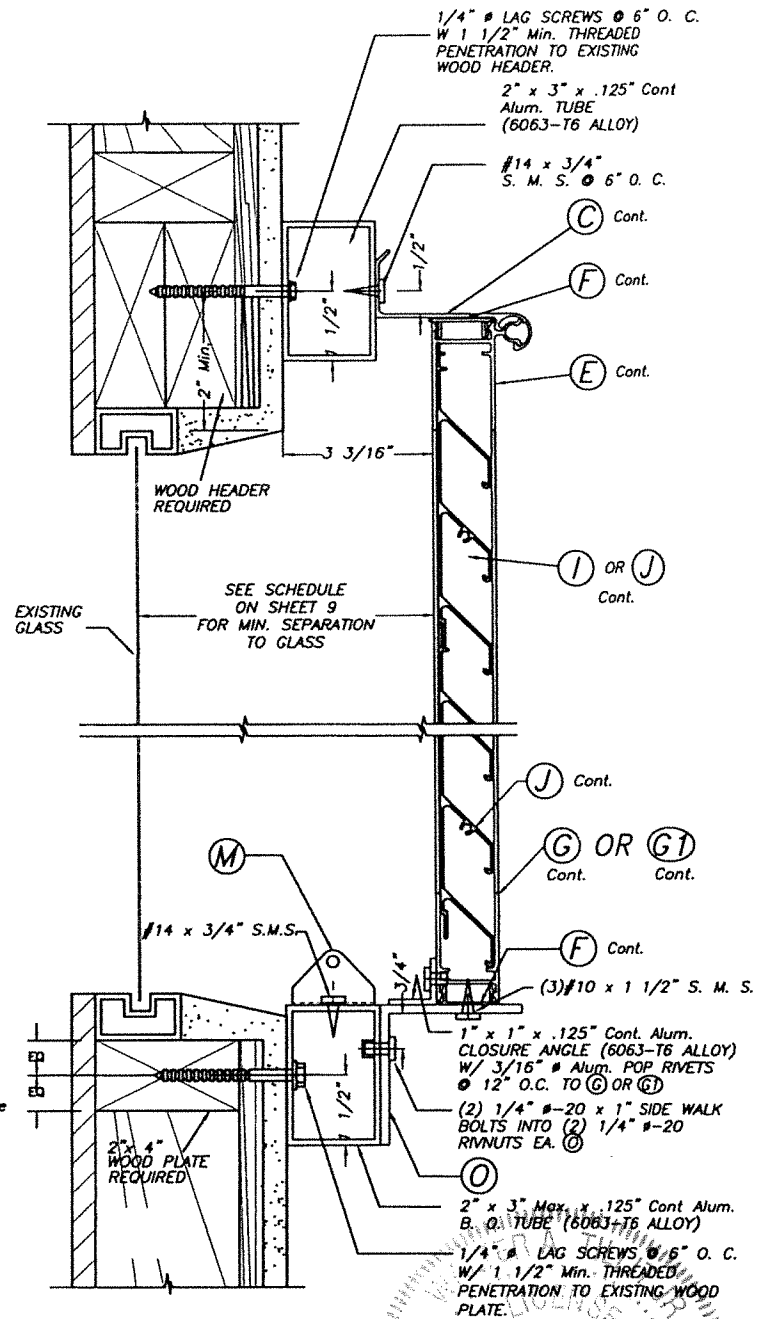
ALTERNATE NON HURRICANE POSITION DETAIL
SCALE: 3/8" = 1"



ALTERNATIVE 1
HURRICANE POSITION
SCALE: 3/8" = 1"



ALTERNATIVE 2
HURRICANE POSITION
SCALE: 3/8" = 1"



ALTERNATIVE 3
HURRICANE POSITION
SCALE: 3/8" = 1"

WALL MOUNTING INSTALLATION & BUILD-OUT
- SECTION A
INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

- NOTES :**
1. INSTALLATIONS ARE ONLY VALID FOR INSTALLATIONS WITH MAX. A.S.D. DESIGN PRESSURE RATING LESS OR EQUAL THAN +62.0, -75.0 p.s.f. AND Max. SHUTTER SPAN AS PER SCHEDULES ON SHEET 9.
 2. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

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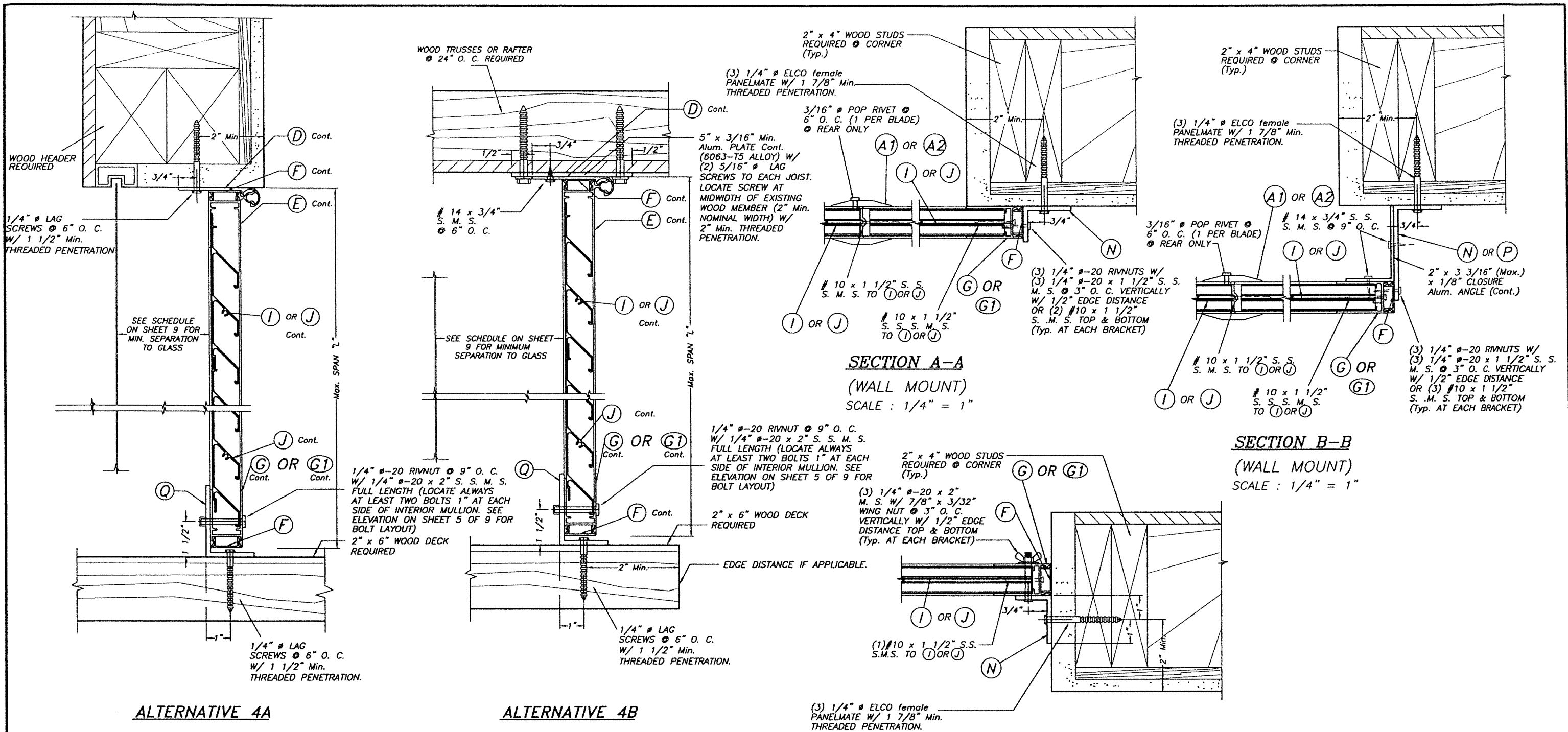
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 38th. St., Ste. 305, VIRGINIA GARDENS, FLORIDA 33166
Phone : (305)871-1530 . Fax : (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / EXTRUDED BERTHA BAHAMA SHUTTER			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			23-131 DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-187	7/21/23	3	-	-
2	-	-	4	-	-

SHEET 7 OF 33



ALTERNATIVE 4A

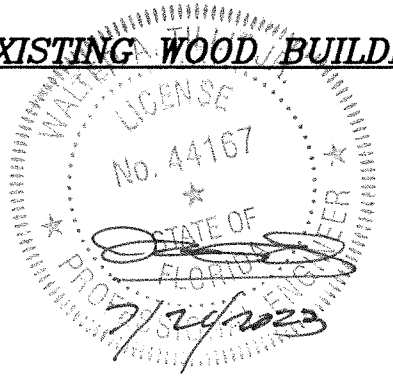
ALTERNATIVE 4B

FLOOR/CEILING MOUNTING INSTALLATION
- **SECTION A** SCALE: 1/4" = 1"

SECTION G-G
(FLOOR/CEILING MOUNT)
SCALE: 1/4" = 1"

INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

- NOTES :**
- INSTALLATIONS ARE ONLY VALID FOR INSTALLATIONS WITH MAX. A.S.D. DESIGN PRESSURE RATING LESS OR EQUAL THAN +62.0, -75.0 p.s.f. AND Max. SHUTTER SPAN AS PER SCHEDULES ON SHEET 9.
 - FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.



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WALTER A. TILLIT Jr., P.E.
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FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)					
COMBINATION DRAWING:					
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)					
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ASSA / EXTRUDED BERTHA BAHAMA SHUTTER				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				23-131 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-187	7/21/23	3	-	-
2	-	-	4	-	-
SHEET 8 OF 33					

SCHEDULE # 1

MAXIMUM SINGLE UNIT FOR A CORRESPONDING A.S.D. DESIGN PRESSURE RATING AND MOUNTING TYPE

MAX. A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CASE #	MAXIMUM UNIT WIDTH "W" (IN)	MAXIMUM SPAN "L" (IN)		
		W/O SIDE BRACKET	W/ SIDE BRACKET	MINIMUM SEPARATION TO GLASS (IN)
CASES I & II +56.0 , -63.0	42"	52"	N/A	3 1/8"
CASES I & II +75.0 , -100.0	42"	N/A	96"	2 1/8"

SCHEDULE # 2

LIMITATIONS FOR SINGLE AND MULTIPLE UNITS BAHAMA SHUTTER'S UNIT WIDTH (IN), SPAN L (IN) AND CORRESPONDING MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) FOR THE INSTALLATION OF SIDE & SILL BRACKETS INTO CONCRETE & MASONRY BUILDINGS BY MEANS OF (3) 1/4" Ø x 7/8" CALK-IN ANCHORS *

MAXIMUM NEGATIVE A.S.D. DESIGN PRESSURE RATING (p.s.f.)	SINGLE UNITS				MULTIPLE UNITS			
	SIDE & SILL BRACKETS **				SIDE & SILL BRACKETS **			
	TO CONCRETE		TO BLOCK		TO CONCRETE		TO BLOCK	
	Max. "W"	Max. "L"	Max. "W"	Max. "L"	Max. "W"	Max. "L"	Max. "W"	Max. "L"
-55.7	42"	96"	42"	96"	36 1/2"	84"	36"	84"
-65.0	42"	96"	42"	96"	36 1/2"	84"	36"	72"
-75.0	42"	96"	42"	96"	36 1/2"	83"	31"	84"
-83.0	42"	96"	42"	96"	N/A	N/A	36 1/2"	62"
-100.0	42"	96"	42"	63	N/A	N/A	27"	83"
			36"	73	N/A	N/A	N/A	N/A

* FOR ELCO PANELMATES ((3) 1/4" Ø W/ 1 7/8" PENETRATION) USED AT SILL & SIDE BRACKETS FOR INSTALLATIONS INTO WOOD. SEE SCHEDULES # 1 & # 1A FOR SHUTTER SIZE.

** IN ANY CASE, MAXIMUM "W" & "L" VALUES W/ CORRESPONDING A.S.D. DESIGN PRESSURE RATING SHALL NOT EXCEED MAXIMUM VALUES INDICATED ON SCHEDULES # 1 & 1A.

SCHEDULE # 1A

MAXIMUM MULTIPLE UNIT FOR A CORRESPONDING A.S.D. DESIGN PRESSURE RATING AND MOUNTING TYPE

MAX. A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CASE #	MAXIMUM UNIT WIDTH "W" (IN)	MAXIMUM SPAN "L" (IN)			
		W/O SIDE BRACKET	W/ SIDE BRACKET	INTERIOR MULLION TYPE REQUIRED	MINIMUM SEPARATION TO GLASS (IN)
CASE I +50.0 , -43.3	36 1/2"	72 1/2"	N/A	A1	2 1/2"
CASE I +62.0 , -75.0	36 1/2"	N/A	83"	A2	2 3/8"
CASE II +62.0 , -75.0	36 1/2"	N/A	84"	A2	2 3/8"

SCHEDULE # 3

MAXIMUM ANCHOR SPACING AT TOP FEMALE HINGES (B), (C), OR (D) AS WELL AS SILL ANGLE (Q) AT BOTTOM (AS APPLICABLE) FOR INSTALLATIONS INTO POURED CONCRETE HEADERS AND SILL ***

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p. s. f.)	SINGLE & MULTIPLE UNITS
	TOP & BOTTOM TO CONCRETE
ALL PRESSURES COVERED IN SCHEDULE # 1 & # 1A	9" O.C. TOP & 7" O.C. BOTTOM.

*** SEE SHEETS 7 & 8 FOR ANCHOR SPACING FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS.

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

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ASSA / EXTRUDED BERTHA BAHAMA SHUTTER						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						23-131 DRAWING No
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	
1	OLD 20-187	7/21/23	3	-	-	
2	-	-	4	-	-	
						SHEET 9 OF 33

GENERAL NOTES:

1. 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 REQUIRED BY THE JURISDICTION WHERE SHUTTER WILL BE INSTALLED. USING ASCE 7-22 AND SHALL NOT EXCEED THE MAXIMUM (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 13, 14, 22 & 28.

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 COMPARE THESE W/ MAX. (A.S.D) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 13, 14, 22 & 28.

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 USED IN THEIR ANALYSIS. HOWEVER, FOR LAG SCREWS INTO WOOD, A 1.60 WIND LOAD DURATION FACTOR WAS USED TO CALCULATE SCREWS SPACINGS.

COLONIAL SHUTTER'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.1.2 OF THE ABOVE MENTIONED CODE AS PER ATL REPORTS #0624.01-98R, #1005.01-00, #0309.01-04 AND 0926.01-07 AS PER TAS-201, TAS-202 AND TAS-203 PROTOCOLS

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

3. ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES OR CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018 WITH 50 ksi YIELD STRENGTH AND 90 ksi TENSILE STRENGTH & SHALL COMPLY W/ FLORIDA BUILDING CODE SECTION 2411.3.3.4.

4. BOLTS TO BE ALUMINUM ASSOCIATION 2024-T4 ALLOY AND TEMPER, ASTM A-307 GALVANIZED STEEL, OR AISI 304 SERIES STAINLESS STEEL WITH 35 ksi MINIMUM YIELD STRENGTH.

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

6. ANCHORS TO WALL SHALL BE AS FOLLOWS (UNLESS OTHERWISE NOTED) SEE DETAILS FOR APPLICABILITY:

- (A) TO EXISTING POURED CONCRETE: (Min f'c= 3000 p.s.i)
- 1/4"Ø TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX, INC.
 - 1/4"Ø x 7/8" CALK-IN ANCHORS AS MANUFACTURED BY DEWALT, INC.

NOTES:

A.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO POURED CONCRETE IS 1 1/2".

A.2) CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE POURED CONCRETE. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED.
1/4"Ø-20 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST AND 1" MINIMUM FOR WALLS WITH NO STUCCO.

A.3) IN CASE THAT PRECAST STONE, PRECAST CONCRETE PANELS, OR PAVERS BE FOUND ON THE EXISTING WALL OR FLOOR, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS. ANCHORAGE SHALL BE AS INDICATED ON NOTES A.1) & A.2) ABOVE.

- (B) TO EXISTING CONCRETE BLOCK WALL: (Min. f' = 1500 psi)
- 1/4"Ø TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX, INC.
 - 1/4"Ø x 7/8" CALK-IN ANCHORS AS MANUFACTURED BY DEWALT, INC.

NOTES:

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

B.2) CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE CONCRETE BLOCK UNIT. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED.
1/4" Ø-20 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST AND 1" MINIMUM FOR WALLS WITH NO STUCCO.

B.3) 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) & B.2) ABOVE.

(C) TO EXISTING WOOD (MIN. SPECIFIC GRAVITY, G=0.55 MIN.) FRAME BUILDING. ANCHORAGE SHALL BE PERFORMED BEYOND ANY FINISH MATERIAL AT WALL LIKE BRICK VENEER, PLYWOOD, STUCCO OR ANY OTHER FINISH.
-1/4" Ø TAPCON ANCHORS MANUFACTURED BY I.T.W. BUILDEX OR 1/4"Ø LAG SCREWS (NDS 2012).
USE TAPCON ANCHORS FOR INSTALATIONS WITH STORM BARS AND USE LAG SCREWS FOR INSTALLATIONS WITHOUT STORM BARS

NOTE:

C.1) MINIMUM THREADED PENETRATION INTO WOOD FOR TAPCON ANCHORS OR LAG SCREWS IS 1 1/2" MIN.

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

7. EACH SHUTTER SHALL HAVE A LEGIBLE AND READILY VISIBLE MARKING INSTRUCTING OWNER OR TENANT TO SECURE SHUTTER WITH HEAD & SILL BRACKETS WHEN USED W/O STORM BARS OR TO SECURE SHUTTERS W/ STORM BARS AND SAFETY BOLTS DURING PERIODS OF HURRICANE WARNINGS.

8. OWNER TO BE RESPONSIBLE FOR PROVIDING A SUITABLE PLATFORM OR BALCONY WHEN SECURING UNIT DURING 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. CAULK AND SEAL SHUTTER TRACKS ALL AROUND FULL LENGTH.

10. BERTHA 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.

11. SHUTTER MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT SURFACE OF THE COLONIAL FRAME E (OR) E1 (IN) ACCORDANCE WITH SECTION 1709.9.2 OF FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY OPENING.

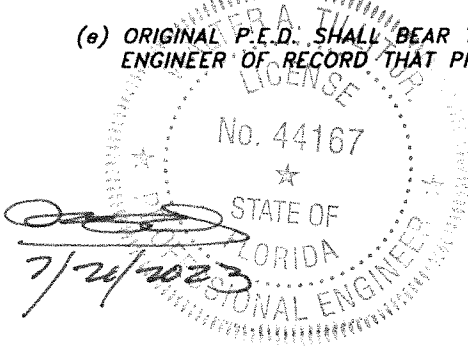
12. (a) THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; i. e. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.

(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.



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

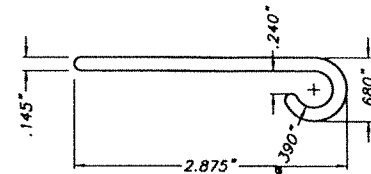
COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER (WITH CLIPS OR STORM BARS)			Y.M. DRAWN BY:		
AMERICAN SHUTTER SYSTEMS ASSOC., INC. 4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (800)432-2204 FAX: (561)209-8380			7/21/2023 DATE:		
			23-131 DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-167	7/21/23	3		
2			4		
			SHEET 10 OF 33		

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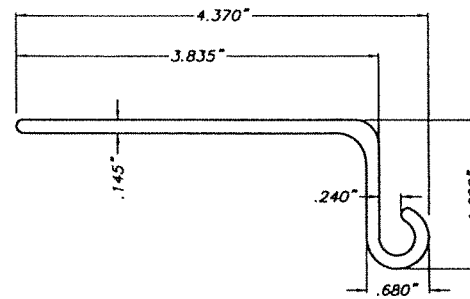
TILTECO INC.

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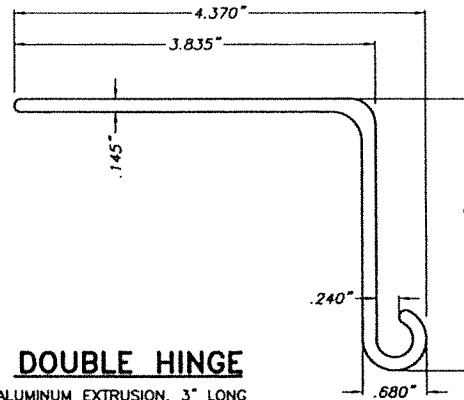
(B) FLAT HINGE

ALUMINUM EXTRUSION 3" LONG AT
 (D) OR (C): 1 1/2" LONG • PANEL JOINTS



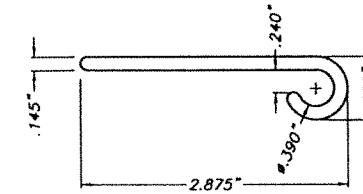
(C) SINGLE HINGE

ALUMINUM EXTRUSION, 3" LONG



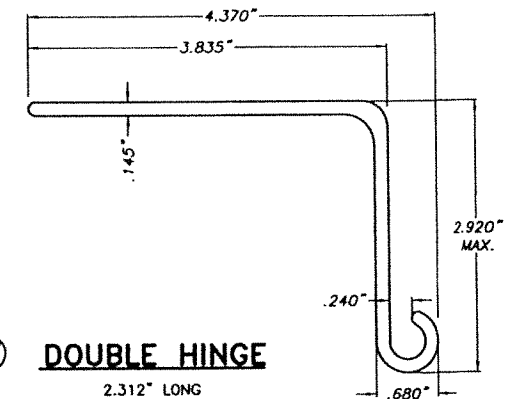
(D) DOUBLE HINGE

ALUMINUM EXTRUSION, 3" LONG



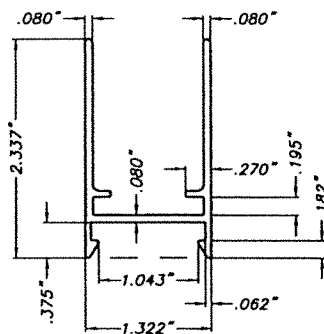
(B') FLAT HINGE

2.375" LONG
 ALUMINUM EXTRUSION



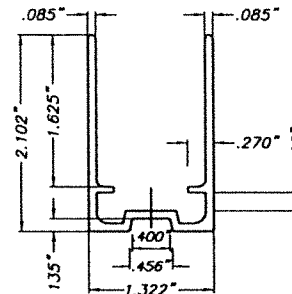
(D') DOUBLE HINGE

2.312" LONG
 ALUMINUM EXTRUSION



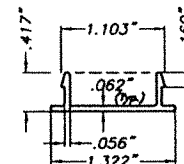
(E) COLONIAL FRAME

ALUMINUM EXTRUSION



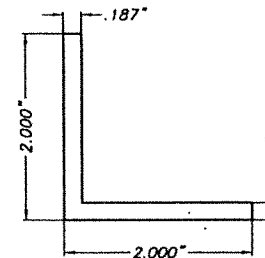
(E1) ALTERNATE COLONIAL FRAME

ALUMINUM EXTRUSION



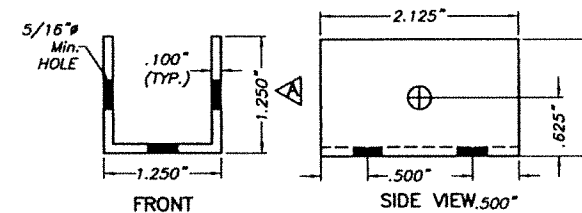
(F) SNAP CAP

ALUMINUM EXTRUSION



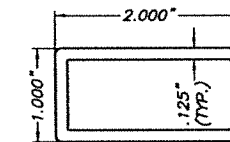
(G) CORNER KEY

1 1/8" LONG
 ALUMINUM EXTRUSION



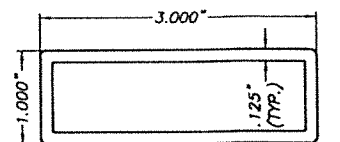
(N) H.V. STORM BAR CLIP

2 1/8" LONG
 ALUMINUM EXTRUSION



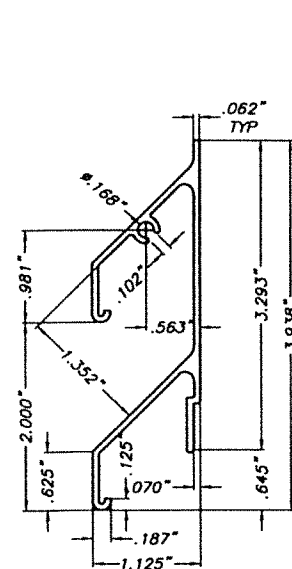
(O) STORM BAR TYPE 1

ALUMINUM EXTRUSION



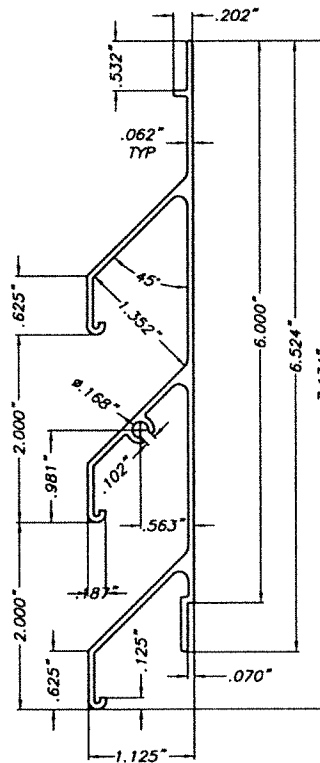
(O1) STORM BAR TYPE 2

ALUMINUM EXTRUSION



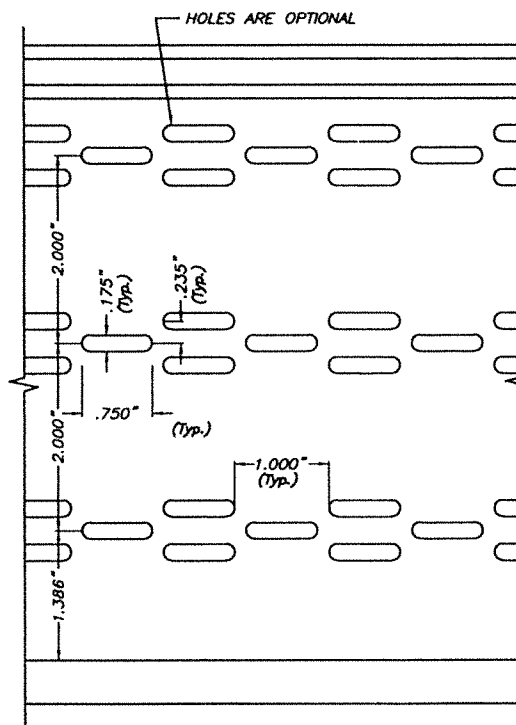
(H) HALF SHUTTER BLADE

ALUMINUM EXTRUSION



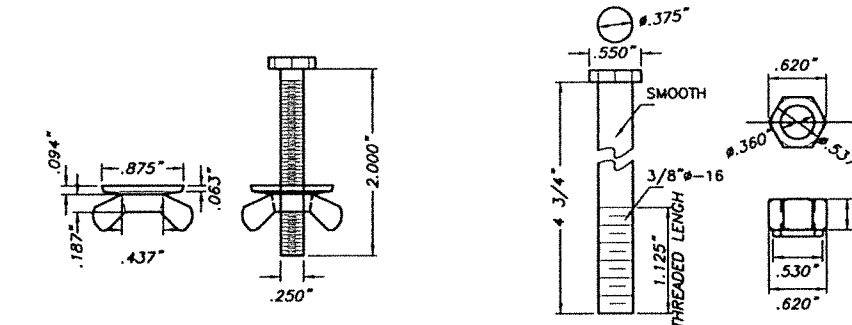
(I) SHUTTER BLADE

ALUMINUM EXTRUSION



SHUTTER BLADE ELEVATION

ALUMINUM EXTRUSION



**Q1 1/4\"-20X2\" 304 SERIES
 S.S. HEX HEAD BOLT W/ DIE
 CAST (ZINC #7) NICKEL PLATED
 WASHER WINGNUT**

**Q2 ALUMINUM PIN
 FOR HINGE**
 6061-T6 Alum. ALLOY

COMPONENTS VALIDITY SCHEDULE		
COMPONENTS	USED WITH	
	CLIPS	STORM BARS
(B)	YES	NO
(B')	NO	YES
(C)	YES	NO
(D)	YES	NO
(D')	NO	YES
(E)	YES	YES
(E1)	YES	YES
(F)	YES	YES
(G)	YES	YES
(H)	YES	YES
(I)	YES	YES
(N)	NO	YES
(O)	NO	YES
(O1)	NO	YES
(O1)	NO	YES
(O2)	NO	YES

COMPONENTS

SCALE: 1/2" = 1"

No. 44167



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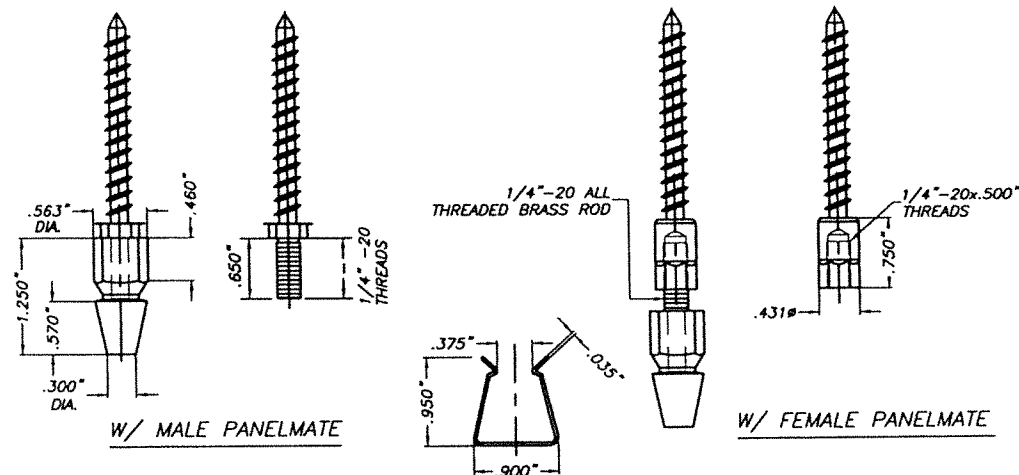
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ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
 ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

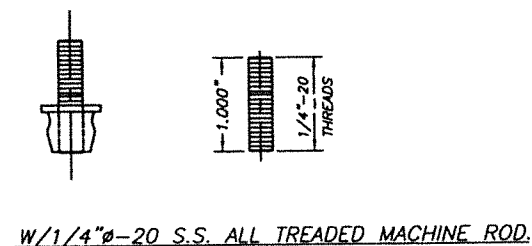
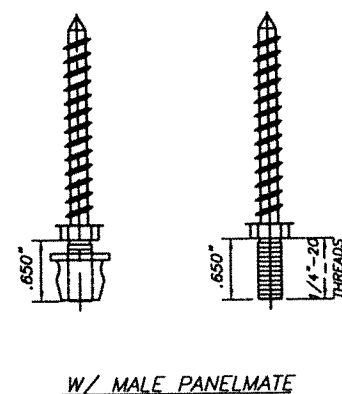
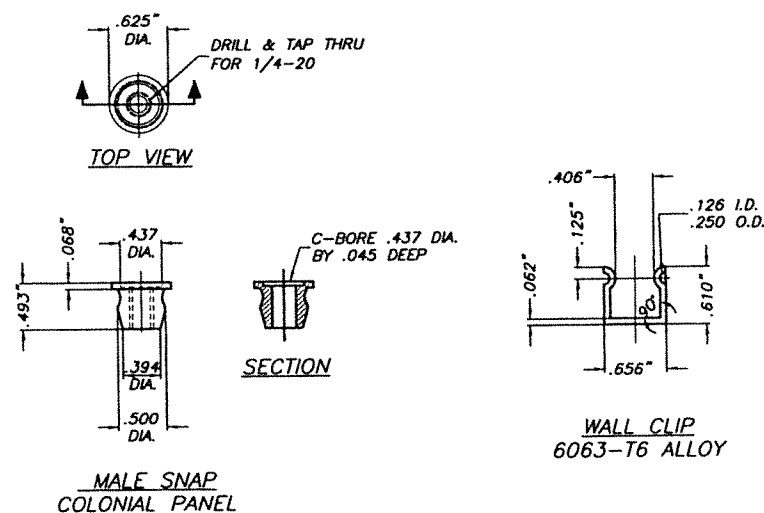
ASSA / BERTHA COLONIAL SHUTTER (WITH CLIPS OR STORM BARS)					
AMERICAN SHUTTER SYSTEMS ASSOC., INC.					Y.M. DRAWN BY:
4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (800)432-2204 FAX: (561)209-8380					7/21/2023 DATE:
REV. No DESCRIPTION DATE REV. No DESCRIPTION DATE					23-131 DRAWING No
1	OLD 20-167	7/21/23	3		
2			4		
					SHEET 11 OF 33



- (L) SPRING TEMPERED BRASS "U" CHANNEL (1" LONG)
& 1/4" ELCO TEXTRON MALE OR FEMALE PANELMATE
ANCHOR W/ 360 BRASS THREADED NUT

- (J) WALL MOUNT
Alum. BRACKET
4" LONG
ALUMINUM EXTRUSION

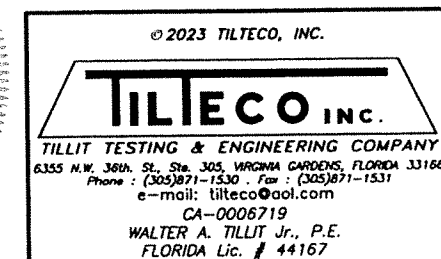
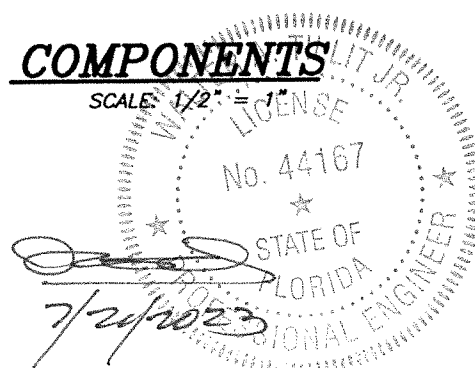
- (K) BUILD-OUT
Alum. BRACKET
4" LONG
ALUMINUM EXTRUSION



- (M) ALTERNATE ALUMINUM "U" CHANNEL (1" LONG)
& 1/4" ELCO TEXTRON MALE PANELMATE ANCHOR
OR W/ 1/4 inch-20 S.S. MACHINE ROD

COMPONENTS

SCALE: 1/2" = 1"



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
 ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
 ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER
 (WITH CLIPS)

Y.M.
 DRAWN BY:

AMERICAN SHUTTER SYSTEMS ASSOC., INC.

7/21/2023
 DATE:

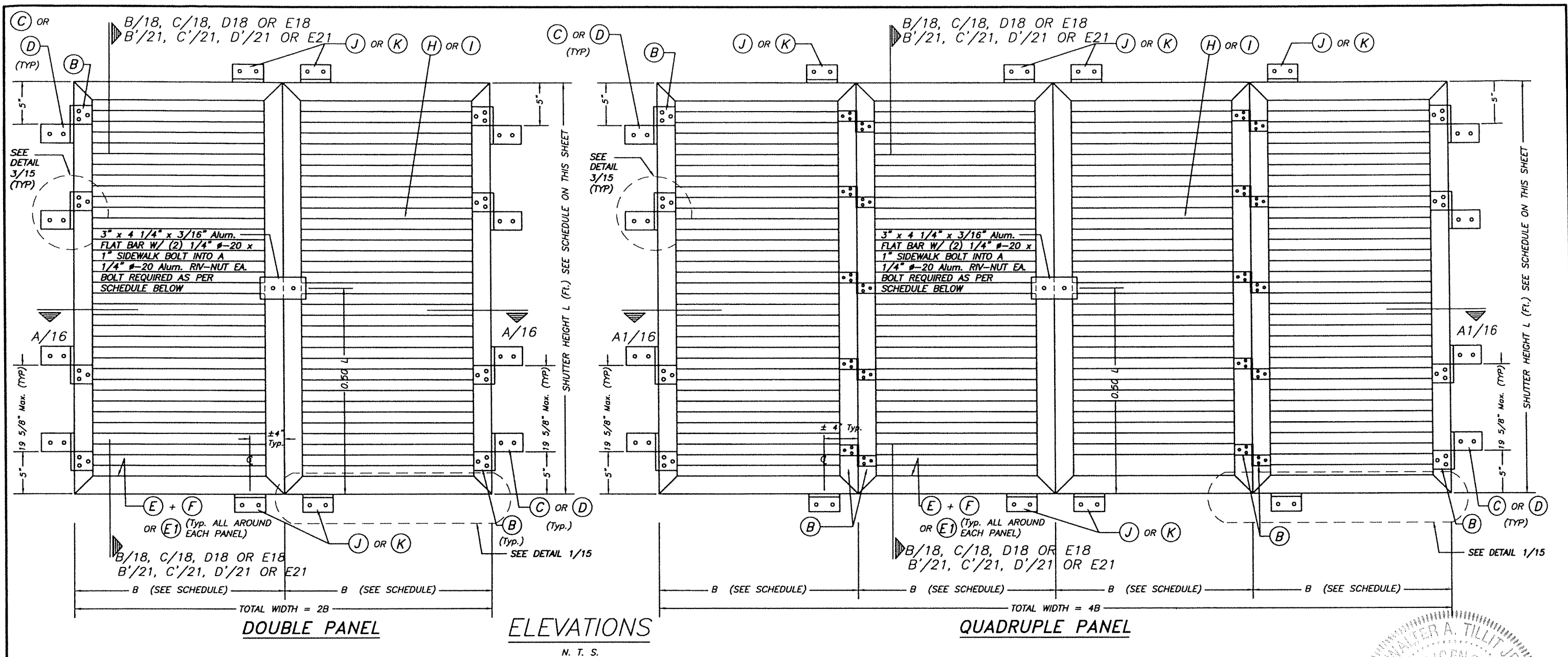
4268 WEST ROADS DRIVE
 WEST PALM BEACH, FL. 33407
 PHONE: (800)432-2204
 FAX: (561)209-8380

23-131

DRAWING No

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-167	7/21/23	3		
2			4		

SHEET 12 OF 33



MINIMUM SEPARATION TO GLASS SCHEDULE
FOR PERFORATED OR NOT SHUTTER BLADES

BLADES Ⓜ OR Ⓛ CONDITION	MINIMUM SEPARATION TO GLASS
PERFORATED BLADES AS SHOWN ON SHEET 11	3"
NOT PERFORATED (SOLID) BLADES	1"

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)
AND CORRESPONDING MAXIMUM PANEL'S WIDTH (B)
AND SHUTTER'S HEIGHT (L) SCHEDULE

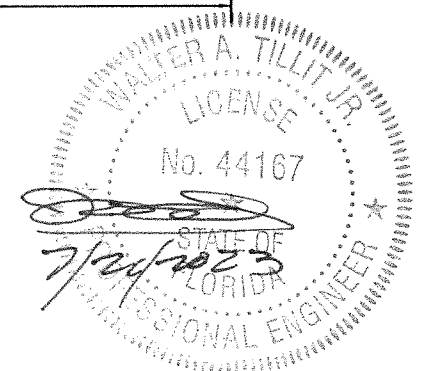
MAXIMUM A.S.D. DESIGN PRESSURE RATING(p.s.f.)	B (in.)	L (ft.)	FLAT BAR REQUIREMENTS AT CENTER OF SHUTTER
+36.0, -40.0	18"	8'-6"	YES
+36.0, -40.0	36"	6'-0"	YES
+65.0, -65.0	36"	4'-6"	NO
+69.0, -75.0	18 1/4"	6'-2 1/2"	NO
+80.0, -87.5	18 1/4"	6'-1"	NO
+100.0, -120.0	18"	4'-8"	NO

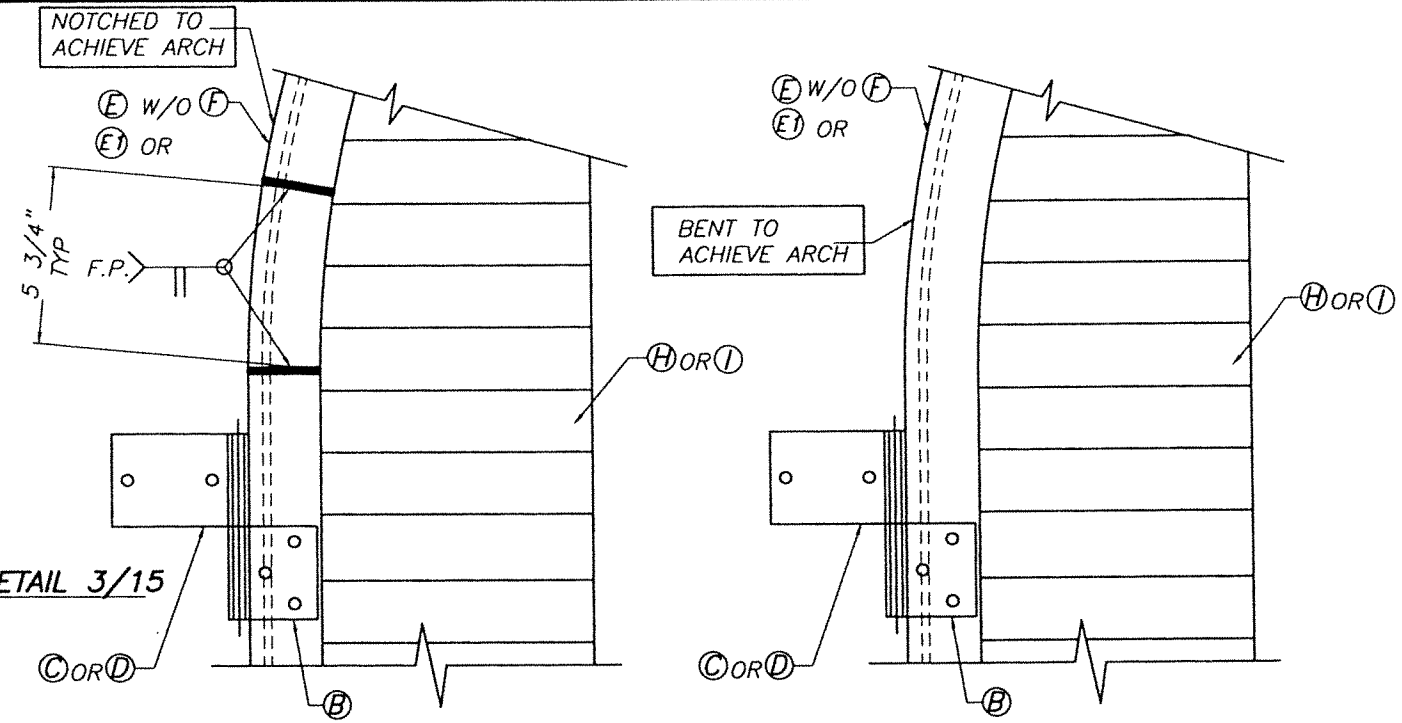
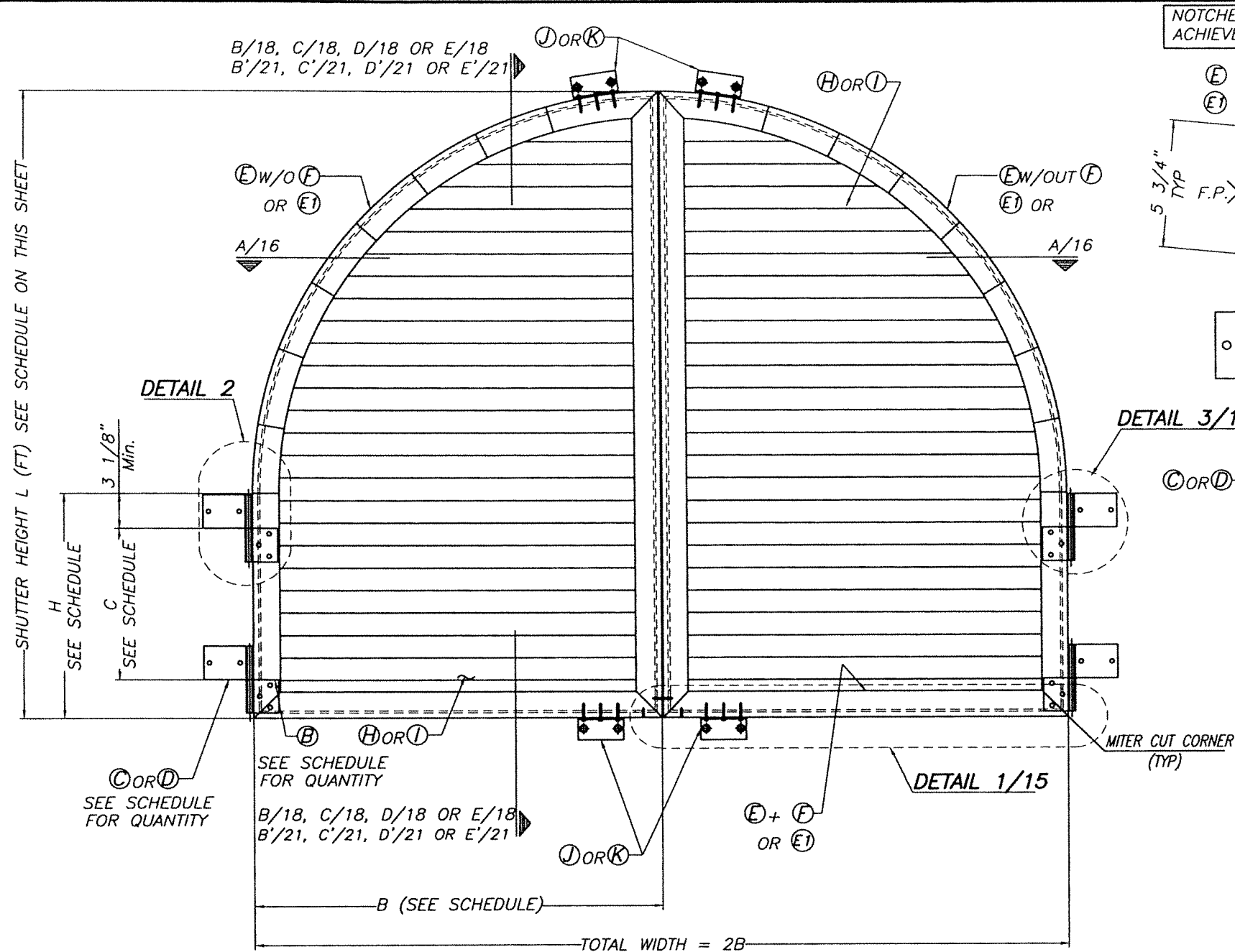


FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER (WITH CLIPS)			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			23-131 DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-167	7/21/23	3		
2			4		
			SHEET 13 OF 33		





DETAIL 2

QUANTITY OF HINGES W/ Max. SEPARATION
BETWEEN HINGES AND CORRESPONDING HEIGHT H (in)

QUANTITY OF HINGES	C Max. SEPARATION BETWEEN HINGES	H (in.)
2	11 1/2"	20 1/8"
3	21 7/8"	51 1/4"

DOUBLE PANEL
ELEVATION
SCALE: 1"=1'-0"

MINIMUM SEPARATION TO GLASS SCHEDULE
FOR PERFORATED OR NOT SHUTTER BLADES

BLADES (H) OR (I) CONDITION	MINIMUM SEPARATION TO GLASS
PERFORATED BLADES AS SHOWN ON SHEET 11	3"
NOT PERFORATED (SOLID) BLADES	1"

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)
AND CORRESPONDING MAXIMUM PANEL'S WIDTH (B)
SHUTTER'S HEIGHTS (L) & (H) SCHEDULE

MAXIMUM A.S.D DESIGN PRESSURE RATING (p.s.f.)	B (in.)	L (ft.)	H (in.)
+70.0, -85.0	36"	4'-6"	20 1/8"
+80.0, -87.5	18"	5'-9"	51 1/4"

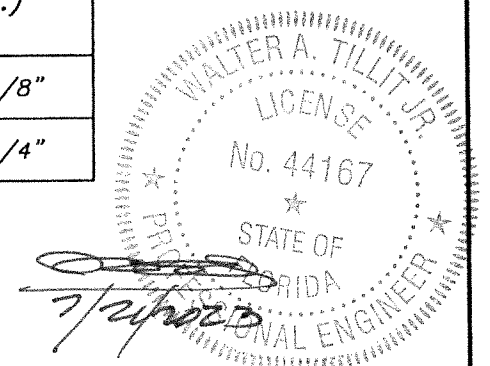
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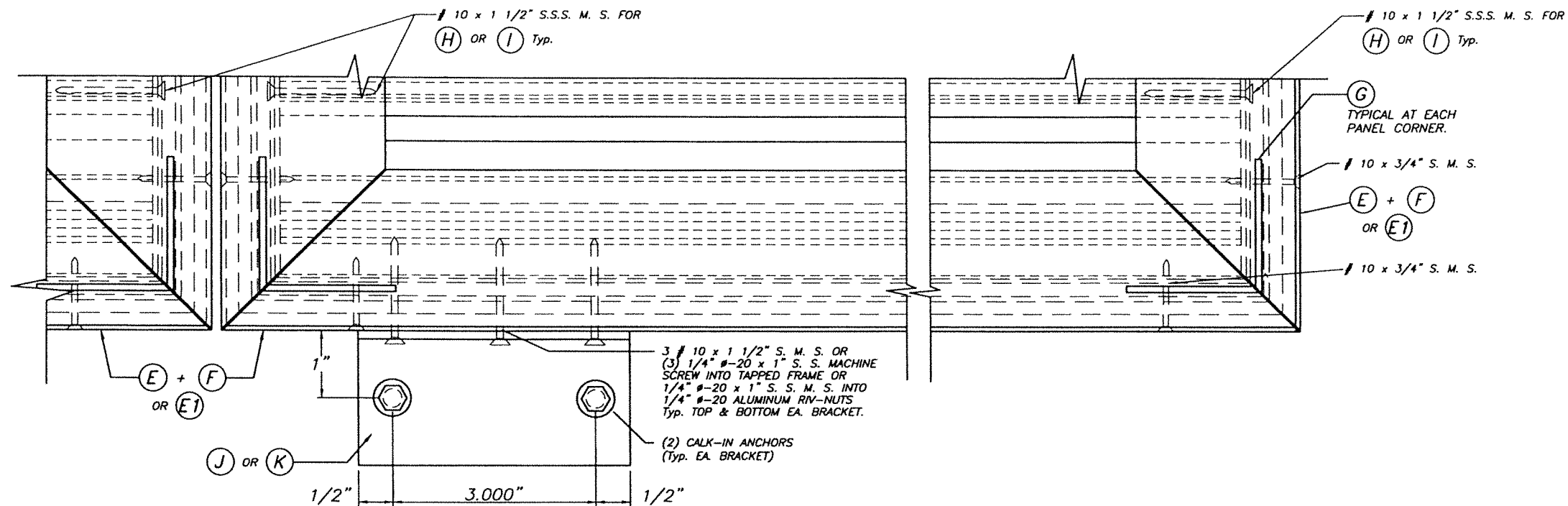
TILTECO INC.

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

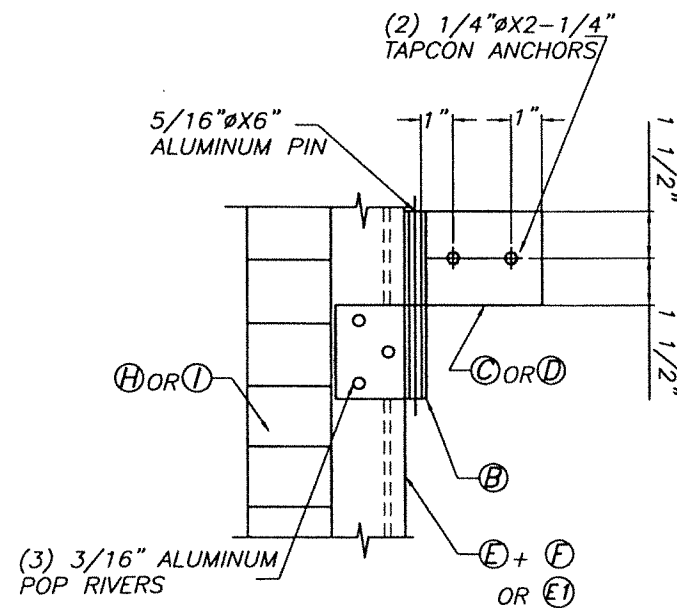
FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING: ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33) ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)					
ASSA / BERTHA COLONIAL SHUTTER (WITH CLIPS)				Y.M. DRAWN BY:	
AMERICAN SHUTTER SYSTEMS ASSOC., INC. 4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (800)432-2204 FAX: (561)209-8380				7/21/2023 DATE:	
REV. No DESCRIPTION DATE REV. No DESCRIPTION DATE				23-131 DRAWING No	
1	OLD 20-187	7/21/23	3		
2			4		
					SHEET 14 OF 33

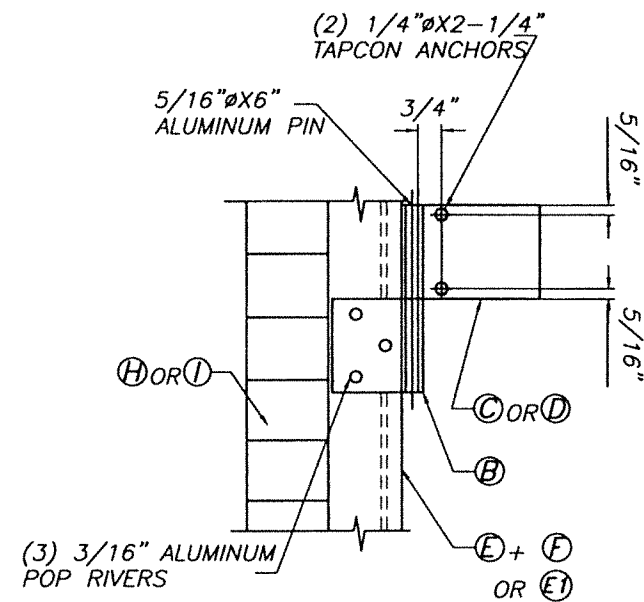




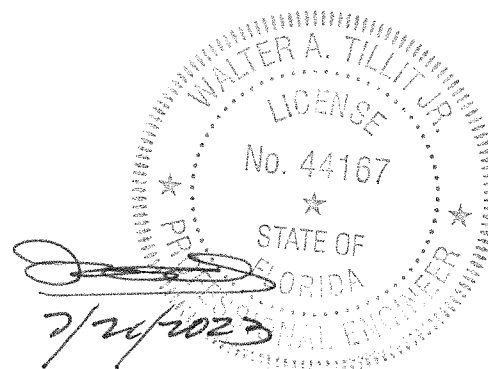
DETAIL 1
SCALE : 1/2" = 1"



DETAIL 3



ALTERNATE DETAIL 3



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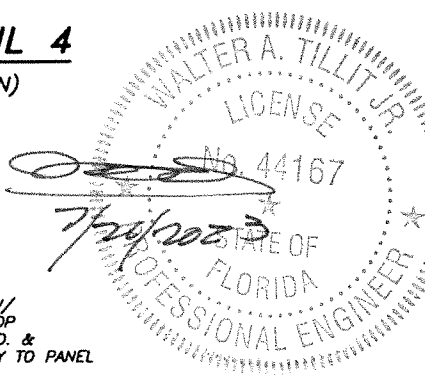
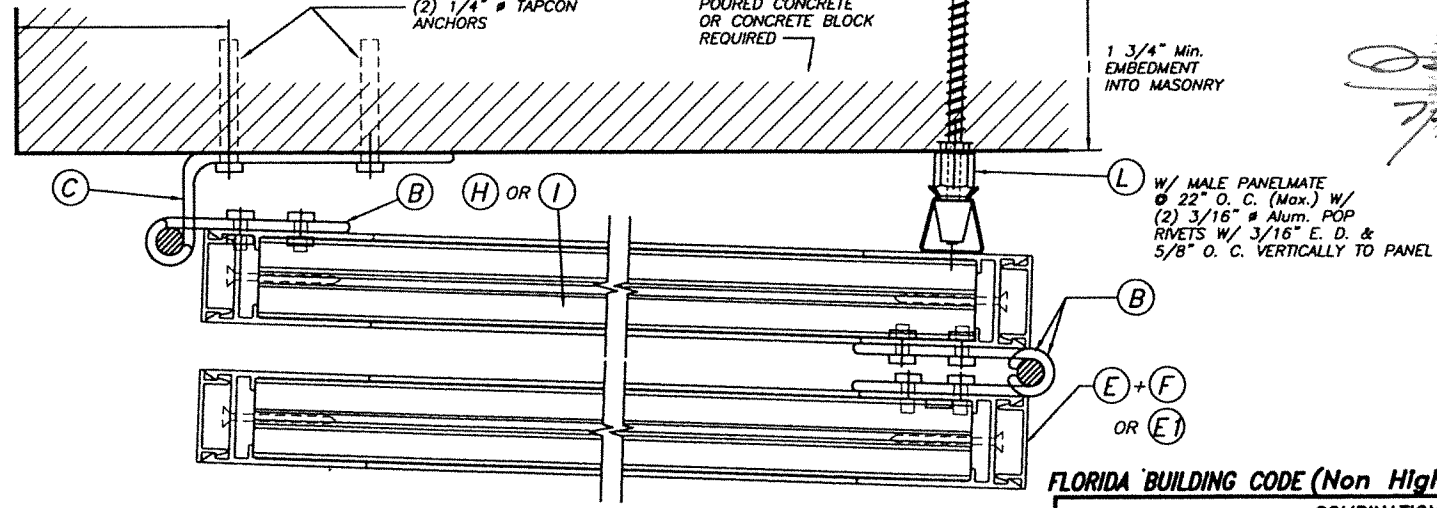
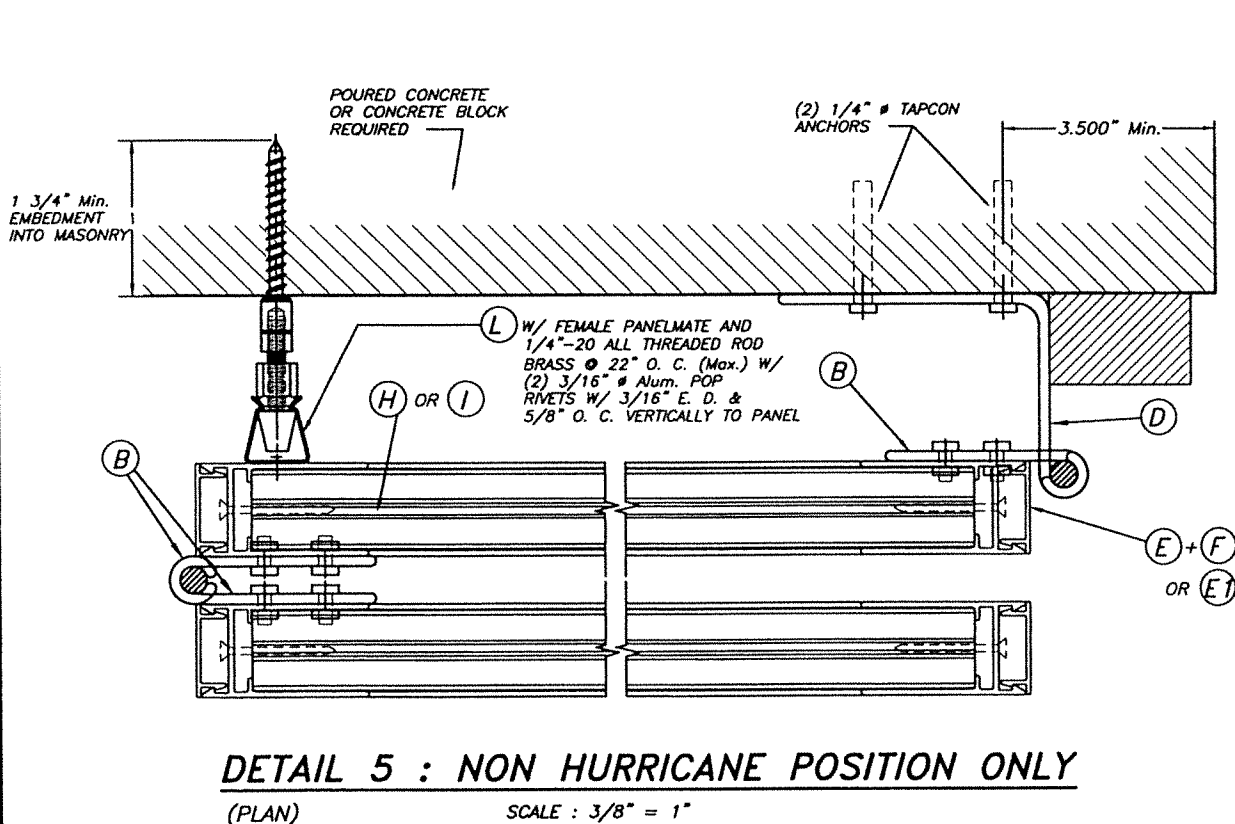
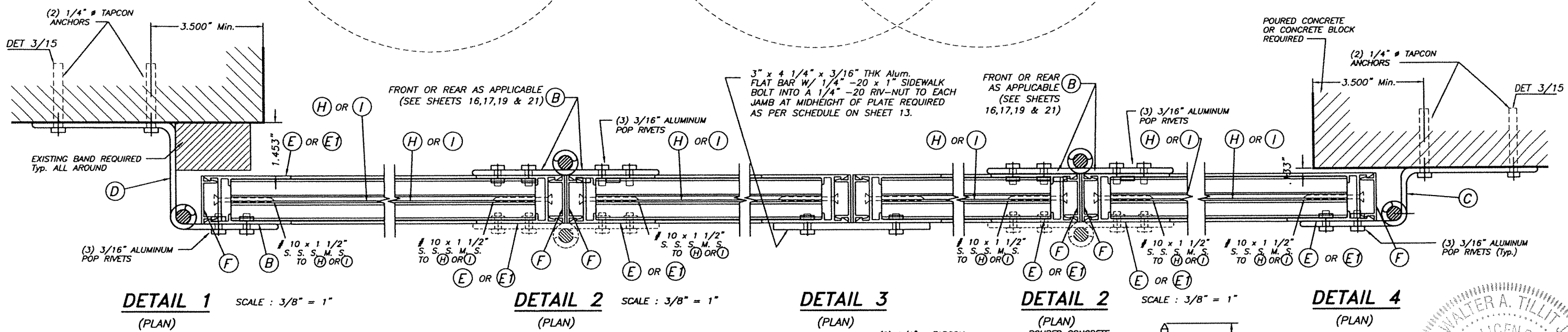
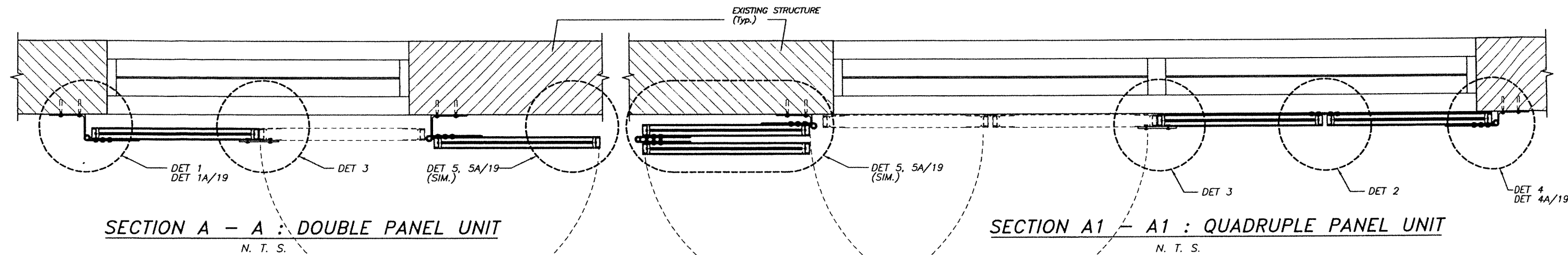
TILTECO INC.

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

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER (WITH CLIPS)			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			23-131 DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-167	7/21/23	3		
2			4		



ALTERNATE DETAIL 5 :
NON HURRICANE
POSITION ONLY
(PLAN) SCALE : 3/8" = 1"

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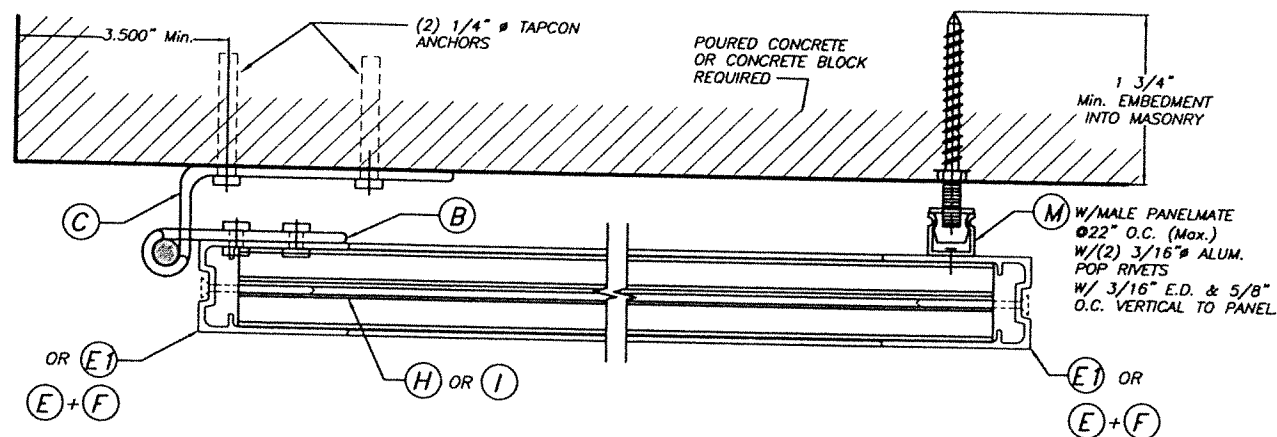
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FLORIDA 33166
Phone : (305)871-1530 Fax : (305)871-1531
e-mail: tillitco@aol.com
CA-0006719
WALTER A. TILLIT JR., P.E.
FLORIDA Lic. # 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

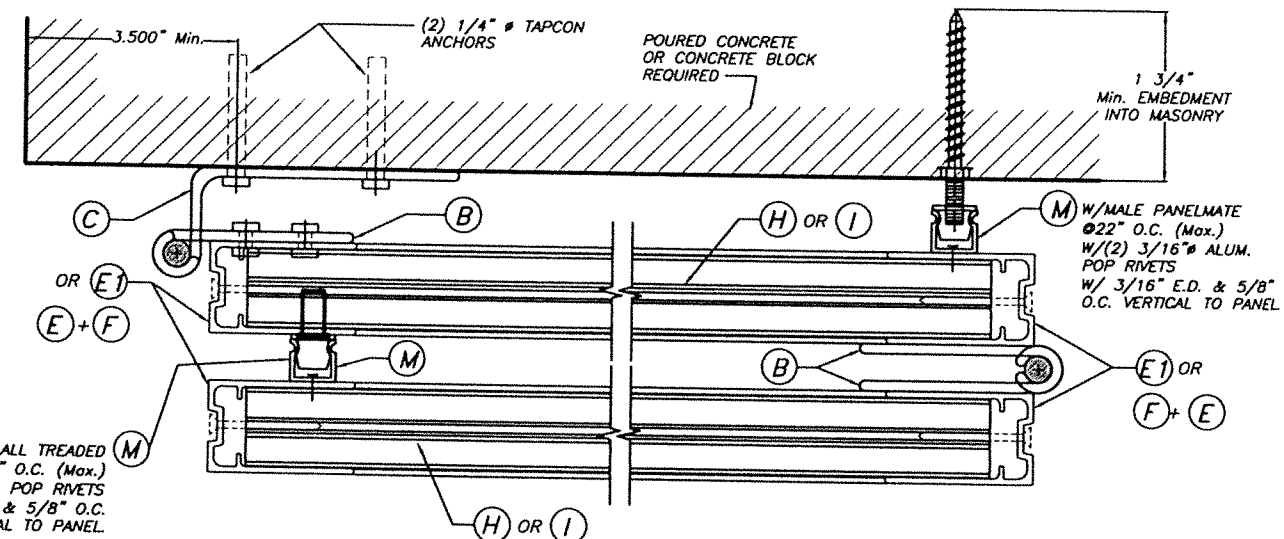
COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER (WITH CLIPS)			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			23-131 DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-167	7/21/23	3		
2			4		

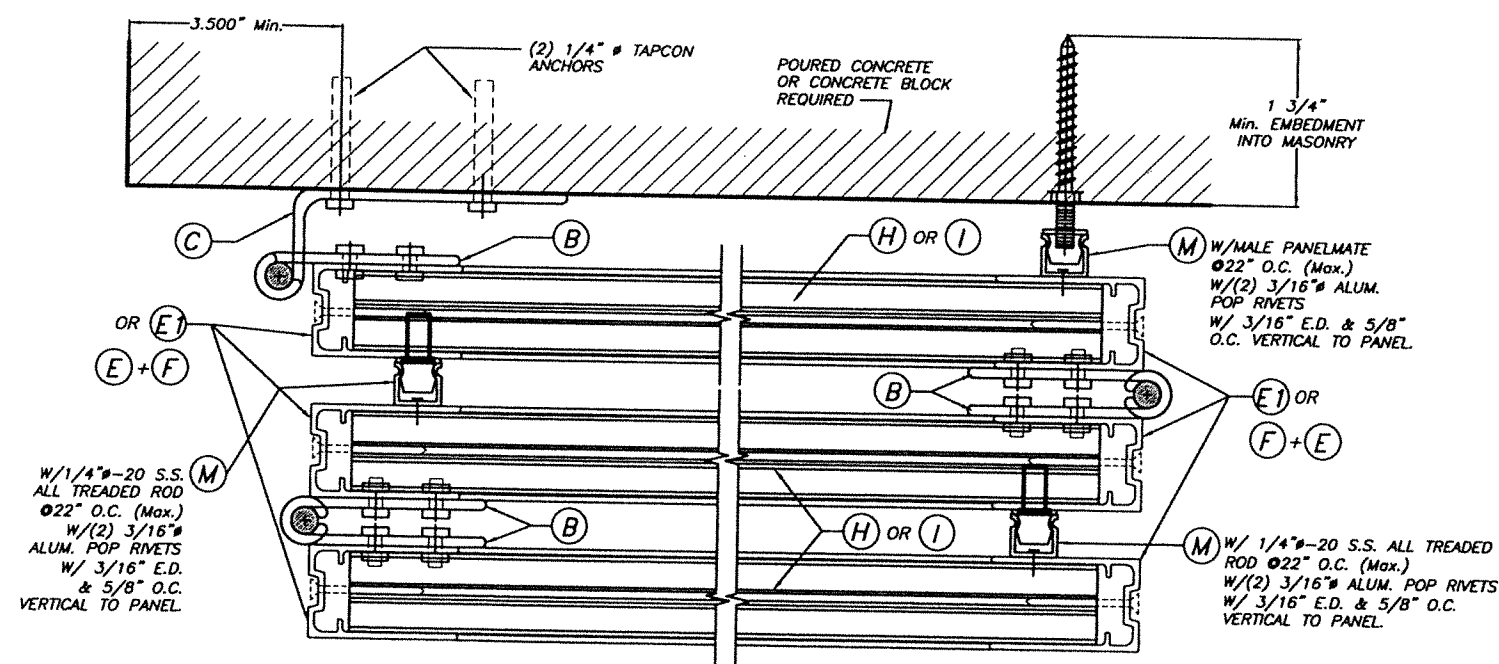
SHEET 16 OF 33



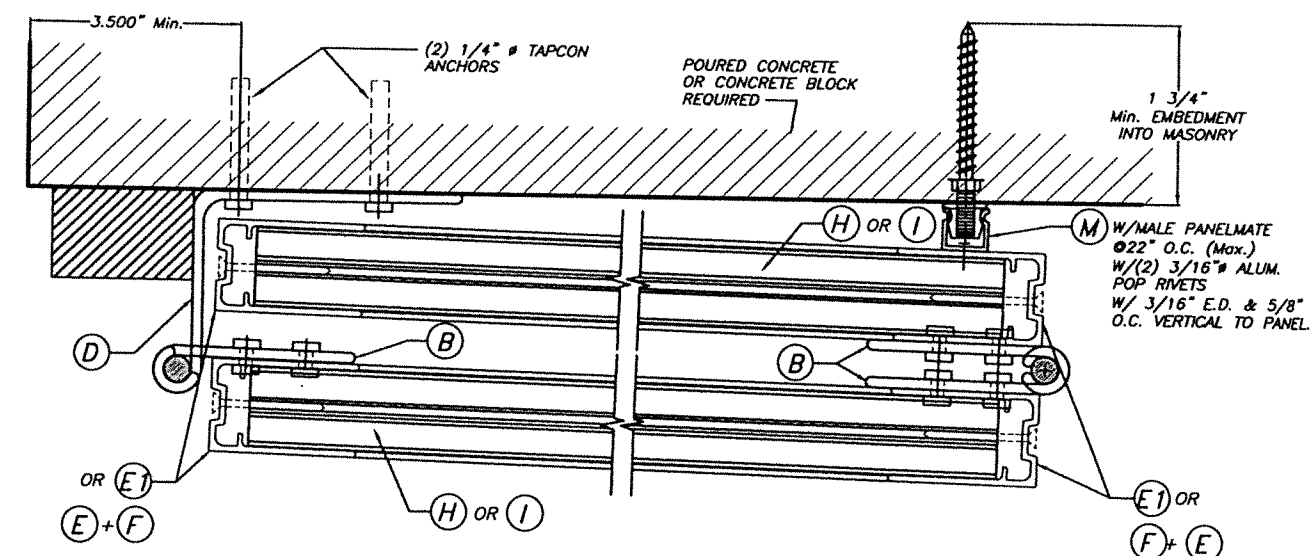
DETAIL 6: NON HURRICANE POSITION ONLY
(PLAN) SCALE : 3/8" = 1"



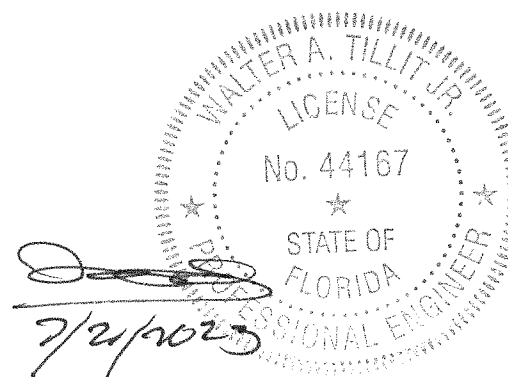
DETAIL 8: NON HURRICANE POSITION ONLY
(PLAN) SCALE : 3/8" = 1"



**DETAIL 7: NON HURRICANE POSITION ONLY
FOR INSTALLATION AT QUADRUPLE PANEL ONLY**
(W/ B (Max.) = 18")
(PLAN) SCALE : 3/8" = 1"



ALTERNATE DETAIL 8: NON HURRICANE POSITION ONLY
(PLAN) SCALE : 3/8" = 1"



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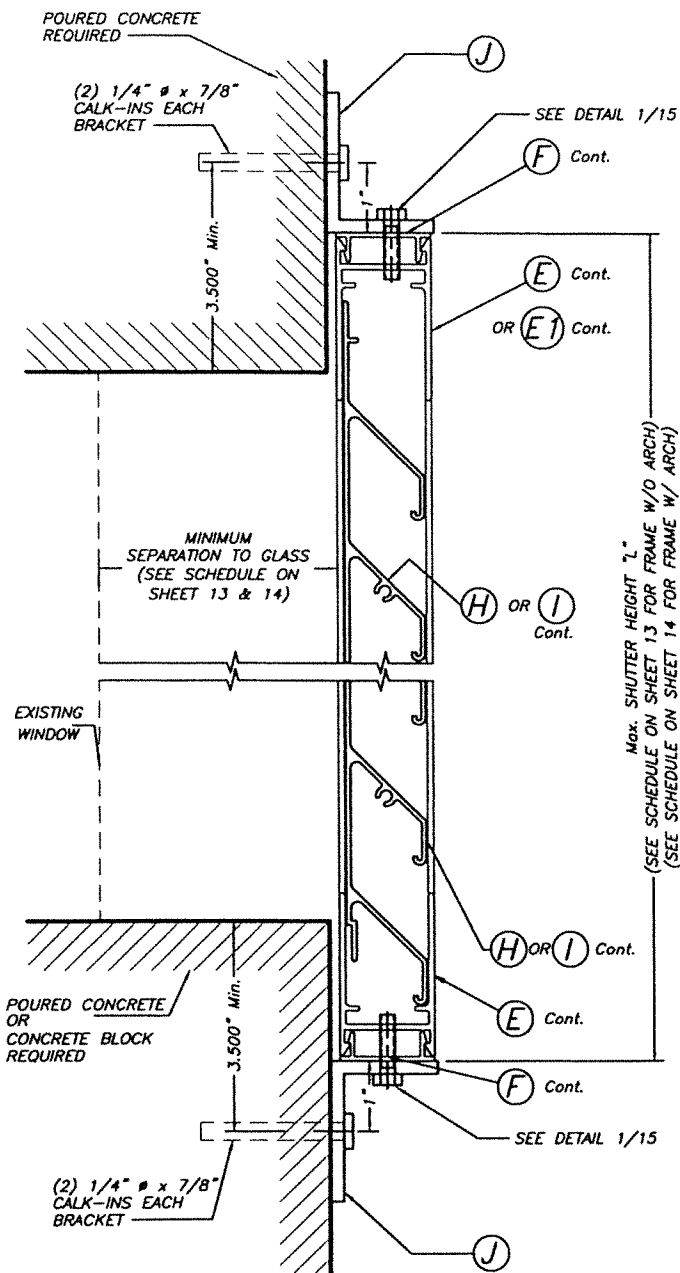
TILTECO INC.

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

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

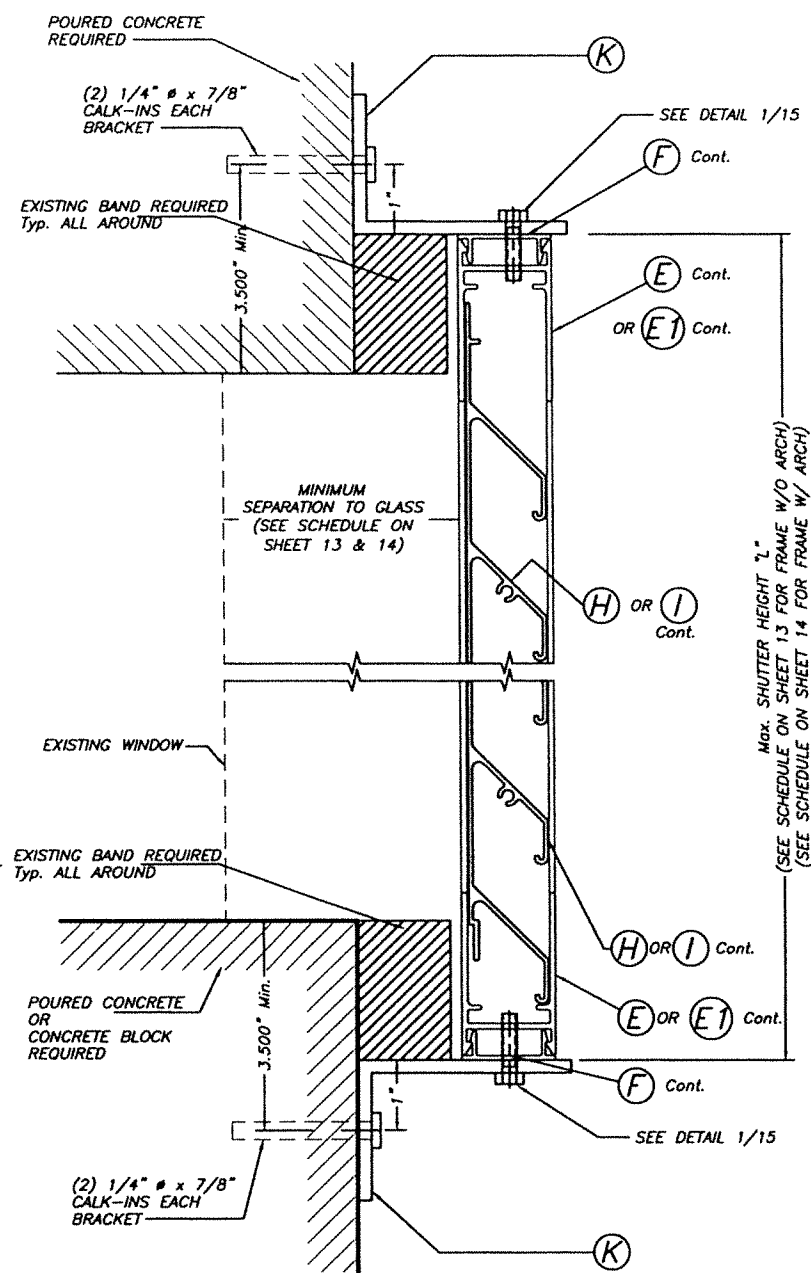
COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER (WITH CLIPS)				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				23-131 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-187	7/21/23	3		
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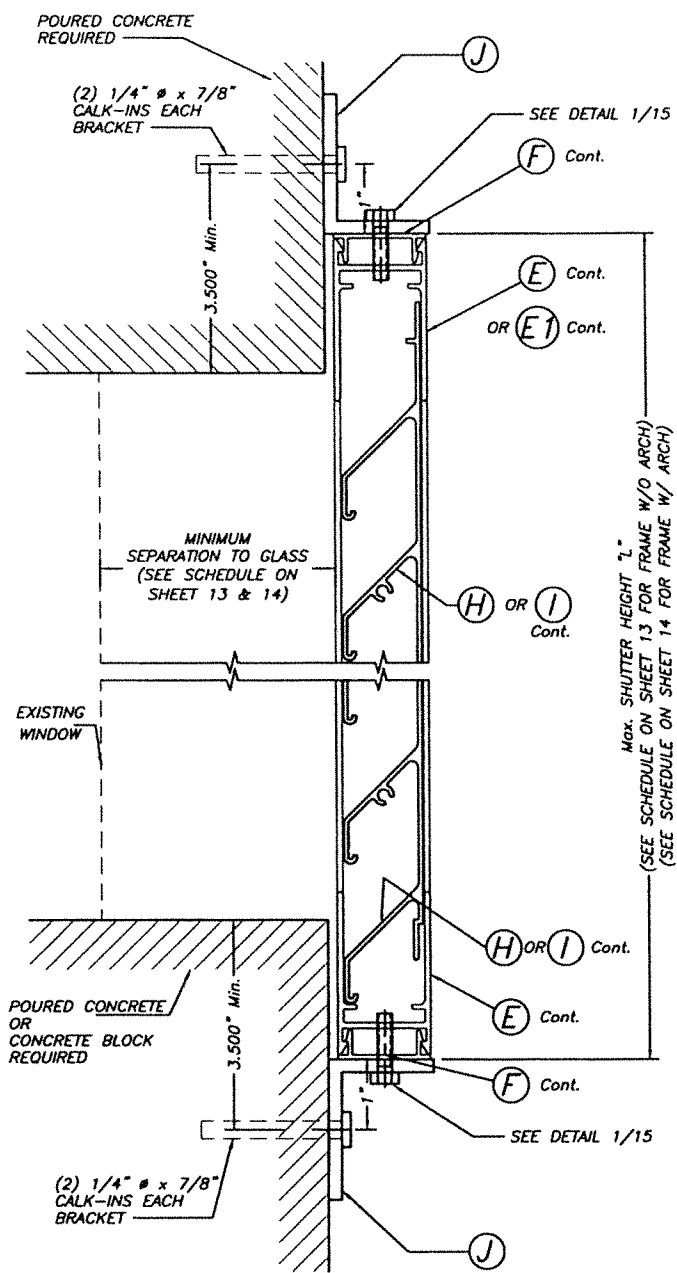
SECTION B - B (FLUSH MOUNT)

HURRICANE POSITION
SCALE: 3/8" = 1"



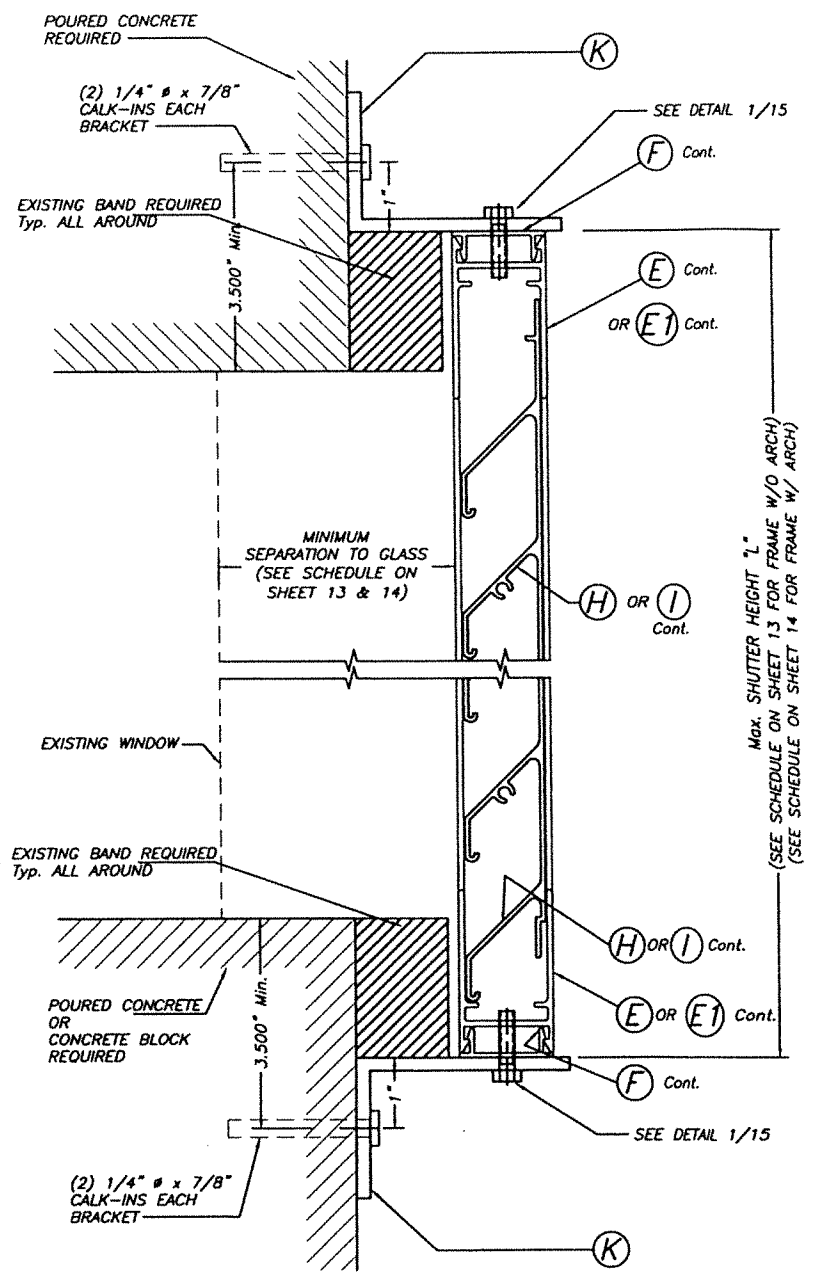
SECTION C - C (BUILD-OUT)

HURRICANE POSITION
SCALE: 3/8" = 1"



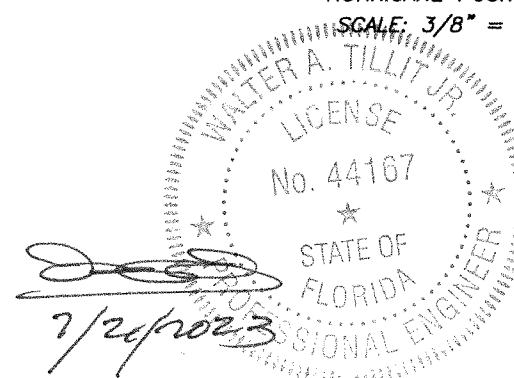
SECTION D - D (FLUSH MOUNT)

SHUTTER BLADE REVERSELY ORIENTED
HURRICANE POSITION
SCALE: 3/8" = 1"



SECTION E - E (BUILD-OUT)

SHUTTER BLADE REVERSELY ORIENTED
HURRICANE POSITION
SCALE: 3/8" = 1"

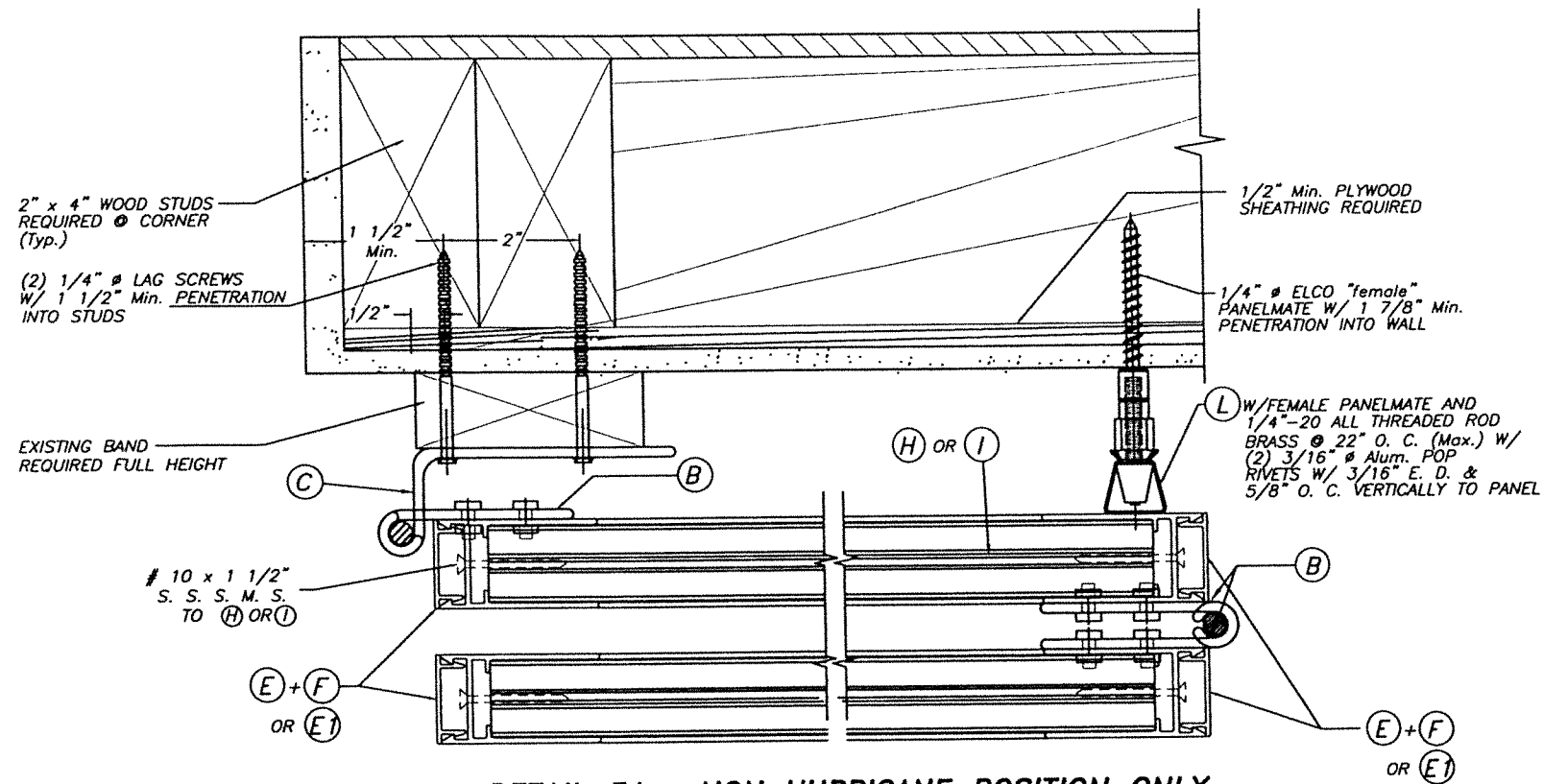


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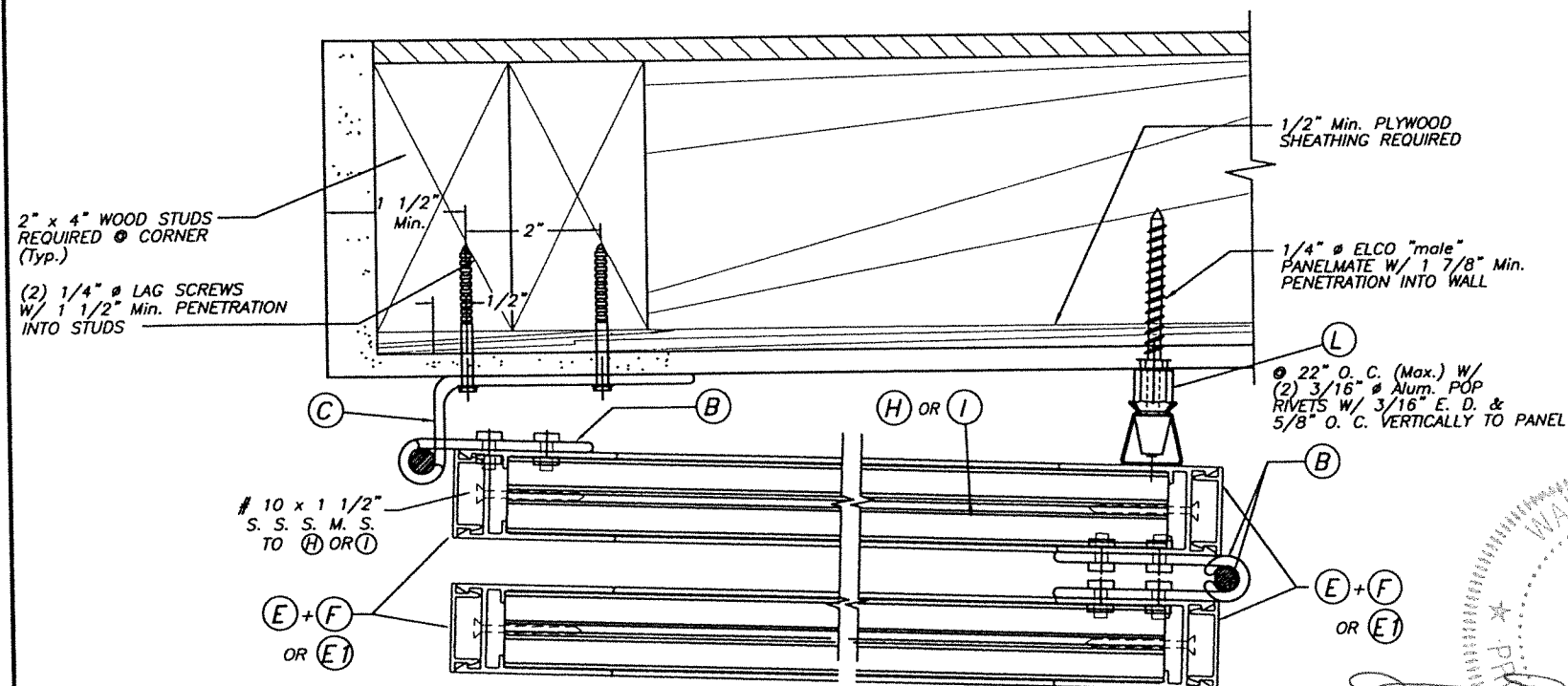
FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

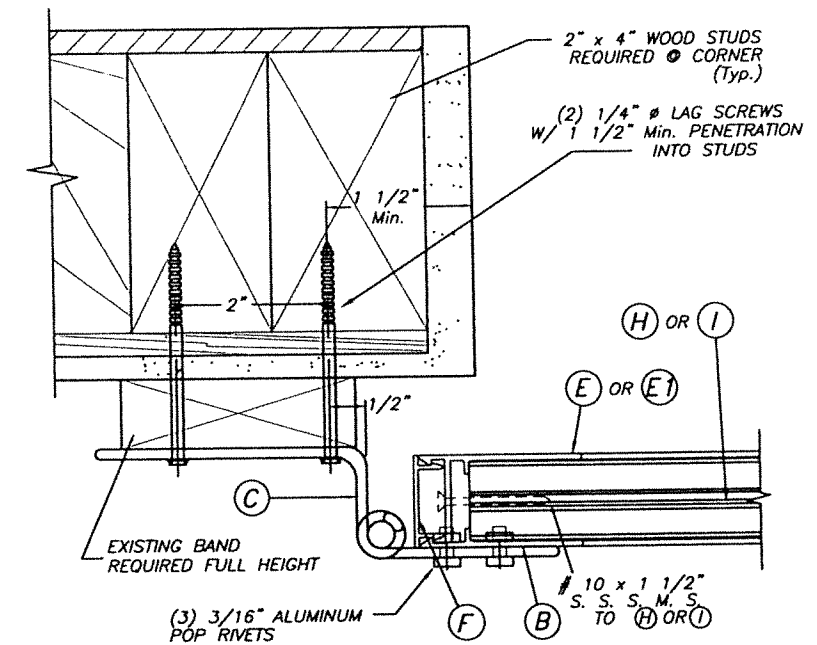
ASSA / BERTHA COLONIAL SHUTTER (WITH CLIPS)				Y.M.
AMERICAN SHUTTER SYSTEMS ASSOC., INC.				DRAWN BY:
4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (800) 432-2204 FAX: (561) 209-8380				7/21/2023
				DATE:
				23-131
				DRAWING No
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION
1	OLD 20-167	7/21/23	3	
2			4	
				SHEET 18 OF 33



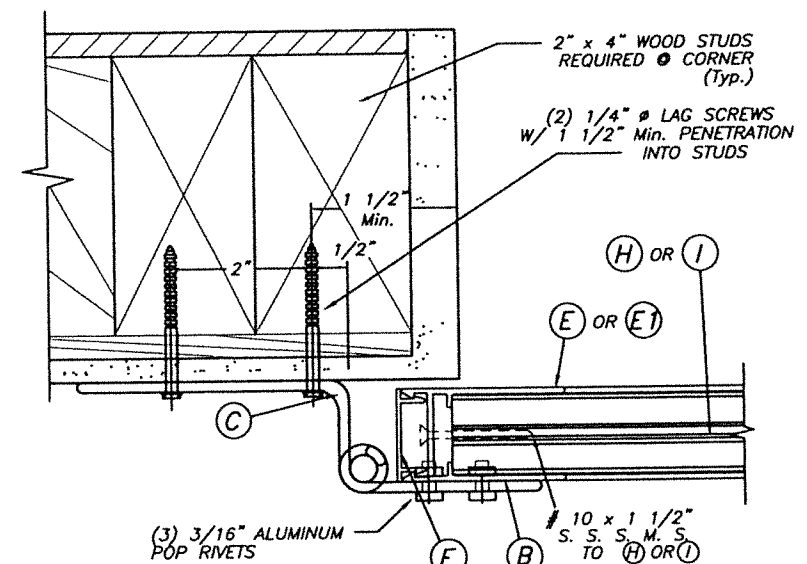
DETAIL 5A : NON HURRICANE POSITION ONLY
(PLAN) SCALE : 1/4" = 1"



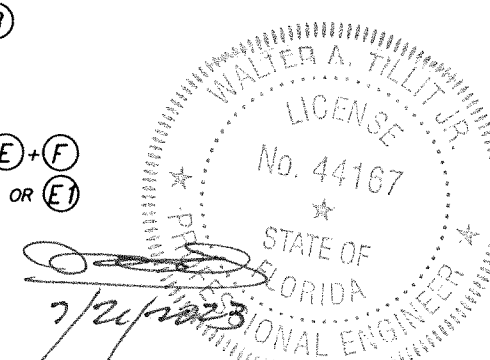
ALTERNATE DETAIL 5A : NON HURRICANE POSITION ONLY
(PLAN) SCALE : 1/4" = 1"



DETAIL 1A SCALE : 1/4" = 1"
(PLAN)



DETAIL 4A
(PLAN)



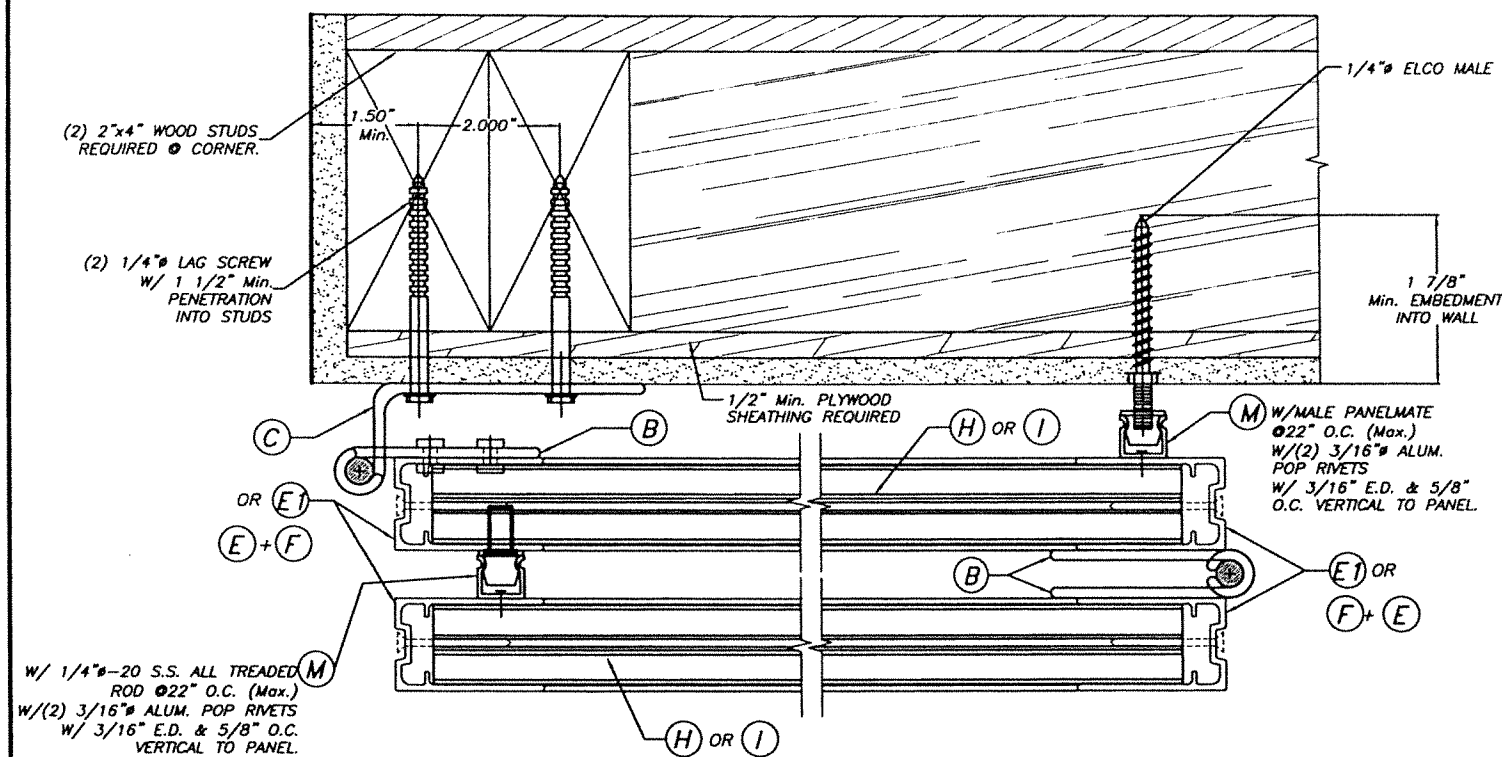
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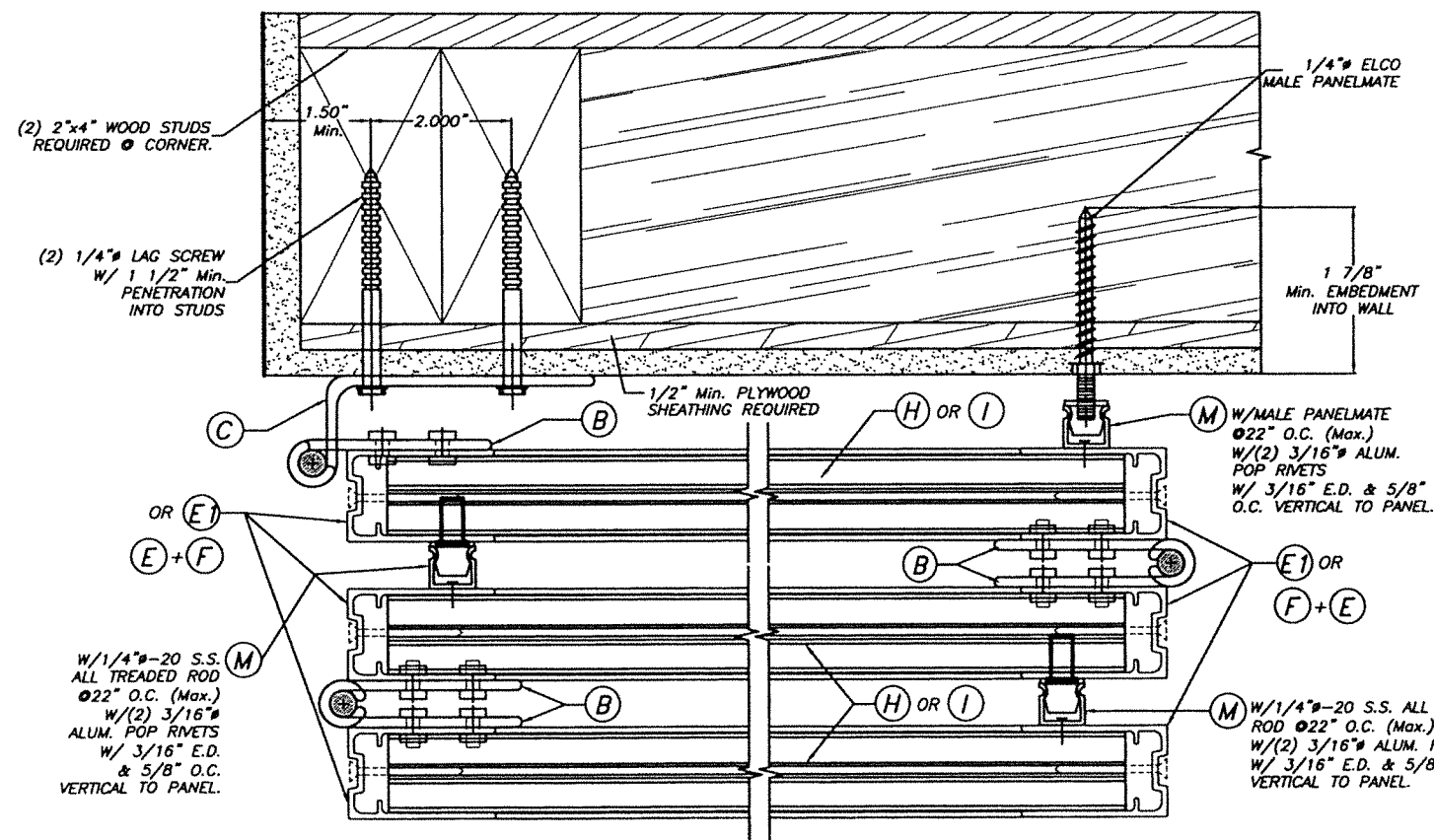
TILLIT TESTING & ENGINEERING COMPANY
6335 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FLORIDA 33166
Phone : (305)871-1530 Fax : (305)871-1531
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FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)					
COMBINATION DRAWING:					
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)				Y.M.	
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)				DRAWN BY:	
ASSA / BERTHA COLONIAL SHUTTER (WITH CLIPS)				7/21/2023	
AMERICAN SHUTTER SYSTEMS ASSOC., INC.				DATE:	
4268 WEST ROADS DRIVE				23-131	
WEST PALM BEACH, FL. 33407				DRAWING No	
PHONE: (800)432-2204				SHEET 19 OF 33	
FAX: (561)209-8380					
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-187	7/21/23	3		
2			4		

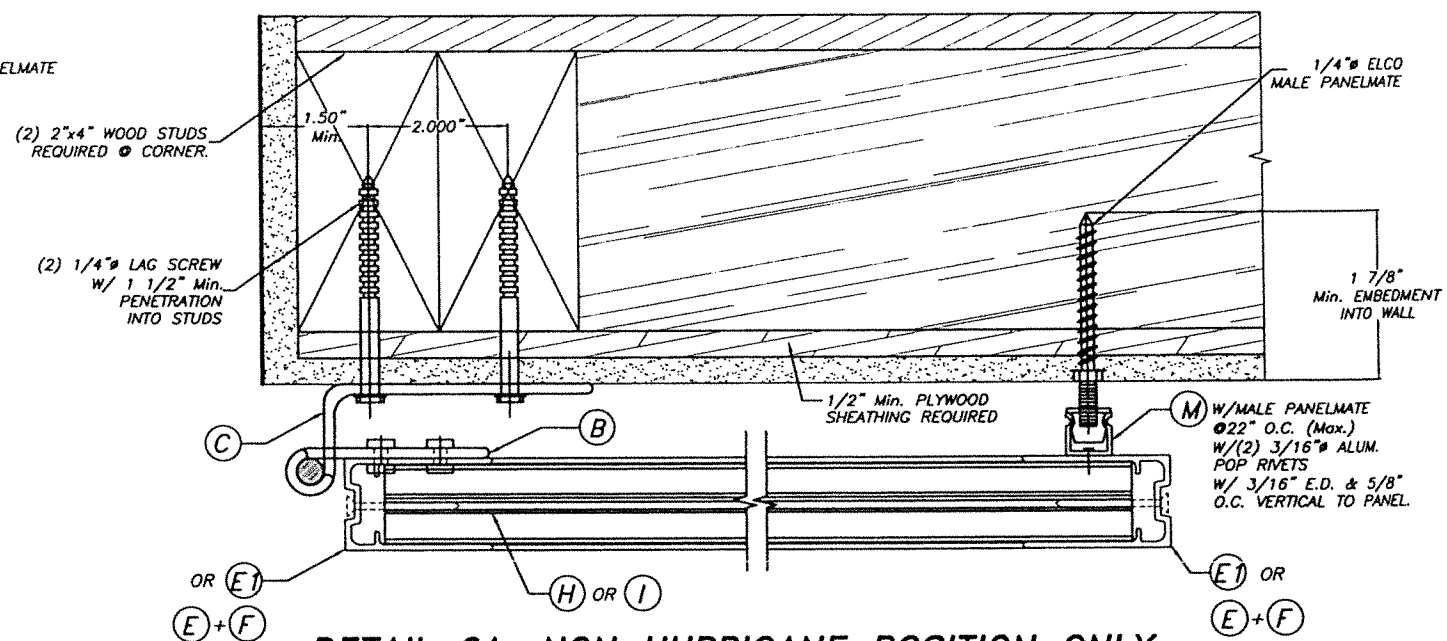
INSTALLATION DETAILS ON EXISTING WOOD FRAME BUILDINGS



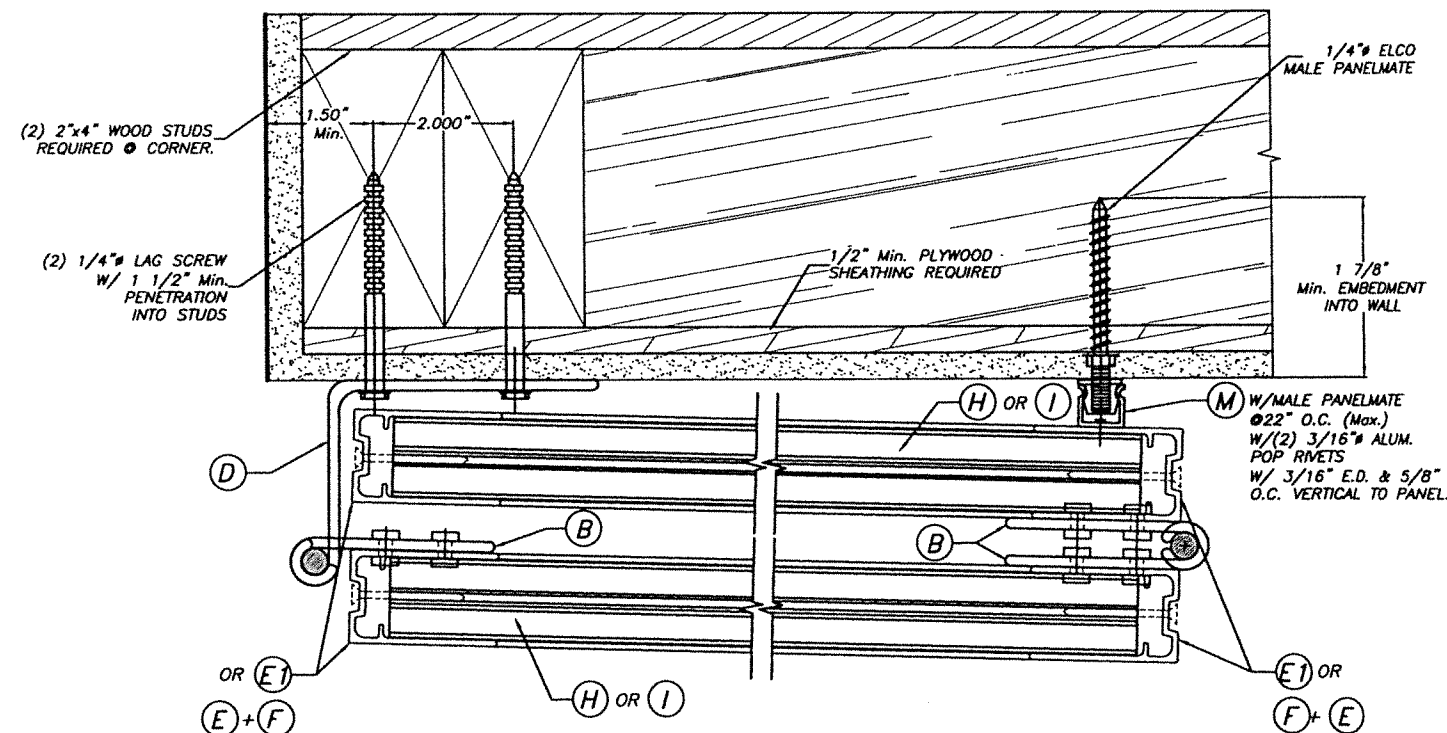
DETAIL 8A: NON HURRICANE POSITION ONLY
(PLAN) SCALE : 3/8" = 1"



DETAIL 7A: NON HURRICANE POSITION ONLY
(PLAN) SCALE : 3/8" = 1"



DETAIL 6A: NON HURRICANE POSITION ONLY
(PLAN) SCALE : 3/8" = 1"



ALTERNATE DETAIL 8A: NON HURRICANE POSITION ONLY
(PLAN) SCALE : 3/8" = 1"

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

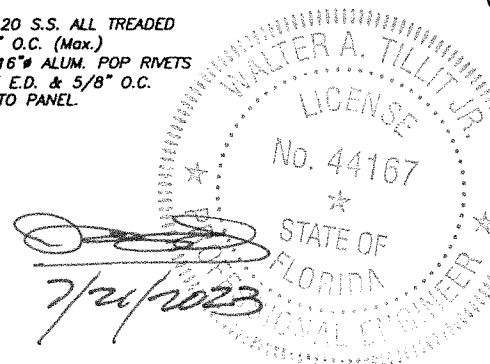
ASSA / BERTHA COLONIAL SHUTTER (WITH CLIPS)		Y.M. DRAWN BY:			
AMERICAN SHUTTER SYSTEMS ASSOC., INC. 4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (800)432-2204 FAX: (561)209-8380		7/21/2023 DATE:			
		23-131 DRAWING No			
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-167	7/21/23	3		
2			4		

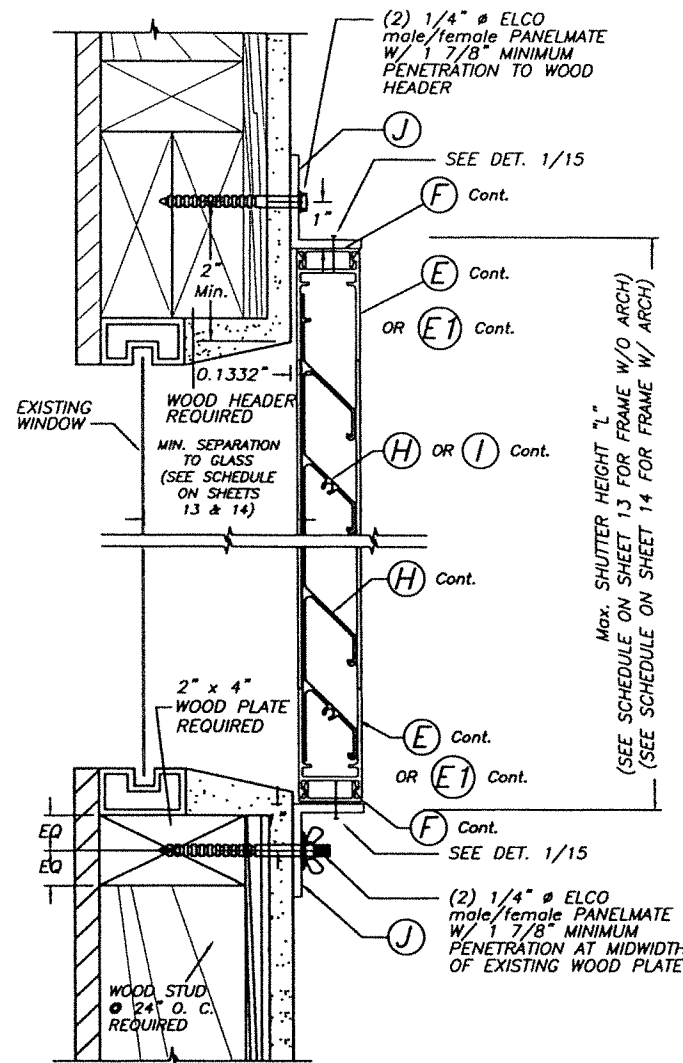
SHEET 20 OF 33

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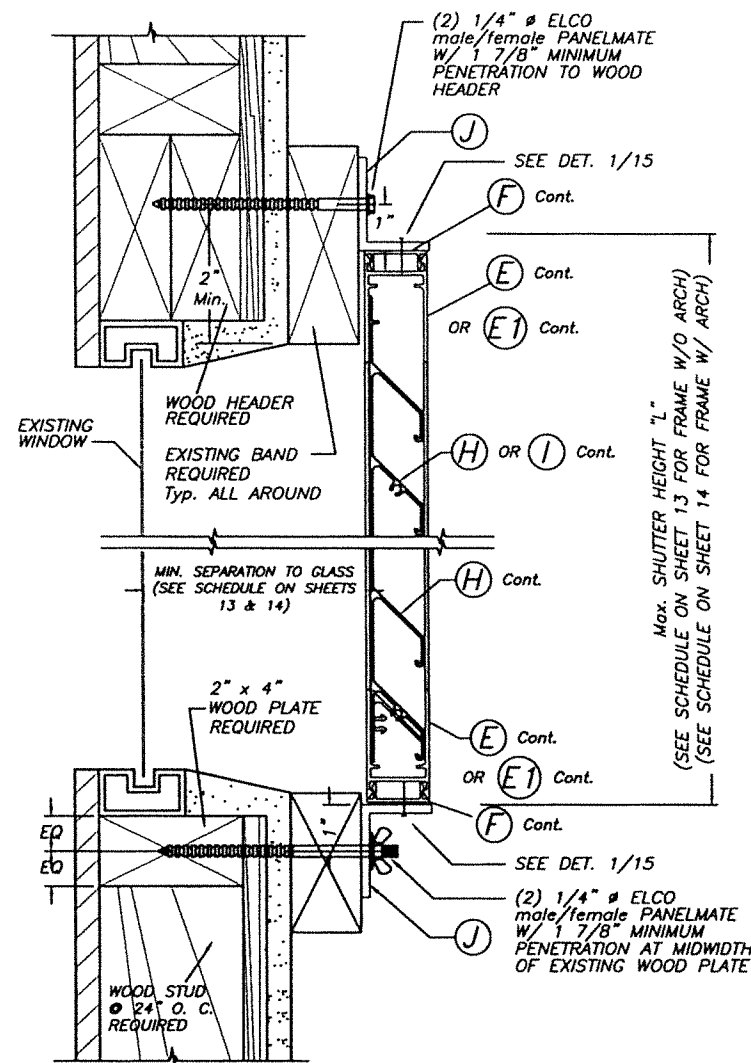
TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 303, VIRGINIA GARDENS, FLORIDA 33166
Phone: (305)871-1530 Fax: (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

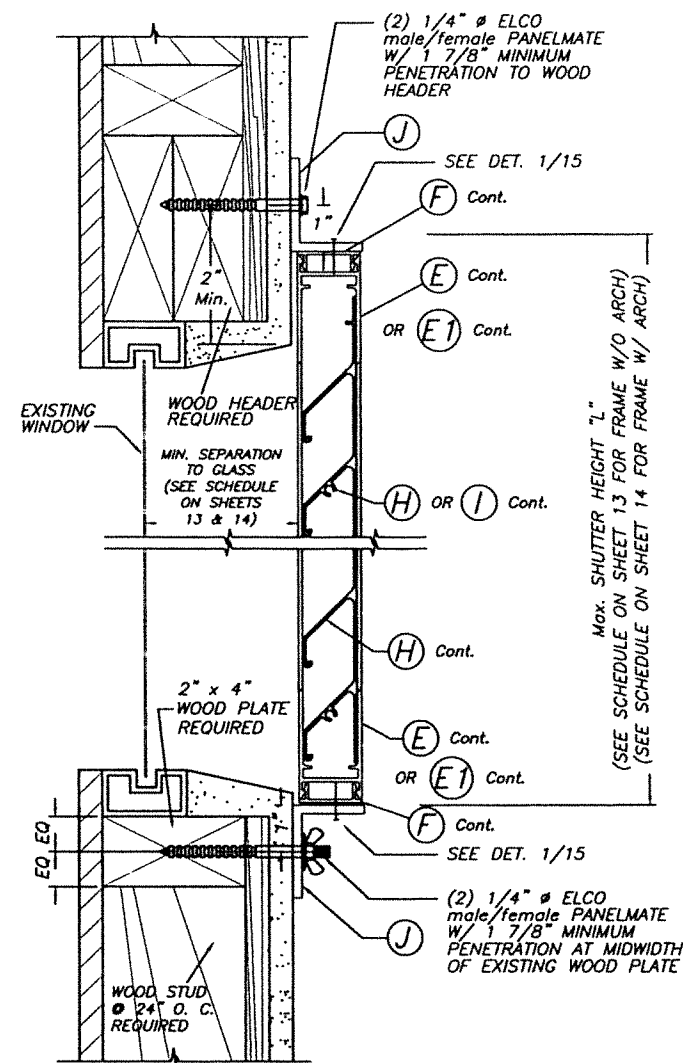




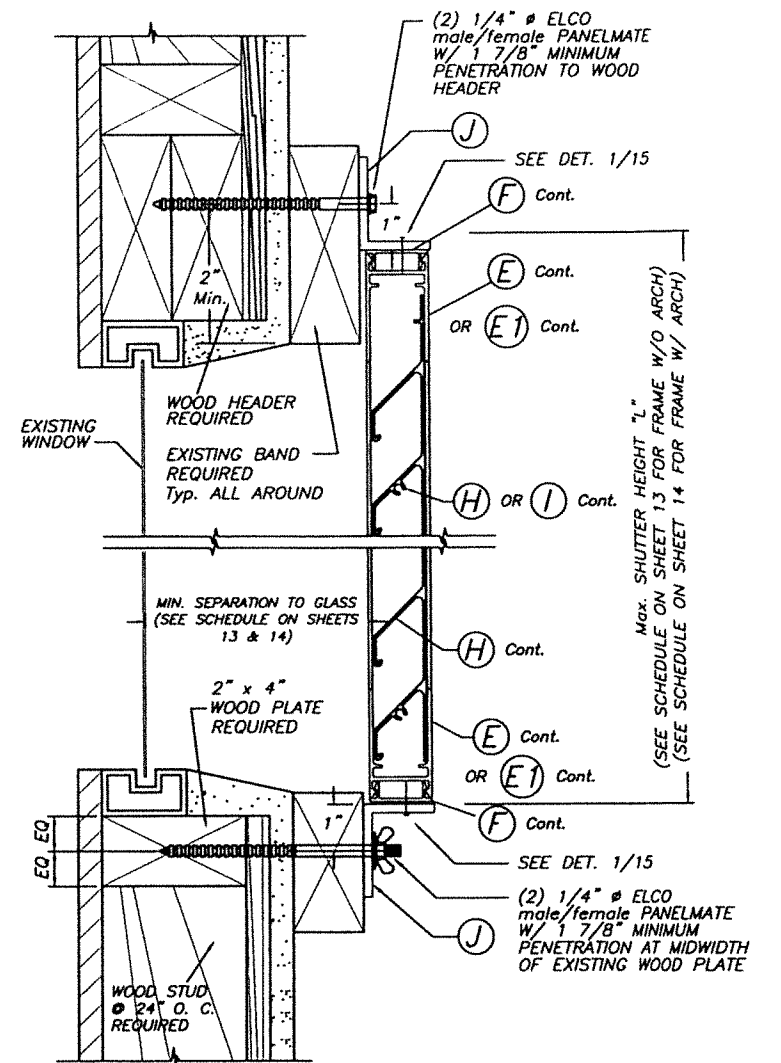
SECTION B' - B' (FLUSH MOUNT)
HURRICANE POSITION
SCALE: 1/4" = 1"



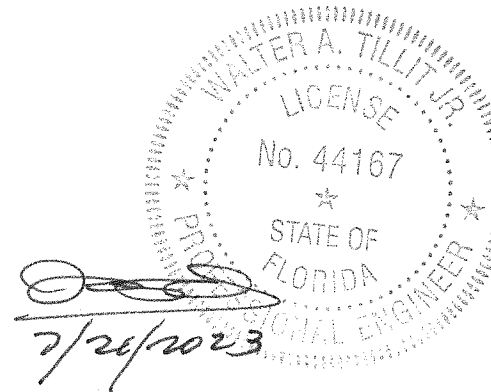
SECTION C' - C' (BUILD-OUT MOUNT)
HURRICANE POSITION
SCALE: 1/4" = 1"



SECTION D' - D' (FLUSH MOUNT)
SHUTTER BLADE REVERSELY ORIENTED
HURRICANE POSITION
SCALE: 1/4" = 1"



SECTION E' - E' (BUILD-OUT MOUNT)
SHUTTER BLADE REVERSELY ORIENTED
HURRICANE POSITION
SCALE: 1/4" = 1"



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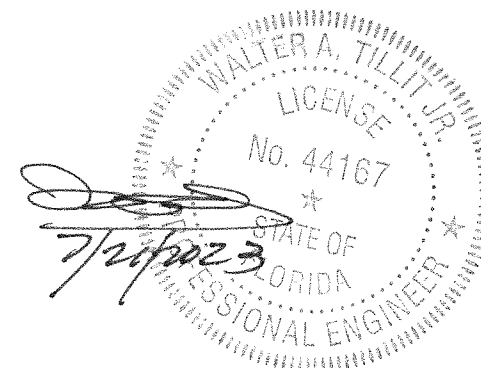
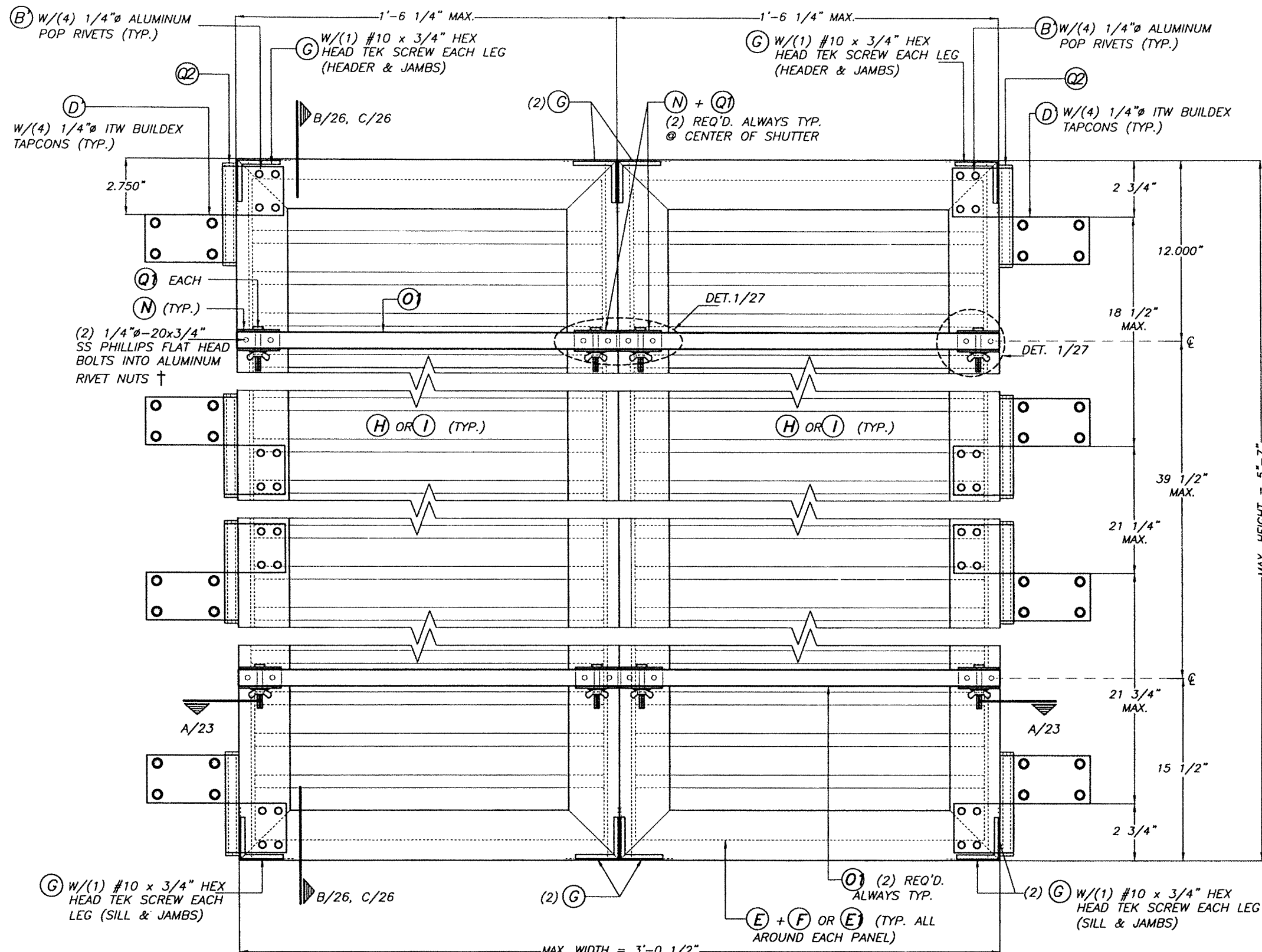
TILTECO INC.

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Phone: (305)871-1530 Fax: (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER (WITH CLIPS)			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			23-131 DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-167	7/21/23	3		
2			4		
			SHEET 21 OF 33		



†: 1/4"φ-20x3/4", AS DISTRIBUTED BY ALL
POINT SCREW, BOLT AND SPECIALTY CO.
(PART # 25CRFNA)

TYPICAL EXTERIOR ELEV. DOUBLE PANEL (HURRICANE POSITION)

SCALE: 3/16"=1"

MAXIMUM A.S.D. DESIGN PRESSURE RATING = +60.0, -81.0 p.s.f. FOR
INSTALLATION INTO CONCRETE OR CONCRETE BLOCK WALL SUBSTRATE.

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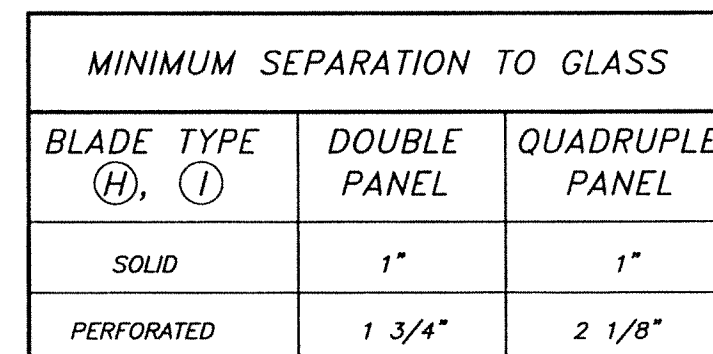
TILTECO INC.

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

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER (WITH STORM BARS)			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			23-131 DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-187	7/21/23	3		
2			4		
			SHEET 22 OF 33		



POURED CONCRETE OR CONCRETE BLOCK WALL REQUIRED.

MAX. WIDTH = 3'-0 1/2"

EDGE OF WALL.

2 1/4" MIN.

1/2"

1 1/2"

EQ.

1 1/2"

EQ.

2.375"

3/8" MIN.

3/8" MIN.

3/4" MIN.

3/8" MIN.

3/8" MIN.

1 1/2"

1"

EQ.

1 1/2"

EQ.

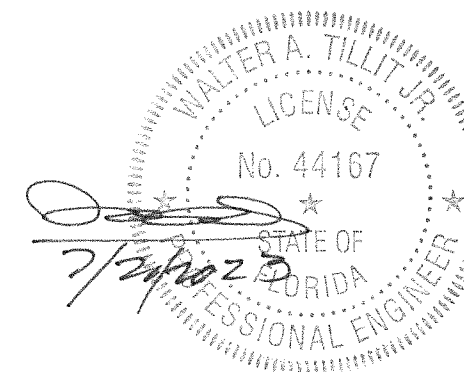
(1) W/(4) 1/4" Ø TAPCONS I.T.W./BUILDEX TO WALL. (TYP.)

(2) 2"x4" WOOD STUDS REQUIRED @ CORNER (Typ.)

(3) W/(2) #10 x 3/4" HEX HEAD TEK SCREW (HEADER & JAMB) TYP.

(4) W/(4) 1/4" Ø TAPCONS I.T.W. BUILDEX W/ 1 1/2" MIN. THREADED PENETRATION TO WOOD

VIEW 1
(PARTIAL ELEVATION AT BOTTOM)
SCALE 1/4"=1"



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER
(WITH STORM BARS)

Y.M.
DRAWN BY:

AMERICAN SHUTTER SYSTEMS ASSOC., INC.

7/21/2023
DATE:

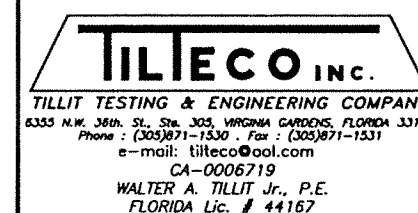
4268 WEST ROADS DRIVE
WEST PALM BEACH, FL. 33407
PHONE: (800)432-2204
FAX: (561)209-8380

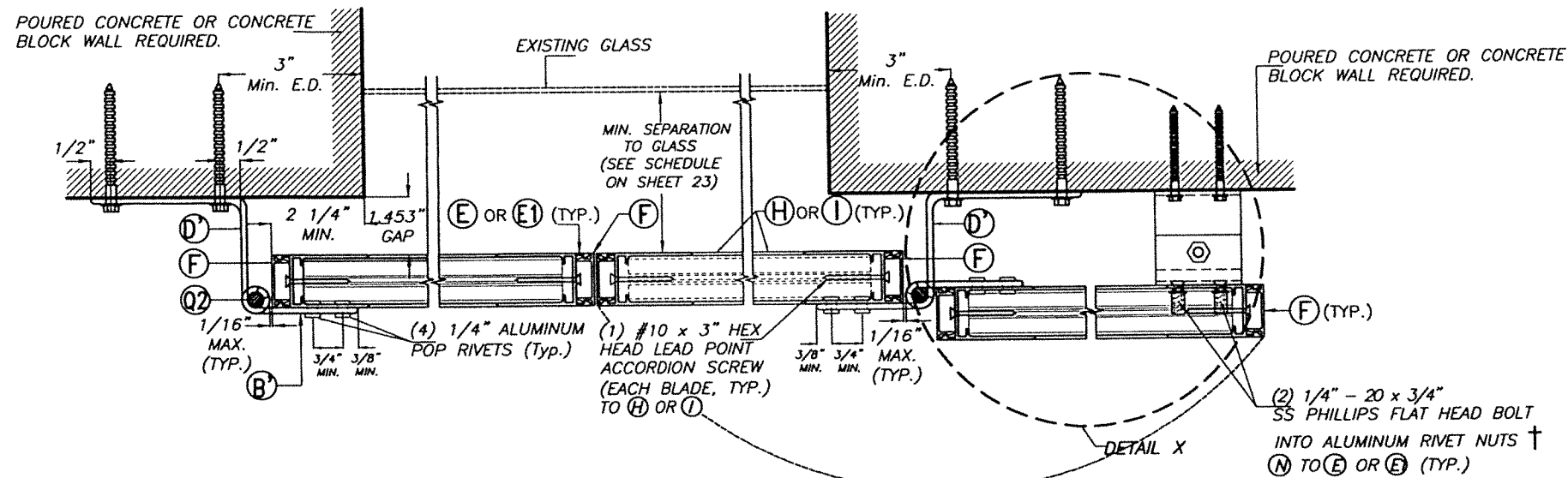
23-131

SHEET 23 OF 33

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	DRAWING No
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2			4			

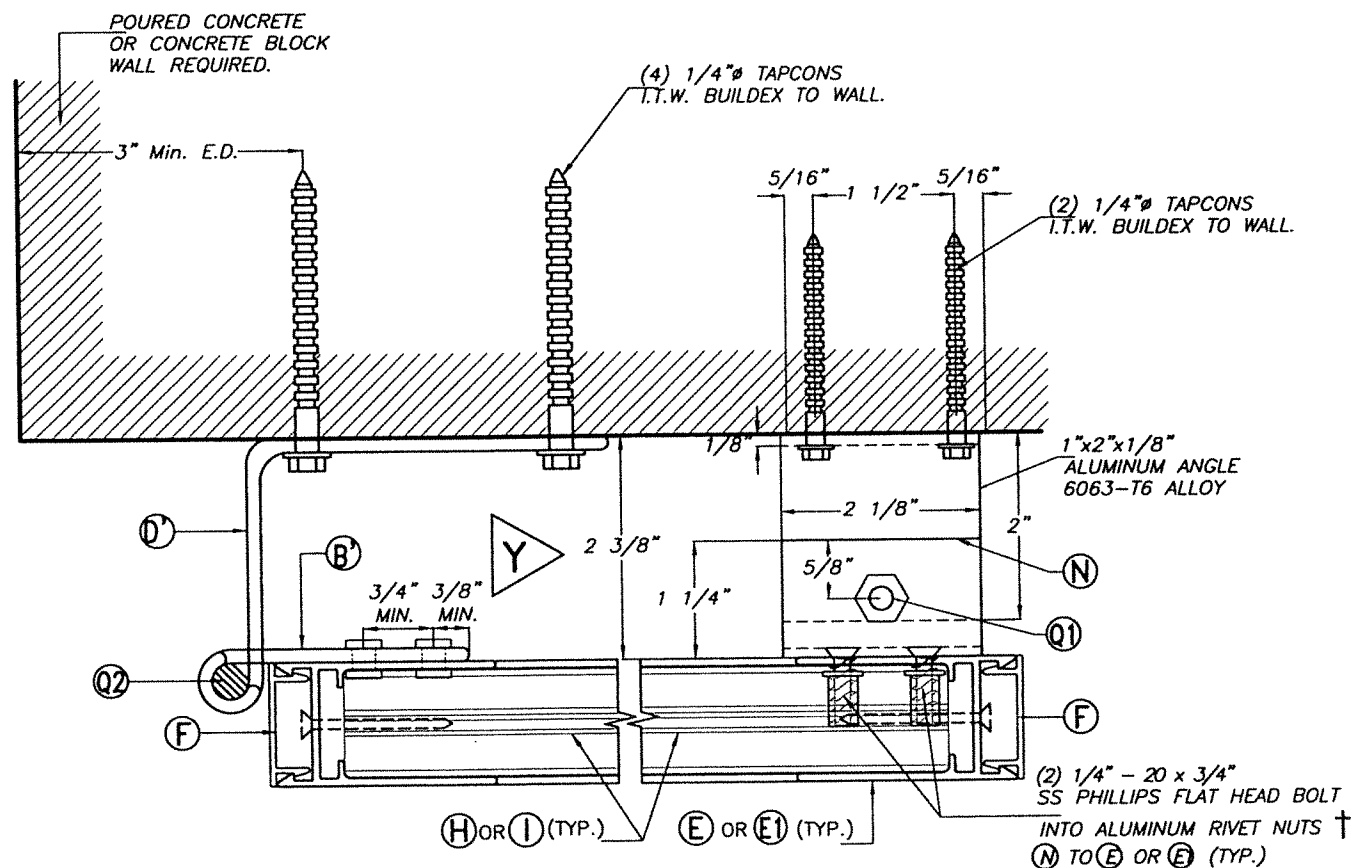
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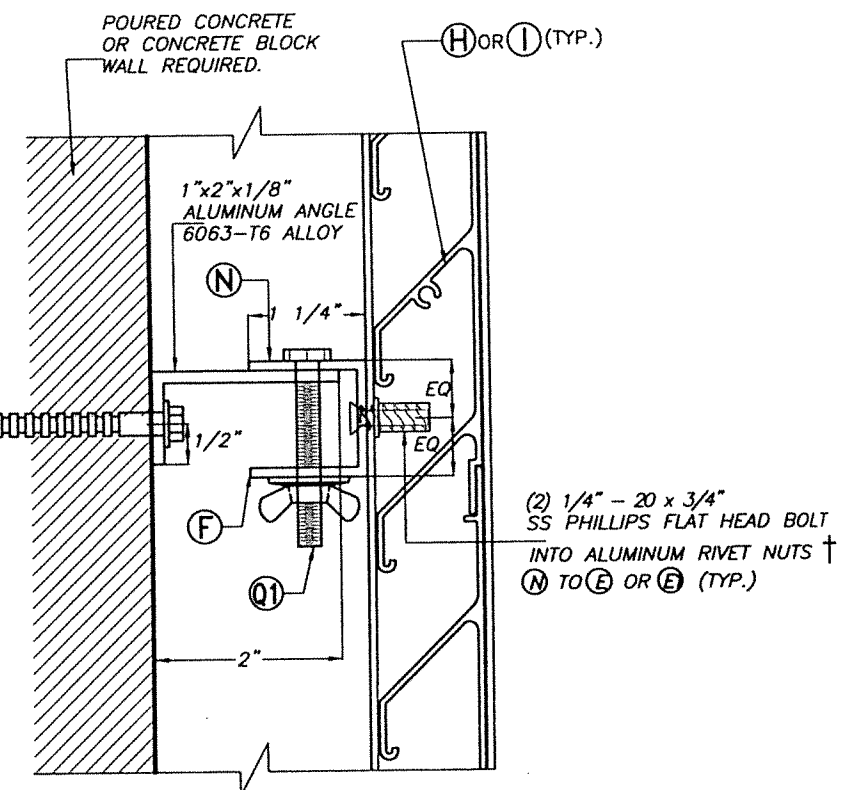
TYPICAL PLAN (NON HURRICANE POSITION)

SCALE 1/4"=1"



DETAIL X (NON HURRICANE POSITION)

SCALE 1/8"=1"



ELEVATION Y-Y

SCALE 1/8"=1"

†: 1/4"-20x3/4", AS DISTRIBUTED BY ALL
POINT SCREW, BOLT AND SPECIALTY CO.
(PART # 25CRFNA)

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

**ASSA / BERTHA COLONIAL SHUTTER
(WITH STORM BARS)**

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:

23-131

DRAWING No

SHEET 24 OF 33

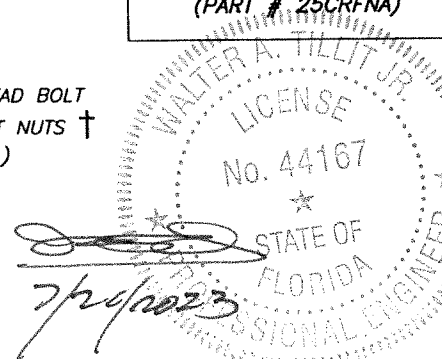
© 2023 TILTECO, INC.

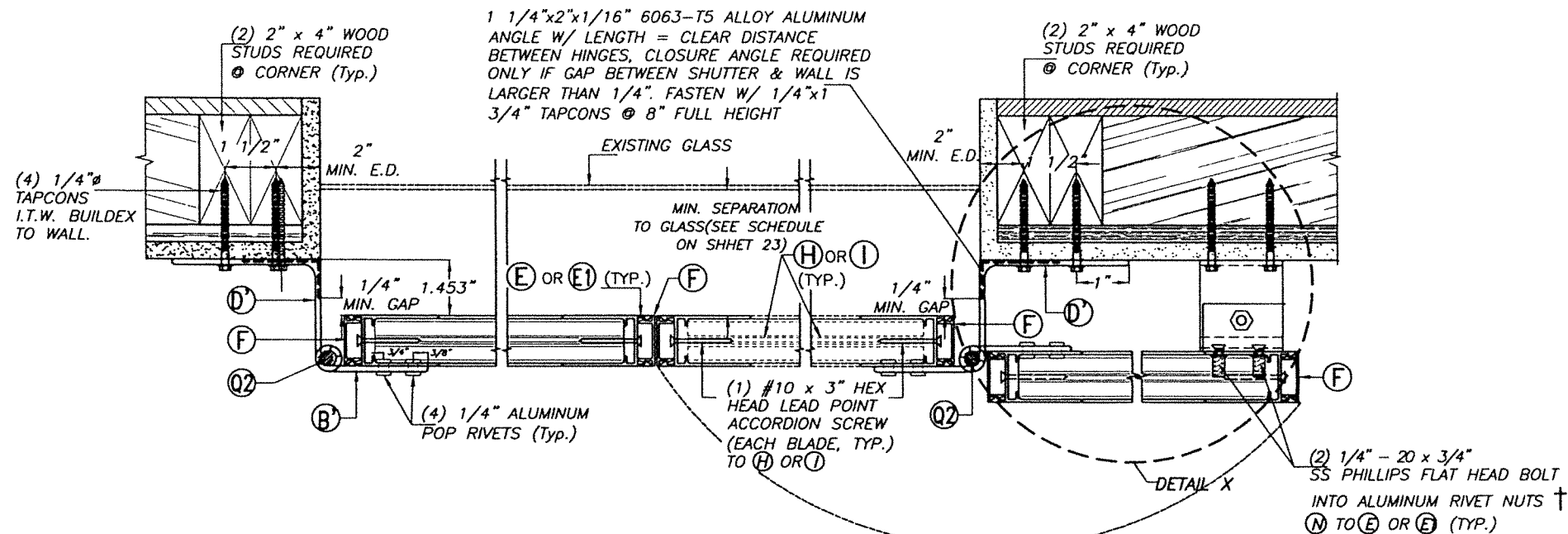
TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 303, VIRGINIA GARDENS, FLORIDA 33166
Phone: (305)871-1530 Fax: (305)871-1531
e-mail: tilteco@aol.com

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

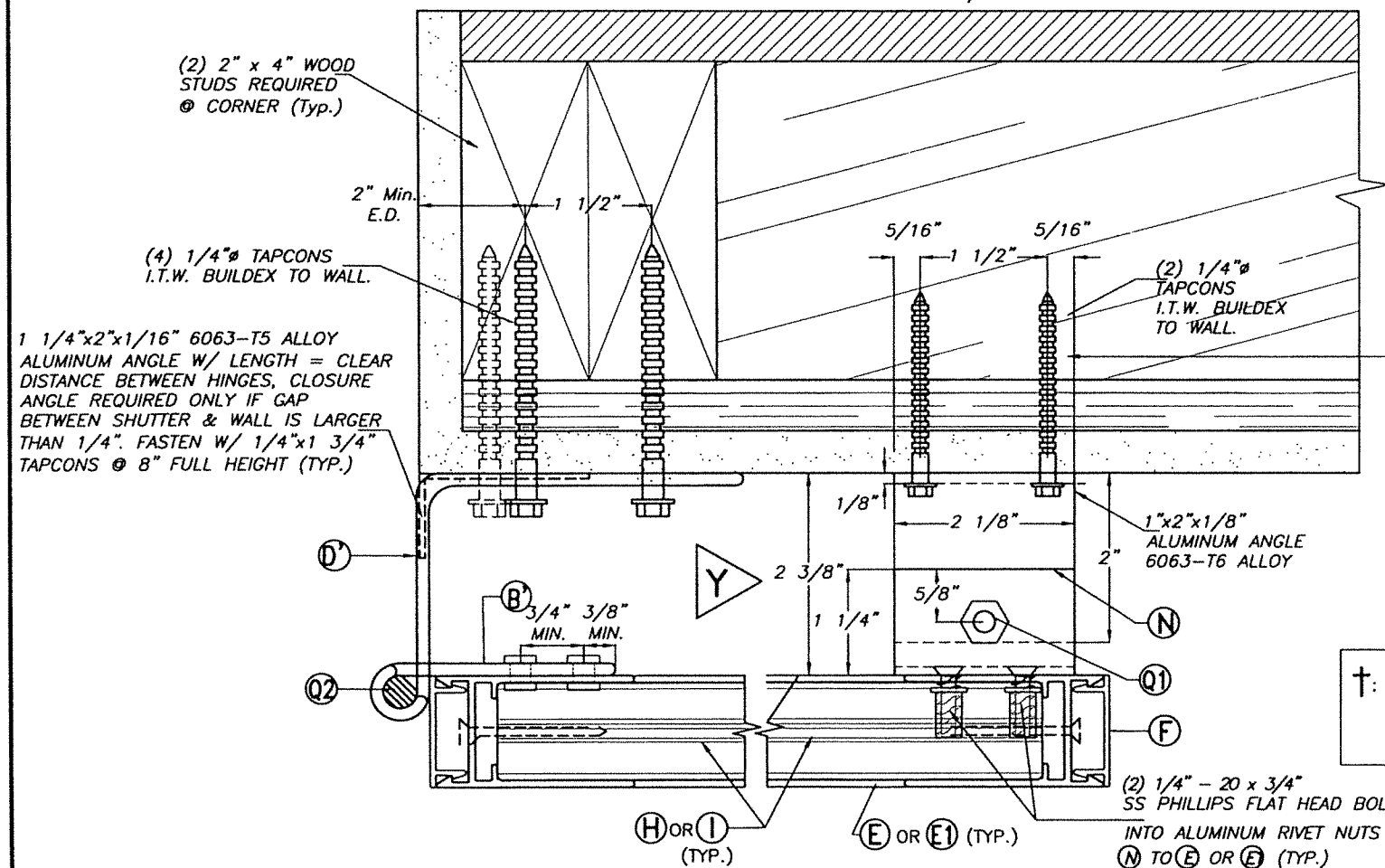
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2			4		





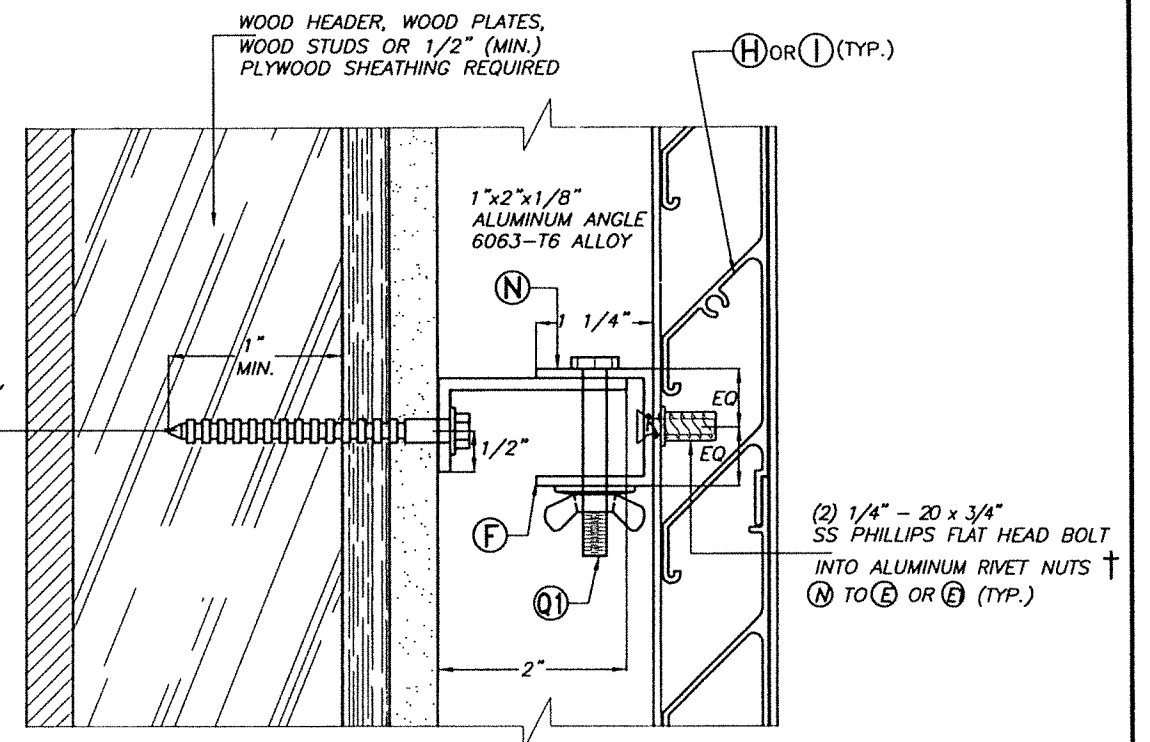
TYPICAL PLAN (NON HURRICANE POSITION)

SCALE 1/4"=1"



DETAIL X (NON HURRICANE POSITION)

SCALE 1/8"=1"



ELEVATION Y-Y

SCALE 1/8"=1"

†: 1/4"-20x3/4", AS DISTRIBUTED BY ALL POINT SCREW, BOLT AND SPECIALTY CO. (PART # 25CRFNA)

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

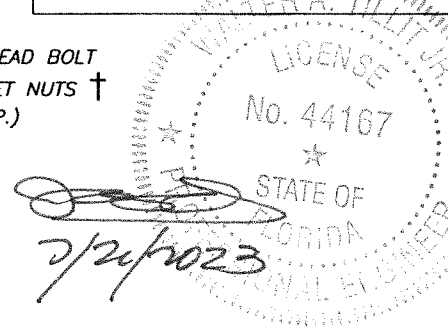
COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

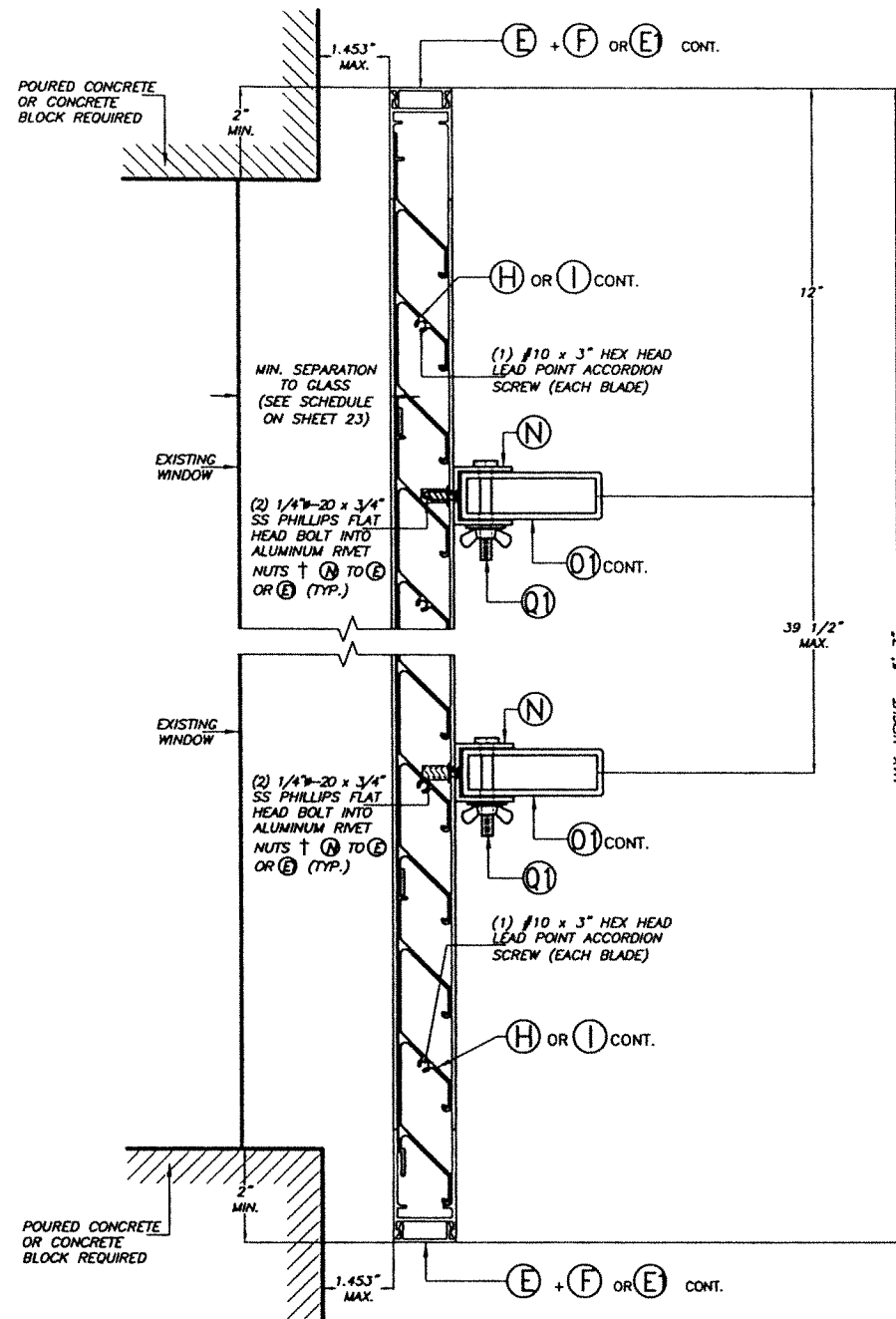
ASSA / BERTHA COLONIAL SHUTTER (WITH STORM BARS)			Y.M. DRAWN BY:		
AMERICAN SHUTTER SYSTEMS ASSOC., INC.			7/21/2023		
4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (800)432-2204 FAX: (561)209-8380			DATE:		
			23-131		
			DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-187	7/21/23	3		
2			4		

SHEET 25 OF 33

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e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILIT Jr., P.E.
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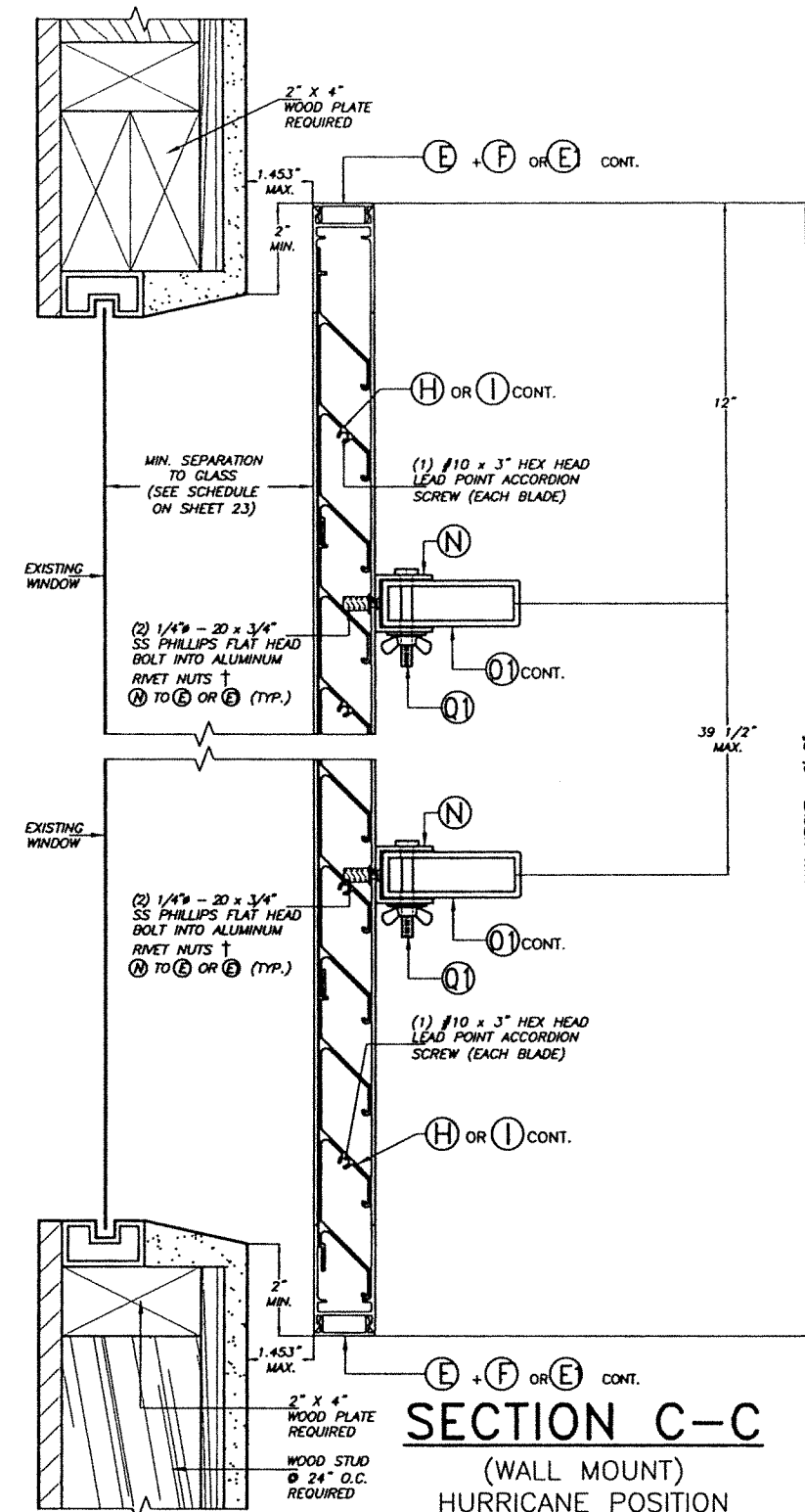




SECTION B-B

(WALL MOUNT)
HURRICANE POSITION
SCALE 1/4"=1"

†: 1/4"-20x3/4", AS DISTRIBUTED BY ALL
POINT SCREW, BOLT AND SPECIALTY CO.
(PART # 25CRFNA)



SECTION C-C

(WALL MOUNT)
HURRICANE POSITION
SCALE 1/4"=1"

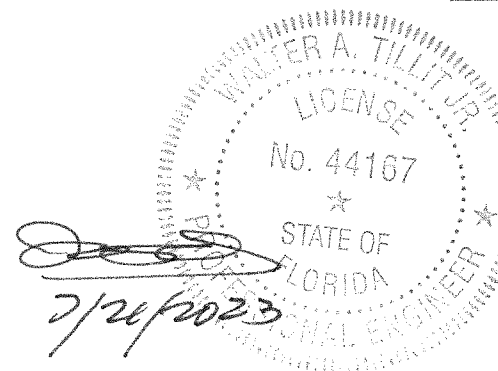
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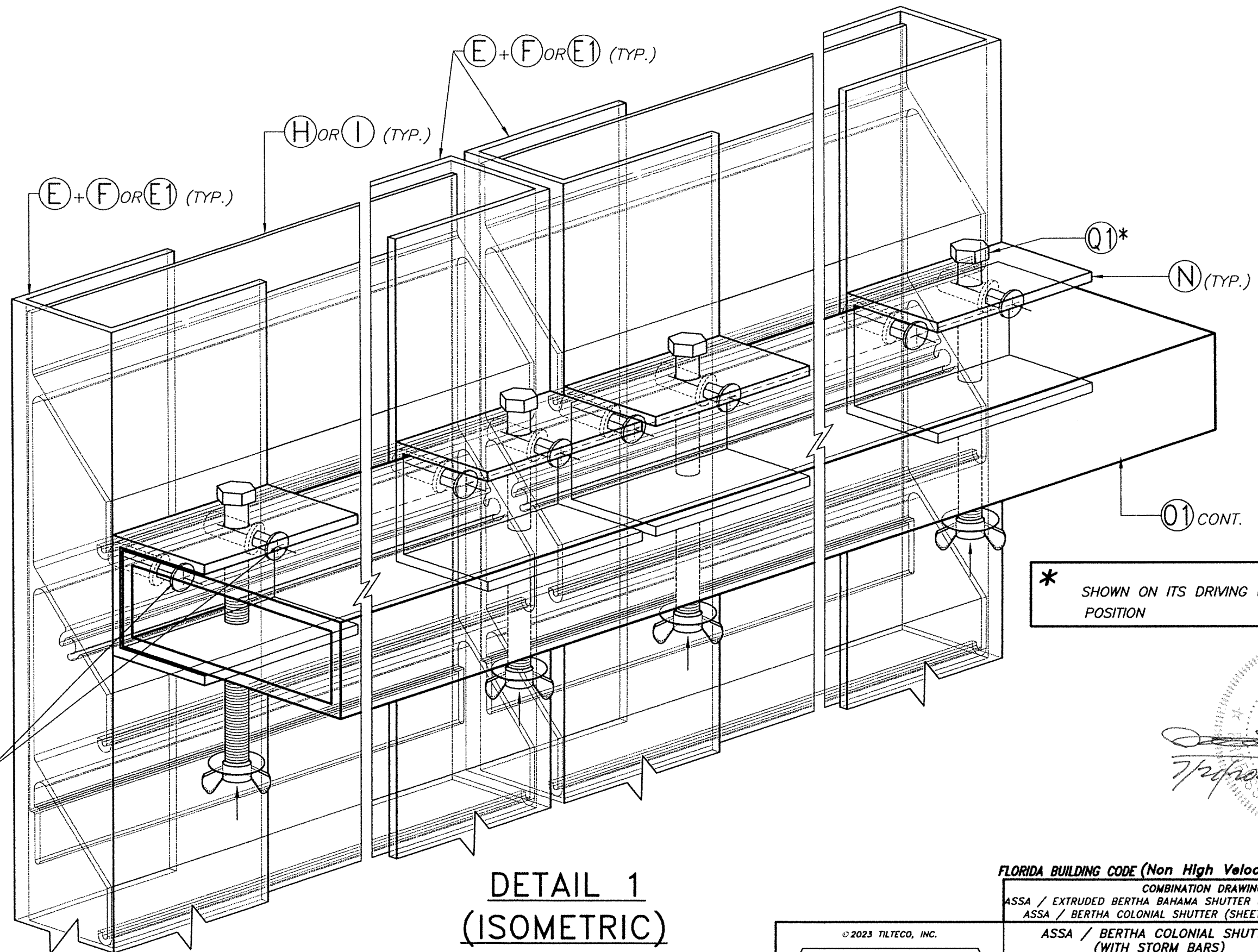
COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER (WITH STORM BARS)			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			23-131 DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-167	7/21/23	3		
2			4		
			SHEET 26 OF 33		

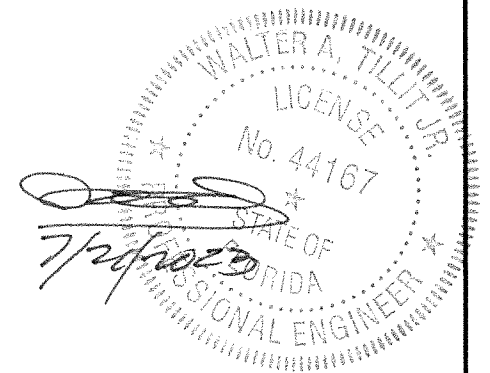
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CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167





* SHOWN ON ITS DRIVING (INSTALLATION) POSITION



DETAIL 1 (ISOMETRIC) N.T.S

(2) 1/4"Ø - 20 x 3/4"
SS PHILLIPS FLAT HEAD
BOLT INTO ALUMINUM
RIVET NUTS †
(N) TO (E) OR (E1) (TYP.)

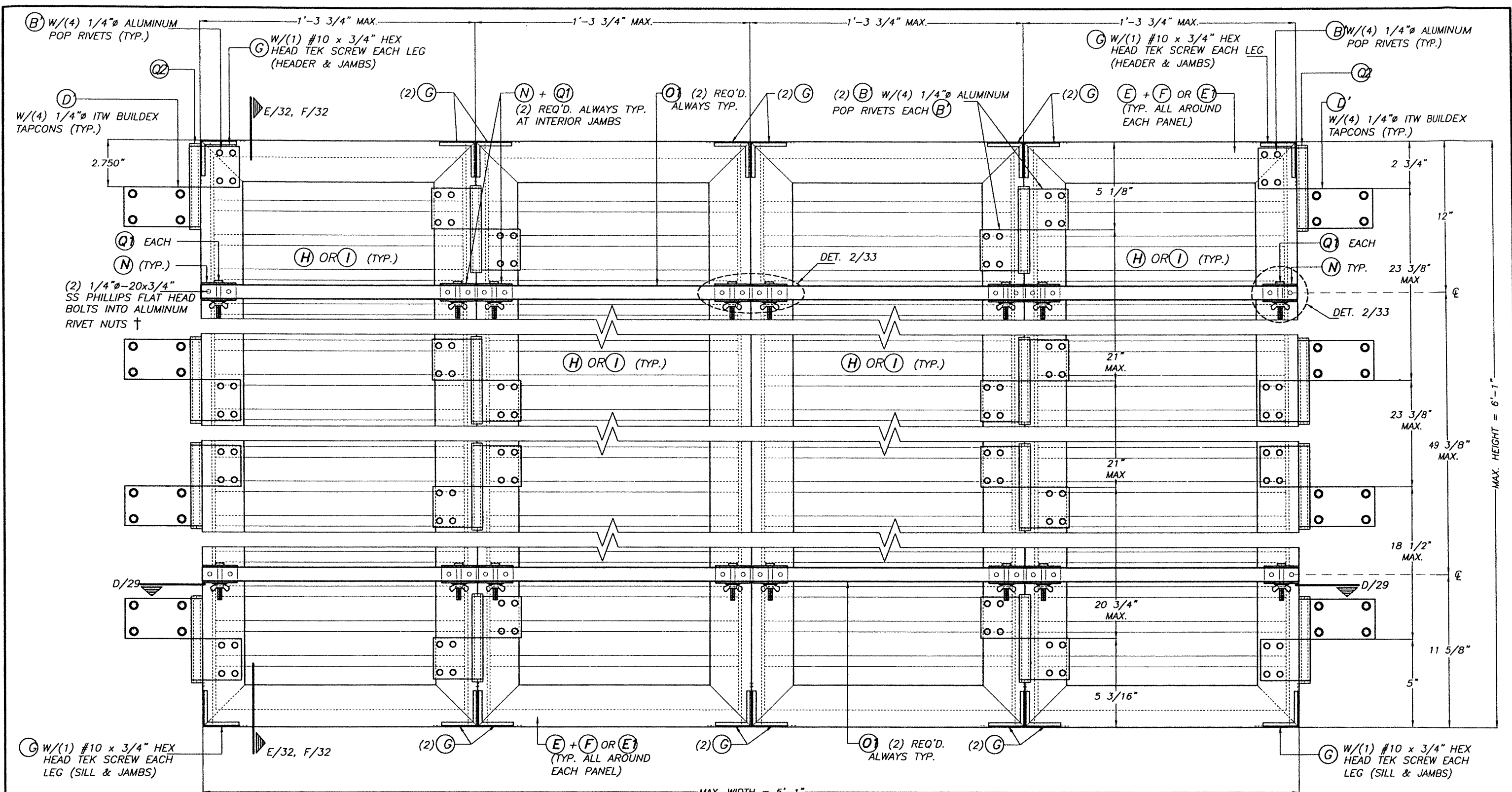
† 1/4"Ø-20x3/4", AS DISTRIBUTED BY ALL
POINT SCREW, BOLT AND SPECIALITY CO.
(PART # 25CRFNA)

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

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6335 N.W. 36th St., Ste. 303, VIRGINIA GARDENS, FLORIDA 33186
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e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

ASSA / BERTHA COLONIAL SHUTTER (WITH STORM BARS)			Y.M. DRAWN BY:		
AMERICAN SHUTTER SYSTEMS ASSOC., INC.			7/21/2023		
4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (800)432-2204 FAX: (561)209-8380			DATE:		
			23-131		
			DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-187	7/21/23	3		
2			4		
			SHEET 27 OF 33		



TYPICAL EXTERIOR ELEV. QUADRUPLE PANEL FOR (HURRICANE POSITION)

SCALE: 3/16"=1"

†: 1/4"-20x3/4", AS DISTRIBUTED BY ALL
POINT SCREW, BOLT AND SPECIALTY CO.
(PART # 25CRFNA)

MAXIMUM A.S.D. DESIGN PRESSURE RATING = +51.0, -70.0 p.s.f. FOR
INSTALLATION INTO CONCRETE OR CONCRETE BLOCK WALL SUBSTRATE.

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER
(WITH STORM BARS)

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:

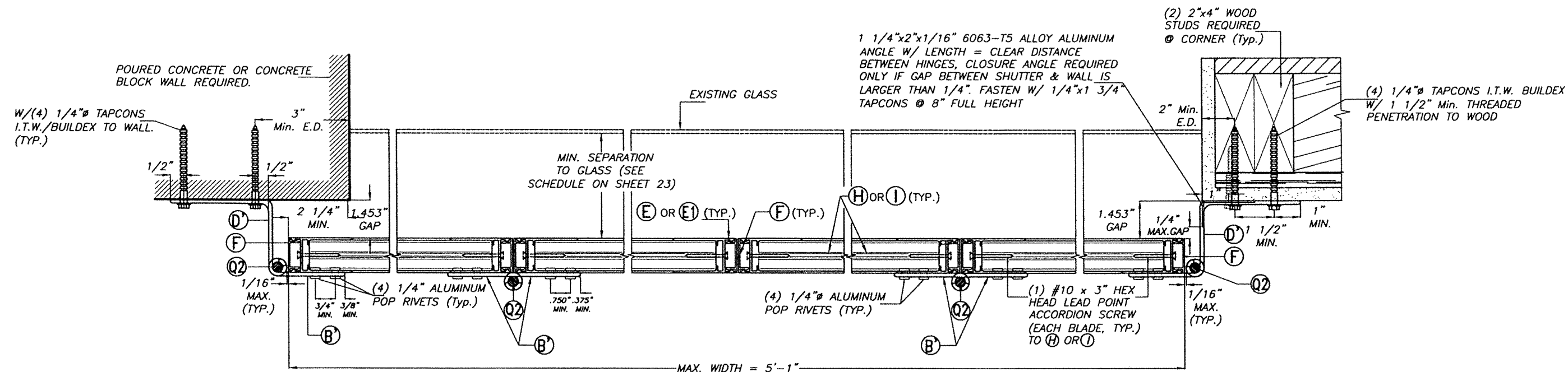
7/21/2023
DATE:

23-131
DRAWING No

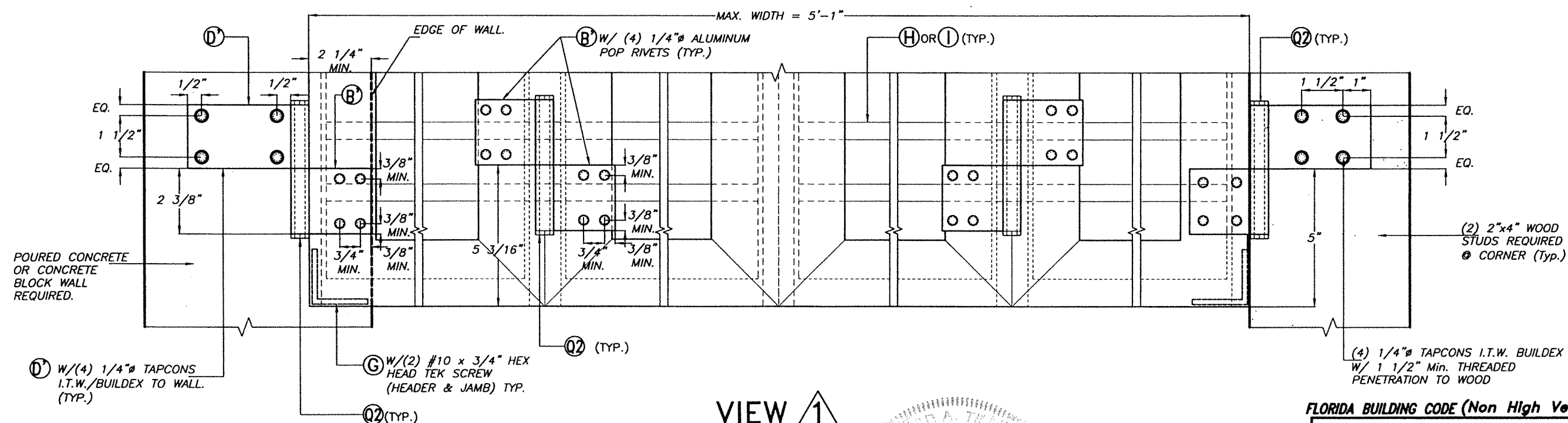
SHEET 28 OF 33

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e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-187	7/21/23	3		
2			4		



1
SECTION D-D
SCALE 1/4"=1"



VIEW 1
(PARTIAL ELEVATION AT BOTTOM)
SCALE 1/4"=1"

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER (WITH STORM BARS)			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			23-131 DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-167	7/21/23	3		
2			4		

SHEET 29 OF 33

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e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

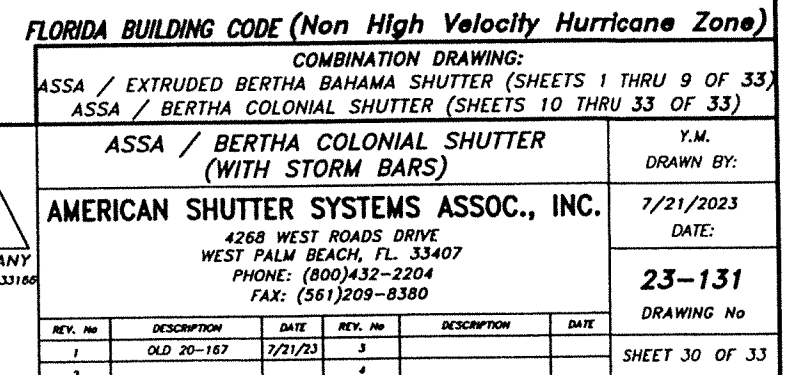
No. 44167

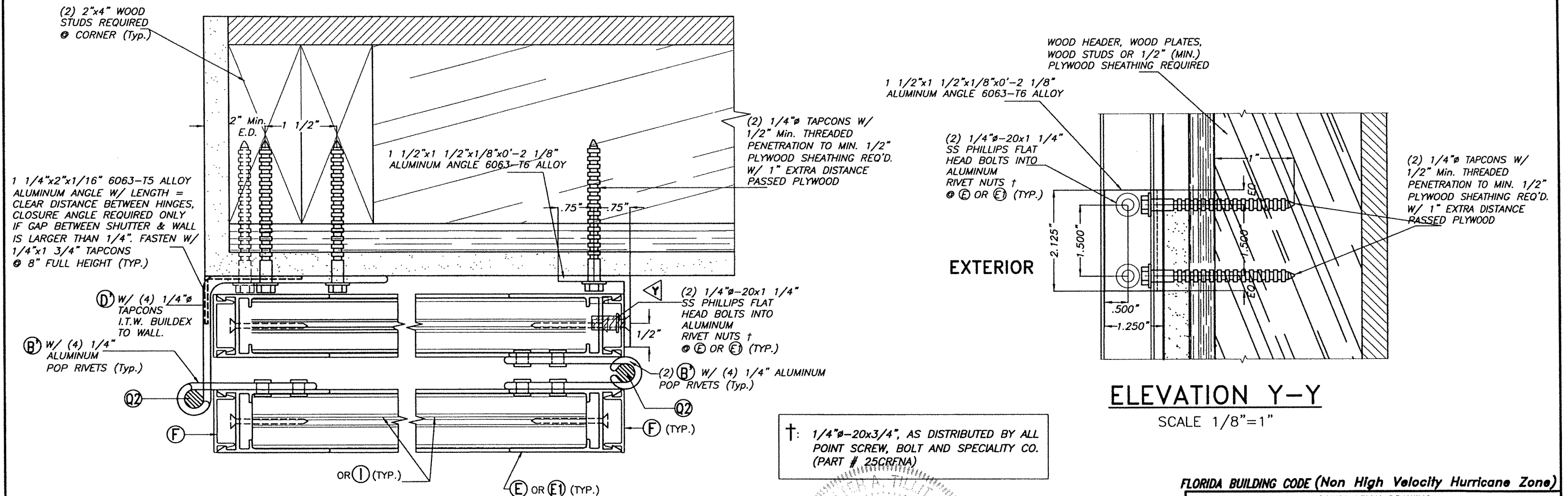
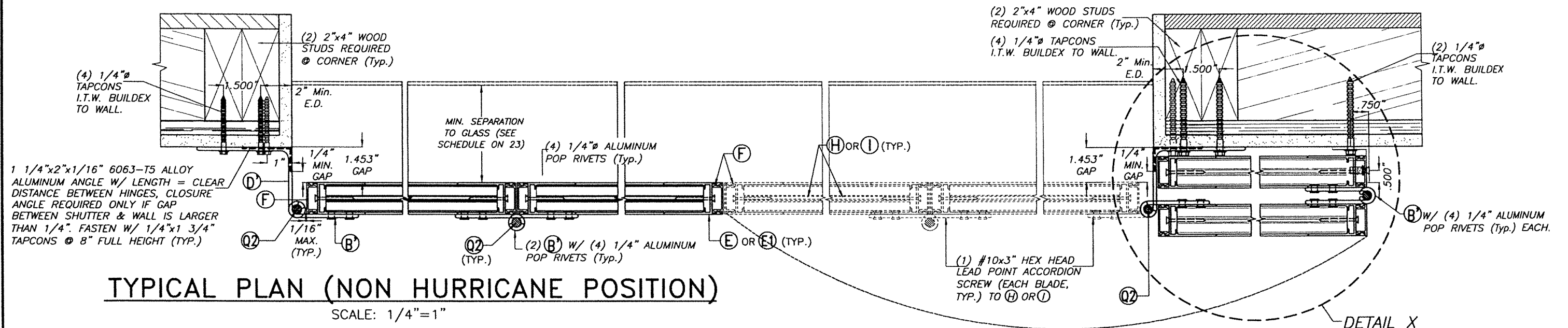
STATE OF

FLORIDA

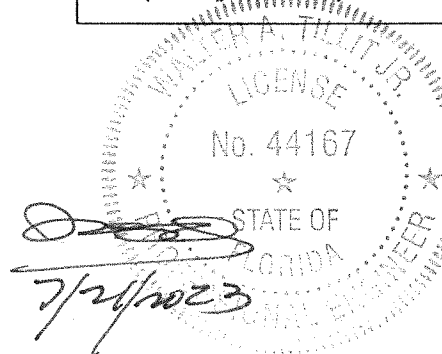
PROFESSIONAL ENGINEER

7/21/2023





†: 1/4"-20x3/4", AS DISTRIBUTED BY ALL
POINT SCREW, BOLT AND SPECIALTY CO.
(PART # 25CRFNA)

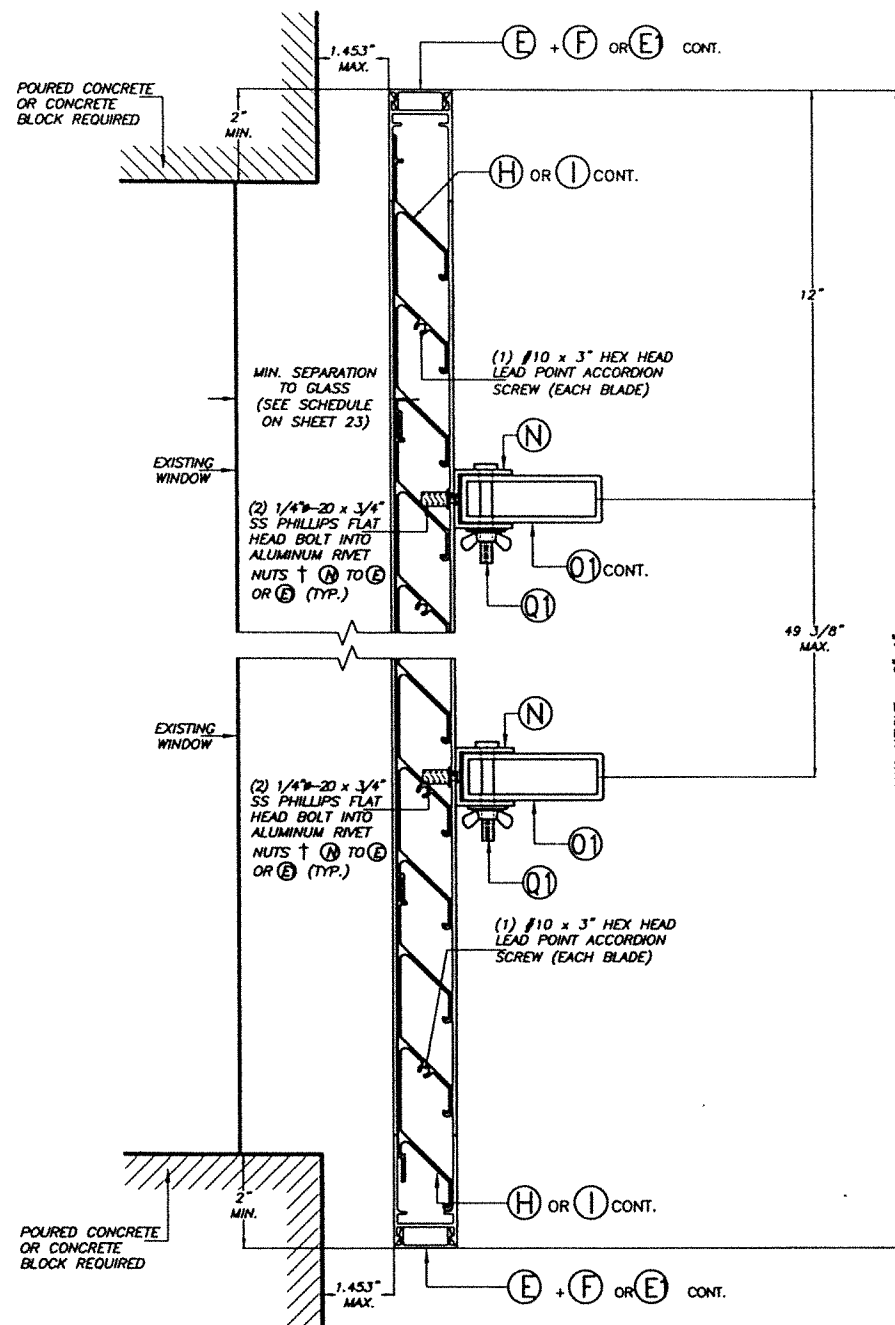


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CA-0006719
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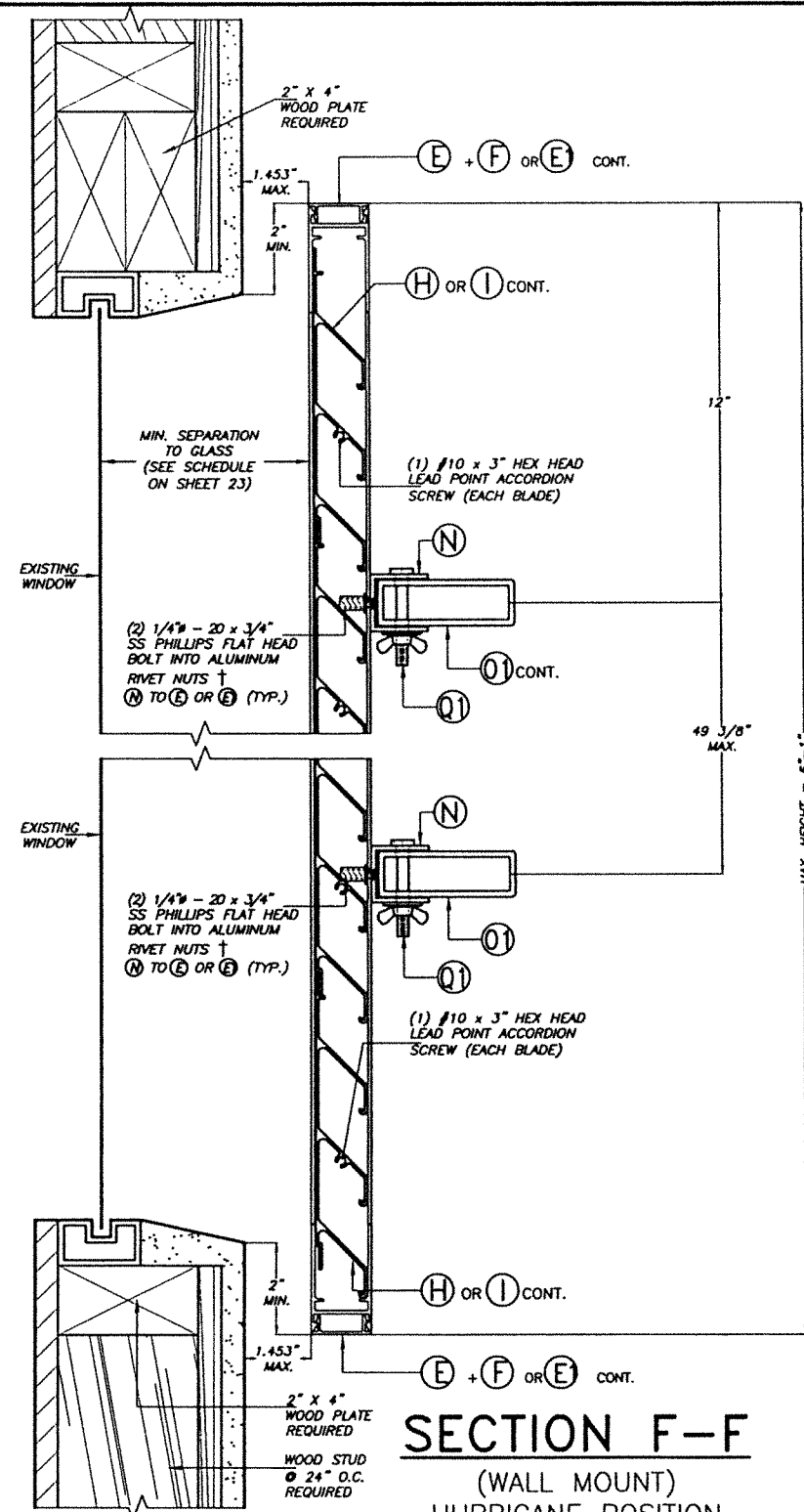
FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)					
COMBINATION DRAWING:					
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)			Y.M.		
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)			DRAWN BY:		
ASSA / BERTHA COLONIAL SHUTTER (WITH STORM BARS)			7/21/2023		
AMERICAN SHUTTER SYSTEMS ASSOC., INC.			DATE:		
4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (800)432-2204 FAX: (561)209-8380			23-131		
REV. No			DRAWING No		
1	DESCRIPTION	DATE	1	DESCRIPTION	DATE
2	OLD 20-187	7/21/23	2		
			SHEET 31 OF 33		



SECTION E-E

(WALL MOUNT)
HURRICANE POSITION
SCALE 1/4"=1"

†: 1/4"Ø-20x3/4", AS DISTRIBUTED BY ALL
POINT SCREW, BOLT AND SPECIALTY CO.
(PART #25 CRFNA)



SECTION F-F

(WALL MOUNT)
HURRICANE POSITION
SCALE 1/4"=1"

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER
(WITH STORM BARS)
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:

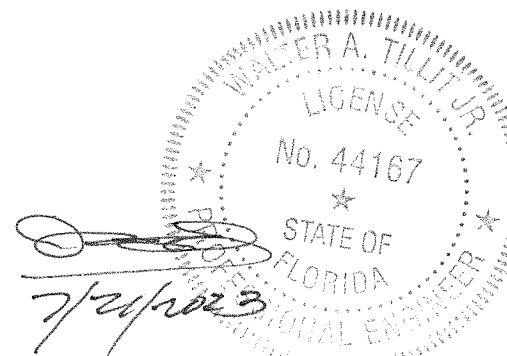
23-131
DRAWING No

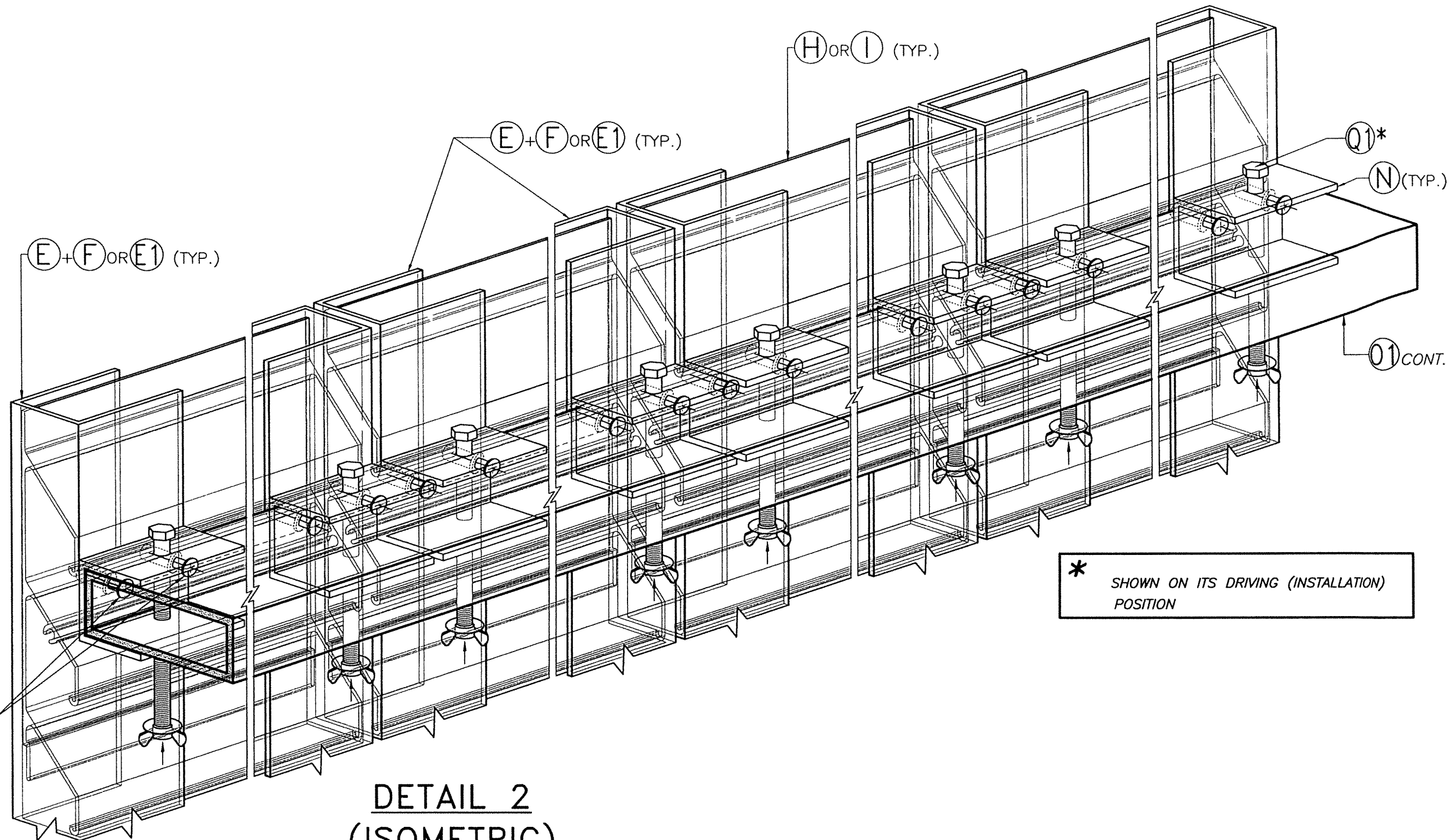
SHEET 32 OF 33

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TILTECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6335 N.W. 38th St., Ste. 303, VIRGINIA GARDENS, FLORIDA 33166
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e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-167	7/21/23	3		
2			4		



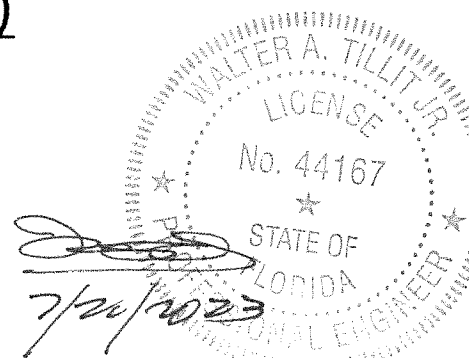


* SHOWN ON ITS DRIVING (INSTALLATION) POSITION

DETAIL 2
(ISOMETRIC)
N.T.S

(2) 1/4"Ø - 20 x 3/4"
SS PHILLIPS FLAT HEAD
BOLT INTO ALUMINUM
RIVET NUTS †
(N) TO (E) OR (E1) (TYP.)

† 1/4"Ø-20x3/4", AS DISTRIBUTED BY ALL
POINT SCREW, BOLT AND SPECIALTY CO.
(PART # 25CRFNA)



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FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

COMBINATION DRAWING:
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER (SHEETS 1 THRU 9 OF 33)
ASSA / BERTHA COLONIAL SHUTTER (SHEETS 10 THRU 33 OF 33)

ASSA / BERTHA COLONIAL SHUTTER (WITH STORM BARS)				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				23-131 DRAWING No
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION
1	OLD 20-167	7/21/23	3	
2			4	
				SHEET 33 OF 33