

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 2007 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 NOT TO EXCEED 140 m.p.h., AND AS REQUIRED BY THE JURISDICTION WHERE SHUTTER WILL BE INSTALLED FOR A DIRECTIONALITY FACTOR $K_d=0.85$, IN ACCORDANCE WITH ASCE 7-05 STANDARD. 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 AND # 0131.01-07 WITH ADDENDUM, AS PER ASTM E 1886-05, ASTM E 1996-05 AND ASTM E 330-02 STANDARDS, QUALIFIED FOR WIND ZONES 1, 2 Y 3 MISSILE TYPE D (BASIC PROTECTION).
2. SEE ELEVATIONS ON SHEETS 3, 3A, 4 & 9 FOR MAX. DESIGN PRESSURE RATING & MAX. SHUTTER DIMENSIONS.
3. ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION 6063-T6 ALLOY AND TEMPER, WITH $F_y=25.0$ ksi MINIMUM (UNLESS OTHERWISE NOTED).
4. ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES WITH 50 ksi YIELD POINT AND 90 ksi TENSILE STRENGTH.
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. BUILDDEX, 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./BUILDDEX.
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 1714.8.3 OF FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABELING TO COMPLY WITH SECTION 1714.8.2 OF THE FLORIDA BUILDING CODE.
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) THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

Professional Engineer Seal for Walter A. Tillit Jr., P.E., State of Florida, License No. 13117, dated 10/19/07.

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WALTER A. TILLIT JR. P.E.
FLORIDA Lic. # 44167

ASSA / BERTHA H.V. COLONIAL SHUTTER

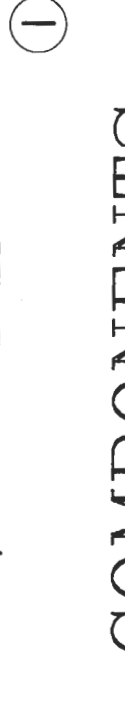
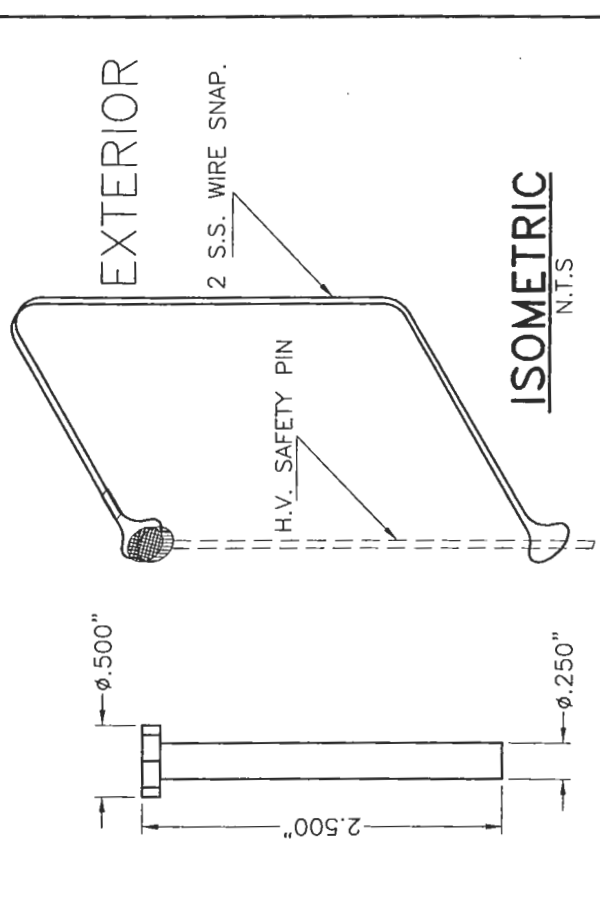
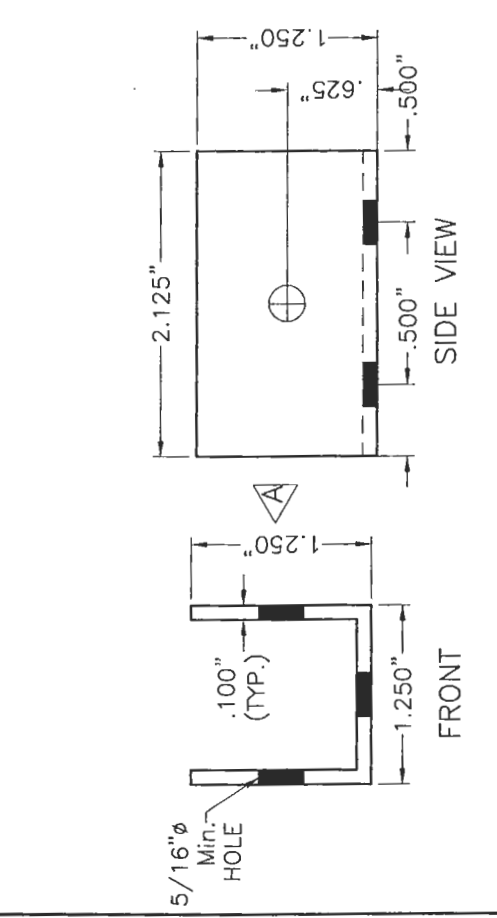
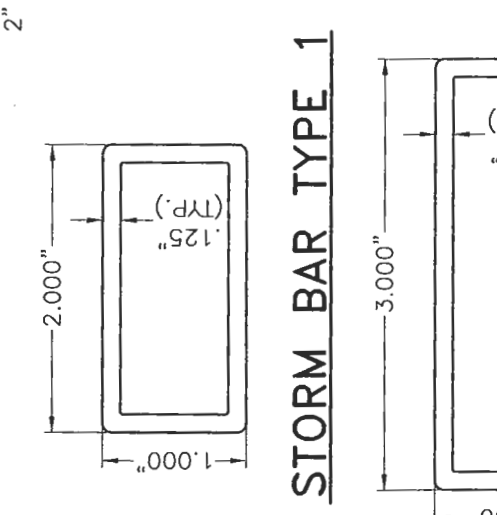
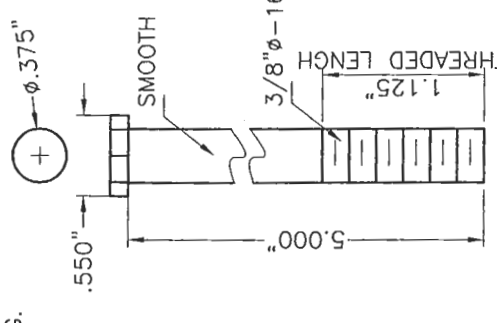
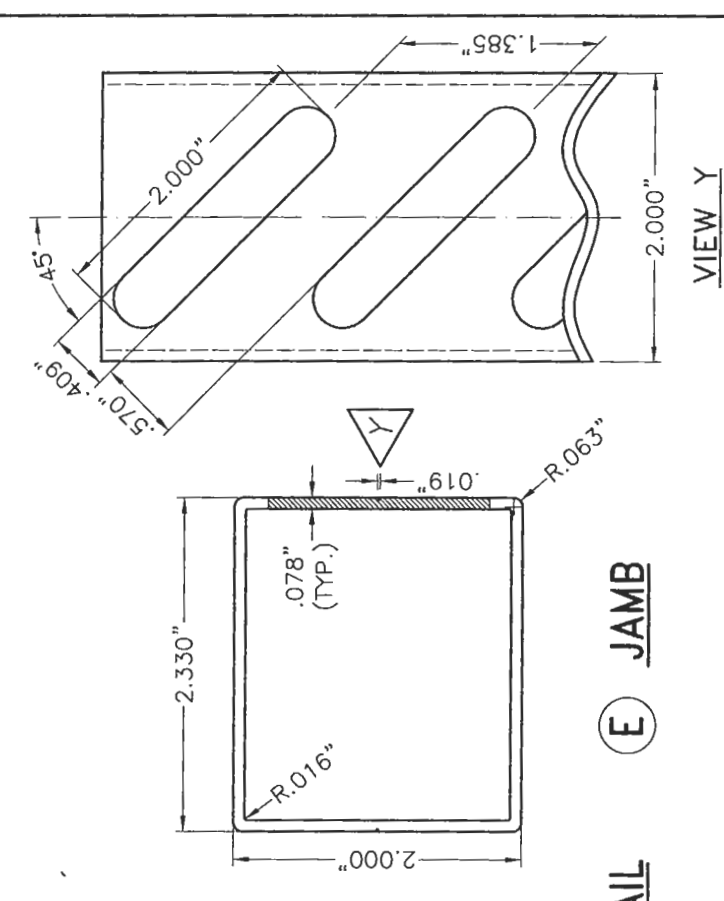
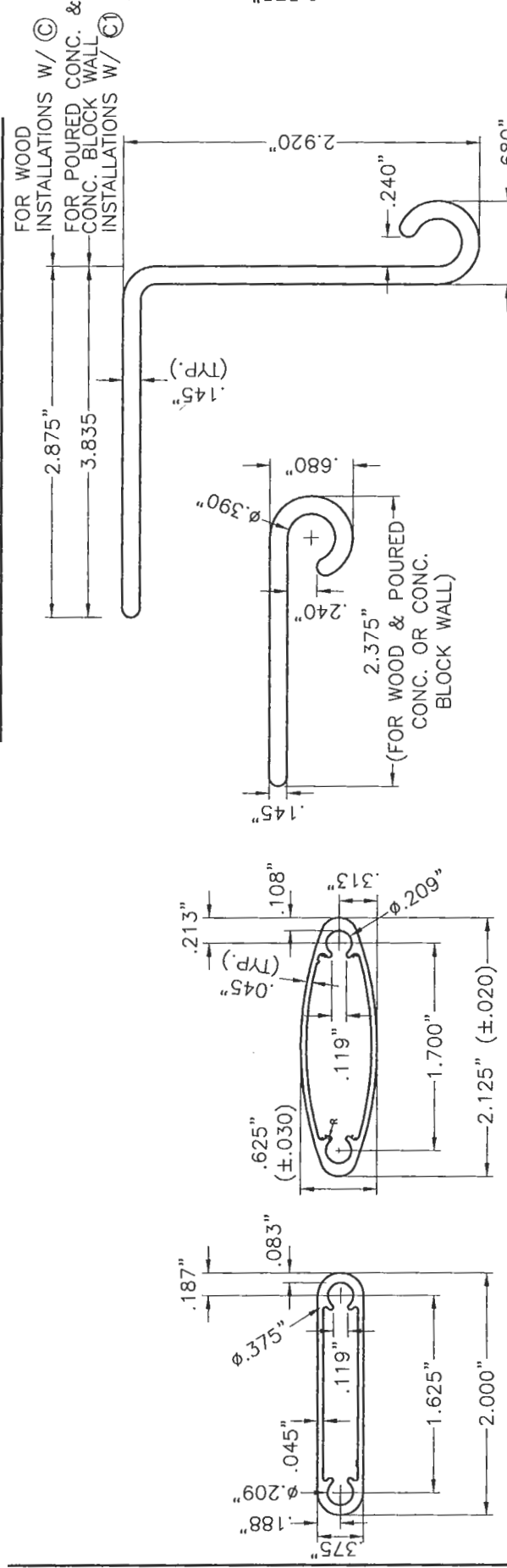
AMERICAN SHUTTER SYSTEMS ASSOC., INC.

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

REV. No	DESCRIPTION	DATE	REV. No	DATE
1	OLD 08-154	10/05/09	3	
2			4	

R.E. DRAWN BY: 10/05/09 DATE: 09-187 DRAWING No: SHEET 1 OF 14

F.B.C. (Non High Velocity Hurricane Zone)



COMPONENTS

SCALE: 3/4" = 1"



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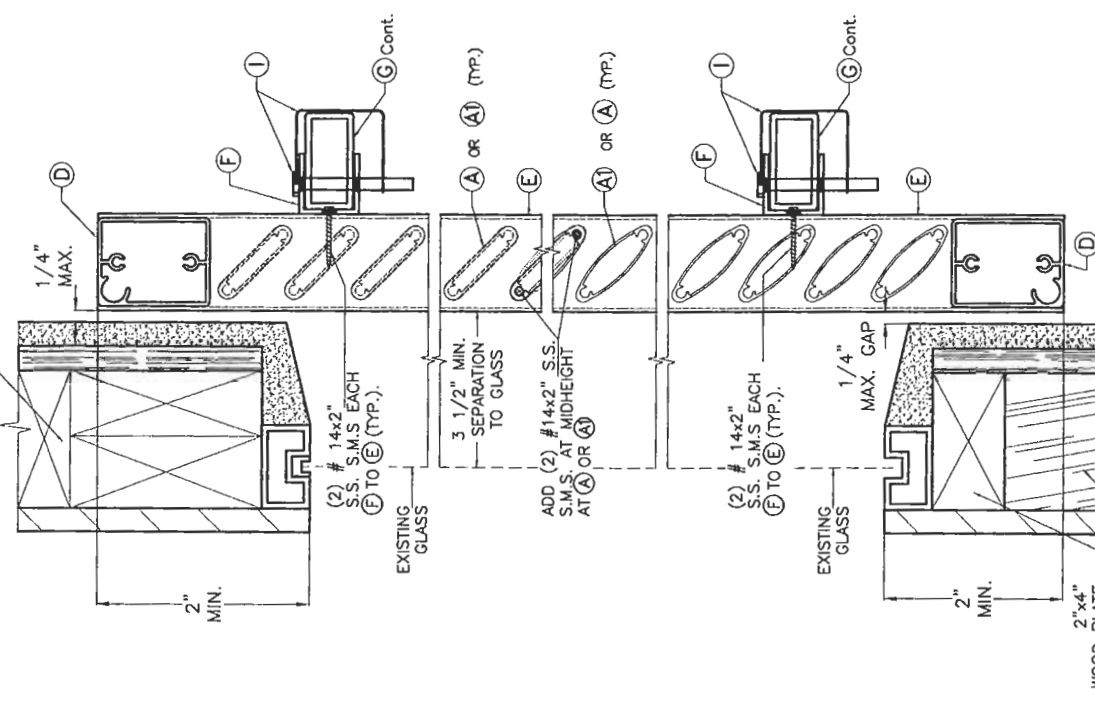
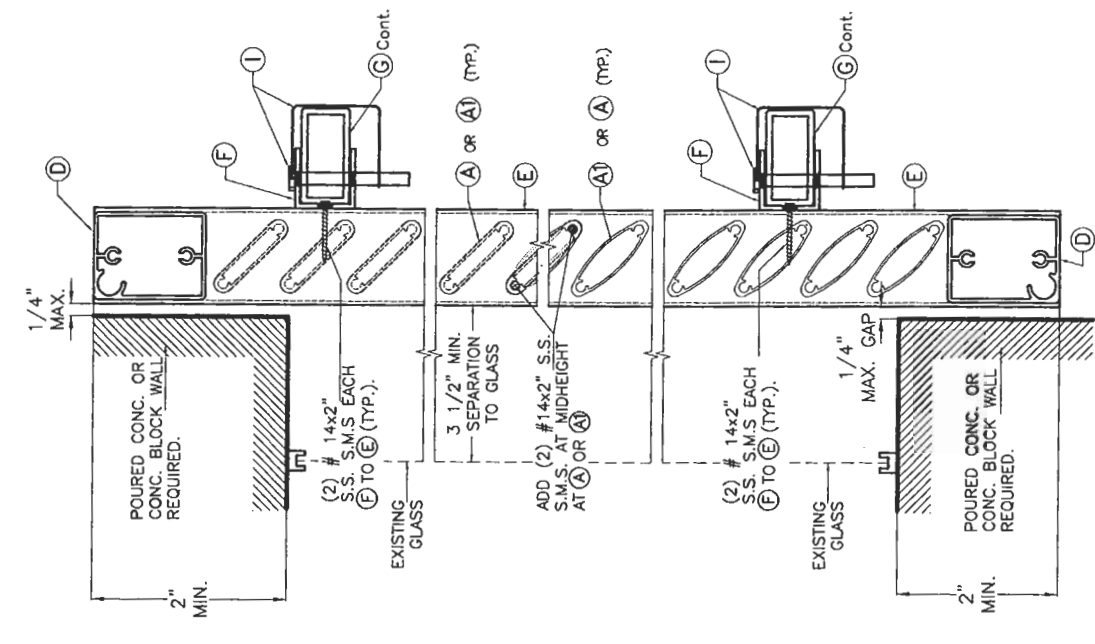
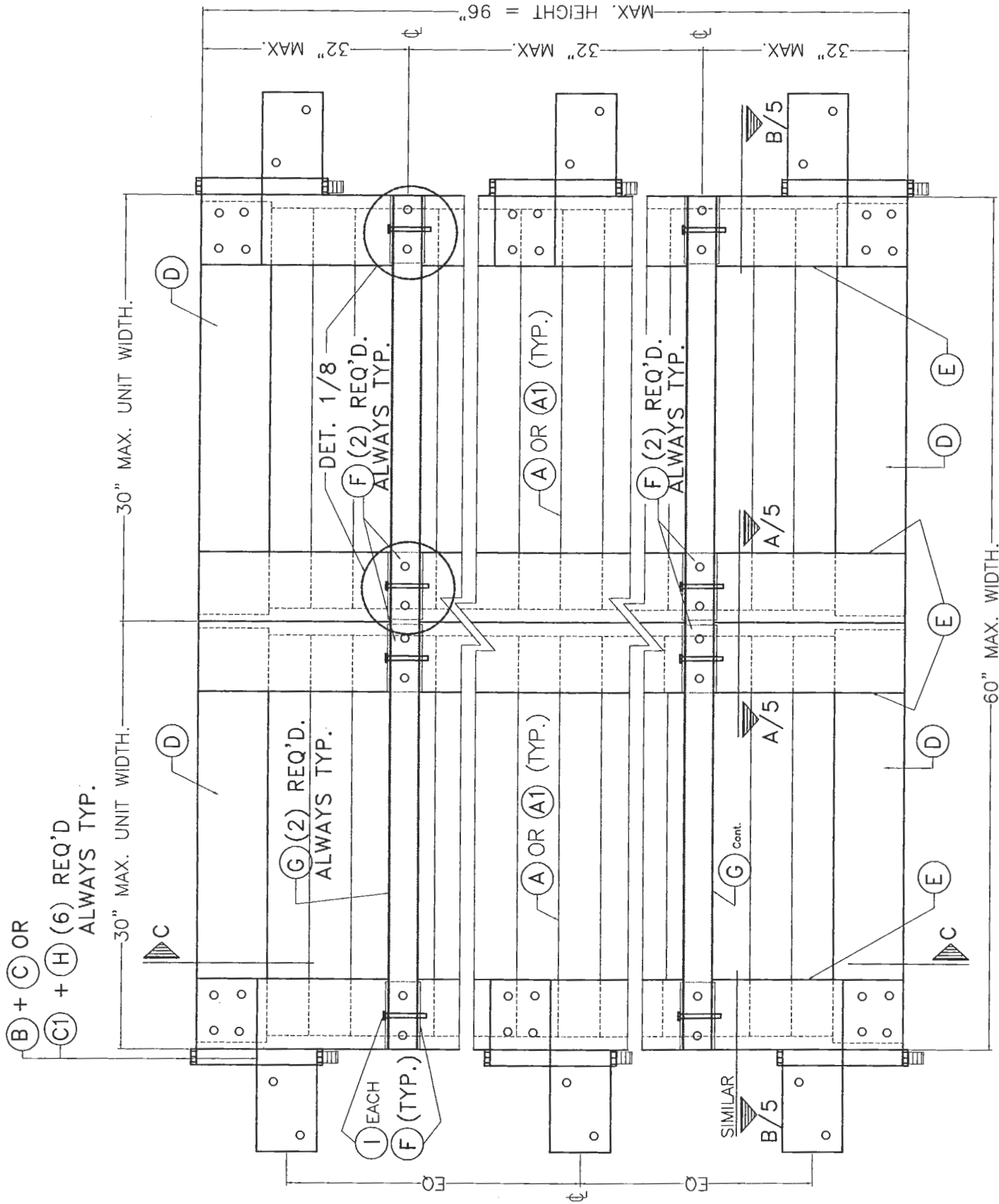
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ASSA / BERTHA H.V. COLONIAL SHUTTER		R.E. DRAWN BY:
AMERICAN SHUTTER SYSTEMS ASSOC., INC.		DATE: 10/05/09
4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407		DRAWING No: 09-187
PHONE: (800) 432-2204, FAX: (561) 209-8380		DESCRIPTION
REV. No	DATE	REV. No
1	10/05/09	3
2		4

F.B.C. (Non High Velocity Hurricane Zone)



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

N.T.S.

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

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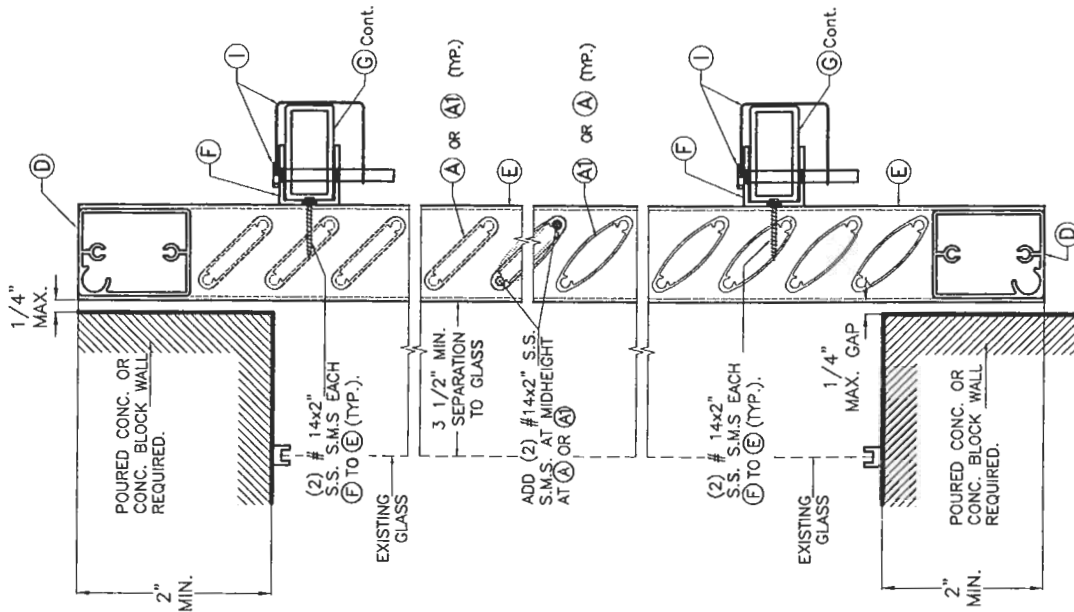
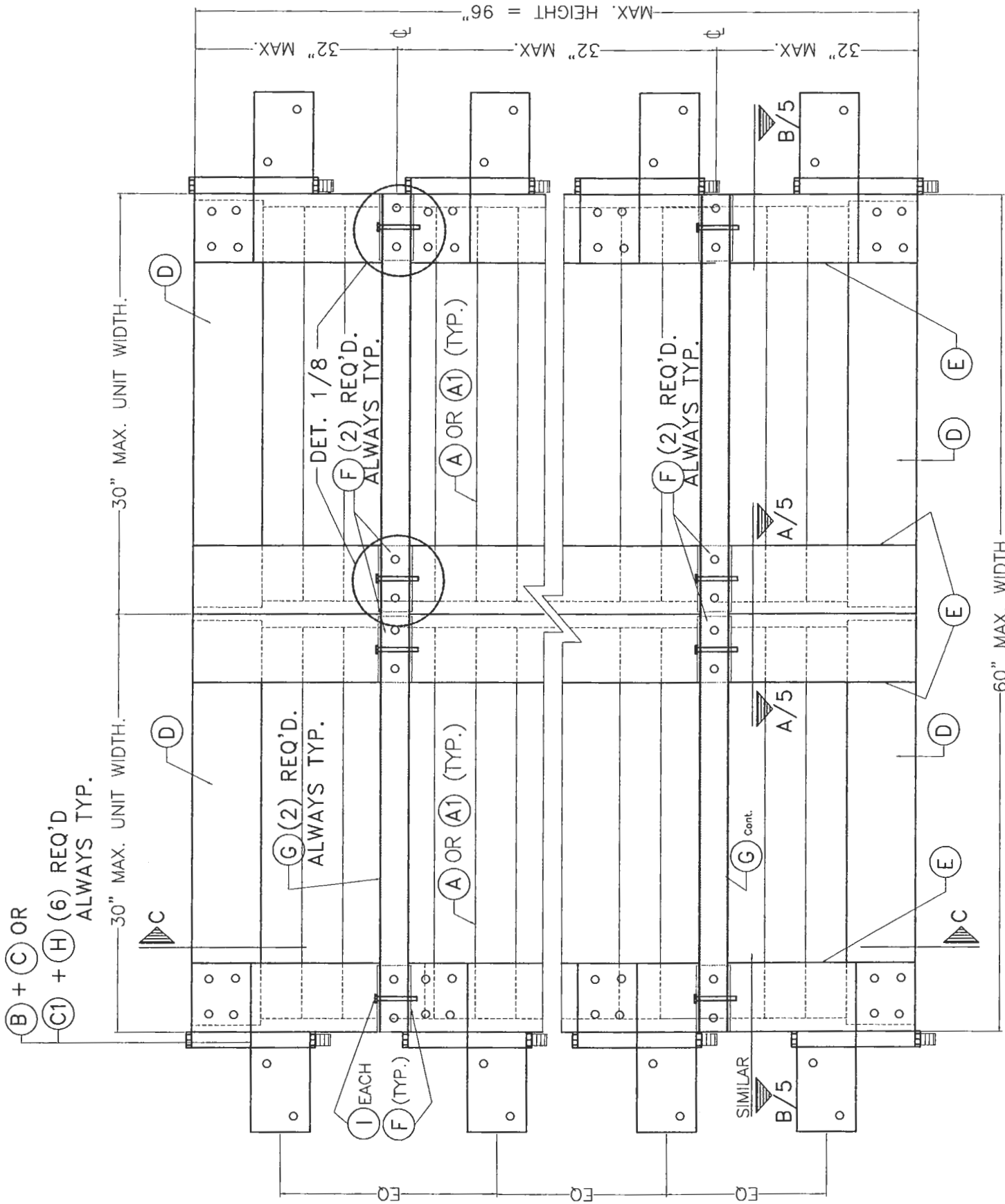
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 PHONE: (800)432-2204, FAX: (561)209-6360

F.B.C. (Non High Velocity Hurricane Zone)

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
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R.E. DRAWN BY: 10/05/09 DATE: 09-187 DRAWING NO: SHEET 3 OF 14

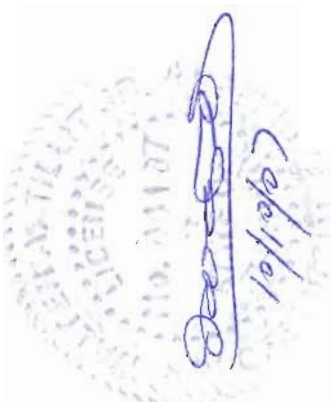


SECTION C-C
(WALL MOUNT)
HURRICANE POSITION
SCALE: 1/4" = 1"

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

N.T.S.

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



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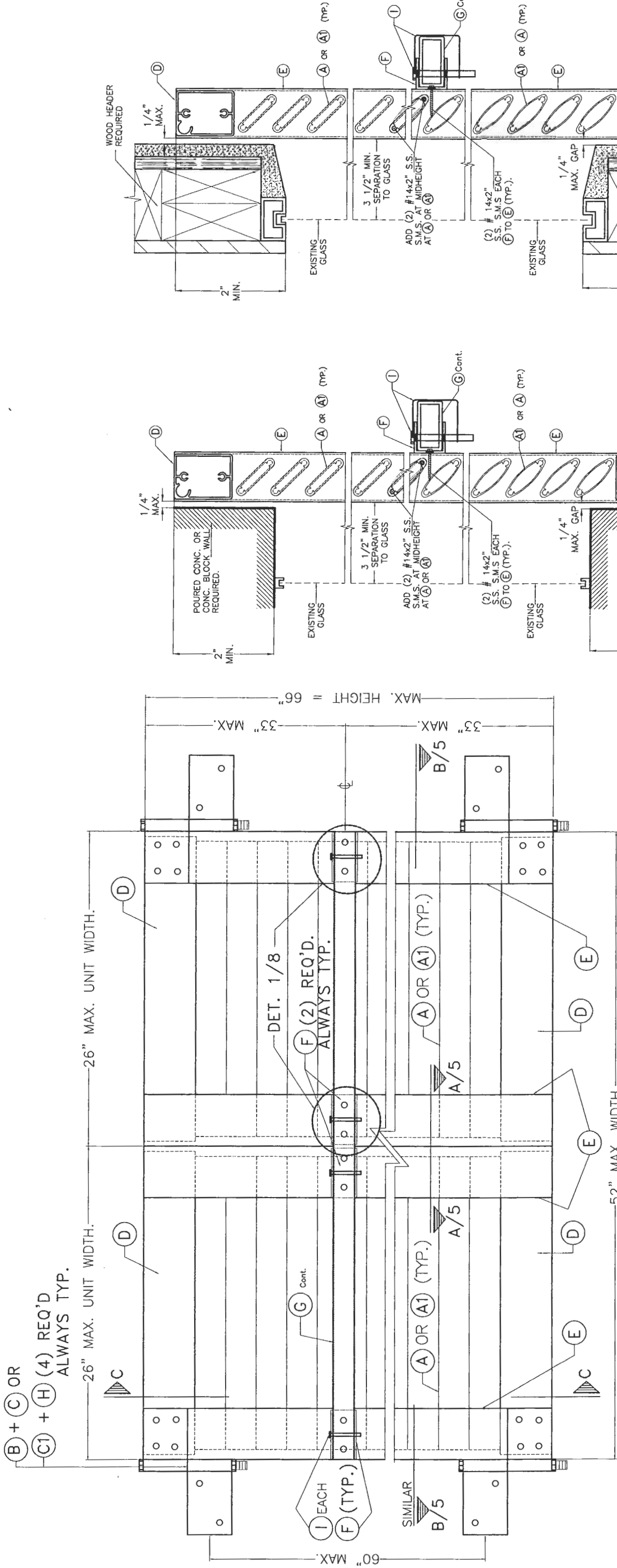
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REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
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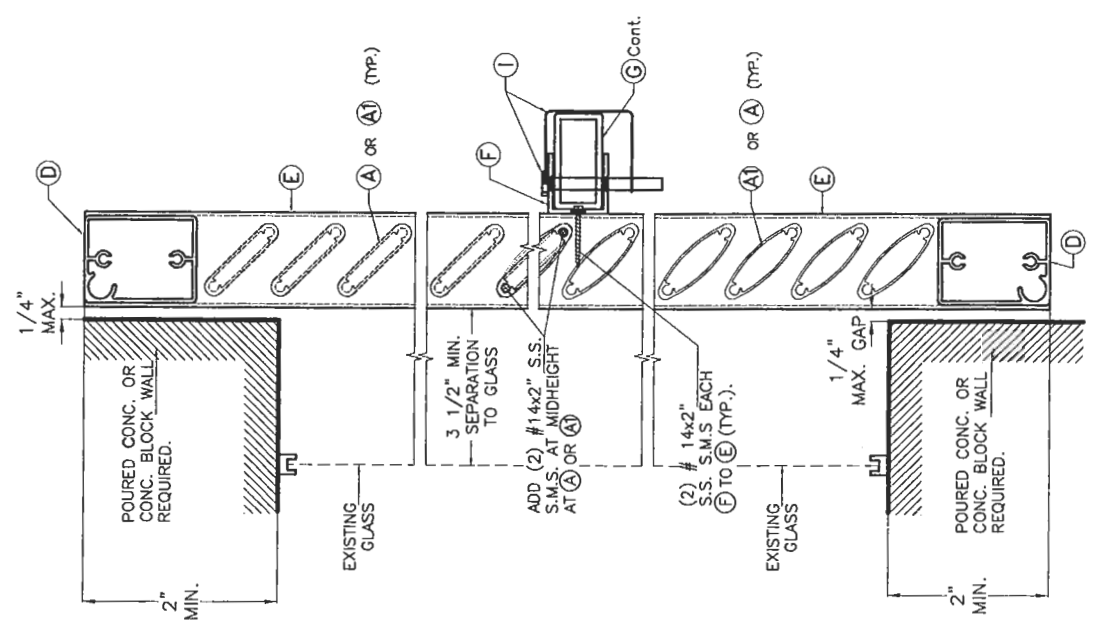
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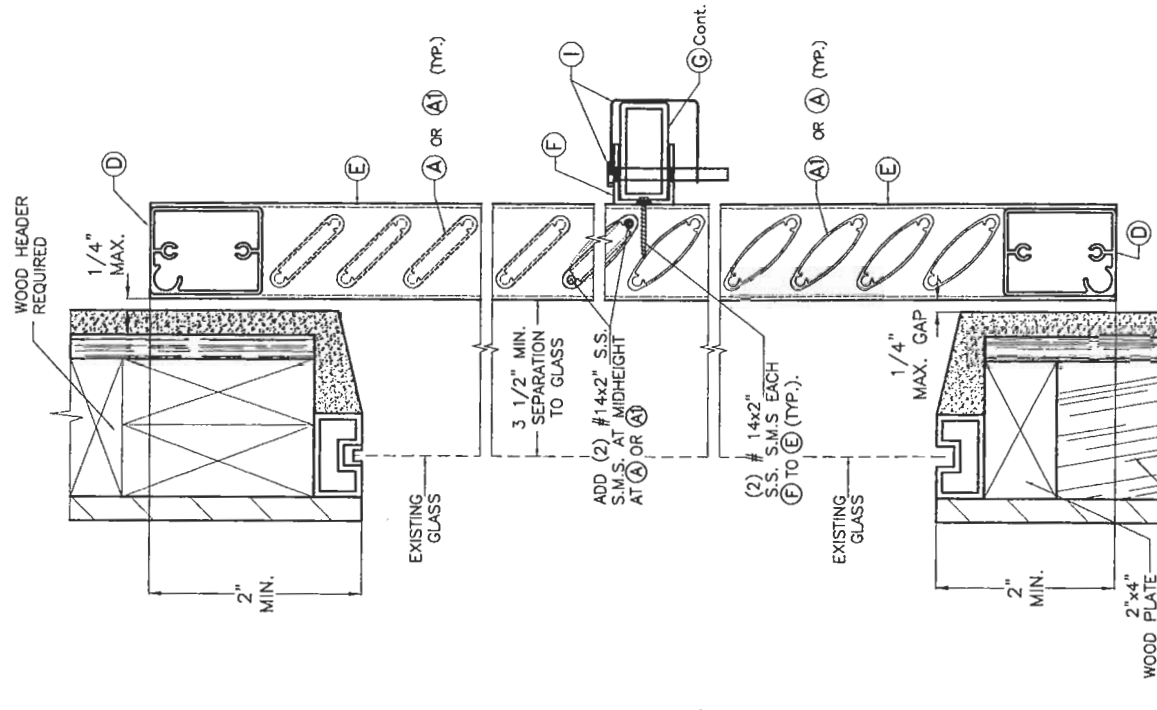
**TYPICAL EXTERIOR ELEV. DOUBLE PANEL
(HURRICANE POSITION)**

N.T.S.

MAXIMUM DESIGN PRESSURE RATING = +50, -55 psf.



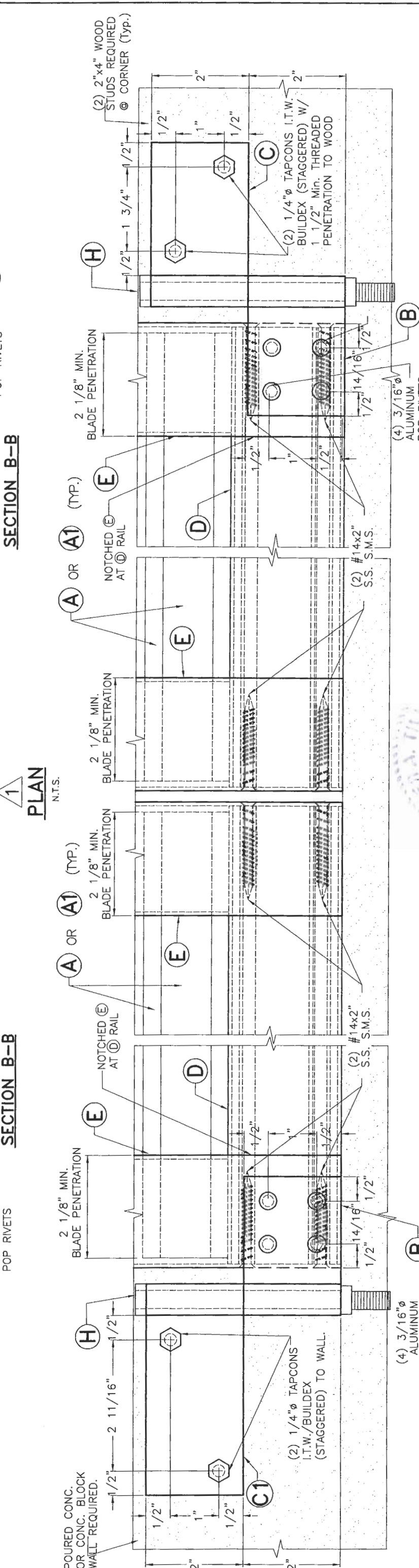
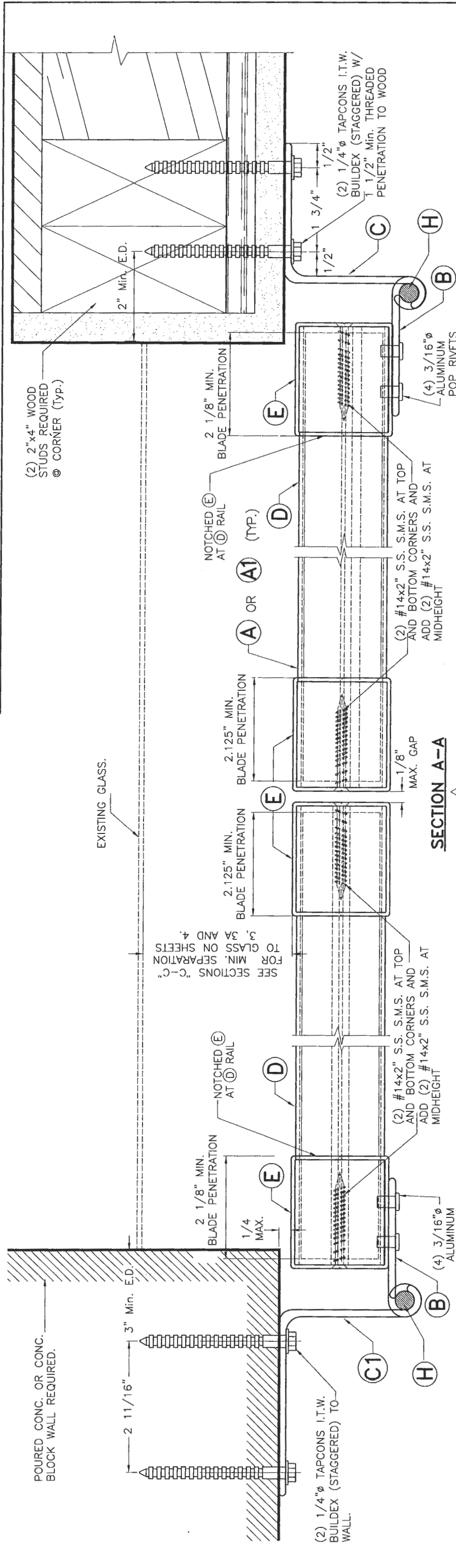
**SECTION C-C
(WALL MOUNT)
HURRICANE POSITION
SCALE: 1/4" = 1"**



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

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		AMERICAN SHUTTER SYSTEMS ASSOC., INC. 4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (800)432-2204, FAX: (561)209-8380		DRAWN BY: DATE:
TILIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA CAROLINA, FL 33166 Phone: (305)971-1530, Fax: (305)871-1531		REV. No. 1 DESCRIPTION DATE 10/05/09 REV. No. 3 DESCRIPTION DATE 10/05/09 REV. No. 4 DESCRIPTION DATE		10/05/09 DATE:
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F.B.C. (Non High Velocity Hurricane Zone)

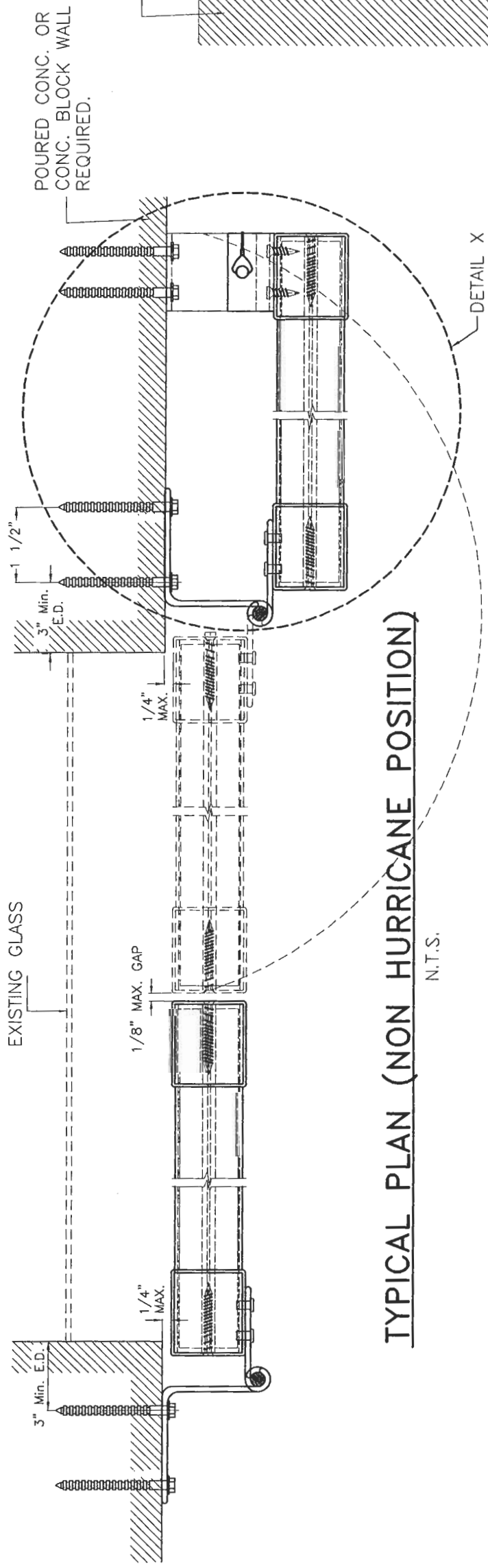
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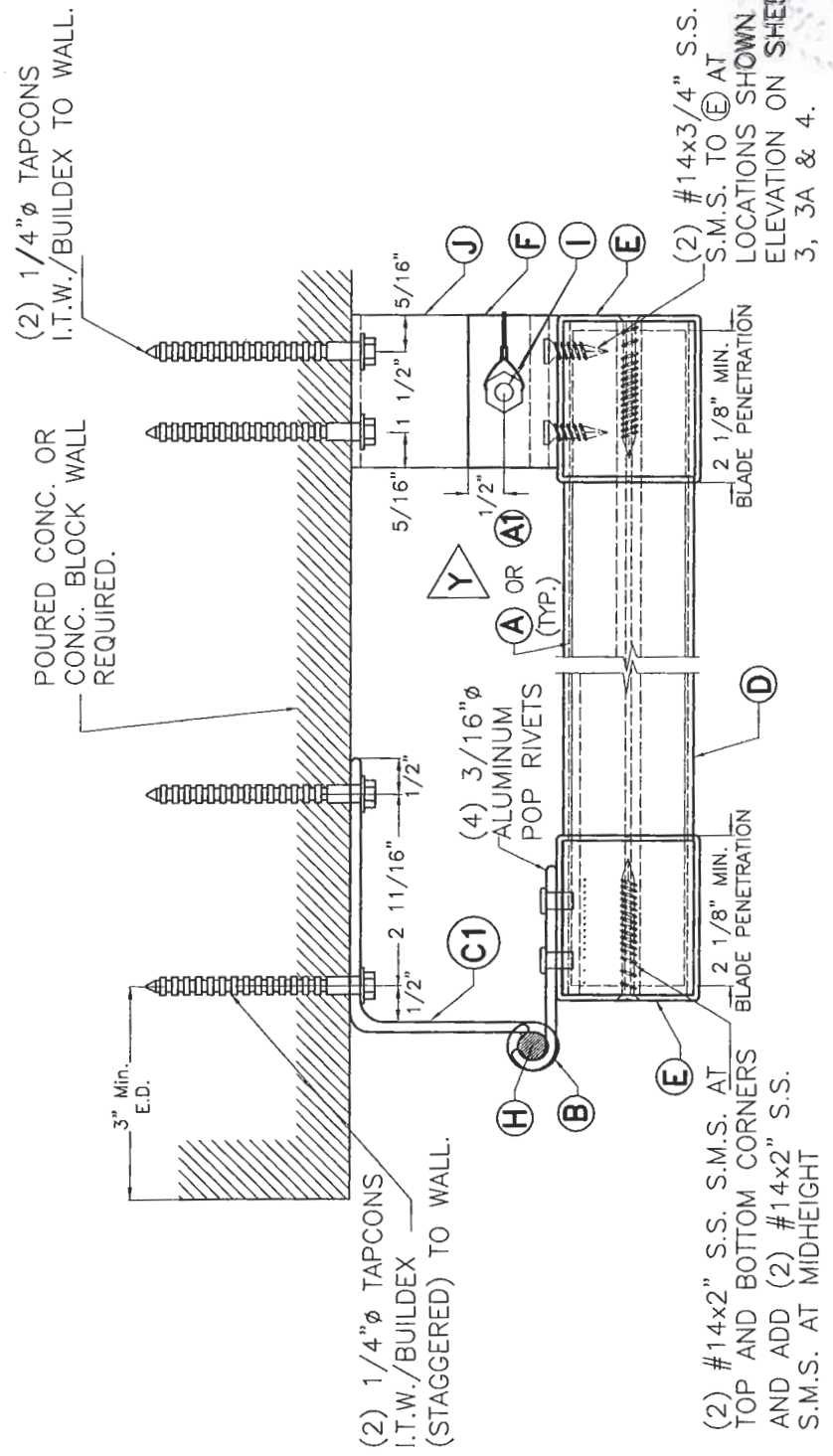
1 10/05/09 3 10/05/09

2 10/10/07



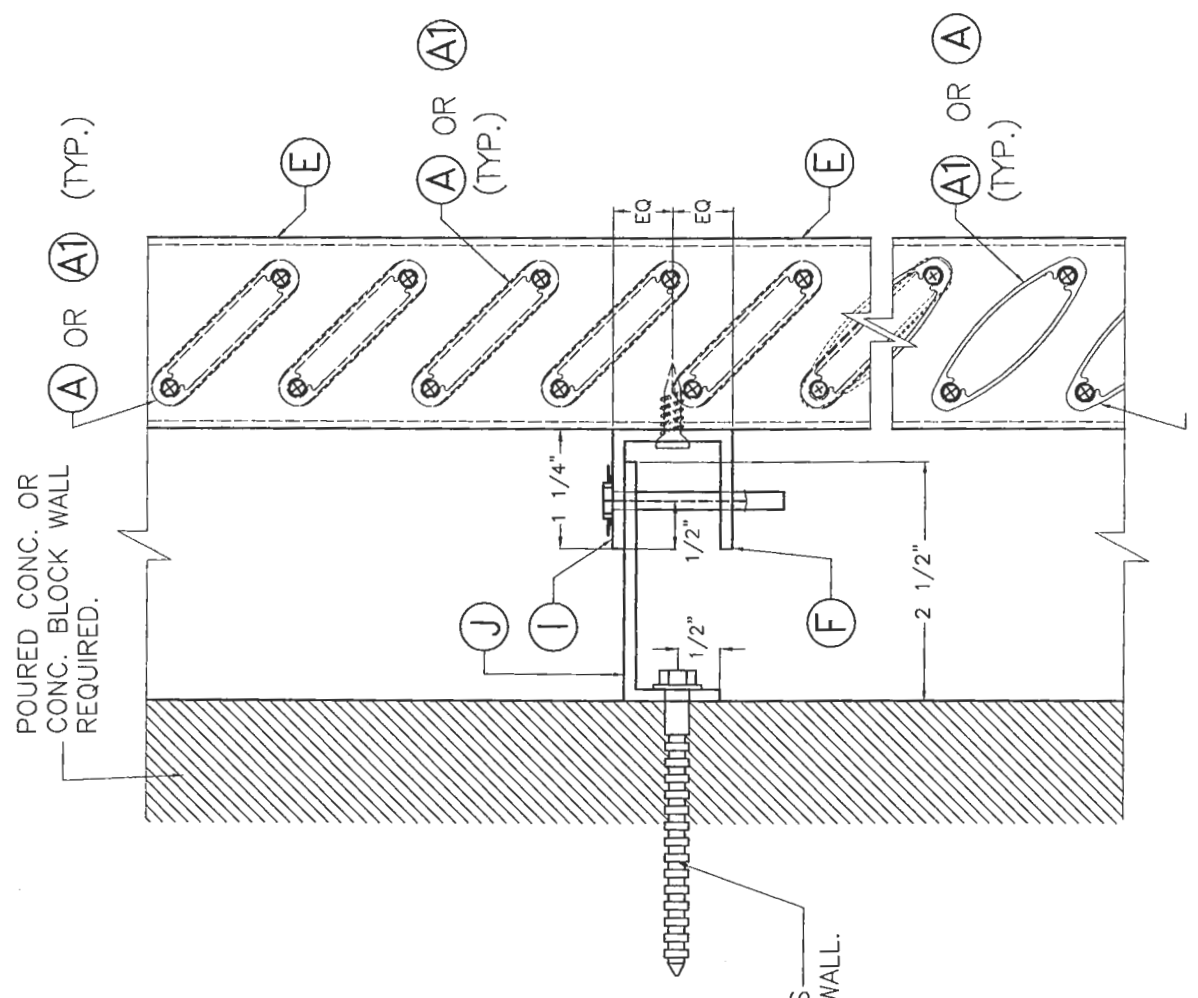
TYPICAL PLAN (NON HURRICANE POSITION)

N.T.S.



DETAIL X (NON HURRICANE POSITION)

SCALE: 3/8"=1"



ELEVATION Y-Y

SCALE: 1/2"=1"

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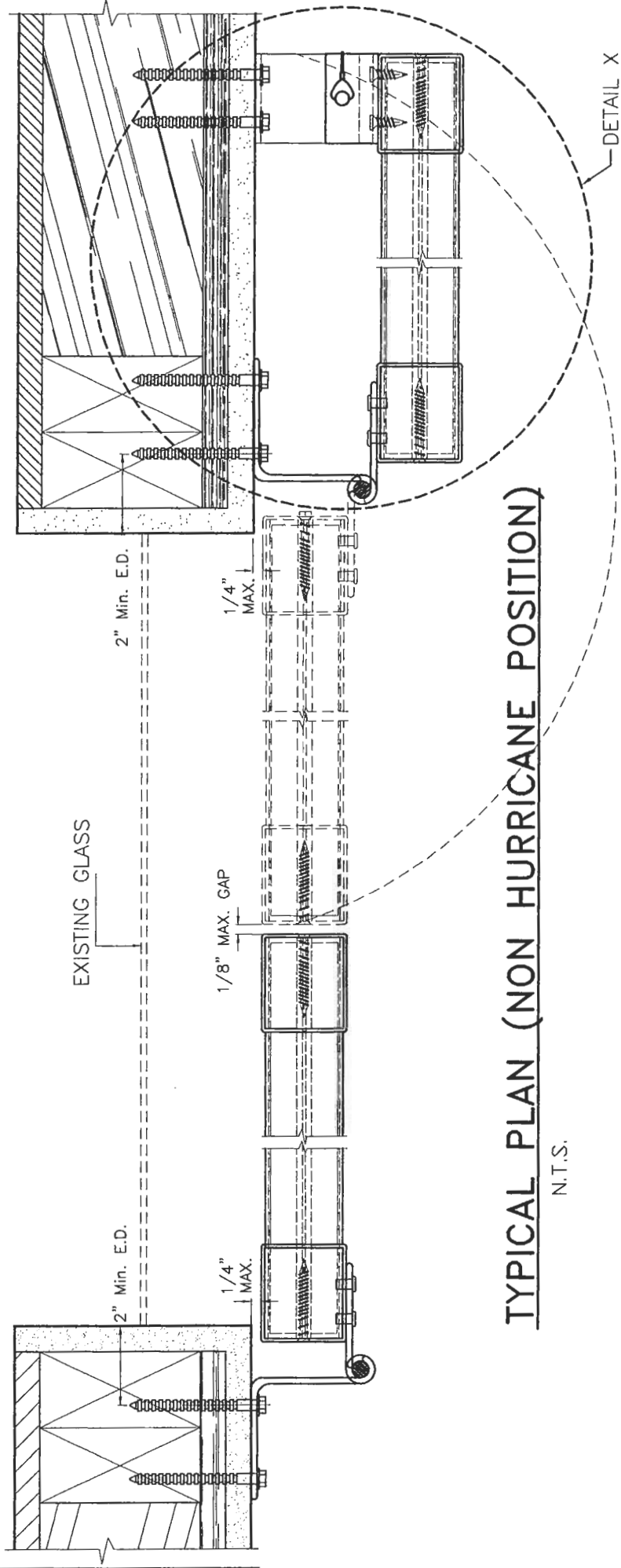
F.B.C. (Non High Velocity Hurricane Zone)

AMERICAN SHUTTER SYSTEMS ASSOC., INC.
4268 WEST ROADS DRIVE
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PHONE: (800)432-2204, FAX: (561)209-8380

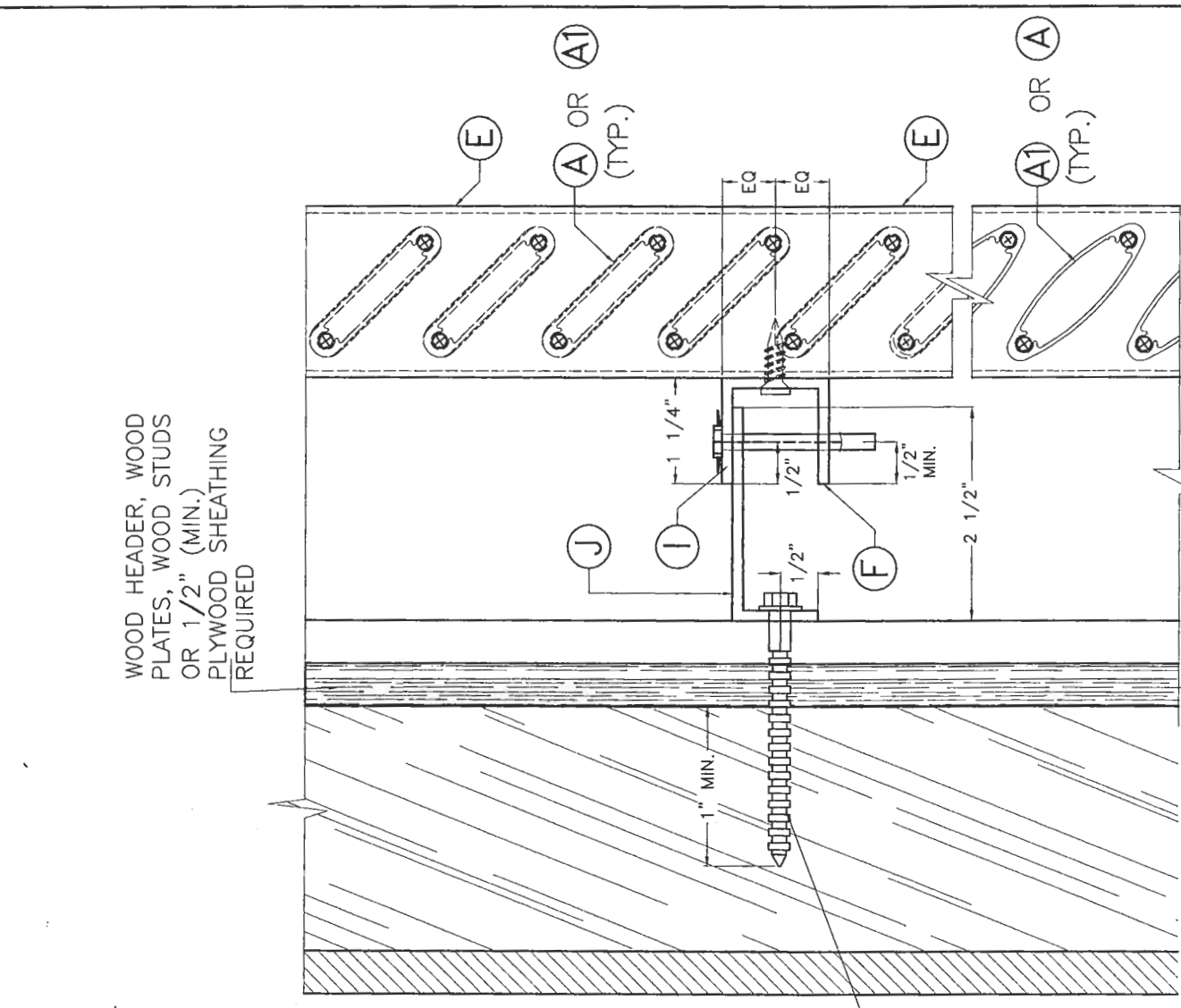
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1	CLD 08-154	10/05/09	3		
2			4		

R.E. DRAWN BY: 10/05/09 DATE: 09-187 DRAWING No: SHEET 6 OF 14

WALTER A. TILLIT JR. P.E.
10/10/09



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



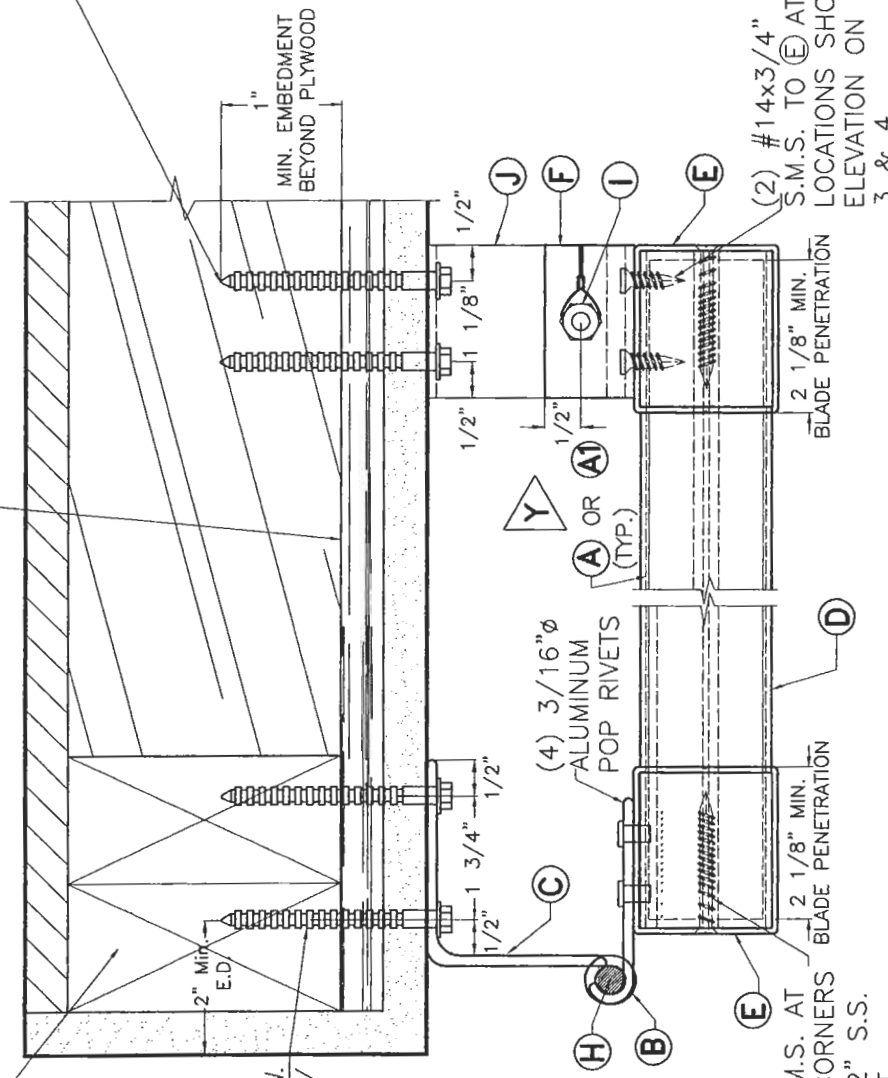
ELEVATION Y-Y
SCALE: 1/2" = 1"

(2) 1/4" Ø TAPCONS I.T.W. BUILD EX W/ 1 1/2" MIN. THREADED PENETRATION TO PLYWOOD SHEATHING REQ'D. W/ 1" EXTRA DISTANCE PASSED PLYWOOD

1/2" MIN. PLYWOOD SHEATHING REQUIRED

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

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



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

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

(2) #14x3/4" S.S. S.M.S. TO E AT LOCATIONS SHOWN ON ELEVATION ON SHEETS 3 & 4.

Handwritten signature and date: 10/10/09

ASSA / BERTHA H.V. COLONIAL SHUTTER		R.E.
AMERICAN SHUTTER SYSTEMS ASSOC., INC.		DRAWN BY:
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REV. No	DESCRIPTION	DATE
1	OLD 08-154	10/05/09
2		

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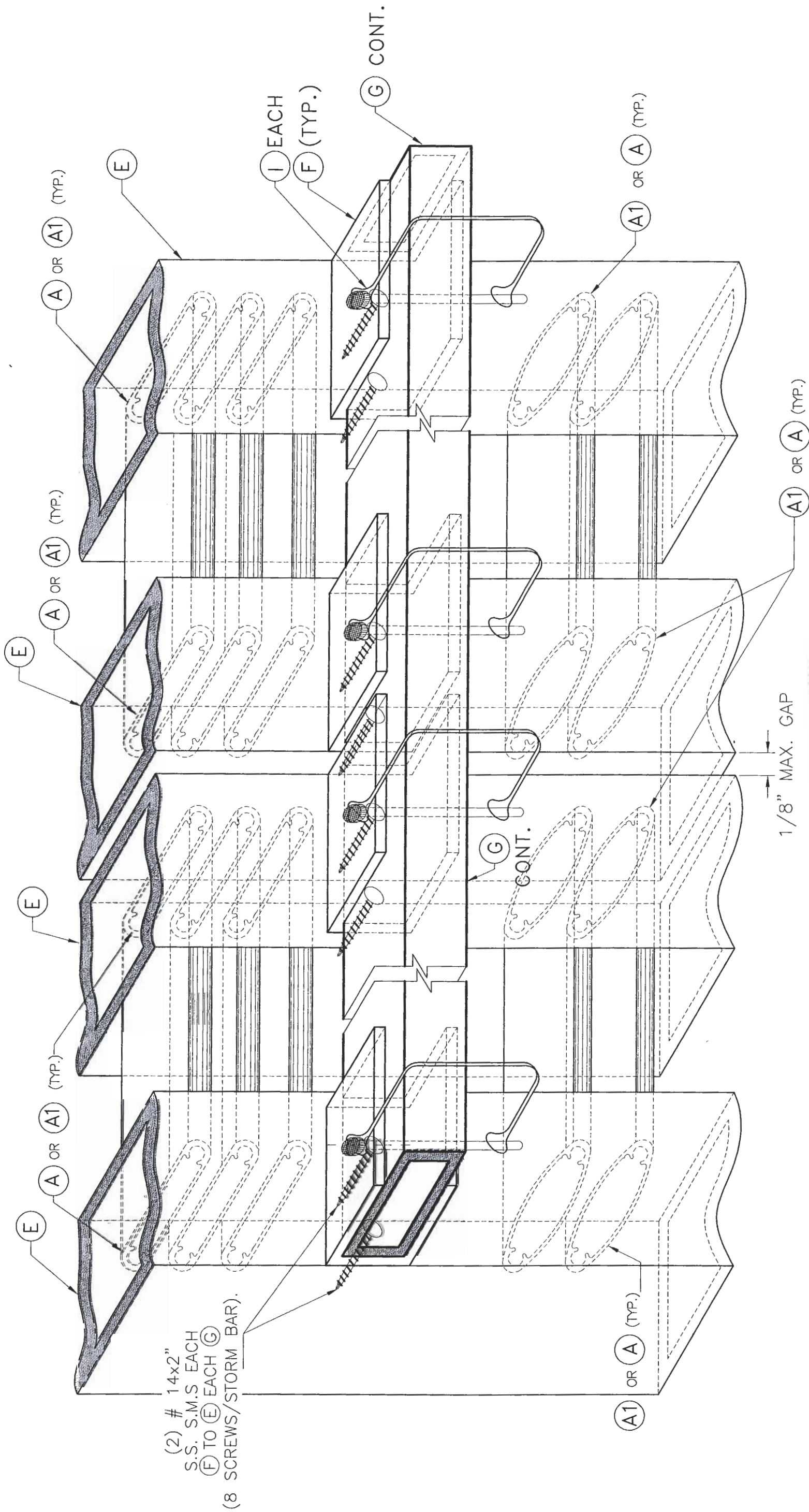
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FLORIDA LIC. # 44167

F.B.C. (Non High Velocity Hurricane Zone)

09-187
DRAWING No: SHEET 7 OF 14



(2) # 14x2"
S.S. S.M.S EACH
(F) TO (E) EACH (G)
(8 SCREWS/STORM BAR).

DETAIL 1 (ISOMETRIC)

N.T.S

1/8" MAX. GAP

F.B.C. (Non High Velocity Hurricane Zone)

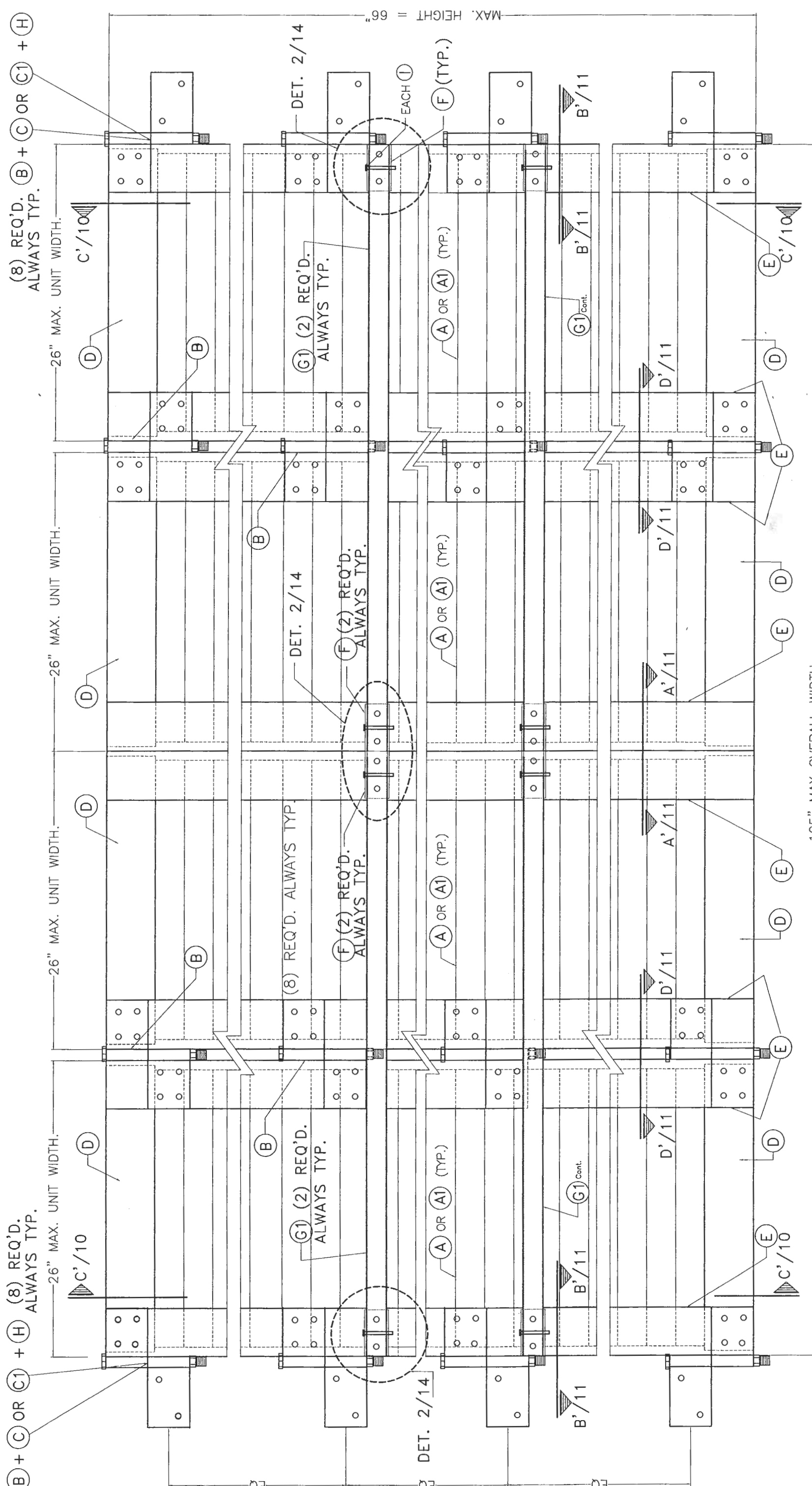
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AMERICAN SHUTTER SYSTEMS ASSOC., INC.		09-187 DRAWING No:	
4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (800)432-2204, FAX: (561)209-8380		REV. No	DATE
1	OLD 08-154	10/05/09	3
2			4

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WALTER A. TILLIT Jr., P.E.
 10/10/09



105" MAX OVERALL WIDTH.

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

N.T.S.

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

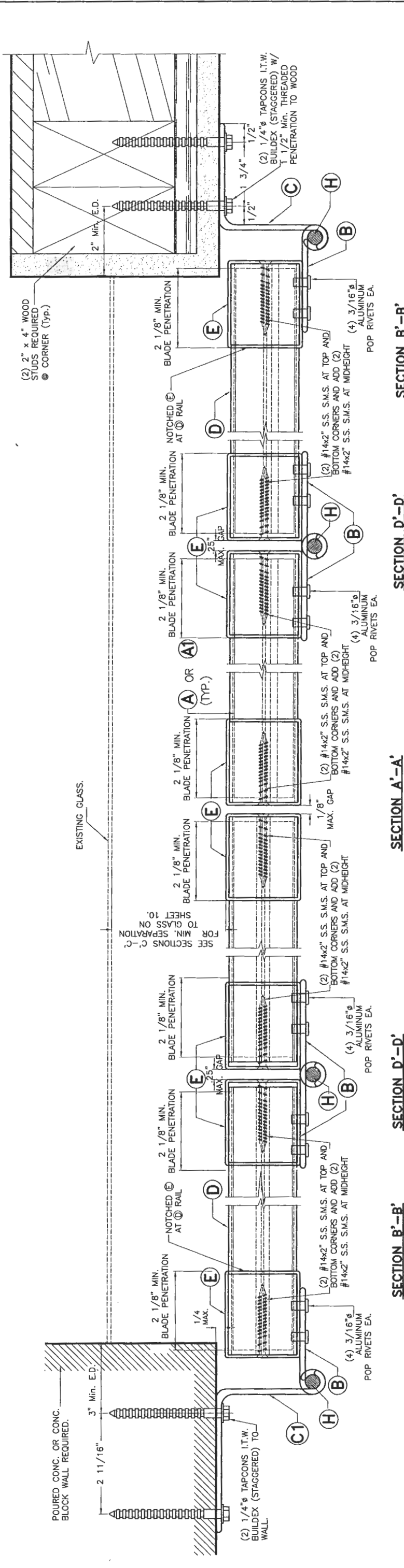
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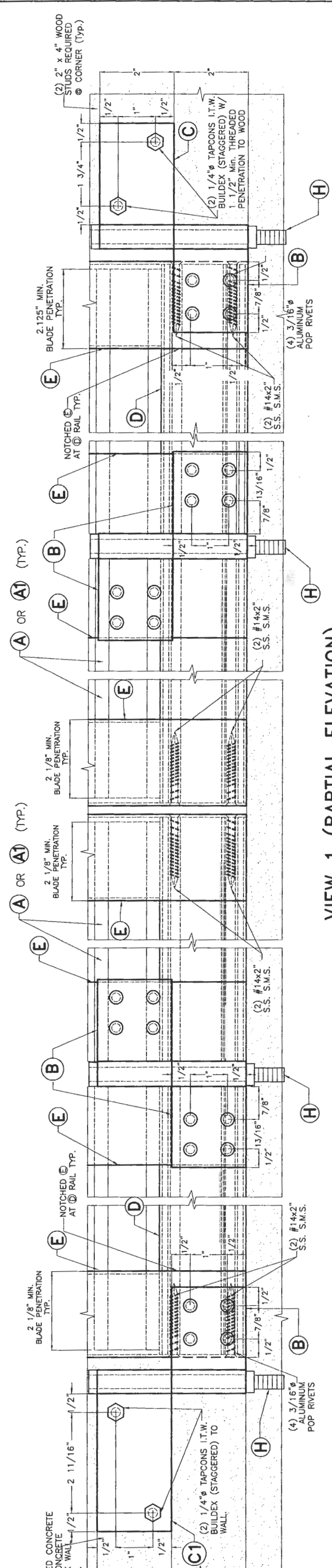
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AMERICAN SHUTTER SYSTEMS ASSOC., INC.		DATE:	10/05/09
4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (800)432-2204, FAX: (561)209-8380		REV. No	DATE
1	DESCRIPTION OLD 08-154	REV. No	DATE
2		3	4
		DESCRIPTION	DATE
		DRAWING No:	09-187
		SHEET	9 OF 14

[Handwritten signature]
10/10/09



PLAN
N.T.S.



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

10/05/09
09-187
DRAWING No.

ASSA / BERTHA H.V. COLONIAL SHUTTER
R.E. DRAWN BY:
10/05/09 DATE:
09-187 DRAWING No.

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WALTER A. TILLET JR. P.E.
FLORIDA Lic # 44167

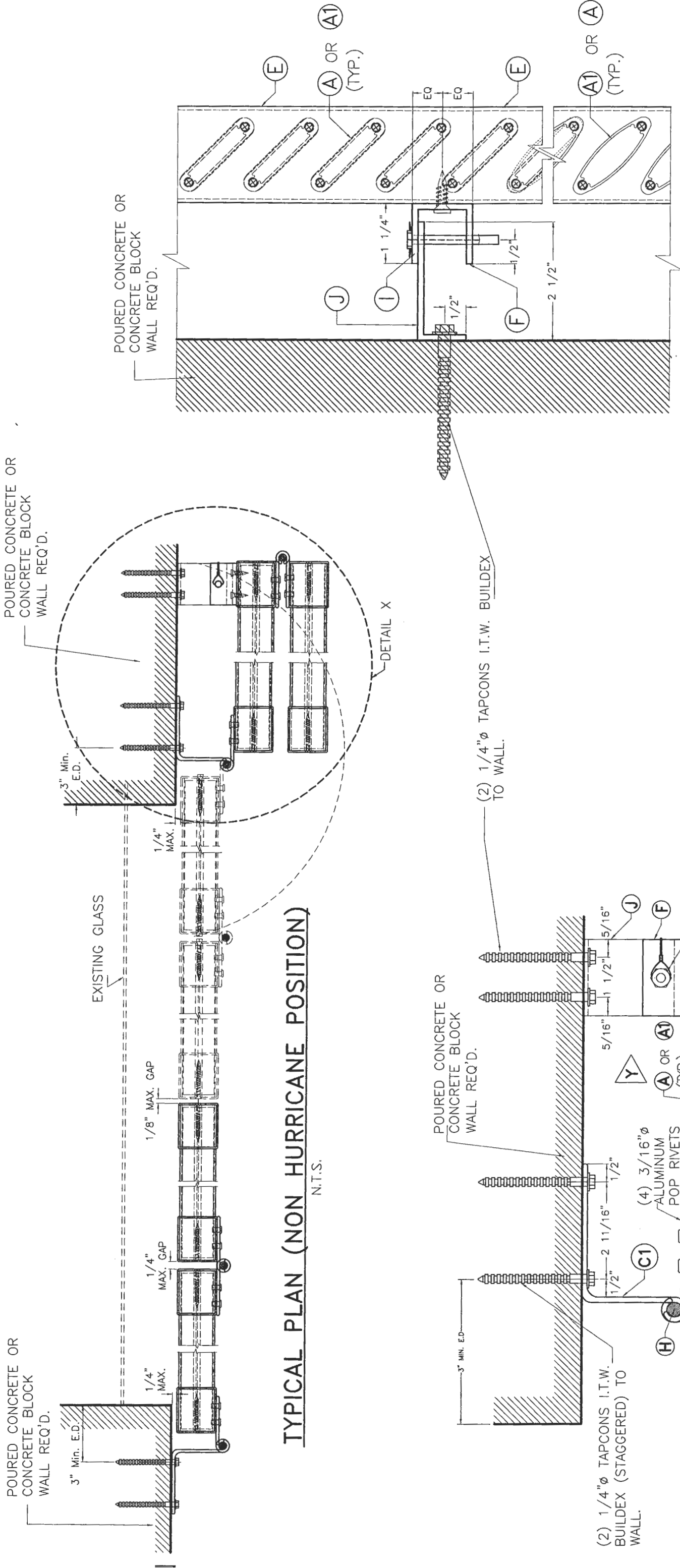
F.B.C. (Non High Velocity Hurricane Zone)

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

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 08-154	10/05/08	3		

POURED CONCRETE OR
CONCRETE BLOCK
WALL REQ'D.

POURED CONCRETE OR
CONCRETE BLOCK
WALL REQ'D.



TYPICAL PLAN (NON HURRICANE POSITION)

N.T.S.

ELEVATION Y-Y

SCALE: 1/2"=1"

DETAIL X (NON HURRICANE POSITION)

SCALE: 3/8"=1"

F.B.C. (Non High Velocity Hurricane Zone)

ASSA / BERTHA H.V. COLONIAL SHUTTER		R.E.
AMERICAN SHUTTER SYSTEMS ASSOC., INC.		DRAWN BY:
4258 WEST ROADS DRIVE WEST PALM BEACH, FL 33407		10/05/09
PHONE: (800)432-2204, FAX: (561)209-8380		DATE:
REV. No	DESCRIPTION	DATE
1	OLD 08-154	10/05/09
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TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY
 6355 N.W. 56th St., Ste. 305, VIRGINIA GARDENS, FL 33166
 Phone: (305)871-1530 Fax: (305)871-1531

EB-0006719
 WALTER A. TILLIT JR. P.E.
 FLORIDA Lic. # 44167

10/10/09

POURED CONCRETE OR
CONCRETE BLOCK
WALL REQ'D.

POURED CONCRETE OR
CONCRETE BLOCK
WALL REQ'D.

(2) 1/4" ϕ TAPCONS I.T.W. BUILDDEX
TO WALL.

(2) #14x3/4" S.S.
S.M.S. TO E AT
LOCATIONS SHOWN ON
ELEVATION ON SHEET 9

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

(2) 1/4" ϕ TAPCONS I.T.W.
BUILDDEX (STAGGERED) TO
WALL.

(4) 3/16" ϕ
ALUMINUM
POP RIVETS

2 1/8" MIN.
BLADE PENETRATION

EXISTING GLASS

1/8" MAX. GAP

1/4" MAX. GAP

1/4" MAX.

3" Min. E.D.

1/4" MAX.

DETAIL X

3" MIN. E.D.

1/2"

1 1/16"

1/2"

5/16"

1 1/2"

5/16"

1/2"

1 1/2"

2 1/2"

1/2"

1 1/4"

1/2"

2 1/2"

1/2"

1 1/2"

1/2"

1 1/2"

EQ

POURED CONCRETE OR
CONCRETE BLOCK
WALL REQ'D.

E

A OR A1
(TYP.)

EQ

EQ

E

A1 OR A
(TYP.)

J

I

F

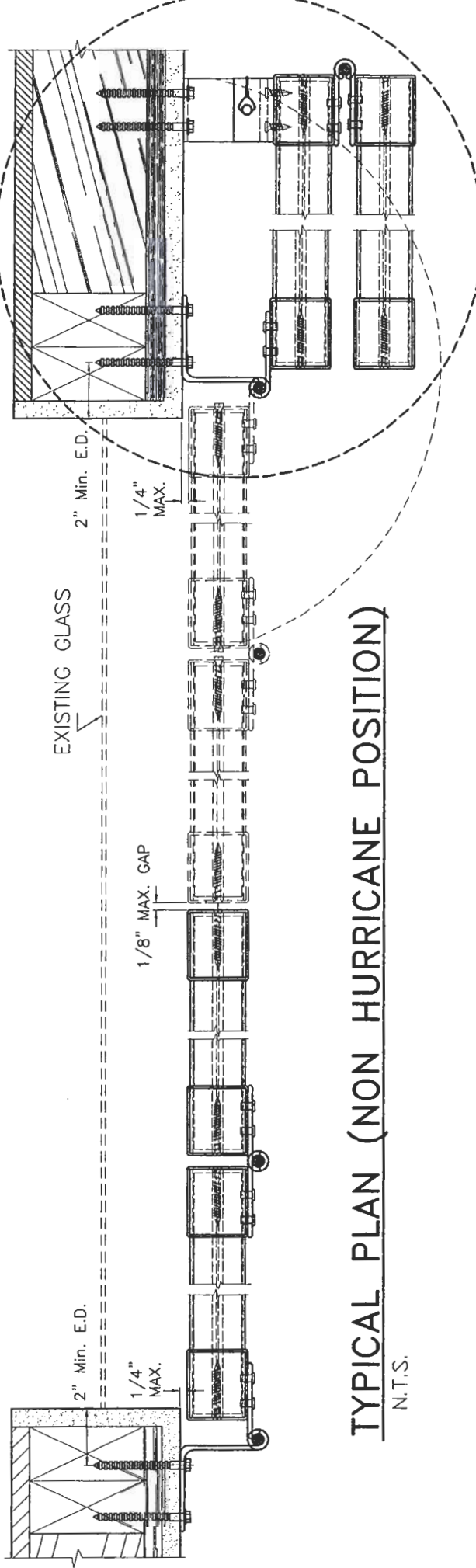
2 1/2"

1/2"

1/4"

1/2"

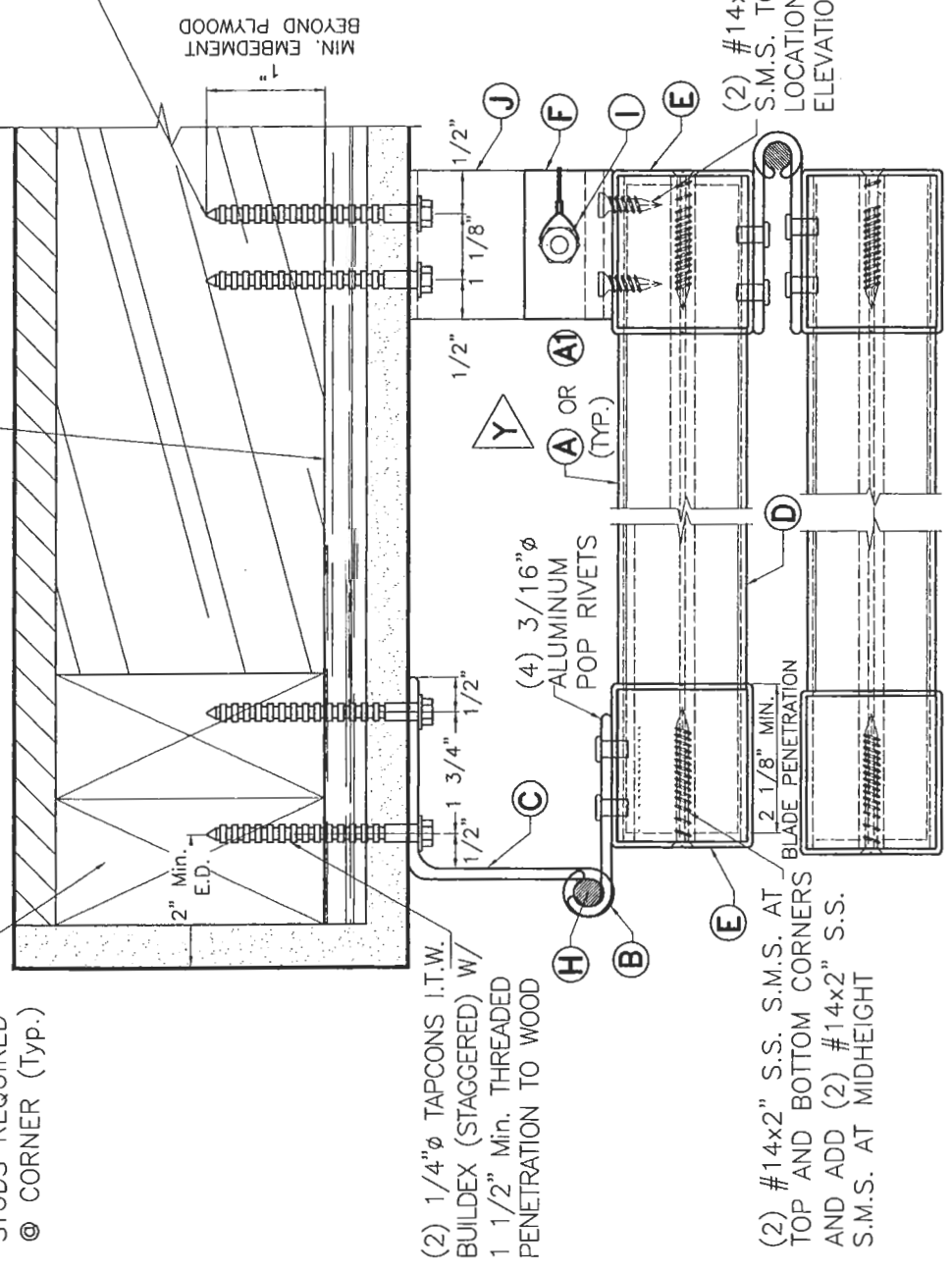
EQ



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

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

1/2" MIN. PLYWOOD SHEATHING REQUIRED

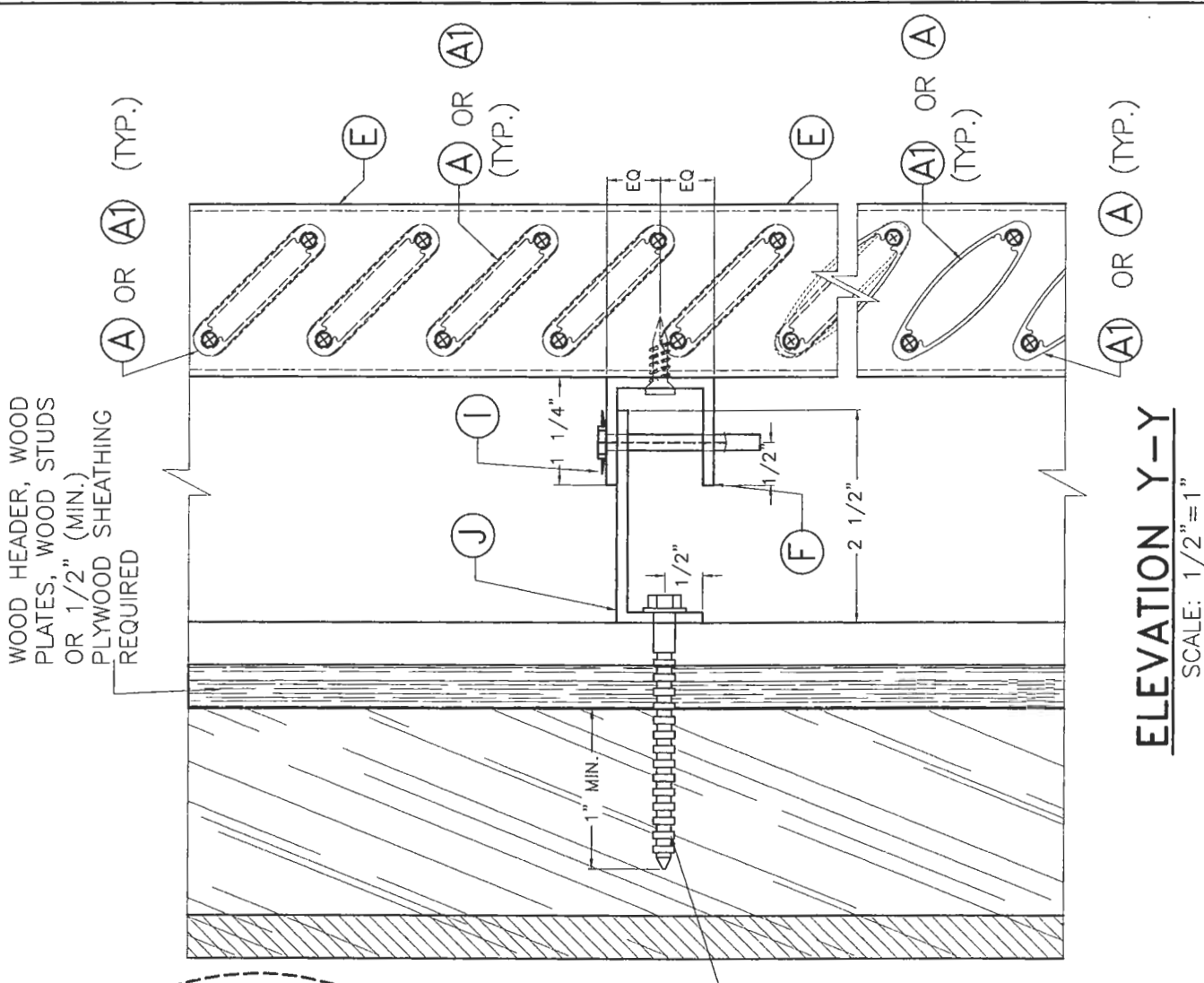


(2) 1/4" TAPCONS I.T.W. BUILDUP (STAGGERED) W/ 1 1/2" MIN. THREADED PENETRATION TO WOOD

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

(2) #14x3/4" S.S. S.M.S. TO @ AT LOCATIONS SHOWN ON ELEVATION ON SHEET 9.

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



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

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TILTECO INC.

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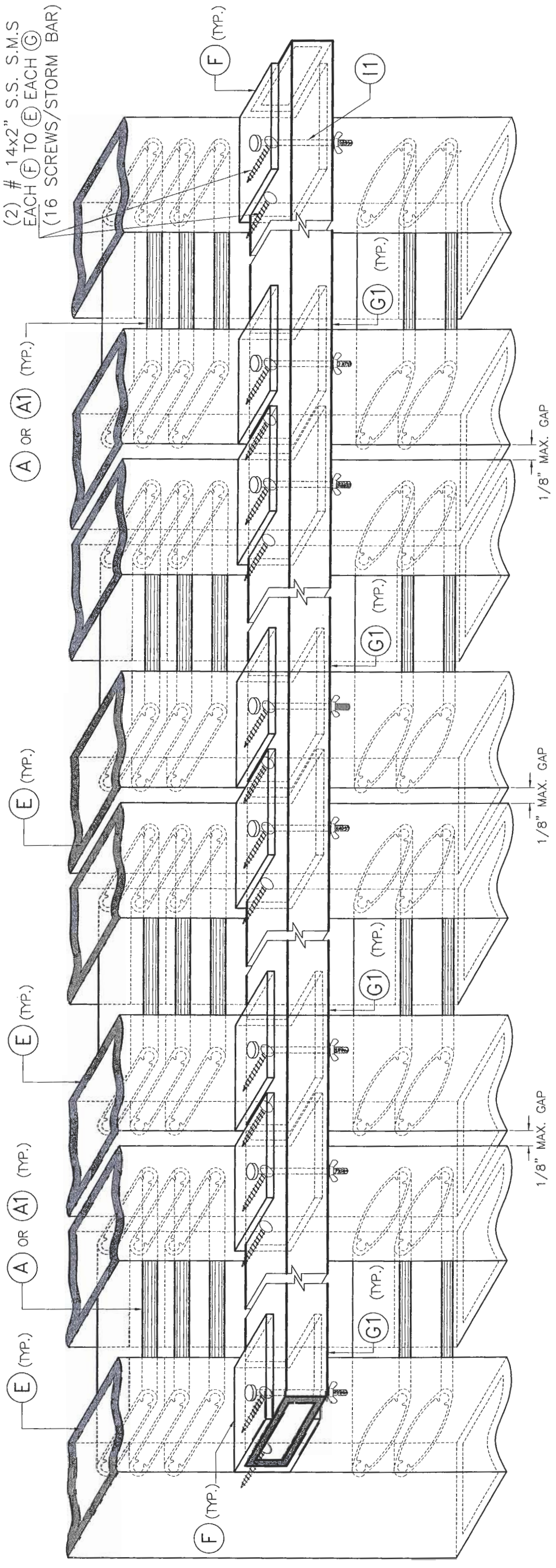
R.E. DRAWN BY: 10/05/09 DATE: 09-187 DRAWING No: SHFFT 13 OF 14

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 08-154	10/05/09	3		

F.B.C. (Non High Velocity Hurricane Zone)

10/26/09

(2) # 14x2" S.S. S.M.S
EACH (F) TO (E) EACH (G)
(16 SCREWS/STORM BAR)



DETAIL 1 (ISOMETRIC)

N.T.S

[Handwritten signature and date]
10/10/07

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ASSA / BERTHA H.V. COLONIAL SHUTTER		R.E.	10/05/09
AMERICAN SHUTTER SYSTEMS ASSOC., INC.		DRAWN BY:	DATE:
4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (800)432-2204, FAX: (561)209-8380		REV. No	DATE
TILTECO INC. TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL. 33166 Phone : (305)871-1530 . Fax : (305)871-1531		1	10/05/09
WALTER A. TILLIT Jr. P.E. FLORIDA Lic. # 44167		2	10/05/09
		DESCRIPTION	DATE
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