

GENERAL NOTES:

1. ROLL-UP SHUTTER SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P. E. D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2006 EDITIONS OF THE INTERNATIONAL BUILDING CODE, (I.B.C.) AND INTERNATIONAL RESIDENTIAL CODE, (I.R.C.) WITH THE 2006 TEXAS REVISIONS, EFFECTIVE JANUARY 1, 2008. THIS ROLL-UP SHUTTER SHALL BE INSTALLED AT SEAWARD AND INLAND AREAS, AS DEFINED BY THE TEXAS DEPARTMENT OF INSURANCE. DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1609 OF THE INTERNATIONAL BUILDING CODE, FOR A BASIC WIND SPEED AS REQUIRED BY THE JURISDICTION WHERE SHUTTER WILL BE INSTALLED, AND FOR A DIRECTIONALITY FACTOR $K_d=0.85$, IN ACCORDANCE W/ ASCE 7-05 STANDARD. ROLL-UP SHUTTER ADEQUACY FOR IMPACT AND CYCLIC RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTIONS 1609.1.2 AND R301.1.3 OF THE ABOVE MENTIONED CODES, RESPECTIVELY, AS PER ASTM E-1886 AND E-1996 STANDARDS, AND FOR UNIFORM STATIC WIND LOAD, AS PER ASTM E-330, PER HURRICANE TESTING LAB REPORTS # G 178-0302-05. PRODUCT MAY BE INSTALLED WITHIN WIND ZONES 1 THRU 4, ONLY AT BUILDINGS W/ BASIC PROTECTION, CORRESPONDING TO MISSILE TYPE D.

2. SEE DESIGN PRESSURE RATINGS ON SHEETS 2 & 5 OF 5.

3. ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION ALLOY AND TEMPER, AS INDICATED ON THIS DRAWING. THE THICKNESS OF ALL EXTRUSIONS SHALL BE AS SHOWN ON THIS DRAWING WITH STANDARD TOLERANCES IN ACCORDANCE WITH THE "ALUMINUM STANDARDS AND DATA 2006 EDITION", ALUMINUM ASSOCIATION INCORPORATED, WASHINGTON D.C.

4. ALL SCREWS AND BOLTS INSTALLED AT SEAWARD AREAS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES AND MEET ASTM A167, OR HOT DIPPED GALVANIZED (AFTER FABRICATION) CARBON STEEL AS PER ASTM A123 OR ASTM A153, OR HOT DIPPED GALVANIZED OR GALVANNEALED (PRIOR TO FABRICATION) AND MEET ASTM A653 WITH 50 ksi YIELD STRENGTH AND 90 ksi TENSILE STRENGTH, PER 2006 TEXAS REVISIONS TO SECTION 1716.1.1 OF THE 2006 I.B.C. AND SECTION R325.1.1 OF THE 2006 I.R.C.

5. ALL SCREWS & BOLTS INSTALLED AT INLAND AREAS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES AND MEET ASTM A167, OR HOT DIPPED GALVANIZED (AFTER FABRICATION) CARBON STEEL AS PER ASTM A123 OR ASTM A153, OR HOT DIPPED GALVANIZED OR GALVANNEALED (PRIOR TO FABRICATION) AND MEET ASTM A653; HOT DIP GALVANIZED OR ELECTRO GALVANIZED PER ASTM A641, MECHANICALLY DEPOSITED ZINC COATINGS PER ASTM B695 OR ELECTRO DEPOSITED ZINC COATINGS PER ASTM B633, PER THE 2006 TEXAS REVISIONS TO SECTION 1716.1.2 OF THE 2006 I.B.C. AND TO SECTION R325.1.2 OF THE 2006 I.R.C.

6. ANCHORS TO EXISTING STRUCTURE SHALL BE AS FOLLOWS:

(A) TO EXISTING POURED CONCRETE : MIN. 3320 p.s.i. COMPRESSIVE STRENGTH. -1/4" ϕ TAPCON ANCHORS MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS.

NOTES:

A.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO POURED CONCRETE SHALL BE 1 3/4". NO EMBEDMENT INTO ANY FINISH MATERIAL COVERING THE MAIN SUBSTRATE SHALL BE CONSIDERED AS PART OF THE REQUIRED EMBEDMENT.

(B) TO EXISTING POURED CONCRETE BLOCK: MIN. 1200 p.s.i. COMPRESSIVE STRENGTH (C-90 UNIT). -1/4" ϕ TAPCON ANCHORS MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS.

NOTES:

B.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO CONCRETE BLOCK SHALL BE 1 1/4". NO EMBEDMENT INTO ANY FINISH MATERIAL COVERING THE MAIN SUBSTRATE SHALL BE CONSIDERED AS PART OF THE REQUIRED EMBEDMENT.

(C) TO EXISTING WOOD FRAME WALL: MIN. SPECIFIC GRAVITY $G=0.42$. -#14 WOOD SCREWS. (MIN. $F_y=70,000$ psi).

NOTES:

C.1) MINIMUM EMBEDMENT OF WOOD SCREWS, INTO WOOD FRAME SHALL BE AS INDICATED ON THIS DRAWING. NO EMBEDMENT INTO ANY FINISH MATERIAL COVERING THE MAIN SUBSTRATE SHALL BE CONSIDERED AS PART OF THE REQUIRED EMBEDMENT.

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

7. 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 DUE TO THEIR FASTENING TO IT, TO PREVENT WIND/RAIN INTRUSION. CAULK AND SEAL SHUTTER TRACKS ALL AROUND FULL LENGTH.

8. ROLL-UP SHUTTER INSTALLATION SHALL COMPLY WITH SPECS INDICATED IN THIS DRAWING PLUS ANY BUILDING AND ZONING REGULATIONS PROVIDED BY THE JURISDICTION WHERE PERMIT IS APPLIED TO.

9. ROLL-UP MECHANISM NOT PART OF THIS APPROVAL, BUT SHALL BE CERTIFIED BY AN INDEPENDENT TESTING AGENCY.

10. (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.

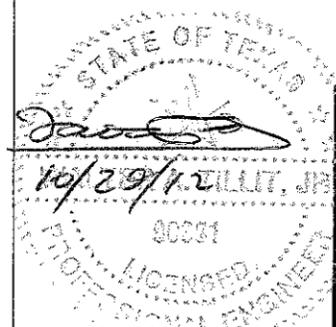
(b) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT, BASED ON THIS PRODUCT EVALUATION DOCUMENT, PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.

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

(d) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A PROFESSIONAL ENGINEER OR REGISTERED 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.

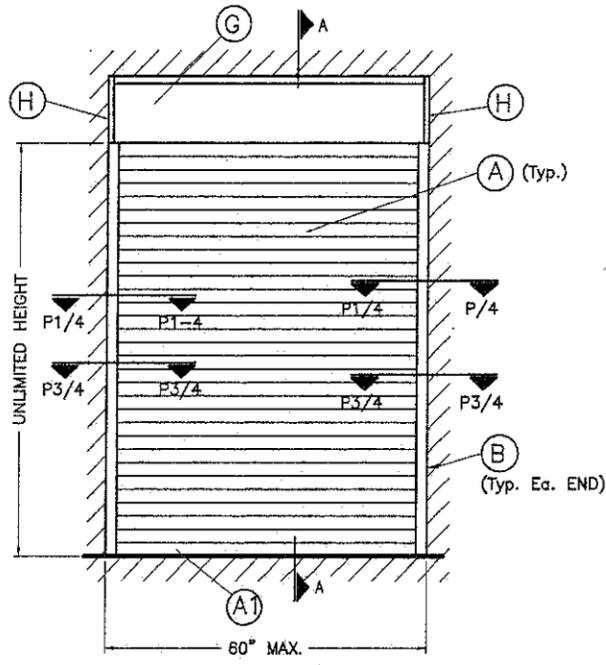
11. SHUTTER MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT ROLL-UP SHUTTER IN ACCORDANCE WITH TEXAS DEPARTMENT OF INSURANCE REQUIREMENTS. ONE LABEL SHALL BE PLACED FOR EVERY OPENING.



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VIRGINIA GARDENS, FL 33166
PHONE (305) 871-1530 FAX (305) 871-1531
TEXAS LIC. # 90691
FIRM REGISTRATION # F-13790

TEXAS DEPARTMENT OF INSURANCE -- 2006

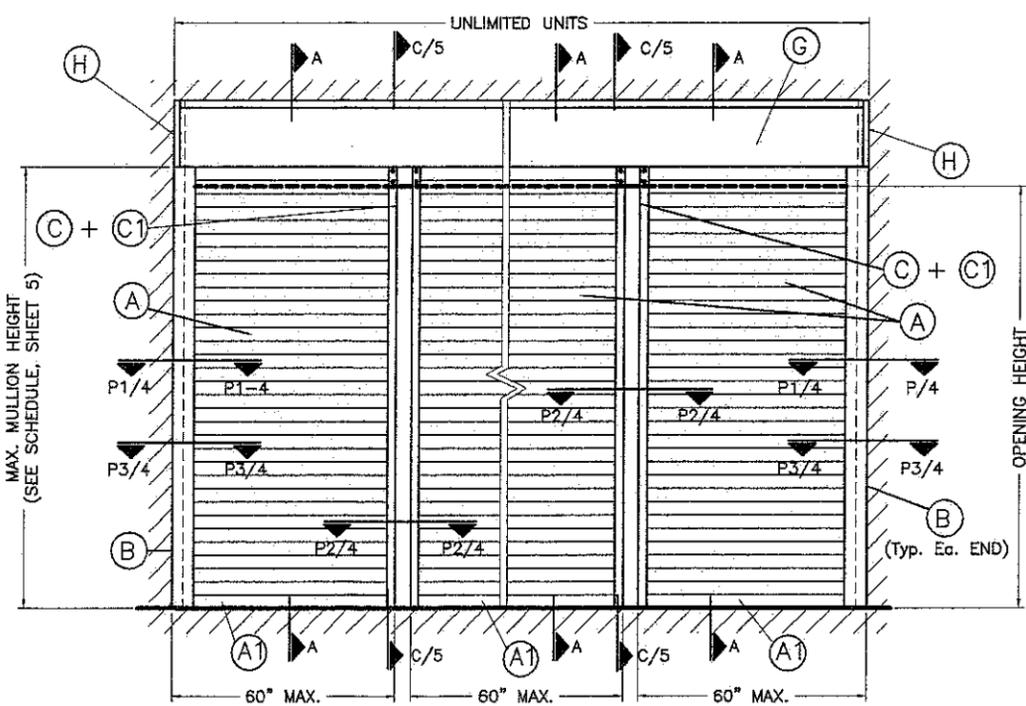
55 mm ROLL-UP SHUTTER						AS SHOWN SCALE
ARAMCO STORM PROTECTION						10/27/12 DATE
5105 BROADWAY GALVESTON, TEXAS 77551 Phone:(409)762-9652						12-162 DRAWING No
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	SHEET 1 OF 5
1	OLD 05-047	10/27/12	3	-	-	
2	-	-	4	-	-	



MINIMUM SEPARATION TO GLASS SCHEDULE BASED ON WIND ZONE	
WIND ZONE	MIN. SEPARATION TO GLASS
1 THRU 3	1"
4	4 1/2"

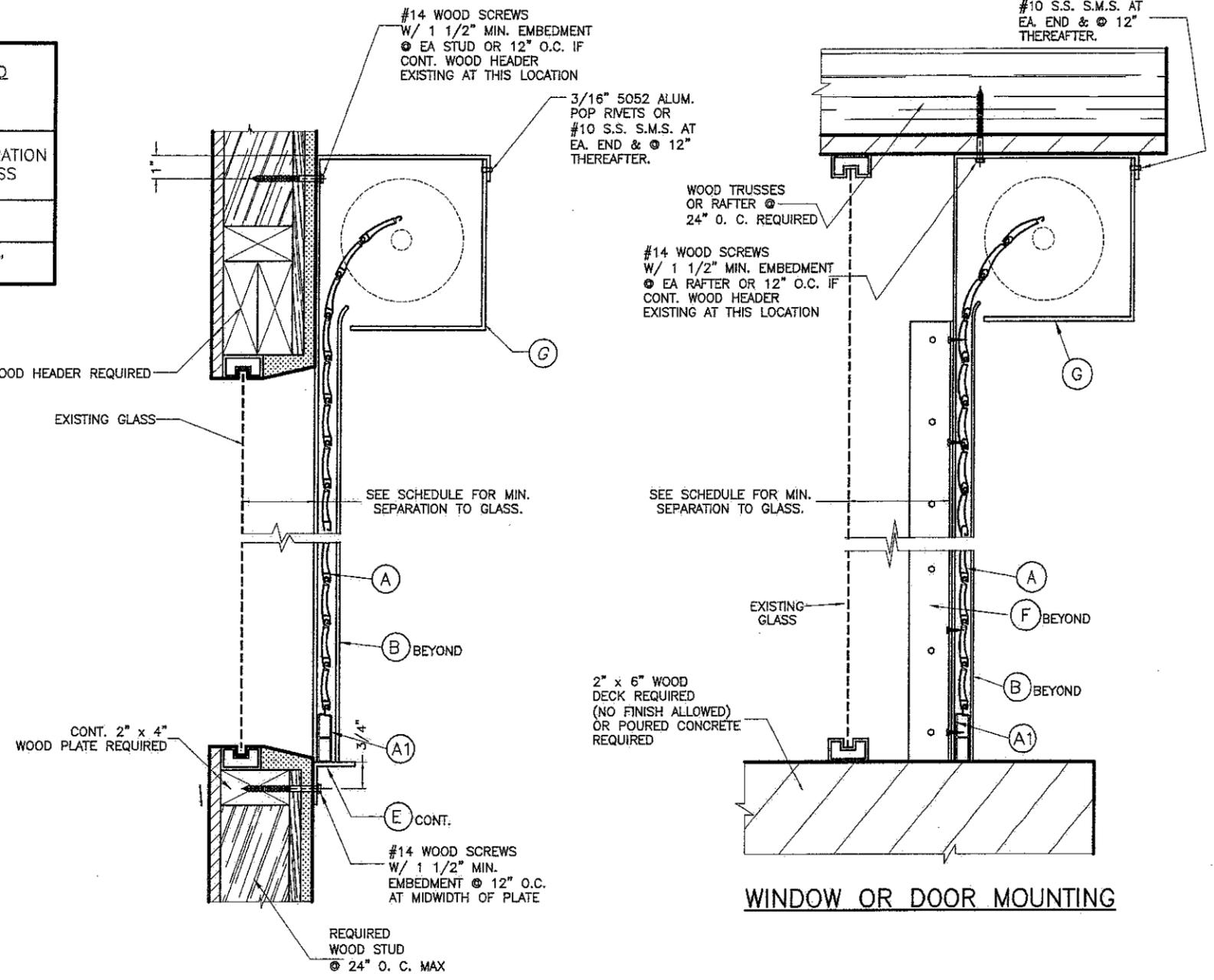
TYPICAL SINGLE UNIT ELEVATION

NOTE: SEE SHEETS 3 & 4 OF 5 FOR COMPONENTS NOMENCLATURE.



TYPICAL MULTIPLE UNIT ELEVATION

NOTE: SEE SHEETS 3 & 4 OF 5 FOR COMPONENTS NOMENCLATURE.

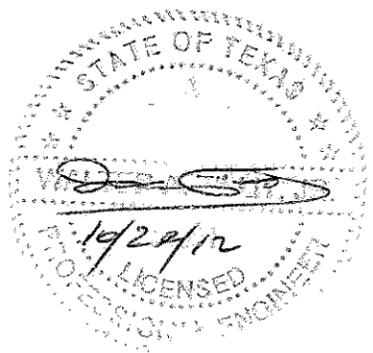


WINDOW MOUNTING

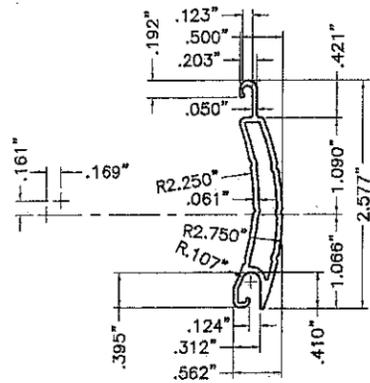
WINDOW OR DOOR MOUNTING

SECTIONS A-A

N. T. S.

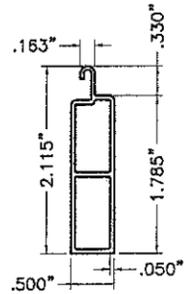


WALTER A. TILLIT Jr. P.E. PROFESSIONAL ENGINEER 6355 N.W. 36 STREET, STE. 305 VIRGINIA GARDENS, FL 33166 PHONE (305) 871-1530 FAX (305) 871-1531 TEXAS LIC. # 90691 FIRM REGISTRATION # F-13790		TEXAS DEPARTMENT OF INSURANCE - 2006 55 mm ROLL-UP SHUTTER ARAMCO STORM PROTECTION 5105 BROADWAY GALVESTON, TEXAS 77551 Phone: (409) 762-9652		AS SHOWN SCALE 10/27/12 DATE 12-162 DRAWING No SHEET 2 OF 5	
REV. NO	DESCRIPTION	DATE	REV. NO	DESCRIPTION	DATE
1	OLD 05-047	10/27/12	3	-	-
2	-	-	4	-	-



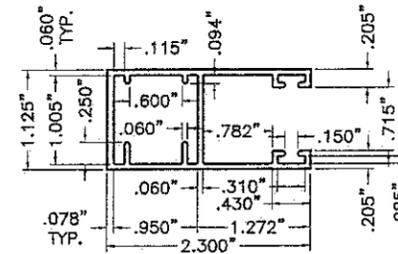
(A) TYPE 1 SLAT

6063-T6 ALUMINUM ALLOY
SCALE: 1/2" = 1"



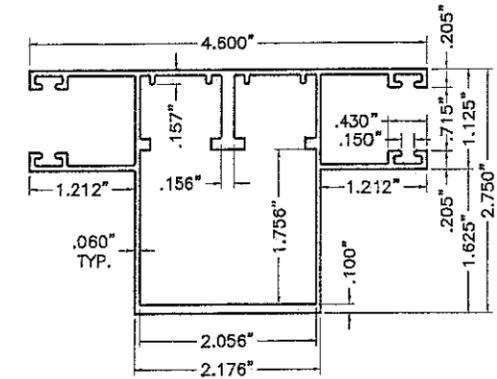
(A1) BASE SLAT

6063-T5 ALUMINUM ALLOY
SCALE: 1/2" = 1"



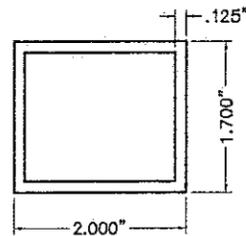
(B) SIDE RAIL

6063-T6 ALUMINUM ALLOY
SCALE: 1/2" = 1"



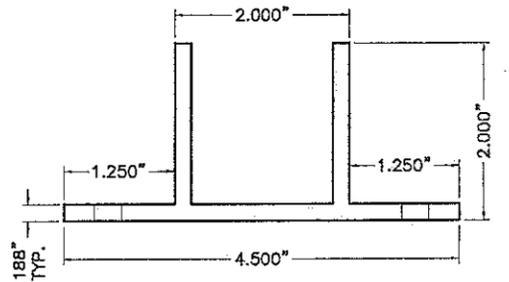
(C) MULLION

6063-T6 ALUMINUM ALLOY
SCALE: 1/2" = 1"



(C1) MULLION INSERT

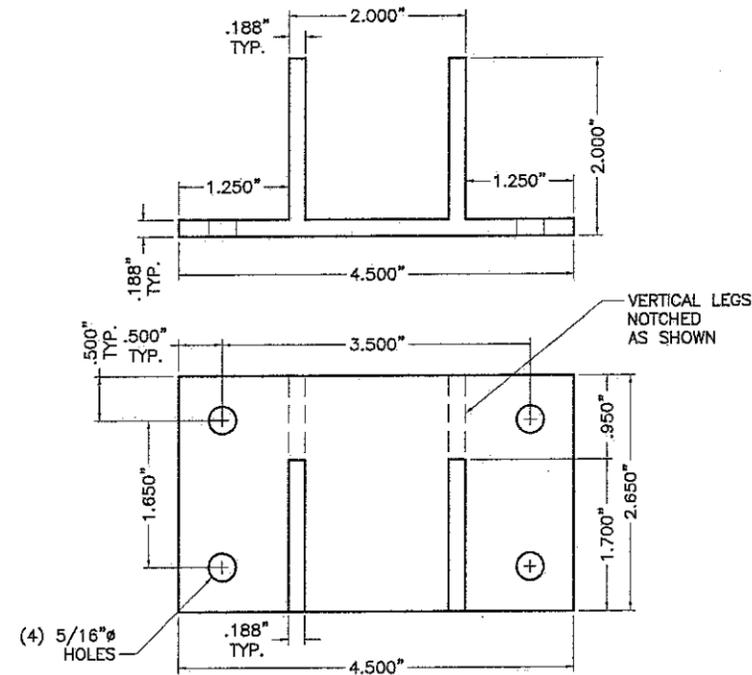
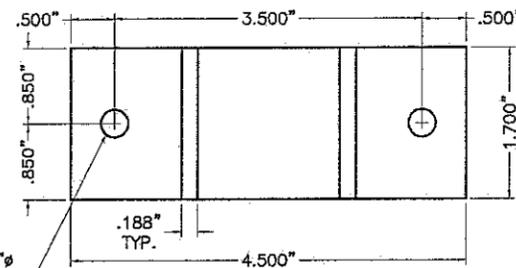
6063-T6 ALUMINUM ALLOY
SCALE: 1/2" = 1"



(D) 50 p.s.f. MULLION BASE CONNECTOR

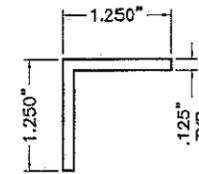
6063-T5 ALUMINUM ALLOY
SCALE: 1/2" = 1"

(2) 5/16" HOLES



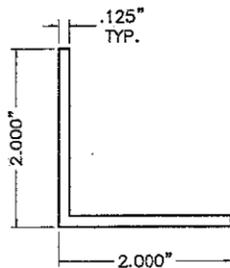
(D1) 60 p.s.f. (MAX.) MULLION BASE CONNECTOR

6063-T5 ALUMINUM ALLOY
SCALE: 1/2" = 1"



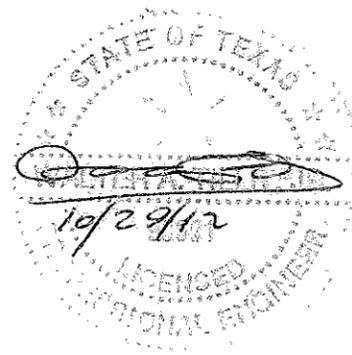
(E) BASE ANGLE

6063-T5 ALUMINUM ALLOY
SCALE: 1/2" = 1"



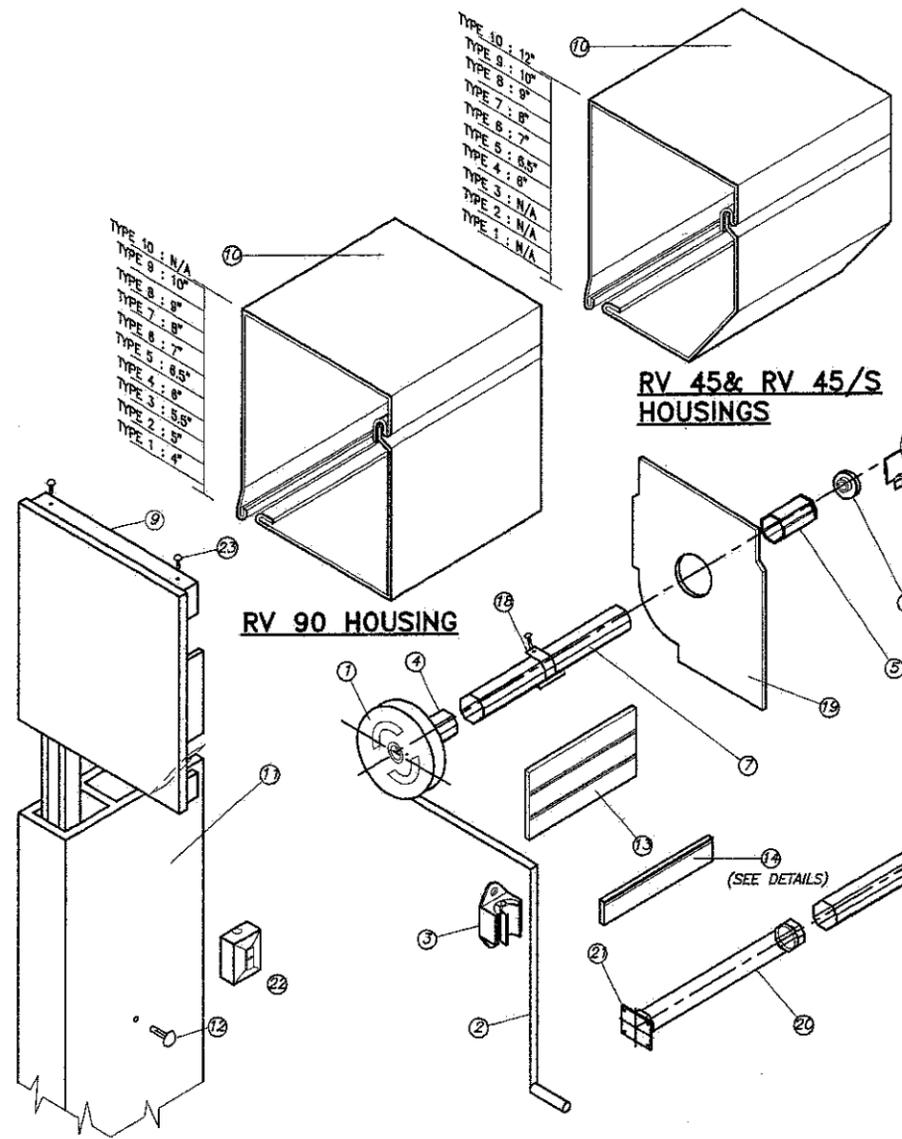
(F) TRAPPED ANGLE

6063-T5 ALUMINUM ALLOY
SCALE: 1/2" = 1"



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REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	GLD 05-047	10/27/12	3	-	-
2	-	-	4	-	-

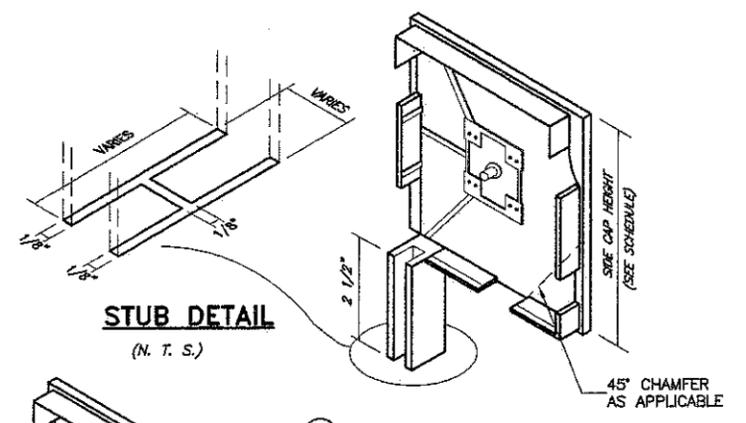
TEXAS DEPARTMENT OF INSURANCE - 2006



RV 90 HOUSING

RV 45 & RV 45/S HOUSINGS

G BOX COMPONENTS AND ASSEMBLY DETAIL
(SEE GENERAL NOTE # 8/1)



STUB DETAIL
(N. T. S.)

H SIDE CAPS: BK 90, BK 45 & BK 45/S
(MUST BE CAPABLE TO SUSTAIN THE SHUTTERS WEIGHT)

COMPONENTS FOR GEAR OPERATED SYSTEM

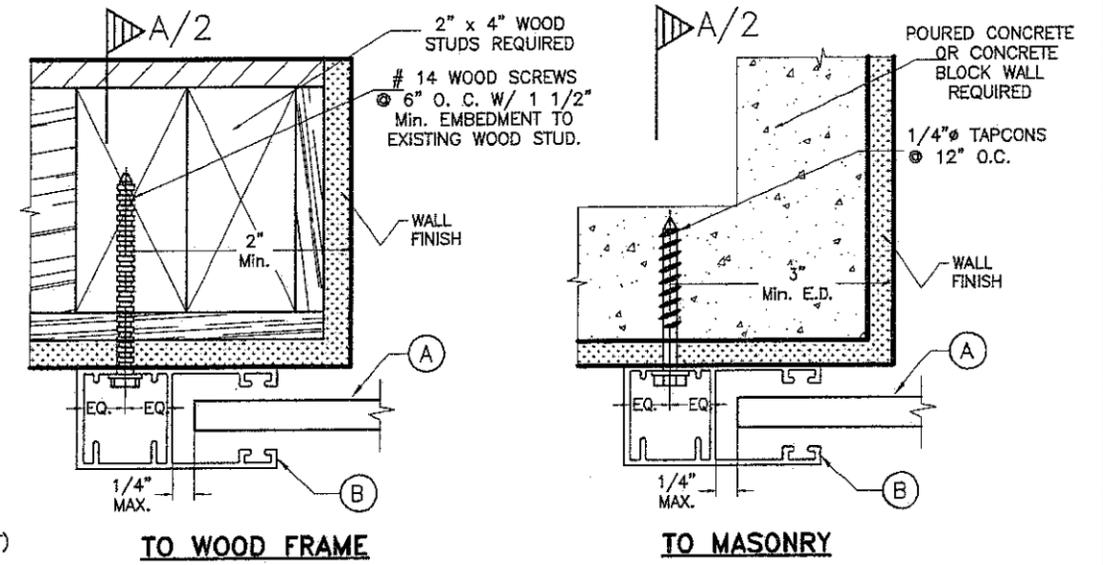
- 1 - GEAR
- 2 - UNIVERSAL & CRANK
- 3 - CRANK HOLDER (OPTIONAL)
- 4 - GEAR INSERT (GEAR TO AXLE CONNECTOR)
- 5 - IDLER INSERT
- 6 - BALL BEARING
- 7 - OCTAGONAL AXLE
- 8 - ENTRY GUIDES (ONLY FOR A-150-H SLAT)
- 9 - SIDE/END CAP
- 10 - HOUSING (FRONT & BOTTOM), 0.040" THICK
- 11 - SIDE RAIL
- 12 - PLUG-BOTTOMS
- 13 - ALUMINUM SLATS
- 14 - BASE SLAT
- 15 - PLASTIC STOPS (OPTIONAL)
- 16 - SIDE LOCKS (OPTIONAL)
- 17 - STAPLES (OPTIONAL)
- 18 - SPRINGLOCK HANGER
- 19 - SAFETY PLATES

ADDITIONAL COMPONENTS FOR MOTORIZED OPERATED SYSTEM

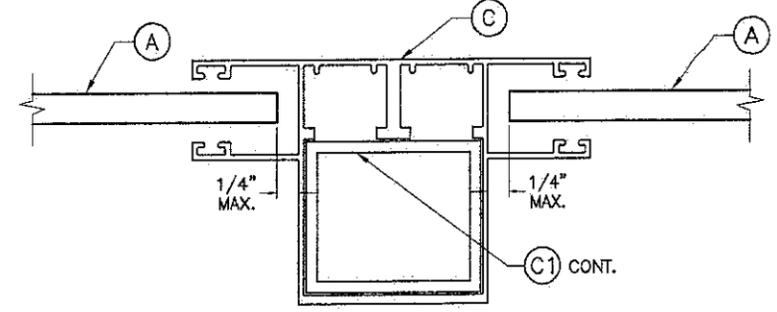
- 20 - TUBULAR MOTOR
- 21 - MOTOR BRACKET
- 22 - SWITCH

FASTENERS

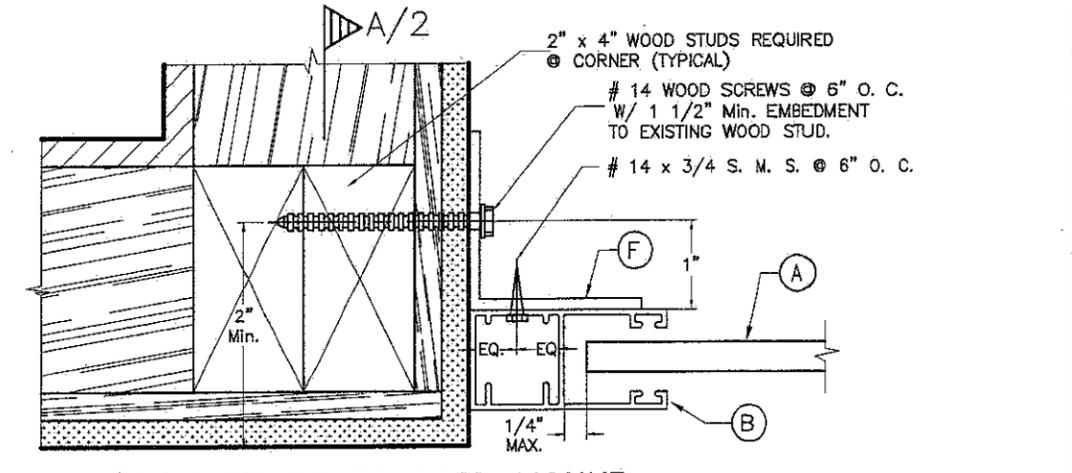
- 23 - 3/16" ALUMINUM POP-RIVETS (6 REQ'D EA. SIDE CAP) : 2 @ TOP, 2 @ REAR, 2 @ BOTTOM



SECTION P1-P1 WALL MOUNT
SCALE : 3/8" = 1"



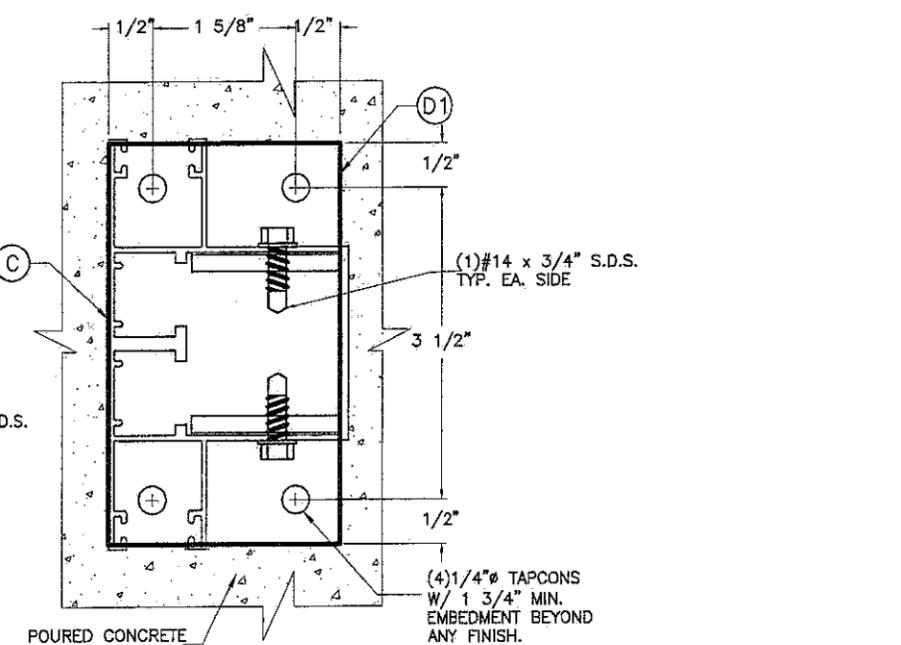
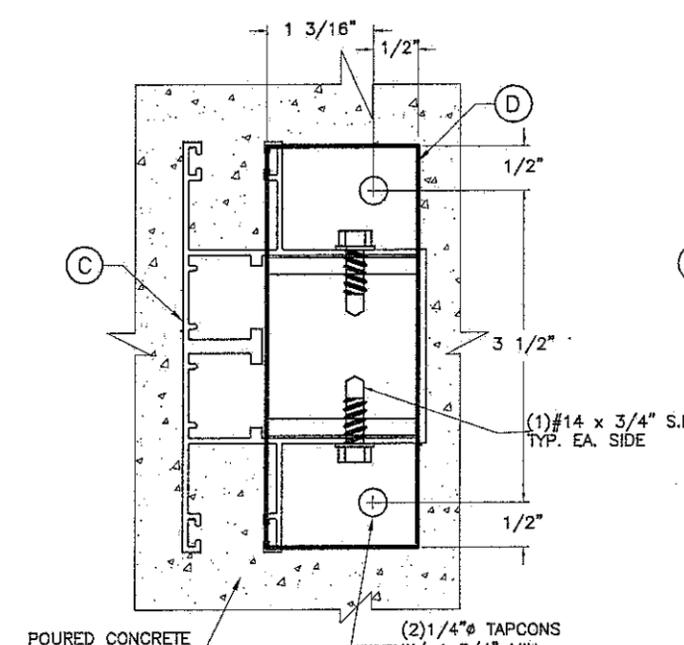
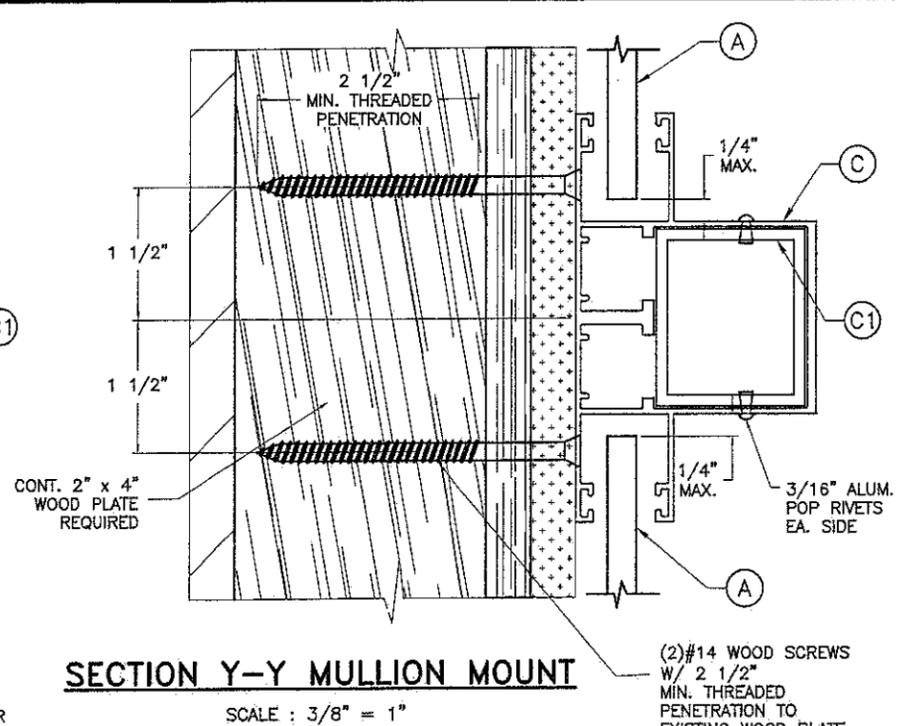
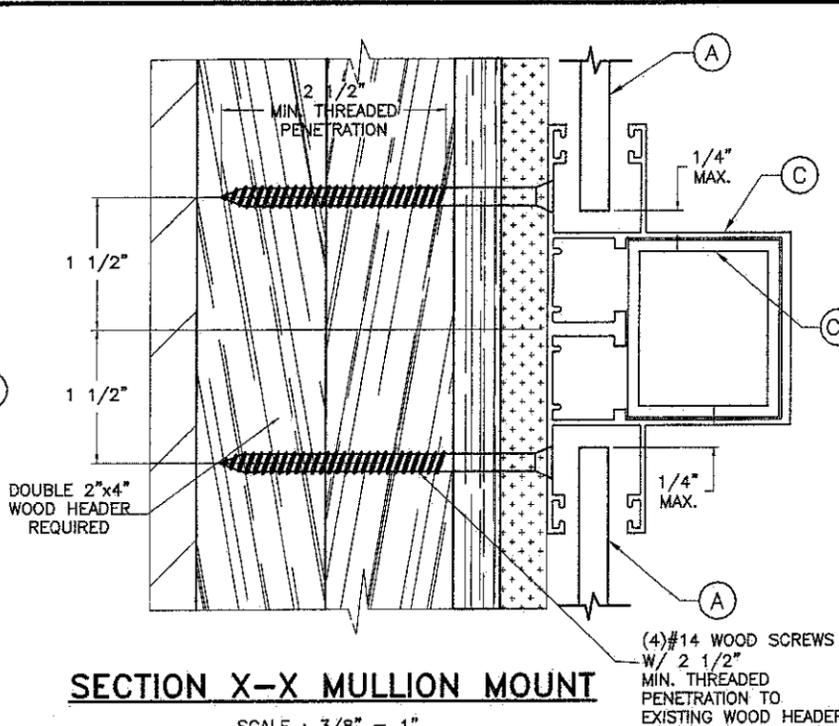
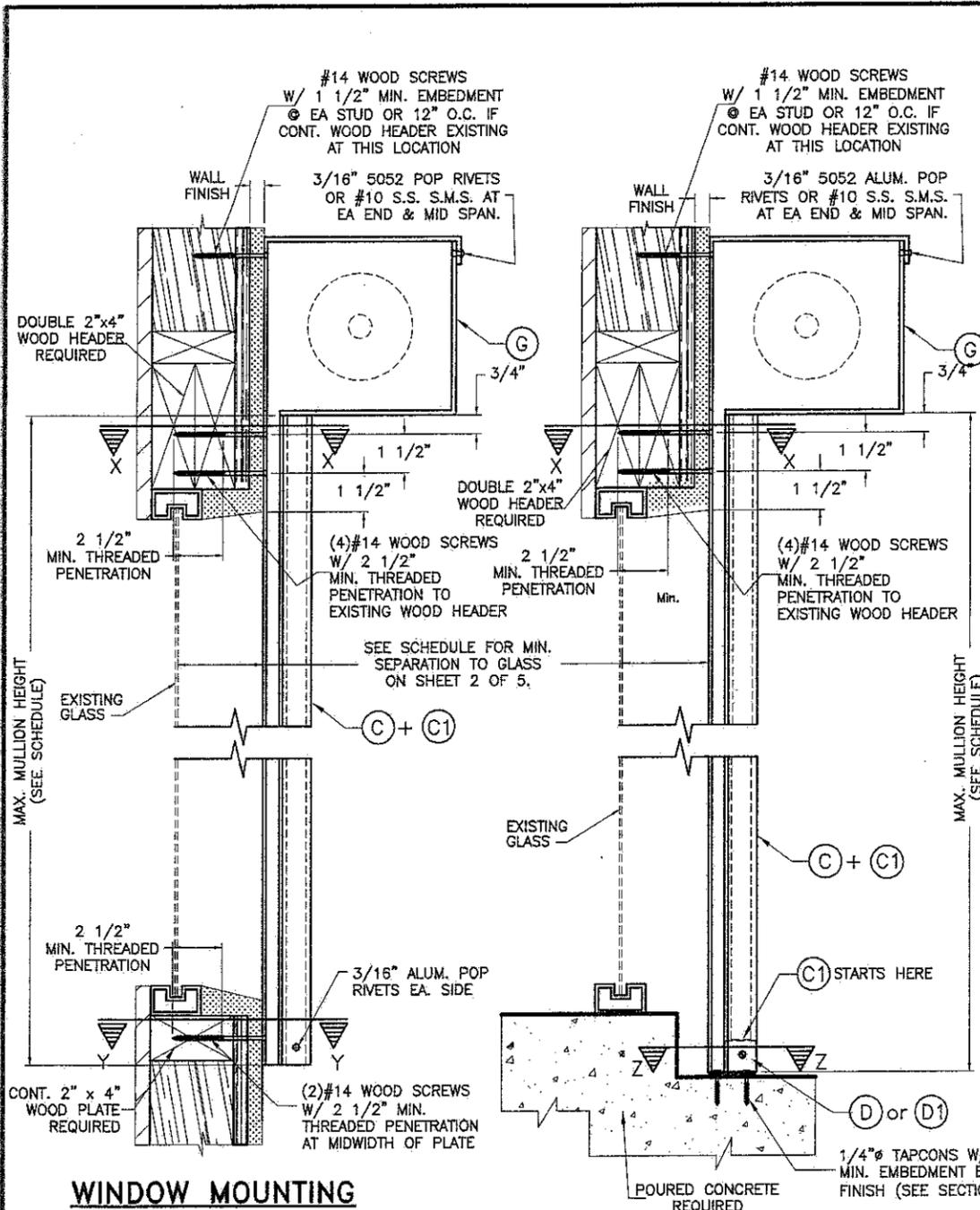
SECTION P2-P2 MULLION MOUNT
SCALE : 3/8" = 1"



SECTION P3-P3 TRAPPED MOUNT
SCALE : 3/8" = 1"

TEXAS DEPARTMENT OF INSURANCE - 2006

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6355 N.W. 36 STREET, STE. 305 VIRGINIA GARDENS, FL 33166 PHONE (305) 871-1530 FAX (305) 871-1531		ARAMCO STORM PROTECTION 5105 BROADWAY CALVESTON, TEXAS 77551 Phone:(409)762-9652		10/27/12 DATE	
TEXAS LIC. # 90691 FIRM REGISTRATION # F-13790				12-162 DRAWING No	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 05-047	10/27/12	3	-	-
2	-	-	4	-	-
					SHEET 4 OF 5



SECTIONS C-C

MAX. MULLION HEIGHT SCHEDULE		
DESIGN LOADS	MOUNTING TYPE	
	WINDOW MOUNTING	DOOR OR WINDOW MOUNTING
UP TO 50 psf.	84"	90" (W/ (D) @ BOTTOM)
>50 UP TO 60 psf.	72"	90" (W/ (D1) @ BOTTOM)



SECTIONS Z-Z

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TEXAS DEPARTMENT OF INSURANCE - 2006

55 mm ROLL-UP SHUTTER		AS SHOWN SCALE
ARAMCO STORM PROTECTION		10/27/12 DATE
5105 BROADWAY GALVESTON, TEXAS 77551 Phone:(409)762-9652		12-162 DRAWING No
REV. NO	DESCRIPTION	DATE
1	OLD 05-047	10/27/12
2		