

# 6.8 STREAMLINE SHUTTER

## GENERAL NOTES:

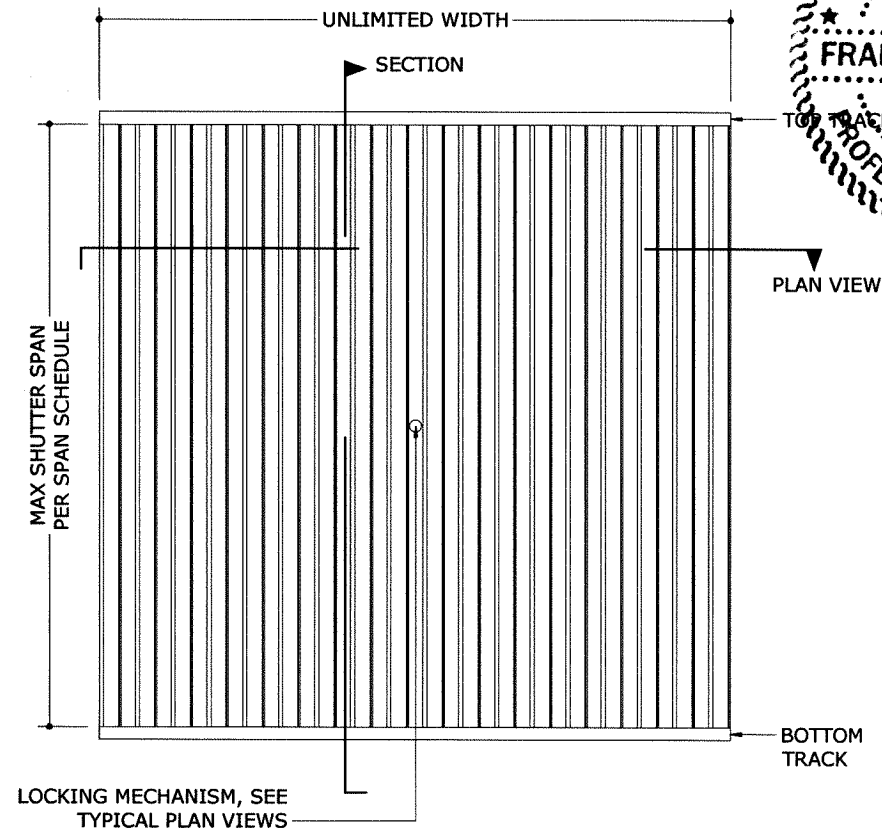
- THIS SYSTEM HAS BEEN TESTED AND EVALUATED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (2018) AND THE INTERNATIONAL RESIDENTIAL CODE. THIS SYSTEM MEETS MISSILE LEVEL "D" AS DEFINED IN ASTM E1996.
- POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED PER SEPARATE ENGINEERING IN ACCORDANCE WITH THE GOVERNING CODE. PRESSURE REQUIREMENTS AS DETERMINED IN ACCORDANCE WITH ASCE 7 AND CHAPTER 1609 OF THE INTERNATIONAL BUILDING CODE SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.
- TESTING WAS CONDUCTED IN ACCORDANCE WITH TAS 201/202/203 AND ASTM E1886/E1996/E330.
- DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
- THIS SYSTEM HAS BEEN DESIGNED WITH NO SEPARATION FROM GLAZING REQUIRED WIND ZONES 1-3, IN ACCORDANCE WITH ASTM 1996. IT IS ACCEPTABLE BY CODE UNLESS OPTIONAL CRITERIA IS INDEPENDENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION.
- NO INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THESE PRODUCTS. WIND LOAD DURATION FACTOR  $C_d = 1.6$  WAS USED FOR WOOD ANCHOR DESIGN.
- DETERMINE THE POSITIVE AND NEGATIVE DESIGN LOADS TO USE WHEN REFERENCING THESE DOCUMENTS IN ACCORDANCE WITH THE GOVERNING CODE AND GOVERNING WIND VELOCITY. FOR WIND LOAD CALCULATIONS IN ACCORDANCE WITH ASCE 7, A DIRECTIONALITY FACTOR OF  $K_d = 0.85$  SHALL BE USED.
- THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE.
- THESE APPROVAL DOCUMENTS ARE SUITABLE TO BE APPLIED BY THE CONTRACTOR PROVIDED THE CONTRACTOR DOES NOT DEVIATE FROM THE CONDITIONS DETAILED HEREIN AND THE CONTRACTOR VERIFIES THAT THE EXISTING STRUCTURE DOES NOT DEVIATE IN EITHER FORM OR MATERIAL FROM THE STRUCTURAL SUBSTRATES DETAILED HEREIN.
- ANY MODIFICATIONS OR ADDITIONS TO THESE APPROVAL DOCUMENTS WILL VOID THE APPROVAL DOCUMENTS.
- WHEN THE SITE CONDITIONS DEVIATE FROM THESE APPROVAL DOCUMENTS, THE BUILDING OFFICIAL MAY REQUIRE THAT SITE SPECIFIC DOCUMENTS BE PREPARED, SIGNED, DATED AND SEALED BY A LICENSED ENGINEER OR REGISTERED ARCHITECT, WHICH DETAIL AND JUSTIFY THE DEVIATION, AS A CONDITION TO THE BUILDING OFFICIAL GRANTING HIS/HER APPROVAL.
- EACH SHUTTER ASSEMBLY SHALL BE PERMANENTLY LABELED WITH THE FOLLOWING MINIMUM INFORMATION:  
 TOWN & COUNTRY INDUSTRIES  
 FORT LAUDERDALE, FL  
 9LB MISSILE LEVEL D - ASTM E1886, E1996 & E330  
 TAS 201, 202 & 203  
 TDI EVALUATED
- ALL EXTRUSIONS SHOWN SHALL BE 6063-T6 ALUMINUM ALLOY, U.O.N., WITH A MINIMUM  $F_y$  OF 25 K.S.I.
- ALL BOLTS AND WASHERS (EXCLUDING INSTALLATION) SHALL BE STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 60 K.S.I., U.O.N. POP RIVETS SHALL BE 1/4"Ø OR 3/16"Ø 5052 ALUM. ALLOY.
- ALL SHUTTERS SHALL HAVE A LOCKING MECHANISM CONSISTING OF THUMBSCREW, PUSH LOCK OR BOX LOCK AT CENTER OR SIDE CLOSURE.
- TOP AND BOTTOM DETAILS MAY BE INTERCHANGED AS FIELD CONDITIONS REQUIRE.
- FLOOR TRACKS MAY BE REMOVABLE AT NON-STACKING LOCATIONS. USE REMOVABLE ANCHORS.
- MOUNTING EXTRUSIONS MAY BE BENT TO FORM A CURVE WITH A MIN. RADIUS OF 10".
- ALL DIMENSIONS SHOWN INCLUDE POWDER COATING FINISH.
- ALL STEEL IN CONTACT WITH ALUMINUM SHALL BE PAINTED OR PLATED.
- SHUTTER MAY BE INSTALLED WITH UP TO (2) ADDITIONAL BLADES OF SLACK.
- SEALANT SHALL BE USED ON ANCHORS OR TRACKS WHEREVER WATER SEEPAGE IS POSSIBLE.

TABLE 1:

ACCORDION SHUTTER SPAN SCHEDULE		
SHUTTER SPAN	POSITIVE DESIGN PRESSURE (PSF)	NEGATIVE DESIGN PRESSURE (PSF)
72"	100	100
99"	70	70
120"	53	53
144"	43	40

TABLE 1 NOTES:

- DESIGN PRESSURES SHOWN IN "ACCORDION SHUTTER SPAN SCHEDULE" ABOVE ARE MAXIMUM ALLOWABLE DESIGN PRESSURES AT EACH RESPECTIVE SHUTTER SPAN.
- LINEAR INTERPOLATION BETWEEN SHUTTER SPANS IS NOT PERMITTED. FOR SPANS BETWEEN THOSE INDICATED ABOVE, THE DESIGN PRESSURES FOR THE NEXT HIGHER SPAN SHALL BE USED.



1  
1 N.T.S. EXTERIOR ELEV

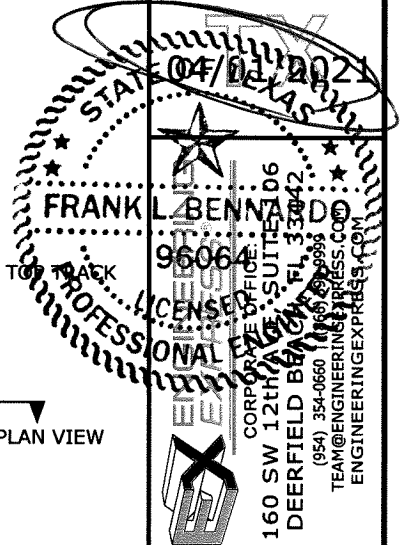
TABLE 2:

MINIMUM SEPARATION FROM GLASS		
SHUTTER SPAN	SEE NOTES FOR GLASS SEPARATION REQUIREMENTS	
	INSTALLATIONS ≤ 30' ABOVE GRADE	INSTALLATIONS > 30' ABOVE GRADE
72"	2-1/4"	1-5/8"
99"	3-1/2"	1-7/8"
120"	4-1/8"	2"
144"	4-7/8"	2"

TABLE 2 NOTES:

- SEPARATION FROM GLASS IS NOT REQUIRED FOR INSTALLATIONS IN WIND ZONES 1-3 UNLESS LOCAL MUNICIPALITY HAS ADOPTED ADDITIONAL CRITERIA.
- INSTALLATIONS IN WIND ZONES 1 THROUGH 4 WITH SPANS LESS THAN 30" SHALL HAVE 2-7/8" MINIMUM SEPARATION FROM GLASS WHEN ≤ 30' ABOVE GRADE, AND 1-5/8" WHEN > 30' ABOVE GRADE.
- LINEAR INTERPOLATION BETWEEN SHUTTER SPANS IS NOT PERMITTED. FOR SPANS BETWEEN THOSE INDICATED ABOVE, THE SEPARATION FROM GLASS FOR THE NEXT HIGHER SPAN SHALL BE USED.
- SEPARATION FOR GLASS HAS BEEN DETERMINED IN ACCORDANCE WITH ASTM E1996.

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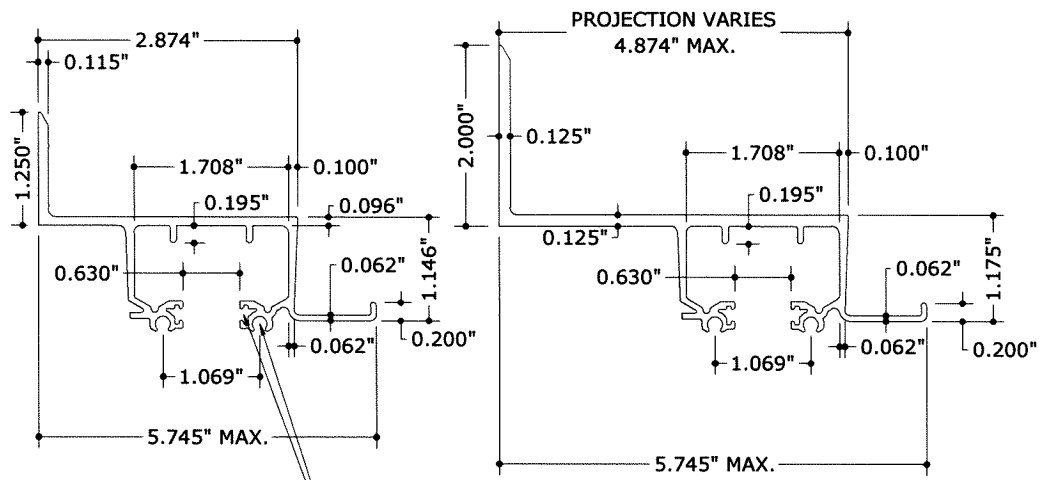
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CSL	KL	12/16/11
RWN	CSL	10/25/13
RWN	CSL	3/29/15
RWN	FLB	8/04/17
CB	RWN	6/17/20

REMARKS:  
INIT ISSUE 2010 FBC  
CLIENT REVISIONS 2014 FBC  
2017 FBC  
2018 IBC UPDATE

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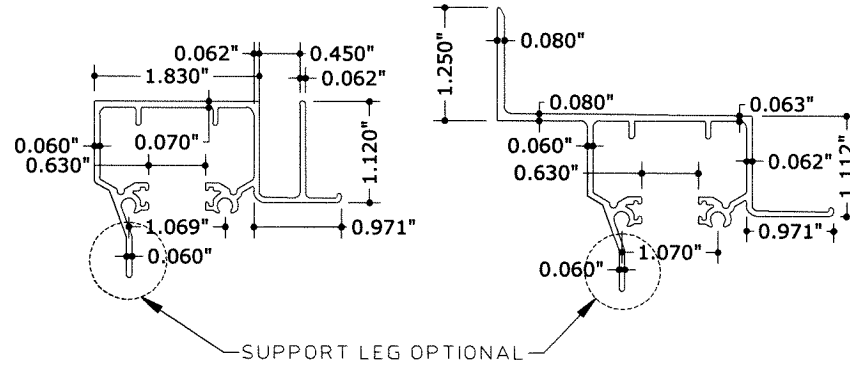
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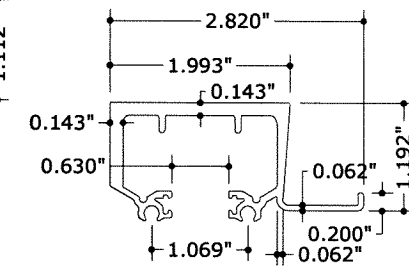
1 WALL  
SCALE: HALF SIZE

2 BUILD OUT WALL  
SCALE: HALF SIZE

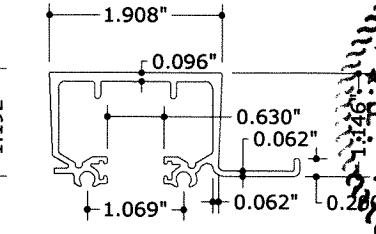


3 STREAMLINE CEILING TRACK  
SCALE: HALF SIZE

4 STREAMLINE WALL TRACK  
SCALE: HALF SIZE

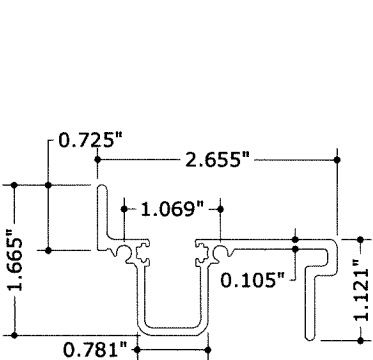


5 HEAVY HEADER/SILL  
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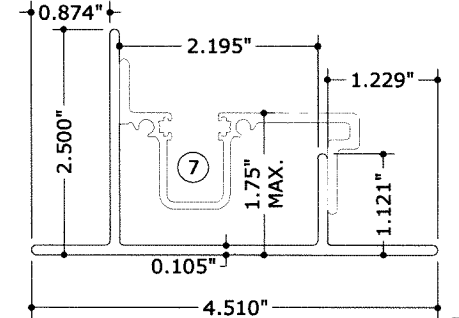


6 LITE HEADER/SILL  
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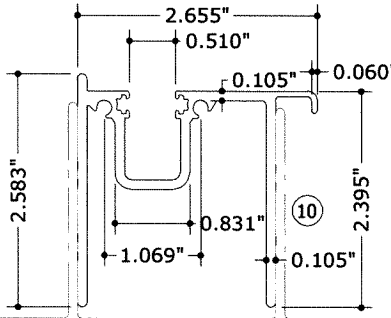
WHERE SHOWN, SCREW BOSSES & FELT GROVES ARE OPTIONAL ON ALL EXTRUSIONS



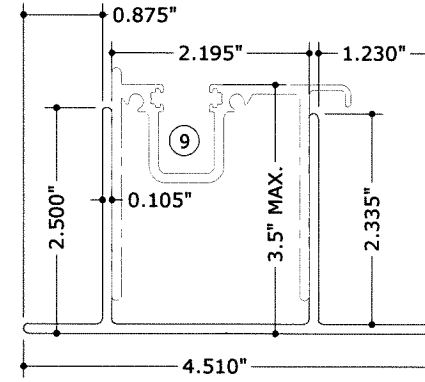
7 SILL  
SCALE: HALF SIZE



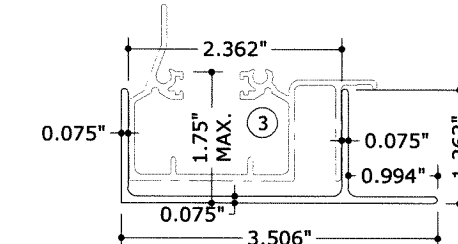
8 SILL ADAPTER  
SCALE: HALF SIZE



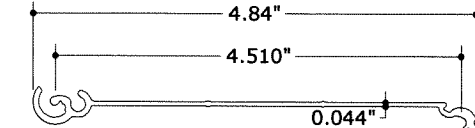
9 EXTENDED SILL  
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10 EXTENDED SILL ADAPTOR  
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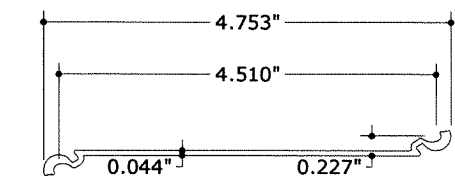


11 ADJUSTABLE SILL BOTTOM  
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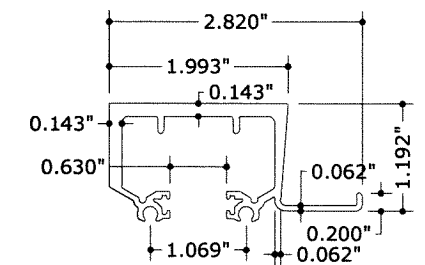


13 6.8 STREAMLINE SLAT/BLADE  
SCALE: HALF SIZE

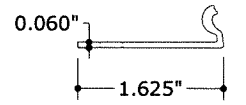
NOTE: TESTED THICKNESS OF BARE METAL W/O PAINT IS 0.039"



15 6.8 STREAMLINE STACK  
SCALE: HALF SIZE



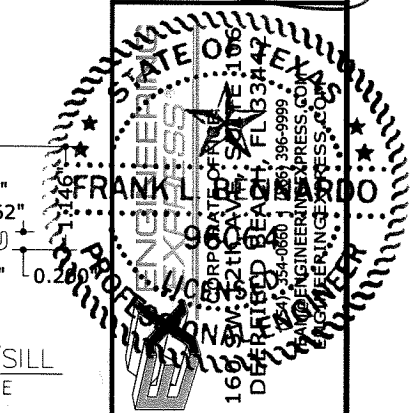
16 RADIUS CEILING HEADER/SILL  
SCALE: HALF SIZE



17 6.8 STARTER  
SCALE: HALF SIZE

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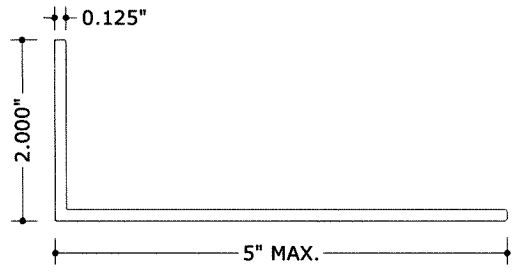
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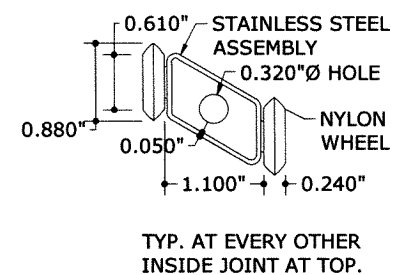
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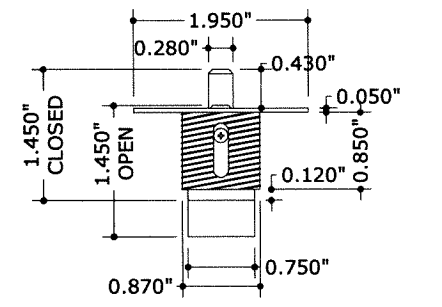
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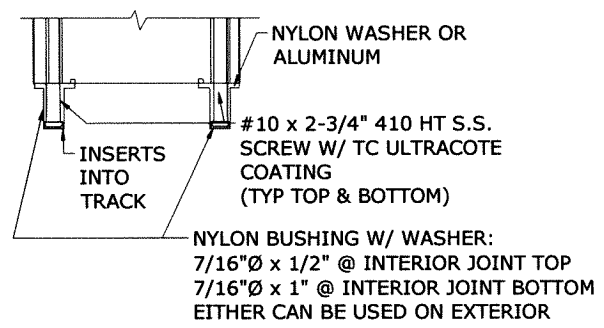
19 ANGLE  
SCALE: HALF SIZE



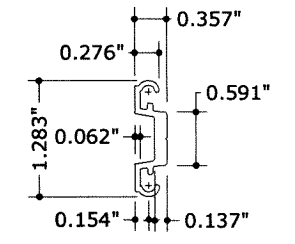
22 ROLLER ASSEMBLY  
SCALE: HALF SIZE



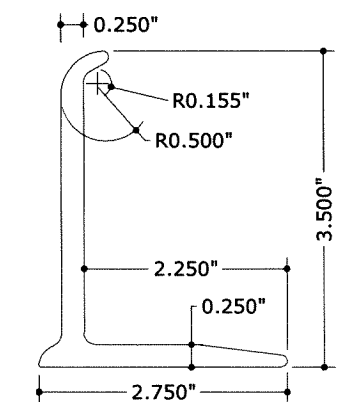
23 BRASS PUSH LOCK  
SCALE: HALF SIZE



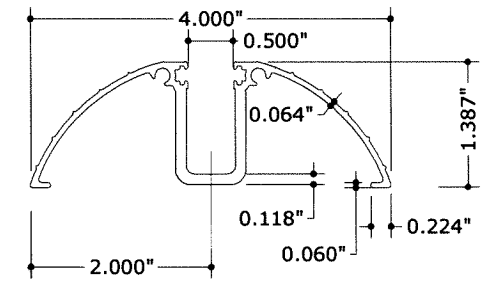
24 BUSHING ASSEMBLY DETAIL  
SCALE: HALF SIZE



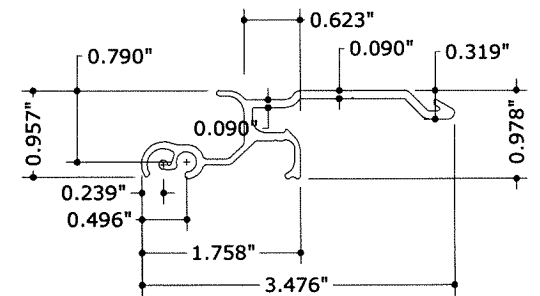
26 BOX CENTER INSERT  
SCALE: HALF SIZE



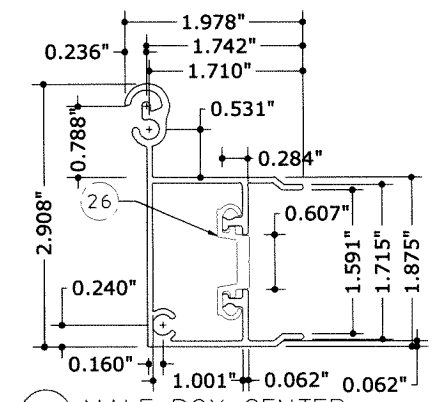
27 RAINGUARD  
SCALE: HALF SIZE



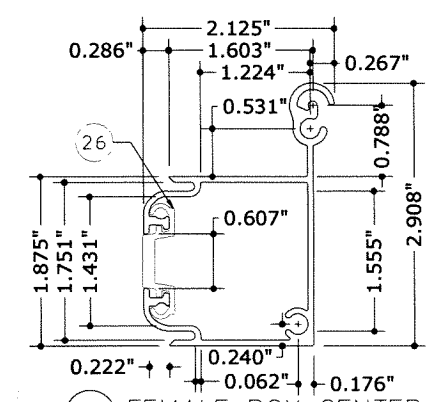
28 DECORATIVE FLOOR TRACK  
SCALE: HALF SIZE  
\*NOTE: DECORATIVE FLOOR TRACK MAY BE ATTACHED TO ANGLE PER DETAILS Cb/5 OR Ca/6



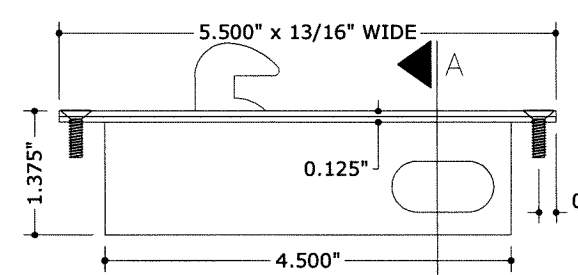
30 UNIMATE LOCK  
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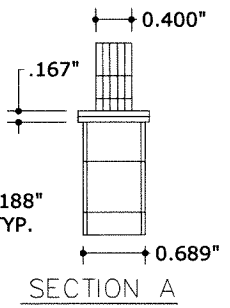
31 MALE BOX CENTER  
SCALE: HALF SIZE



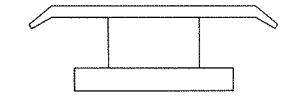
32 FEMALE BOX CENTER  
SCALE: HALF SIZE



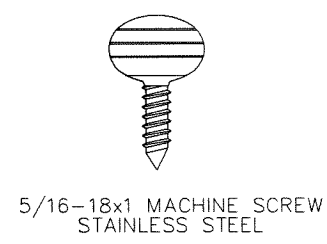
DELTA MODEL 2022 INDUSTRIAL SYSTEMS  
35 BOX LOCK  
SCALE: HALF SIZE



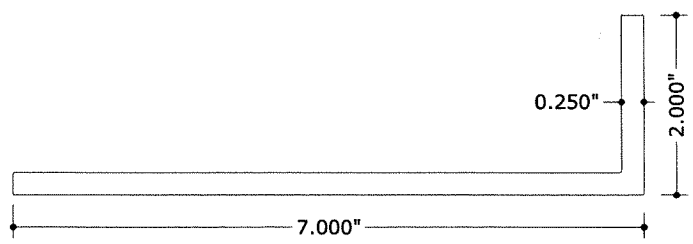
36 T-LOCK ADAPTER (OPTIONAL)  
SCALE: HALF SIZE



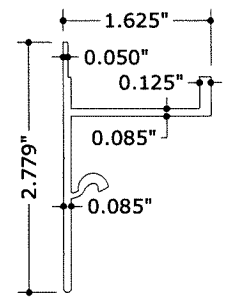
37 T-SCREW INSERT  
SCALE: FULL SIZE



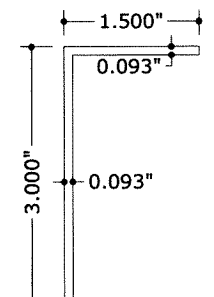
38 THUMB SCREW  
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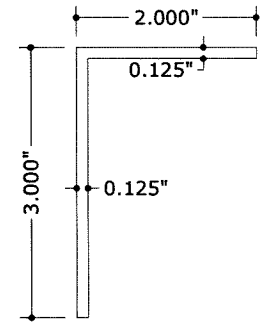
39 2X7 ANGLE  
SCALE: HALF SIZE



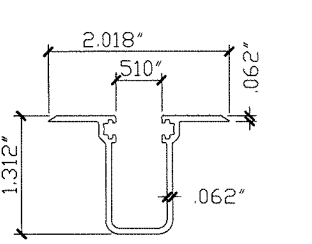
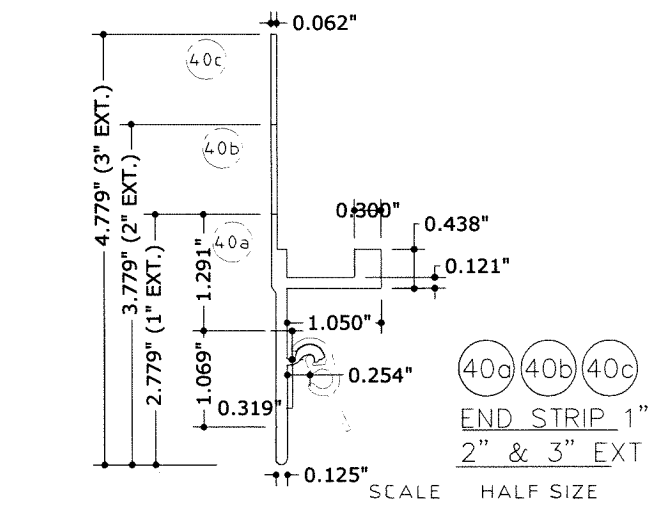
20 ALT. 1" END STRIP  
SCALE: HALF SIZE



21 1.5"x3"x0.093" ANGLE  
SCALE: HALF SIZE



25 2"x3"x0.125" ANGLE  
SCALE: HALF SIZE



20c RECESS SILL  
SCALE: HALF SIZE

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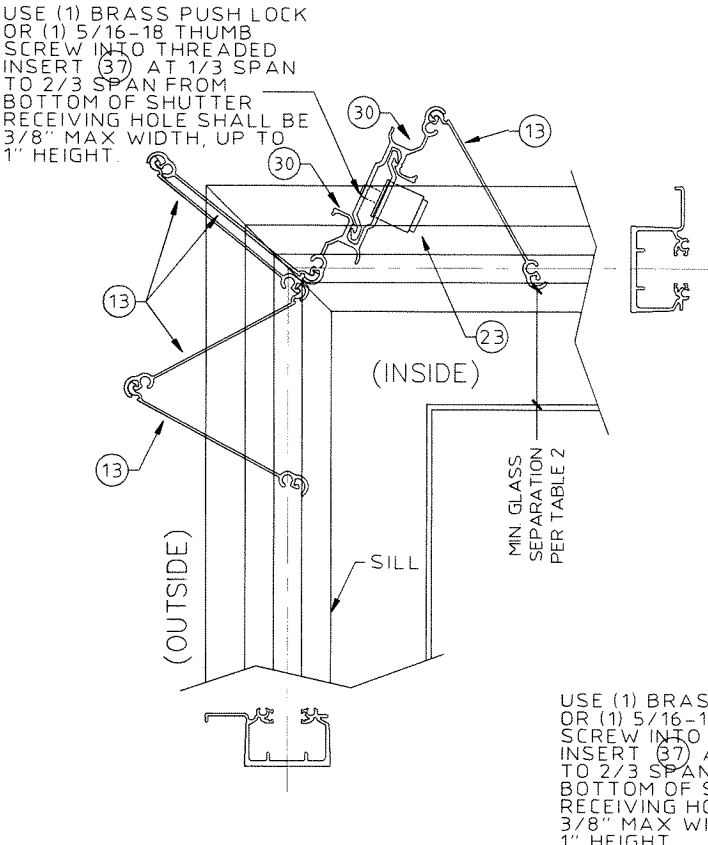
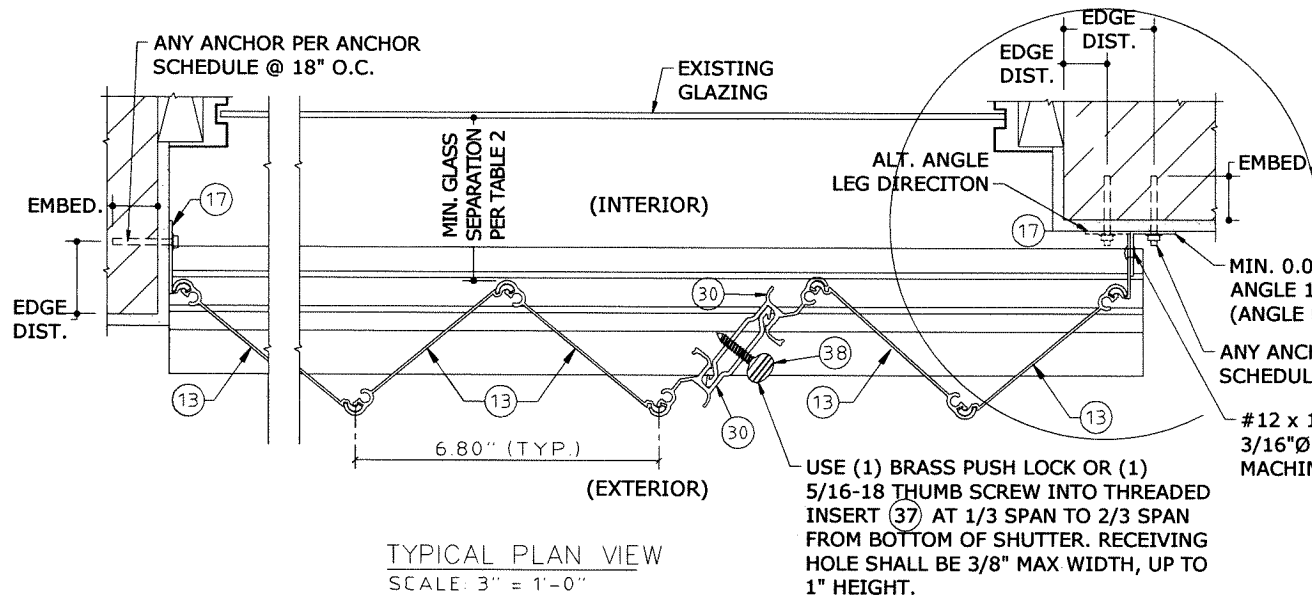
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CSL	KL	12/16/11
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REMARKS  
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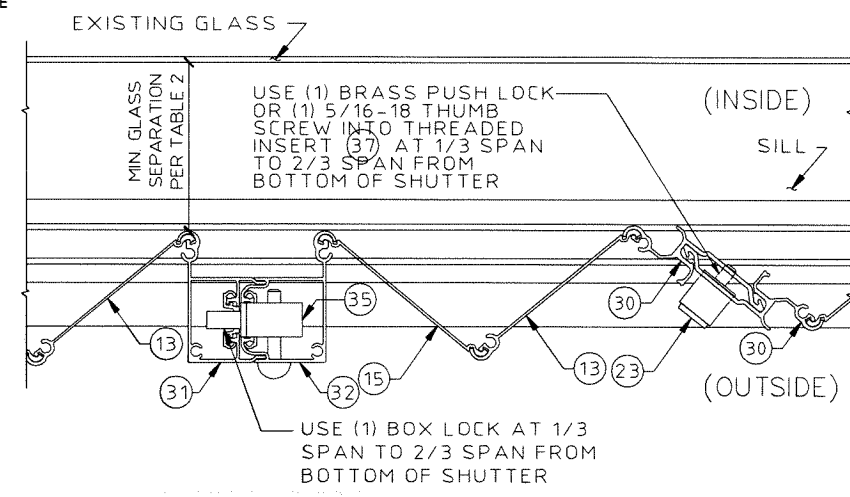
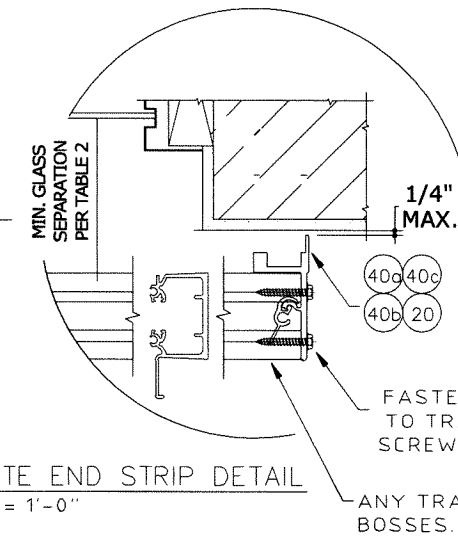
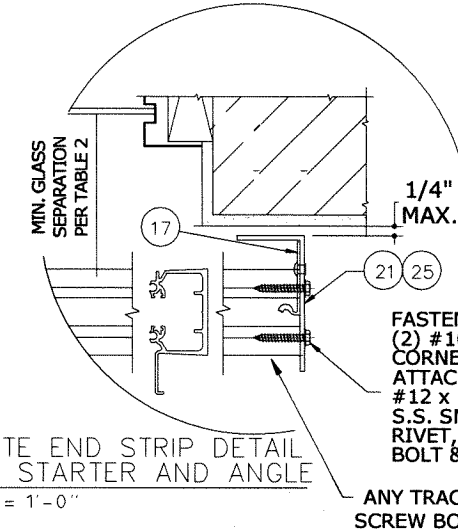
CC1 TYPICAL OUTSIDE CORNER CLOSURE DETAILS WO/CORNER POST NTS

CC2 TYPICAL INSIDE CORNER CLOSURE DETAILS WO/CORNER POST NTS

**END STRIP SCHEDULE**

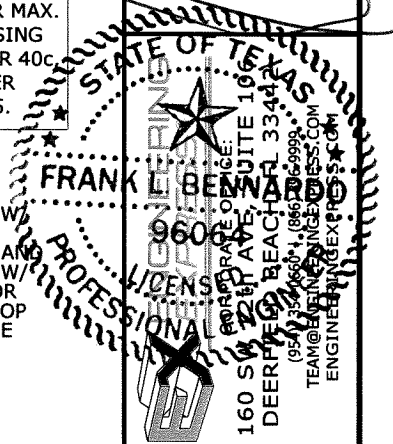
	PSF	SPAN
1" B/O (2.7") (40c)	62	108"
	72	100"
	82	94"
	112	80"
2" B/O (3.7") (40b)	62	95"
	72	88"
	82	83"
	132	75"
3" B/O (4.7") (40c)	62	86"
	72	79"
	82	74"
	112	61"
ALT. 1" B/O (2.7") (20)	62	110"
	72	102"
	82	95"
	132	75"
1.5"x3" x0.093" (21)	45	93"
	52	87"
	57	83"
	60	81"
2"x3" x0.125" (25)	45	139"
	52	129"
	57	123"
	60	120"
	70	75"
	73	73"
	70	111"
	73	109"

FOR GREATER SPANS OR LOADS THAN SHOWN IN END STRIP SCHEDULE, END STRIPS REQUIRE A 1"x1" .090" CLIP ANGLE MID SPAN USING ANY ANCHOR ON THE ANCHOR SCHEDULE & #14x3/4" TEK SCREW OR 1/4-20 BOLT TO END STRIP.



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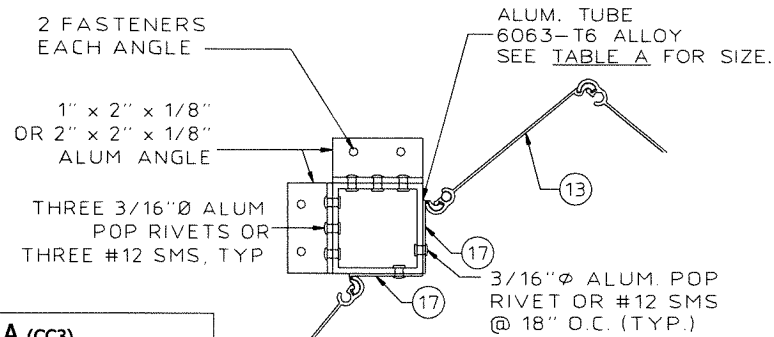
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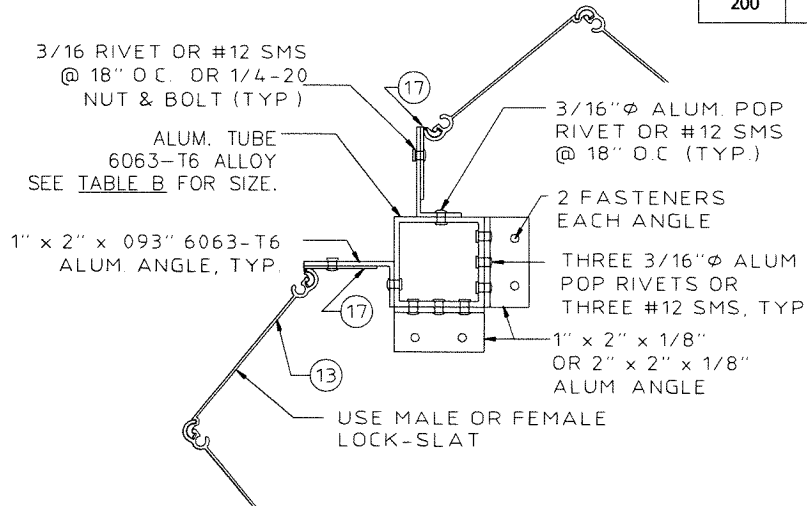
**TABLE A (CC3)**  
PRESSURE VS ALLOWABLE LENGTH

PSF	2"x2"x1/8" No B/O	3"x3"x1/8" No B/O
62	130"	188"
72	124"	179"
82	119"	172"
92	114"	165"
102	110"	160"
120	104"	147"
150	97"	131"
200	88"	114"

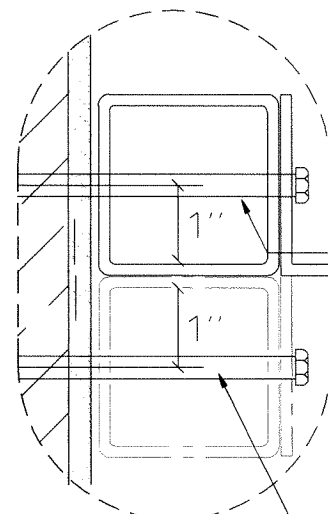
CC3 TYPICAL CORNER CLOSURE DETAILS NTS

**TABLE B (CC4)**  
PRESSURE VS ALLOWABLE LENGTH

PSF	2"x2"x1/8" WITH B/O	3"x3"x1/8" WITH B/O
62	113"	166"
72	107"	157"
82	101"	147"
92	95"	139"
102	90"	132"
120	83"	122"
150	74"	109"
200	64"	94"

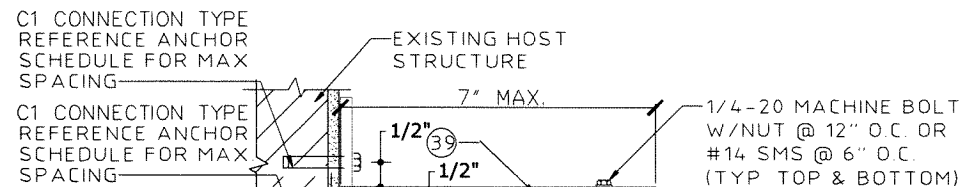


CC4 TYPICAL CORNER CLOSURE DETAILS NTS

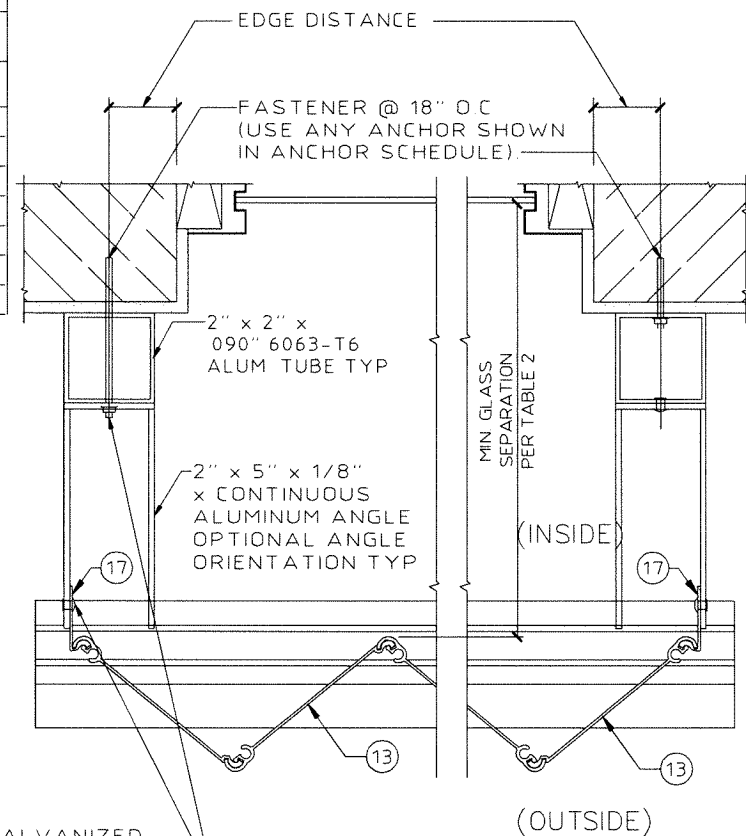


ALTERNATE THRU BOLT C5 CONNECTION TYPE REFERENCE ANCHOR SCHEDULE FOR MAX.

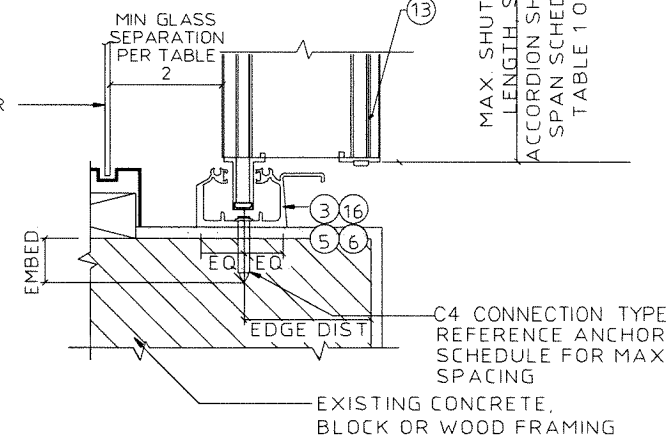
ALTERNATE THRU BOLT C1 CONNECTION TYPE REFERENCE ANCHOR SCHEDULE FOR MAX SPACING



Cb ALTERNATE BUILD OUT MOUNT SECTION SCALE: 3" = 1'-0"



SIDE CLOSURE OPTIONS SCALE 3" = 1'-0"



Ee INSIDE SILL MOUNT SECTION SCALE: 3" = 1'-0"

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04/01/2021  
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DRWN	CHKD	DATE
KL	FLB	4/28/10
CSL	KL	12/16/11
KL	FLB	10/25/13
RWN	CSL	3/29/15
RWN	FLB	8/04/17
CB	RWN	6/17/20

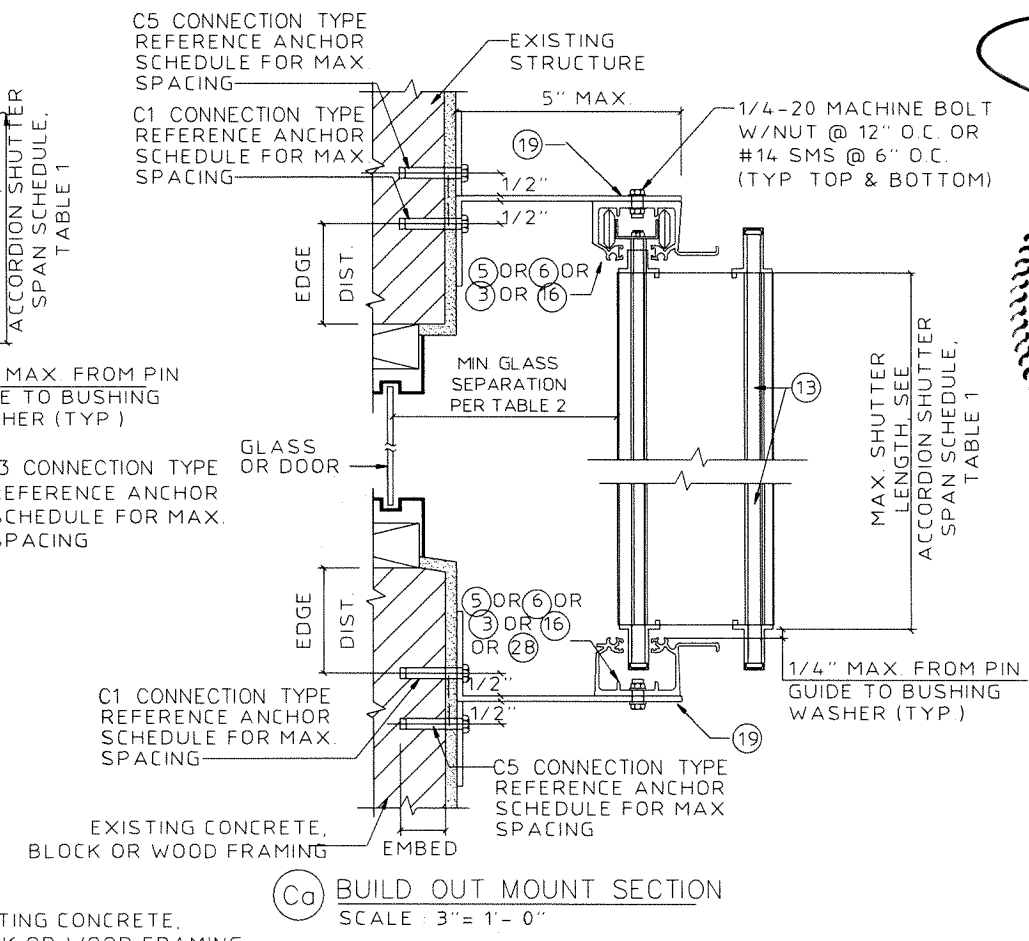
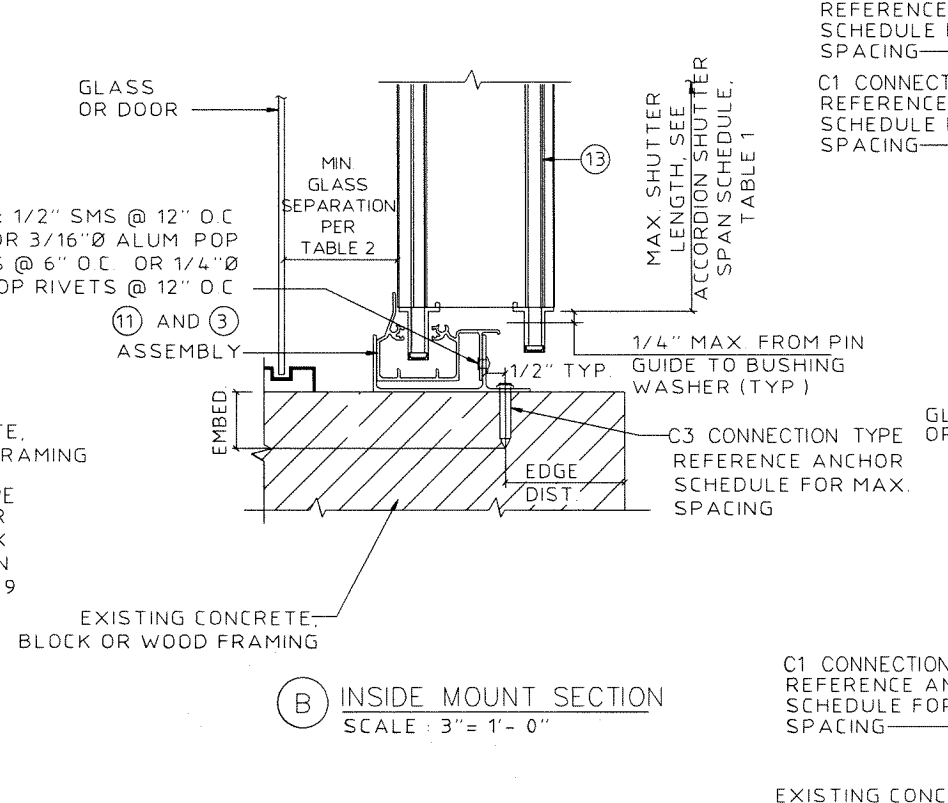
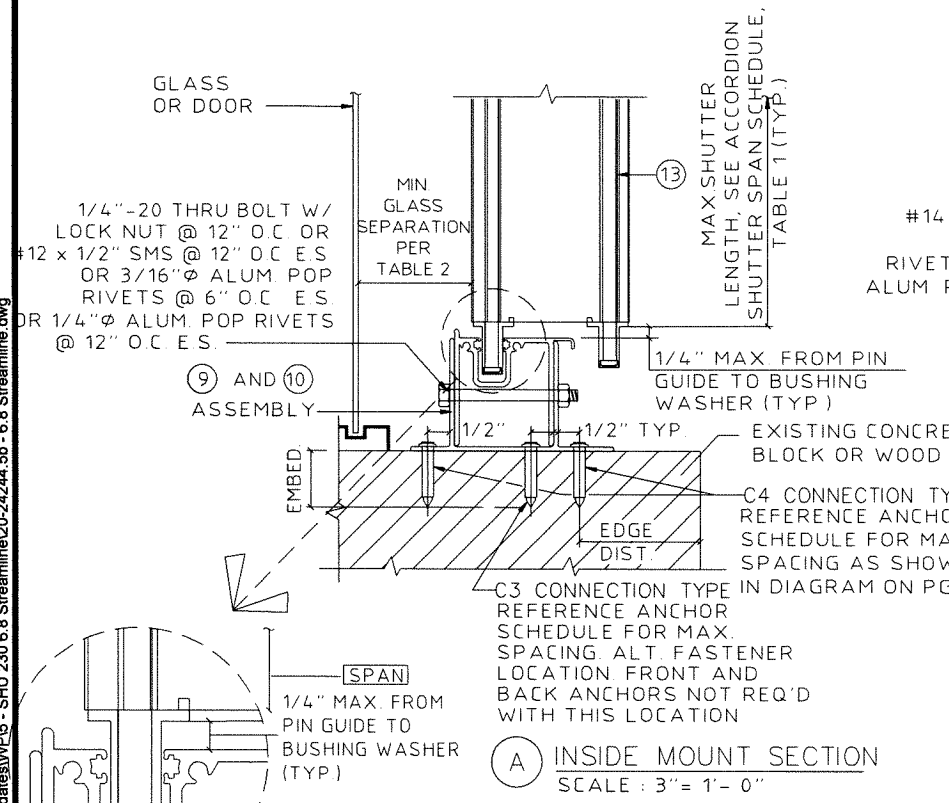
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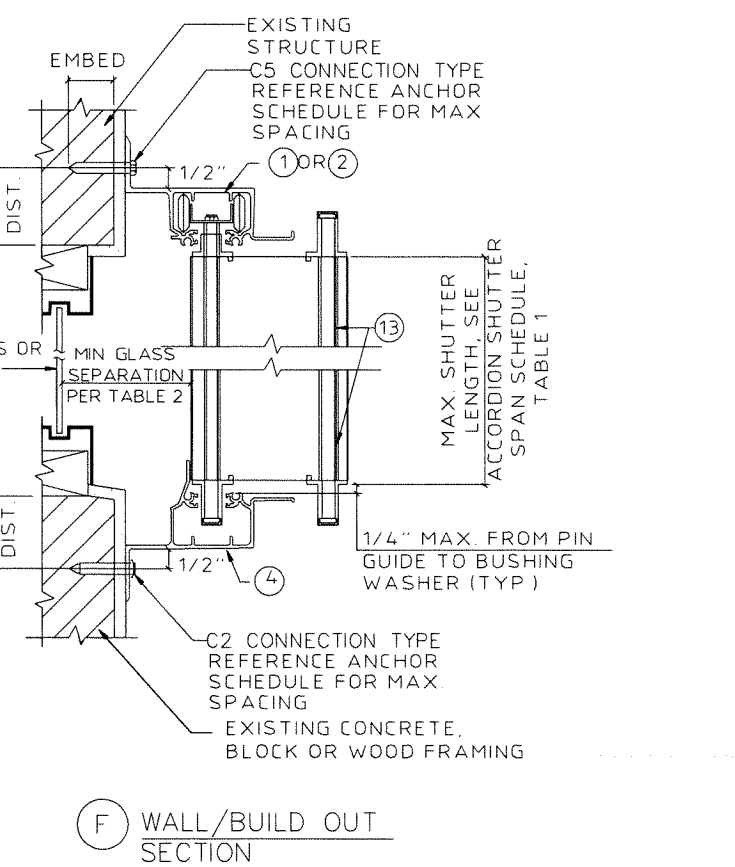
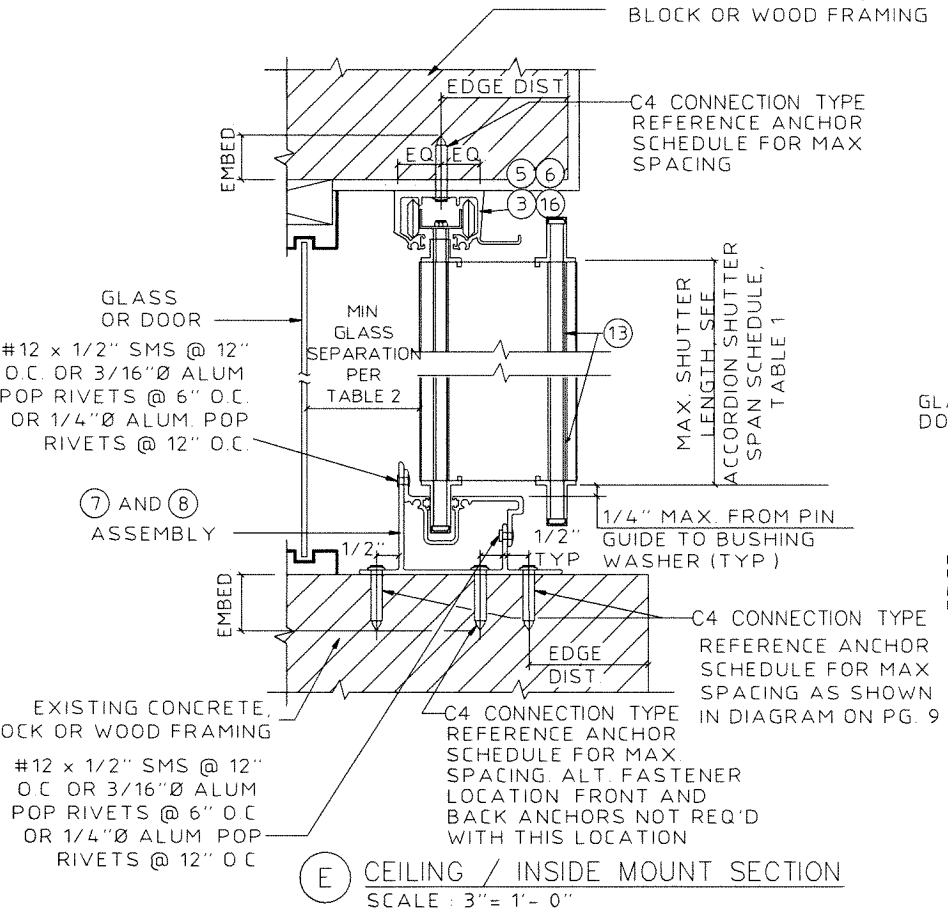
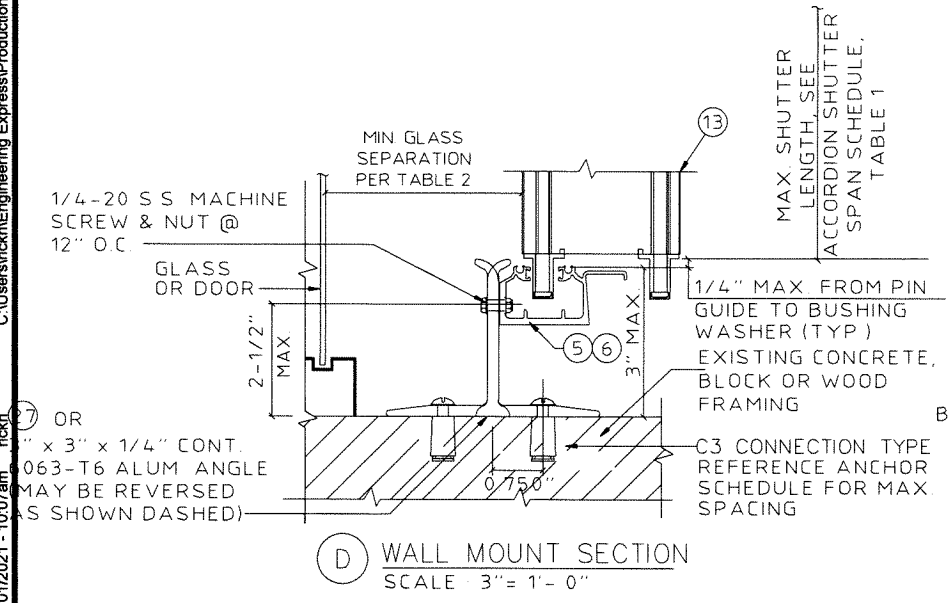
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5 OF 12



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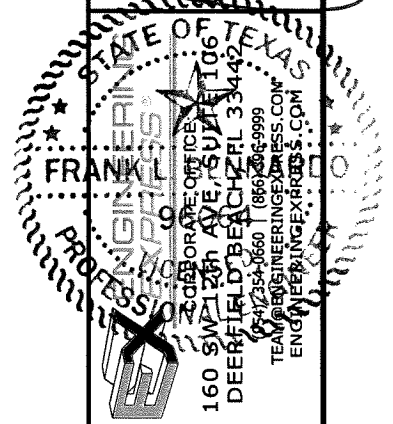


NOTE: FOR DETAILS A, B, D, AND E ON THIS SHEET, THE BASE TRACK MAY BE INSTALLED IN SECTIONS WITH 1/4" GAPS, PROVIDED THAT EACH SECTION HAS A MINIMUM OF TWO SETS OF ANCHORS AND IS A MINIMUM OF 12" LONG. THE SILL OR CEILING TRACK USED WITH THE BASE TRACK MUST BE CONTINUOUS OVER THE GAPS BETWEEN SECTIONS.



FRANK BERNARDO, PE  
PE# 96064 CA# F-11383

04/01/2021



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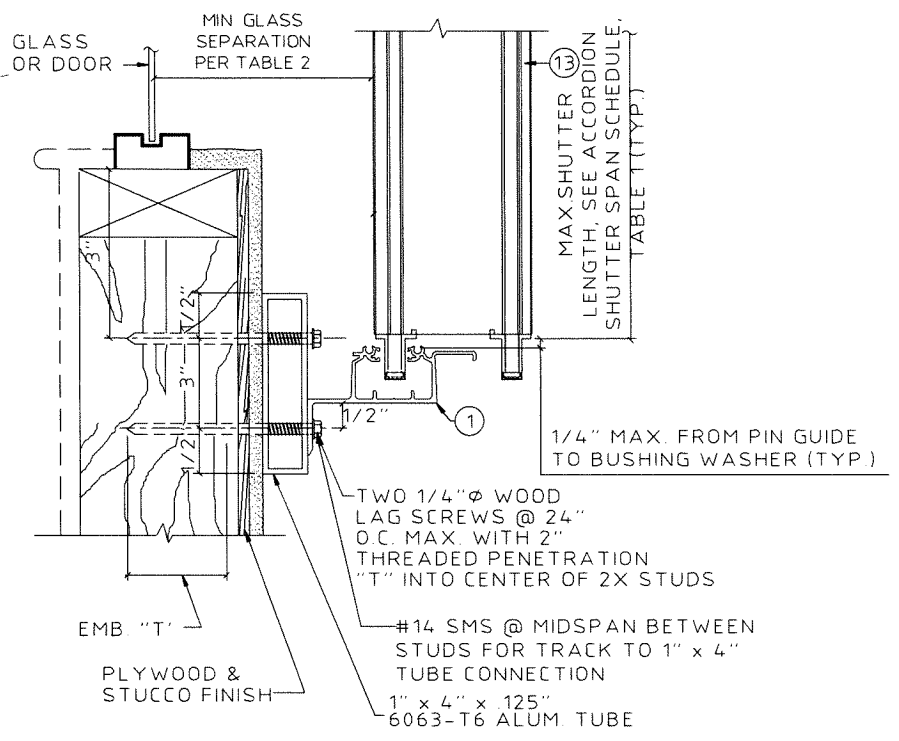
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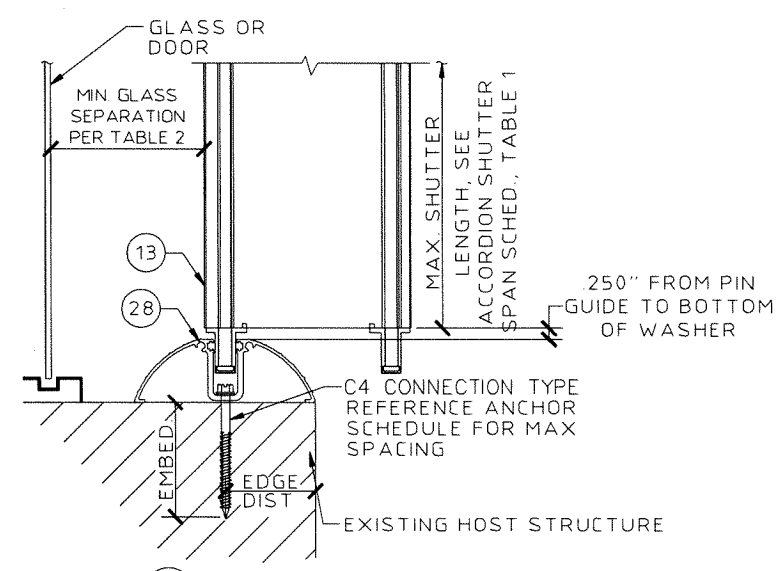
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 04/01/2021 - 10:07 am rickm



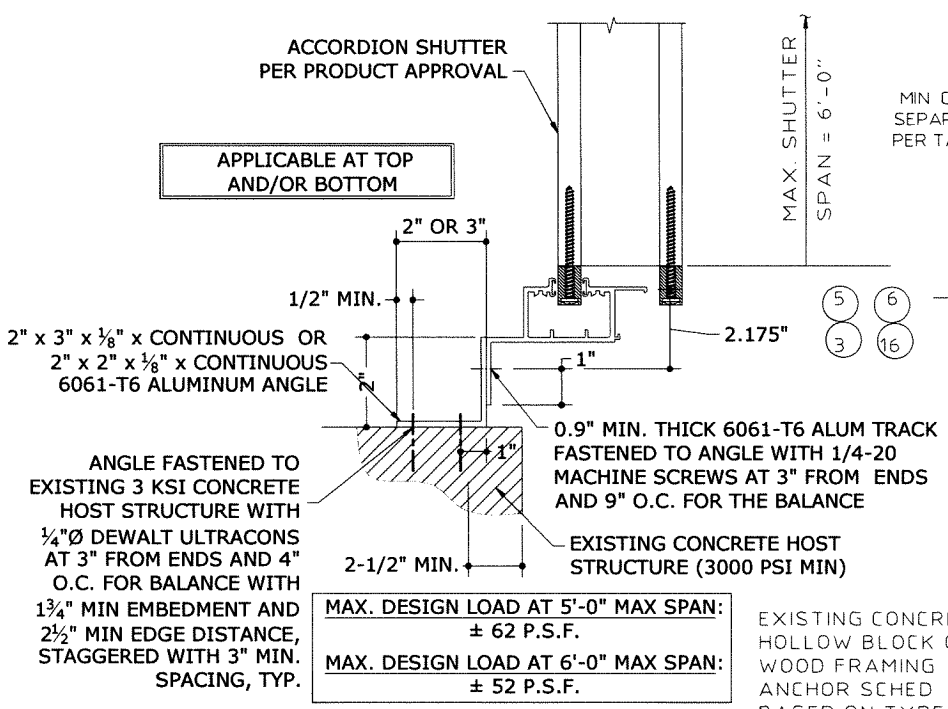
THIS DETAIL TO BE USED WHEN STUD SPACING EXCEEDS THE MAX ALLOWABLE ANCHOR SPACING

**G** WALL MOUNT SECTION  
 SCALE: 3" = 1'-0"

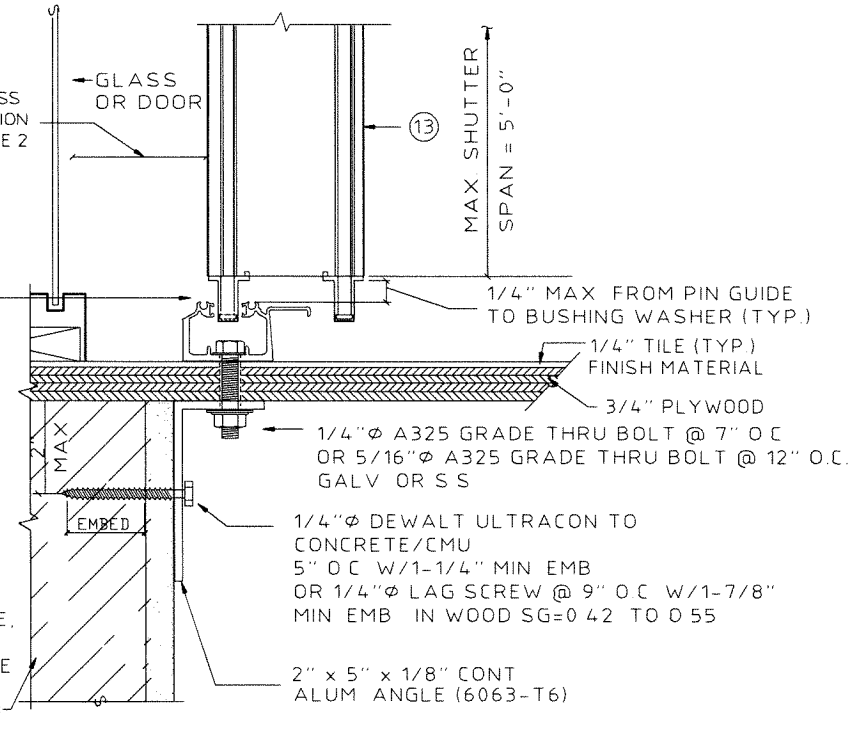
THIS DETAIL MAY ALSO BE USED AT TOP



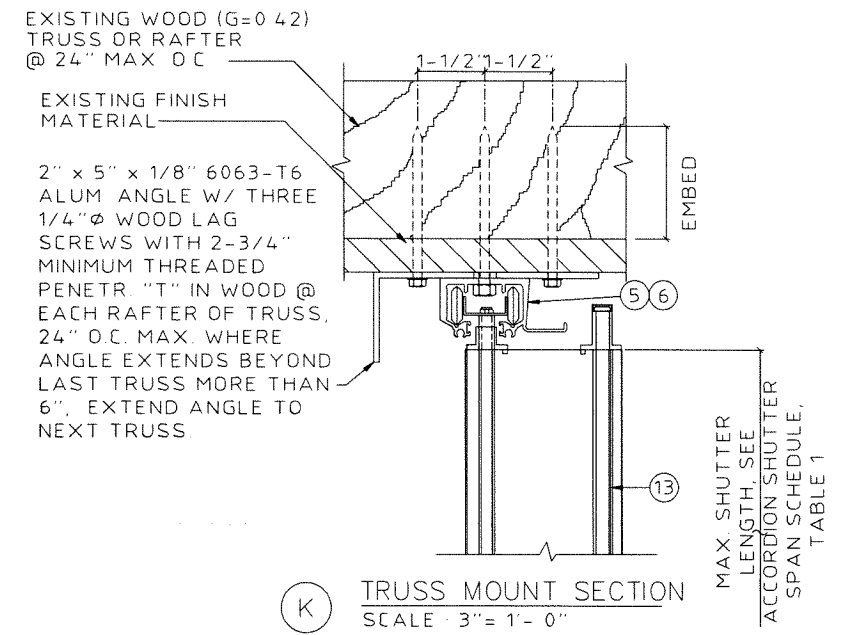
**Na** DECORATIVE FLOOR TRACK DETAIL  
 SCALE: 3" = 1'-0"



**Ha** BUILDOUT MOUNT  
 SCALE: NTS



**Hb** PASS THRU DETAIL  
 SCALE: 3" = 1'-0"



**K** TRUSS MOUNT SECTION  
 SCALE: 3" = 1'-0"

FRANK BERNARDO, PE  
 PE# 96064 CA# F-11383

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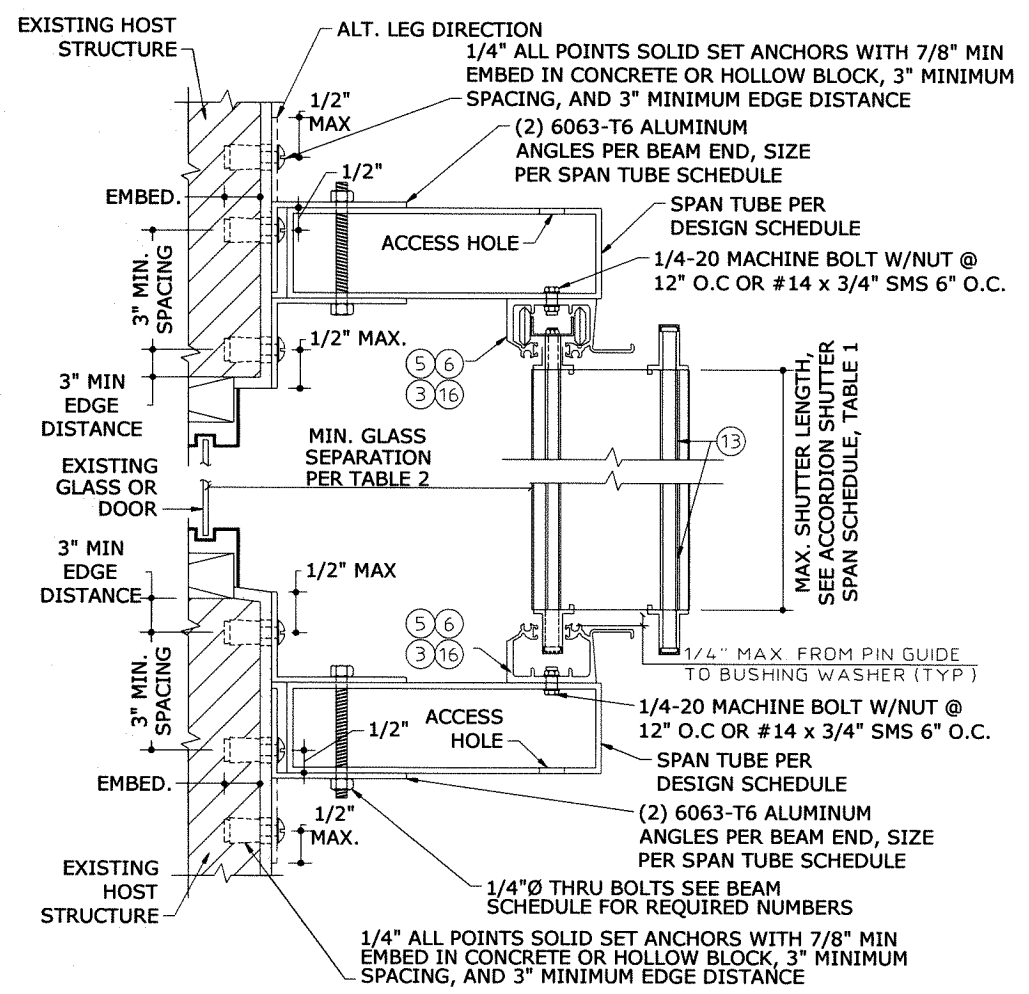
STATE OF FLORIDA  
 PROFESSIONAL ENGINEERING  
 FRANK L. BERNARDO  
 9000 BAYVIEW SUITE 300  
 DEERFIELD BEACH, FL 33442  
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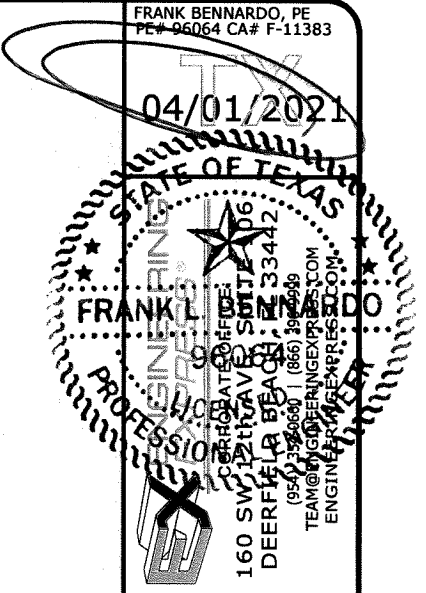


MAX. DESIGN LOAD = ± 72 PSF

**1** SPAN TUBE SECTION  
**8** N.T.S. VERT SECTION

SPAN TUBE SCHEDULE									
TUBE SIZE	SHUTTER SPAN	ALLOWABLE TUBE SPAN		NUMBER OF THRU-BOLTS		NUMBER OF ANCHORS PER ANGLE		MINIMUM ANGLE LENGTH	
		TOP TUBE	BOTTOM TUBE	TOP TUBE	BOTTOM TUBE	TOP TUBE	BOTTOM TUBE	TOP TUBE	BOTTOM TUBE
2"x5"x 0.125"	60"	123.8"	135.2"	2	2	2	3	4"	7"
	96"	101.7"	106.9"	2	2	3	3	7"	7"
	123"	89.9"	94.4"	2	2	3	3	7"	7"
2"x6"x 0.125"	60"	129.1"	157.0"	2	2	2	3	4"	7"
	96"	114.8"	124.1"	2	2	3	3	7"	7"
	123"	102.8"	109.6"	2	2	4	4	10"	10"
2"x8"x 0.125"	60"	138.0"	196.9"	2	2	3	3	7"	7"
	96"	122.7"	155.7"	2	2	3	4	7"	10"
	123"	115.4"	137.5"	2	3	4	5	10"	13"
2"x10"x 0.1875"	60"	158.1"	240.0"	2	2	3	4	7"	10"
	96"	140.6"	229.9"	2	3	4	6	10"	16"
	123"	132.2"	203.1"	3	4	5	7	13"	19"

- SPAN TUBE SCHEDULE NOTES:**
- USE 2"x3"x1/4" OR 2"x5"x1/4" ANGLES FOR 2"x5" & 2"x6" BEAMS.
  - USE 2"x5"x1/4" ANGLES FOR 2"x8" & 2"x10" BEAMS.
  - USE BEAM SCHEDULE FOR DETAIL 3/8.
  - TOP & BOTTOM BEAMS MAY BE USED TOGETHER OR IN COMBINATION WITH OTHER CONNECTION DETAILS. WHERE USED TOGETHER, BEAM MUST BE LIMITED TO TOP BEAM SPANS.
  - SPAN TUBES MAY BE USED IN A MID-SPAN CONDITION WITH SHUTTERS SPANNING ABOVE AND BELOW THE BEAM. MID-SPAN TUBES SHALL HAVE TOP BEAM LIMITATIONS (INCLUDING SPANS, ANCHORS, ANGLES AND BOLTS), WITH THE SHUTTER SPAN TAKEN AS THE SUM OF THE SPANS ABOVE AND BELOW THE BEAM.
  - LAP BEAMS ARE NOT ALLOWED.
  - ALL BEAMS AND ANGLES TO BE 6063-T6 ALUMINUM.



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2018 IBC UPDATE	CB	RWN	6/17/20

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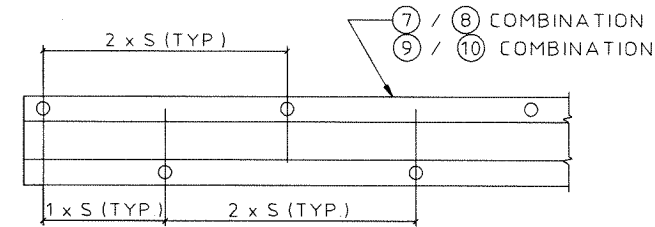
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# ANCHOR SCHEDULE: CONCRETE

HOST STRUCT.	ANCHOR	LOAD (psf)	2.5" MIN EDGE DISTANCE														
			Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE				
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5
CONCRETE	1/4" ITW TAPCON OR ELCO ULTRACON WITH 1-3/4" EMBED (3192psi MIN CONC)	43	16.0"	16.0"	15.0"	16.0"	16.0"	16.0"	9.0"	13.0"	16.0"	16.0"	9.5"	5.5"	8.5"	14.5"	
		53	16.0"	16.0"	10.5"	14.5"	16.0"	16.0"	12.0"	7.0"	10.5"	16.0"	15.0"	7.5"	4.5"	7.5"	10.5"
		62	16.0"	16.0"	8.5"	12.5"	16.0"	16.0"	9.5"	5.5"	8.5"	15.0"	15.0"	7.5"	4.5"	7.5"	10.5"
		70	16.0"	13.0"	7.0"	11.0"	16.0"	15.5"	8.0"	5.0"	7.5"	11.5"	15.0"	7.5"	4.5"	7.5"	10.5"
	100	15.0"	7.5"	4.5"	7.5"	10.5"	15.0"	7.5"	4.5"	7.5"	10.5"	15.0"	7.5"	4.5"	7.5"	10.5"	
	1/4" MILLENNIUM MILLFAST WITH 1-3/4" EMBED (3275psi MIN CONCRETE)	43	16.0"	16.0"	15.0"	16.0"	16.0"	16.0"	9.0"	13.5"	16.0"	16.0"	8.5"	5.5"	9.0"	13.5"	
		53	16.0"	16.0"	11.0"	15.0"	16.0"	16.0"	11.0"	7.0"	10.5"	16.0"	13.5"	7.0"	4.5"	7.5"	9.5"
		62	16.0"	15.0"	8.5"	13.0"	16.0"	16.0"	8.5"	5.5"	9.0"	13.5"	13.5"	7.0"	4.5"	7.5"	9.5"
		70	16.0"	12.0"	7.0"	11.0"	16.0"	14.0"	7.0"	4.5"	8.0"	10.5"	13.5"	7.0"	4.5"	7.5"	9.5"
	100	13.5"	7.0"	4.5"	7.5"	9.5"	13.5"	7.0"	4.5"	7.5"	9.5"	13.5"	7.0"	4.5"	7.5"	9.5"	
	1/4" DEWALT CRETEFLEX SS4 W/ 2" EMBED (3350psi MIN CONC)	43	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	13.5"	16.0"	16.0"	16.0"	12.5"	8.0"	13.0"	16.0"	
		53	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	10.0"	15.5"	16.0"	16.0"	10.0"	6.5"	11.0"	14.0"	
62		16.0"	16.0"	12.5"	16.0"	16.0"	16.0"	12.5"	8.0"	13.0"	16.0"	16.0"	10.0"	6.5"	11.0"	14.0"	
70		16.0"	16.0"	10.5"	16.0"	16.0"	16.0"	10.5"	7.0"	11.5"	15.0"	16.0"	10.0"	6.5"	11.0"	14.0"	
100	16.0"	10.0"	6.5"	11.0"	14.0"	16.0"	10.0"	6.5"	11.0"	14.0"	16.0"	10.0"	6.5"	11.0"	14.0"		
CONCRETE	1/4" ITW TAPCON OR ELCO ULTRACON WITH 1-3/4" EMBED (3192psi MIN CONC)	1" MIN EDGE DISTANCE															
		43	16.0"	16.0"	7.5"	8.0"	16.0"	16.0"	5.0"	5.5"	16.0"	16.0"	9.0"	3.0"	4.0"	14.0"	
		53	16.0"	16.0"	5.5"	6.5"	16.0"	16.0"	12.0"	4.5"	16.0"	14.5"	7.5"			10.0"	
		62	16.0"	15.5"	4.5"	5.5"	16.0"	16.0"	9.0"	4.0"	14.5"	14.5"	7.5"			10.0"	
	70	16.0"	12.5"	4.0"	5.0"	16.0"	15.0"	7.5"		11.0"	14.5"	7.5"			10.0"		
	100	14.5"	7.5"			10.0"	14.5"	7.5"		10.0"	14.5"	7.5"			10.0"		
	1/4" MILLENNIUM MILLFAST WITH 1-3/4" EMBED (3275psi MIN CONCRETE)	43	16.0"	16.0"	11.0"	13.5"	16.0"	13.0"	6.5"	9.5"	16.0"	13.0"	7.0"	4.0"	6.5"	10.5"	
		53	16.0"	16.0"	8.0"	11.0"	16.0"	9.0"	5.0"	7.5"	16.0"	10.5"	5.5"		5.5"	7.5"	
		62	16.0"	11.5"	6.0"	9.0"	16.0"	13.5"	7.0"	4.0"	6.5"	11.0"	10.5"	5.5"		5.5"	7.5"
		70	16.0"	9.5"	5.5"	8.0"	16.0"	11.5"	5.5"		5.5"	8.5"	10.5"	5.5"		5.5"	7.5"
	100	10.5"	5.5"		5.5"	7.5"	10.5"	5.5"		5.5"	7.5"	10.5"	5.5"		5.5"	7.5"	
	1/4" ALL-POINTS SOLID-SET ANCHOR W/ 7/8" EMBED & 1/4-20 SS MACHINE SCREW (3000psi MIN CONC)	1-1/4" MIN EDGE DISTANCE															
43		16.0"	16.0"	8.5"	10.5"	16.0"	16.0"	12.0"	5.5"	7.5"	16.0"	12.5"	6.5"	3.0"	5.0"	10.0"	
53		16.0"	15.0"	6.5"	8.0"	16.0"	16.0"	8.5"	4.0"	6.0"	15.0"	10.0"	5.0"		4.0"	7.0"	
62		16.0"	11.0"	5.0"	7.0"	16.0"	12.5"	6.5"	3.5"	5.0"	10.0"	10.0"	5.0"		4.0"	7.0"	
70	16.0"	9.0"	4.5"	6.0"	16.0"	10.5"	5.5"	3.0"	4.0"	8.0"	10.0"	5.0"		4.0"	7.0"		
100	10.0"	5.0"		4.0"	7.0"	10.0"	5.0"		4.0"	7.0"	10.0"	5.0"		4.0"	7.0"		
1/4" ALL-POINTS SOLID-SET ANCHOR W/ 7/8" EMBED & 1/4-20 SS MACHINE SCREW (3000psi MIN CONC)	3" MIN EDGE DISTANCE																
	43	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	11.5"	16.0"	16.0"	16.0"	11.0"	7.0"	11.0"	16.0"		
	53	16.0"	16.0"	13.5"	16.0"	16.0"	16.0"	14.0"	8.5"	13.5"	16.0"	16.0"	8.5"	5.5"	9.5"	12.0"	
	62	16.0"	16.0"	10.5"	16.0"	16.0"	16.0"	11.0"	7.0"	11.0"	16.0"	16.0"	8.5"	5.5"	9.5"	12.0"	
70	16.0"	15.0"	9.0"	14.0"	16.0"	16.0"	9.0"	6.0"	10.0"	13.0"	16.0"	8.5"	5.5"	9.5"	12.0"		
100	16.0"	8.5"	5.5"	9.5"	12.0"	16.0"	8.5"	5.5"	9.5"	12.0"	16.0"	8.5"	5.5"	9.5"	12.0"		
1/4" DEWALT SS DROP-IN W/ 1/4-20 SS BOLT AND 1" EMBED (3000psi MIN CONC)	2-5/8" MIN EDGE DISTANCE																
	43	16.0"	16.0"	14.0"	16.0"	16.0"	16.0"	14.0"	8.0"	12.5"	16.0"	14.0"	7.5"	5.0"	8.0"	11.5"	
	53	16.0"	16.0"	9.5"	14.0"	16.0"	16.0"	9.5"	6.0"	10.0"	16.0"	11.5"	6.0"	4.0"	7.0"	8.0"	
	62	16.0"	12.5"	7.5"	12.0"	16.0"	14.5"	7.5"	5.0"	8.5"	11.5"	11.5"	6.0"	4.0"	7.0"	8.0"	
70	16.0"	10.0"	6.5"	10.5"	16.0"	12.0"	6.0"	4.0"	7.5"	9.0"	11.5"	6.0"	4.0"	7.0"	8.0"		
100	11.5"	6.0"	4.0"	7.0"	8.0"	11.5"	6.0"	4.0"	7.0"	8.0"	11.5"	6.0"	4.0"	7.0"	8.0"		
1/4" DEWALT SS DROP-IN W/ 1/4-20 SS BOLT AND 1" EMBED (3000psi MIN CONC)	3-1/2" MIN EDGE DISTANCE																
	43	16.0"	16.0"	15.0"	16.0"	16.0"	16.0"	14.5"	9.0"	13.5"	16.0"	15.0"	7.5"	5.0"	9.0"	12.0"	
	53	16.0"	16.0"	10.5"	15.0"	16.0"	16.0"	10.0"	6.5"	10.5"	16.0"	12.0"	6.0"	4.0"	7.5"	8.5"	
	62	16.0"	13.0"	8.0"	12.5"	16.0"	15.0"	8.0"	5.0"	9.0"	12.0"	12.0"	6.0"	4.0"	7.5"	8.5"	
70	16.0"	10.5"	7.0"	11.0"	16.0"	12.5"	6.5"	4.5"	8.0"	9.5"	12.0"	6.0"	4.0"	7.5"	8.5"		
100	12.0"	6.0"	4.0"	7.5"	8.5"	12.0"	6.0"	4.0"	7.5"	8.5"	12.0"	6.0"	4.0"	7.5"	8.5"		
#12 SMS W/ 2" EYEWALL ARMOR INSERT W/ 2" EMBED (2000psi MIN CONC)	2" MIN EDGE DISTANCE																
	43	16.0"	16.0"	11.5"	14.0"	16.0"	16.0"	16.0"	7.5"	10.0"	16.0"	16.0"	9.0"	4.5"	6.5"	13.5"	
	53	16.0"	16.0"	8.5"	11.0"	16.0"	16.0"	11.5"	5.5"	8.0"	16.0"	14.0"	7.0"	3.5"	5.5"	10.0"	
	62	16.0"	15.0"	7.0"	9.5"	16.0"	16.0"	9.0"	4.5"	6.5"	14.0"	14.0"	7.0"	3.5"	5.5"	10.0"	
70	16.0"	12.0"	6.0"	8.0"	16.0"	14.5"	7.5"	4.0"	6.0"	10.5"	14.0"	7.0"	3.5"	5.5"	10.0"		
100	14.0"	7.0"	3.5"	5.5"	10.0"	14.0"	7.0"	3.5"	5.5"	10.0"	14.0"	7.0"	3.5"	5.5"	10.0"		
#12 SMS W/ 2.75" EYEWALL ARMOR INSERT W/ 2.5" EMBED (2000psi MIN CONC)	43	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	10.0"	14.0"	16.0"	16.0"	11.5"	6.0"	9.5"	16.0"		
	53	16.0"	16.0"	12.0"	16.0"	16.0"	16.0"	15.0"	7.5"	11.0"	16.0"	16.0"	9.0"	5.0"	8.0"	13.0"	
	62	16.0"	16.0"	9.5"	13.5"	16.0"	16.0"	11.5"	6.5"	9.5"	16.0"	16.0"	9.0"	5.0"	8.0"	13.0"	
	70	16.0"	16.0"	8.0"	11.5"	16.0"	16.0"	9.5"	5.5"	8.5"	14.0"	16.0"	9.0"	5.0"	8.0"	13.0"	
100	16.0"	9.0"	5.0"	8.0"	13.0"	16.0"	9.0"	5.0"	8.0"	13.0"	16.0"	9.0"	5.0"	8.0"	13.0"		



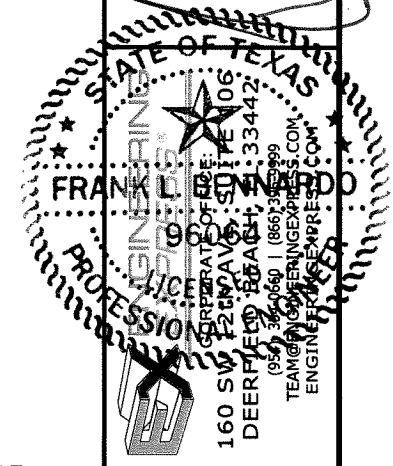
NOTE: "S" INDICATES ANCHOR SCHEDULE SPACING  
 SPACING DIAGRAM FOR C2 & C4 CONNECTION TYPE:  
 - C2 CONNECTION TYPE USING PIECE ⑩ WITH OUTSIDE ANCHORS ONLY  
 - C4 CONNECTION TYPE USING PIECE ⑧ WITH OUTSIDE ANCHORS ONLY

### ANCHOR NOTES:

- SPANS AND LOADS SHOWN HERE ARE FOR DETERMINING ANCHOR SPACING ONLY. ALLOWABLE STORM SHUTTER SPANS FOR SPECIFIC LOADS MUST BE LIMITED TO THOSE SHOWN IN TABLE 1 (Pg 1).
- ENTER ANCHOR SCHEDULE BASED ON THE EXISTING STRUCTURE MATERIAL, ANCHOR TYPE AND EDGE DISTANCE. SELECT DESIGN LOAD GREATER THAN OR EQUAL TO NEGATIVE DESIGN LOAD ON SHUTTER AND SELECT SPAN GREATER THAN OR EQUAL TO SHUTTER SPAN.
- SEE MOUNTING SECTION DETAILS FOR IDENTIFICATION OF CONNECTION TYPE.
- EXISTING STRUCTURE MAY BE CONCRETE, ASTM C-90 HOLLOW CONCRETE BLOCK OR WOOD FRAMING. REFERENCE ANCHOR SCHEDULE FOR PROPER ANCHOR TYPE BASED ON TYPE OF EXISTING STRUCTURE AND APPROPRIATE CONNECTION TYPE. SEE CONNECTION DETAILS FOR IDENTIFICATION OF CONNECTION TYPE.
- ALL CONCRETE ANCHORS SHALL BE INSTALLED TO NON-CRACKED CONCRETE ONLY.
- THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ANCHORS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS. EMBEDMENT LENGTHS SHALL BE AS NOTED AND DO NOT INCLUDE STUCCO OR OTHER FINISHES.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, WOOD FRAMING CONDITIONS VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT PLYWOOD. FASTENING TO PLYWOOD IS ACCEPTABLE ONLY FOR SIDE CLOSURE PIECES.
- WHERE LAG SCREWS FASTEN TO NARROW FACE OF STUD FRAMING, FASTENER SHALL BE LOCATED IN CENTER OF NOMINAL 2" x 4" (MIN.) WOOD STUD. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR WOOD FRAMING. LAG SCREWS SHALL HAVE PHILLIPS PAN HEAD OR HEX HEAD.
- MACHINE SCREWS SHALL HAVE MINIMUM OF 1/2" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD (SIDEWALK BOLT), U.O.N.
- DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE USES.
- DESIGNATES ANCHORS WHICH ARE REMOVABLE BY REMOVING MACHINE SCREW, NUT OR WASHER WINGNUT.
- MINIMUM CONCRETE STRENGTHS ARE AS INDICATED IN ANCHOR SCHEDULE.
- WHEN ANCHORING TO HOLLOW BLOCK, SDS DRILLS SHOULD NOT BE USED TO DRILL INTO HOLLOW BLOCK, NOR SHOULD IMPACT DRILLS BE USED TO INSTALL CONCRETE SCREWS TO HOLLOW BLOCK
- ALL MILLENNIUM MILLFAST CONCRETE SCREWS SHALL HAVE T&C ULTRACOTE

FRANK BERNARDO, PE  
 PE# 96064 CA# F-11383

04/01/2021



**Town & Country INDUSTRIES**  
 Wholesale Aluminum and Building Products  
 A Division of ABC Supply Co., Inc.  
 400 WEST MCNAB ROAD  
 FT. LAUDERDALE, FL 33309

REVISIONS	DATE	BY	CHKD
INIT ISSUE	4/20/10	KL	FLB
2010 FBC	12/16/11	CSL	KL
CLIENT REVISIONS	10/25/13	KL	FLB
2014 FBC	3/29/15	RWN	CSL
2017 FBC	8/04/17	RWN	FLB
2018 FBC UPDATE	8/17/20	CB	RWN

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20-24244.5

SCALE: -

PAGE DESCRIPTION:

### ANCHOR SCHEDULE: CONCRETE (CONT.)

HOST STRUCT.	ANCHOR	LOAD (psf)	2-3/16" MIN EDGE DISTANCE															3-1/8" MIN EDGE DISTANCE																	
			Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE					Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE							
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5			
CONCRETE	5/16" ITW TAPCON XL WITH 1-3/4" EMBED (2899psi MIN CONC)	43	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	12.0"	16.0"	16.0"	16.0"	11.0"	7.0"	12.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	11.5"	7.5"	12.0"	16.0"						
		53	16.0"	16.0"	14.0"	16.0"	16.0"	16.0"	14.5"	9.0"	14.0"	16.0"	16.0"	9.0"	6.0"	10.0"	12.5"	16.0"	16.0"	14.5"	16.0"	16.0"	16.0"	16.0"	15.0"	9.0"	14.5"	16.0"	16.0"	9.5"	6.0"	10.5"	13.0"		
		62	16.0"	16.0"	11.5"	16.0"	16.0"	16.0"	11.5"	7.5"	12.0"	16.0"	16.0"	9.0"	6.0"	10.0"	12.5"	16.0"	16.0"	11.5"	16.0"	16.0"	16.0"	16.0"	11.5"	7.5"	12.0"	16.0"	16.0"	9.5"	6.0"	10.5"	13.0"		
		70	16.0"	15.5"	9.5"	15.0"	16.0"	16.0"	9.5"	6.0"	10.5"	13.5"	16.0"	9.0"	6.0"	10.0"	12.5"	16.0"	16.0"	10.0"	15.0"	16.0"	16.0"	10.0"	6.5"	10.5"	14.0"	16.0"	9.5"	6.0"	10.5"	13.0"			
	100	16.0"	9.0"	6.0"	10.0"	12.5"	16.0"	9.0"	6.0"	10.0"	12.5"	16.0"	9.0"	6.0"	10.0"	12.5"	16.0"	9.5"	6.0"	10.5"	13.0"	16.0"	9.5"	6.0"	10.5"	13.0"	16.0"	9.5"	6.0"	10.5"	13.0"				
	5/16" DEWALT ULTRACON WITH 1-3/4" EMBED (3500psi MIN CONC)	43	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	13.5"	16.0"	16.0"	16.0"	12.0"	8.0"	13.5"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	15.0"	16.0"	16.0"	13.0"	9.0"	10.5"	16.0"		
		53	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	15.5"	10.0"	16.0"	16.0"	16.0"	9.5"	6.5"	11.5"	13.5"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	11.0"	16.0"	16.0"	10.5"	7.5"	12.5"	15.0"	
		62	16.0"	16.0"	12.5"	16.0"	16.0"	16.0"	12.0"	8.0"	14.0"	16.0"	16.0"	9.5"	6.5"	11.5"	13.5"	16.0"	16.0"	14.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	13.5"	9.0"	15.0"	16.0"	16.0"	10.5"	7.5"	12.5"	15.0"
		70	16.0"	16.0"	10.5"	16.0"	16.0"	16.0"	10.0"	7.0"	12.0"	14.5"	16.0"	9.5"	6.5"	11.5"	13.5"	16.0"	16.0"	11.5"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	11.0"	7.5"	13.0"	16.0"	16.0"	10.5"	7.5"	12.5"	15.0"
	100	16.0"	9.5"	6.5"	11.5"	13.5"	16.0"	9.5"	6.5"	11.5"	13.5"	16.0"	9.5"	6.5"	11.5"	13.5"	16.0"	10.5"	7.5"	12.5"	15.0"	16.0"	10.5"	7.5"	12.5"	15.0"	16.0"	10.5"	7.5"	12.5"	15.0"				
	1/4" 304 SS DEWALT TAPPER W/ 1-3/4" EMBED (3000psi MIN CONC)	1-1/2" MIN EDGE DISTANCE															3" MIN EDGE DISTANCE																		
		43	16.0"	14.5"	6.5"	8.5"	16.0"	12.5"	7.0"	4.0"	6.0"	12.5"	7.0"	3.5"	4.0"	5.5"	16.0"	16.0"	13.5"	16.0"	16.0"	16.0"	14.0"	8.0"	12.0"	16.0"	14.5"	7.5"	4.5"	8.0"	11.5"				
53		14.0"	8.5"	4.5"	6.5"	14.0"	9.0"	4.5"	3.0"	4.5"	9.0"	6.0"	3.0"	3.0"	4.0"	16.0"	16.0"	9.5"	13.5"	16.0"	16.0"	9.5"	6.0"	9.5"	16.0"	12.0"	6.0"	4.0"	6.5"	8.5"					
62		11.5"	6.5"	3.5"	5.5"	12.0"	7.0"	3.5"	3.0"	4.0"	6.0"	6.0"	3.0"	3.0"	4.0"	16.0"	16.0"	13.0"	7.5"	11.0"	16.0"	14.5"	7.5"	5.0"	8.0"	12.0"	6.0"	4.0"	6.5"	8.5"					
70		9.5"	5.0"	3.0"	5.0"	10.0"	6.0"	3.0"	3.0"	3.5"	4.5"	6.0"	3.0"	3.0"	4.0"	16.0"	10.5"	6.5"	10.0"	16.0"	12.5"	6.5"	4.0"	7.0"	9.0"	12.0"	6.0"	4.0"	6.5"	8.5"					
100	6.0"	3.0"	3.0"	3.0"	4.0"	6.0"	3.0"	3.0"	3.0"	4.0"	6.0"	3.0"	3.0"	4.0"	12.0"	6.0"	4.0"	6.5"	8.5"	12.0"	6.0"	4.0"	6.5"	8.5"	12.0"	6.0"	4.0"	6.5"	8.5"						

### ANCHOR SCHEDULE: HOLLOW CONCRETE BLOCK

HOST STRUCT.	ANCHOR	LOAD (psf)	1" MIN EDGE DISTANCE															2-1/2" MIN EDGE DISTANCE																
			Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE					Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE						
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5		
HOLLOW CONCRETE BLOCK	1/4" ITW TAPCON WITH 1-1/4" EMBED	43	8.5"	7.0"	3.5"	8.5"	6.0"	3.5"	3.5"	4.0"	6.0"	3.5"	3.5"	3.5"	3.5"	11.5"	10.0"	5.0"	6.5"	11.5"	8.5"	4.5"	3.0"	4.5"	8.5"	4.5"	3.0"	3.0"	4.0"	4.0"	4.0"	4.0"		
		53	7.0"	4.0"	3.5"	7.0"	4.5"	3.5"	3.5"	4.0"	4.5"	4.5"	4.5"	4.5"	4.5"	9.5"	6.0"	3.5"	5.0"	9.5"	6.0"	3.0"	3.0"	3.5"	6.0"	4.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"		
		62	5.5"	3.0"	3.5"	6.0"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	8.0"	4.0"	3.5"	4.5"	8.0"	5.0"	3.0"	3.0"	3.0"	4.0"	4.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	
		70	4.5"	3.0"	3.5"	5.0"	3.0"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	6.5"	3.5"	3.5"	3.5"	6.5"	4.0"	3.0"	3.0"	3.0"	4.0"	4.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	
	100	4.0"	3.0"	3.5"	4.0"	3.0"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	4.0"	3.5"	3.5"	3.5"	4.0"	4.0"	3.0"	3.0"	3.0"	4.0"	4.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"		
	1/4" DEWALT ULTRACON WITH 1-1/4" EMBED	43	13.0"	10.5"	6.5"	13.0"	9.0"	6.0"	6.0"	6.0"	9.0"	6.0"	6.0"	6.0"	6.0"	13.0"	10.5"	4.5"	6.0"	13.0"	9.0"	5.0"	3.0"	4.0"	9.0"	5.0"	3.0"	3.0"	4.0"	4.0"	4.0"	4.0"		
		53	10.5"	6.5"	6.5"	10.5"	6.5"	6.5"	6.5"	6.5"	6.5"	6.5"	6.5"	6.5"	6.5"	10.5"	6.5"	3.5"	5.0"	10.5"	6.5"	3.5"	3.5"	3.5"	6.5"	4.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	
		62	8.5"	6.5"	6.5"	9.0"	6.5"	6.5"	6.5"	6.5"	6.5"	6.5"	6.5"	6.5"	6.5"	8.5"	4.5"	4.0"	9.0"	5.0"	3.0"	3.0"	3.0"	4.0"	4.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	
		70	7.0"	6.5"	6.5"	7.5"	6.5"	6.5"	6.5"	6.5"	6.5"	6.5"	6.5"	6.5"	6.5"	7.0"	3.5"	3.5"	7.5"	4.5"	3.0"	3.0"	3.0"	3.0"	4.0"	4.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"	
	100	4.0"	3.5"	3.5"	4.0"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	3.5"	4.0"	3.5"	3.5"	3.0"	4.0"	4.0"	3.0"	3.0"	3.0"	3.0"	4.0"	4.0"	3.0"	3.0"	3.0"	3.0"	3.0"	3.0"		
	1/4" MILLENIUM MILLFAST ANCHOR W/ 1-1/4" EMBED	43	12.5"	10.5"	4.0"	5.0"	12.5"	9.0"	5.0"	5.0"	9.0"	5.0"	5.0"	5.0"	5.0"	13.5"	11.5"	5.5"	7.5"	13.5"	10.0"	5.5"	5.0"	5.0"	10.0"	5.5"	5.0"	5.0"	5.0"	5.5"	5.5"	5.5"	4.5"	
		53	10.0"	6.0"	4.0"	10.0"	6.5"	6.0"	6.0"	6.0"	6.0"	4.0"	4.0"	4.0"	4.0"	11.0"	6.5"	4.0"	5.5"	11.0"	7.0"	4.0"	4.0"	7.0"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	
		62	8.0"	4.5"	4.0"	8.5"	5.0"	5.0"	5.0"	5.0"	5.0"	4.0"	4.0"	4.0"	4.0"	9.0"	5.0"	5.0"	5.0"	9.5"	5.5"	4.5"	4.5"	9.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"
		70	6.5"	4.0"	4.0"	7.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	7.5"	4.0"	4.0"	4.0"	8.0"	4.5"	4.0"	4.0"	8.0"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"
	100	4.0"	3.5"	3.5"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.0"	4.5"	4.0"	4.0"	4.0"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	
	1/4" ALL-POINTS SOLID-SET ANCHOR W/ 7/8" EMBED & 1/4-20 SS MACHINE SCREW	1-1/4" MIN EDGE DISTANCE															2" MIN EDGE DISTANCE																	
		43	15.0"	13.0"	5.0"	6.0"	15.0"	11.0"	6.0"	3.0"	4.0"	11.0"	6.0"	3.0"	3.5"	5.0"	16.0"	16.0"	8.5"	10.0"	16.0"	16.0"	10.5"	5.0"	7.0"	16.0"	11.0"	5.5"	3.0"	4.5"	8.5"			
		53	12.5"	7.5"	3.5"	4.5"	12.5"	8.0"	4.0"	3.5"	8.0"	5.0"	3.0"	3.5"	6.0"	16.0"	13.0"	6.0"	8.0"	16.0"	14.0"	7.5"	4.0"	5.5"	13.5"	9.0"	4.5"	4.0"	4.0"	6.5"	6.5"			
		62	10.0"	5.5"	4.0"	10.5"	6.5"	3.0"	3.5"	3.5"	5.0"	5.0"	3.5"	3.5"	5.0"	16.0"	9.5"	5.0"	6.5"	16.0"	11.0"	5.5"	3.0"	4.5"	9.0"	9.0"	4.5"	4.0"	4.0"	6.5"	6.5"			
		70	8.5"	4.5"	3.5"	9.0"	5.5"	3.5"	3.5"	3.5"	4.0"	5.0"	3.5"	3.5"	4.0"	14.5"	8.0"	4.0"	6.0"	15.5"	9.5"	4.5"	3.0"	4.0"	7.0"	9.0"	4.5"	4.0"	4.0"	6.5"	6.5"			
100	5.0"	3.5"	3.5"	3.5"	5.0"	3.5"	3.5"	3.5"	3.5"	5.0"	3.5"	3.5"	3.5"	9.0"	4.5"	4.0"	4.0"	6.5"	9.0"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"			
5/16" ITW TAPCON XL WITH 1-3/4" EMBED	3" MIN EDGE DISTANCE															4" MIN EDGE DISTANCE																		
	43	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	9.0"	12.0"	16.0"	14.0"	7.5"	5.0"	8.5"	14.0"	8.0"	4.0"	3.0"	5.5"	6.5"				
	53	15.5"	9.5"	6.0"	9.5"	15.5"	10.0"	5.0"	6.5"	10.0"	5.0"	6.5"	10.0"	5.0"	6.5"	13.0"	7.0"	4.5"	8.0"	13.0"	8.0"	4.0"	6.5"	10.0"	6.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"			
	62	13.0"	7.0"	4.5"	8.0"	13.0"	8.0"	4.0"	4.5"	11.0"	6.5"	4.5"	4.5"	4.5"	10.5"	5.5"	4.0"	7.0"	11.0"	6.5"	4.5"	4.5"	5.0"	5.0"	6.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"		
	70	10.5"	5.5"	4.0"	7.0"	11.0"	6.5"	4.5"	4.5"	10.5"	5.5"	4.5"	4.5"	4.5"	9.0"	4.5"	4.0"	6.0"	10.5"	5.5"	4.5"	4.5"	5.0"	5.0"	6.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"		
100	6.5"	3.0"	3.5"	4.5"	4.5"	6.5"	4.5"	4.5"	6.5"	3.0"	3.5"	3.5"	3.5"	7.0"	4.5"	4.0"	4.5"	7.0"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"	4.5"			
5/16" DEWALT ULTRACON WITH 1-1/4" EMBED	1-9/16" MIN EDGE DISTANCE															3-1/8" MIN EDGE DISTANCE																		
	43	12.0"	10.0"	12.0"	8.5"	12.0"	8.5"	6.0"	6.0"	8.5"	6.0"	6.0"	6.0"	6.0"																				

### ANCHOR SCHEDULE: HOLLOW CONCRETE BLOCK

HOST STRUCT.	ANCHOR	LOAD (psf)	2" MIN EDGE DISTANCE																																																																						
			Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE																																																												
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5																																																								
HOLLOW BLOCK	#12 SMS W/ 2" EYEWALL ARMOR INSERT W/ 1-1/4" EMBED	43	16.0"	16.0"	7.5"	9.0"	16.0"	15.5"	8.5"	4.5"	6.5"	15.5"	8.5"	4.5"	4.0"	7.0"	53	16.0"	10.5"	5.0"	7.0"	16.0"	11.0"	6.0"	3.5"	5.0"	11.0"	7.0"	3.5"	3.5"	5.0"	62	14.0"	7.5"	4.0"	6.0"	14.5"	9.0"	4.5"	4.0"	7.0"	7.0"	3.5"	3.5"	5.0"	70	11.5"	6.0"	3.5"	5.5"	12.5"	7.5"	3.5"	3.5"	5.5"	7.0"	3.5"	3.5"	5.0"	100	7.0"	3.5"	3.5"	5.0"	7.0"	3.5"	3.5"	3.5"	5.0"	7.0"	3.5"	3.5"	5.0"

### ANCHOR SCHEDULE: WOOD (G=0.55)

HOST STRUCT.	ANCHOR	LOAD (psf)	3/4" MIN EDGE DISTANCE																																																																												
			Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE																																																																		
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5																																																														
WOOD (G=0.55)	1/4" LAG SCREW WITH 1-3/4" MIN THREAD PENETRATION	43	16.0"	16.0"	11.5"	12.5"	16.0"	16.0"	7.5"	9.0"	16.0"	16.0"	14.5"	4.5"	6.0"	16.0"	53	16.0"	16.0"	8.5"	10.0"	16.0"	16.0"	6.0"	7.0"	16.0"	11.5"	4.0"	5.0"	16.0"	62	16.0"	16.0"	7.0"	8.5"	16.0"	16.0"	14.5"	5.0"	6.0"	16.0"	11.5"	4.0"	5.0"	16.0"	70	16.0"	16.0"	6.0"	7.5"	16.0"	16.0"	12.5"	4.0"	5.5"	16.0"	11.5"	4.0"	5.0"	16.0"	100	16.0"	11.5"	4.0"	5.0"	16.0"	16.0"	11.5"	4.0"	5.0"	16.0"	11.5"	4.0"	5.0"	16.0"				
		7/16" WOOD BUSHING WITH 1.13" MIN EMBED & 1/4-20 SS MACHINE SCREW	43	16.0"	16.0"	8.0"	10.0"	16.0"	15.5"	8.5"	4.5"	7.0"	15.5"	8.5"	4.5"	4.5"	7.0"	53	16.0"	10.5"	5.5"	8.0"	16.0"	11.0"	6.0"	3.5"	5.5"	11.0"	7.0"	3.5"	4.0"	5.0"	62	14.0"	8.0"	4.5"	6.5"	14.5"	9.0"	4.5"	3.0"	4.5"	7.0"	7.0"	3.5"	4.0"	5.0"	70	12.0"	6.0"	3.5"	5.5"	12.5"	7.5"	3.5"	4.0"	5.5"	7.0"	7.0"	3.5"	4.0"	5.0"	100	7.0"	3.5"	3.5"	4.0"	7.0"	3.5"	3.5"	4.0"	5.0"	7.0"	3.5"	3.5"	4.0"	5.0"		
			#14 SMS OR #14 WOOD SCREW WITH 1-3/4" MIN THREAD PENETRATION	43	16.0"	16.0"	12.5"	14.5"	16.0"	16.0"	8.0"	10.0"	16.0"	11.5"	5.0"	7.0"	16.0"	53	16.0"	16.0"	9.0"	11.5"	16.0"	16.0"	15.0"	6.0"	8.0"	16.0"	9.5"	4.0"	5.5"	13.0"	62	16.0"	16.0"	7.5"	9.5"	16.0"	16.0"	11.5"	5.0"	7.0"	16.0"	9.5"	4.0"	5.5"	13.0"	70	16.0"	16.0"	6.5"	8.5"	16.0"	16.0"	10.0"	4.5"	6.0"	14.0"	16.0"	9.5"	4.0"	5.5"	13.0"	100	16.0"	9.5"	4.0"	5.5"	13.0"	16.0"	9.5"	4.0"	5.5"	13.0"	16.0"	9.5"	4.0"	5.5"	13.0"

### ANCHOR SCHEDULE: WOOD (G=0.42)

HOST STRUCT.	ANCHOR	LOAD (psf)	3/4" MIN EDGE DISTANCE																																																																															
			Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE																																																																					
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5																																																																	
WOOD (G=0.42)	1/4" LAG SCREW WITH 1-3/4" MIN THREAD PENETRATION	43	16.0"	16.0"	9.0"	10.0"	16.0"	16.0"	5.5"	7.0"	16.0"	16.0"	9.5"	3.5"	4.5"	15.0"	53	16.0"	16.0"	6.5"	8.0"	16.0"	16.0"	12.5"	4.5"	5.5"	16.0"	15.0"	7.5"	3.0"	4.0"	11.0"	62	16.0"	16.0"	5.5"	6.5"	16.0"	16.0"	9.5"	3.5"	5.0"	15.0"	15.0"	7.5"	3.0"	4.0"	11.0"	70	16.0"	13.5"	4.5"	6.0"	16.0"	16.0"	8.0"	3.0"	4.0"	11.5"	15.0"	7.5"	3.0"	4.0"	11.0"	100	15.0"	7.5"	3.0"	4.0"	11.0"	15.0"	7.5"	3.0"	4.0"	11.0"	15.0"	7.5"	3.0"	4.0"	11.0"		
		#14 SMS OR #14 WOOD SCREW WITH 1-3/4" MIN THREAD PENETRATION	43	16.0"	16.0"	8.5"	10.5"	16.0"	16.0"	12.5"	5.5"	7.0"	16.0"	13.0"	6.5"	3.5"	5.0"	10.5"	53	16.0"	16.0"	6.5"	8.0"	16.0"	16.0"	8.5"	4.0"	5.5"	16.0"	10.5"	5.5"	2.5"	4.0"	7.5"	62	16.0"	11.5"	5.0"	7.0"	16.0"	13.0"	6.5"	3.5"	5.0"	10.5"	10.5"	5.5"	2.5"	4.0"	7.5"	70	16.0"	9.5"	4.5"	6.0"	16.0"	11.0"	5.5"	3.0"	4.0"	8.0"	10.5"	5.5"	2.5"	4.0"	7.5"	100	10.5"	5.5"	2.5"	4.0"	7.5"	10.5"	5.5"	2.5"	4.0"	7.5"	10.5"	5.5"	2.5"	4.0"	7.5"

### ANCHOR SCHEDULE: GROUT-FILLED CONCRETE BLOCK

HOST STRUCT.	ANCHOR	LOAD (psf)	4" MIN EDGE DISTANCE																																																																																
			Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-3" CONN TYPE					Spans Up To 12'-0" CONN TYPE																																																																						
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5																																																																		
GROUT-FILLED CONCRETE BLOCK	5/16" ITW TAPCON XL W/ 2-1/4" MIN. EMBED	43	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	15.0"	16.0"	16.0"	16.0"	15.0"	9.0"	14.0"	16.0"	53	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	11.0"	16.0"	16.0"	12.0"	7.5"	12.0"	16.0"	62	16.0"	16.0"	14.0"	16.0"	16.0"	16.0"	15.0"	9.0"	14.0"	16.0"	16.0"	12.0"	7.5"	12.0"	16.0"	70	16.0"	16.0"	11.5"	16.0"	16.0"	16.0"	12.5"	8.0"	12.5"	16.0"	16.0"	12.0"	7.5"	12.0"	16.0"	100	16.0"	12.0"	7.5"	12.0"	16.0"	16.0"	12.0"	7.5"	12.0"	16.0"	16.0"	12.0"	7.5"	12.0"	16.0"			
		5/16" DEWALT ULTRACON W/ 2-1/4" MIN. EMBED	43	16.0"	16.0"	10.5"	14.0"	16.0"	16.0"	10.5"	6.5"	9.5"	16.0"	11.0"	5.5"	6.5"	9.0"	53	16.0"	13.5"	7.5"	11.0"	16.0"	14.0"	7.5"	7.5"	13.5"	9.0"	6.5"	6.5"	6.5"	6.5"	62	16.0"	10.0"	6.0"	9.0"	16.0"	11.0"	5.5"	9.0"	9.0"	9.0"	9.0"	6.5"	6.5"	6.5"	70	15.0"	8.0"	5.0"	8.0"	15.5"	9.5"	5.5"	7.0"	9.0"	9.0"	9.0"	6.5"	6.5"	6.5"	100	9.0"	5.5"	5.5"	6.5"	9.0"	5.5"	5.5"	6.5"	9.0"	9.0"	9.0"	6.5"	6.5"	6.5"						
			#12 SMS W/ 2" EYEWALL ARMOR INSERT W/ 2" EMBED	43	16.0"	16.0"	9.5"	11.5"	16.0"	16.0"	14.0"	6.0"	8.0"	16.0"	14.5"	7.5"	3.5"	5.5"	11.5"	53	16.0"	16.0"	7.0"	9.0"	16.0"	16.0"	9.5"	4.5"	6.5"	16.0"	11.5"	6.0"	3.0"	4.5"	8.5"	62	16.0"	13.0"	5.5"	7.5"	16.0"	14.5"	7.5"	3.5"	5.5"	12.0"	11.5"	6.0"	3.0"	4.5"	8.5"	70	16.0"	10.5"	5.0"	6.5"	16.0"	12.5"	6.5"	3.0"	4.5"	9.0"	11.5"	6.0"	3.0"	4.5"	8.5"	100	11.5"	6.0"	3.0"	4.5"	8.5"	11.5"	6.0"	3.0"	4.5"	8.5"	11.5"	6.0"	3.0"	4.5"	8.5"

ANCHOR NOTES: SEE SHEET 9 FOR ANCHOR NOTES.

FRANK BERNARDO, PE  
PE# 96064 CA# F-11383

04/01/2021

STATE OF TEXAS

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INDUSTRIES  
Wholesale Aluminum and Building Products  
A Division of ABC Supply Co., Inc.  
400 WEST MCNAB ROAD  
FT. LAUDERDALE, FL 33309

DRWN	CHKD	DATE
KL	FLB	4/28/10
CSL	KL	12/16/11
KL	FLB	10/25/13
RWN	CSL	3/29/15
RWN	FLB	8/04/17
CB	RWN	6/17/20

REMARKS

INIT ISSUE

2010 FBC

CLIENT REVISIONS

2014 FBC

2017 FBC

2018 IBC UPDATE

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04/01/2021 - 10:07 am rickm

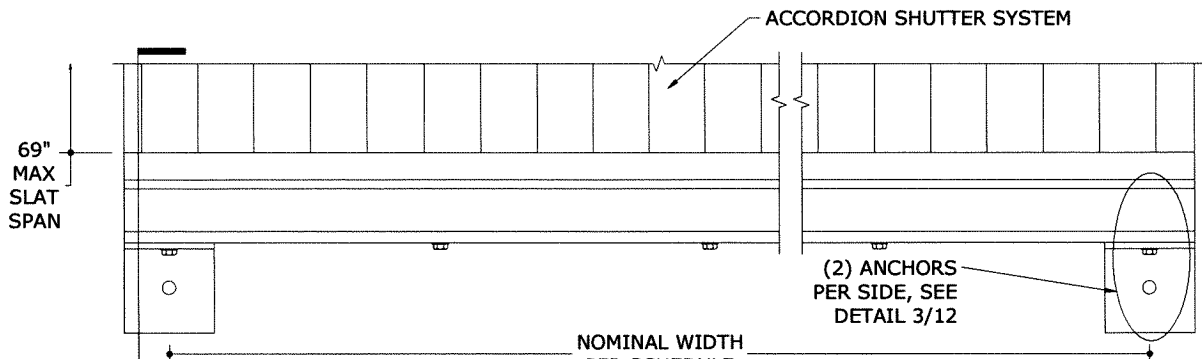


# ALTERNATE MOUNTING OPTION

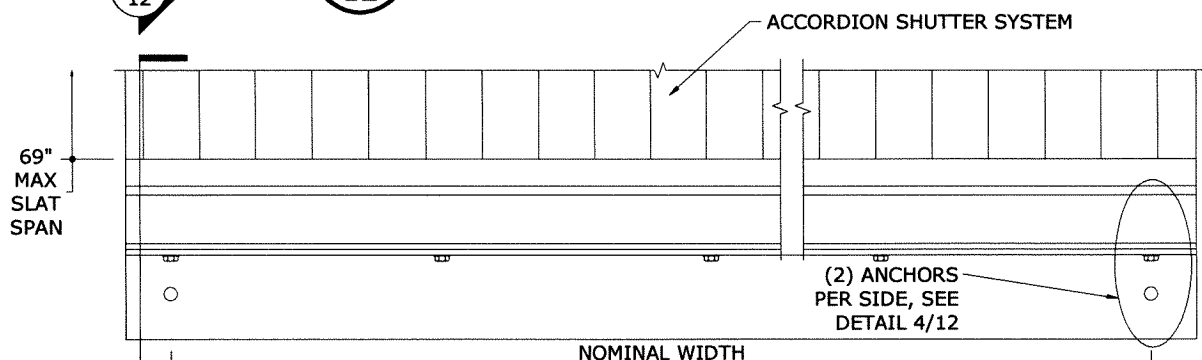
## DESIGN SCHEDULES

OPTION 1 (1) 2x3x0.25 ANGLE (6063-T6)			OPTION 2 (2) 2x3x0.125 ANGLES (6063-T6)		
NOMINAL WIDTH	ALLOWABLE DESIGN PRESSURE		NOMINAL WIDTH	ALLOWABLE DESIGN PRESSURE	
	POSITIVE (+)	NEGATIVE (-)		POSITIVE (+)	NEGATIVE (-)
42"	151 psf	200 psf	42"	80 psf	173 psf
45"	131 psf	200 psf	45"	69 psf	151 psf
48"	116 psf	177 psf	48"	61 psf	132 psf
51"	102 psf	147 psf	51"	54 psf	117 psf
54"	91 psf	124 psf	54"	48 psf	105 psf
57"	82 psf	106 psf	57"	43 psf	94 psf
60"	74 psf	91 psf	60"	39 psf	85 psf
63"	67 psf	78 psf	63"	35 psf	77 psf
66"	61 psf	68 psf	66"	32 psf	70 psf
69"	56 psf	60 psf	69"	30 psf	63 psf
72"	51 psf	52 psf	72"	27 psf	56 psf
75"	46 psf	46 psf	75"	25 psf	49 psf
78"	41 psf	41 psf	78"	23 psf	44 psf
81"	37 psf	37 psf	81"	21 psf	39 psf

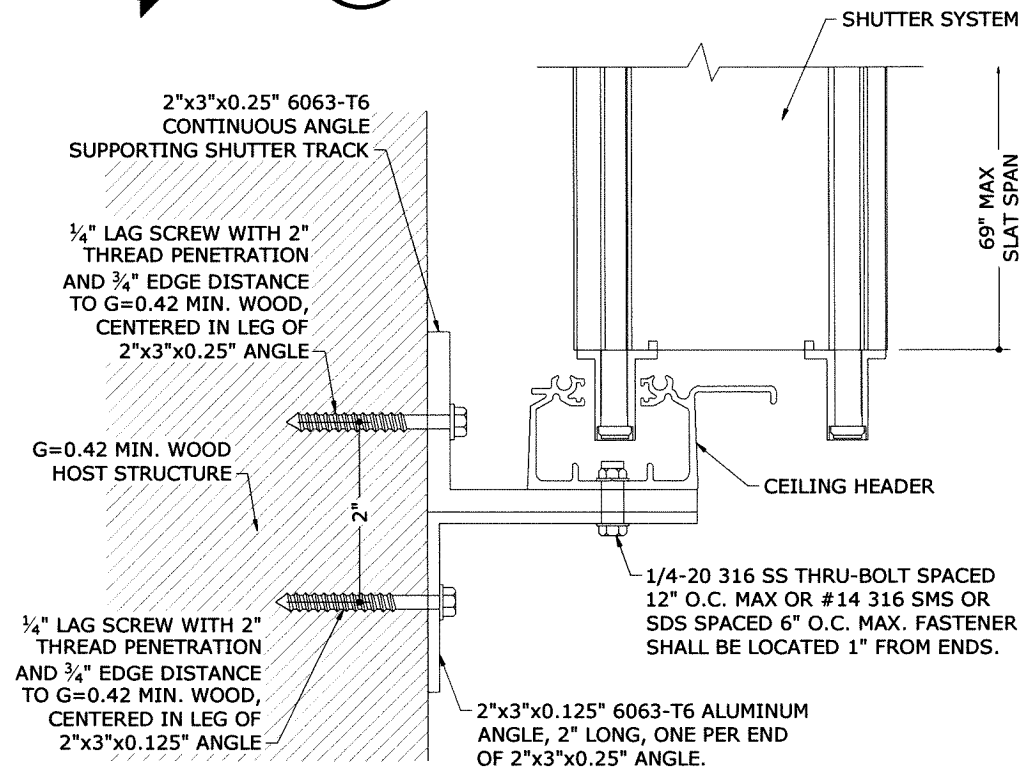
**NOTE:** DESIGN PRESSURES SHOWN IN DESIGN SCHEDULE ARE FOR DETERMINING MAXIMUM ALLOWABLE HORIZONTAL SUPPORT ANGLE SPAN. SHUTTER SPANS AND ALLOWABLE LOADS SHALL NOT EXCEED THOSE PERMITTED IN DESIGN SCHEDULES.



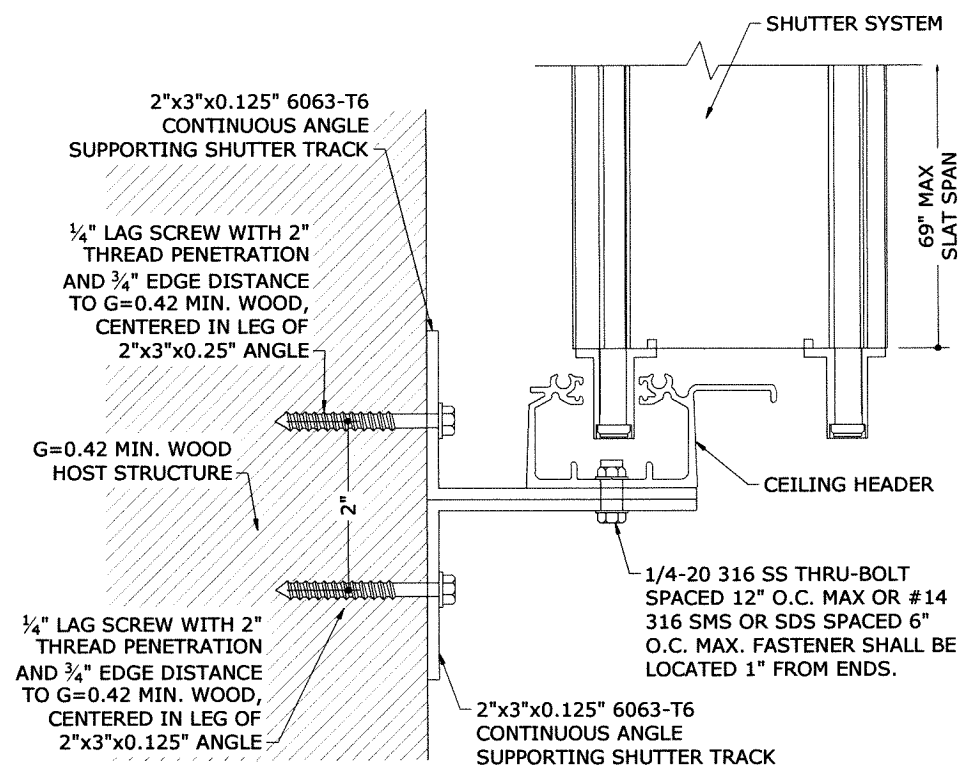
**1** TYPICAL ELEVATION (OPTION 1)  
N.T.S. EXTERIOR ELEV



**2** TYPICAL ELEVATION (OPTION 2)  
N.T.S. EXTERIOR ELEV



**3** TYPICAL END ATTACHMENT (OPTION 1)  
N.T.S. VERT SECTION



**4** TYPICAL END ATTACHMENT (OPTION 2)  
N.T.S. VERT SECTION

**ANCHOR NOTE:** 1/4" MILLENNIUM MILLFAST SCREWS W/ T&C ULTRACOTE MAY BE USED IN LIEU OF THE LAG SCREWS CALLED OUT ON THIS SHEET UTILIZING THE SAME CRITERIA.

FRANK BENNARDO, PE  
PE# 96064 CA# F-11383

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**Town & Country**  
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Wholesale Aluminum and Building Products  
A Division of ABC Supply Co., Inc.  
400 WEST MCNAB ROAD  
FT. LAUDERDALE, FL 33309

REVISIONS	DATE	BY	CHKD
INIT ISSUE	4/28/10	KL	FLB
2010 FBC	12/16/11	CSL	KL
CLIENT REVISIONS	10/25/13	FLB	CSL
2014 FBC	3/29/15	RWN	CSL
2017 FBC	8/04/17	RWN	FLB
2018 IBC UPDATE	6/17/20	CB	RWN

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12 OF 12

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