

GENERAL NOTES:

1. ACCORDION SHUTTER SYSTEM SHOWN ON THIS PRODUCT APPROVAL DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2023 (8th EDITION) OF THE FLORIDA BUILDING CODE. THIS ACCORDION SHUTTER SYSTEM MAY BE INSTALLED AT HIGH VELOCITY HURRICANE ZONES (HVHZ) OR NON HIGH VELOCITY HURRICANE ZONES (NHVHZ).

DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTIONS 1609 (NHVHZ) OR 1620 (HVHZ) OF THE ABOVE MENTIONED CODE, USING ASCE 7-22 AND SHALL NOT EXCEED THE MAXIMUM A.S.D. DESIGN PRESSURE RATING INDICATED ON SHEETS 7, 8, 10 & 15.

IN ORDER TO VERIFY THE ABOVE CONDITION, ULTIMATE DESING WIND LOADS DETERMINED PER ASCE 7-22 SHALL BE FIRST REDUCED TO A.S.D. DESIGN WIND LOADS BY MULTIPLYING THEM BY 0.6 IN ORDER TO COMPARE THESE W/ MAX. (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 7, 8, 10 & 15.

IN ORDER TO VERIFY THAT COMPONENTS & 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. A DURATION FACTOR CD = 1.60 WAS USED FOR VERIFICATION OF FASTENERS IN WOOD, PER N.D.S. 2018.

ACCORDION SHUTTER SYSTEM'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTIONS 1609.1.2 & 1626 OF THE ABOVE MENTIONED CODE AS PER FENESTRATION TESTING LABORATORY REPORT:
-MID-PRESSURE & HI-PRESSURE BLADES ACCORDION SHUTTER SYSTEM #5534 AND 5644 AS PER PROTOCOLS TAS-201, TAS-202 AND TAS-203, AND AS PER STRUCTURAL CALCULATIONS PERFORMED AS PER SECTIONS 1604 & 1616 OF THE FLORIDA BUILDING CODE .

2. MID-PRESSURE & HI-PRESSURE BLADES ARE ENGINEERED TO WORK IN UNISON WITH EACH OTHER IN AREAS WHERE THE DESIGN PRESSURES TRANSITION FROM END ZONE 5 TO INTERIOR ZONE 4. EACH WIND ZONE MUST BE CLEARLY IDENTIFIED IN ACCORDANCE WITH SECTION 7. OF ASCE 7-22 STANDARD. ALL MOUNTING CONDITIONS AND FASTENER TYPES SCHEDULES MUST BE APPLIED TO THE CORRESPONDING WIND ZONE. THIS SHALL INCLUDE REQUIREMENTS FOR MIN. SEPARATION TO GLASS, DELIMITATION OF WIND ZONES 4 AND 5 AS WELL AS VALIDITY OF COMPONENTS FORMID-PRESSURE & HI-PRESSURE BLADES ACCORDION SHUTTERS SYSTEMS FOR EITHER WIND ZONE SHALL BE PREPARED AND CERTIFIED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT BASED ON BUILDING CONFIGURATION AND ASCE 7-22 STANDARD, AND SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AT THE TIME PERMIT IS APPLIED FOR.

3. STAINLESS STEEL SHEET METAL SCREWS USED AT BLADE'S MALE KNUCKLE SHALL BE # 14 x 2 3/4" (MIN.), 410-HT MINIMUM SERIES W/ 173.6 ksi YIELD STRENGTH & 187.4 ksi TENSILE STRENGTH. SCREWS SHALL BE COATED WITH XYLAN 5000 SERIES FLUOROPOLYMER COATINGS AS MANUFACTURED BY WHITFORD Co, BOX 507. WEST CHESTER PA. 19381.

4. ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION ALLOY AND TEMPER AS INDICATED ON SHEET 2. MINIMUM YIELD STRENGTH FOR 6063-T6 ALLOY IS Fy=25.0 ksi. & FOR 6063-T5 ALLOY IS Fy=18.3 ksi. ALL ALUMINUM EXTRUSIONS IN CONTACT WITH DISSIMILAR MATERIALS SHALL COMPLY WITH SECTION III-6 OF THE 2020 ALUMINUM DESIGN MANUAL.

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

6. BOLTS TO BE ASTM A-307 GALVANIZED STEEL, OR AISI 304 OR 316 SERIES STAINLESS STEEL WITH 35 ksi MINIMUM YIELD STRENGTH.

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

- (A) TO EXISTING POURED CONCRETE: f'c PER SCHEDULE ON SHEETS 10 & 15
- 1/4" Ø TAPCON, AS MANUFACTURED BY I.T.W. BUILDX INC. OR 1/4"Ø CRETE-FLEX SS4, AS MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS.
 - 5/16"Ø TAPCON XL ANCHORS, AS MANUFACTURED BY I.T.W. BUILDX, INC.
 - 1/4" Ø x 7/8" CALK-IN ANCHORS AS MANUFACTURED BY DEWALT, INC.

NOTES:

A.1) MINIMUM EMBEDMENT OF 1/4"Ø TAPCON ANCHORS & 1/4"Ø CRETE-FLEX SS4 INTO CONCRETE IS 1 3/4" & FOR 5/16"Ø TAPCON XL ANCHORS INTO CONCRETE IS 2 1/4".

A.2) 7/8" CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE POURED CONCRETE. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4 Ø-20 S.S SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST.

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

- (B) TO EXISTING CONCRETE BLOCK WALL: ASTM C-90.
- 1/4" Ø CRETE-FLEX SS4, AS MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS.
 - 5/16"Ø TAPCON XL ANCHORS, AS MANUFACTURED BY I.T.W. BUILDX, INC.

NOTES:

B.1) MINIMUM EMBEDMENT OF 1/4"Ø CRETE-FLEX SS4 & 5/16"Ø TAPCON XL ANCHORS, INTO CONCRETE BLOCK UNIT IS 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 NOTE B.1 ABOVE.

(C) TO EXISTING WOOD FRAME BUILDING: SOUTHERN PINE #2 W/ G=0.55 MIN.
- 1/4"Ø TAPCON ITW/BUILDX, INC. PER N.D.S. 2018.

NOTES:

C.1) MINIMUM THREADED PENETRATION OF 1/4"Ø TAPCON INTO THE WOOD FRAME UNIT SHALL SEE SECTION AW THRU DW ON SHEETS 7 & 8, NO THREADED PENETRATION INTO STUCCO SHALL BE CONSIDERED AS PART OF THE REQUIRED THREADED PENETRATION.

C.2) MINIMUM EDGE DISTANCE OF 1/4"Ø TAPCON INTO WOOD SHALL BE 2"

C.3) IN CASE THAT PRECAST STONE, PRECAST CONCRETE OR BRICK PANELS, VENEER OR PAVERS BE FOUND ON THE EXISTING WALL, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN SUBSTRATE BEHIND SUCH PANELS. MINIMUM THREADED PENETRATION SHALL BE AS INDICATED ON NOTE C.1 ABOVE.

8. ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMENDATIONS AND SPECIFICATIONS OF THE ANCHORS MANUFACTURER.

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. THIS SHUTTER SHALL ONLY BE ATTACHED TO CONCRETE, BLOCK OR WOOD FRAME BUILDINGS.

10. EACH UNIT MUST BEAR PERMANENT LABEL IN A VISIBLE PLACE WITH WARNING NOTE: DURING PERIODS OF HURRICANE WARNINGS HOME OWNER, TENANT, OR OTHERS, MUST PROPERLY CLOSE ALL CENTERMATES AND ENGAGE OR LOCK ALL LOCKS.

11. SHUTTER MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT PANEL IN ACCORDANCE WITH SECTION 1709.9.3 OF FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABELING TO COMPLY WITH SECTION 1709.9.2 OF THE FLORIDA BUILDING CODE.

12. ACCORDION SHUTTER SYSTEM'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.

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.

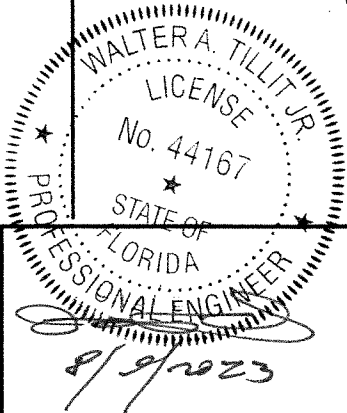
(B) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT BASED ON THIS P.E.D. PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.

(C) THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF MODIFIED.

(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 DELEGATED ENGINEER TO THE P.E.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.

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

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



P.E. SEAL/SIGNATURE/DATE

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

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

GUARDIAN ACCORDION SHUTTER SYSTEM

ALUCORE LLC.

23757 SW 133 AVE
HOMESTEAD, FL 33032
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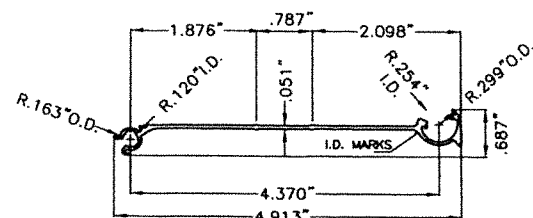
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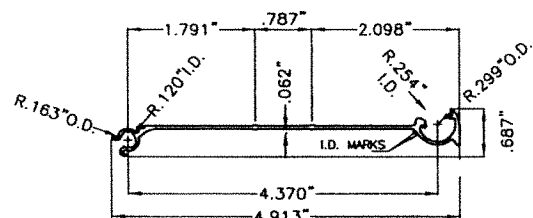
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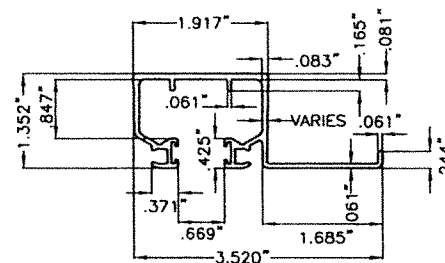
SHEET 1 OF 15



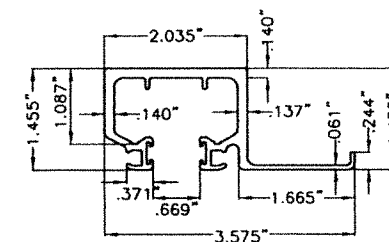
① MID-PRESSURE BLADE
6063-T5 ALLOY
Fy (Min.) = 18.3 KSI



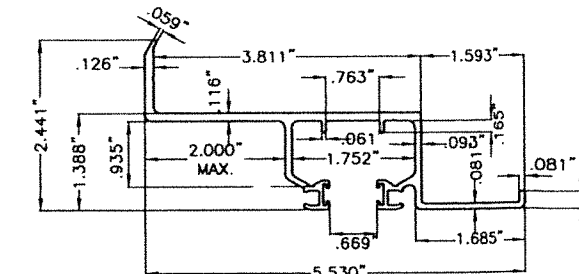
② HI-PRESSURE BLADE
6063-T5 ALLOY
Fy (Min.) = 18.3 KSI



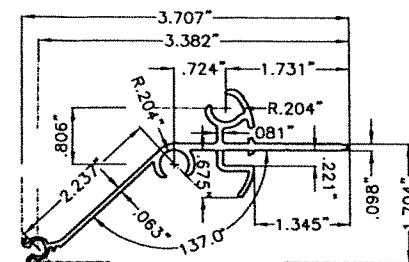
③ CEILING HEADER FOR ①
6063-T6 ALLOY



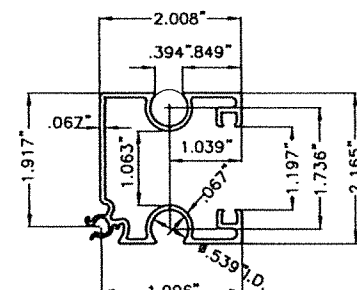
④ CEILING HEADER FOR ②
6063-T6 ALLOY



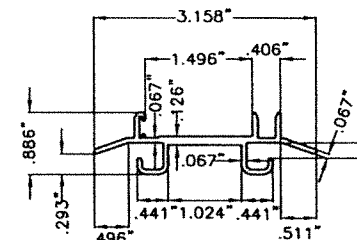
⑦ WALL MOUNT HEADER FOR ① & ②
6063-T6 ALLOY



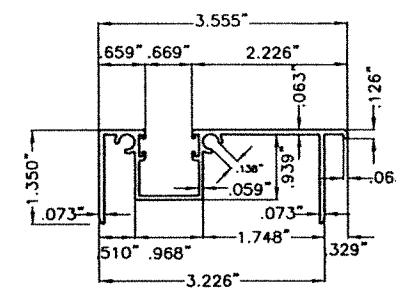
⑧ SLIM CENTERMATE FOR ①
6063-T6 ALLOY



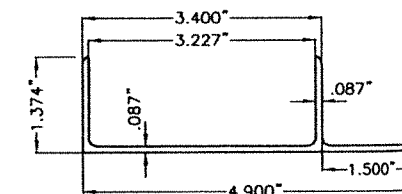
⑨ LARGE CENTERMATE FOR ②
6063-T6 ALLOY



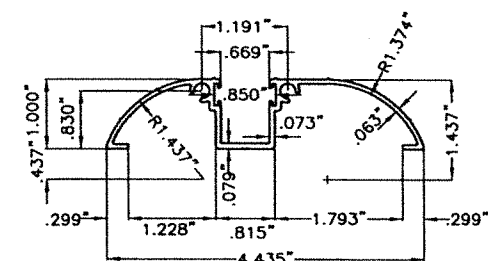
⑩ INSERT FOR ⑨
6063-T6 ALLOY



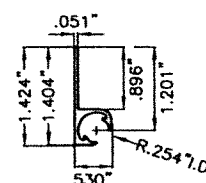
⑪ SILL FOR ① & ②
6063-T6 ALLOY



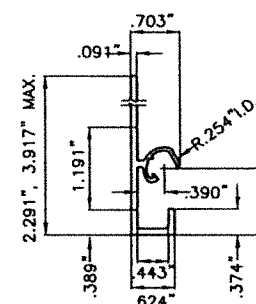
⑫ SILL ADJUSTABLE FOR ⑪
6063-T6 ALLOY



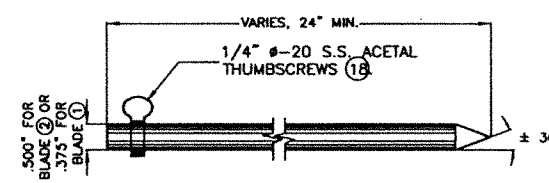
⑬ THRESHOLD FOR ① & ②
6063-T6 ALLOY



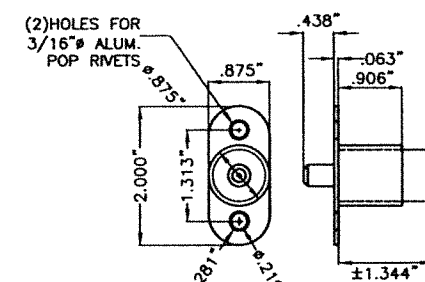
⑭ STARTER
6063-T6 ALLOY



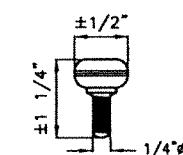
⑮ ENCLOSURE
6063-T6 ALLOY



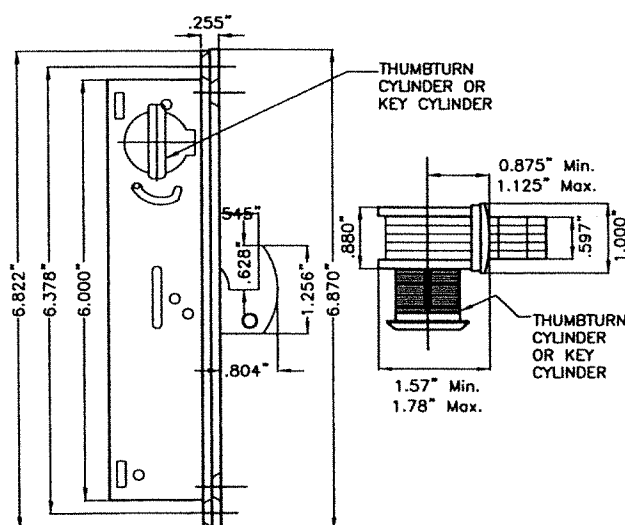
⑯ LOCKING ROD FOR ① & ②
6063-T6 ALLOY AND TEMPER



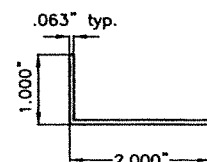
⑰ PUSH BUTTON LOCK FOR ⑧



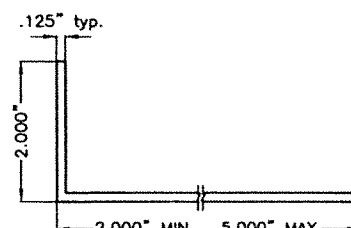
⑱ 1/4" #20 AISI 304 SERIES S.S. THUMBSCREWS FOR ⑯



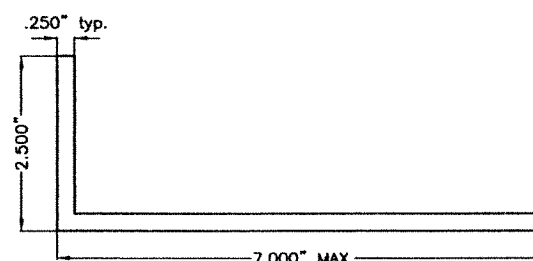
⑳ MORTISE LOCK FOR ⑨
6063-T6 ALLOY



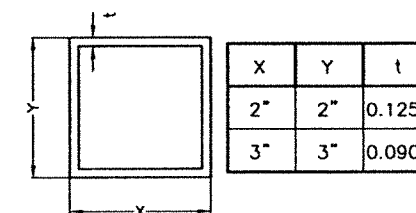
⑲ ANGLE 1"x2"x1/16" FOR ① & ②
6063-T6 ALLOY



⑳ ANGLE 2"x5"(MAX.)x1/8" FOR ①
6063-T6 ALLOY

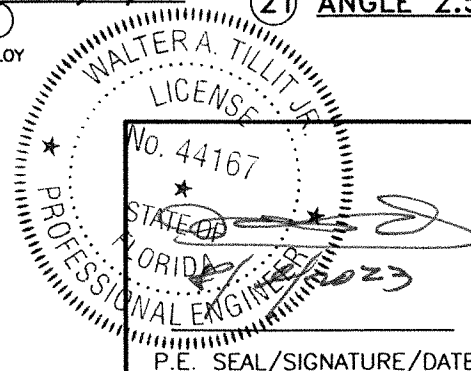


㉑ ANGLE 2.500"x7"(MAX.)x1/4" FOR ②
6063-T6 ALLOY



㉒ CORNER POST FOR ① & ②
6063-T6 ALLOY

COMPONENTS
SCALE: 3/8"=1"



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

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

GUARDIAN ACCORDION SHUTTER SYSTEM

ALUCORE LLC.
23757 SW 133 AVE
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PHONE: 1-954-256-0030
e-mail: hmgcgc@gmail.com

Y.M.
DRAWN BY:

8/9/2023
DATE

23-157
DRAWING No

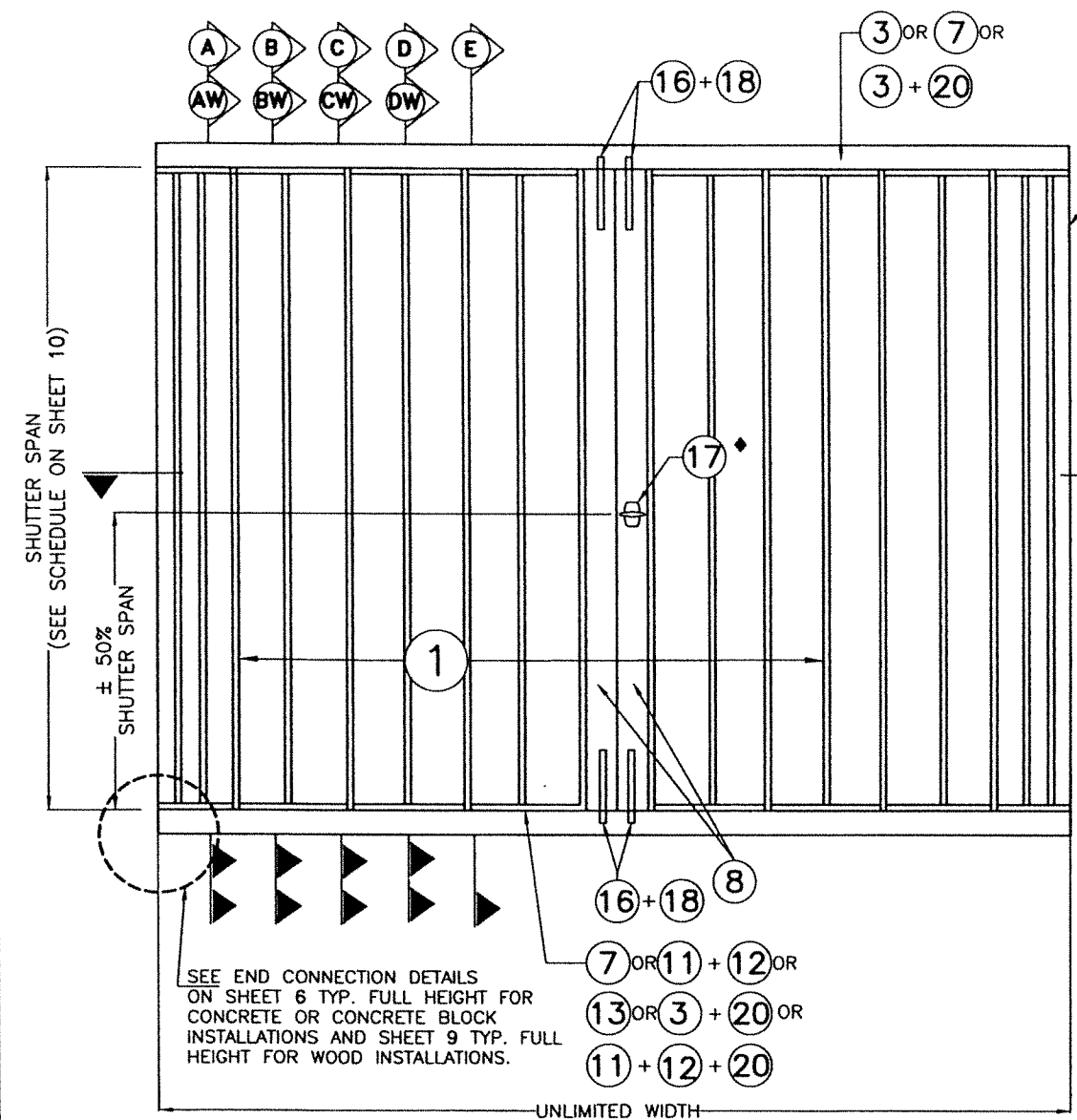
SHEET 2 OF 15

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1	OLD 20-198	8/9/2023	3		
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◆ NOTES ON LOCK 17 & LOCKING RODS 16

1. ONE LOCK 17 SHALL ALWAYS BE USED AT SHUTTER'S MIDSPAN AT ALL INSTALLATIONS. LOCK MAY BE INSIDE/OUTSIDE INSTALLED ATTACHED TO 8 W/(2) 1/4"-20x1/2" LONG FLAT HEAD S.S. M.S. LOCATION OF LOCK SHALL BE AS SHOWN ON TYPICAL SHUTTER ELEVATION.

2. (2) LOCKING RODS 16 SHALL ALWAYS BE USED TOP & BOTTOM AT SHUTTER'S CENTERMATES 8 AT ALL INSTALLATIONS. LOCKING RODS 16 SHALL BE SECURED W/ 1/4"-20 THUMBSCREW 18.



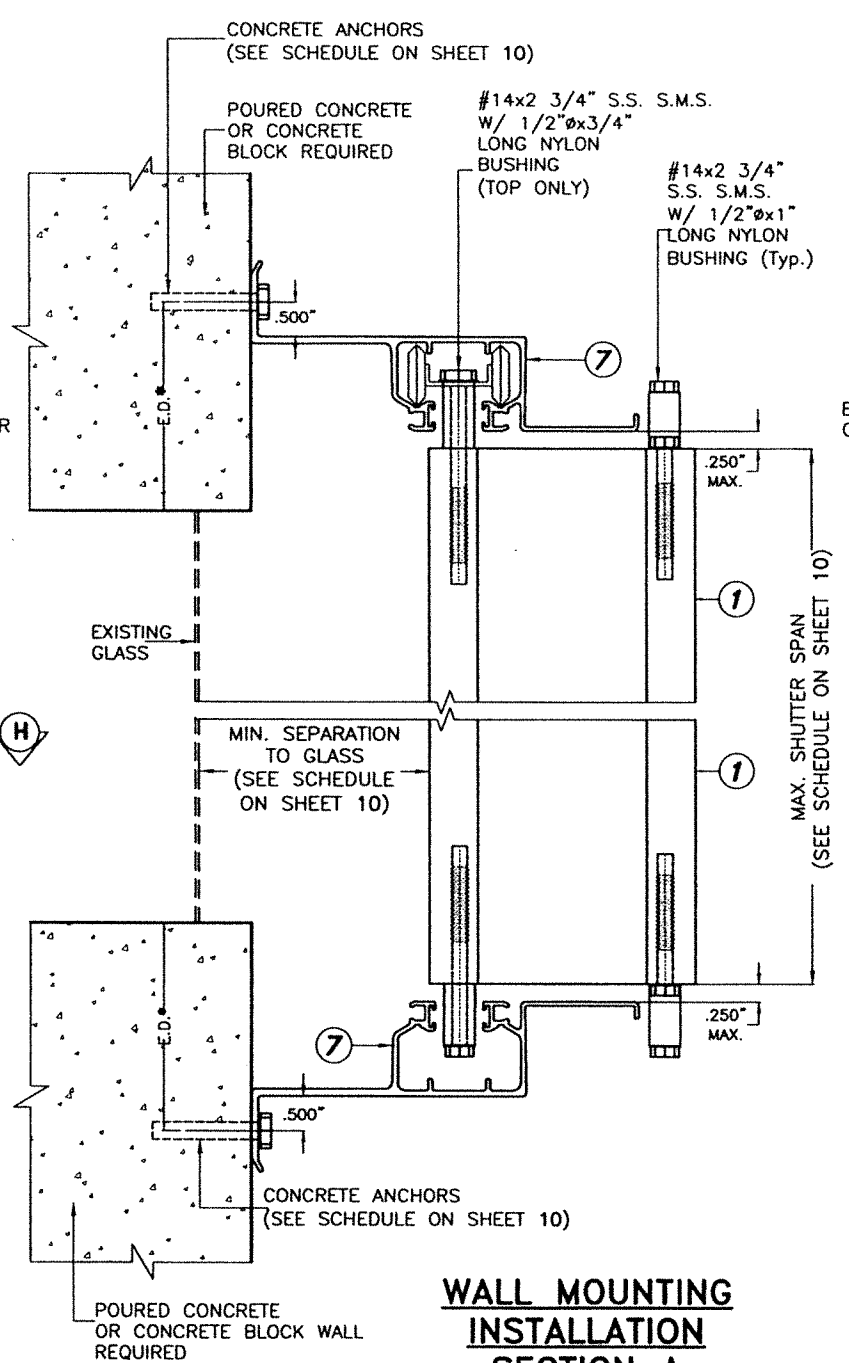
TYPICAL ELEVATION FOR MID-PRESSURE BLADE ♦
N. T. S.

♦ NOTE:
SEE SECTIONS A THRU D ON SHEETS 3 & 4.
SEE SECTIONS AW THRU DW ON SHEETS 7 & 8.

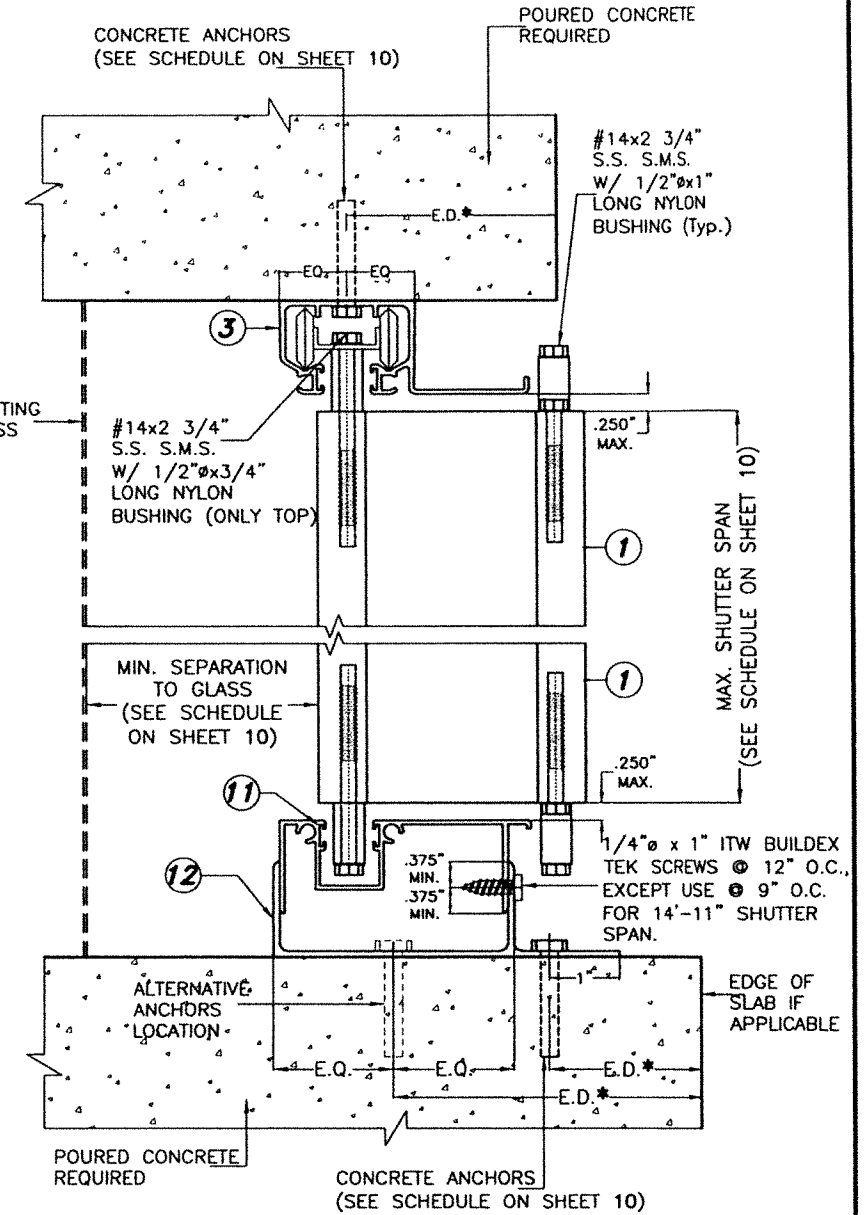
NOTE FOR COMBINATION OF SECTIONS:
1- MOUNTING SECTIONS CAN BE COMBINED
IN ANY WAY TO SUIT ANY INSTALLATION.

* E.D. = EDGE DISTANCE
(SEE SPECIFICATIONS ON SHEET 10)

♦♦ NOTE:
THIS INSTALLATION SHALL BE
REMOVABLE WHEN PERFORMED
ADJACENT TO AN OPERABLE EXIT
OR ENTRANCE.



**WALL MOUNTING
INSTALLATION
SECTION A**



CEILING & FLOOR
MOUNTING INSTALLATION
SECTION B**

INSTALLATIONS DETAILS FOR MID-PRESSURE BLADE

SCALE: 3/8" = 1"

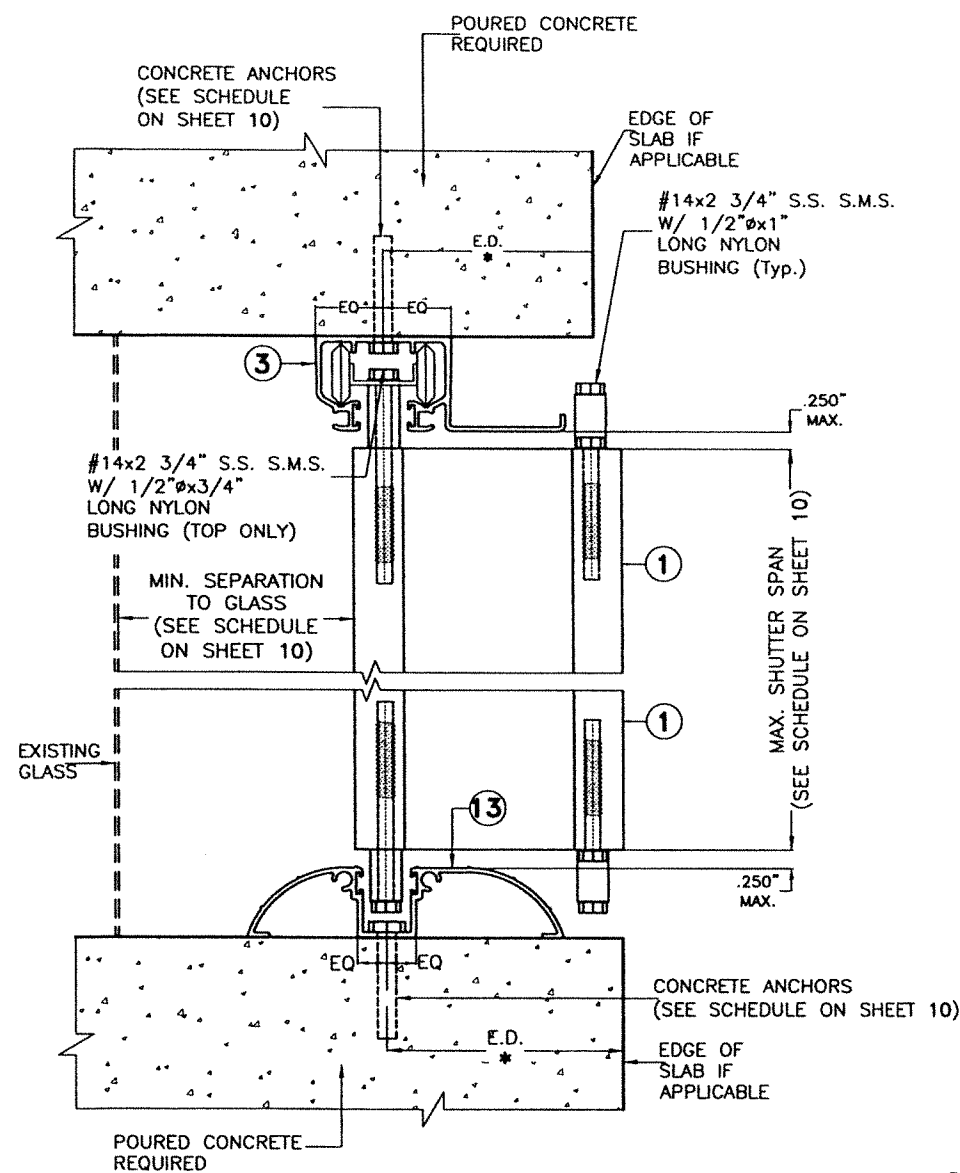
FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
8/2/2023
P.E. SEAL/SIGNATURE/DATE

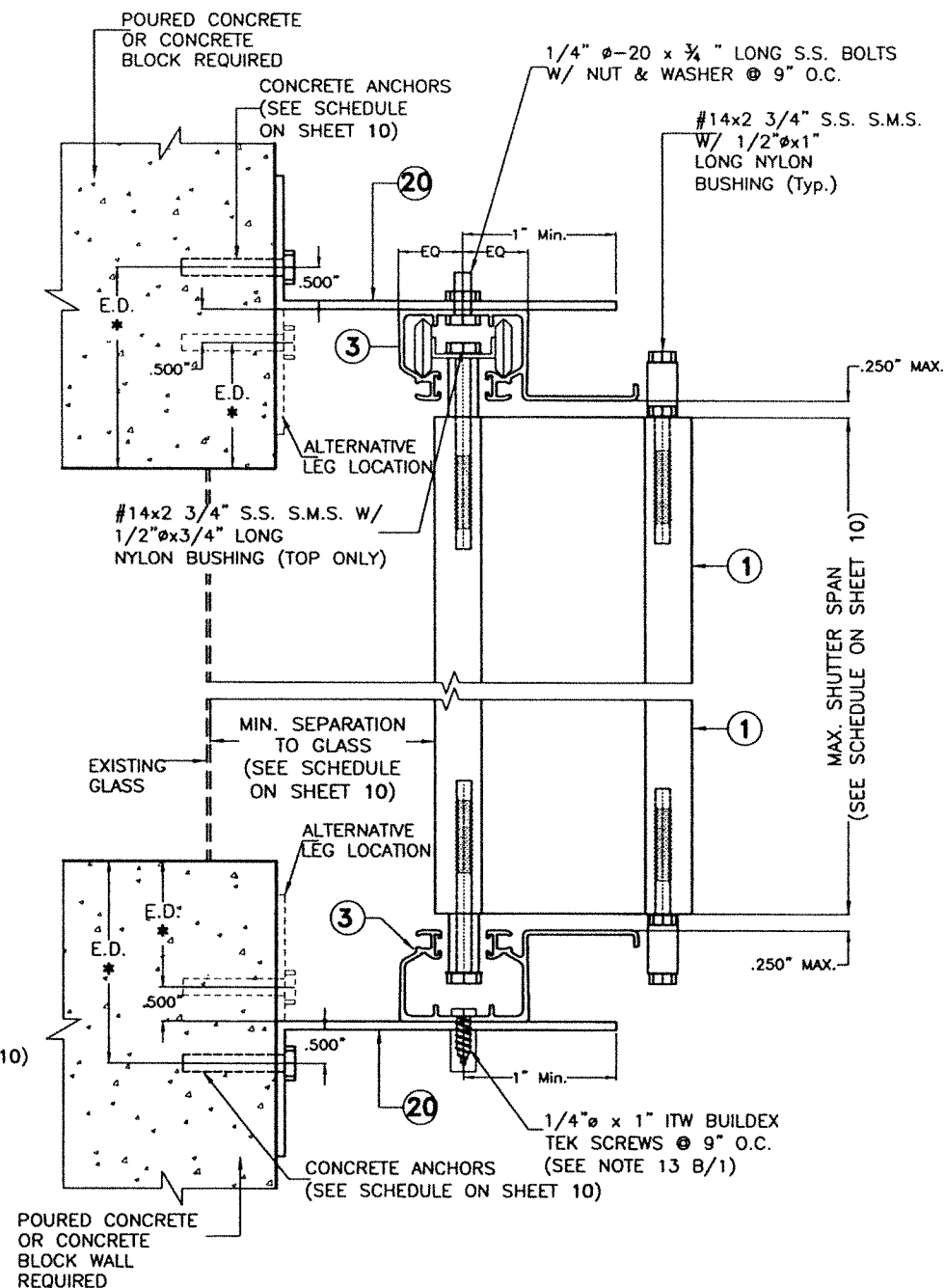
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ALUCORE LLC. 23757 SW 133 AVE HOMESTEAD, FL 33032 PHONE: 1-954-256-0030 e-mail: hmgccc@gmail.com				
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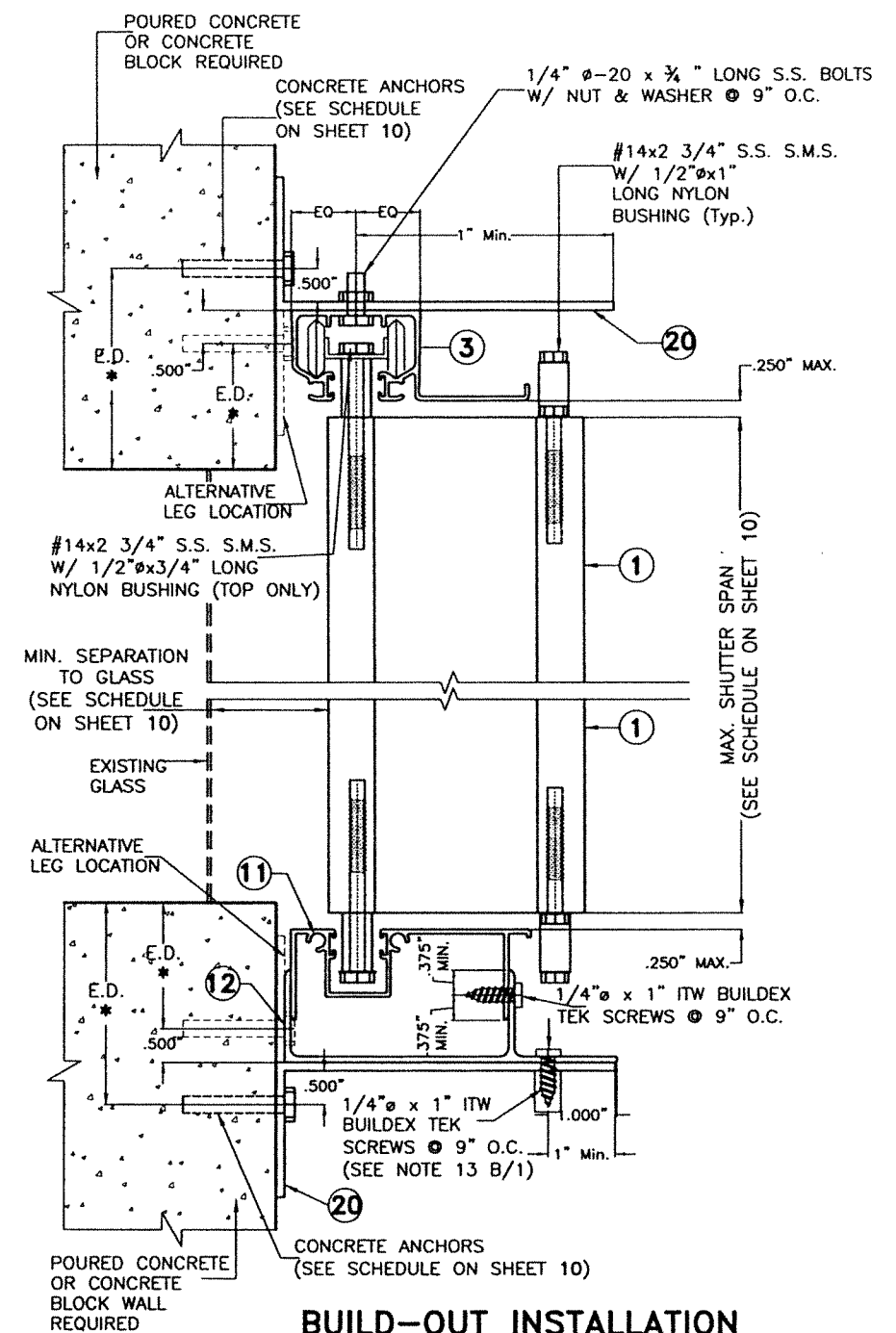
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DRAWN BY:
8/9/2023
DATE
23-157
DRAWING No
SHEET 3 OF 15



**SPECIAL CEILING & FLOOR
MOUNTING INSTALLATION
SECTION C**



**BUILD-OUT INSTALLATION
SECTION D**



**BUILD-OUT INSTALLATION
HEADER & SILL
SECTION E**

INSTALLATIONS DETAILS FOR MID-PRESSURE BLADE

SCALE:

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

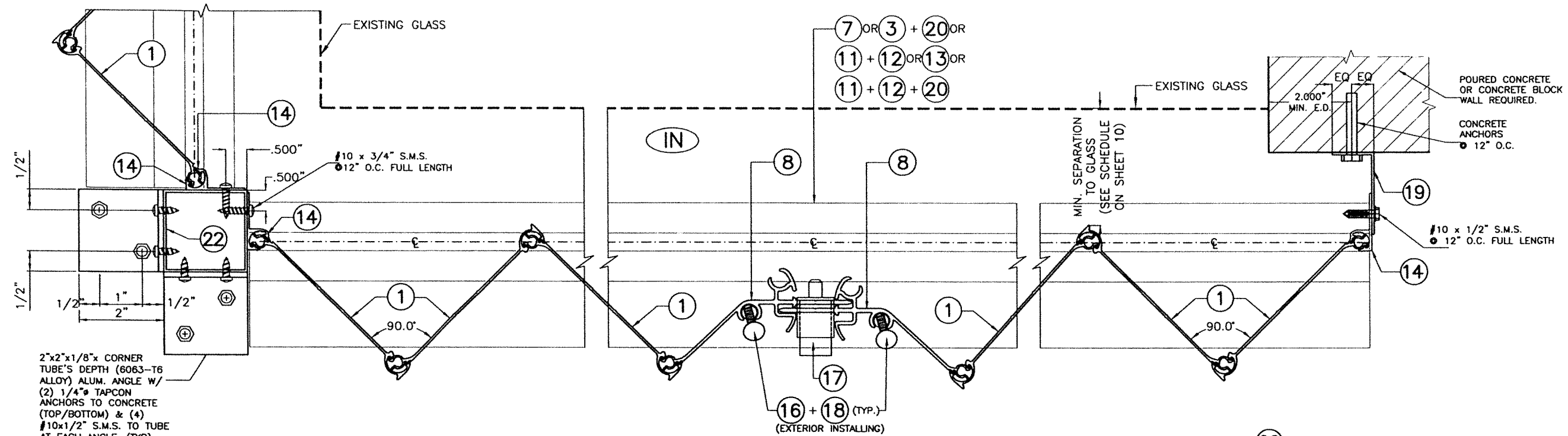
NOTE FOR COMBINATION OF SECTIONS:
1- MOUNTING SECTIONS CAN BE COMBINED
IN ANY WAY TO SUIT ANY INSTALLATION.

* E.D. = EDGE DISTANCE
(SEE SPECIFICATIONS ON SHEET 10)

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STATE OF FLORIDA
P.E. SEAL/SIGNATURE/DATE

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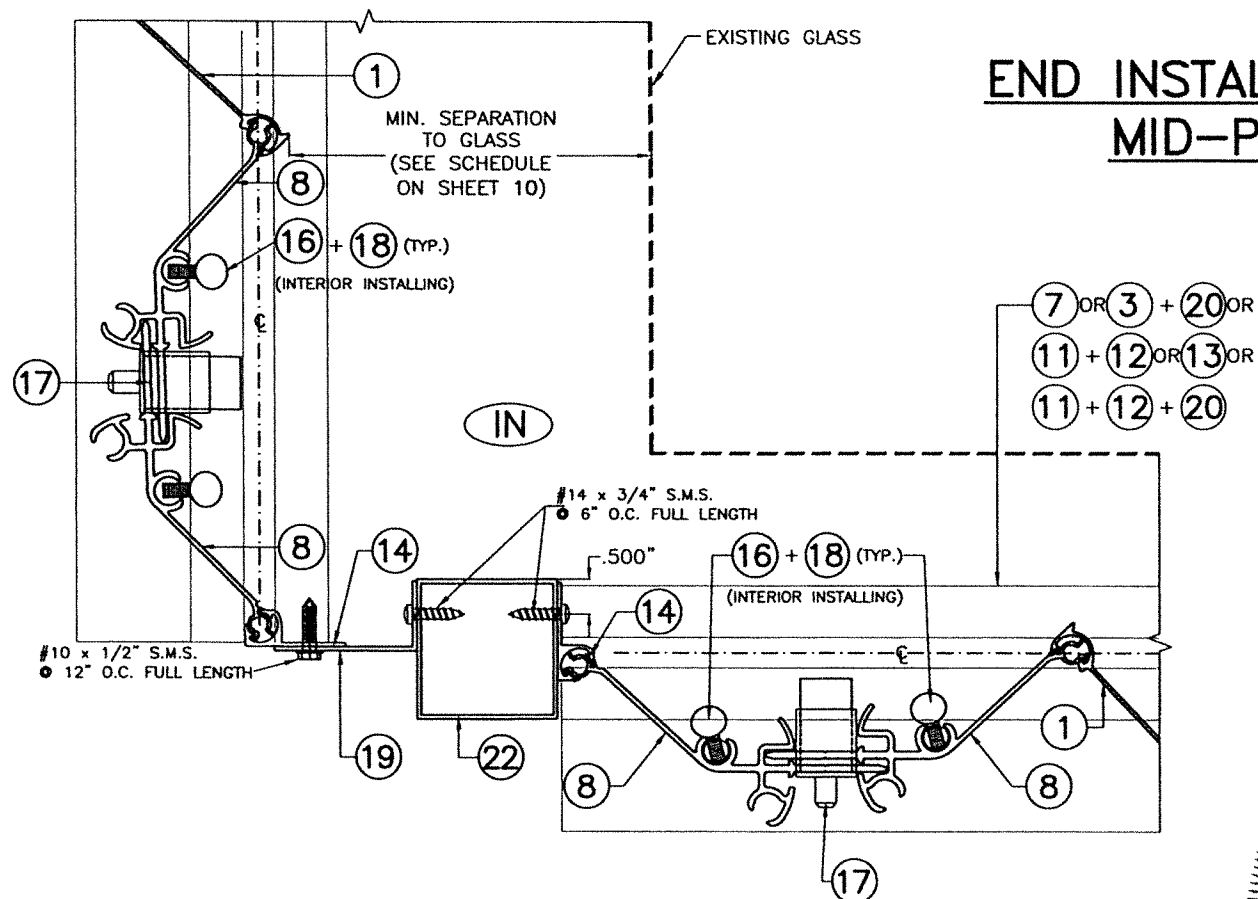
GUARDIAN ACCORDION SHUTTER SYSTEM						Y.M.
ALUCORE LLC. 23757 SW 133 AVE HOMESTEAD, FL 33032 PHONE: 1-954-256-0030 e-mail: hmgcgc@gmail.com						DRAWN BY:
						8/9/2023 DATE
						23-157 DRAWING No
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	
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2			4			



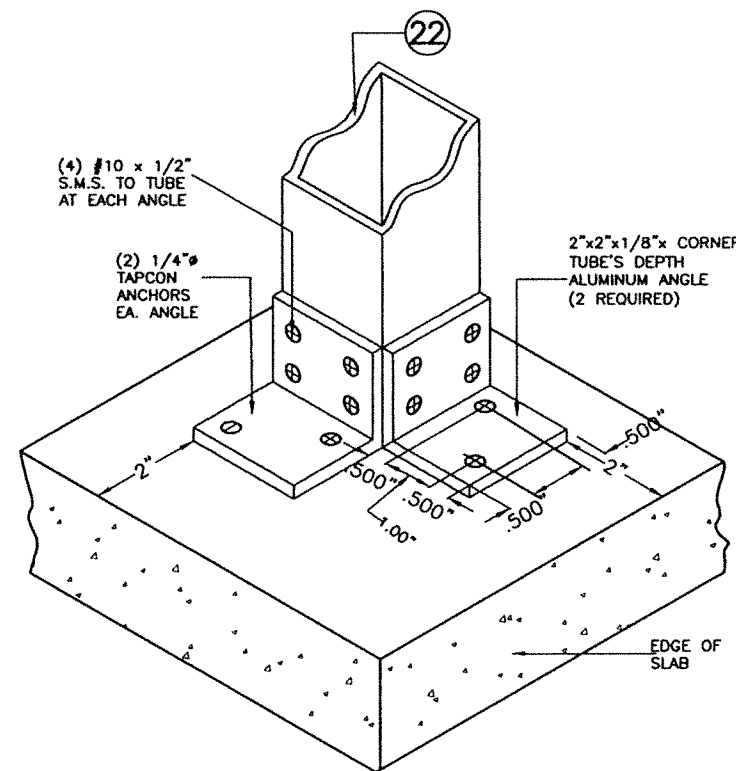
SECTION F

END INSTALLATION DETAILS FOR MID-PRESSURE BLADE

SCALE : 3/8" = 1"



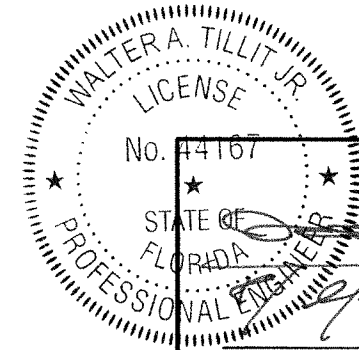
SECTION G



CORNER POST ISOMETRIC

(TYP. AT TOP AND BOTTOM SLABS)
N.T.S.

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)



P.E. SEAL/SIGNATURE/DATE

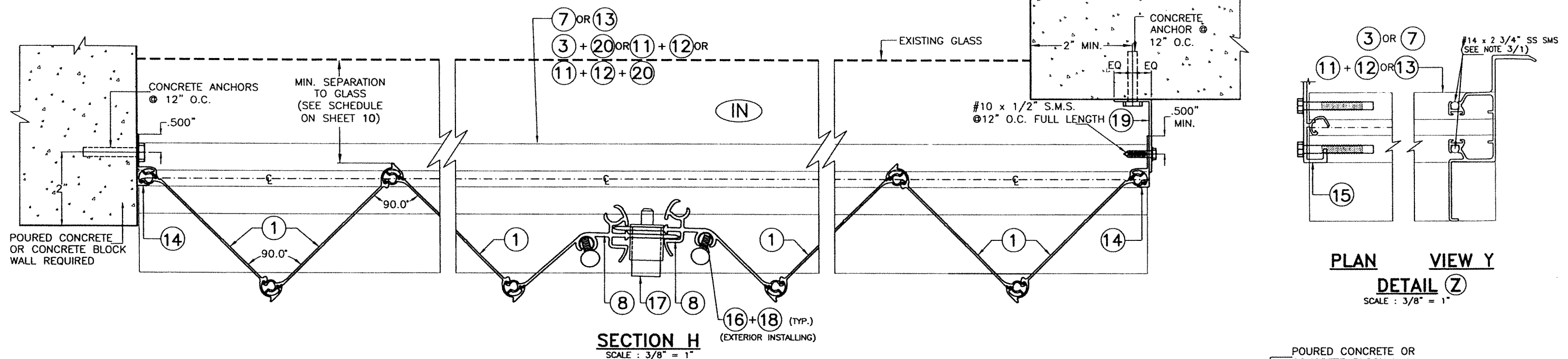
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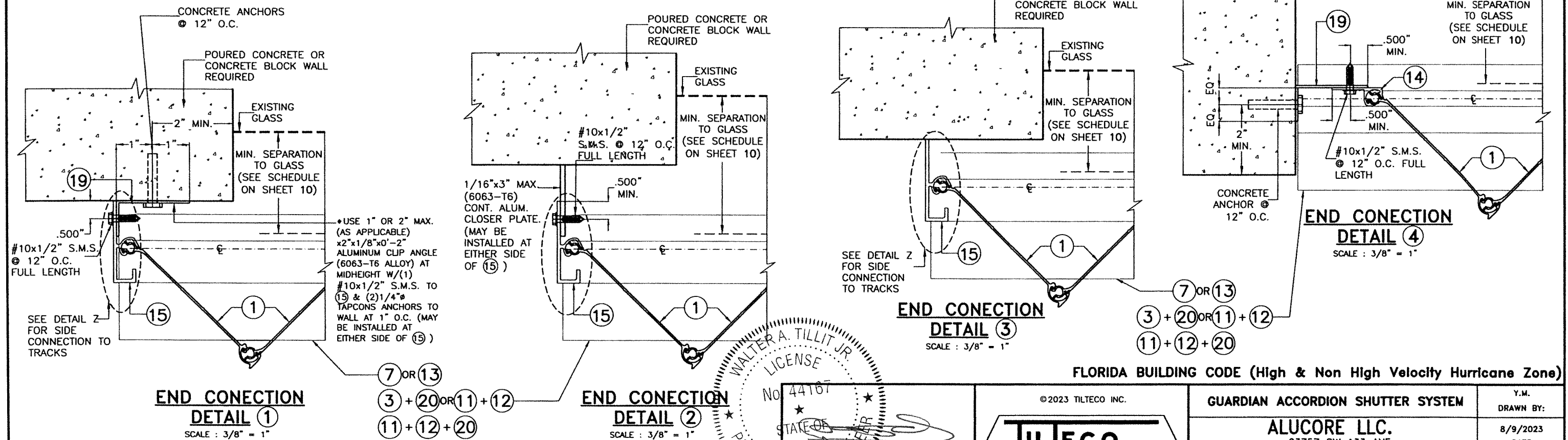
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FLORIDA 33166
Phone : (305)871-1530 Fax : (305)871-1531
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

GUARDIAN ACCORDION SHUTTER SYSTEM						Y.M.
ALUCORE LLC. 23757 SW 133 AVE HOMESTEAD, FL 33032 PHONE: 1-954-256-0030 e-mail: hmgcgc@gmail.com						DRAWN BY:
						8/9/2023 DATE
						23-157 DRAWING No
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	
1	OLD 20-198	8/9/2023	3			
2			4			

INSTALLATION FOR MID-PRESSURE BLADE INTO CONCRETE OR CONCRETE BLOCK WALL



END INSTALLATIONS FOR MID-PRESSURE BLADE



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ALUCORE LLC.
23757 SW 133 AVE
HOMESTEAD, FL 33032
PHONE: 1-954-256-0030
e-mail: hmgcgc@gmail.com

Y.M.
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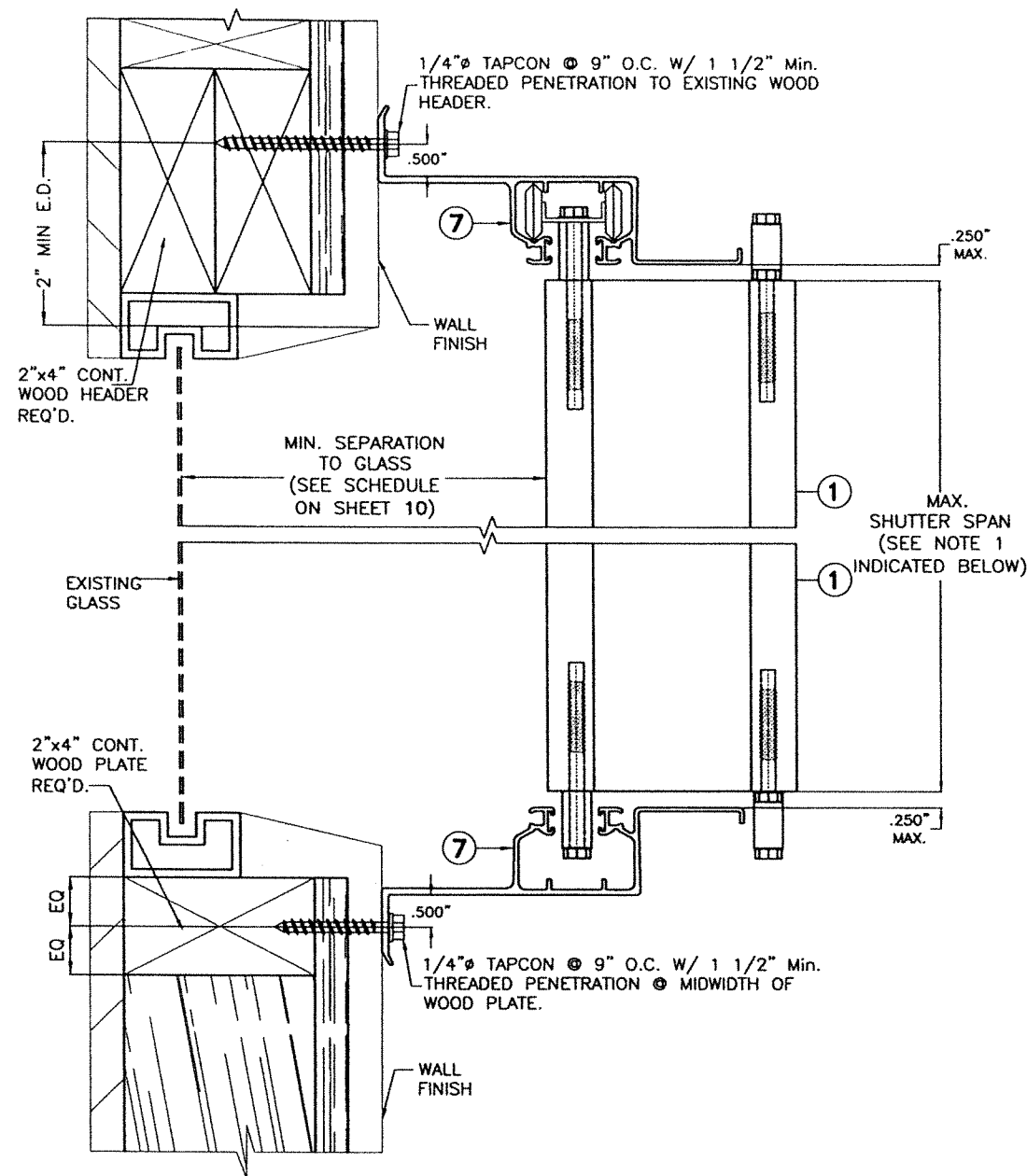
8/9/2023
DATE

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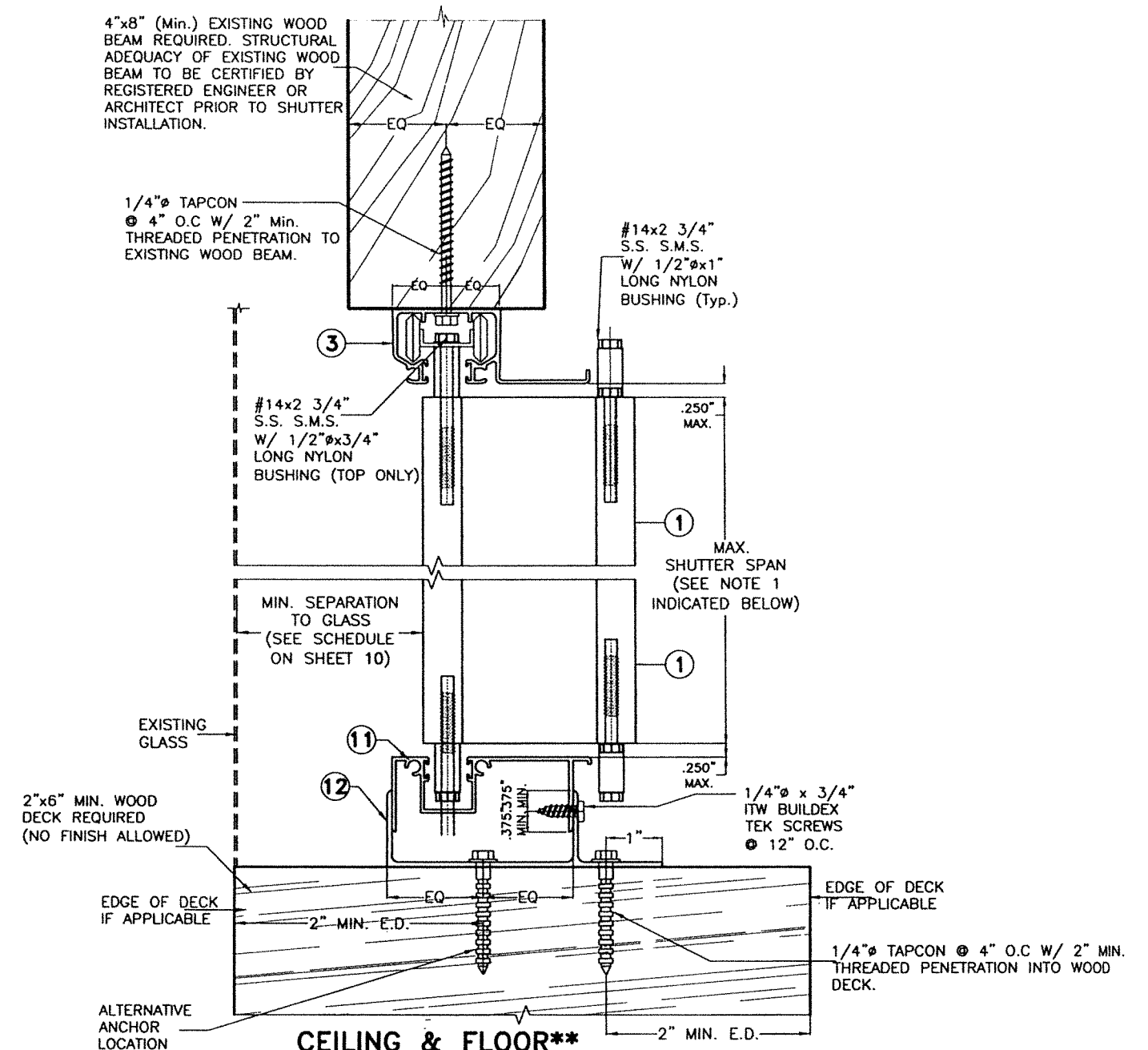
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1	OLD 20-190	8/8/2023	3		
2			4		

ET 6 OF 15

P.E. SEAL/SIGNATURE/DATE



**WALL MOUNTING
SILL INSTALLATION
SECTION AW**



CEILING & FLOOR
MOUNTING INSTALLATION
SECTION BW**

**INSTALLATION DETAILS ON
EXISTING WOOD BUILDINGS
FOR MID-PRESSURE BLADE.**

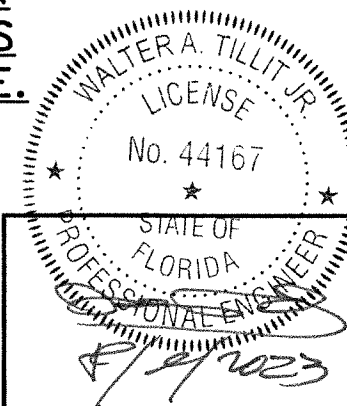
SCALE : 3/8" = 1"

NOTE FOR COMBINATION OF SECTIONS:

MOUNTING SECTIONS CAN BE COMBINED
IN ANY WAY TO SUIT ANY INSTALLATION.

NOTES:

1. INSTALLATIONS ARE ONLY VALID FOR BUILDINGS WITH A.S.D. DESIGN PRESSURE RATING UP TO 80 p.s.f. AND 9'-0" Max. SHUTTER SPAN.
2. FOR WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.



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e-mail: hmgcgc@gmail.com

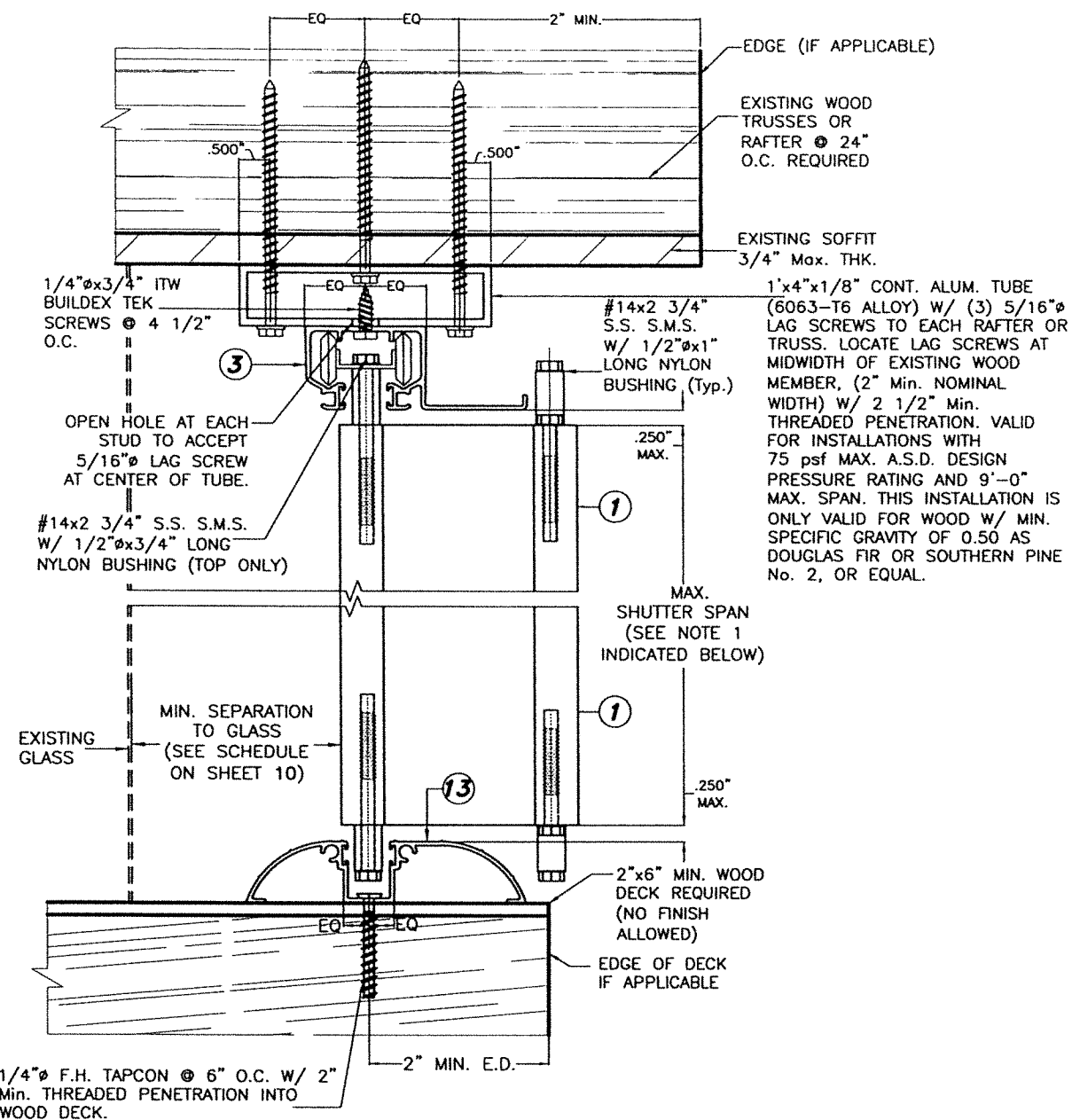
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2			4		

Y.M.
DRAWN BY:

8/9/2023
DATE

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DRAWING No

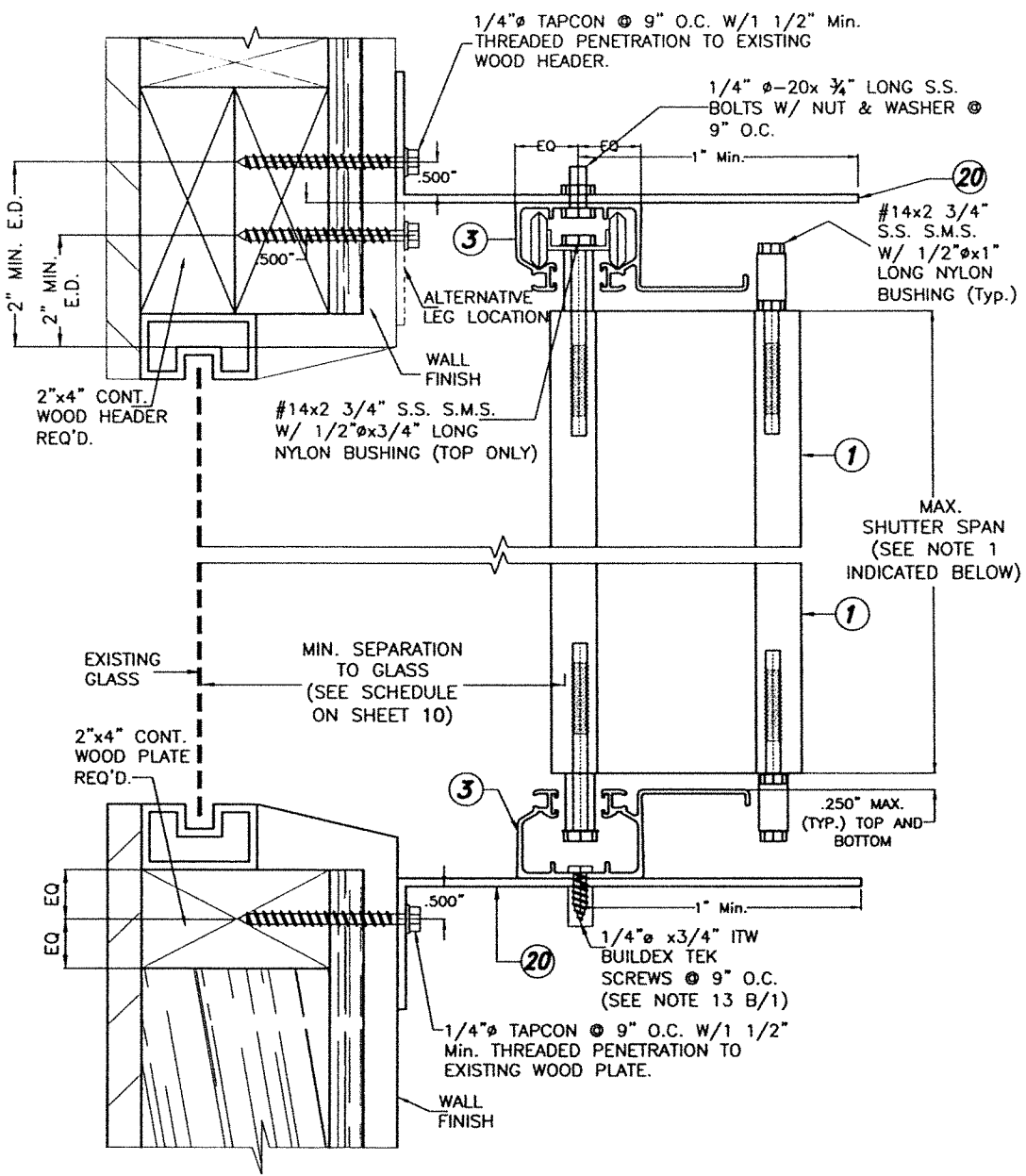
SHEET 7 OF 15



**CEILING & FLOOR
MOUNTING INSTALLATION
SECTION CW**

**INSTALLATION DETAILS ON
EXISTING WOOD BUILDINGS
FOR MID-PRESSURE BLADE.**

SCALE : 3/8" = 1"



**WALL MOUNTING
HEADER & SILL INSTALLATION
SECTION DW**

NOTE FOR COMBINATION OF SECTIONS:
MOUNTING SECTIONS CAN BE COMBINED
IN ANY WAY TO SUIT ANY INSTALLATION.

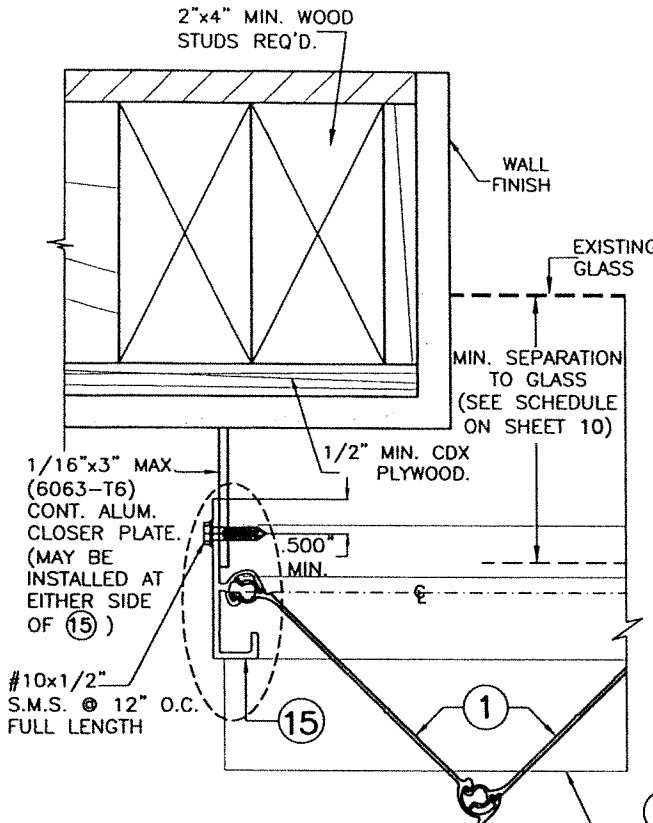
- NOTES:**
1. INSTALLATIONS ARE ONLY VALID FOR BUILDINGS WITH A.S.D. DESIGN PRESSURE RATING UP TO 80 p.s.f. AND 9'-0" Max. SHUTTER SPAN.
 2. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
8/9/2023
P.E. SEAL/SIGNATURE/DATE

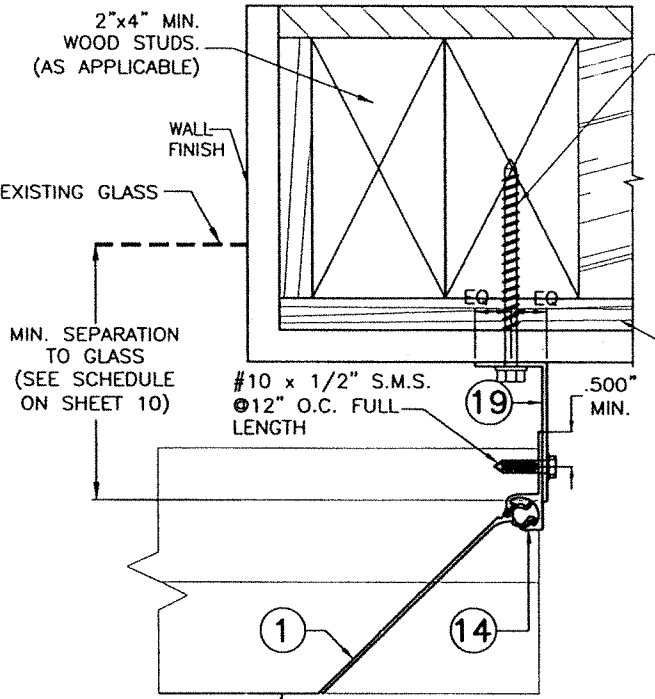
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©2023 TILTECO INC. TILTECO INC. TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FLORIDA 33166 Phone : (305)871-1530 Fax : (305)871-1531 CA-0006719 WALTER A. TILLIT Jr., P.E. FLORIDA Lic. # 44167		GUARDIAN ACCORDION SHUTTER SYSTEM ALUCORE LLC. 23757 SW 133 AVE HOMESTEAD, FL 33032 PHONE: 1-954-256-0030 e-mail: hmgcgc@gmail.com		Y.M. DRAWN BY: 8/9/2023 DATE 23-157 DRAWING No SHEET 8 OF 15	
REV. NO	DESCRIPTION	DATE	REV. NO	DESCRIPTION	DATE
1	OLD 20-190	8/9/2023	3		
2			4		

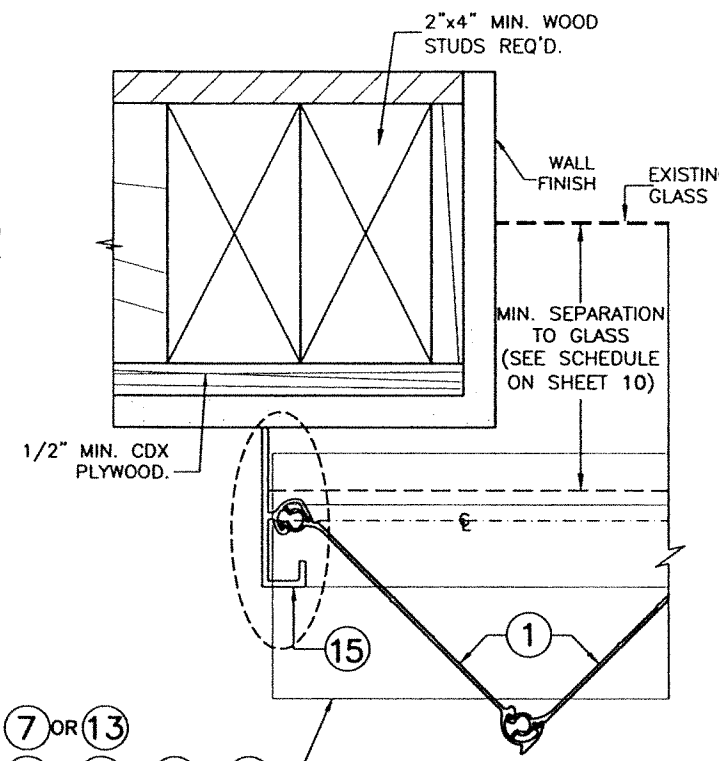
END INSTALLATION DETAILS FOR MID-PRESSURE BLADE INTO 2"x4" MIN. WOOD STUDS



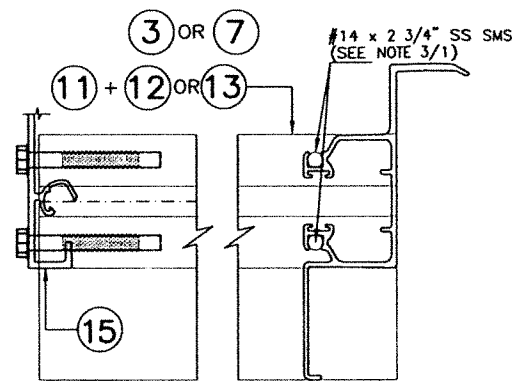
END CONECTION
DETAIL ①
SCALE : 3/8" = 1"



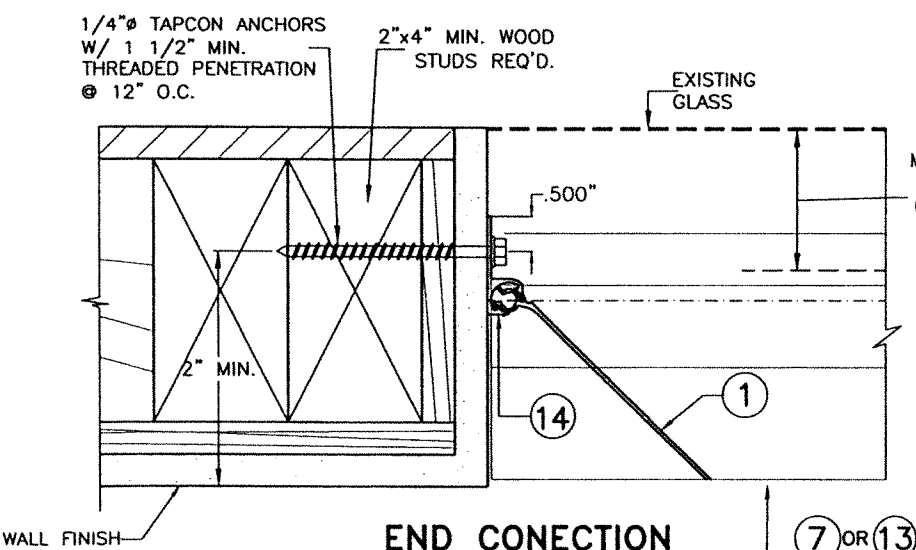
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DETAIL ②
SCALE : 3/8" = 1"



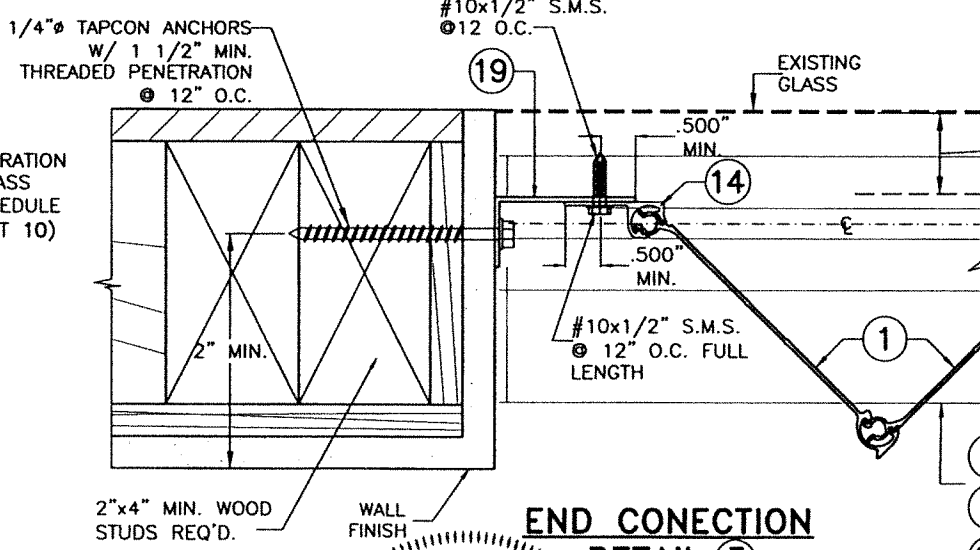
END CONECTION
DETAIL ③
SCALE : 3/8" = 1"



PLAN VIEW Y
DETAIL ⑦
SCALE : 3/8" = 1"



END CONECTION
DETAIL ④
SCALE : 3/8" = 1"



END CONECTION
DETAIL ⑤
SCALE : 3/8" = 1"

⑦ OR ⑬
③ + ②① OR ①① + ①②
①① + ①② + ②①

⑦ OR ⑬
③ + ②① OR ①① + ①②
①① + ①② + ②①

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER
SEAL/SIGNATURE/DATE

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

GUARDIAN ACCORDION SHUTTER SYSTEM					Y.M. DRAWN BY:
ALUCORE LLC. 23757 SW 133 AVE HOMESTEAD, FL 33032 PHONE: 1-954-256-0030 e-mail: hmgcgc@gmail.com					8/9/2023 DATE
					23-157 DRAWING No
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-198	8/9/2023	3		
2			4		

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM SPAN SCHEDULE.

(VALID FOR SECTIONS A, B, C, D & E ON SHEETS 3 & 4).

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND
CORRESPONDING MAXIMUM ANCHOR SPACING (in.) SCHEDULE. +

MAX. ANCHOR SPACING VS MAX. SHUTTER SPAN
* APPLICABLE FOR MAX. SHUTTER SPAN 11'-0"
** APPLICABLE FOR MAX. SHUTTER SPAN 9'-4"
*** APPLICABLE FOR MAX. SHUTTER SPAN 8'-6"
■ APPLICABLE FOR MAX. SHUTTER SPAN 7'-0"
▲ APPLICABLE FOR MAX. SHUTTER SPAN 4'-7"

MAXIMUM A.S.D. DESIGN PRESSURE
RATING (p.s.f.) AND CORRESPONDING
MAXIMUM SPAN "L" SCHEDULE.

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM SHUTTER SPAN FOR ALL SECTIONS		MINIMUM SEPARATION TO GLASS (in.) ALL SECTIONS
	L+ (ft.)	L- (ft.)	
40	12'-1"	14'-11"	3"
45	11'-10"	14'-1"	3"
50	11'-6"	13'-4"	3"
55	11'-3"	12'-9"	3"
60	11'-0"	12'-2"	3"
65	10'-9"	11'-8"	3"
70	10'-7"	11'-3"	3"
75	10'-5"	10'-11"	3"
80	10'-3"	10'-7"	3"
85	10'-1"	10'-3"	3"
90	9'-11"	9'-11"	3"
95	9'-8"	9'-8"	3"
100	9'-5"	9'-5"	2 7/8"
105	9'-3"	9'-3"	2 3/4"
110	9'-0"	9'-0"	2 3/4"
115	8'-2"	8'-7"	2 1/2"
120	7'-5"	8'-3"	2 1/4"
125	6'-4"	7'-11"	2 1/8"
130	5'-0"	7'-7"	2 1/8"
135	-----	7'-4"	2 1/8"
140	-----	7'-1"	2 1/8"
145	-----	6'-9"	2 1/8"
150	-----	6'-5"	2 1/8"
155	-----	6'-0"	2 1/8"
160	-----	5'-8"	2 1/8"
165	-----	5'-4"	2 1/8"
170	-----	5'-0"	2 1/8"
175	-----	4'-11"	2 1/8"
180	-----	4'-9"	2 1/8"
185	-----	4'-8"	2 1/8"
190	-----	4'-6"	2 1/8"
195	-----	4'-5"	2 1/8"

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	VALID FOR SECTION A						VALID FOR SECTION B			VALID FOR SECTION C			VALID FOR SECTION D						VALID FOR SECTION E					
	WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO CONCRETE)			WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO BLOCK)			FLOOR/CEILING MOUNTING INSTALLATION TOP OR BOTTOM (TO CONCRETE)			FLOOR/CEILING MOUNTING INSTALLATION TOP OR BOTTOM (TO CONCRETE)			BUILD-OUT MOUNTING INSTALLATION AT TOP OR BOTTOM (TO CONCRETE)			BUILD-OUT MOUNTING INSTALLATION AT TOP OR BOTTOM (TO BLOCK)			BUILD-OUT MOUNTING INSTALLATION AT TOP OR BOTTOM (TO CONCRETE)			BUILD-OUT MOUNTING INSTALLATION AT TOP OR BOTTOM (TO BLOCK)		
	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3
40 OR LESS	9"	9"	9"	9"	9"	9"	6"	6"	6"	6"	6"	6"	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	7 1/2"
	9"	9"	9"	9"	9"	8"	6"	6"	6"	6"	6"	6"	9"	9"	9"	9"	9"	8"	9"	9"	9"	9"	9"	6"
	-	-	-	-	-	-	6"	6"	6"	6"	6"	6"	-	-	-	-	-	-	-	-	-	-	-	-
FROM < 40 TO 62	9"	9"	9"	9"	9"	7 1/2"	6"	6"	6**	6"	6"	6"	9"	9"	9"	9"	9"	7"	9"	9"	9"	9"	8 1/2"	6**
	9"	9"	9"	9"	9"	8"	6"	6"	6"	6"	6"	6"	9"	9"	9"	9"	8"	6"	9"	9"	9"	9"	7 1/2"	3 3/4**
	-	-	-	-	-	-	6"	6"	5"	6"	6"	6"	-	-	-	-	-	-	-	-	-	-	-	-
FROM > 62 TO 72	9"	9"	9"	9"	9"	6**	6"	6"	6**	6"	6"	6"	9"	9"	9"	9"	9"	6"	9"	9"	9"	9"	6"	-
	9"	9"	9"	9"	9"	5 1/2"	6"	6"	6"	6"	6"	6"	9"	9"	9"	9"	7"	5"	9"	9"	9"	9"	5"	3 3/4**
	-	-	-	-	-	-	6"	6"	4 1/2"	6"	6"	6"	-	-	-	-	-	-	-	-	-	-	-	-
FROM > 72 TO 92	9"	9"	7 1/2"	9"	6***	-	6"	6***	6***	6"	6"	6**	9"	9"	9"	9"	6"	-	9"	9"	7 1/2"	9"	6" ■	-
	9"	9"	9"	9"	4 1/2"	4***	6"	6"	6"	6"	6"	6"	9"	9"	9"	9"	5"	4	9"	9"	9"	9"	3 3/4"	-
	-	-	-	-	-	-	6"	6"	4"	6"	6"	6"	-	-	-	-	-	-	-	-	-	-	-	-
FROM > 92 TO 110	9"	6***	6**	9"	6" ■	-	6"	6***	-	6"	6***	-	9"	9"	8 1/2"	9"	6" ■	-	9"	6 1/2"	6"	9"	-	-
	9"	7"	5 1/2"	9"	4" ■	-	6"	6"	6"	6" ■	6"	6"	9"	9"	9"	9"	-	-	9"	9"	8"	8"	-	-
	-	-	-	-	-	-	6"	4"	3 1/2	6"	6"	6"	-	-	-	-	-	-	-	-	-	-	-	-
FROM > 110 TO 170	9"	6***	-	6" ▲	-	-	6" ▲	6" ■	-	6"	6" ■	-	9"	8 1/2"	-	6" ▲	-	-	8 1/2"	6"	-	-	-	-
	9"	7"	-	4"	-	-	6"	6"	-	6"	6"	-	9"	9"	-	4 1/2"	-	-	9"	8"	-	3 3/4"▲	-	-
	-	-	-	-	-	-	4 1/2"	3 1/2"	-	6"	6"	-	-	-	-	-	-	-	-	-	-	-	-	-
FROM > 170 TO 195	8"	-	-	-	-	-	6" ▲	-	-	6" ▲	-	-	9"	-	-	-	-	-	8"	-	-	-	-	-
	9"	-	-	4"	-	-	6"	-	-	6"	-	-	9"	-	-	4 1/2"	-	-	9"	-	-	-	-	-
	-	-	-	-	-	-	4"	-	-	6"	-	-	-	-	-	-	-	-	-	-	-	-	-	-

+ MINIMUM ANCHOR SPACINGS LISTED BELOW ARE AS PER MIN. EDGE DISTANCE SCHEDULE. FOR E.D. LESS THAN SCHEDULE INDICATED, REDUCE ANCHOR SPACING BY MULTIPLYING SPACING SHOWN ON SCHEDULE BY THE FOLLOWING FACTORS. FOR THIS OPERATION TO BE POSSIBLE, REDUCED SPACING OBTAINED USING FACTOR SHALL NOT BE LESS THAN MINIMUM SPACING INDICATED FOR EACH ANCHOR TYPE AT ANCHORS LEGEND.

ACTUAL E.D.	FACTOR		
	1/4"Ø TAPCON	5/16"Ø TAPCON XL	1/4"Ø CALK-IN
	MIN. SPACING=3"	MIN. SPACING=3.75"	MIN. SPACING=2.50"
1.50"	.35	.35	-
2.00"	-	.50	-
2.50"	-	.89	.50
2.688"	-	.96	-
3.00"	1.00	.96	.63
3.625"	-	1.00	-

ANCHORS LEGEND

ANCHORS TYPE	MINIMUM ANCHOR SPACING	MINIMUM EDGE DISTANCE	
		CONCRETE	C. BLOCK
1/4"Ø TAPCON 3192 psi. (MIN.) CONCRETE	3.00"	3.00"	-
5/16"Ø TAPCON XL 2899 psi. (MIN.) CONCRETE	3.75"	3.625"	4.50"
1/4"Ø CALK-IN 3000 psi. (MIN.) CONCRETE	2.50"	3.50"	-
1/4"Ø CRETE-FLEX SS4 3350 psi. (MIN.) CONCRETE	6.00"	3.00"	2.50"

TO CONCRETE:

1/4"Ø TAPCON OR CRETE-FLEX SS4
5/16"Ø TAPCON XL
1/4"Ø CALK-IN

TO CONCRETE BLOCK:

1/4"Ø CRETE-FLEX SS4
5/16"Ø TAPCON XL

ANCHOR SPACING LEGEND

- (1) Max. ANCHOR SPCG. VALID FOR SPANS OF 5'-0" OR LESS.
(2) Max. ANCHOR SPCG. VALID FOR SPANS GREATER THAN 5'-0" TO 9'-0".
(3) Max. ANCHOR SPCG. VALID FOR SPANS GREATER THAN 9'-0" TO MAX. ALLOWED.

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

NOTES:

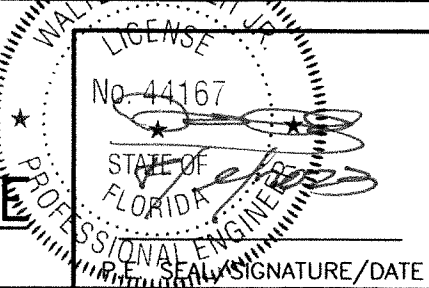
(1) L+: MAXIMUM ALLOWABLE SHUTTER SPAN FOR A GIVEN POSITIVE A.S.D. DESIGN PRESSURE RATING.
L-: MAX. ALLOWABLE SHUTTER SPAN FOR A GIVEN NEGATIVE A.S.D. DESIGN PRESSURE RATING.

(2) PROCEDURE TO DETERMINE MAXIMUM SHUTTER SPAN FOR WALL MOUNTINGS OR FLOOR/CEILING:

GIVEN A POSITIVE A.S.D. DESIGN PRESSURE RATING, DETERMINE MAXIMUM SHUTTER SPAN "L+" FROM SCHEDULE.
GIVEN A NEGATIVE A.S.D. DESIGN PRESSURE RATING, DETERMINE MAXIMUM SHUTTER SPAN "L-" FROM SCHEDULE.

FINAL MAXIMUM ALLOWABLE SHUTTER SPAN IS EQUAL TO THE MINIMUM DETERMINED SHUTTER SPAN BETWEEN "L+" AND "L-".

1 MID-PRESSURE BLADE



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ALUCORE LLC.

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HOMESTEAD, FL 33032
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e-mail: hmgcc@gmail.com

Y.M.
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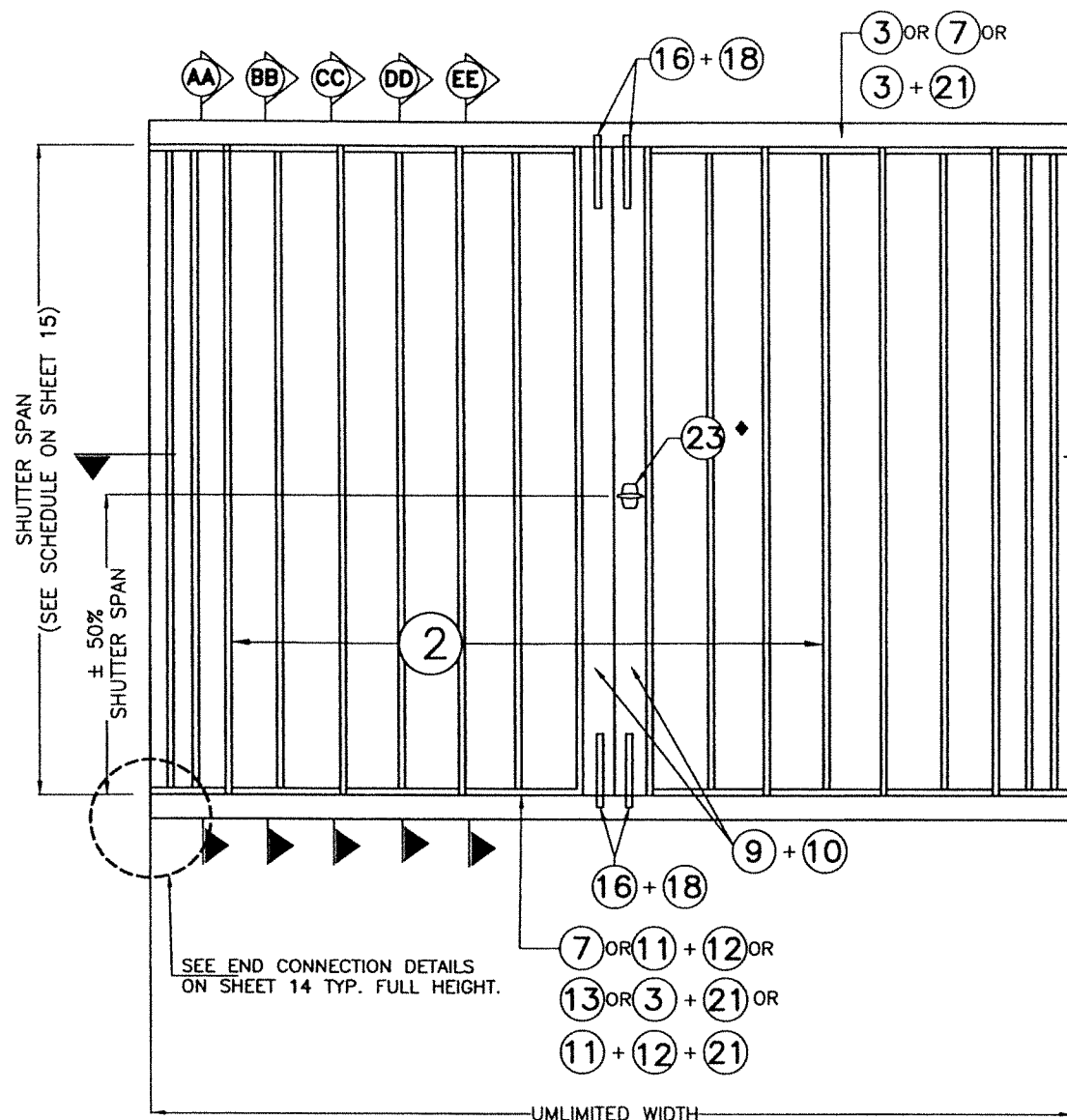
8/9/2023
DATE

23-157
DRAWING No

SHEET 10 OF 15

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-198	8/9/2023	3		
2			4		

2. (2) LOCKING RODS (16) SHALL ALWAYS BE USED TOP & BOTTOM AT SHUTTER'S CENTERMATES (9) + (10) AT ALL INSTALLATIONS. LOCKING RODS (16) SHALL BE SECURED W/ 1/4"-20 THUMBSCREW (18).



♣ NOTE:
SEE SECTIONS AA THRU EE ON SHEETS 11 & 12.

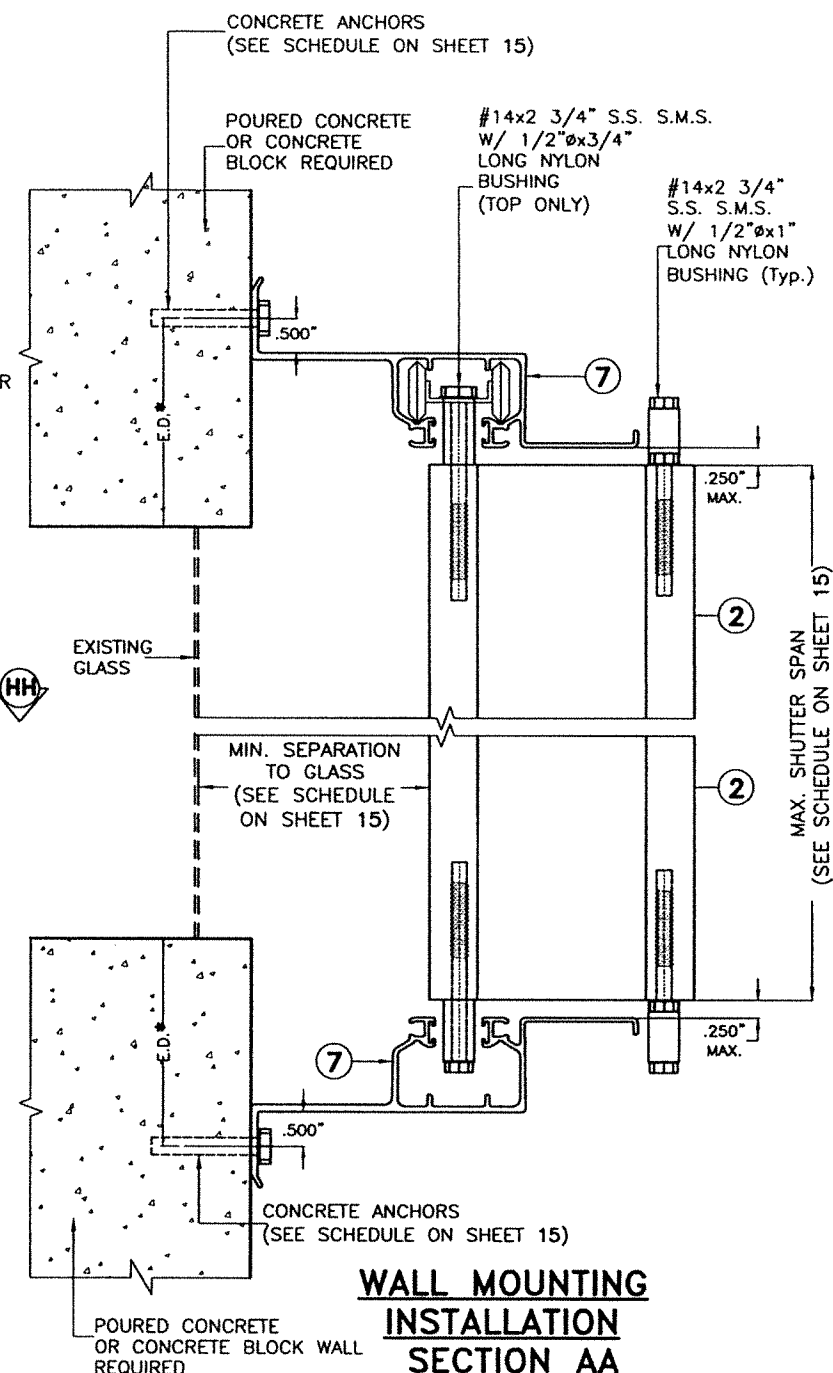
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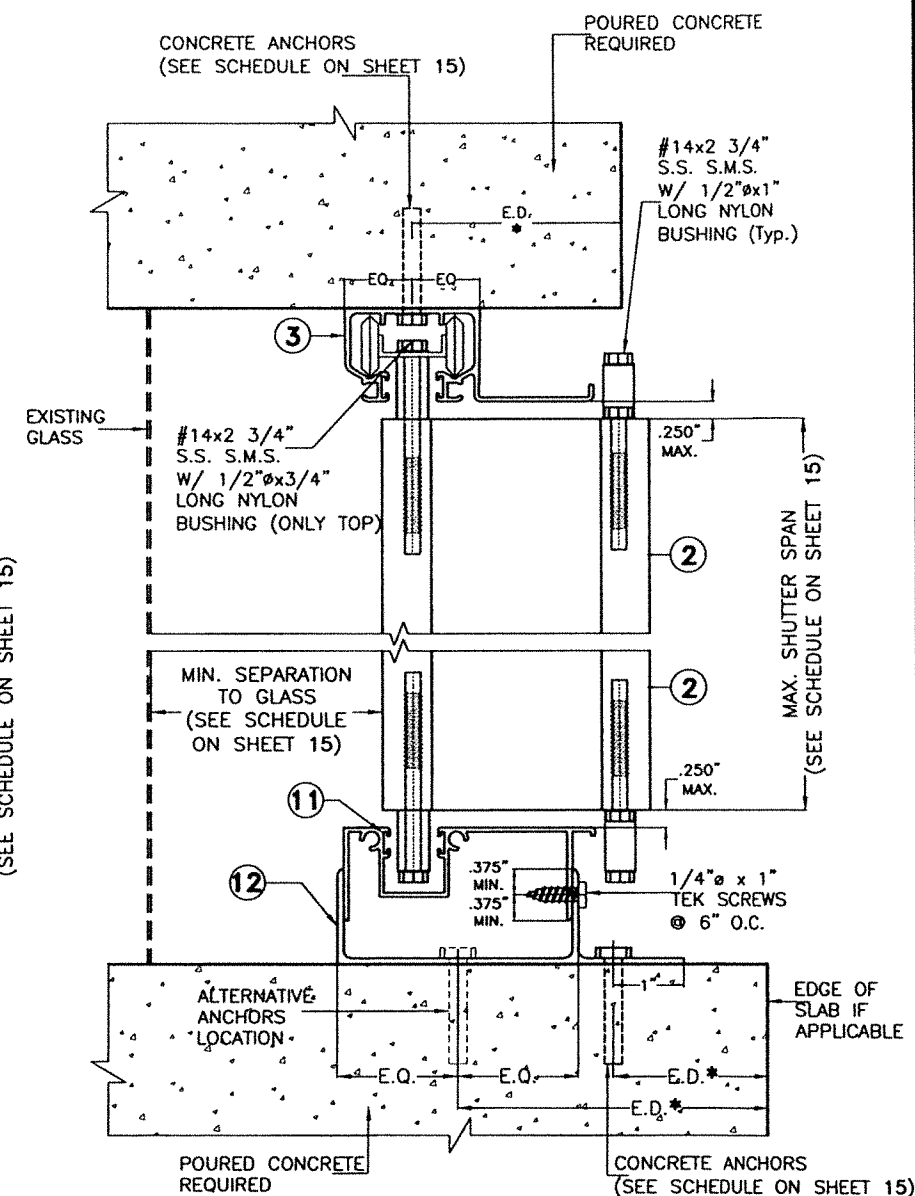
* E.D. = EDGE DISTANCE
(SEE SPECIFICATIONS ON SHEET 15)

**** NOTE:**

THIS INSTALLATION SHALL BE
REMOVABLE WHEN PERFORMED
ADJACENT TO AN OPERABLE EXIT
OR ENTRANCE



WALL MOUNTING INSTALLATION SECTION AA



CEILING & FLOOR**
MOUNTING INSTALLATION
SECTION BB

SCALE : $3/8" = 1'$

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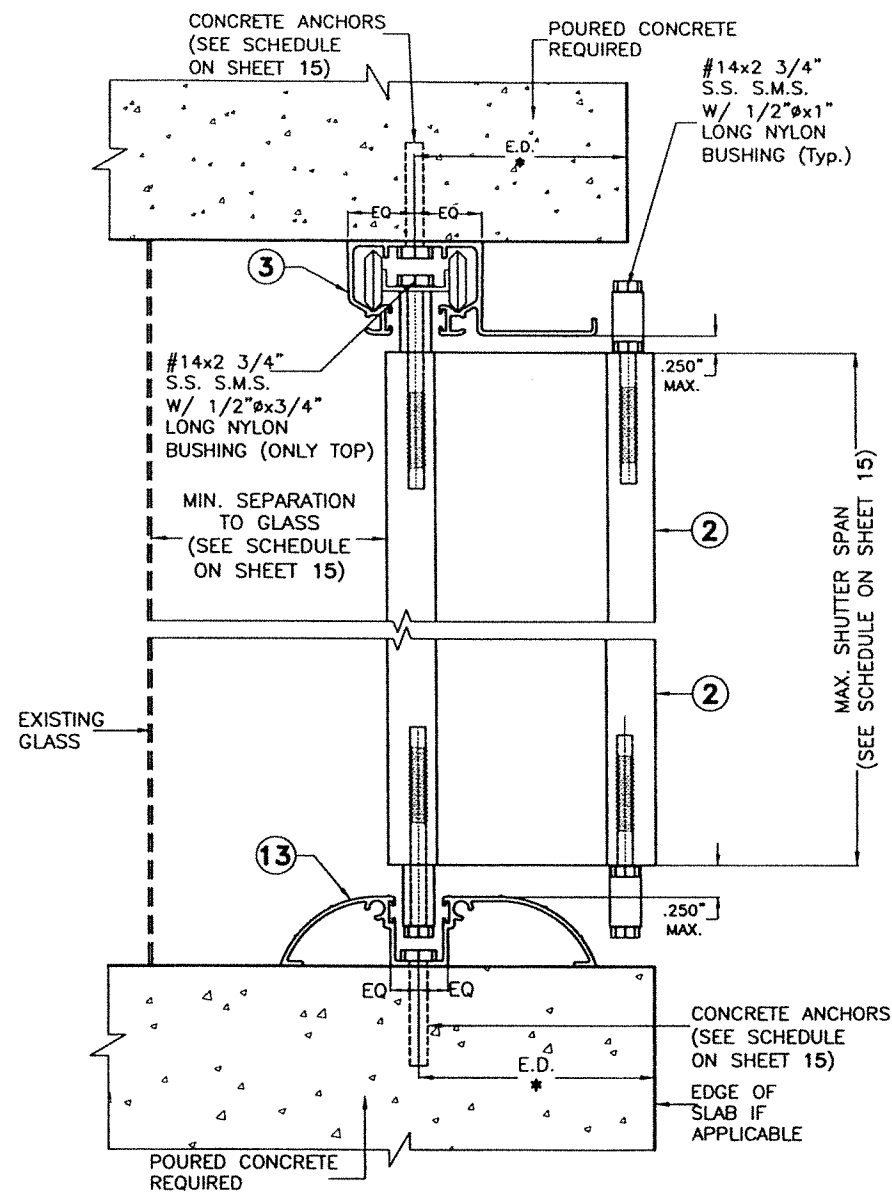
Y.M.
DRAWN BY:

8/9/2023
DATE

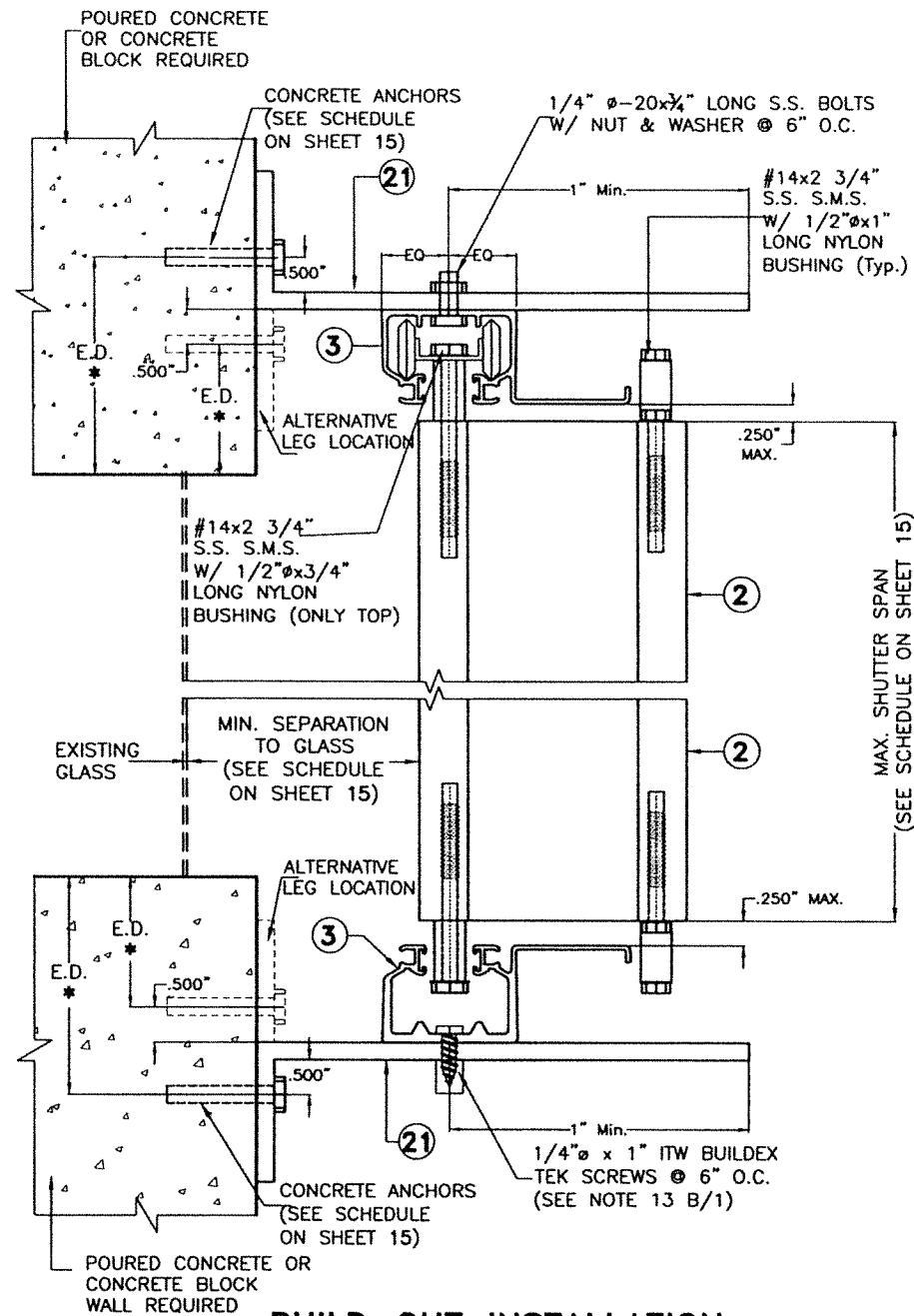
23-157
DRAWING No

SHEET 11 OF 15

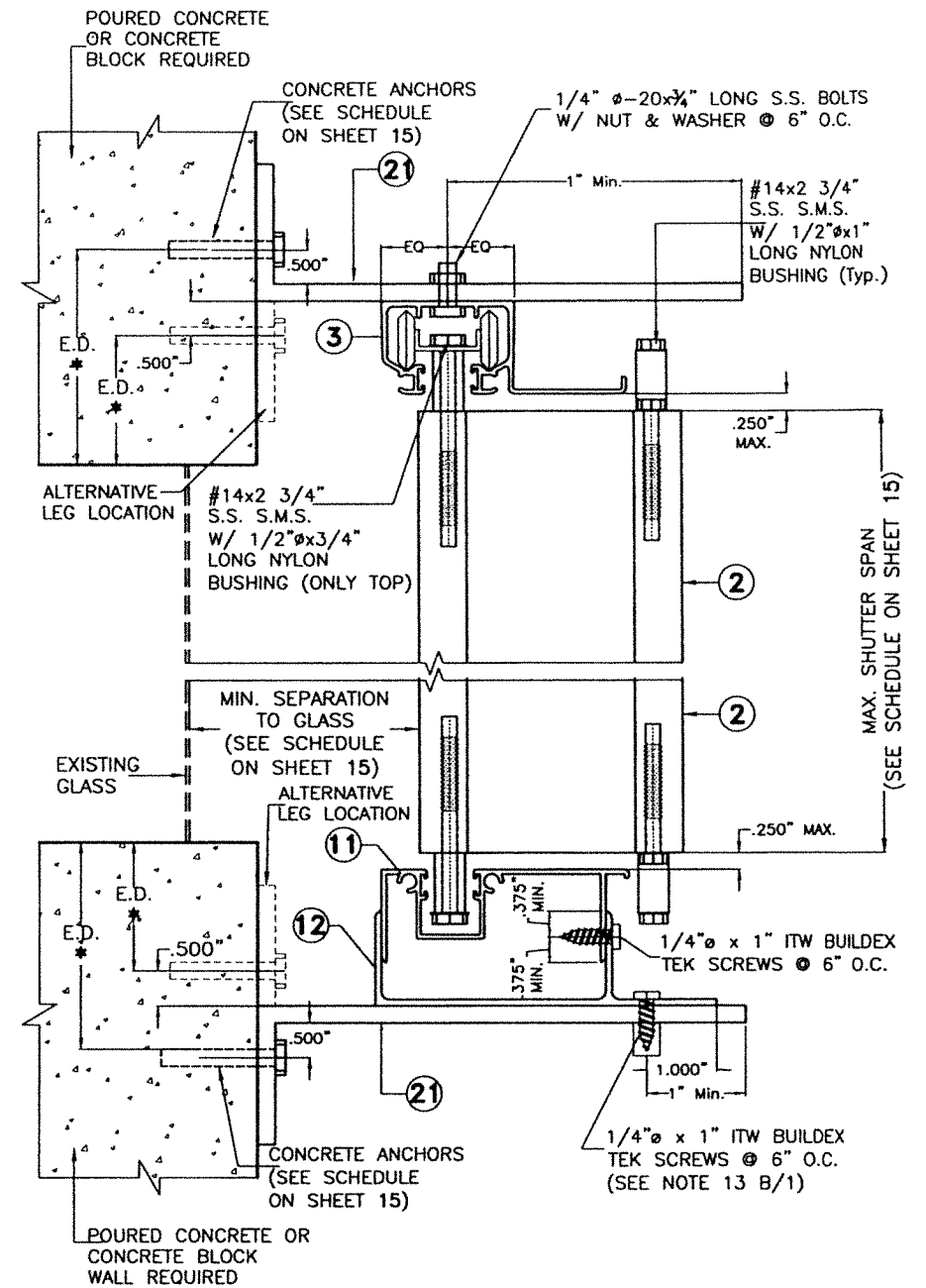
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-198	8/9/2023	3		



**CEILING & FLOOR
MOUNTING INSTALLATION
SECTION CC**



**BUILD-OUT INSTALLATION
HEADER & SILL
SECTION DD**



**BUILD-OUT INSTALLATION
HEADER & SILL
SECTION EE**

INSTALLATIONS DETAILS FOR HIGH PRESSURE BLADE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

NOTE FOR COMBINATION OF SECTIONS:
1- MOUNTING SECTIONS CAN BE COMBINED
IN ANY WAY TO SUIT ANY INSTALLATION.

* E.D. = EDGE DISTANCE
(SEE SPECIFICATIONS ON SHEET 15)

SCALE 1/8" = 1'-0"

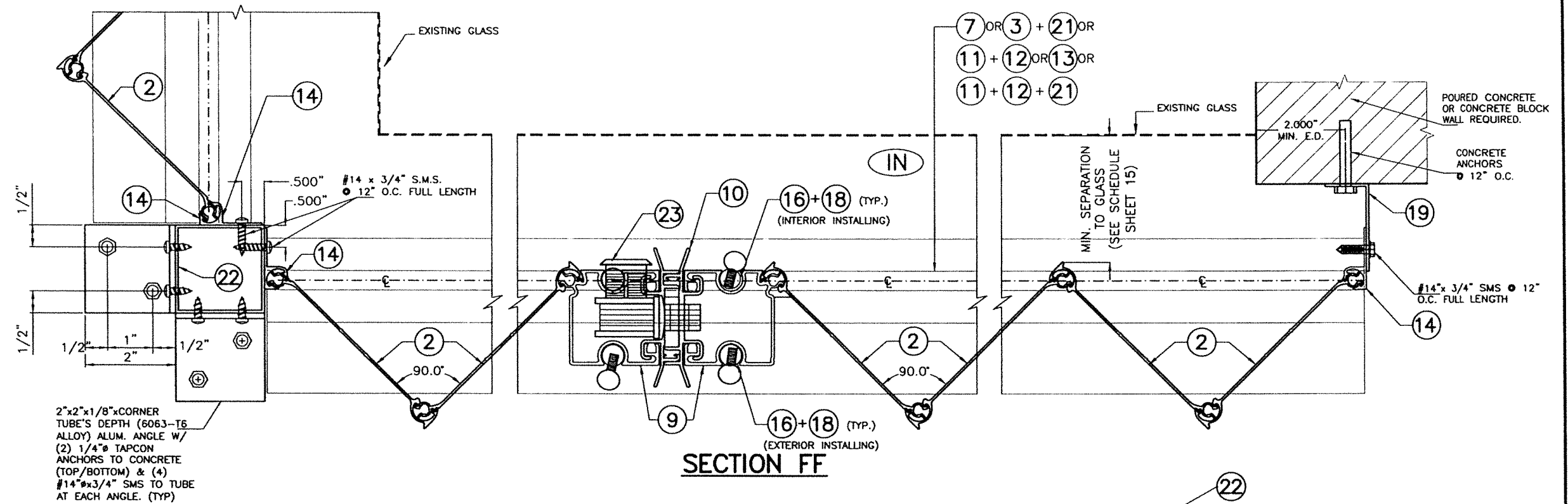
WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER
P.E. SEAL/SIGNATURE/DATE

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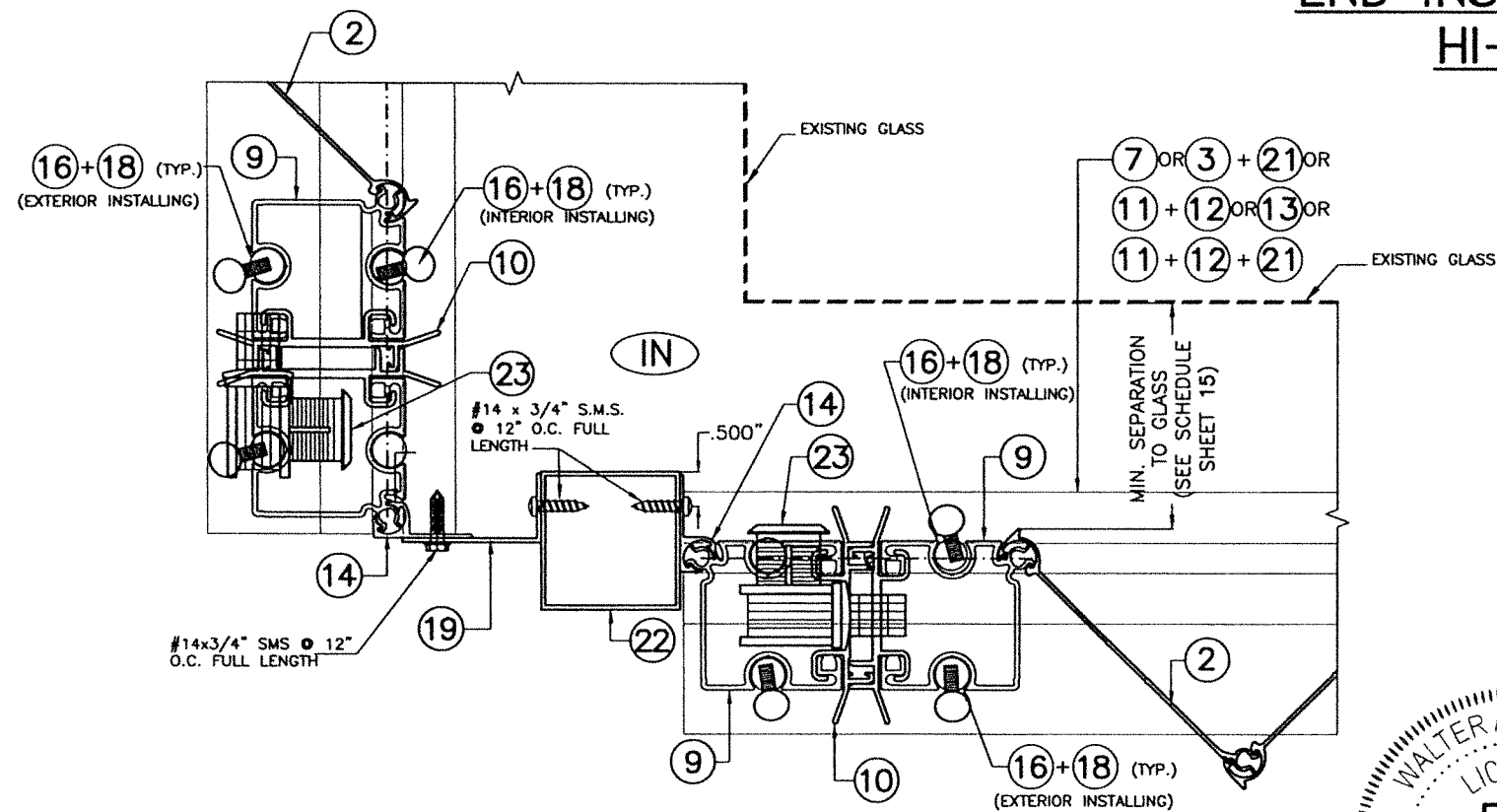
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FLORIDA 33166
Phone: (305)871-1530 Fax: (305)871-1531
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

GUARDIAN ACCORDION SHUTTER SYSTEM					Y.M. DRAWN BY:
ALUCORE LLC. 23757 SW 133 AVE HOMESTEAD, FL 33032 PHONE: 1-954-256-0030 e-mail: hmgcgc@gmail.com					8/9/2023 DATE
					23-157 DRAWING No
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-190	8/9/2023	3		
2			4		

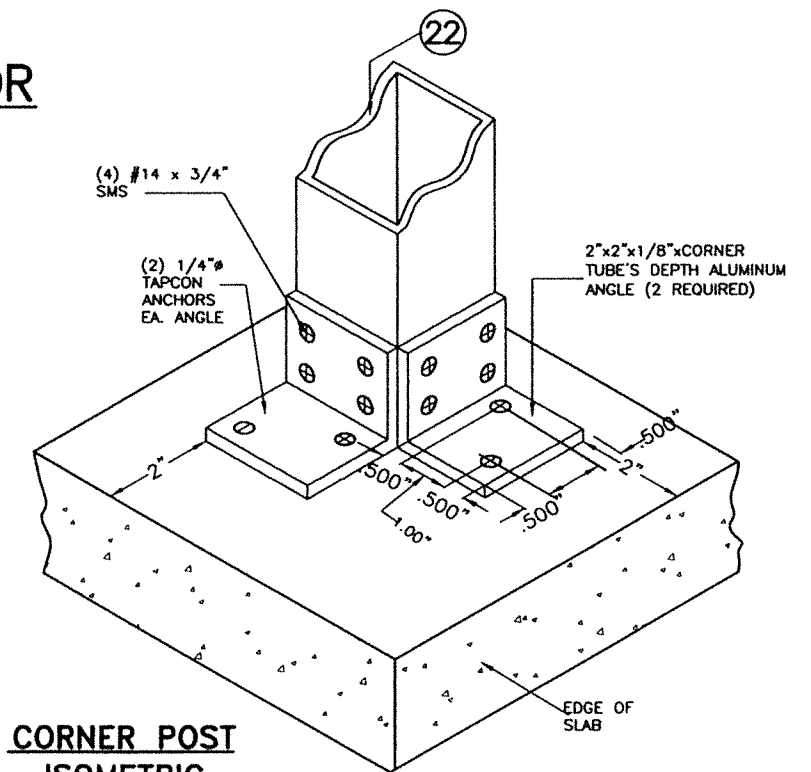


END INSTALLATION DETAILS FOR HI-PRESSURE BLADE

SCALE : 3/8" = 1"



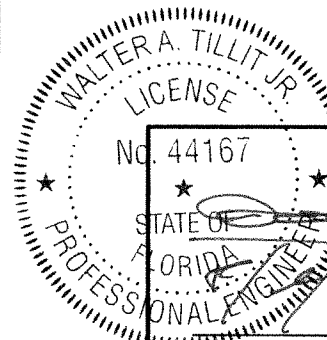
SECTION GG



CORNER POST ISOMETRIC

(TYP. AT TOP AND BOTTOM SLABS)
N.T.S.

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)



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ALUCORE LLC.
23757 SW 133 AVE
HOMESTEAD, FL 33032
PHONE: 1-954-256-0030
e-mail: hmgcgc@gmail.com

Y.M.
DRAWN BY:

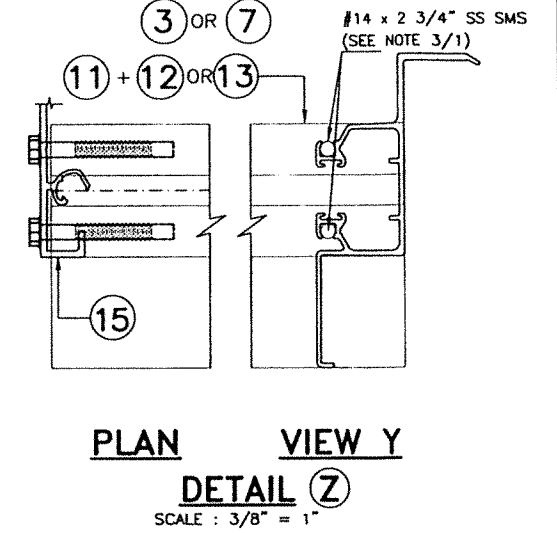
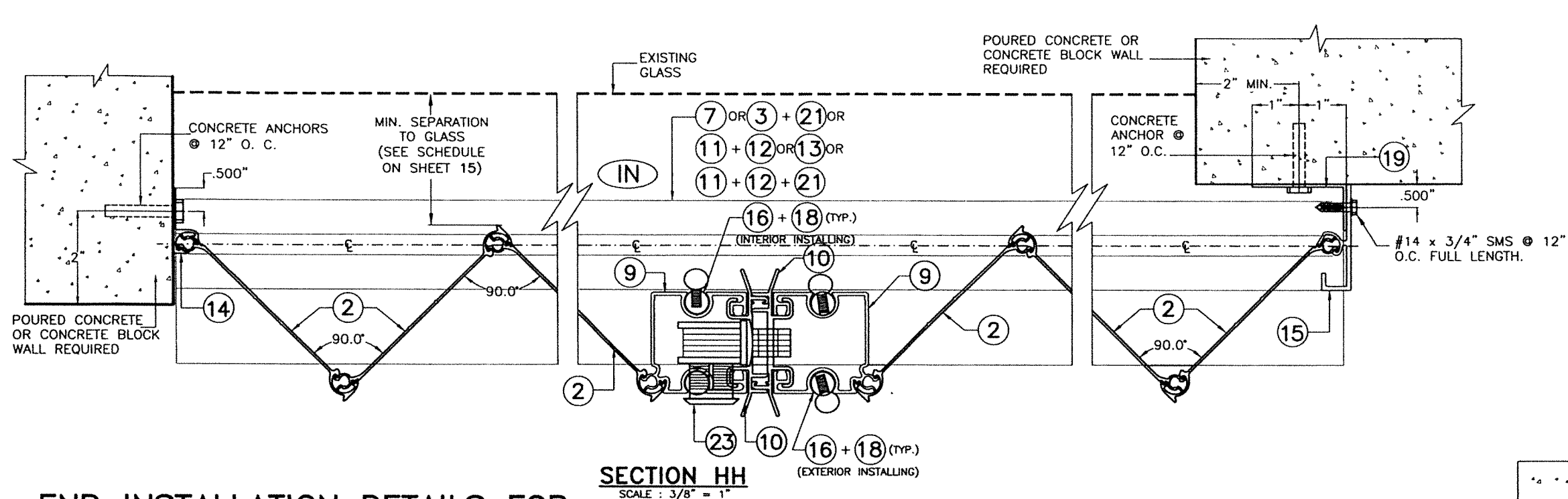
8/9/2023
DATE

23-157
DRAWING No

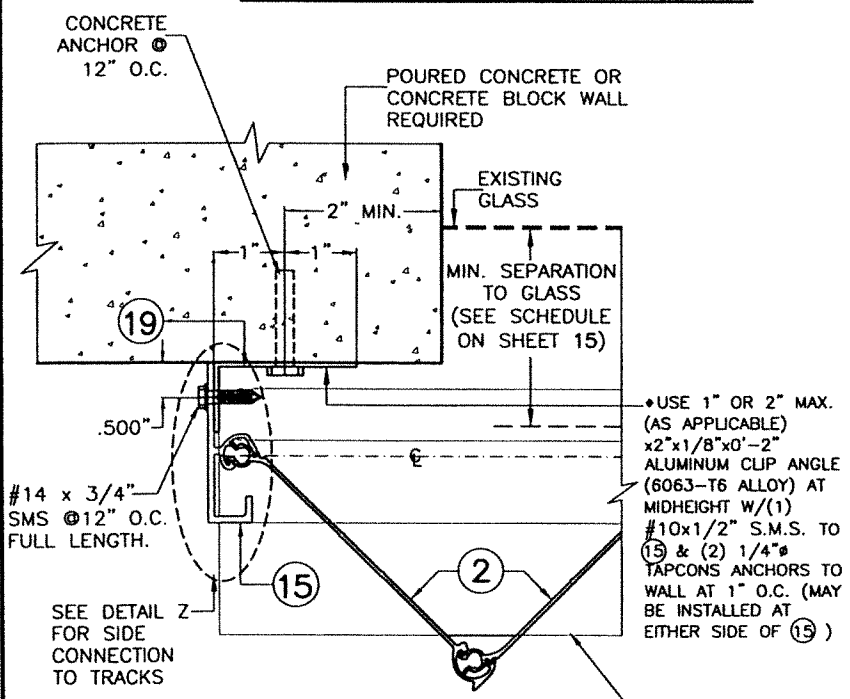
SHEET 13 OF 15

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-190	8/9/2023	3		
2			4		

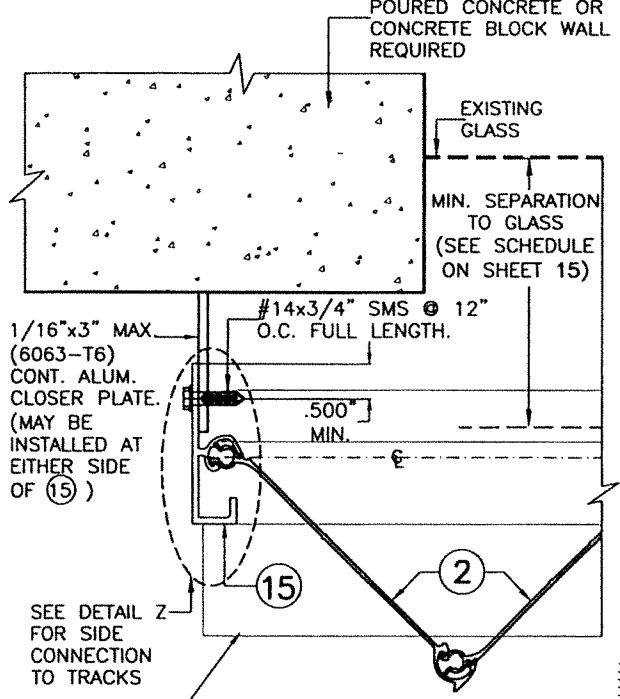
INSTALLATION FOR HI-PRESSURE BLADE
INTO CONCRETE OR CONCRETE BLOCK WALL



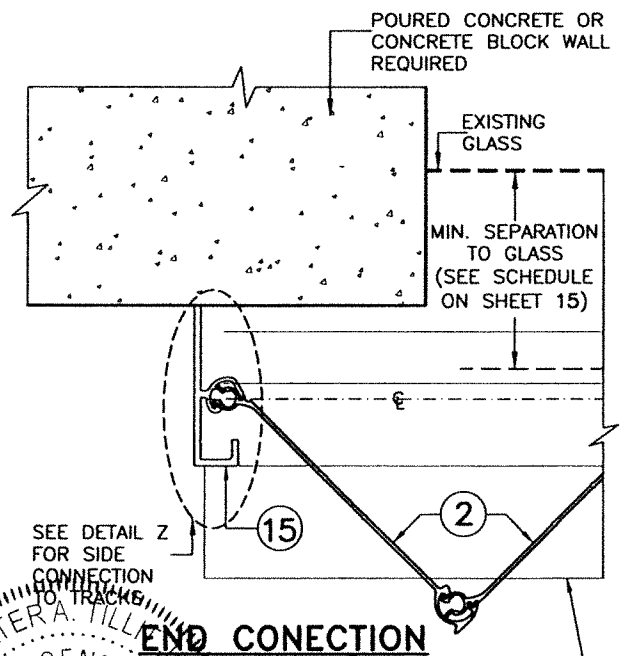
END INSTALLATION DETAILS FOR
HI-PRESSURE BLADE



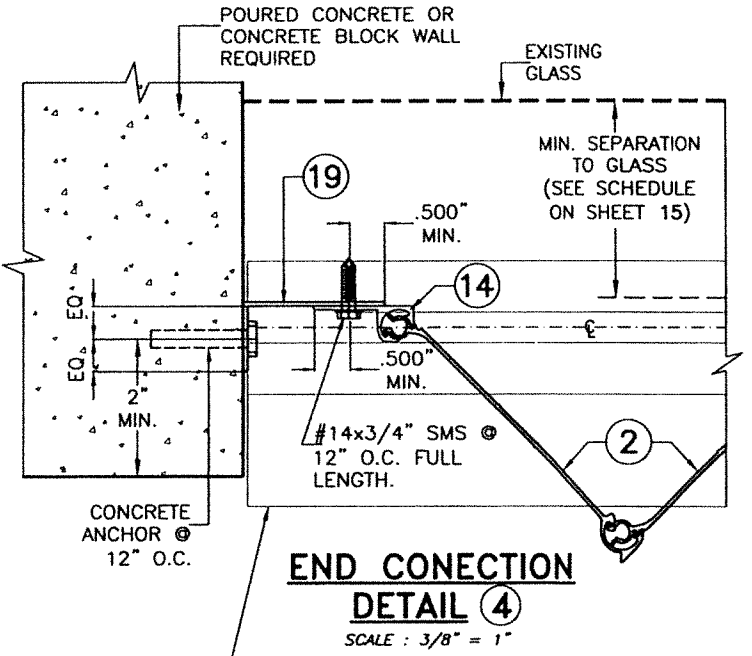
END CONNECTION
DETAIL 1
SCALE : 3/8" = 1"



END CONNECTION
DETAIL 2
SCALE : 3/8" = 1"



END CONNECTION
DETAIL 3
SCALE : 3/8" = 1"



END CONNECTION
DETAIL 4
SCALE : 3/8" = 1"

WALTER A. TILLIT, JR.
LICENSE
No. 44167
P.E. SEAL/SIGNATURE/DATE
8/4/2023

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Y.M.
DRAWN BY:
8/9/2023
DATE
23-157
DRAWING No
SHEET 14 OF 15

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM SPAN SCHEDULE.

(VALID FOR SECTIONS AA, BB, CC, DD & EE ON SHEETS 11 & 12).

MAX. ANCHOR SPACING VS MAX. SHUTTER SPAN	
*	APPLICABLE FOR MAX. SHUTTER SPAN 12'-7"
**	APPLICABLE FOR MAX. SHUTTER SPAN 11'-6"
***	APPLICABLE FOR MAX. SHUTTER SPAN 10'-2"
****	APPLICABLE FOR MAX. SHUTTER SPAN 9'-6"
▲	APPLICABLE FOR MAX. SHUTTER SPAN 7'-6"
■	APPLICABLE FOR MAX. SHUTTER SPAN 4'-10"

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM SPAN "L" SCHEDULE.

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM SHUTTER SPAN FOR ALL SECTIONS		MINIMUM SEPARATION TO GLASS (in.) ALL SECTIONS
	L+ (ft.)	L- (ft.)	
40	12'-2"	16'-0"	3"
45	11'-11"	15'-10"	3"
50	11'-7"	15'-4"	3"
55	11'-4"	14'-10"	3"
60	11'-1"	14'-5"	3"
65	10'-10"	14'-0"	3"
70	10'-8"	13'-7"	3"
75	10'-6"	13'-2"	3"
80	10'-4"	12'-6"	3"
85	10'-2"	12'-4"	3"
90	10'-0"	12'-0"	3"
95	9'-10"	11'-8"	3"
100	9'-6"	11'-5"	3"
105	9'-7"	11'-1"	3"
110	9'-6"	10'-10"	3"
115	9'-5"	10'-7"	3"
120	9'-4"	10'-5"	3"
125	9'-2"	10'-2"	3"
130	9'-0"	10'-0"	3"
135	-----	9'-10"	2 7/8"
140	-----	9'-7"	2 7/8"
145	-----	9'-5"	2 7/8"
150	-----	9'-4"	2 7/8"
155	-----	9'-2"	2 7/8"
160	-----	9'-0"	2 7/8"
165	-----	8'-0"	2 7/8"
170	-----	7'-0"	2 7/8"
175	-----	6'-0"	2 7/8"
180	-----	5'-0"	2 7/8"
185	-----	4'-10"	2 7/8"
190	-----	4'-9"	2 7/8"
195	-----	4'-7"	2 7/8"

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING (in.) SCHEDULE. +

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	VALID FOR SECTION AA						VALID FOR SECTION BB			VALID FOR SECTION CC			VALID FOR SECTION DD						VALID FOR SECTION EE					
	WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO CONCRETE)			WALL MOUNTING INSTALLATION AT TOP OR BOTTOM (TO BLOCK)			FLOOR/CEILING MOUNTING INSTALLATION TOP OR BOTTOM (TO CONCRETE)			FLOOR/CEILING MOUNTING INSTALLATION TOP OR BOTTOM (TO CONCRETE)			BUILD-OUT MOUNTING INSTALLATION AT TOP OR BOTTOM (TO CONCRETE)			BUILD-OUT MOUNTING INSTALLATION AT TOP OR BOTTOM (TO BLOCK)			BUILD-OUT MOUNTING INSTALLATION AT TOP OR BOTTOM (TO CONCRETE)			BUILD-OUT MOUNTING INSTALLATION AT TOP OR BOTTOM (TO BLOCK)		
	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 2	NOTE 3
40 OR LESS	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
FROM < 40 TO 62	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
	6"	6"	6"	6"	6"	4"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	5 1/2"	6"	6"	6"	6"	6"	5"
FROM > 62 TO 72	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
	6"	6"	6"	6"	6"	4"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	5"	6"	6"	6"	6"	6"	5"
FROM > 72 TO 92	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
	6"	6"	5"	6"	5 1/2"	3 3/4"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	4 1/2"	6"	6"	6"	6"	6"	4 1/2"
FROM > 92 TO 110	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
	6"	6"	4"	6"	4"	6"	6"	6"	5 1/2"	6"	6"	6"	6"	6"	6"	6"	5"	4"	6"	6"	6"	6"	5"	4"
FROM > 110 TO 170	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
	6"	4 1/2"	3 3/4"	4"	6"	6"	6"	5"	5"	6"	6"	6"	6"	6"	6"	6"	5 1/2"	4"	6"	6"	6"	5 1/2"	4"	6"
FROM > 170 TO 195	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"	6"
	6"	4 1/2"	6"	6"	6"	6"	6"	5 1/2"	6"	6"	6"	6"	6"	6"	6"	6"	5"	6"	6"	6"	6"	5"	6"	6"

MINIMUM ANCHOR SPACINGS LISTED BELOW ARE AS PER MIN. EDGE + DISTANCE SCHEDULE. FOR E.D. LESS THAN SCHEDULE INDICATED, REDUCE ANCHOR SPACING BY MULTIPLYING SPACING SHOWN ON SCHEDULE BY THE FOLLOWING FACTORS. FOR THIS OPERATION TO BE POSSIBLE, REDUCED SPACING OBTAINED USING FACTOR SHALL NOT BE LESS THAN MINIMUM SPACING INDICATED FOR EACH ANCHOR TYPE AT ANCHORS LEGEND.

ACTUAL E.D.	FACTOR		
	1/4" TAPCON	5/16" TAPCON XL	1/4" CALK-IN
1.50"	---	---	---
2.00"	0.71	---	---
2.50"	0.81	.89	.50
2.688"	---	.96	---
3.00"	1.00	.96	.63
3.625"	---	1.00	---

NOTES:

(1) L+: MAXIMUM ALLOWABLE SHUTTER SPAN FOR A GIVEN POSITIVE A.S.D. DESIGN PRESSURE RATING.
L-: MAX. ALLOWABLE SHUTTER SPAN FOR A GIVEN NEGATIVE A.S.D. DESIGN PRESSURE RATING.

(2) PROCEDURE TO DETERMINE MAXIMUM SHUTTER SPAN FOR WALL MOUNTINGS OR FLOOR/CEILING:

GIVEN A POSITIVE A.S.D. DESIGN PRESSURE RATING, DETERMINE MAXIMUM SHUTTER SPAN "L+" FROM SCHEDULE.
GIVEN A NEGATIVE A.S.D. DESIGN PRESSURE RATING, DETERMINE MAXIMUM SHUTTER SPAN "L-" FROM SCHEDULE.

FINAL MAXIMUM ALLOWABLE SHUTTER SPAN IS EQUAL TO THE MINIMUM DETERMINED SHUTTER SPAN BETWEEN "L+" AND "L-".

2 HI-PRESSURE BLADE

ANCHORS LEGEND			
ANCHORS TYPE	MINIMUM ANCHOR SPACING	MINIMUM EDGE DISTANCE	
		CONCRETE	C. BLOCK
1/4" TAPCON 3192 psi. (MIN.) CONCRETE	3.00"	3.00"	---
5/16" TAPCON XL 2899 psi. (MIN.) CONCRETE	3.75"	3.625"	4.50"
1/4" CALK-IN 3000 psi. (MIN.) CONCRETE	2.50"	3.50"	---
1/4" TAPCON 3350 psi. (MIN.) CONCRETE	6"	3.00"	2.50"

TO CONCRETE:	TO CONCRETE BLOCK:
1/4" TAPCON OR CRETE-FLEX SS4	1/4" CRETE-FLEX SS4
5/16" TAPCON XL	5/16" TAPCON XL
1/4" CALK-IN	---

ANCHOR SPACING LEGEND

(NOTE 1) Max. ANCHOR SPCG. VALID FOR SPANS OF 5'-0" OR LESS.

(NOTE 2) Max. ANCHOR SPCG. VALID FOR SPANS GREATER THAN 5'-0" TO 9'-0".

(NOTE 3) Max. ANCHOR SPCG. VALID FOR SPANS GREATER THAN 9'-0" TO MAX. ALLOWED.

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

PROFESSIONAL ENGINEER
STATE OF FLORIDA
No. 44167
WALTER A. TILLIT JR., P.E.
FLORIDA Lic. # 44167

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ALUCORE LLC.				8/9/2023	
23757 SW 133 AVE HOMESTEAD, FL 33032 PHONE: 1-954-256-0030 e-mail: hmgcgc@gmail.com				DATE	
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1 OLD 20-198 8/9/2023 3				DRAWING No	
2				SHEET 15 OF 15	