

GSS- GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM LARGE MISSILE IMPACT

GENERAL NOTES:

1. THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 2017 EDITION INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
2. SHUTTER RATED FOR LARGE MISSILE IMPACT.
3. SHUTTER TESTED FOR IMPACT LEVEL D.
4. ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 ALLOY WITH MINIMUM YIELD STRENGTH OF $F_y=31.0$ KSI UNLESS IT IS SPECIFIED.
5. ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS. ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.
6. ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.
7. WOOD BUCKS BY OTHERS MUST BE SOUTHERN PINE, $G = 0.55$ AND MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.
8. ALL ALUMINUM BLIND RIVETS TO BE 5052 ALUMINUM ALLOY WITH ALUMINUM MANDREL.
9. ALL SCREW OR BOLTS TO BE GALVANIZED OR STAINLESS STEEL WITH 36 ksi MINIMUM YIELD STRENGTH.
10. MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 6TH EDITION (2017) SECTION AS APPLICABLE.
11. 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.
12. 9. A PERMANENT SHUTTER MANUFACTURER'S LABEL SHOULD BE PLACED ON THE EXPOSED SURFACE OF THE CENTERMATE BLADE (COMPONENT 10) UNDER LOCK. ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABEL SHALL READ AS FOLLOWS:
 NCCL CORPORATION
 9960 NW 79TH AVE., HIALEAH GARDENS, FL. 33016
 MISSILE LEVEL D - ASTM E1886, E1996 & E330
 TAS-201, TAS-202, AND TAS-203.
13. (a) THIS PRODUCT APPROVAL DOCUMENT (P.A.D.) PREPARED BY THIS ENGINEER IS GENERIC.
 (b) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT BASED ON THIS PRODUCT APPROVAL PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.
 THIS PRODUCT APPROVAL 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.A.D. ENGINEER OF RECORD, ACTING AS DELEGATED ENGINEER TO THE P.A.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.
 (e) THIS P.A.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER THAT PREPARED IT.
14. HEAD & SILL MAY BE INTERCHANGED WHERE NOTED IN MOUNTING SECTIONS TO FIT FIELD CONDITIONS.
15. 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.
16. ULTIMATE LOAD OBTAINED FROM ASCE 7-10, MULTIPLY BY 0.6 SHALL BE LESS THAN OR EQUAL TO MAX. DESIGN LOAD IN THIS DOCUMENT. THE DESIGN LOADS SHOWN IN THIS DOCUMENT ARE ALLOWABLE DESIGN LOADS.

TYPICAL ANCHORS: (SEE CHARTS FOR ANCHOR SPACING)

- | | | |
|---|---|---|
| <p>TYPE A. 1/4" DIA. TAPCON BY ITW BUILDEX ($F_u = 120$ KSI, $F_y = 92$ KSI)
 INTO CONCRETE $f_c'=3000$ PSI
 1-3/4" MIN. EMBED
 2-1/2" MIN. EDGE DISTANCE & 3" MIN. O.C.</p> <p>TYPE B. 1/4"-20 CALK-IN BY 'POWERS' FASTENERS
 INTO CONCRETE $f_c'=3000$ PSI
 7/8" MIN. EMBED
 3" MIN. EDGE DISTANCE & 2 1/2" MIN O.C.</p> <p>TYPE C. 1/4" CRETE-FLEX SS4 MASONRY ANCHOR BY "ELCO"
 INTO CONCRETE $f_c'=3350$ PSI
 1 3/4" MIN. EMBED
 2 1/2" MIN. EDGE DISTANCE & 3" MIN. O.C.</p> <p>TYPE D. 1/4" DIA. ULTRACON BY ELCO ($F_u = 177$ KSI, $F_y = 155$ KSI)
 INTO CONCRETE $f_c'=3000$ PSI
 1-3/4" MIN. EMBED
 2-1/2" MIN. EDGE DISTANCE & 3" MIN. O.C.</p> <p>TYPE E. 1/4" DIA. TAPPER + CARBON STEEL PERMA-SEAL AND XINC PALTED BY "POWERS"
 INTO CONCRETE $f_c' = 3000$ PSI
 1-3/4" MIN. EMBED
 2-1/2" MIN. EDGE DISTANCE & 3" MIN O.C.</p> <p>TYPE F. 1/4" - 20 "ALL POINTS" SOLID - SET ANCHORS BY HILLMAN
 INTO CONCRETE $f_c' = 3000$ PSI
 7/8" MIN. EMBED
 3" MIN. EDGE DISTANCE & 3" MIN O.C.</p> <p>TYPE G. 1/4" DIA. LAG SCREWS ($F_y = 60$ KSI)
 INTO WOOD STRUCTURAL (SG=0.55 MIN)
 1-1/2" MIN. THREADED EMBED
 1" MIN. EDGE DISTANCE</p> <p>TYPE H. 1/4" ELCO DRILL FLEX
 INTO 1/8" MIN. THK. ALUM. (6063-T5 MIN)</p> <p>TYPE I. 1/4" ELCO DRILL FLEX
 INTO 1/8" MIN THK. STL</p> <p>TYPE J. 5/16" DIA. ULTRACON BY ELCO ($F_u = 177$ KSI, $F_y = 155$ KSI)
 INTO CONCRETE $f_c'=3515$ PSI
 1-3/4" MIN. EMBED
 3 1/8" MIN. EDGE DISTANCE & 5" MIN. O.C.</p> | <p>TYPE A1. INTO MEDIUM WIEGHT CMU
 1-1/4" MIN. EMBED
 2-1/2" MIN. EDGE DISTANCE & 4" MIN O.C.</p> <p>TYPE B1. INTO GROUT FILLED BLOCK OR CLAY BRICK ($f_m' \geq 1500$ psi)
 7/8" MIN. EMBED
 3" MIN. EDGE DISTANCE & 2 1/2" MIN O.C.</p> <p>TYPE C1. INTO C90 CONCRETE BLOCK
 1 1/4" MIN. EMBED
 2 1/2" MIN. EDGE DISTANCE & 3" MIN. O.C.</p> <p>TYPE D1. INTO GROUT FILLED BLOCK
 1-3/4" MIN. EMBED
 2-1/2" MIN. EDGE DISTANCE & 4" MIN O.C.</p> <p>TYPE E1. INTO GFB OR C90 BLOCK
 1-3/4" MIN. EMBED
 3" MIN. EDGE DISTANCE & 4" MIN O.C.</p> <p>TYPE F1. INTO CMU ($f_m=1800$psi MIN.)
 7/8" MIN. EMBED
 3" MIN. EDGE DISTANCE & 3" MIN O.C.</p> <p>TYPE H1. 1/4" ELCO DRILL FLEX
 INTO 1/4" MIN. THK. ALUM. (6063-T5 MIN)</p> | <p>TYPE A2. INTO WOOD (SG=0.55 MIN.)
 1-1/2" MIN. EMBED
 1" MIN. EDGE DISTANCE</p> <p>TYPE D2. INTO WOOD (SG=0.55 MIN)
 1-1/2" MIN. EMBED
 1" MIN. EDGE DISTANCE</p> <p>TYPE E2. INTO WOOD (SG=0.55 MIN)
 1-1/2" MIN. EMBED
 1" MIN. EDGE DISTANCE</p> |
|---|---|---|

LIMITATIONS OF USE

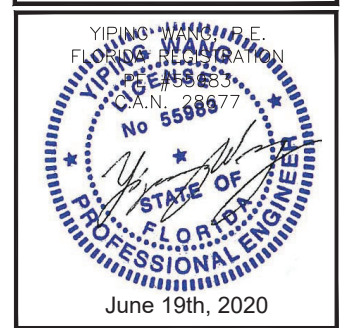
A- THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; I.E. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.

B- CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION OF THIS PRODUCT BASED ON THIS PRODUCT EVALUATION PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT.

C- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.

D- SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.E.D.

E- THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.



NO.	DATE	DESCRIPTION

MCY ENGINEERING, INC.
GLAZING CONSULTANTS

12871 MIRAMAR PKWY. STE. 301 P. 305.271.0117
MIRAMAR, FL. 33027 P. 786.360.2786
www.MCYEngineering.com mcy@mcyengineering.com

GSS GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM

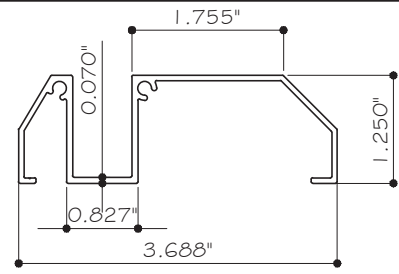
NCCL CORPORATION
9960 NW 79 AVE.
HIALEAH GARDENS, FL. 33016
P. (305) 883 - 9940

FL#17552.2

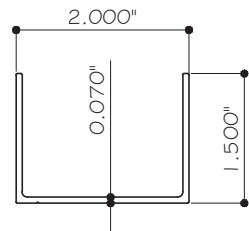
DATE	4.23.2020
SCALE	AS NOTED
DRAWN	Y.A.
PROJECT	MCY 20-074

DRAWING NO.
AD20-15

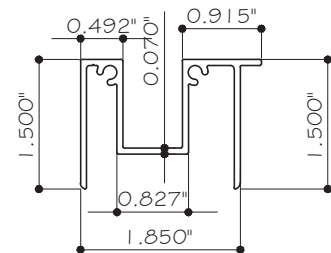
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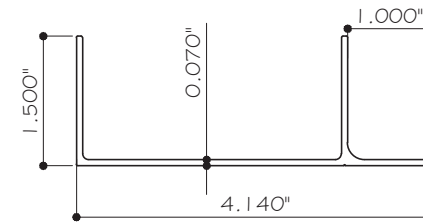
① GIC-801
ALUMINUM 6063-T6



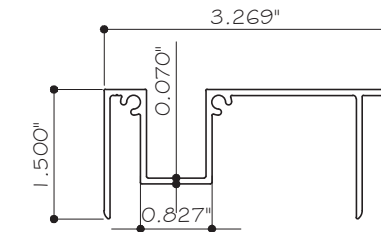
② BOTTOM TRACK BASE
GIC-802 6063-T6



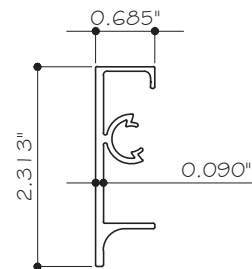
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GIC-803 6063-T6



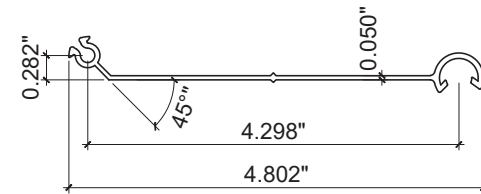
④ BOTTOM TRACK BASE
GIC-804 6063-T6



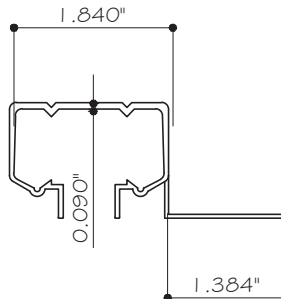
⑤ BOTTOM TRACK INSERT
GIC-805 6063-T6



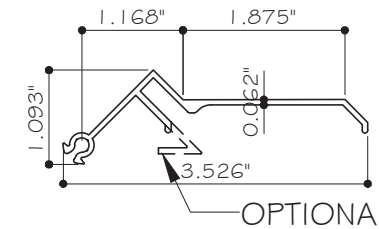
⑥ END BASE
GIC-806 6063-T6



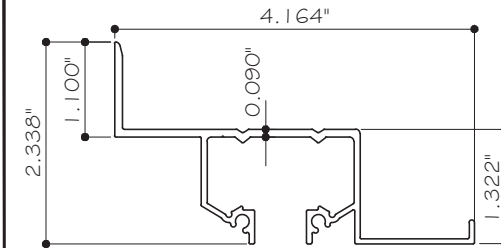
⑦ BLADE
NFC100-07 6063-T6
Fy = 27.7 ksi Fu = 30.85 ksi



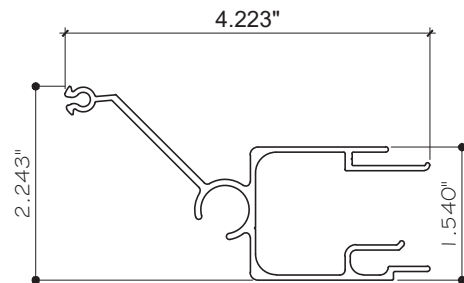
⑧ TOP TRACK
GIC-812 6063-T6



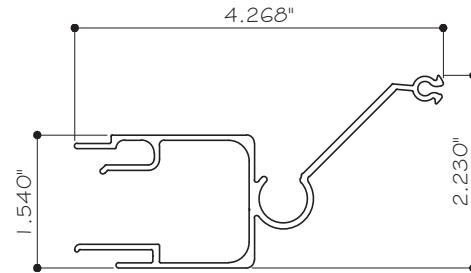
⑨ NFC100-10 6063-T6



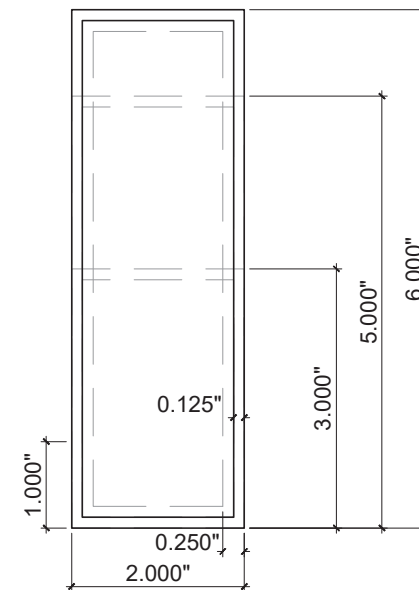
⑩ TOP TRACK
GIC-810 6063-T6



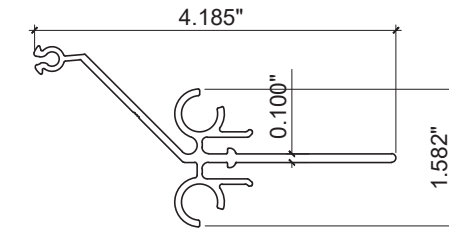
⑪ LEFT CENTER - MATE
GIC-015 6063-T6



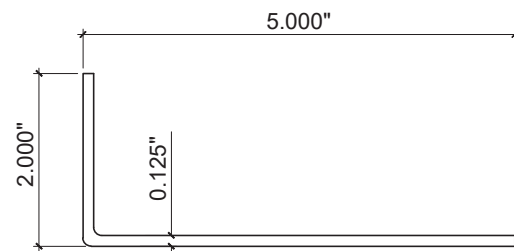
⑫ RIGHT CENTER - MATE
GIC-016 6063-T6



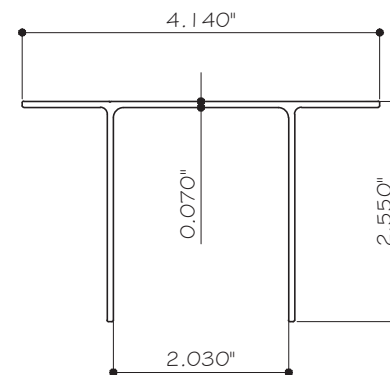
⑮ ALUMINUM TUBE
6063-T6
2X3X1/8"
2X5X1/8"
2X6X1/8"



⑬ UNIMATE CENTER MATE OPTION 3
ALUM. 6063-T6

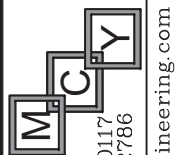


⑯ 2" X 5" X 1/8" -
ALUMINUM ANGLE ALUM. 6063-T6



⑰ TOP TRACK BASE
GIC-813 6063-T6

NO.	DATE	DESCRIPTION



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www.MCYEngineering.com mcy@mcyengineering.com

GSS GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM
NCCCL CORPORATION

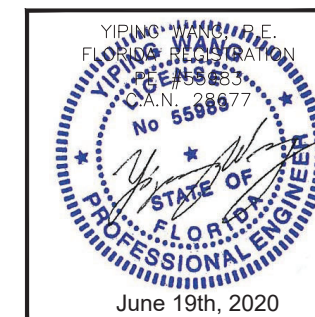
9960 NW 79 AVE.
HIALEAH GARDENS, FL. 33016
P. (305) 883 - 9940

FL#17552.2

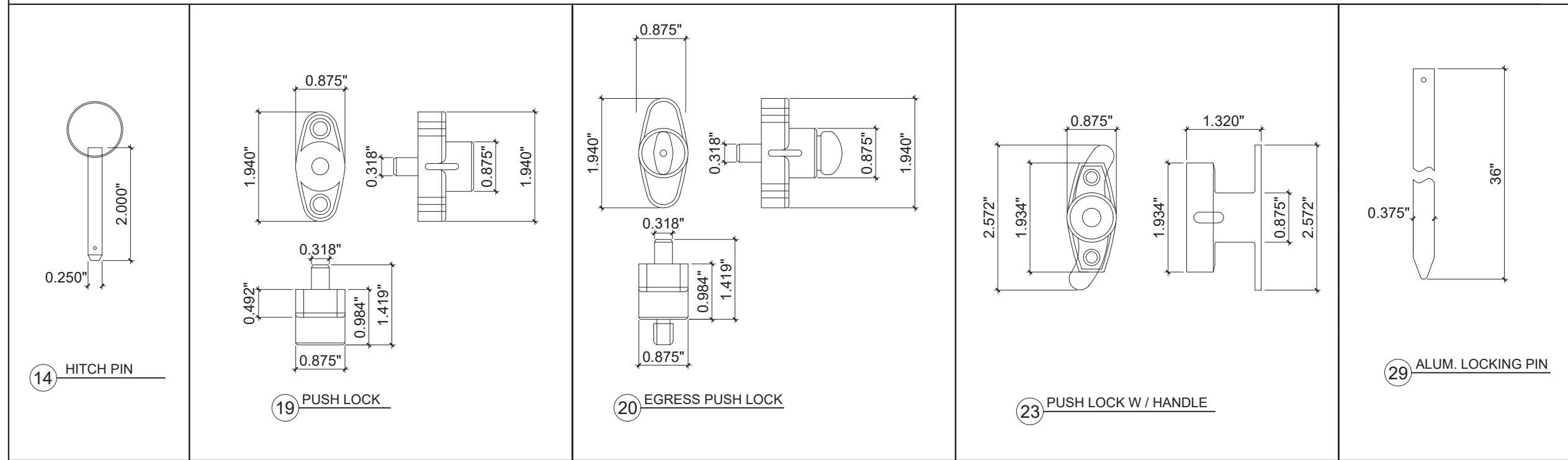
DATE	4.23.2020
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DRAWN	Y.A.
PROJECT	MCY 20-074

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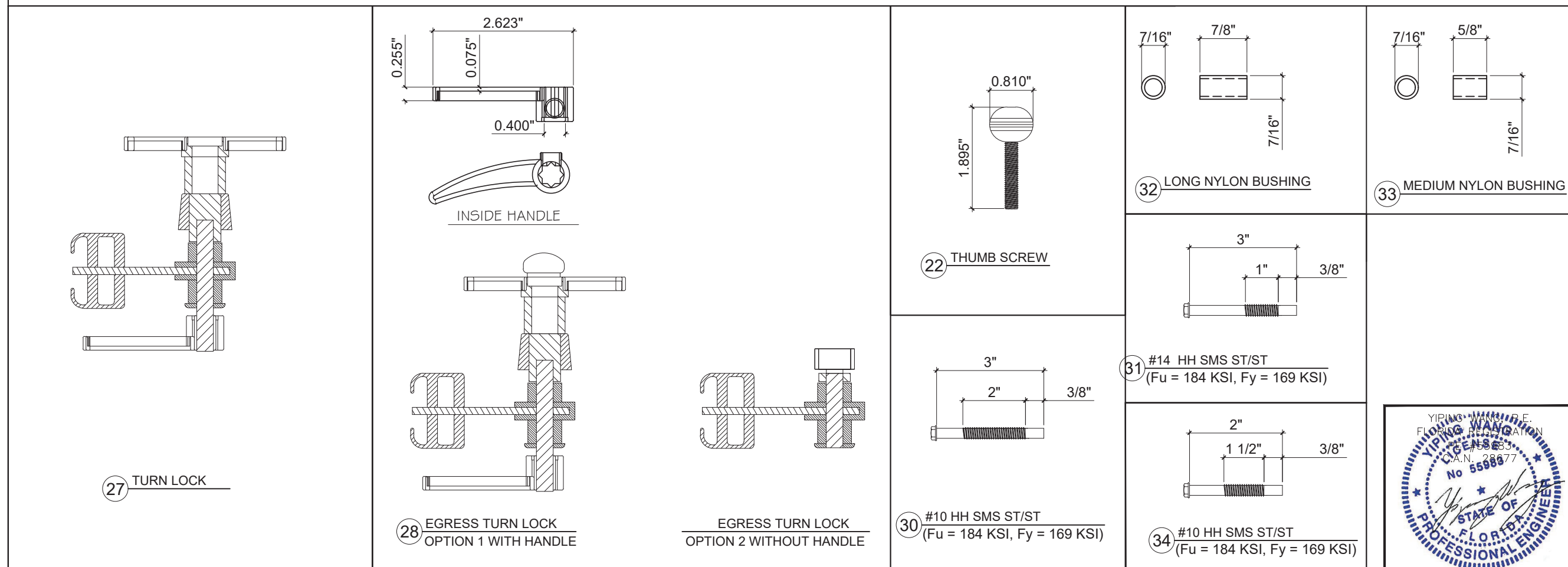
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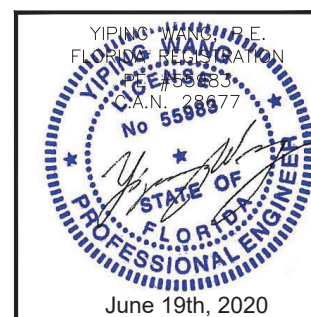
WITH UNIMATE CENTER MATES (STD- STANDARD)



WITH UNI-BOX CENTER MATES (HD- HEAVY DUTY)



ALL LOCKS MADE BY ALL POINTS



REVISIONS	
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MAX. SHUTTER SPAN (L) IN	ALLOW DESIGN LOAD	
	Pd + psf	Pd- psf
48	188	300
54	167	267
60	150	240
66	136	218
72	125	200
78	115	175
84	107	151
90	100	131
96	94	115
102	88	102
108	78	91
114	70	82
120	63	74
126	57	67
132	52	61
138	48	56
144	44	51
150	40	47
156	37	44
162	35	41
168	32	38
174	30	35
180	20	30

SEE SHEET 5 FOR CENTER MATE OPTIONS AND CONNECTION REQUIREMENTS AND DESIGN LOAD LIMITATION

INSTRUCTION:

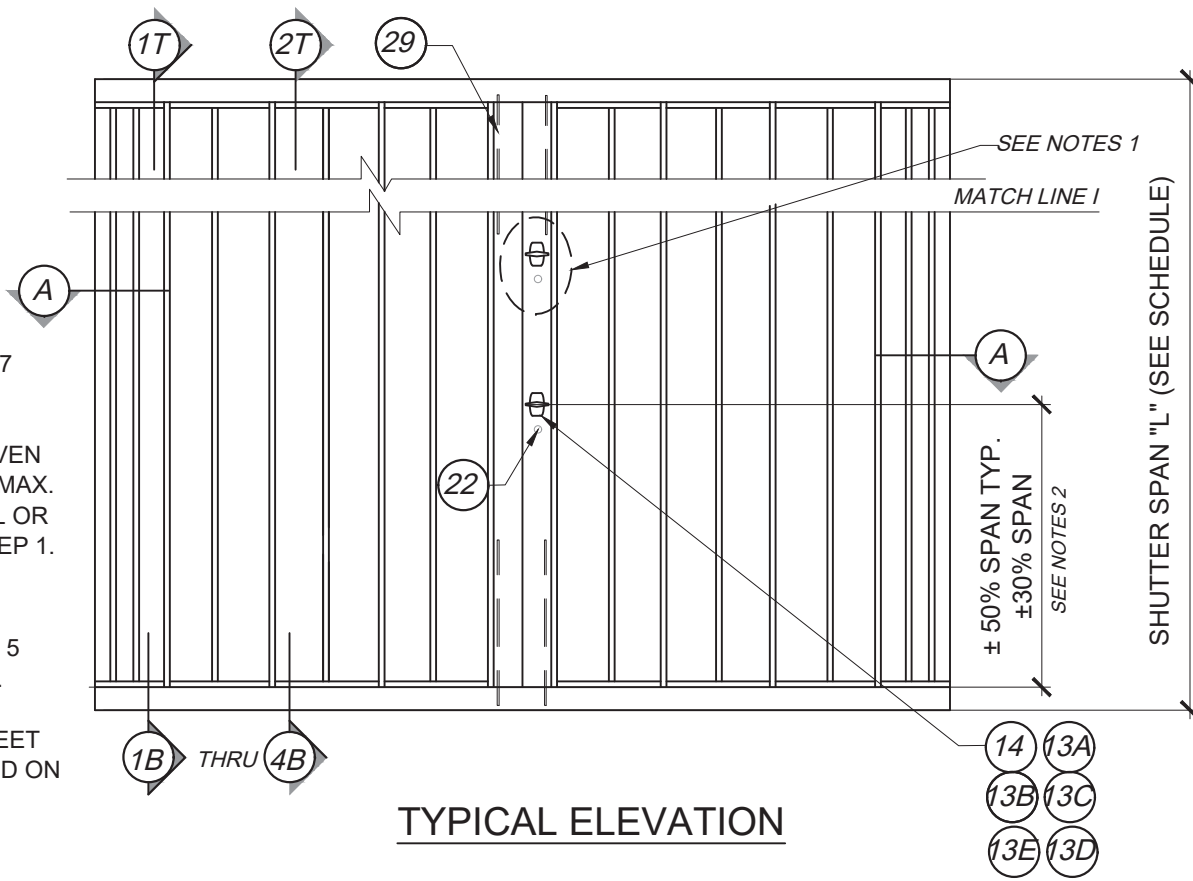
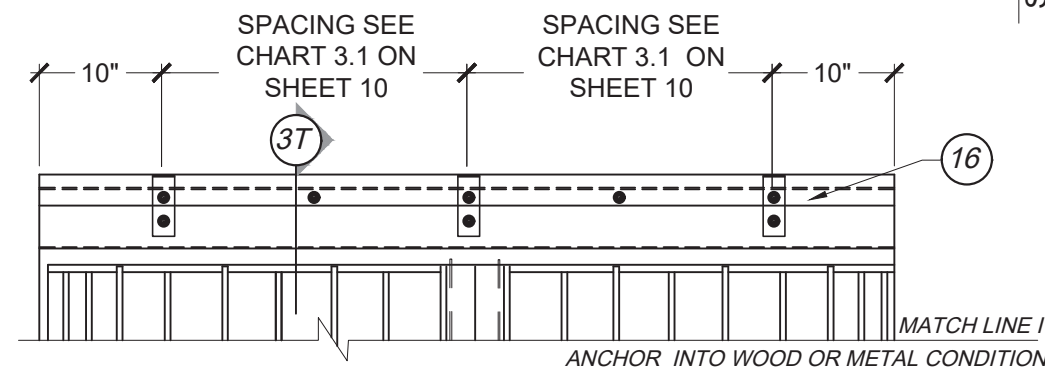
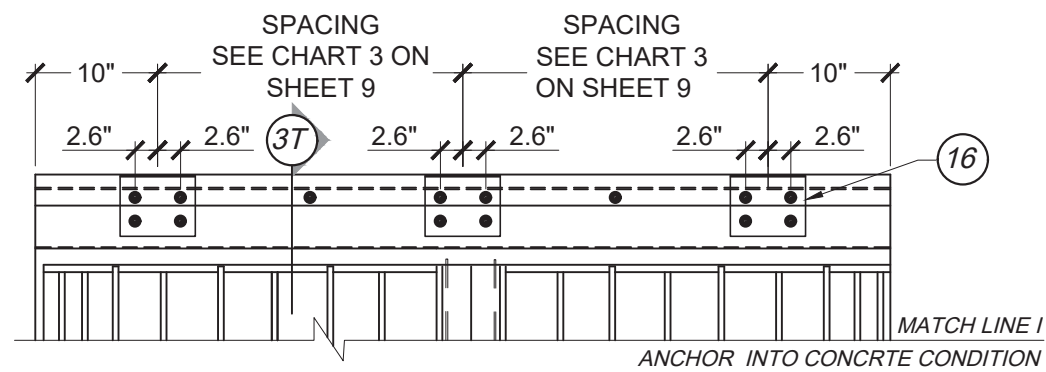
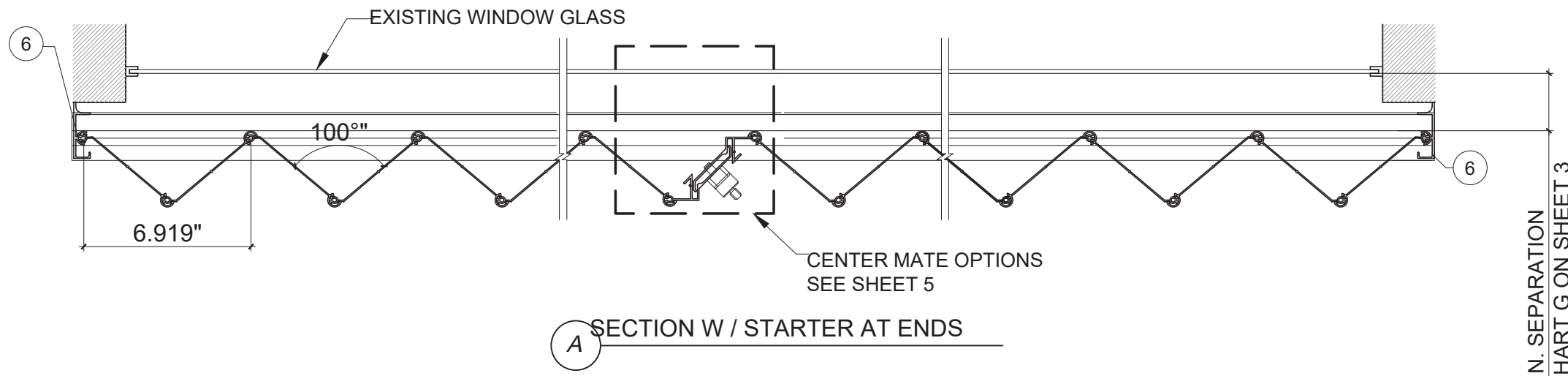
STEP 1 DETERMINE DESIGN WIND LOAD REQUIREMENT BASED ON APPLICABLE ASCE 7 STANDARD.

STEP 2 CHECK SHUTTER CAPACITY FOR A GIVEN SHUTTER SPAN USING CHARTS ON SHEET 4. MAX. DESIGN LOAD FROM CHART HAS TO BE EQUAL OR GREATER THAN DESIGN WIND LOAD FROM STEP 1.

STEP 3 SELECT CENTER MATE OPTIONS AND CONNECTION REQUIREMENT BOLTS ON PAGE 5 BASED ON DESIGN LOAD AND SHUTTER SPAN.

STEP 4 USING CHARTS ON SHEET 6 THRU SHEET 15 SELECT ANCHOR TYPE AND SPACING BASED ON DESIGN LOAD AND SHUTTER SPAN FOR THE ANCHOR DETAIL USED.

STEP 5 THE LOWEST VALUE RESULT FROM STEP 2 TO 4 THAT EXCEED THE DESIGN LOAD FROM STEP 1 APPLY TO ENTIRE SYSTEM



NOTES 1:

- 1) LOCK SHALL BE LOCATED WITHIN 18" OF MID-SPAN;
- 2) FOR SHUTTER SPAN ≥ 12 FT USE (2) LOCKS (OPTION 2) AT 1/3 SPAN
- 3) LOCK (22) AND (14) USED FOR STANDARD TRACK ONLY.
- 4) LOCK (14) USED FOR SHUTTER SPAN LESS THAN 85" ONLY.
- 5) LOCK (22) MUST BE USED WHEN LOCKS (27) OR (28) ARE USED ON SHUTTER SPANS GREATER THAN 144".
- 6) LOCK PIN (29) USED WITH (15) & (9) IS OPTIONAL EXCEPT ON SHUTTER SPAN GREATER THAN 144".

MIN. SEPARATION
SEE CHART G ON SHEET 3

REVISIONS	
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NCCL CORPORATION

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P. (305) 883 - 9940

YIPING WANG, P.E.
FLORIDA REGISTRATION
No. 55989

YIPING WANG
LICENSED PROFESSIONAL ENGINEER
STATE OF FLORIDA

June 19th, 2020

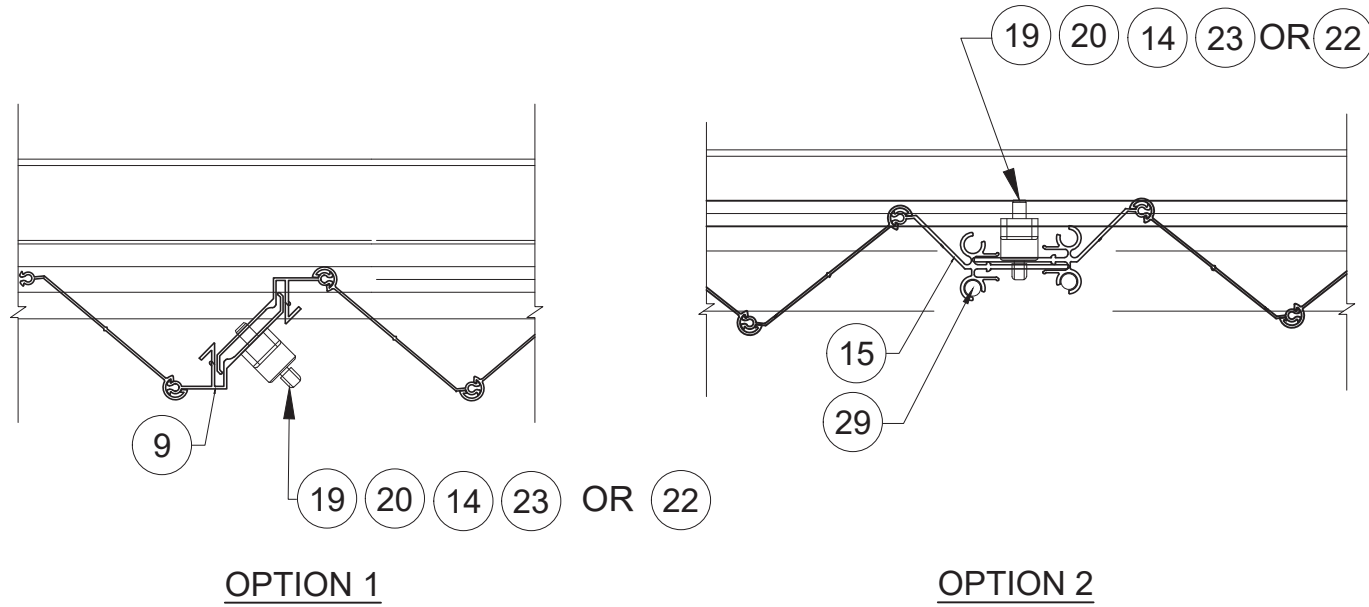
FL#17552.2

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PROJECT	MCY 20-074

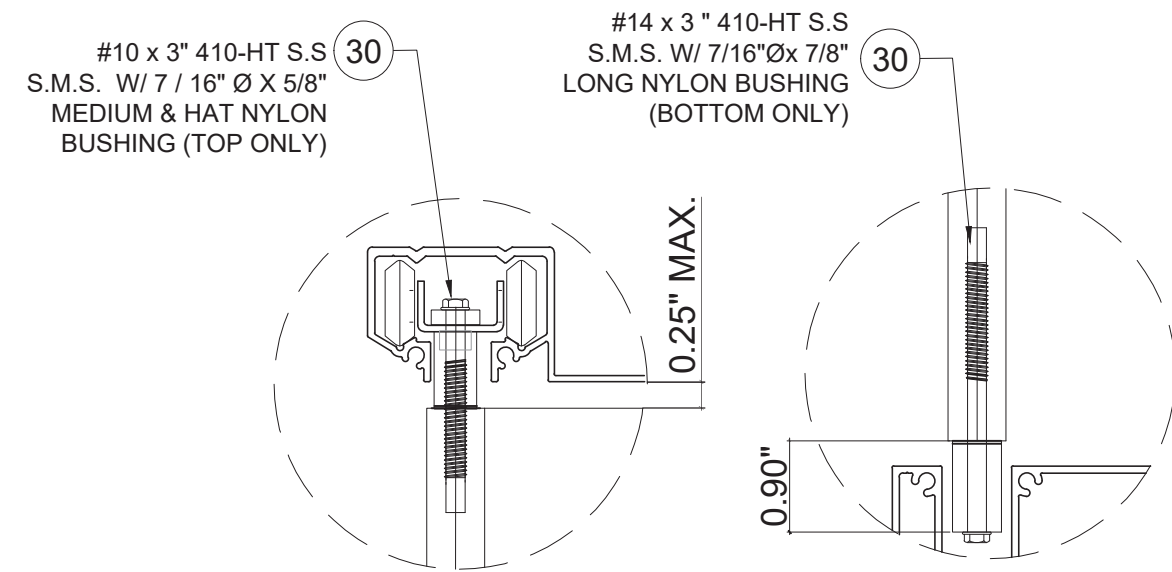
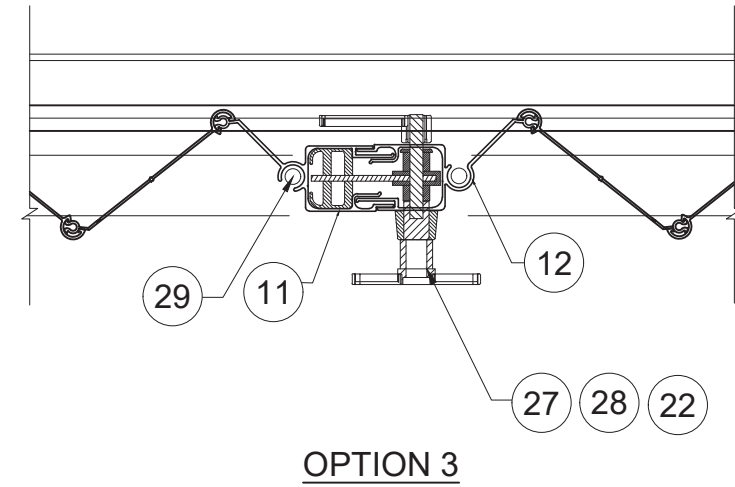
DRAWING NO.
AD20-15

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W/ UNIMATE CENTER MATES
(STD - STANDARD)

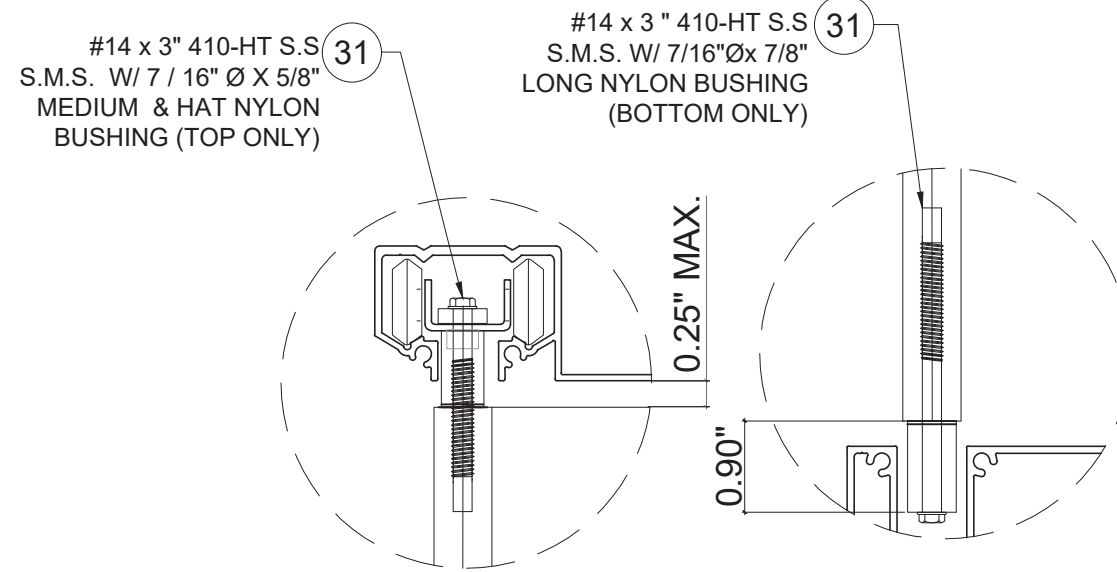


W/ UNIBOX CENTER MATES
(HD - HEAVY DUTY)



CONNECTION TYPE
AT TOP AND BOTTOM OF THE TRACK.

USED CONDITIONS WHEN:
Wind Load Pd ≤ 90 psf OR
Span Height ≤ 103"



CONNECTION TYPE
AT TOP AND BOTTOM OF THE TRACK.

USED FOR CONDITIONS WHEN:
Wind Load Pd > 90 psf OR
Span Height > 103"

REVISIONS	
NO.	DESCRIPTION

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GLAZING CONSULTANTS

MCY

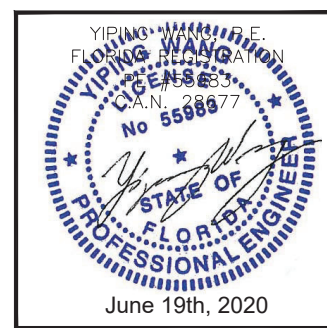
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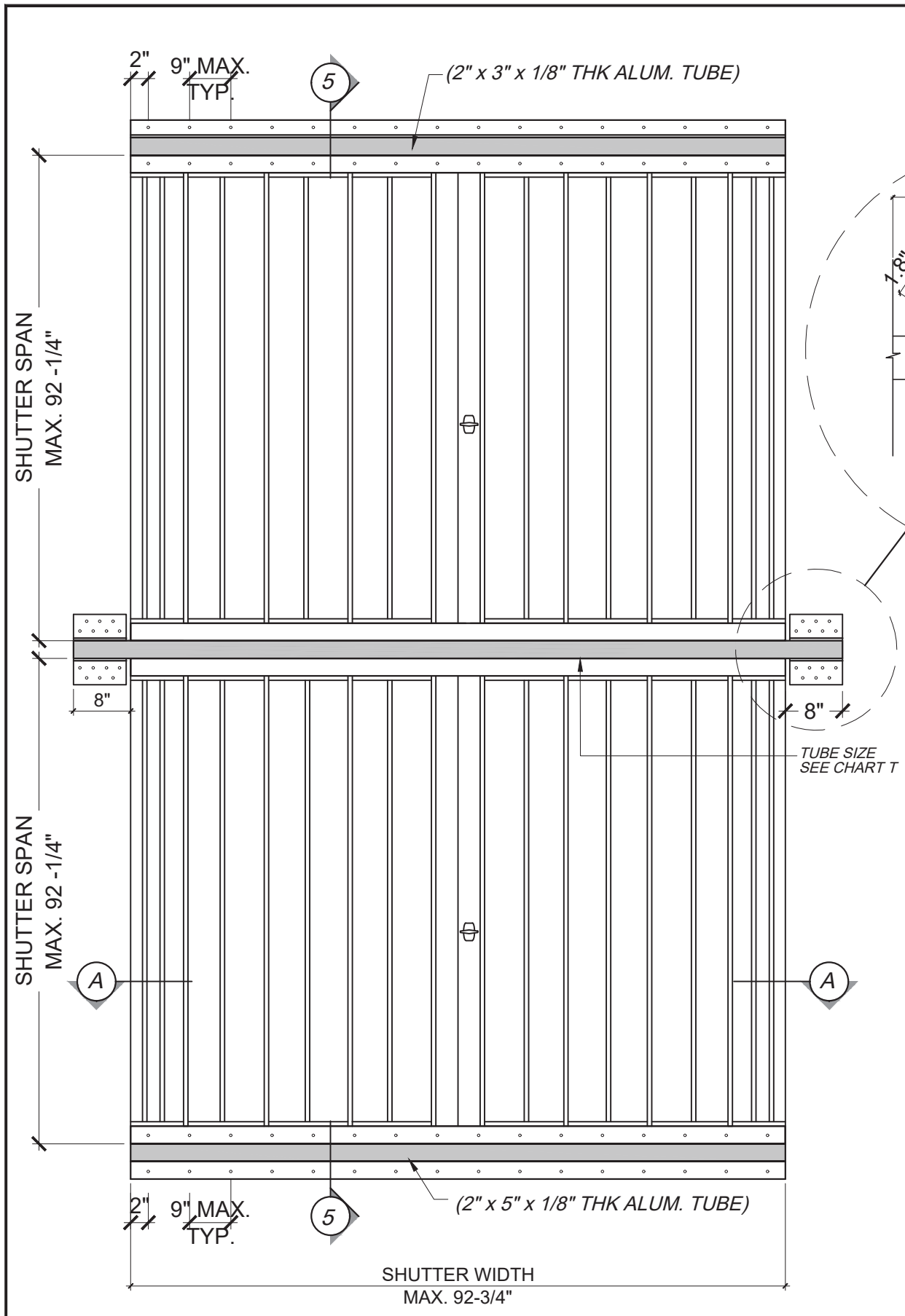
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DRAWING NO.	AD20-15
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**ELEVATION
WITH ALUM. TUBE OPTIONS.**

SEE ANCHOR DETAIL
ON SHEET 13

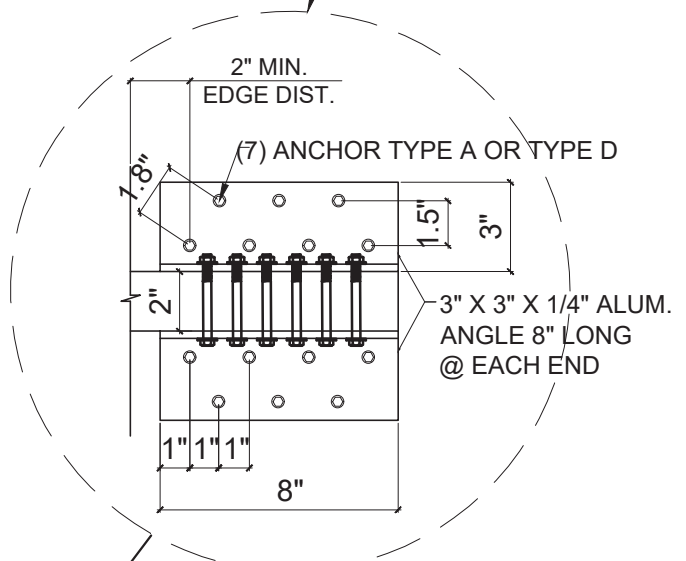
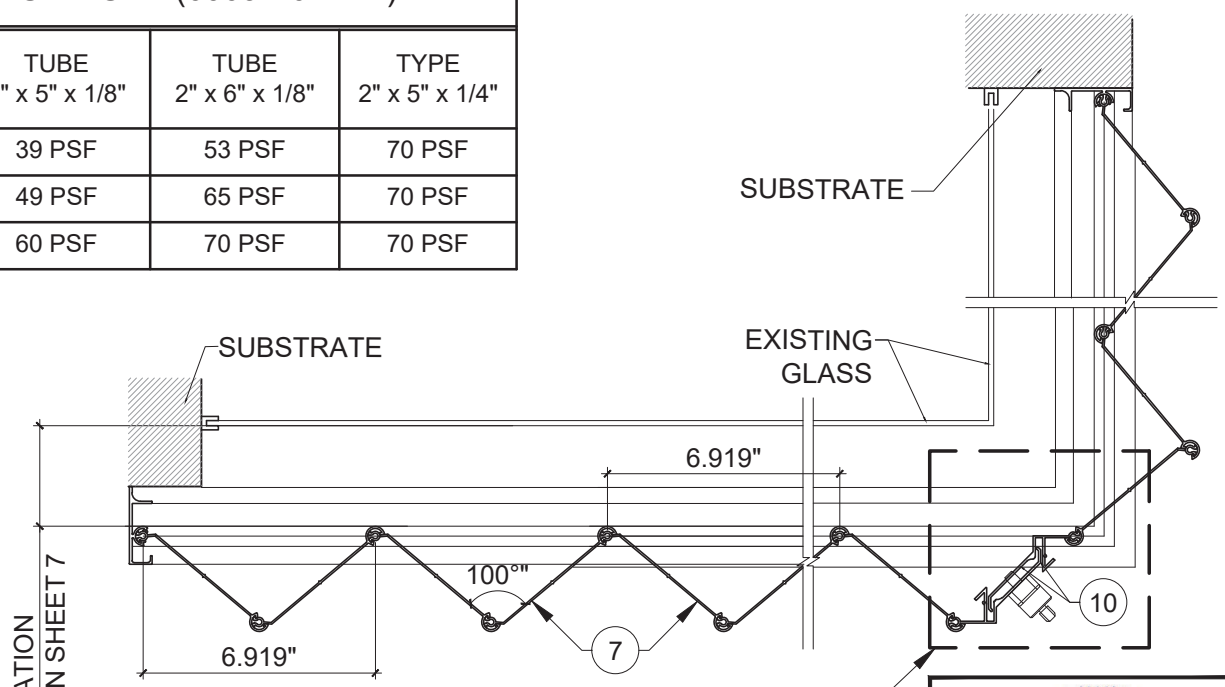


CHART T

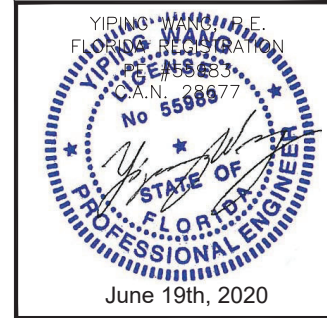
DESIGN LOAD FOR INTERMEDIATE ALUMINUM TUBE (6063-T6 MIN.)

SHUTTER WIDTH (IN.)	TUBE 2" x 5" x 1/8"	TUBE 2" x 6" x 1/8"	TYPE 2" x 5" x 1/4"
92.75	39 PSF	53 PSF	70 PSF
84	49 PSF	65 PSF	70 PSF
76	60 PSF	70 PSF	70 PSF

**SHUTTER ELEVATION
WITH 90 DEGREE OPTION**



**90 DEGREE SHUTTER OPTION
ENLARGED FLOOR PLAN (N.T.S.)**



NO.	DATE	DESCRIPTION

MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12871 MIRAMAR PKWY. STE. 301 P. 305.271.0117
MIRAMAR, FL. 33027 p. 786.360.2786
www.MCYEngineering.com mcy@mcyengineering.com

GSS GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM
NCCL CORPORATION
9960 NW 79 AVE.
HIALEAH GARDENS, FL. 33016
P. (305) 883 - 9940

FL#17552.2

DATE	4.23.2020
SCALE	AS NOTED
DRAWN	Y.A.
PROJECT	MCY 20-074

DRAWING NO.
AD20-15

6 OF 13

CHART 1

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART										
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 1T (TOP)								
		CONCRETE		WOOD	CONCRETE BLOCK		ALUM (6063-T6)	STL		
		ANCHOR SPACING (in.)								
PSF	INCH	TYPE A/D/F	TYPE B/C/E	TYPE J	TYPE A2/D2/E2/G/I	TYPE A1/B1/C1	TYPE D1/E1/F1	TYPE H	TYPE I	
25	60	8.0	8.0	8.0	8.0	7.9	8.0	8.0	8.0	
	78	8.0	8.0	8.0	8.0	6.1	8.0	8.0	8.0	
	96	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0	
	114	8.0	8.0	8.0	8.0	4.2	8.0	8.0	8.0	
	132	8.0	8.0	8.0	8.0	3.6	8.0	8.0	8.0	
	150	8.0	8.0	8.0	8.0	3.2	7.2	7.2	8.0	
	168	8.0	8.0	8.0	8.0	-	6.4	6.4	8.0	
	180	8.0	8.0	8.0	8.0	-	6.0	6.0	8.0	
30	60	8.0	8.0	8.0	8.0	5.3	8.0	8.0	8.0	
	78	8.0	8.0	8.0	8.0	4.1	8.0	8.0	8.0	
	96	8.0	8.0	8.0	8.0	3.3	7.5	7.5	8.0	
	114	8.0	8.0	8.0	8.0	-	6.3	6.3	8.0	
	132	8.0	7.5	8.0	8.0	-	5.5	5.5	8.0	
	150	8.0	6.6	8.0	8.0	-	4.8	4.8	8.0	
	168	7.7	5.9	8.0	8.0	-	-	-	8.0	
	180	8.0	8.0	8.0	8.0	4.0	8.0	8.0	8.0	
40	60	8.0	8.0	8.0	8.0	3.0	6.9	6.9	8.0	
	78	8.0	8.0	8.0	8.0	-	5.6	5.6	8.0	
	96	8.0	7.7	8.0	8.0	-	5.6	5.6	8.0	
	114	8.0	6.5	8.0	8.0	-	4.7	4.7	8.0	
	132	7.4	5.6	8.0	8.0	-	-	-	8.0	
	150	6.5	4.9	8.0	8.0	-	-	-	8.0	
	168	5.8	4.4	8.0	7.9	-	-	-	7.9	
	180	8.0	8.0	8.0	8.0	3.2	7.2	7.2	8.0	
50	60	8.0	8.0	8.0	8.0	-	5.6	5.6	8.0	
	78	8.0	7.6	8.0	8.0	-	4.5	4.5	8.0	
	96	8.0	6.2	8.0	8.0	-	4.5	4.5	8.0	
	114	6.8	5.2	8.0	8.0	-	-	-	8.0	
	132	5.9	4.5	8.0	8.0	-	-	-	8.0	
	156	5.0	3.8	8.0	6.8	-	-	-	6.8	
	168	8.0	8.0	8.0	8.0	-	6.0	6.0	8.0	
	180	8.0	6.3	8.0	8.0	-	4.6	4.6	8.0	
60	60	8.0	8.0	8.0	8.0	-	-	-	8.0	
	78	8.0	6.3	8.0	8.0	-	-	-	8.0	
	96	6.8	5.1	8.0	8.0	-	-	-	8.0	
	120	5.4	4.1	8.0	7.4	-	-	-	7.4	
	144	4.5	3.4	7.2	6.2	-	-	-	6.2	
	168	8.0	7.0	8.0	8.0	-	6.4	6.4	8.0	
	180	7.1	5.4	8.0	8.0	-	5.7	5.7	8.0	
	196	5.8	4.4	8.0	7.9	-	5.2	5.2	7.9	
70	60	4.9	3.7	7.8	6.7	-	-	-	6.7	
	78	4.4	3.4	7.0	6.0	-	-	-	6.0	
	96	4.1	3.1	6.6	5.6	-	-	-	5.6	
	114	7.2	5.5	8.0	8.0	-	6.0	6.0	8.0	
	132	6.2	4.7	8.0	8.0	-	4.8	4.8	8.0	
	150	5.4	4.1	8.0	7.4	-	-	-	7.4	
	168	4.8	3.6	7.7	6.6	-	-	-	6.6	
	180	4.3	3.3	6.9	5.9	-	-	-	5.9	
80	60	3.9	-	6.3	5.4	-	5.6	5.6	5.4	
	78	8.0	6.2	8.0	8.0	-	6.0	6.0	8.0	
	96	6.2	4.7	8.0	8.0	-	4.8	4.8	8.0	
	114	5.1	3.8	8.0	6.9	-	-	-	6.9	
	126	3.9	-	6.2	5.3	-	-	-	5.3	
	132	3.7	-	5.9	5.0	-	-	-	5.0	
	150	8.0	7.2	8.0	8.0	-	5.6	5.6	8.0	
	168	7.8	5.5	8.0	7.6	-	4.5	4.5	7.6	
90	60	4.5	3.4	7.2	6.2	-	-	-	6.2	
	78	3.4	-	5.5	4.7	-	-	-	4.7	
	96	8.0	6.2	8.0	8.0	-	6.0	6.0	8.0	
	114	6.2	4.7	8.0	8.0	-	4.8	4.8	8.0	
	132	5.4	4.1	8.0	7.4	-	-	-	7.4	
	150	4.8	3.6	7.7	6.6	-	-	-	6.6	
	168	4.3	3.3	6.9	5.9	-	-	-	5.9	
	180	3.9	-	6.3	5.4	-	5.6	5.6	5.4	

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART										
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 1T (TOP)								
		CONCRETE		WOOD	CONCRETE BLOCK		ALUM (6063-T6)	STL		
		ANCHOR SPACING (in.)								
PSF	INCH	TYPE A/D/F	TYPE B/C/E	TYPE J	TYPE A2/D2/E2/G/I	TYPE A1/B1/C1	TYPE D1/E1/F1	TYPE H	TYPE I	
100	60	6.5	4.9	8.0	8.0	-	-	-	8.0	
	72	5.4	4.1	8.0	7.4	-	-	-	7.4	
	84	4.6	3.5	7.4	6.3	-	-	-	6.3	
	96	4.1	3.1	6.5	5.6	-	-	-	5.6	
	122	3.2	-	5.1	4.4	-	-	-	4.4	
	140	60	5.4	4.1	8.0	7.4	-	-	7.4	
	150	72	4.5	3.4	7.2	6.2	-	-	6.2	
	160	84	3.9	-	6.2	5.3	-	-	5.3	
120	60	5.4	4.1	8.0	7.4	-	-	-	7.4	
	72	4.5	3.4	7.2	6.2	-	-	-	6.2	
	84	3.9	-	6.2	5.3	-	-	-	5.3	
	96	3.4	-	5.4	4.6	-	-	-	4.6	
	115	-	-	-	3.9	-	-	-	3.9	
	140	60	4.6	3.5	7.4	6.3	-	-	6.3	
	150	72	3.9	-	6.2	5.3	-	-	5.3	
	160	84	3.3	-	5.3	4.5	-	-	4.5	
140	60	4.1	3.1	6.5	5.6	-	-	-	5.6	
	72	3.4	-	5.4	4.6	-	-	-	4.6	
	84	-	-	-	4.0	-	-	-	4.0	
	96	-	-	-	3.5	-	-	-	3.5	
	109	-	-	-	3.5	-	-	-	3.5	
	160	60	4.1	3.1	6.5	5.6	-	-	5.6	
	72	3.4	-	5.4	4.6	-	-	-	4.6	
	84	-	-	-	4.0	-	-	-	4.0	
160	60	4.1	3.1	6.5	5.6	-	-	-	5.6	
	72	3.4	-	5.4	4.6	-	-	-	4.6	
	84	-	-	-	4.0	-	-	-	4.0	
	96	-	-	-	3.5	-	-	-	3.5	
	103	-	-	-	3.2	-	-	-	3.2	
	180	48	4.5	3.4	7.2	6.2	-	-	6.2	
	60	3.6	-	5.8	4.9	-	-	-	4.9	
	72	3.0	-	4.1	4.1	-	-	-	4.1	
180	84	-	-	3.5	3.5	-	-	-	3.5	
	97	-	-	3.0	3.0	-	-	-	3.0	
	200	48	4.1	3.1	6.5	5.6	-	-	5.6	
	60	3.2	-	5.2	4.4	-	-	-	4.4	
	72	-	-	3.7	3.7	-	-	-	3.7	
	84	-	-	3.2	3.2	-	-	-	3.2	
	92	-	-	-	-	-	-	-	-	
	220	48	3.7	-	5.9	5.0	-	-	5.0	
200	60	-	-	4.0	4.0	-	-	-	4.0	
	72	-	-	3.4	3.4	-	-	-	3.4	
	88	-	-	-	-	-	-	-	-	
	240	48	3.4	-	5.4	4.6	-	-	4.6	
	60	-	-	3.7	3.7	-	-	-	3.7	
	72	-	-	3.1	3.1	-	-	-	3.1	
	82	-	-	-	-	-	-	-	-	
	260	48	3.1	-	4.3	4.3	-	-	4.3	
220	54	3.0	-	4.1	4.1	-	-	-	4.1	
	60	-	-	3.4	3.4	-	-	-	3.4	
	76	-	-	-	-	-	-	-	-	
	280	48	-	-	4.0	4.0	-	-	4.0	
	54	-	-	3.8	3.8	-	-	-	3.8	
	60	-	-	3.2	3.2	-	-	-	3.2	
	69	-	-	-	-	-	-	-	-	
	300	48	-	-	3.7	3.7	-	-	3.7	
54	-	-	3.3	3.3	-	-	-	3.3		
60	-	-	-	-	-	-	-	-		

DIRECT CONECTION OPTION

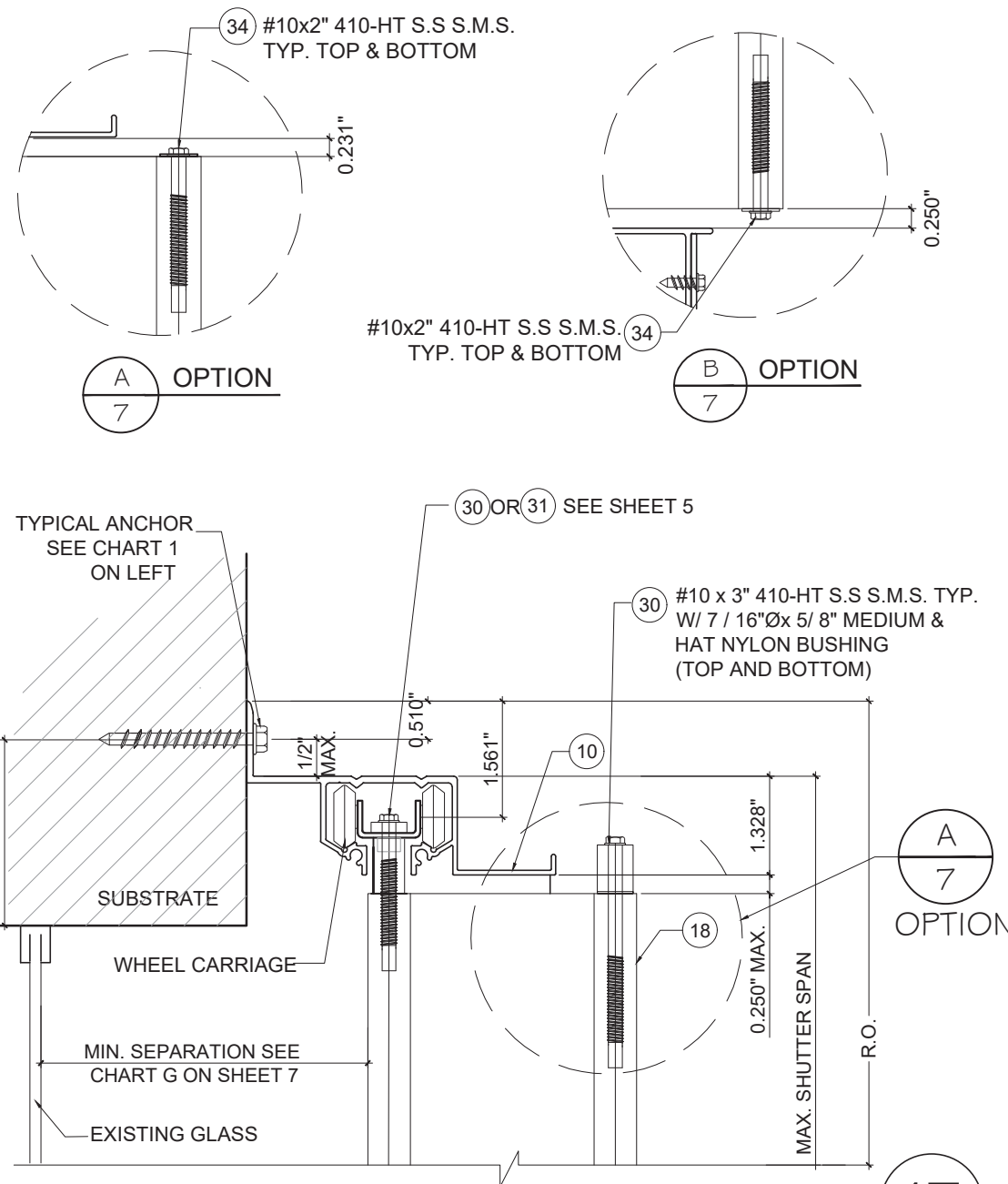
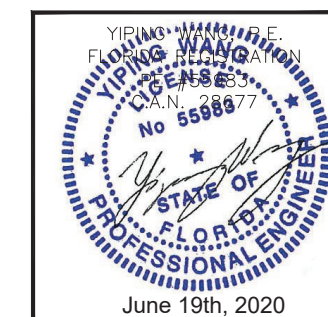


CHART G

MIN. GLASS SEPARATION CHART	
SHUTTER SPAN	SEPARATION
SPAN ≤ 60"	1/2"
60" < SPAN ≤ 90"	2/4"
90" < SPAN ≤ 120"	3/2"
120" < SPAN ≤ 144"	3/8"
144" < SPAN ≤ 168"	4"
168" < SPAN ≤ 180"	4 1/2"



REVISIONS	
NO.	DESCRIPTION

MCY ENGINEERING, INC.
 GLAZING CONSULTANTS
 12871 MIRAMAR PKWY. STE. 301 P. 305.271.0117
 MIRAMAR, FL. 33027 P. 786.360.2786
 www.MCYEngineering.com mcy@mcyengineering.com

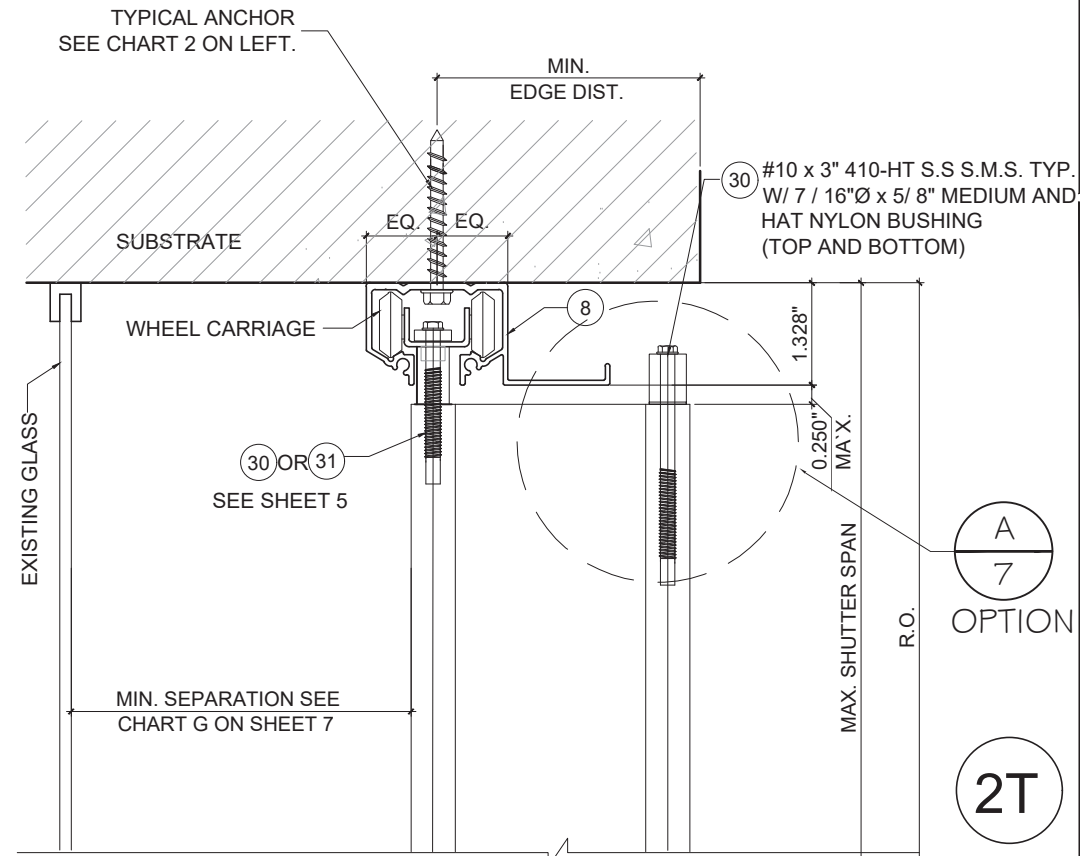
NCCL CORPORATION
 9960 NW 79 AVE.
 HIALEAH GARDENS, FL. 33016
 P. (305) 883 - 9940

FL#17552.2
 DATE 4.23.2020
 SCALE AS NOTED
 DRAWN Y.A.
 PROJECT MCY 20-074
 DRAWING NO. AD20-15
 7 OF 13

CHART 2

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART										
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 2T								
		CONCRETE		CONCRETE BLOCK		WOOD	ALUM (6063-T6)	STL	ANCHOR SPACING (in.)	
		TYPE A,D,F	TYPE B/C/E	TYPE J	TYPE A1,B1,C1	TYPE D1,E1,F1	TYPE A2,D2,E2,G	TYPE H	TYPE I	
PSF	INCH	TYPE A,D,F	TYPE B/C/E	TYPE J	TYPE A1,B1,C1	TYPE D1,E1,F1	TYPE A2,D2,E2,G	TYPE H	TYPE I	
25	60	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
	78	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
	96	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
	114	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
	132	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
	150	10.0	10.0	10.0	9.9	10.0	10.0	10.0	10.0	
	168	10.0	10.0	10.0	8.8	10.0	10.0	10.0	10.0	
	180	10.0	10.0	10.0	8.2	10.0	10.0	10.0	10.0	
30	60	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
	78	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
	96	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
	114	10.0	10.0	10.0	8.8	10.0	10.0	10.0	10.0	
	132	10.0	10.0	10.0	7.6	10.0	10.0	10.0	10.0	
	150	10.0	10.0	10.0	6.7	8.8	10.0	10.0	10.0	
	180	10.0	10.0	10.0	6.2	8.2	10.0	10.0	10.0	
	40	60	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
78		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
96		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
114		10.0	10.0	10.0	8.8	10.0	10.0	10.0	10.0	
132		10.0	10.0	10.0	7.6	10.0	9.5	10.0	10.0	
150		10.0	10.0	10.0	6.7	8.8	8.4	10.0	10.0	
162		10.0	10.0	10.0	6.2	8.2	7.8	10.0	10.0	
50		60	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	78	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
	96	10.0	10.0	10.0	8.6	10.0	10.0	10.0	10.0	
	114	10.0	10.0	10.0	7.2	9.4	8.9	10.0	10.0	
	132	10.0	10.0	10.0	6.2	8.2	7.7	10.0	10.0	
	144	10.0	10.0	10.0	5.4	7.0	6.6	10.0	10.0	
	60	60	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
		78	10.0	10.0	10.0	9.0	10.0	10.0	10.0	10.0
96		10.0	10.0	10.0	7.3	9.5	8.8	10.0	10.0	
120		10.0	10.0	10.0	5.8	7.6	7.1	10.0	10.0	
132		10.0	10.0	10.0	4.9	6.3	5.9	10.0	10.0	
70		60	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
		78	10.0	10.0	10.0	7.8	10.0	9.3	10.0	10.0
		96	10.0	10.0	10.0	6.3	8.2	7.6	10.0	10.0
	108	10.0	10.0	10.0	5.3	6.9	6.4	10.0	10.0	
	120	10.0	10.0	10.0	4.8	6.2	5.8	10.0	10.0	
	126	10.0	10.0	10.0	4.5	5.8	5.4	10.0	10.0	
	75	72	10.0	10.0	10.0	7.9	10.0	9.5	10.0	10.0
		84	10.0	10.0	10.0	6.8	8.7	8.1	10.0	10.0
96		10.0	10.0	10.0	5.9	7.6	7.1	10.0	10.0	
108		10.0	10.0	10.0	5.3	6.8	6.3	10.0	10.0	
120		10.0	10.0	10.0	4.7	6.1	5.7	10.0	10.0	
132		9.7	9.8	10.0	4.3	5.6	5.2	10.0	10.0	
80		60	10.0	10.0	10.0	8.9	10.0	10.0	10.0	10.0
		78	10.0	10.0	10.0	6.9	8.8	8.2	10.0	10.0
	96	10.0	10.0	10.0	5.6	7.2	6.7	10.0	10.0	
	126	8.5	9.2	10.0	4.3	5.5	5.1	10.0	10.0	
	132	8.1	8.8	10.0	4.1	5.2	4.8	10.0	10.0	
	90	60	10.0	10.0	10.0	8.0	10.0	9.5	10.0	10.0
		78	10.0	10.0	10.0	6.2	7.9	7.3	10.0	10.0
		96	10.0	10.0	10.0	5.0	6.4	5.9	10.0	10.0
126		7.6	8.2	10.0	-	4.9	4.5	10.0	10.0	

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART										
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 2T								
		CONCRETE		CONCRETE BLOCK		WOOD	ALUM (6063-T6)	STL	ANCHOR SPACING (in.)	
		TYPE A,D,F	TYPE B/C/E	TYPE J	TYPE A1,B1,C1	TYPE D1,E1,F1	TYPE A2,D2,E2,G	TYPE H	TYPE I	
PSF	INCH	TYPE A,D,F	TYPE B/C/E	TYPE J	TYPE A1,B1,C1	TYPE D1,E1,F1	TYPE A2,D2,E2,G	TYPE H	TYPE I	
100	60	10.0	10.0	10.0	7.3	9.3	8.5	10.0	10.0	
	72	10.0	10.0	10.0	6.1	7.7	7.1	10.0	10.0	
	84	10.0	10.0	10.0	5.2	6.6	6.1	10.0	10.0	
	96	9.0	9.8	10.0	4.5	5.8	5.3	10.0	10.0	
	122.4	7.1	7.7	10.0	-	4.5	4.2	10.0	10.0	
120	60	10.0	10.0	10.0	6.1	7.8	7.1	10.0	10.0	
	72	10.0	10.0	10.0	5.1	6.5	5.9	10.0	10.0	
	84	8.6	9.4	10.0	4.4	5.6	5.1	10.0	10.0	
	96	7.5	8.2	10.0	3.8	4.9	4.5	10.0	10.0	
	115.2	6.3	6.8	10.0	3.2	4.0	3.7	9.8	10.0	
140	60	10.0	10.0	10.0	5.3	6.7	6.1	10.0	10.0	
	72	8.6	9.4	10.0	4.4	5.6	5.1	10.0	10.0	
	84	7.4	8.1	10.0	3.8	4.8	4.4	10.0	10.0	
	96	6.5	7.1	10.0	3.3	4.2	3.8	10.0	10.0	
	109.2	5.7	6.2	10.0	-	-	3.4	8.9	10.0	
160	60	9.1	9.9	10.0	4.6	5.9	5.4	10.0	10.0	
	72	7.6	8.3	10.0	3.9	4.9	4.5	10.0	10.0	
	84	6.5	7.1	10.0	3.3	4.2	3.8	10.0	10.0	
	96	5.7	6.2	10.0	-	-	3.4	9.0	10.0	
	103.2	5.3	5.8	10.0	-	-	3.1	8.3	10.0	
180	48	10.0	10.0	10.0	5.2	6.5	6.0	10.0	10.0	
	60	8.1	8.9	10.0	4.1	5.2	4.8	10.0	10.0	
	72	6.8	7.4	10.0	3.5	4.4	4.0	10.0	10.0	
	84	5.8	6.3	10.0	-	-	3.4	9.2	10.0	
	97.2	5.0	5.5	10.0	-	-	-	7.9	10.0	
200	48	9.1	10.0	10.0	4.7	5.9	5.4	10.0	10.0	
	60	7.3	8.0	10.0	3.7	4.7	4.3	10.0	10.0	
	72	6.1	6.7	10.0	3.1	-	3.6	9.7	10.0	
	84	5.2	5.7	10.0	-	-	3.1	8.3	10.0	
	92.4	4.7	5.3	10.0	-	-	-	7.5	9.9	
220	48	8.3	9.1	10.0	4.3	5.4	4.9	10.0	10.0	
	60	6.7	7.3	10.0	3.4	4.3	3.9	10.0	10.0	
	72	5.5	6.1	10.0	-	-	3.3	8.8	10.0	
	87.6	4.6	5.2	10.0	-	-	-	7.2	9.5	
	240	48	7.6	8.3	10.0	3.9	4.9	4.5	10.0	10.0
60		6.1	6.7	10.0	3.1	-	3.6	9.7	10.0	
72		5.1	5.6	10.0	-	-	-	8.1	10.0	
81.6		4.5	5.1	10.0	-	-	-	7.1	9.4	
260		48	7.0	7.7	10.0	3.6	4.6	4.1	10.0	10.0
	54	6.8	7.4	10.0	3.5	4.4	4.0	10.0	10.0	
	60	5.6	6.2	10.0	-	3.6	3.3	9.0	10.0	
	76.2	4.4	4.9	10.0	-	-	-	7.1	9.3	
	280	48	6.6	7.2	10.0	3.4	4.2	3.8	10.0	10.0
54		6.3	6.9	10.0	3.2	4.0	3.7	10.0	10.0	
60		5.2	5.7	10.0	-	3.4	3.1	8.4	10.0	
69.36		4.5	5.0	10.0	-	-	-	7.2	9.5	
300		48	6.1	6.7	10.0	3.2	4.0	3.6	9.8	10.0
	54	5.4	6.0	10.0	-	3.5	3.2	8.7	10.0	
	60	4.9	5.4	10.0	-	3.2	-	7.8	10.0	



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FL#17552.2

DATE	4.23.2020
SCALE	AS NOTED
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PROJECT	MCY 20-074

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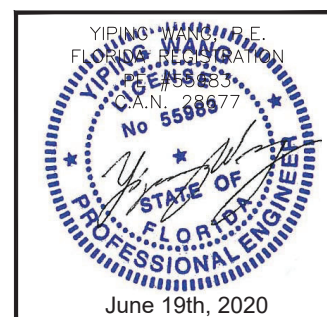


CHART 3

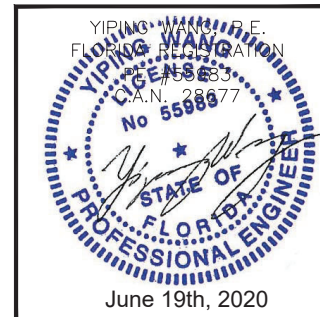
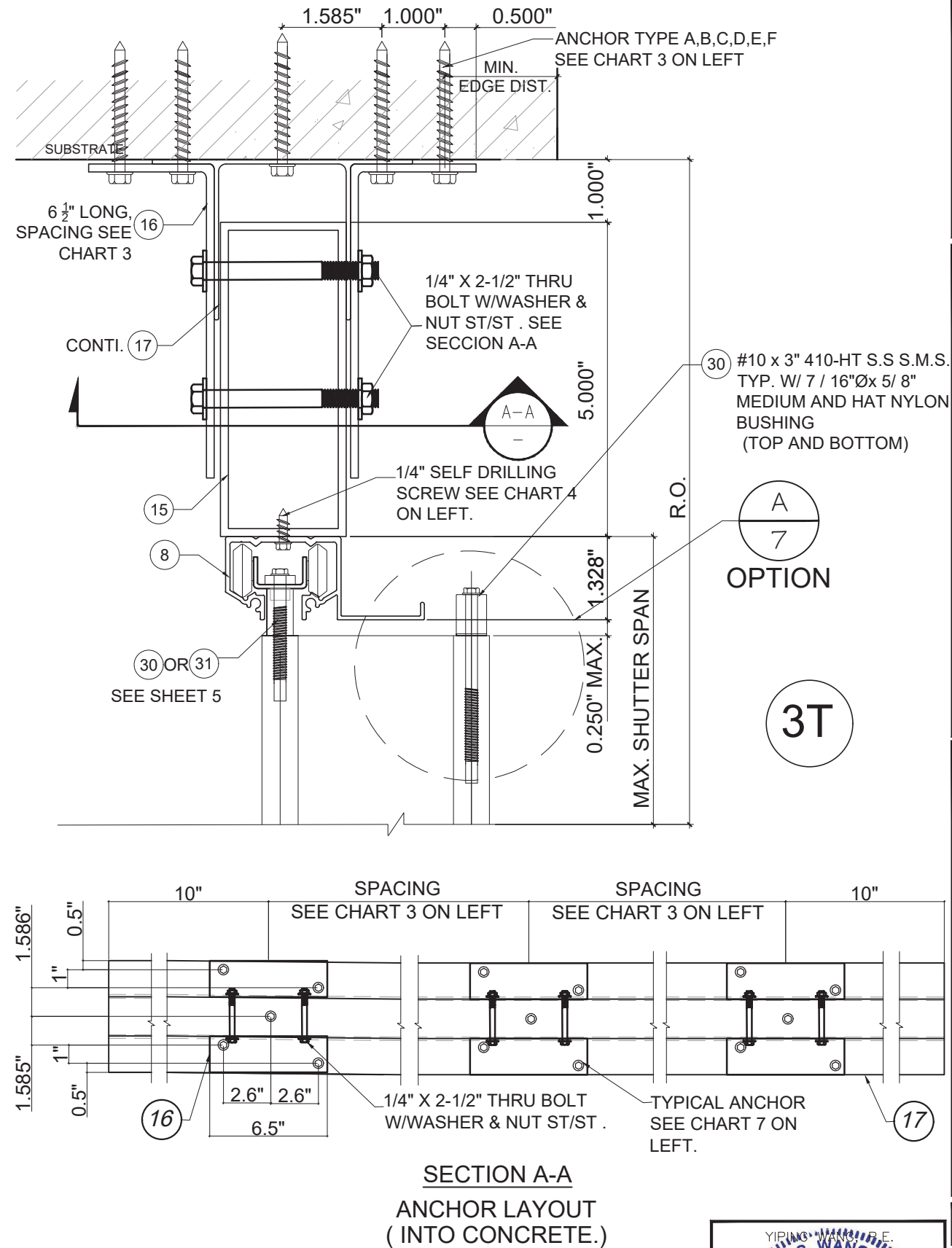
DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART			
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 3T	
		CONCRETE ANCHOR SPACING (in.)	
PSF	INCH	TYPE A,D,F	TYPE B,C,E
25	60	25.0	25.0
	78	25.0	25.0
	96	25.0	25.0
	114	25.0	25.0
	132	25.0	25.0
	150	25.0	25.0
	168	25.0	25.0
30	60	25.0	25.0
	78	25.0	25.0
	96	25.0	25.0
	114	25.0	24.8
	132	25.0	21.4
	150	25.0	18.8
	168	25.0	17.4
40	60	25.0	25.0
	78	25.0	25.0
	96	25.0	25.0
	114	25.0	24.8
	132	25.0	21.4
	150	22.5	18.8
	168	20.0	17.4
50	60	25.0	25.0
	78	25.0	25.0
	96	25.0	24.1
	114	24.2	20.3
	132	20.9	17.6
	156	17.7	15.1
	60	25.0	25.0
60	78	25.0	25.0
	96	24.3	20.5
	120	19.4	16.4
	144	16.2	13.6
70	60	25.0	25.0
	78	25.0	21.9
	96	21.1	17.8
	114	17.7	15.0
	126	16.1	13.5
75	135	15.0	12.6
	72	25.0	22.2
	84	22.6	19.0
	96	19.8	16.7
90	108	17.6	14.8
	120	15.8	13.3
	60	25.0	22.5
	78	20.5	17.3
100	96	16.6	14.1
	126	12.7	10.7
	60	24.1	20.4
	72	20.1	17.0
122	84	17.2	14.5
	96	15.1	12.7
	122	11.8	10.0

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART				
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 3T		
		CONCRETE ANCHOR SPACING (in.)		
PSF	INCH	TYPE A,D,F	TYPE B,C,E	
120	60	20.2	17.1	
	72	16.9	14.3	
	84	14.5	12.2	
	96	12.6	10.7	
	115	10.5	8.9	
	140	60	17.4	14.8
		72	14.5	12.3
84		12.5	10.6	
96		10.9	9.2	
109		9.6	8.1	
160		60	15.3	13.0
		72	12.8	10.8
	84	11.0	9.3	
	96	9.6	8.1	
	103	8.9	-	
	180	48	17.1	14.5
		60	13.7	11.6
72		11.4	9.7	
84		9.8	8.3	
97		8.4	-	
200		48	15.4	13.1
		60	12.3	10.5
	72	10.3	8.7	
	84	8.8	-	
	92	8.0	-	
	220	48	14.1	11.9
		60	11.2	9.5
72		9.4	-	
88		-	-	
240		48	12.9	10.9
		60	10.3	8.8
		72	8.6	-
	82	-	-	
	260	48	11.9	10.1
		54	11.5	9.7
		60	9.6	8.1
76		-	-	
280		48	11.1	9.4
		54	10.6	9.0
		60	8.9	-
	69	-	-	
	300	48	10.4	8.8
		54	9.2	-
		60	8.3	-

CHART 4

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART		
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 3T
		ALUM (6063-T6) ANCHOR SPACING (in.)
PSF	INCH	TYPE H
25	60	10.0
	78	10.0
	96	10.0
	114	10.0
	132	10.0
	150	10.0
	168	10.0
30	60	10.0
	78	10.0
	96	10.0
	114	10.0
	132	10.0
	150	10.0
	180	10.0
40	60	10.0
	78	10.0
	96	10.0
	114	10.0
	132	10.0
	150	10.0
	162	10.0
50	60	10.0
	78	10.0
	96	10.0
	114	10.0
	132	10.0
	144	10.0
	60	10.0
60	78	10.0
	96	10.0
	120	10.0
	132	10.0
	60	10.0
	78	10.0
	96	10.0
70	96	10.0
	108	10.0
	120	10.0
	126	10.0
	72	10.0
	84	10.0
	96	10.0
75	108	10.0
	120	10.0
	132	10.0
	60	10.0
	78	10.0
	96	10.0
	126	10.0
80	60	10.0
	78	10.0
	96	10.0
	126	10.0
90	60	10.0
	78	10.0
	96	10.0
	126	10.0

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART			
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 3T	
		ALUM (6063-T6) ANCHOR SPACING (in.)	
PSF	INCH	TYPE H	
100	60	10.0	
	72	10.0	
	84	10.0	
	96	10.0	
	122.4	10.0	
	120	60	10.0
		72	10.0
84		10.0	
96		10.0	
115.2		9.8	
140		60	10.0
		72	10.0
	84	10.0	
	96	10.0	
	109.2	8.9	
	160	60	10.0
		72	10.0
84		10.0	
96		10.0	
103.2		8.3	
180		48	10.0
		60	10.0
	72	10.0	
	84	9.2	
	97.2	7.9	
	200	48	10.0
		60	10.0
72		9.7	
84		8.3	
92.4		7.5	
220		48	10.0
		60	10.0
	72	8.8	
	87.6	7.2	
	240	48	10.0
		60	9.7
		72	8.1
81.6		7.1	
260		48	10.0
		54	10.0
		60	9.0
	76.2	7.1	
	280	48	10.0
		54	10.0
		60	8.4
69.36		7.2	
300		48	9.8
		54	8.7
		60	7.8



REVISIONS	
NO.	DESCRIPTION

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FL#17552.2

DATE	4.23.2020
SCALE	AS NOTED
DRAWN	Y.A.
PROJECT	MCY 20-074

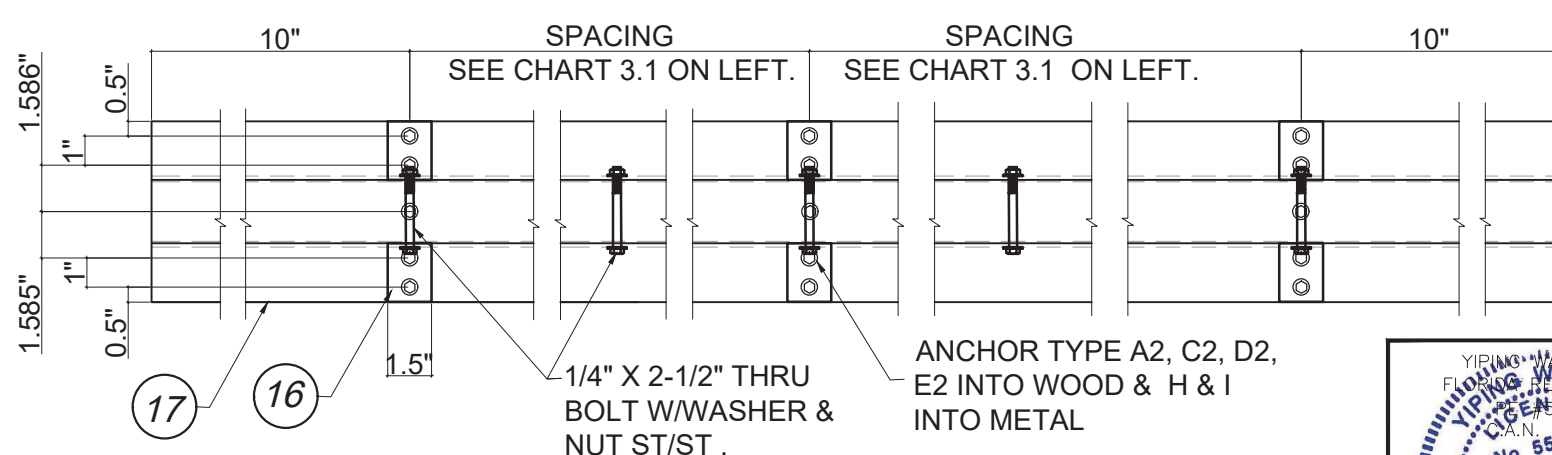
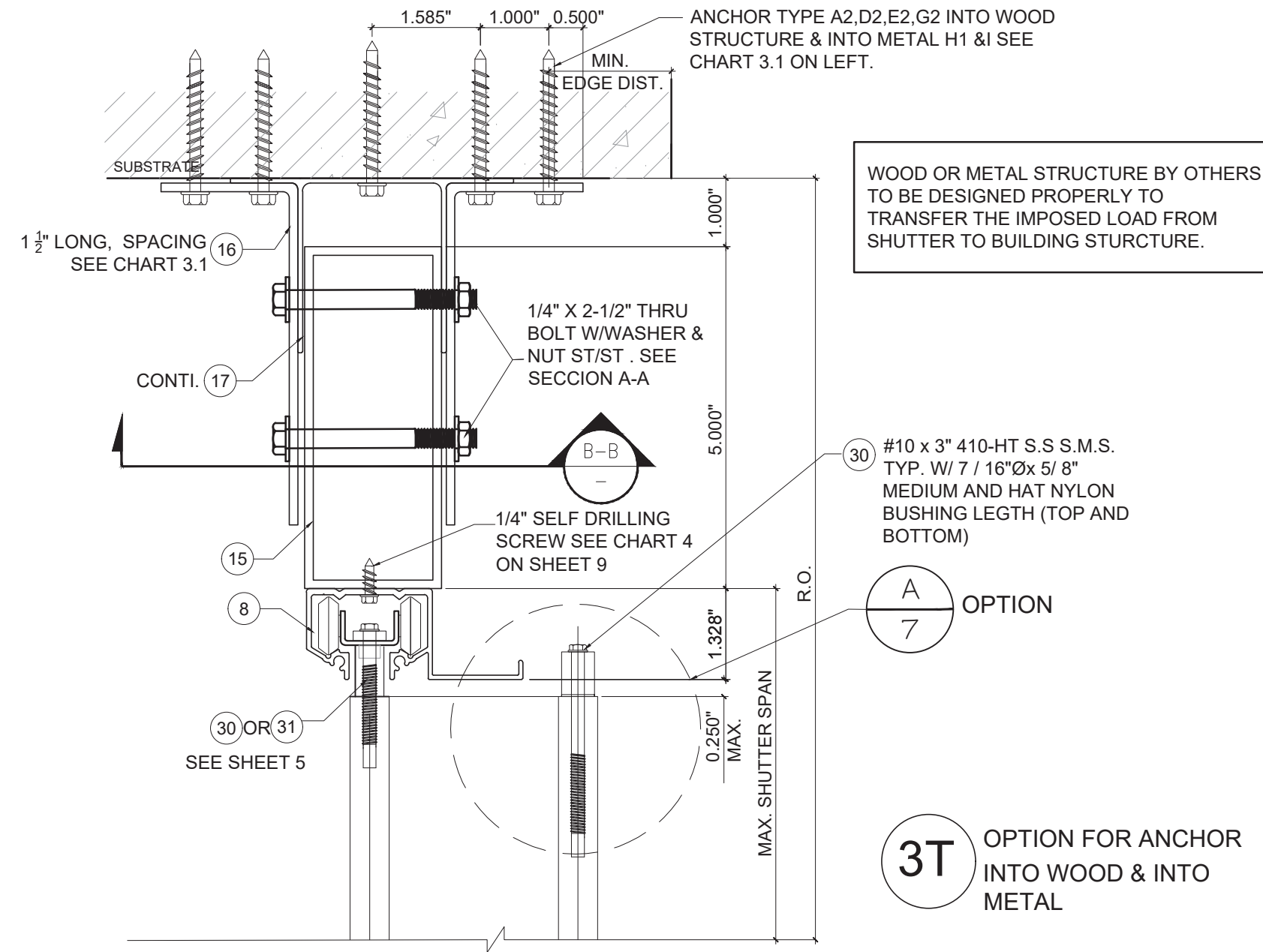
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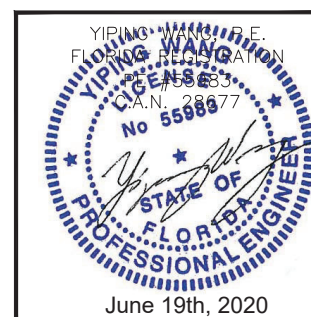
CHART 3.1

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART			
MAX. DESIGN LOAD	SHUTTER SPAN	WOOD	METAL
		TYPE A2,D2,E2,G	TYPE H1 & I
PSF	INCH		
25	60	25.0	25.0
	78	25.0	25.0
	96	25.0	25.0
	114	25.0	25.0
	132	25.0	25.0
	150	25.0	25.0
	168	25.0	25.0
	180	25.0	25.0
30	60	25.0	25.0
	78	25.0	25.0
	96	25.0	25.0
	114	25.0	25.0
	132	25.0	25.0
	150	25.0	25.0
	168	25.0	25.0
	180	25.0	25.0
40	60	25.0	25.0
	78	25.0	25.0
	96	25.0	25.0
	114	25.0	25.0
	132	25.0	25.0
	150	22.9	25.0
	168	21.2	25.0
	180	25.0	25.0
50	60	25.0	25.0
	78	25.0	25.0
	96	25.0	25.0
	114	24.5	25.0
	132	21.1	25.0
	156	18.2	25.0
	168	25.0	25.0
	180	25.0	25.0
60	60	25.0	25.0
	78	25.0	25.0
	96	24.5	25.0
	120	19.6	25.0
	144	16.3	23.3
	168	25.0	25.0
	180	25.0	25.0
	180	25.0	25.0
70	60	25.0	25.0
	78	25.0	25.0
	96	21.1	25.0
	114	17.8	25.0
	126	16.1	23.1
	135	15.0	21.6
	150	25.0	25.0
	168	25.0	25.0
75	60	25.0	25.0
	78	22.6	25.0
	96	19.8	25.0
	108	17.6	25.0
	120	15.8	22.8
	135	25.0	25.0
	150	25.0	25.0
	168	25.0	25.0
90	60	25.0	25.0
	78	20.4	25.0
	96	16.6	24.0
	126	12.6	18.3
	150	25.0	25.0
	168	25.0	25.0
	180	25.0	25.0
	180	25.0	25.0
100	60	24.0	25.0
	72	20.0	25.0
	84	17.1	24.9
	96	15.0	21.8
	122	11.8	17.1
	150	25.0	25.0
	168	25.0	25.0
	180	25.0	25.0

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART				
MAX. DESIGN LOAD	SHUTTER SPAN	WOOD	METAL	
		TYPE A2,D2,E2,G	TYPE H1 & I	
PSF	INCH			
120	60	20.1	25.0	
	72	16.7	24.4	
	84	14.4	20.9	
	96	12.6	18.3	
	115	10.5	15.3	
	140	60	17.3	25.0
	140	72	14.4	21.1
	140	84	12.3	18.1
140	96	10.8	15.8	
	109	9.5	13.9	
	160	60	15.2	22.2
	160	72	12.6	18.5
	160	84	10.8	15.9
	160	96	9.5	13.9
	160	103	8.8	12.9
	180	48	16.9	24.8
180	60	13.5	19.8	
	72	11.3	16.5	
	84	9.7	14.2	
	97	8.3	12.2	
	200	48	15.2	22.4
	200	60	12.2	17.9
	200	72	10.2	14.9
	200	84	8.7	12.8
200	92	7.9	11.6	
	220	48	13.9	20.4
	220	60	11.1	16.3
	220	72	9.2	13.6
	240	48	12.7	18.7
	240	60	10.2	15.0
	240	72	8.5	12.5
	240	82	7.5	11.0
260	48	11.8	17.3	
	54	11.3	16.7	
	60	9.4	13.9	
	76	7.4	10.9	
	280	48	10.9	16.1
	280	54	10.5	15.4
	280	60	8.7	12.9
	280	69	7.6	11.2
300	48	10.2	15.1	
	54	9.1	13.4	
	60	8.2	12.1	
	150	25.0	25.0	
	168	25.0	25.0	
	180	25.0	25.0	
	180	25.0	25.0	
	180	25.0	25.0	



SECTION B-B
ANCHOR LAYOUT
(INTO WOOD OR METAL STRUCTURE)



REVISIONS	
NO.	DESCRIPTION

MCY ENGINEERING, INC.
GLAZING CONSULTANTS

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PROJECT	MCY 20-074

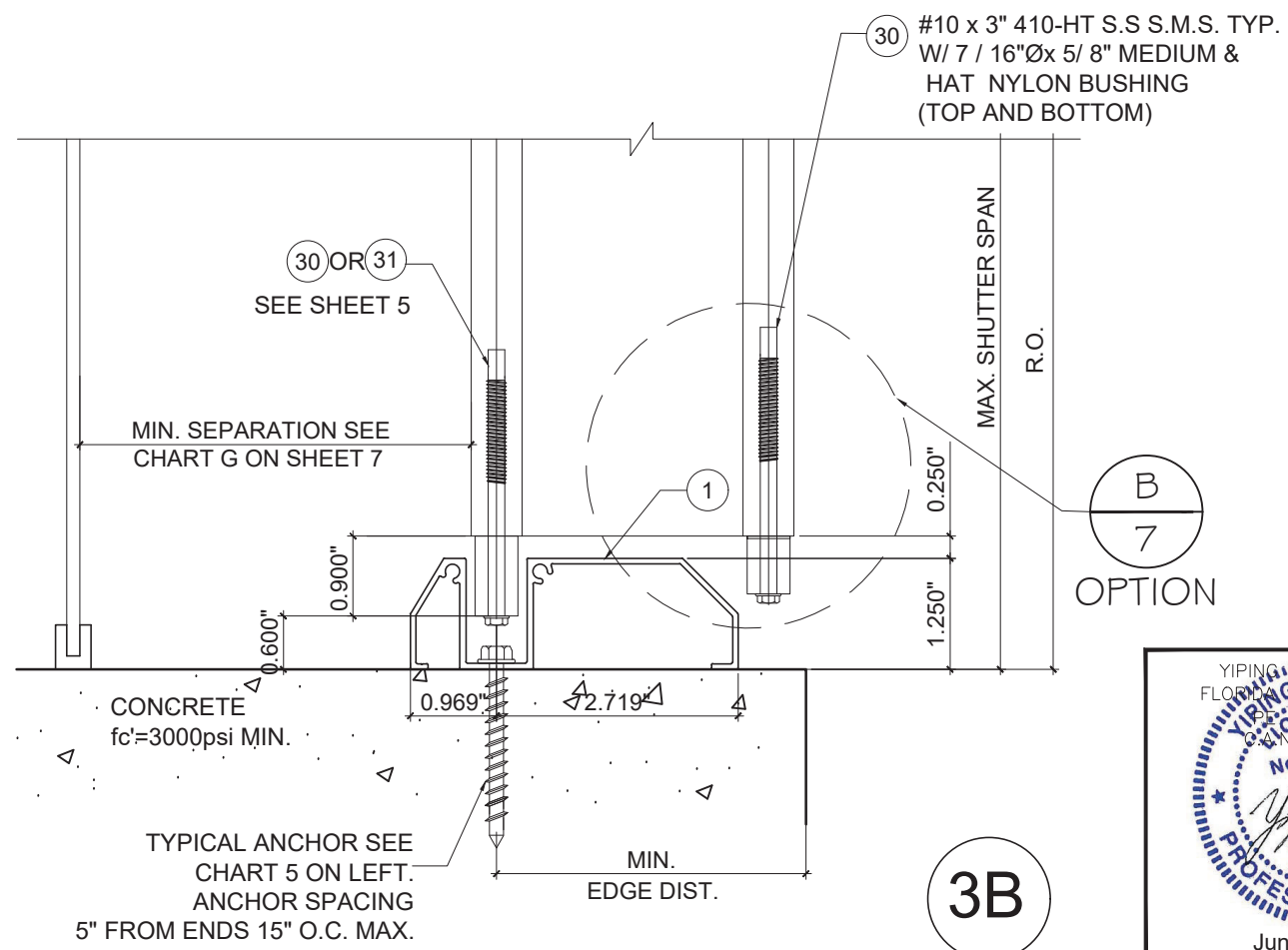
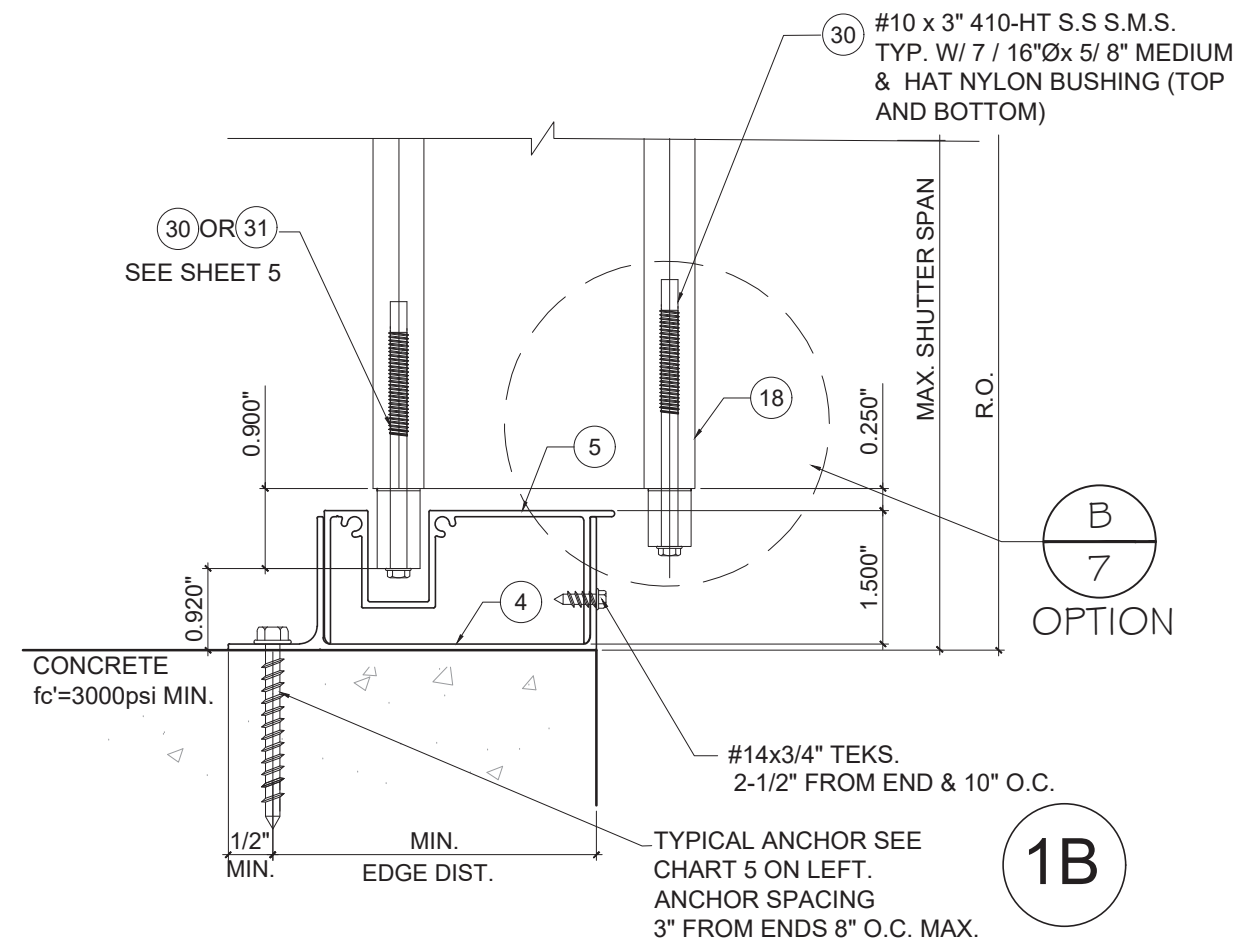
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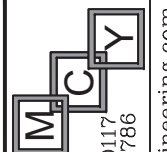
CHART 5

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART					
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 1B		DETAIL 3B	
		CONCRETE ANCHOR SPACING (in.)			
		TYPE A/D/F B/C/E	TYPE J	TYPE A/D/F B/C/E	TYPE J
PSF	INCH				
25	132	8.0	8.0	15.0	15.0
	150	8.0	8.0	15.0	15.0
	168	8.0	8.0	15.0	15.0
	180	8.0	8.0	15.0	15.0
30	114	8.0	8.0	15.0	15.0
	132	8.0	8.0	15.0	15.0
	150	8.0	8.0	15.0	15.0
	180	8.0	8.0	15.0	15.0
40	114	8.0	8.0	15.0	15.0
	132	8.0	8.0	15.0	15.0
	150	8.0	8.0	14.8	15.0
	162	8.0	8.0	13.7	15.0
50	96	8.0	8.0	15.0	15.0
	114	8.0	8.0	15.0	15.0
	132	8.0	8.0	13.5	15.0
	144	8.0	8.0	12.4	15.0
60	78	8.0	8.0	15.0	15.0
	96	8.0	8.0	15.0	15.0
	120	8.0	8.0	12.4	15.0
	132	8.0	8.0	11.2	15.0
70	60	8.0	8.0	15.0	15.0
	78	8.0	8.0	15.0	15.0
	96	8.0	8.0	13.2	15.0
	108	8.0	8.0	11.8	15.0
75	120	8.0	8.0	10.6	15.0
	126	8.0	8.0	10.1	15.0
	72	8.0	8.0	15.0	15.0
	84	8.0	8.0	14.1	15.0
80	96	8.0	8.0	12.4	15.0
	108	8.0	8.0	11.0	15.0
	120	8.0	8.0	9.9	15.0
	132	8.0	8.0	9.0	15.0
90	60	8.0	8.0	15.0	15.0
	78	8.0	8.0	14.3	15.0
	96	8.0	8.0	11.6	15.0
	126	8.0	8.0	8.8	15.0
100	132	8.0	8.0	8.4	15.0
	60	8.0	8.0	15.0	15.0
	78	8.0	8.0	12.7	15.0
	96	8.0	8.0	10.3	15.0
120	126	7.8	8.0	7.8	15.0
	60	8.0	8.0	14.8	15.0
	72	8.0	8.0	12.4	15.0
	84	8.0	8.0	10.6	15.0
140	96	8.0	8.0	9.3	15.0
	122	7.3	8.0	7.3	15.0
	60	8.0	8.0	12.4	15.0
	72	8.0	8.0	10.3	15.0
160	84	8.0	8.0	8.8	15.0
	96	7.7	8.0	7.7	15.0
	115	6.4	8.0	6.4	15.0
	60	8.0	8.0	10.6	15.0
180	72	8.0	8.0	8.8	15.0
	84	7.6	8.0	7.6	15.0
	96	6.6	8.0	6.6	15.0
	109	5.8	8.0	5.8	15.0

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART					
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 1B		DETAIL 3B	
		CONCRETE ANCHOR SPACING (in.)			
		TYPE A/D/F B/C/E	TYPE J	TYPE A/D/F B/C/E	TYPE J
PSF	INCH				
160	60	8.0	8.0	9.3	15.0
	72	7.7	8.0	7.7	15.0
	84	6.6	8.0	6.6	15.0
	96	5.8	8.0	5.8	15.0
180	103	5.4	8.0	5.4	14.8
	48	8.0	8.0	10.3	15.0
	60	8.0	8.0	8.2	15.0
	72	6.9	8.0	6.9	15.0
200	84	5.9	8.0	5.9	15.0
	97	5.1	8.0	5.1	14.0
	48	8.0	8.0	9.3	15.0
	60	7.4	8.0	7.4	15.0
220	72	6.2	8.0	6.2	15.0
	84	5.3	8.0	5.3	14.6
	92	4.8	8.0	4.8	13.2
	48	8.0	8.0	8.4	15.0
240	60	6.7	8.0	6.7	15.0
	72	5.6	8.0	5.6	15.0
	88	4.6	8.0	4.6	12.7
	48	7.7	8.0	7.7	15.0
260	60	6.2	8.0	6.2	15.0
	72	5.2	8.0	5.2	14.2
	82	4.5	8.0	4.5	12.5
	48	7.1	8.0	7.1	15.0
280	54	6.3	8.0	6.3	15.0
	60	5.7	8.0	5.7	15.0
	76	4.5	8.0	4.5	12.4
	48	6.6	8.0	6.6	15.0
300	54	5.9	8.0	5.9	15.0
	60	5.3	8.0	5.3	14.6
	69	4.6	8.0	4.6	12.6
	48	6.2	8.0	6.2	15.0
360	54	5.5	8.0	5.5	15.0
	60	4.9	8.0	4.9	13.6



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GSS GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM
NCCL CORPORATION
 9960 NW 79 AVE.
 HIALEAH GARDENS, FL. 33016
 P. (305) 883 - 9940

DATE	4.23.2020
SCALE	AS NOTED
DRAWN	Y.A.
PROJECT	MCY 20-074

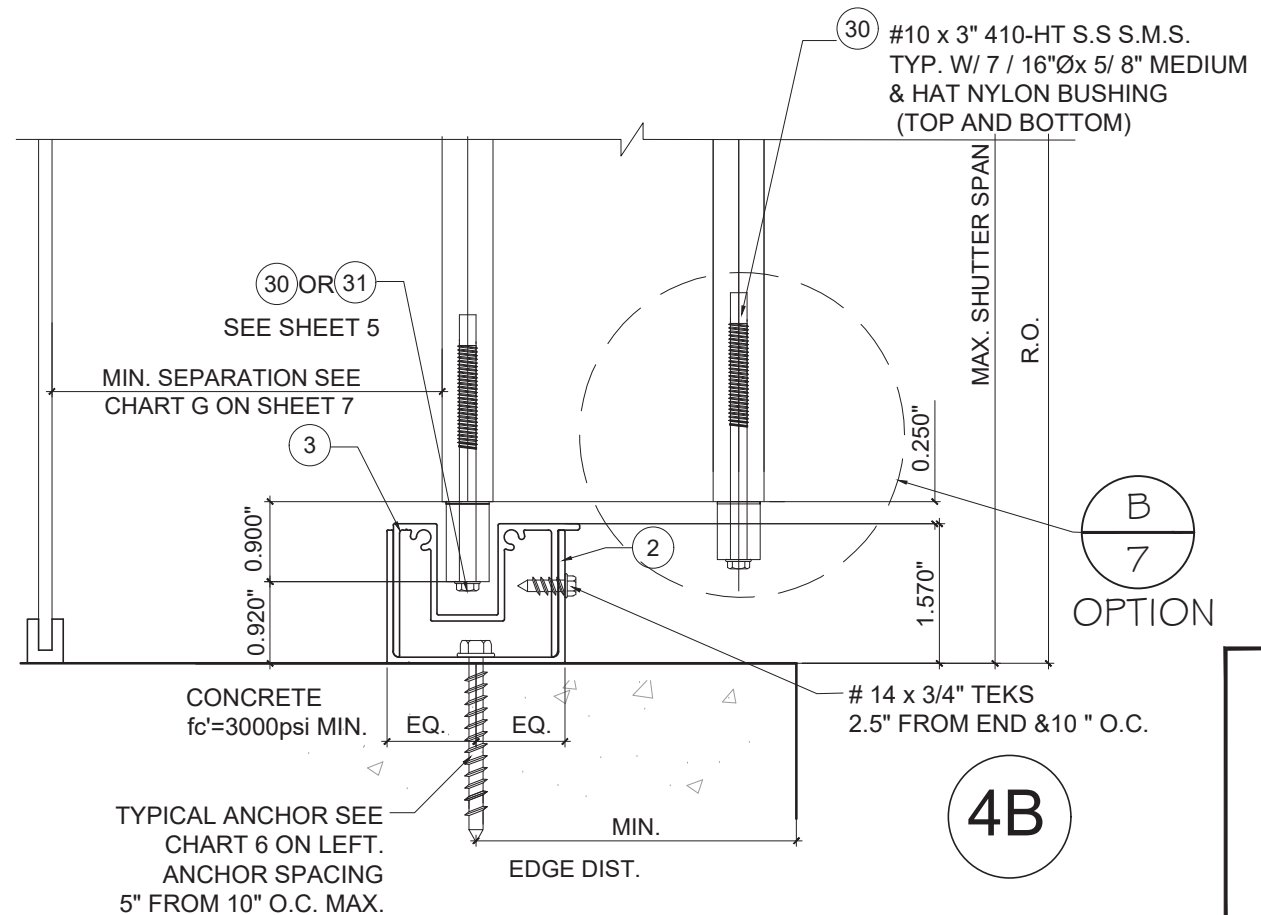
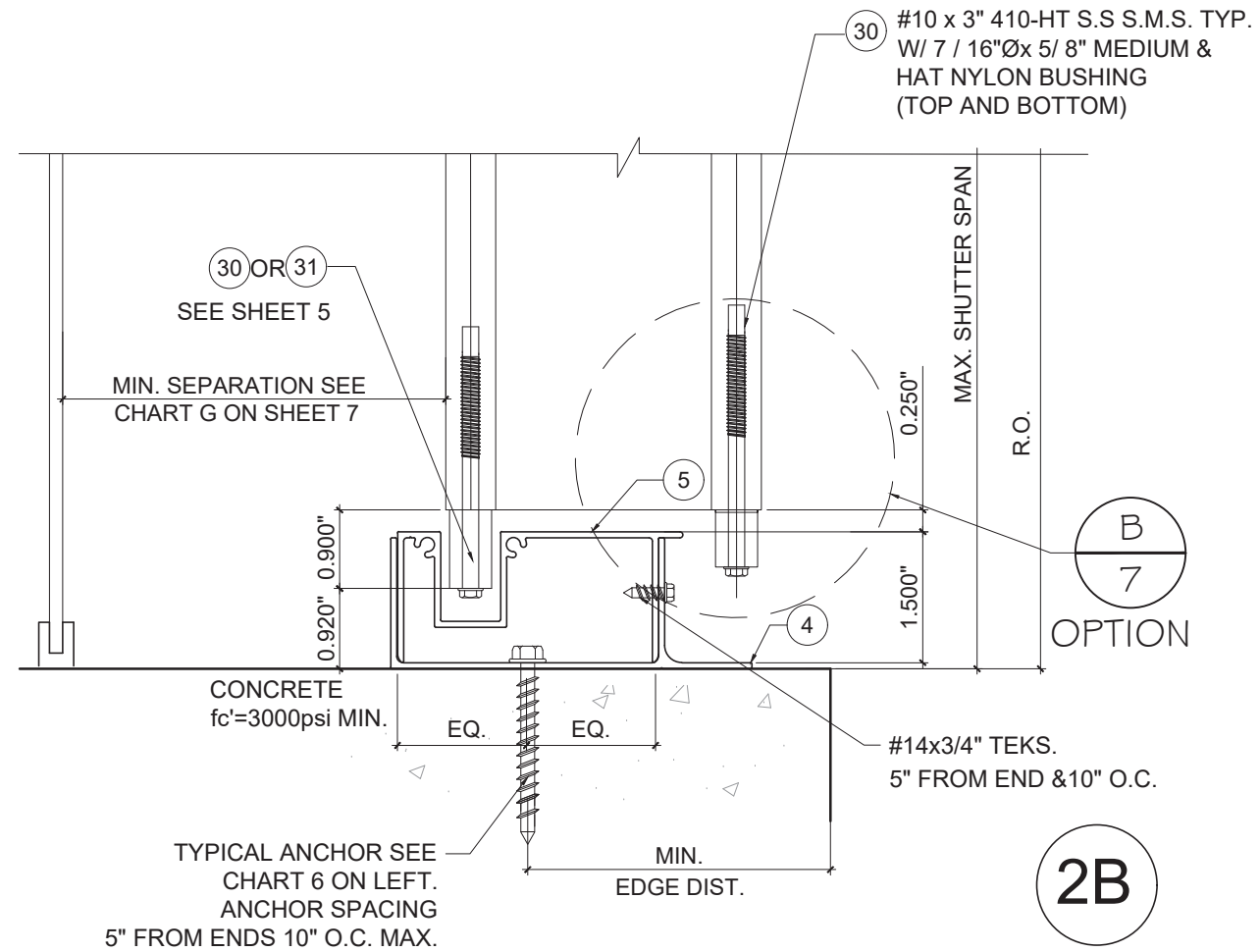
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AD20-15



CHART 6

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART			
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 2B & 4B	
		CONCRETE	
		ANCHOR SPACING (in.)	
PSF	INCH	TYPE A/D/F B/C/E	TYPE J
25	132	10.0	10.0
	150	10.0	10.0
	168	10.0	10.0
	180	10.0	10.0
30	114	10.0	10.0
	132	10.0	10.0
	150	10.0	10.0
40	114	10.0	10.0
	132	10.0	10.0
	150	10.0	10.0
50	96	10.0	10.0
	114	10.0	10.0
	132	10.0	10.0
	144	10.0	10.0
60	78	10.0	10.0
	96	10.0	10.0
	120	10.0	10.0
	132	10.0	10.0
70	60	10.0	10.0
	78	10.0	10.0
	96	10.0	10.0
	108	10.0	10.0
	120	10.0	10.0
75	72	10.0	10.0
	84	10.0	10.0
	96	10.0	10.0
	108	10.0	10.0
	120	9.9	10.0
80	132	9.0	10.0
	60	10.0	10.0
	78	10.0	10.0
	96	10.0	10.0
90	126	8.8	10.0
	132	8.4	10.0
	60	10.0	10.0
	78	10.0	10.0
100	96	10.0	10.0
	126	7.8	10.0
	60	10.0	10.0
	72	10.0	10.0
120	84	10.0	10.0
	96	9.3	10.0
	122	7.3	10.0
	60	10.0	10.0
120	72	10.0	10.0
	84	8.8	10.0
	96	7.7	10.0
	115	6.4	10.0

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART			
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 2B & 4B	
		CONCRETE	
		ANCHOR SPACING (in.)	
PSF	INCH	TYPE A/D/F B/C/E	TYPE J
140	60	10.0	10.0
	72	8.8	10.0
	84	7.6	10.0
	96	6.6	10.0
160	109	5.8	10.0
	60	9.3	10.0
	72	7.7	10.0
	84	6.6	10.0
180	96	5.8	10.0
	103	5.4	10.0
	48	10.0	10.0
	60	8.2	10.0
200	72	6.9	10.0
	84	5.9	10.0
	97	5.1	10.0
	48	9.3	10.0
220	60	7.4	10.0
	72	6.2	10.0
	84	5.3	10.0
	92	4.8	10.0
240	48	8.4	10.0
	60	6.7	10.0
	72	5.6	10.0
	88	4.6	10.0
260	48	7.7	10.0
	60	6.2	10.0
	72	5.2	10.0
	82	4.5	10.0
280	48	7.1	10.0
	54	6.3	10.0
	60	5.7	10.0
	76	4.5	10.0
300	48	6.6	10.0
	54	5.9	10.0
	60	5.3	10.0
	69	4.6	10.0
300	48	6.2	10.0
	54	5.5	10.0
	60	4.9	10.0



REVISIONS	
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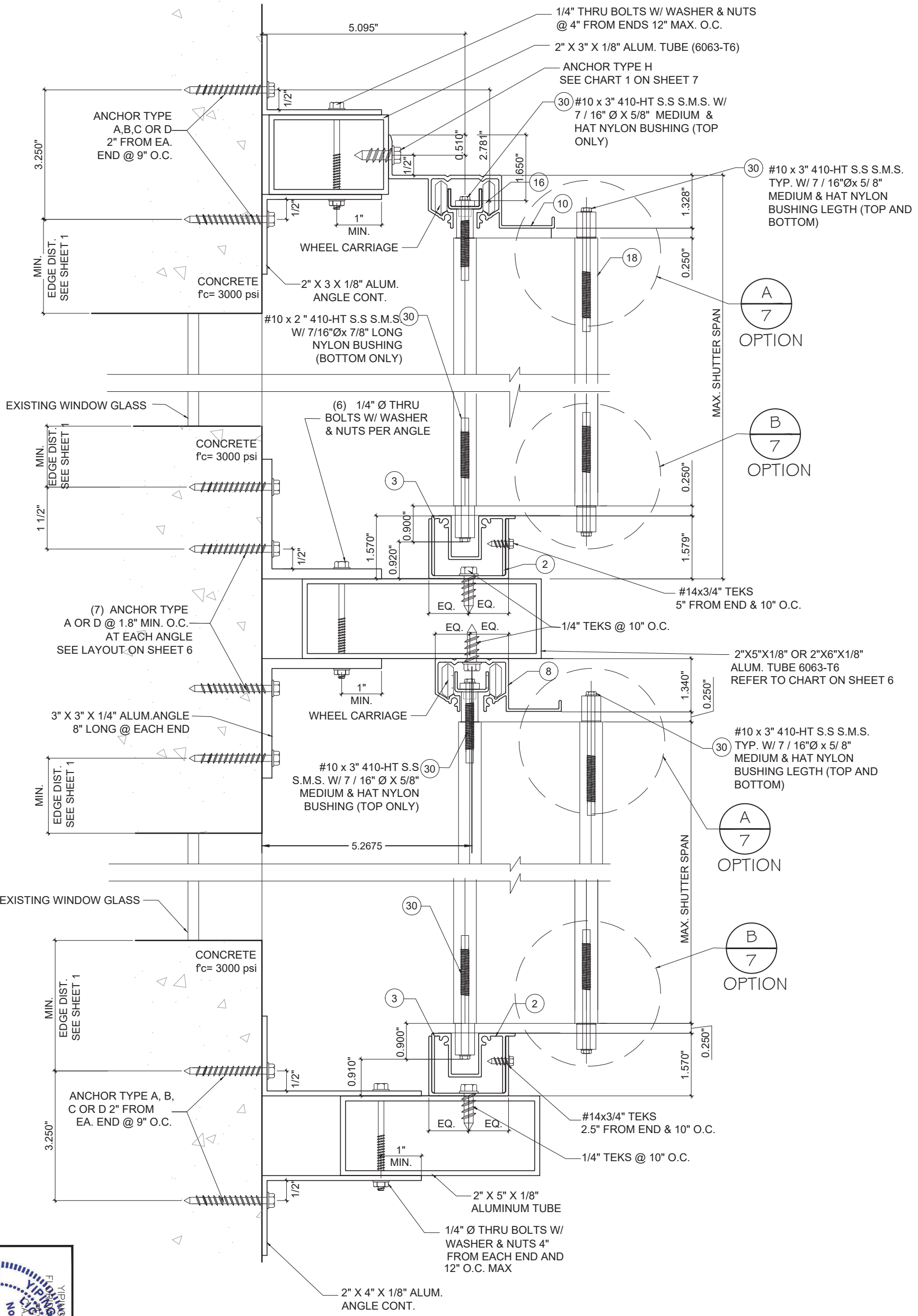
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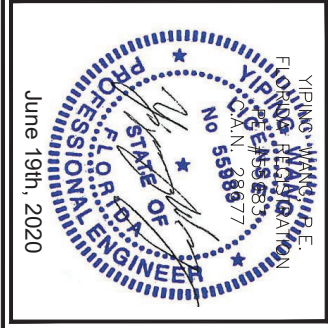
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DATE	4.23.2020
SCALE	AS NOTED
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PROJECT	MCY 20-074
DRAWING NO.	AD20-15
	12 OF 13

YIPING WANG
 FLORIDA PROFESSIONAL ENGINEER
 No 55983
 June 19th, 2020



5 B.O WALL MOUNTING INSTALLATION
HEAVY DUTY TRACK



PROJECT	MCT 20-074
DRAWN	V.A.
SCALE	AS NOTED
DATE	4.23.2020
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