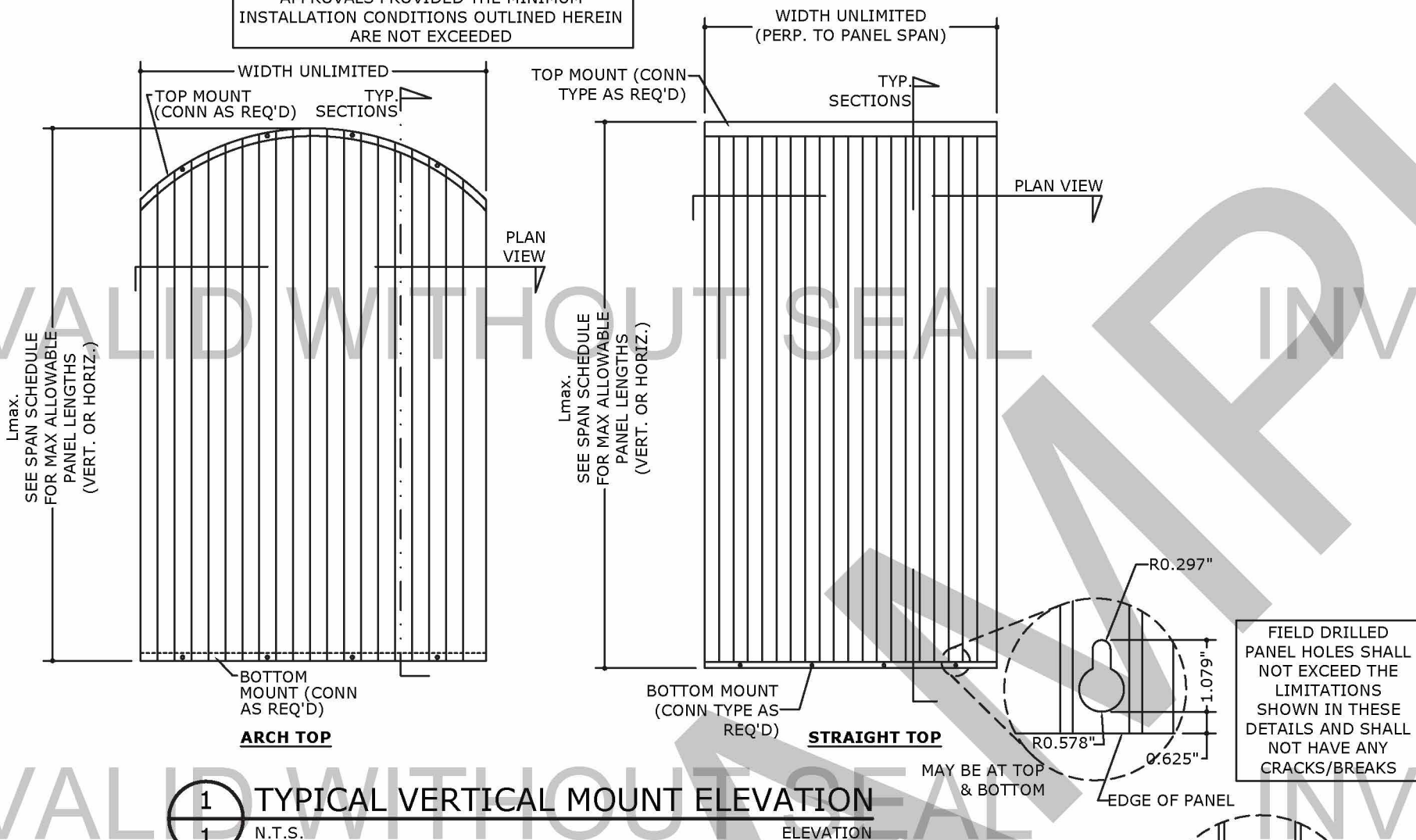




THE CLEAR POLYCARBONATE PANELS APPROVED  
IN THIS DOCUMENT MAY BE INTEGRATED WITH  
ALTERNATE STEEL/ALUMINUM PANEL  
APPROVALS PROVIDED THE MINIMUM  
INSTALLATION CONDITIONS OUTLINED HEREIN  
ARE NOT EXCEEDED



MINIMUM POLYCARBONATE PANEL PROPERTIES FOR USE WITH THIS APPROVAL:		
SPECIFIC GRAVITY	1.20 G/CC	ASTM D792
TENSILE YIELD STRENGTH	8700 PSI	ASTM D638
FLEXURAL STRENGTH AT YIELD	12500 PSI	ASTM D790
FLEXURAL MODULUS	340000 PSI	ASTM D790
NOTCHED IZOD	18 FT-LB/IN	ASTM D256
SMOKE DENSITY	75 MAX	ASTM D2843
RATE OF BURNING	C-1 CLASS MAX	ASTM D635
SELF IGNITION	650 DEG. F	ASTM D1929

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MAXIMUM ALLOWABLE  
DESIGN PRESSURES:

AS NOTED IN DESIGN  
SCHEDULES

## DESIGN NOTES:

POSITIVE & NEGATIVE (ASD) DESIGN PRESSURES FOR USE WITH THIS SYSTEM SHALL BE DETERMINED ON A SITE-SPECIFIC BASIS AND COMPARED TO LIMITING FACTORS AS STIPULATED HEREIN. THEY SHALL BE CALCULATED IN ACCORDANCE WITH THE GOVERNING CODE REQUIREMENTS & IN ACCORDANCE WITH ASCE 7-16 AND CHAPTER 16 OF THE 2018 INTERNATIONAL/RESIDENTIAL BUILDING CODE. THEY SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.

TOP & BOTTOM DETAILS SHOWN MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE. PANELS MAY BE MOUNTED VERTICALLY OR HORIZONTALLY AS APPLICABLE.

### GENERAL NOTES:

1. POSITIVE & NEGATIVE DESIGN PRESSURES CALCULATED FOR USE IN THIS SYSTEM SHALL BE DETERMINED BY OTHERS ON A JOB-SPECIFIC BASIS USING ASD METHOD OF ASCE 7-10 OR ASCE 7-16 AS APPLICABLE.
2. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE STRUCTURAL REQUIREMENTS OF THE 6TH EDITION FLORIDA BUILDING CODE (2017), 7TH EDITION FLORIDA BUILDING CODE (2020), 2012/2015/2018 INTERNATIONAL BUILDING CODES, AS WELL AS CURRENT VERSIONS OF THE MN, NC, NJ, NY, OH, SC, & VA BUILDING CODES AS APPLICABLE. CODE ENFORCED COMPLIES WITH STATE OF SEAL AND IF MULTIPLE VERSIONS LISTED THEN MOST STRINGENT APPLIES.
3. NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM.
4. THE ARCHITECT/ENGINEER OF RECORD FOR THE PROJECT SUPERSTRUCTURE WITH WHICH THIS DESIGN IS USED SHALL BE RESPONSIBLE FOR THE INTEGRITY OF ALL SUPPORTING SURFACES TO THIS DESIGN WHICH SHALL BE COORDINATED BY THE PERMITTING CONTRACTOR.
5. SEPARATE 'SITE-SPECIFIC' SIGNED AND SEALED ENGINEERING SHALL BE REQUIRED IN ORDER TO DEViate, INTERPOLATE, AND EXTRAPOLATE FROM LOADS, DEFLECTIONS, OR SPANS CONTAINED HEREIN. CONTACT THIS ENGINEER AND VISIT THE ACCOMPANYING DIGITAL INFORMATION REFERENCED HEREIN FOR ALTERNATE SPAN CALCULATIONS AS MAY BE REQUIRED.
6. THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
7. DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
8. ALL FASTENERS TO BE 1/4"Ø OR GREATER SAE GRADE 5 UNLESS NOTED OTHERWISE. FASTENERS SHALL BE CADMIUM-PLATED OR OTHERWISE CORROSION-RESISTANT MATERIAL AND SHALL COMPLY WITH "SPECIFICATIONS FOR ALUMINUM STRUCTURES" SECTION J.3.7.2 BY THE ALUMINUM ASSOCIATION, INC., & ANY APPLICABLE FEDERAL, STATE, AND/OR LOCAL CODES.
9. ALL STORM PANELS SHALL BE CLEAR POLYCARBONATE, t=0.100" AND CONFORM TO THE SPECIFICATIONS LISTED HEREIN.
10. ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY OR BETTER, UNLESS NOTED OTHERWISE.
11. CONCRETE ANCHORS NOTED HEREIN SHALL BE EMBEDDED TO NON-CRACKED CONCRETE ONLY. INSTALL ALL CONCRETE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS.
12. THE CONTRACTOR IS RESPONSIBLE TO INSULATE OR PROTECT ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
13. ENGINEER SEAL AFFIXED HERE TO VALIDATES STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et. al. INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, & CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE, & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
14. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
15. ALTERATIONS, ADDITIONS, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.
16. PANELS SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF (1) LABEL PER PANEL, CONTAINING THE FOLLOWING INFORMATION:

EASTERN METAL SUPPLY, INC.  
WEST PALM BEACH, FL  
TAS 201, TAS 202 & TAS 203  
ASTM E330, ASTM E1886 & ASTM E1996

FRANK L. BENNARDO, P.E.

07/06/2020

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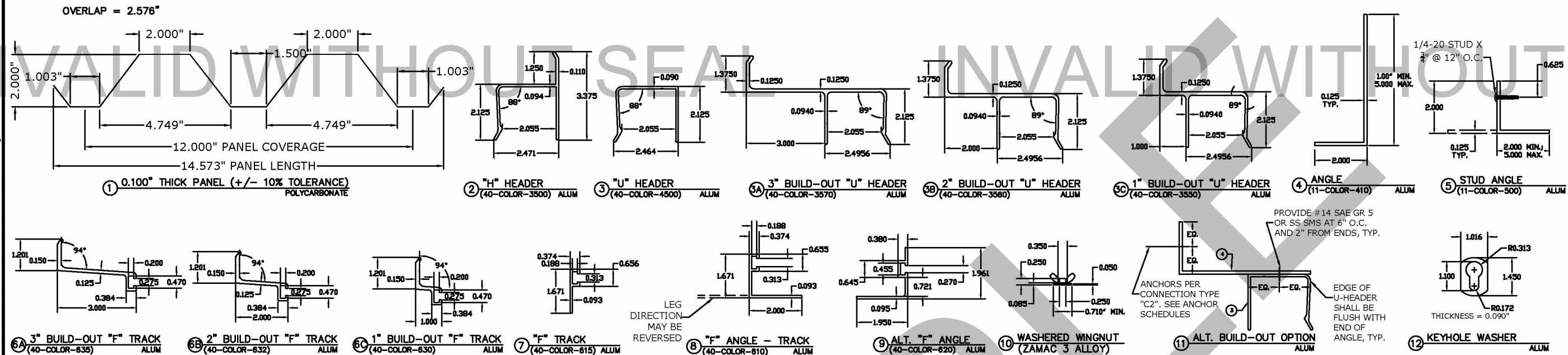
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### SCHEDULE 1: ALLOWABLE PANEL SPANS (HVHZ & NON-HVHZ)

2" CLEAR PANELS

MAXIMUM DESIGN PRESSURE (PSF)	ALLOWABLE SPAN (Lmax)	MINIMUM STORM PANEL SEPARATION FROM GLASS (HVHZ, WIND ZONE 4 & ESSENTIAL FACILITIES)	
		INSTALLATIONS LESS THAN 30' ABOVE GRADE	INSTALLATIONS GREATER THAN 30' ABOVE GRADE
+/-21	132.0 in	10.50 in	9.75 in
+/-26	120.0 in	10.00 in	9.25 in
+/-31	108.5 in	9.50 in	8.50 in
+/-36	96.5 in	9.00 in	8.00 in
+/-41	84.5 in	8.50 in	7.25 in
+/-46	73.0 in	8.00 in	6.75 in
+/-51	61.0 in	7.50 in	6.00 in
+/-56	49.5 in	7.00 in	5.25 in
+/-60	40.0 in	6.50 in	4.75 in

- SEE SHEET 4 FOR ANCHORAGE OPTIONS

### SCHEDULE 2: ALLOWABLE PANEL SPANS (NON-HVHZ ONLY)

MAXIMUM DESIGN PRESSURE (PSF)	ALLOWABLE SPAN (Lmax)	MINIMUM STORM PANEL SEPARATION FROM GLASS (WIND ZONE 4 & ESSENTIAL FACILITIES)	
		INSTALLATIONS LESS THAN 30' ABOVE GRADE	INSTALLATIONS GREATER THAN 30' ABOVE GRADE
+/-35	144.0 in	10.25 in	7.00 in
+/-40	133.0 in	9.75 in	6.25 in
+/-45	122.0 in	9.50 in	5.50 in
+/-50	111.0 in	9.00 in	4.75 in
+/-55	100.0 in	8.50 in	4.00 in
+/-60	89.0 in	8.00 in	3.00 in

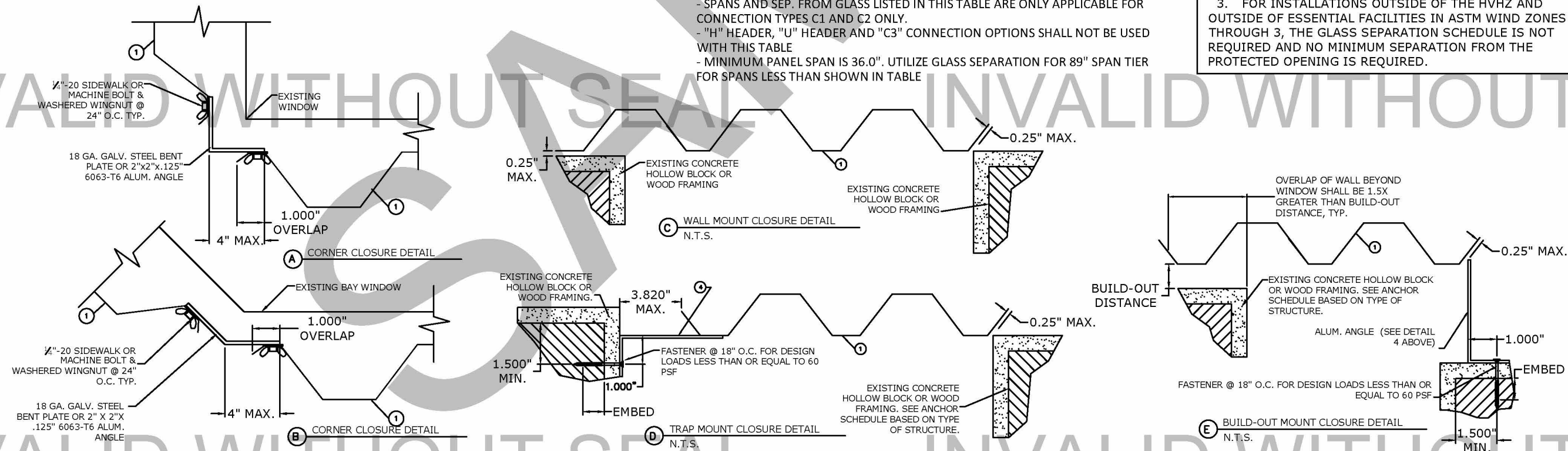
- SEE SHEET 5 FOR ANCHORAGE OPTIONS
- SPANS AND SEP. FROM GLASS LISTED IN THIS TABLE ARE ONLY APPLICABLE FOR CONNECTION TYPES C1 AND C2 ONLY.
- "H" HEADER, "U" HEADER AND "C3" CONNECTION OPTIONS SHALL NOT BE USED WITH THIS TABLE
- MINIMUM PANEL SPAN IS 36.0". UTILIZE GLASS SEPARATION FOR 89" SPAN TIER FOR SPANS LESS THAN SHOWN IN TABLE

### SPAN SCHEDULE NOTES:

1. ENTER SPAN SCHEDULES WITH NEGATIVE DESIGN LOAD & PANEL FASTENER SPACING TO DETERMINE MAXIMUM ALLOWABLE STORM PANEL SPAN. SCHEDULE IS ACCEPTABLE FOR USE WITH POSITIVE LOADS LESS THAN OR EQUAL TO NEGATIVE DESIGN LOADS.
2. LINEAR INTERPOLATION BETWEEN LOADS IS ACCEPTABLE, OTHERWISE USE NEXT HIGHER LOAD.

### GLASS SEPARATION NOTES:

1. ENTER SPAN SCHEDULE WITH POSITIVE DESIGN LOAD TO DETERMINE MINIMUM ALLOWABLE SEPARATION FROM THE OPENING TO BE PROTECTED.
2. SCHEDULE IS REQUIRED FOR USE WITH POSITIVE LOADS ONLY. INTERPOLATION BETWEEN LOADS IS ACCEPTABLE, OTHERWISE USE NEXT HIGHER LOAD.
3. FOR INSTALLATIONS OUTSIDE OF THE HVHZ AND OUTSIDE OF ESSENTIAL FACILITIES IN ASTM WIND ZONES 1 THROUGH 3, THE GLASS SEPARATION SCHEDULE IS NOT REQUIRED AND NO MINIMUM SEPARATION FROM THE PROTECTED OPENING IS REQUIRED.



FRANK L. BENNARDO, P.E.

07/06/2020

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2" CLEAR BERTHA STORM PANEL  
INTERNATIONAL BUILDING CODE  
MASTER PLAN SHEET

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FLB	FLB	09/27/18
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INIT	ISSUE	

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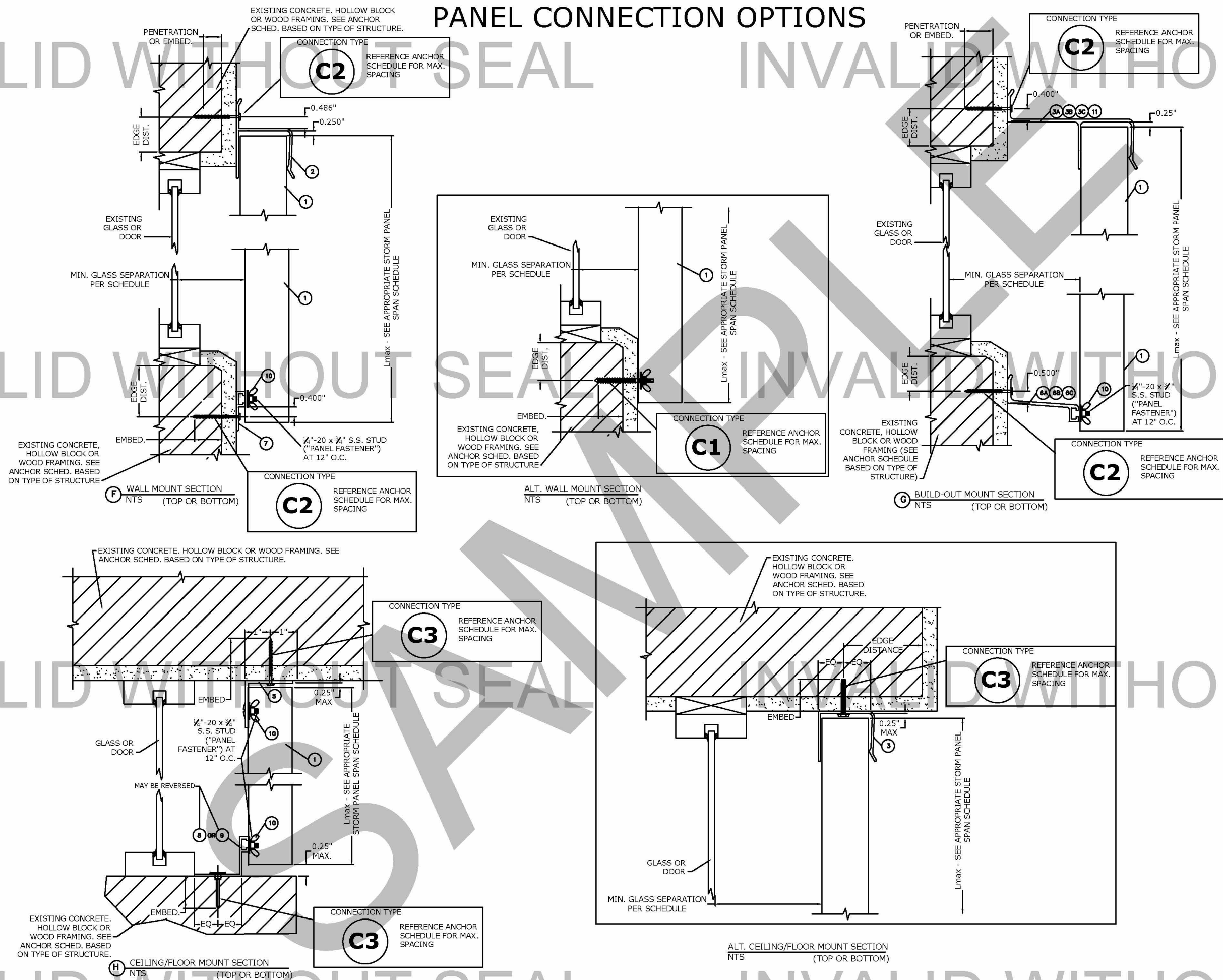
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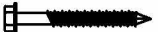



## 07/06/2020

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2" CLEAR PANELS

HOST STRUCT.	ANCHOR	LOAD (psf)	EDGE DISTANCES AS NOTED								
			Spans Up To 3'-4" (40")			Spans Up To 7'-0" (84")			Spans Up To 11'-0" (132")		
			CONNECTION TYPE			CONNECTION TYPE			CONNECTION TYPE		
			C1	C2	C3	C1	C2	C3	C1	C2	C3
HOLLOW (OR GROUT-FILLED) BLOCK	1/4" ITW TAPCON WITH 1" EMBED AND 2" MIN. EDGE DISTANCE (1900 psi MIN CMU) 	21	12.0"	12.0"	12.0"	12.0"	12.0"	11.0"			
		31	12.0"	12.0"	12.0"	12.0"	12.0"	7.5"			
		41	12.0"	12.0"	12.0"	6.0"	9.5"	5.5"			
		51	12.0"	12.0"	9.5"						
		60	12.0"	12.0"	8.0"						
	1/4" ELCO ULTRACON WITH 1-1/4" EMBED AND 1" MIN. EDGE DISTANCE (1900 psi MIN CMU) 	21	12.0"	12.0"	12.0"	12.0"	12.0"	11.0"	12.0"	12.0"	7.0"
		31	12.0"	12.0"	12.0"	12.0"	12.0"	7.5"			
		41	12.0"	12.0"	12.0"	6.0"	11.5"	5.5"			
		51	12.0"	12.0"	9.5"						
		60	12.0"	12.0"	8.0"						
	1/4" ELCO PANELMATE (FEMALE, MALE, or PLUS) W/ 1-1/4" EMBED AND 2" MIN. EDGE DISTANCE (2000 psi MIN CMU) 	21	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	11.0"
		31	12.0"	12.0"	12.0"	12.0"	12.0"	11.5"			
		41	12.0"	12.0"	12.0"	12.0"	12.0"	9.0"			
		51	12.0"	12.0"	12.0"						
		60	12.0"	12.0"	12.0"						
	1/4-20 ALL POINTS SOLID- SET WITH 7/8" EMBED AND 1-1/4" MIN. EDGE DISTANCE (1800 psi MIN CMU) 	21	12.0"	12.0"	12.0"	12.0"	12.0"	11.5"	12.0"	12.0"	7.0"
		31	12.0"	12.0"	12.0"	12.0"	12.0"	7.5"			
		41	12.0"	12.0"	12.0"	12.0"	12.0"	5.5"			
		51	12.0"	12.0"	9.5"						
		60	12.0"	12.0"	8.0"						

### ANCHOR NOTES:

1. ANCHOR SCHEDULE APPLIES TO ALL PRODUCTS CERTIFIED HEREIN, BUT ONLY PROVIDES RECOMMENDED ALLOWABLE ANCHOR SPACING. MAXIMUM ALLOWABLE SPANS AND PRESSURES INDICATED IN SPAN SCHEDULE SHALL APPLY.
2. ENTER ANCHOR SCHEDULE BASED ON PANEL FASTENER SPACING, THE EXISTING STRUCTURE MATERIAL, & ANCHOR TYPE. SELECT DESIGN LOAD GREATER THAN OR EQUAL TO NEGATIVE DESIGN LOAD ON SHUTTER AND SELECT SPAN GREATER THAN OR EQUAL TO SHUTTER SPAN. SELECT CONNECTION TYPE BASED ON APPROPRIATE MOUNTING CONDITION (SEE MOUNTING DETAILS ON SHEET 3 FOR IDENTIFICATION OF CONNECTION TYPE).
3. "PANEL FASTENERS" ARE STUDS USED IN CONJUNCTION WITH ALL MOUNTING EXTRUSIONS ("F"-TRACK, STUDDER ANGLE, ETC.). "PANEL FASTENERS" SHALL BE SPACED AT 12" O.C. ALL END PANEL HOLES SHALL HAVE PANEL FASTENERS, TYP.
4. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
5. HOLLOW BLOCK HOST STRUCTURE SHALL CONFORM TO ASTM C90 BLOCK.
6. MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE.
7. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES. WALL FINISHES SHALL BE LIMITED TO 1/4" MAX OR SHALL BE VERIFIED BY OTHERS TO ADEQUATELY TRANSFER LOADS TO HOST STRUCTURE.
8. CONCRETE ANCHORS NOTED HEREIN SHALL BE EMBEDDED TO UN-CRACKED CONCRETE ONLY.
9. WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT PLYWOOD. FASTENING TO PLYWOOD IS ACCEPTABLE ONLY FOR SIDE CLOSURE PIECES.
10. WHERE ANCHORS 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). WOOD STUD SHALL BE G=0.42 OR GREATER DENSITY, U.N.O. LAG SCREWS SHALL HAVE PHILLIPS PAN HEAD OR HEX HEAD.
11. REMOVABLE ANCHORS ARE: ELCO PANELMATE, ALL-POINTS SOLID-SET.
12. MACHINE SCREWS SHALL HAVE 1/2" MINIMUM ENGAGEMENT OF THREADS INTO THE BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD (SIDEWALK BOLT) U.N.O.
13. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO OR OTHER WALL FINISHES.
14. ☒ DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE USES.
15. \* DIRECT MOUNTING CONDITIONS.
16. LINEAR INTERPOLATION IS NOT PERMITTED FOR USE WITH THE ANCHOR SCHEDULES LISTED ON THIS SHEET.
17. PROVIDE KEYHOLE WASHER FOR 1/4-20 SIDEWALK BOLTS (OR TRUSS HEAD SCREWS)

07/06/2020

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**2" CLEAR BERTHA STORM PANELS**  
**INTERNATIONAL BUILDING CODE**  
**MASTER PLAN SHEET**

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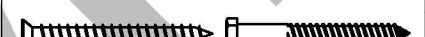
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ANCHOR SPACING (FOR SCHEDULE 2 - NON-HVHZ ONLY):



2" CLEAR PANELS

HOST STRUCT.	ANCHOR	LOAD (psf)	EDGE DISTANCES AS NOTED					
			Spans Up To 3'-0"		Spans Up To 7'-0"		Spans Up To 12'-0"	
			CONN TYPE	CONN TYPE	CONN TYPE	CONN TYPE	CONN TYPE	CONN TYPE
CONCRETE	1/4" ITW TAPCON WITH 1-3/4" EMBED AND 1-1/2" MIN. EDGE DISTANCE (3192 psi MIN CONCRETE) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	12.0"	12.0"		
		50	12.0"	12.0"	12.0"	12.0"		
		55	12.0"	12.0"	12.0"	12.0"		
		60	12.0"	12.0"	12.0"	12.0"		
	1/4" ELCO ULTRACON WITH 1-3/4" EMBED AND 1" MIN. EDGE DISTANCE (2846 psi MIN CONCRETE) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	12.0"	12.0"		
		50	12.0"	12.0"	12.0"	12.0"		
		55	12.0"	12.0"	12.0"	12.0"		
		60	12.0"	12.0"	12.0"	12.0"		
	1/4" ELCO PANELMATE (FEMALE, MALE, or PLUS) W/ 2" EMBED AND 2-1/2" MIN. EDGE DISTANCE (3350 psi MIN CONC) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	12.0"	12.0"		
		50	12.0"	12.0"	12.0"	12.0"		
		55	12.0"	12.0"	12.0"	12.0"		
		60	12.0"	12.0"	12.0"	12.0"		
	1/4" ITW TAPCON STORM GAURD W/ 1-3/4" EMBED AND 1-1/4" MIN. EDGE DISTANCE (3295 psi MIN CONCRETE) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	12.0"	12.0"		
		50	12.0"	12.0"	12.0"	12.0"		
		55	12.0"	12.0"	12.0"	12.0"		
		60	12.0"	12.0"	12.0"	12.0"		
	1/4-20 ALL POINTS SOLID- SET WITH 7/8" EMBED AND 1-1/4" MIN. EDGE DISTANCE (3000 psi MIN CONCRETE) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	12.0"	12.0"		
		50	12.0"	12.0"	12.0"	12.0"		
		55	12.0"	12.0"	12.0"	12.0"		
		60	12.0"	12.0"	12.0"	12.0"		

HOST STRUCT.	ANCHOR	LOAD (psf)	EDGE DISTANCES AS NOTED					
			Spans Up To 3'-0"		Spans Up To 7'-0"		Spans Up To 12'-0"	
			CONN TYPE	CONN TYPE	CONN TYPE	CONN TYPE	CONN TYPE	CONN TYPE
HOLLOW (OR GROUT-FILLED) BLOCK	1/4" ITW TAPCON WITH 1" EMBED AND 2" MIN. EDGE DISTANCE (1900 psi MIN CMU) 	35	12.0"	12.0"	6.0"	11.5"	6.0"	6.0"
		40	12.0"	12.0"	6.0"	10.0"		
		45	12.0"	12.0"	6.0"	9.0"		
		50	12.0"	12.0"	6.0"	8.0"		
		55	12.0"	12.0"	6.0"	7.0"		
		60	12.0"	12.0"	6.0"	6.0"		
	1/4" ELCO ULTRACON WITH 1-1/4" EMBED AND 1" MIN. EDGE DISTANCE (1900 psi MIN CMU) 	35	12.0"	12.0"	12.0"	12.0"	6.0"	7.0"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	6.0"	10.5"		
		50	12.0"	12.0"	6.0"	9.5"		
		55	12.0"	12.0"	6.0"	8.5"		
		60	12.0"	12.0"	6.0"	7.0"		
	1/4" ELCO PANELMATE (FEMALE, MALE, or PLUS) W/ 1-1/4" EMBED AND 2" MIN. EDGE DISTANCE (2000 psi MIN CMU) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	11.0"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	12.0"	12.0"		
		50	12.0"	12.0"	12.0"	12.0"		
		55	12.0"	12.0"	12.0"	12.0"		
		60	12.0"	12.0"	12.0"	11.0"		
	1/4-20 ALL POINTS SOLID- SET WITH 7/8" EMBED AND 1-1/4" MIN. EDGE DISTANCE (1800 psi MIN CMU) 	35	12.0"	12.0"	12.0"	12.0"	6.0"	8.5"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	12.0"	12.0"		
		50	12.0"	12.0"	12.0"	11.0"		
		55	12.0"	12.0"	6.0"	10.0"		
		60	12.0"	12.0"	6.0"	8.5"		

HOST STRUCT.	ANCHOR	LOAD (psf)	EDGE DISTANCES AS NOTED					
			Spans Up To 3'-0"		Spans Up To 7'-0"		Spans Up To 12'-0"	
			CONN TYPE	CONN TYPE	CONN TYPE	CONN TYPE	CONN TYPE	CONN TYPE
WOOD	1/4" ITW TAPCON WITH 1-3/8" THREAD PEN. AND 3/4" MIN. EDGE DISTANCE (G=0.42 MIN) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	12.0"	12.0"		
		50	12.0"	12.0"	12.0"	12.0"		
		55	12.0"	12.0"	12.0"	12.0"		
		60	12.0"	12.0"	12.0"	12.0"		
	1/4" ELCO ULTRACON WITH 1-3/8" THREAD PEN. AND 3/4" MIN. EDGE DISTANCE (G=0.42 MIN) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	12.0"	12.0"		
		50	12.0"	12.0"	12.0"	12.0"		
		55	12.0"	12.0"	12.0"	12.0"		
		60	12.0"	12.0"	12.0"	12.0"		
	1/4" ELCO PANELMATE (FEMALE, MALE, or PLUS) W/ 1-7/8" EMBED AND 3/4" MIN. EDGE DISTANCE (G=0.54 MIN.) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	12.0"	12.0"		
		50	12.0"	12.0"	12.0"	12.0"		
		55	12.0"	12.0"	12.0"	12.0"		
		60	12.0"	12.0"	12.0"	12.0"		
	1/4" ITW TAPCON STORM GAURD W/ 1-3/4" EMBED AND 1-1/4" MIN. EDGE DISTANCE (G=0.42 MIN) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	12.0"	12.0"		
		50	12.0"	12.0"	12.0"	12.0"		
		55	12.0"	12.0"	12.0"	12.0"		
		60	12.0"	12.0"	12.0"	12.0"		
	1/4-20 PANELMATE INSERT WITH 1-5/8" EMBED AND 3/4" MIN. EDGE DISTANCE (G=0.42 MIN.) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	11.5"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	12.0"	12.0"		
		50	12.0"	12.0"	12.0"	12.0"		
		55	12.0"	12.0"	12.0"	12.0"		
		60	12.0"	12.0"	12.0"	11.5"		
	1/4" WOOD OR LAG SCREW WITH 1-3/8" MIN THREAD PEN. AND 3/4" MIN. EDGE DISTANCE (G=0.42 MIN.) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	11.5"
		40	12.0"	12.0"	12.0"	12.0"		
		45	12.0"	12.0"	12.0"	12.0"		
		50	12.0"	12.0"	12.0"	12.0"		
		55	12.0"	12.0"	12.0"	12.0"		
		60	12.0"	12.0"	12.0"	11.5"		

ANCHOR NOTES:

- ANCHOR SCHEDULE APPLIES TO ALL PRODUCTS CERTIFIED HEREIN, BUT ONLY PROVIDES MAXIMUM ALLOWABLE ANCHOR SPACING. MAXIMUM ALLOWABLE SPANS AND PRESSURES INDICATED IN SPAN SCHEDULE SHALL APPLY.
- ENTER ANCHOR SCHEDULE BASED ON PANEL FASTENER SPACING, THE EXISTING STRUCTURE MATERIAL, & ANCHOR TYPE. SELECT DESIGN LOAD GREATER THAN OR EQUAL TO NEGATIVE DESIGN LOAD ON SHUTTER AND SELECT SPAN GREATER THAN OR EQUAL TO SHUTTER SPAN. THIS SHEET APPLIES TO CONNECTION TYPE "C1" AND "C2" ONLY (SEE MOUNTING DETAILS ON SHEET 3 FOR IDENTIFICATION OF CONNECTION TYPE). "H" HEADER AND "U" HEADER OPTIONS ARE NOT APPLICABLE FOR THESE TABLES.
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
- HOLLOW BLOCK HOST STRUCTURE SHALL CONFORM TO ASTM C90 BLOCK.
- MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE.
- MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES. WALL FINISHES SHALL BE LIMITED TO 1/4" MAX OR SHALL BE VERIFIED BY OTHERS TO ADEQUATELY TRANSFER LOADS TO HOST STRUCTURE.
- CONCRETE ANCHORS NOTED HEREIN SHALL BE EMBEDDED TO UN-CRACKED CONCRETE ONLY.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT PLYWOOD. FASTENING TO PLYWOOD IS ACCEPTABLE ONLY FOR SIDE CLOSURE PIECES.
- WHERE ANCHORS 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). WOOD STUD SHALL BE G=0.42 OR GREATER DENSITY, U.N.O. LAG SCREWS SHALL HAVE PHILLIPS PAN HEAD OR HEX HEAD.
- REMOVABLE ANCHORS ARE: ELCO PANELMATE, ALL-POINTS SOLID-SET.
- MACHINE SCREWS SHALL HAVE 1/2" MINIMUM ENGAGEMENT OF THREADS INTO THE BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD (SIDEWALK BOLT) U.N.O.
- MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO OR OTHER WALL FINISHES.
-  DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE USES.
-  DIRECT MOUNTING CONDITIONS.
- LINEAR INTERPOLATION IS NOT PERMITTED FOR USE WITH THE ANCHOR SCHEDULES LISTED ON THIS SHEET.
- PROVIDE KEYHOLE WASHER FOR 1/4-20 SIDEWALK BOLTS

FRANK L. BENNARDO, P.E.

07/06/2020

IF CHECKED, CERTIFYING P.E. APPEARS BELOW

NOTICE: IF THIS SHEET DOES NOT CONTAIN AN ORIGINAL SIGNATURE & ENGINEER SEAL:

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