

ACCORDION SHUTTER WITH ALUMINUM OR POLYCARBONATE BLADES

ALLOWABLE SPAN SCHEDULE

SLAT SPAN	MAXIMUM ALLOWABLE DESIGN PRESSURES							
	STANDARD BLADES ONLY		LIGHTWEIGHT BLADES OR LIGHTWEIGHT/WINDOW BLADE COMBINATION†		WINDOW BLADES OR STANDARD/WINDOW BLADE COMBINATION†		SHUTTER WITH STANDARD BLADES AND ONE SINGLE WINDOW BLADE*	
72"	+ 152.5 PSF	- 152.5 PSF	+ 75.0 PSF	- 75.0 PSF	+ 93.6 PSF	- 93.6 PSF	+ 93.6 PSF	- 93.6 PSF
90"	+ 117.8 PSF	- 117.8 PSF	+ 75.0 PSF	- 75.0 PSF	+ 93.6 PSF	- 93.6 PSF	+ 93.6 PSF	- 93.6 PSF
108"	+ 100.5 PSF	- 100.5 PSF	+ 75.0 PSF	- 75.0 PSF	+ 93.6 PSF	- 93.6 PSF	+ 93.6 PSF	- 93.6 PSF
126"	+ 42.4 PSF	- 62.4 PSF					+ 42.4 PSF	- 62.4 PSF
144"	+ 42.4 PSF	- 62.4 PSF					+ 42.4 PSF	- 62.4 PSF
162"	+ 25.5 PSF	- 41.6 PSF					+ 25.5 PSF	- 41.6 PSF

SPAN SCHEDULE NOTES:

1. PRESSURES SHOWN IN "ALLOWABLE SPAN SCHEDULE" ARE MAXIMUM ALLOWABLE DESIGN PRESSURES AT EACH RESPECTIVE SHUTTER SPAN.
2. † APPLICABLE FOR INSTALLATIONS UTILIZING ALTERNATING BLADE PAIRS/ WINDOW BLADE PAIRS (ie ONE PAIR OF ALUMINUM BLADES WITH A PAIR OF WINDOW BLADES TO THE LEFT AND A PAIR OF WIND BLADES TO THE RIGHT).
3. * ONLY APPLICABLE FOR INSTALLATIONS WITH ONE SINGLE WINDOW BLADE SLAT, AND THE REMAINDER STANDARD BLADES.

MINIMUM GLASS SEPARATION

SPAN LESS THAN:	STANDARD BLADES ONLY		LIGHTWEIGHT BLADES OR LIGHTWEIGHT/WINDOW BLADE COMBINATION†		WINDOW BLADES OR STANDARD/WINDOW BLADE COMBINATION†		SHUTTER WITH STANDARD BLADES AND ONE SINGLE WINDOW BLADE*	
	INSTALLATIONS 30' ABOVE GRADE OR LESS	INSTALLATIONS MORE THAN 30' ABOVE GRADE	INSTALLATIONS 30' ABOVE GRADE OR LESS	INSTALLATIONS MORE THAN 30' ABOVE GRADE	INSTALLATIONS 30' ABOVE GRADE OR LESS	INSTALLATIONS MORE THAN 30' ABOVE GRADE	INSTALLATIONS 30' ABOVE GRADE OR LESS	INSTALLATIONS MORE THAN 30' ABOVE GRADE
72"	1.88"	1.88"	2.60"	2.50"	2.63"	2.63"	4.50"	3.00"
90"	2.13"	2.13"	2.60"	2.50"	2.63"	2.63"	4.50"	3.00"
108"	2.88"	2.78"	2.60"	2.50"	2.63"	2.63"	4.50"	3.00"
126"	3.63"	3.00"					4.50"	3.00"
144"	4.50"	3.00"					4.50"	3.00"
162"	4.50"	3.00"					4.50"	3.00"

GLASS SEPARATION SCHEDULE NOTES:

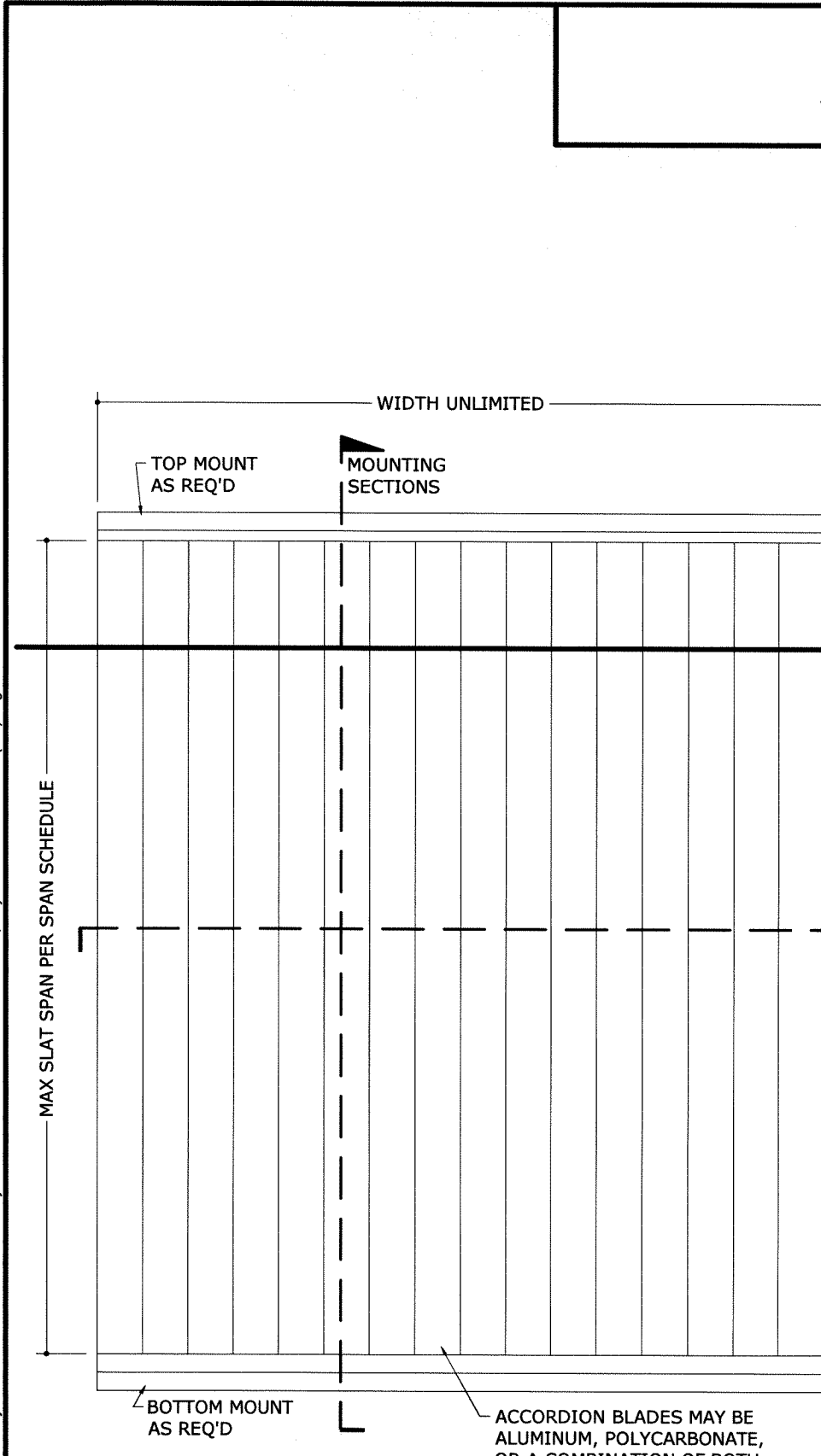
1. SEPARATION FROM GLAZING SHALL BE MEASURED FROM THE PROTECTED FENESTRATION PRODUCT TO THE NEAREST POINT ON THE INTERIOR SIDE OF THE SHUTTER, WHICH MAY BE THE BLADE, CENTERMATE, OR LOCKING DEVICE.
2. † APPLICABLE FOR INSTALLATIONS UTILIZING ALTERNATING BLADE PAIRS/ WINDOW BLADE PAIRS (ie ONE PAIR OF ALUMINUM BLADES WITH A PAIR OF WINDOW BLADES TO THE LEFT AND A PAIR OF WIND BLADES TO THE RIGHT).
3. * ONLY APPLICABLE FOR INSTALLATIONS WITH ONE SINGLE WINDOW BLADE SLAT, AND THE REMAINDER STANDARD BLADES.
4. GLASS SEPARATION IS REQUIRED ONLY WITHIN ASTM WIND ZONE 4, OR ESSENTIAL FACILITIES.

GENERAL NOTES

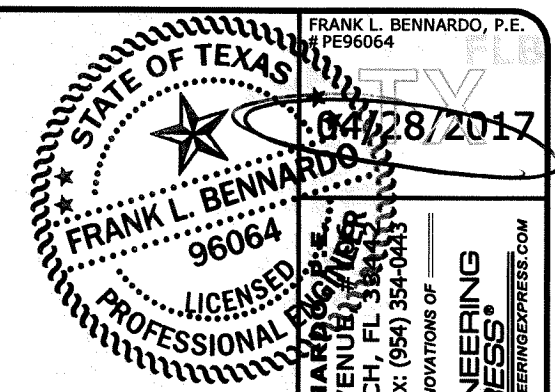
1. THE SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH 2009 AND 2012 INTERNATIONAL BUILDING CODE PER TAS 201 / 202 / 203.
2. NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM. WIND LOAD DURATION FACTOR Cd=1.6 HAS BEEN USED FOR WOOD ANCHOR DESIGN.
3. POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED PER SEPARATE ENGINEERING IN ACCORDANCE WITH THE GOVERNING CODE. PRESSURE REQUIREMENTS AS DETERMINED IN ACCORDANCE WITH ASCE 7-10 AND CHAPTER 1609 OF THE INTERNATIONAL BUILDING CODE) SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.
4. DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
5. ALL POLYCARBONATE PANELS SHALL BE EXTRUDED WITH THICKNESS t=0.090" AND SHALL BE FABRICATED FROM 100% SABIC INNOVATIVE PLASTICS THERMOPLASTIC POLYMER LEXAN SHEET #XL10 2UV (UV STABILIZED), AS APPROVED UNDER MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE #15-0915.08.
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. PERMIT HOLDER SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS. WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
8. ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, UNLESS NOTED OTHERWISE.
9. EACH SHUTTER ASSEMBLY SHALL BE PERMANENTLY LABELED WITH THE FOLLOWING MINIMUM INFORMATION:
IMPACT TECHNOLOGY, INC.
WINTER SPRINGS, FL
TAS 201, 202, 203
MISSILE LEVEL D

THIS IS THE MINIMUM LABEL INFORMATION. ACTUAL PRODUCT LABELS SHALL COMPLY WITH ALL REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, INCLUDING ANY LOCAL PROVISIONS.

10. TOP & BOTTOM DETAILS SHOWN MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE.
11. ALL BOLTS & WASHERS SHALL BE ZINC COATED STEEL, GALVANIZED STEEL, OR STAINLESS STEEL WITH A MINIMUM TENSILE YIELD STRENGTH OF 60 KSI. ALL 3/16"Ø OR 1/4"Ø POP RIVETS SHALL BE 5056-H32 ALUMINUM ALLOY OR STRONGER.
12. ALL STEEL IN CONTACT WITH ALUMINUM SHALL BE PAINTED OR PLATED.
13. WALL HEADERS #10, 13, 38 AND 39 AS SHOWN HEREIN MAY BE MOUNTED ON THE INTERIOR OR EXTERIOR OF AN OPENING.



1 TYPICAL ELEVATION
1 N.T.S. EXTERIOR ELEV



FRANK L. BENNARDO, P.E.
PE96064
04/28/2017
FRANK L. BENNARDO, P.E.
160 SW 12th AVENUE, SUITE 300
DEERFIELD BEACH, FL 33442
PH: (954) 354-0660 FAX: (954) 354-0423
POWERED BY THE INNOVATIONS OF
ENGINEERING EXPRESS®
EXPERIENCE MORE AT ENGINEERINGEXPRESS.COM

IMPACT TECHNOLOGY, INC.
4984 COURTLAND LOOP
WINTER SPRINGS, FL 32708
PHONE: 407-402-4821
ACCORDION SHUTTER
WITH ALUMINUM OR POLYCARBONATE BLADES
TEXAS DEPARTMENT OF INSURANCE

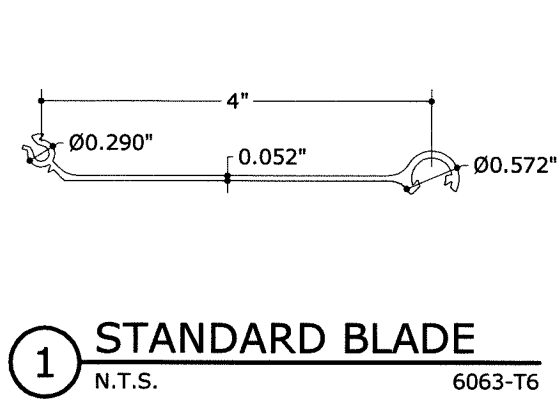
REMARKS	DATE	DRWN	CHKD
INITIAL SUBMITTAL	05/03/09	KL	FLB
2010 FBC (08-11-07-04)	02/14/12	KL	FLB
FBC 5TH (2014)	02/08/15	CSL	TSB

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. WITHOUT THE WRITTEN PERMISSION OF ENGINEERING EXPRESS, SUCH REPRODUCTION OR TRANSMISSION IS STRICTLY PROHIBITED. VIOLATION OF THIS DOCUMENT ARE NOT PERMITTED AND WILL BE PROSECUTED.

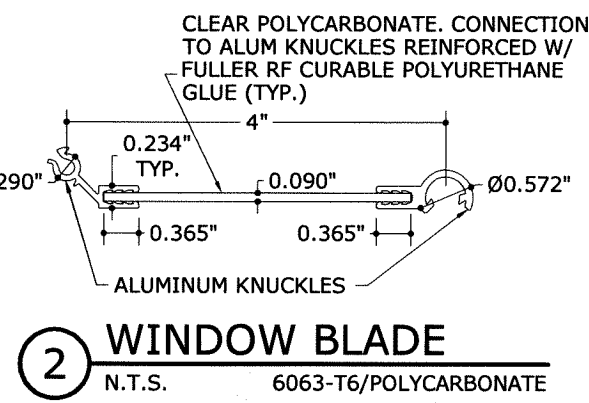
COPYRIGHT ENGINEERING EXPRESS
16-3611
SCALE:
PAGE DESCRIPTION:
1 OF 12

V:\Projects\16-3611 Accordion Shutter System - TDI Submittal\WP16-3611d Alum, Polycarb Accordion Shutter (TDI).dwg 04/28/2017 - 11:17am

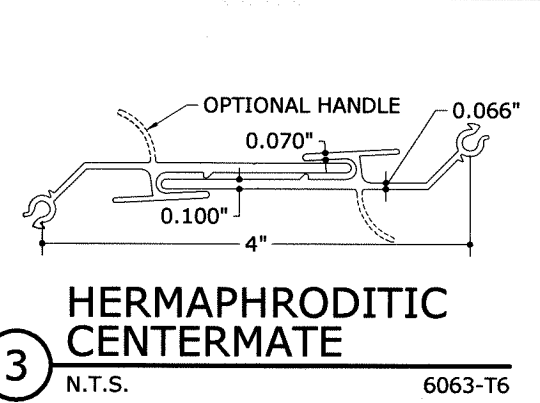
V:\Projects\16-3611 Accordion Shutter System - TDI Submittal\WP16-3611d Alum. Polycarb. Accordion Shutter (TDI).dwg 04/28/2017 - 11:17am



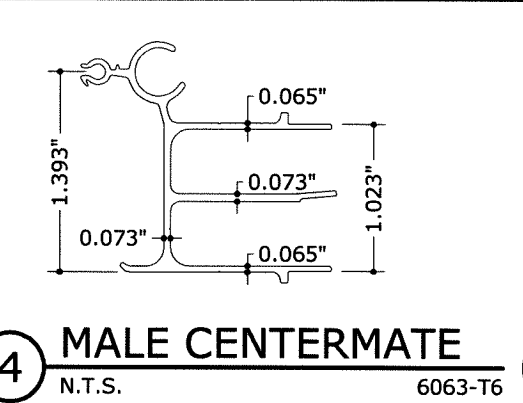
1 STANDARD BLADE
N.T.S. 6063-T6



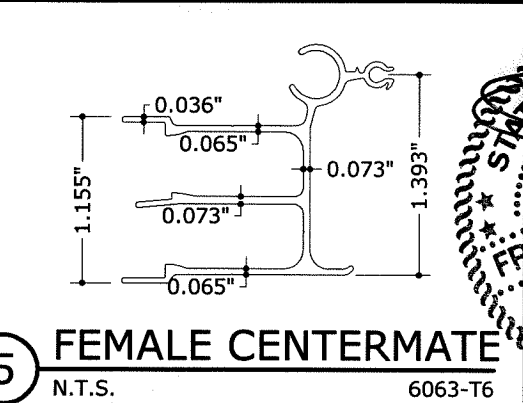
2 WINDOW BLADE
N.T.S. 6063-T6/POLYCARBONATE



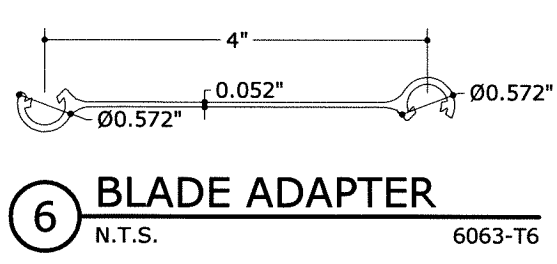
3 HERMAPHRODITIC CENTERMATE
N.T.S. 6063-T6



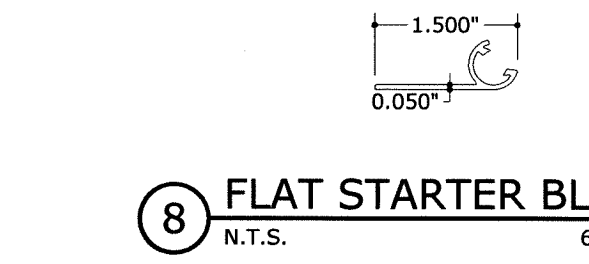
4 MALE CENTERMATE
N.T.S. 6063-T6



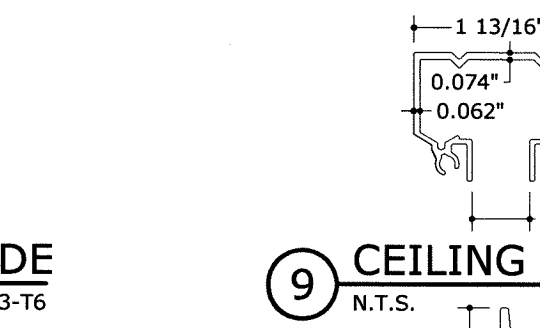
5 FEMALE CENTERMATE
N.T.S. 6063-T6



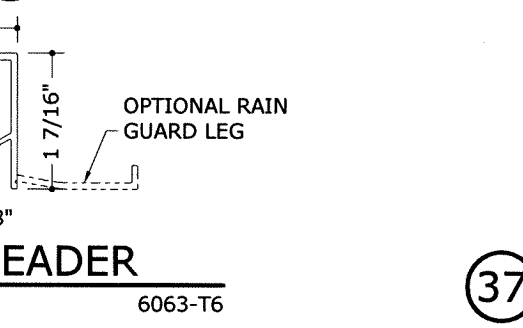
6 BLADE ADAPTER
N.T.S. 6063-T6



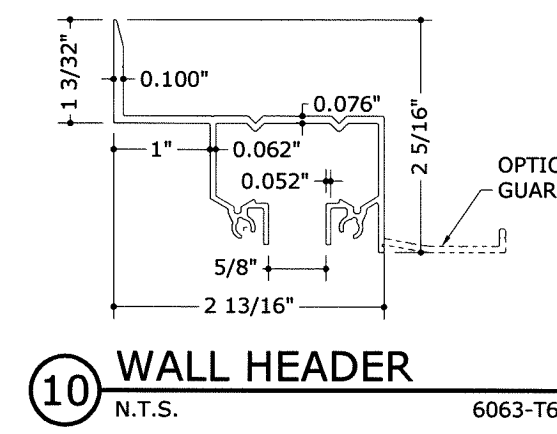
8 FLAT STARTER BLADE
N.T.S. 6063-T6



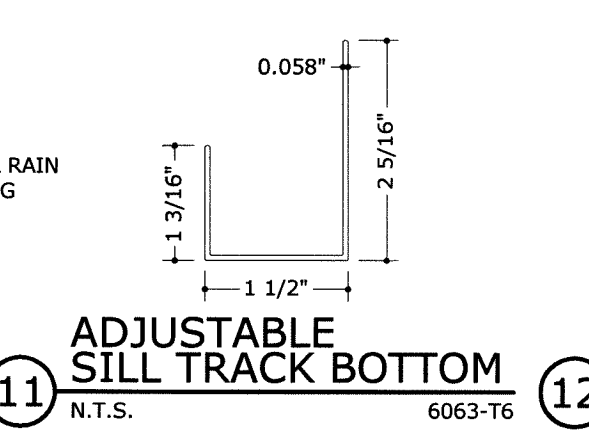
9 CEILING HEADER
N.T.S. 6063-T6



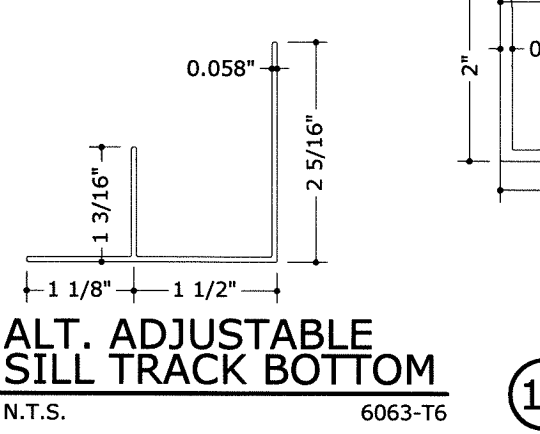
37 ALT. CEILING HEADER
N.T.S. 6063-T6



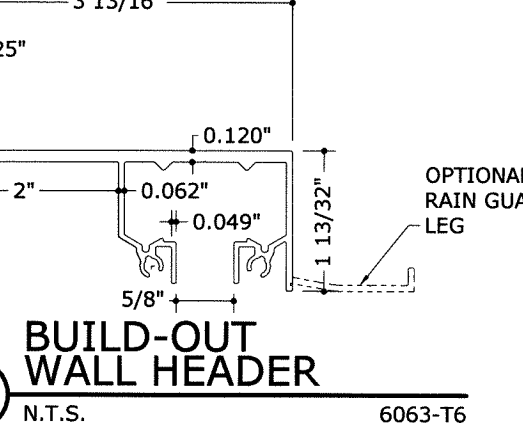
10 WALL HEADER
N.T.S. 6063-T6



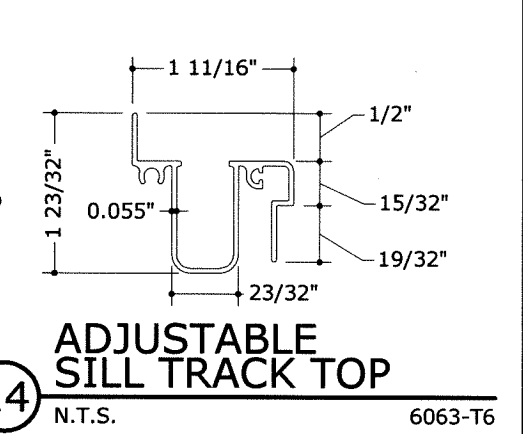
11 ADJUSTABLE SILL TRACK BOTTOM
N.T.S. 6063-T6



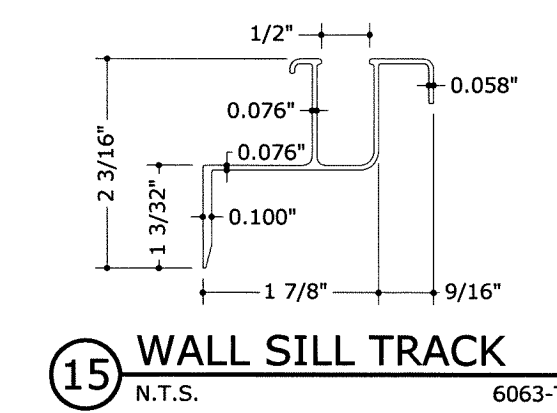
12 ALT. ADJUSTABLE SILL TRACK BOTTOM
N.T.S. 6063-T6



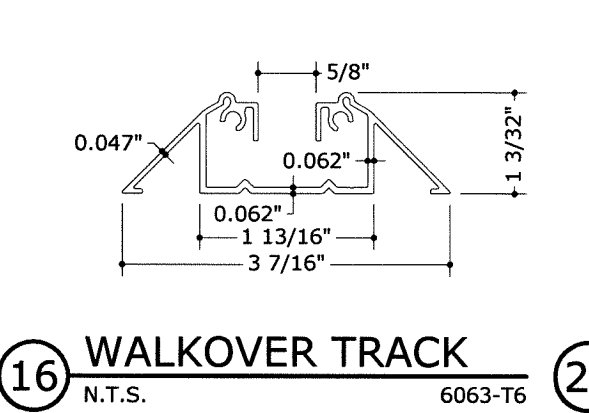
13 BUILD-OUT WALL HEADER
N.T.S. 6063-T6



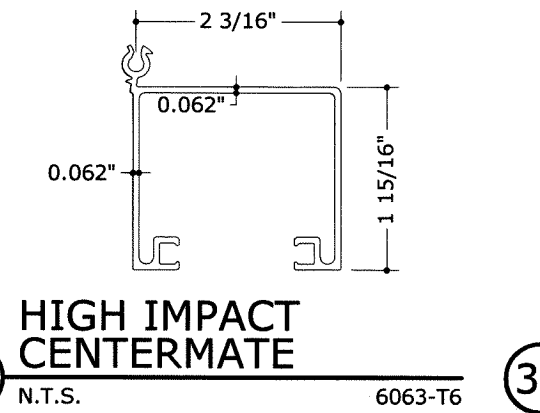
14 ADJUSTABLE SILL TRACK TOP
N.T.S. 6063-T6



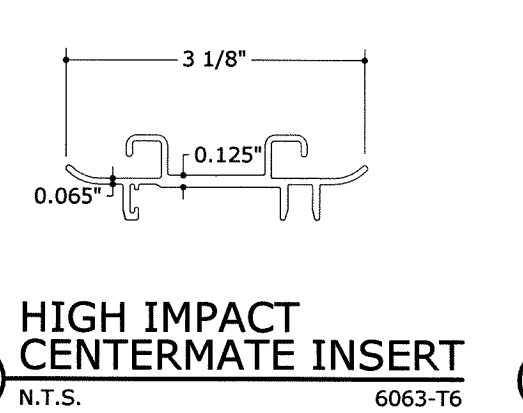
15 WALL SILL TRACK
N.T.S. 6063-T6



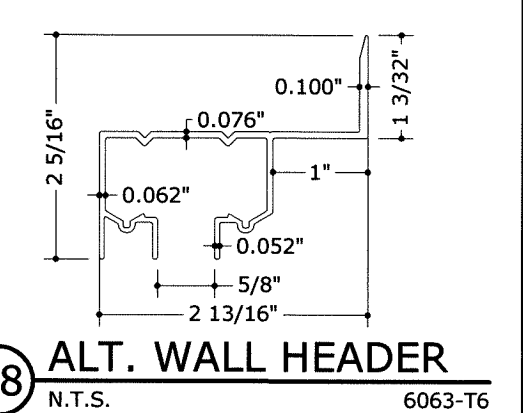
16 WALKOVER TRACK
N.T.S. 6063-T6



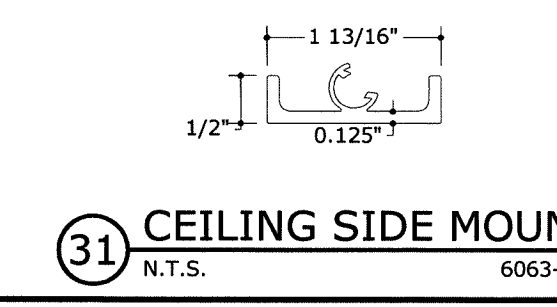
29 HIGH IMPACT CENTERMATE
N.T.S. 6063-T6



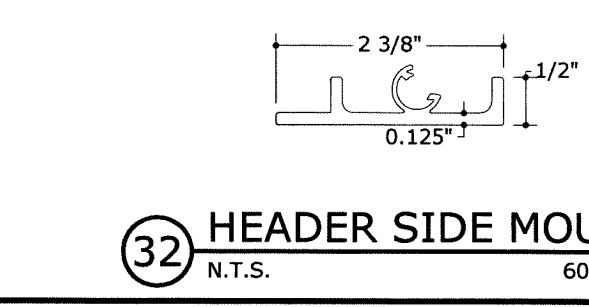
30 HIGH IMPACT CENTERMATE INSERT
N.T.S. 6063-T6



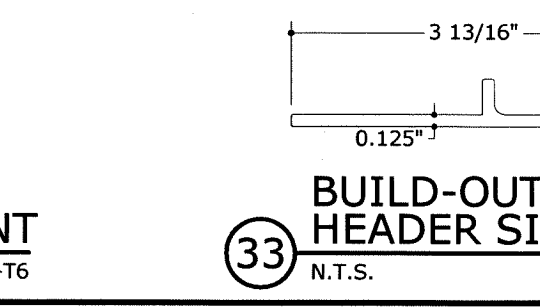
38 ALT. WALL HEADER
N.T.S. 6063-T6



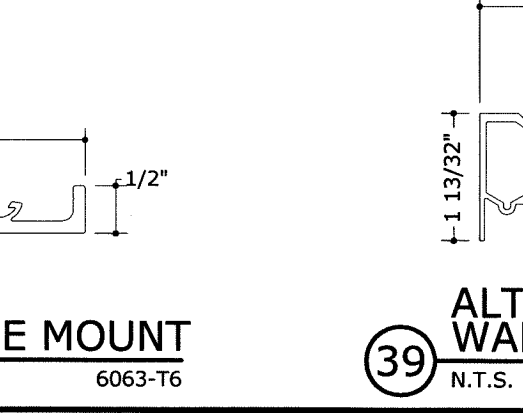
31 CEILING SIDE MOUNT
N.T.S. 6063-T6



32 HEADER SIDE MOUNT
N.T.S. 6063-T6



33 BUILD-OUT HEADER SIDE MOUNT
N.T.S. 6063-T6



39 ALT. BUILD-OUT WALL HEADER
N.T.S. 6063-T6

FRANK L. BENNARDO, P.E.
PE9688

STATE OF TEXAS
04/28/2017

FRANK L. BENNARDO, P.E.
160 SW 12th AVENUE, #1166
DEERFIELD BEACH, FL 33442
PH: (954) 354-0660 FAX: (954) 354-0443

POWERED BY THE INNOVATION OF
ENGINEERING EXPRESS
EXPERIENCE MORE AT ENGINEERINGEXPRESS.COM

IMPACT TECHNOLOGY, INC.

4984 COURTLAND LOOP
WINTER SPRINGS, FL 32708
PHONE: 407-402-4821

ACCORDION SHUTTER
WITH ALUMINUM OR POLYCARBONATE BLADES
TEXAS DEPARTMENT OF INSURANCE

REMARKS	INITIAL SUBMITTAL	DATE	DRWN	CHKD
2010 FBC (09-11-07-04)	KL	05/02/09	KL	FLB
FBC 5TH (2014)	CSL	02/14/12	CSL	TSB
		02/06/15		

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS AND SHALL NOT BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF ENGINEERING EXPRESS. ANY UNAUTHORIZED USE OR REPRODUCTION OF THIS DOCUMENT IS NOT PERMITTED AND WILL BE PROSECUTED TO THE FULL EXTENT OF THE LAW.

COPYRIGHT ENGINEERING EXPRESS

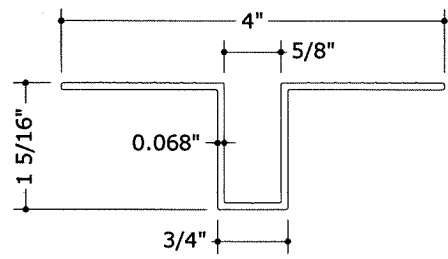
16-3611

SCALE:

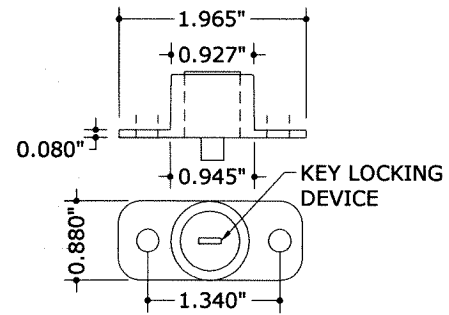
PAGE DESCRIPTION:

2 OF 12

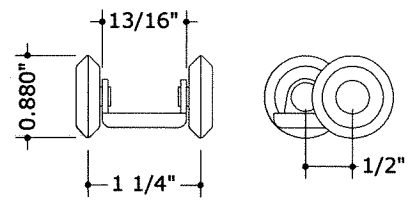
V:\Projects\16-3611_Accordion Shutter System - TDI Submittal\WP16-3611d Alum. Polycarb. Accordion Shutter (TDI).dwg 04/28/2017 - 11:17am



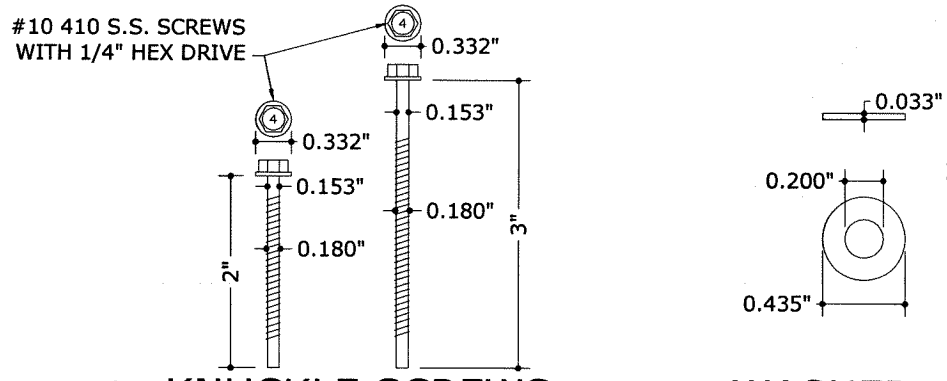
17 RECESSED TRACK
N.T.S. 6063-T5



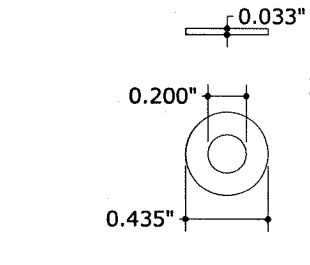
18 PUSH-BUTTON LOCK
N.T.S. 6063-T5



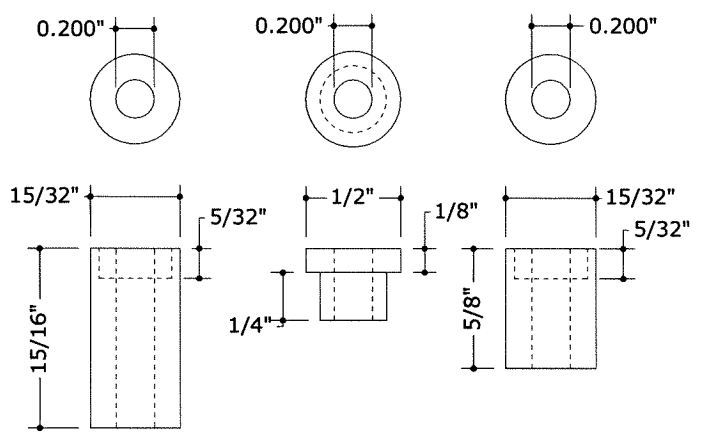
19 WHEEL CARRIAGE
N.T.S. NYLON/STAINLESS STEEL



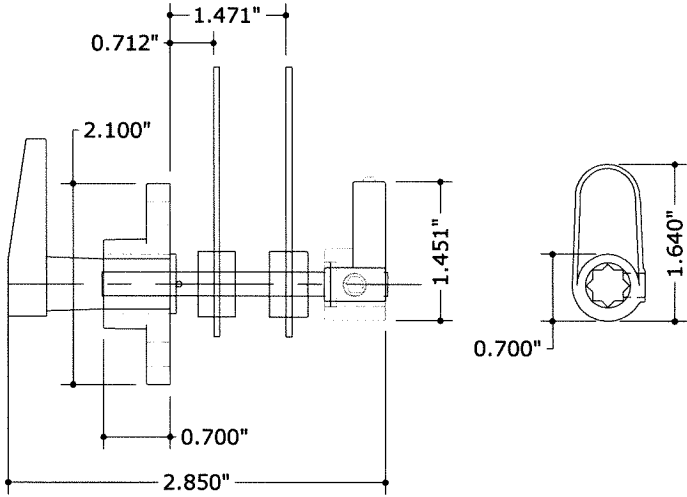
20 KNUCKLE SCREWS
N.T.S. STAINLESS STEEL



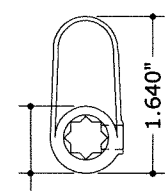
21 WASHER
N.T.S. STAINLESS STEEL



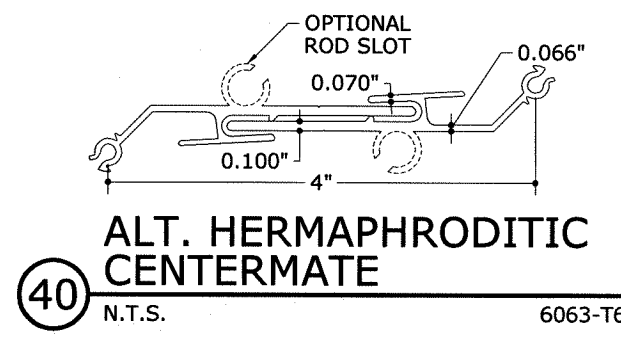
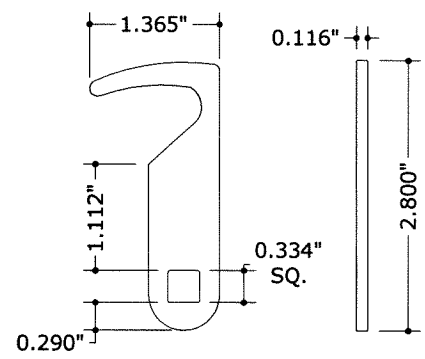
22 NYLON BUSHINGS
N.T.S. NYLON



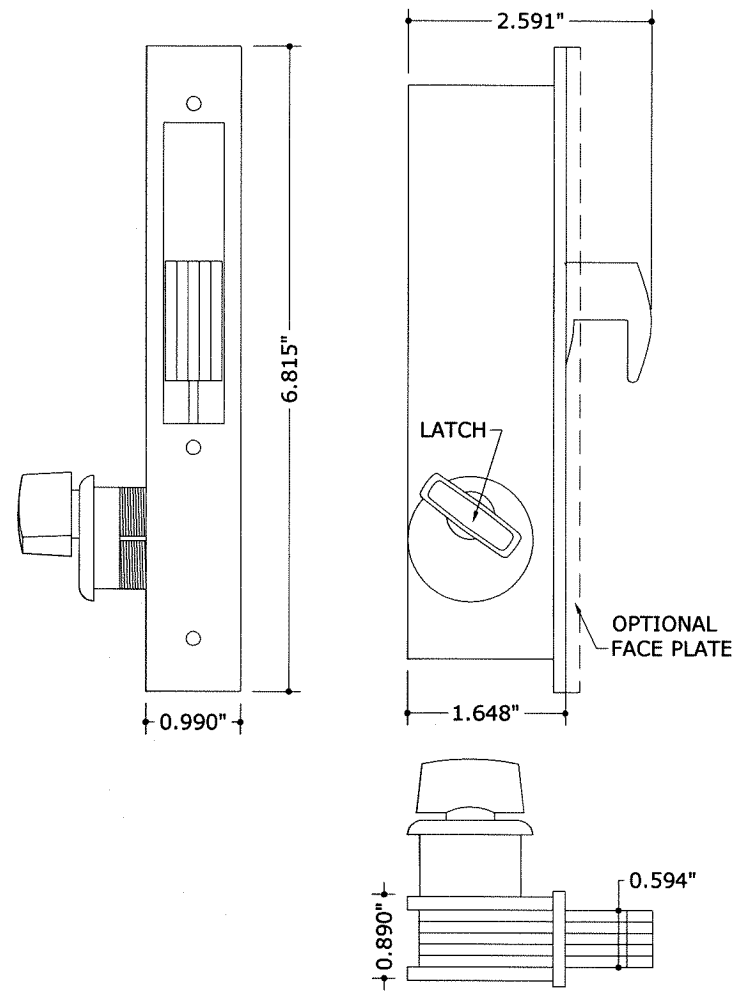
23 LOCK ASSEMBLY
N.T.S. ZINC ALLOY/STAINLESS STEEL



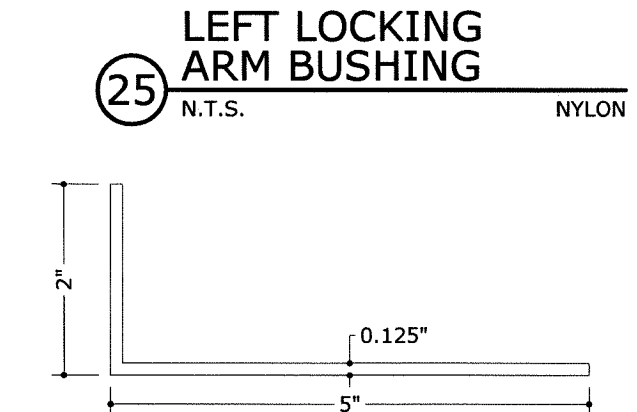
24 LOCKING ARM
N.T.S. 410 STAINLESS STEEL



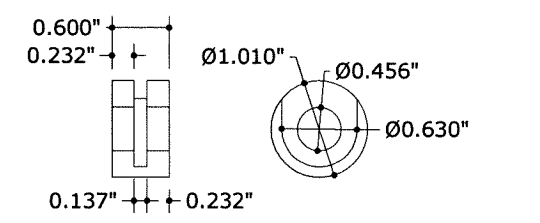
40 ALT. HERMAPHRODITIC CENTERMATE
N.T.S. 6063-T6



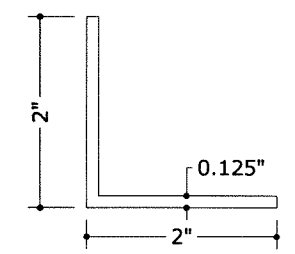
34 HOOK BOLT DEAD LOCK
N.T.S. ALUMINUM



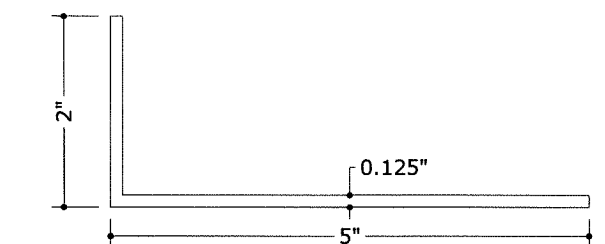
25 LEFT LOCKING ARM BUSHING
N.T.S. NYLON



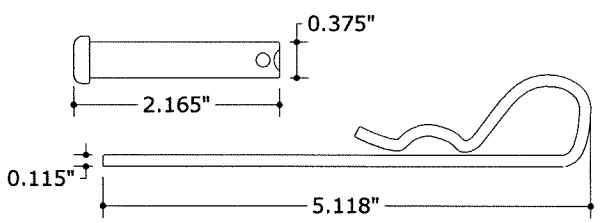
26 RIGHT LOCKING ARM BUSHING
N.T.S. NYLON



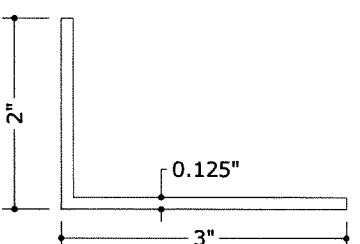
35 2"x2"x0.125" ANGLE
N.T.S. 6063-T6



27 2"x5"x0.125" ANGLE
N.T.S. 6063-T6



28 CLEVIS AND PIN
N.T.S. CADMIUM PLATED STEEL



36 2"x3"x0.125" ANGLE
N.T.S. 6063-T6

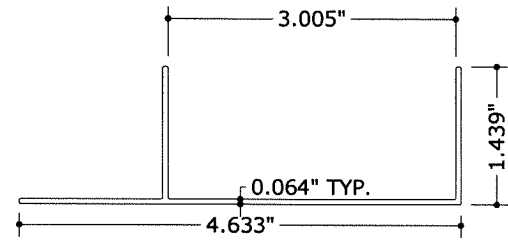
FRANK L. BENNARDO, P.E.
STATE OF TEXAS
04/28/2017
FRANK L. BENNARDO, P.E.
160 SW 12th AVE SUITE #200
DEERFIELD BEACH, FL 33442
PH: (954) 354-0660 FAX: (954) 354-0663
POWERED BY THE INNOVATION EXPRESS GROUP
ENGINEERING EXPRESS
EXPERIENCE MORE AT ENGINEERINGEXPRESS.COM

IMPACT TECHNOLOGY, INC.
4984 COURTLAND LOOP
WINTER SPRINGS, FL 32708
PHONE: 407-402-4821
ACCORDION SHUTTER
WITH ALUMINUM OR POLYCARBONATE BLADES
TEXAS DEPARTMENT OF INSURANCE

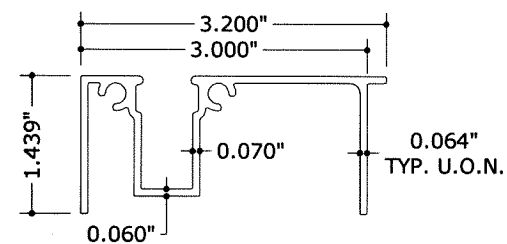
REMARKS	DRWN	CHKD	DATE
INITIAL SUBMITTAL	KL	FLB	05/03/09
2010 FBC (08-11-01-04)	KL	FLB	02/14/12
FBC 5TH (2014)	CSL	TSB	02/08/15

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. PERMISSION IS GRANTED TO THE USER TO MAKE A COPY OF THIS DOCUMENT FOR PERSONAL USE ONLY. ALL OTHER RIGHTS ARE RESERVED. ENGINEERING EXPRESS GROUP, INC. 2014

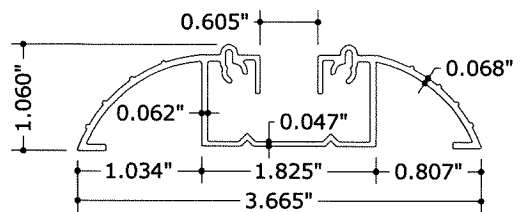
COPYRIGHT ENGINEERING EXPRESS
16-3611
SCALE:
PAGE DESCRIPTION:
3 OF 12



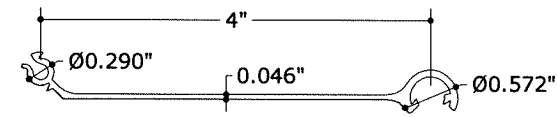
41 ALT. ADJUSTABLE SILL TRACK BOTTOM
N.T.S. 6063-T6



42 ALT. ADJUSTABLE SILL TRACK TOP
N.T.S. 6063-T6



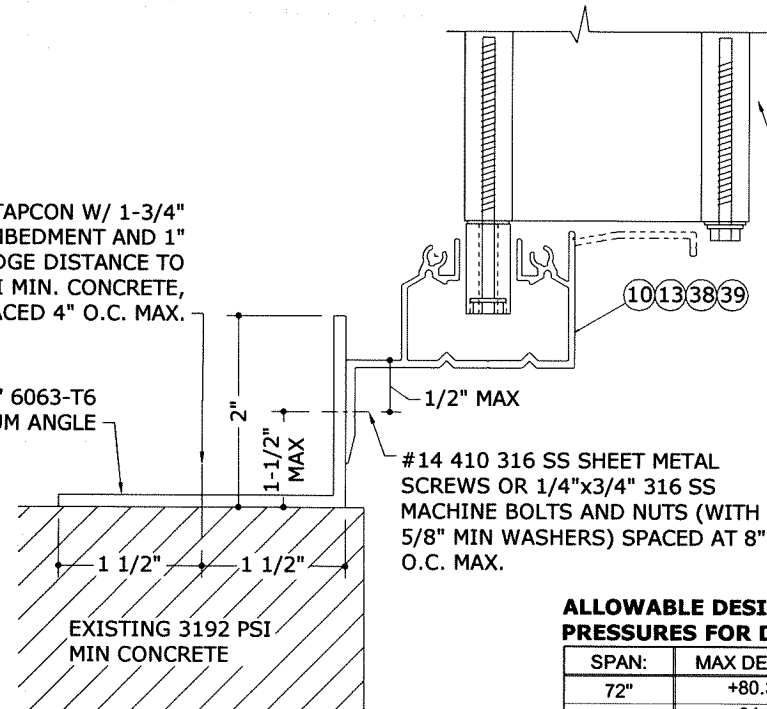
43 ALT. WALKOVER TRACK
N.T.S. 6063-T6



44 LIGHTWEIGHT BLADE
N.T.S. 6063-T6

1/4" ITW TAPCON W/ 1-3/4" MIN. EMBEDMENT AND 1" MIN. EDGE DISTANCE TO 3192 PSI MIN. CONCRETE, SPACED 4" O.C. MAX.

2"x3"x0.125" 6063-T6 ALUMINUM ANGLE



#14 410 316 SS SHEET METAL SCREWS OR 1/4"x3/4" 316 SS MACHINE BOLTS AND NUTS (WITH 5/8" MIN WASHERS) SPACED AT 8" O.C. MAX.

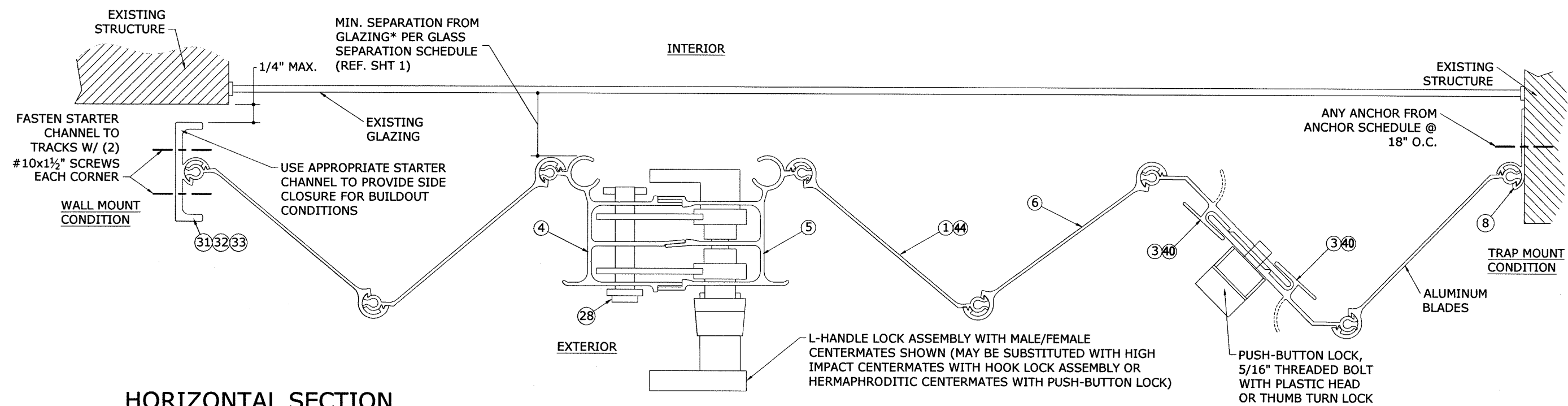
ALLOWABLE DESIGN PRESSURES FOR DETAIL 1/4:

SPAN:	MAX DESIGN PRESSURE:
72"	+80.3 psf / -80.3 psf
90"	+64.2 psf / -64.2 psf
108"	+53.5 psf / -53.5 psf
126"	+45.9 psf / -45.9 psf
144"	+40.1 psf / -40.1 psf

NOTE: MAXIMUM ALLOWABLE SPANS AND DESIGN PRESSURES FOR THIS MOUNTING CONDITION PER TABLE BELOW.

1 BUILD-UP WALL MOUNT
N.T.S. VERT SECTION

ACCORDION SHUTTER SYSTEM PER PRODUCT APPROVAL



2 HORIZONTAL SECTION W/ FLOATING STACK
N.T.S. HORIZ SECTION

***NOTE:** SEPARATION FROM GLAZING SHALL BE MEASURED FROM THE PROTECTED FENESTRATION PRODUCT TO THE NEAREST POINT ON THE INTERIOR SIDE OF THE SHUTTER, WHICH MAY BE THE BLADE, CENTERMATE, OR LOCKING DEVICE.

STATE OF TEXAS
FRANK L. BENNARD, P.E.
04/28/2017
FRANK L. BENNARD, P.E.
160 SW 12th AVE, #196
DEERFIELD BEACH, FL 33442
PH: (954) 354-0660 FAX: (954) 354-0404
POWERED BY THE INNOVATION OF
ENGINEERING EXPRESS
EXPERIENCE MORE AT ENGINEERINGEXPRESS.COM

IMPACT TECHNOLOGY, INC.
4984 COURTLAND LOOP
WINTER SPRINGS, FL 32708
PHONE: 407-402-4821
ACCORDION SHUTTER
WITH ALUMINUM OR POLYCARBONATE BLADES
TEXAS DEPARTMENT OF INSURANCE

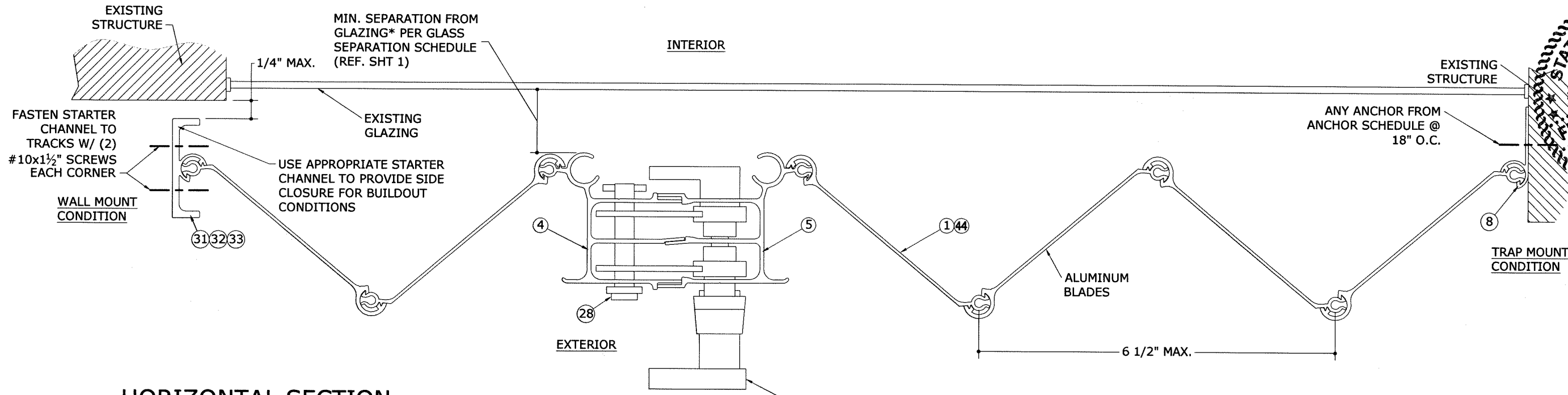
REMARKS	DRWN	CHKD	DATE
INITIAL SUBMITTAL	KL	FLB	05/03/09
2010 PBC (09-11-01-04)	KL	FLB	02/14/12
PBC 5TH (2014)	CSL	TSB	02/08/15

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS AND SHALL NOT BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF ENGINEERING EXPRESS. ANY UNAUTHORIZED REPRODUCTION OR DISTRIBUTION OF THIS DOCUMENT IS STRICTLY PROHIBITED AND WILL BE PROSECUTED TO THE FULL EXTENT OF THE LAW.

COPYRIGHT ENGINEERING EXPRESS
16-3611
SCALE:
PAGE DESCRIPTION:
4 OF 12

V:\Projects\16-3611 Accordion Shutter System - TDI Submittal\WP16-3611d Alum. Polycarb. Accordion Shutter (TDI).dwg 04/28/2017 - 11:17am

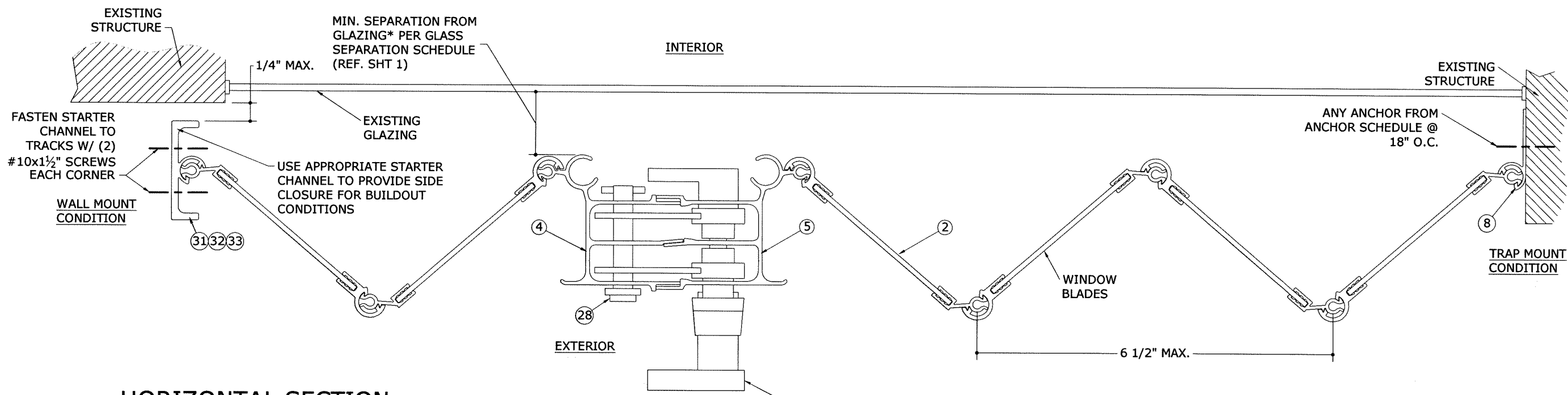
V:\Projects\16-3611 Accordion Shutter System - TDI Submittal\WP16-3611d Alum, Polycarb Accordion Shutter (TDI).dwg 04/28/2017 - 11:17am



1 **HORIZONTAL SECTION W/ ALUMINUM BLADES**
N.T.S. **5** **HORIZ SECTION**

L-HANDLE LOCK ASSEMBLY WITH MALE/FEMALE CENTERMATES SHOWN (MAY BE SUBSTITUTED WITH HIGH IMPACT CENTERMATES WITH HOOK LOCK ASSEMBLY OR HERMAPHRODITIC CENTERMATES WITH PUSH-BUTTON LOCK)

***NOTE:** SEPARATION FROM GLAZING SHALL BE MEASURED FROM THE PROTECTED FENESTRATION PRODUCT TO THE NEAREST POINT ON THE INTERIOR SIDE OF THE SHUTTER, WHICH MAY BE THE BLADE, CENTERMATE, OR LOCKING DEVICE.



2 **HORIZONTAL SECTION W/ WINDOW BLADES**
N.T.S. **5** **HORIZ SECTION**

L-HANDLE LOCK ASSEMBLY WITH MALE/FEMALE CENTERMATES SHOWN (MAY BE SUBSTITUTED WITH HIGH IMPACT CENTERMATES WITH HOOK LOCK ASSEMBLY OR HERMAPHRODITIC CENTERMATES WITH PUSH-BUTTON LOCK)

FRANK L. BENNARDO, P.E.
STATE OF TEXAS
04/28/2017
FRANK L. BENNARDO, P.E.
160 SW 12th AVE, #1000
DEERFIELD BEACH, FL 33442
PH: (954) 354-0660 FAX: (954) 354-1893
POWERED BY THE INNOVATION OF ENGINEERING EXPRESS
ENGINEERING EXPRESS
EXPERIENCE MORE AT ENGINEERINGEXPRESS.COM

IMPACT TECHNOLOGY, INC.
4984 COURTLAND LOOP
WINTER SPRINGS, FL 32708
PHONE: 407-402-4821

ACCORDION SHUTTER WITH ALUMINUM OR POLYCARBONATE BLADES
TEXAS DEPARTMENT OF INSURANCE

REMARKS	DRWN	CHKD	DATE
INITIAL SUBMITTAL	KL	FLB	05/03/09
2010 FBC (09-11-01-04)	KL	FLB	02/14/12
FBC 5TH (2014)	CSL	TSB	02/06/15

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS AND SHALL NOT BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. PERMISSION IS GRANTED TO ENGINEERS, ARCHITECTS, AND DESIGNERS TO USE THIS DOCUMENT FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED IN THE TITLE BLOCK. PERMISSION IS NOT GRANTED TO REPRODUCE OR TRANSMIT THIS DOCUMENT FOR ANY OTHER PROJECT OR SITE. PERMISSION IS NOT GRANTED TO REPRODUCE OR TRANSMIT THIS DOCUMENT FOR ANY OTHER PROJECT OR SITE.

COPYRIGHT ENGINEERING EXPRESS

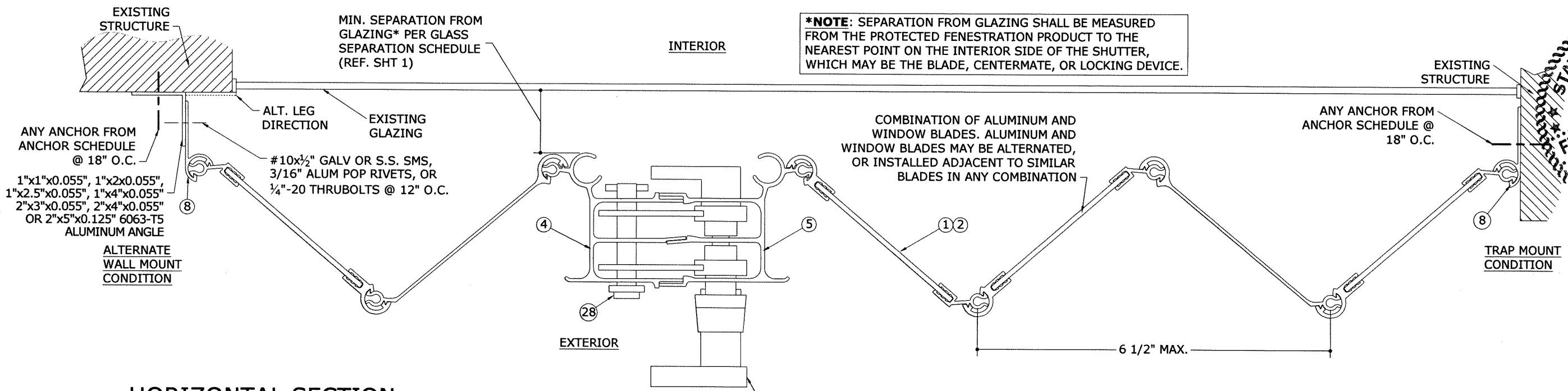
16-3611

SCALE: _____

PAGE DESCRIPTION: _____

5 OF 12

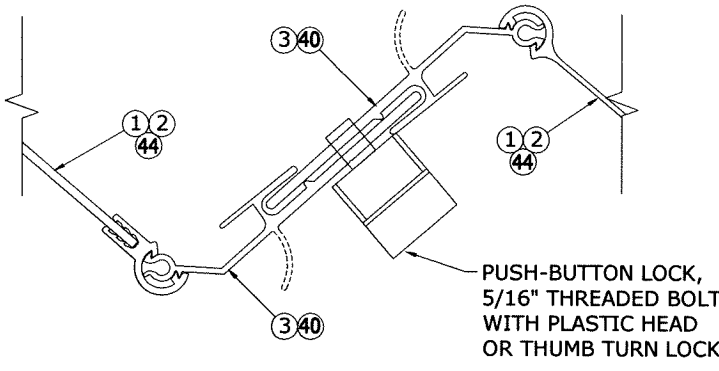
V:\Projects\16-3611 Accordion Shutter System - TDI Submittal\WP16-3611d Alum. Polycarb. Accordion Shutter (TDI).dwg 04/28/2017 - 11:17am



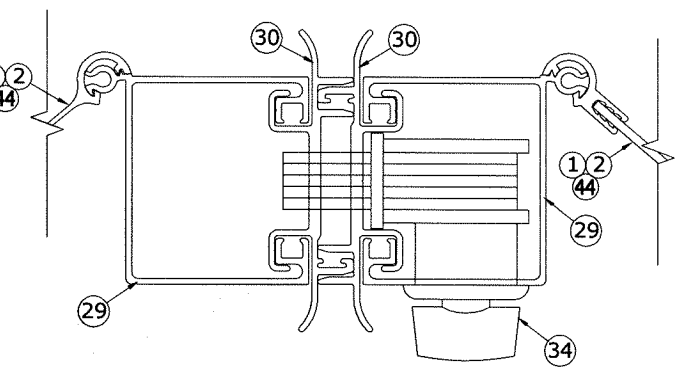
1 HORIZONTAL SECTION W/ COMBINATION BLADES
6 N.T.S. HORIZ SECTION

NOTE: LOCKS MAY BE MOUNTED ON INTERIOR OR EXTERIOR SIDE OF SHUTTER.

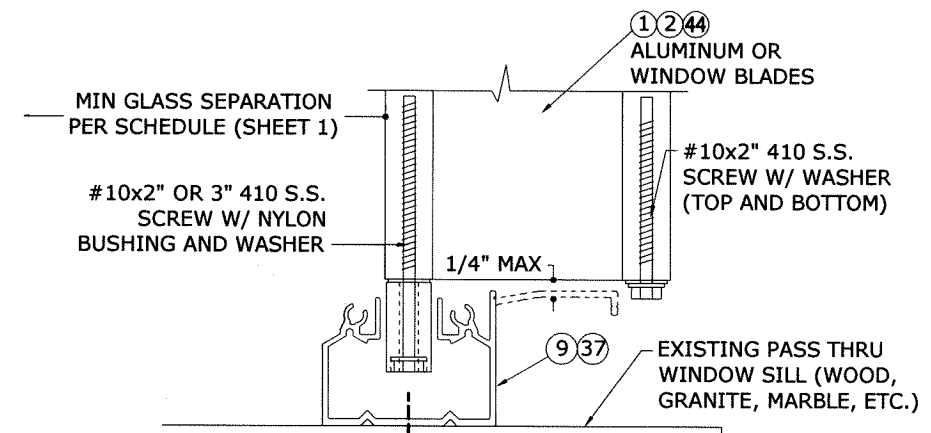
L-HANDLE LOCK ASSEMBLY WITH MALE/FEMALE CENTERMATES SHOWN (MAY BE SUBSTITUTED WITH HIGH IMPACT CENTERMATES WITH HOOK LOCK ASSEMBLY OR HERMAPHRODITIC CENTERMATES WITH PUSH-BUTTON LOCK)



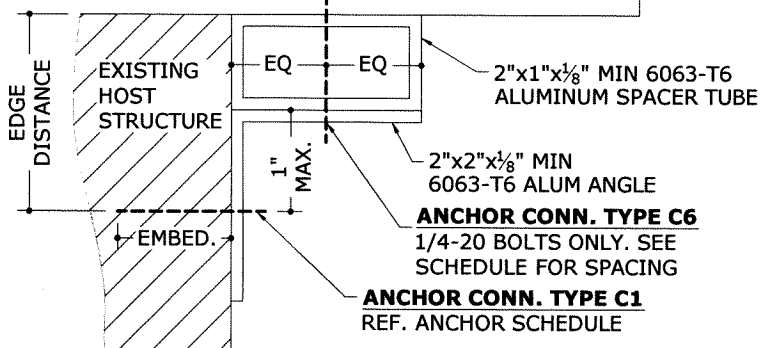
2 ALT. HERMAPHRODITIC CENTERMATE
6 N.T.S. HORIZ SECTION



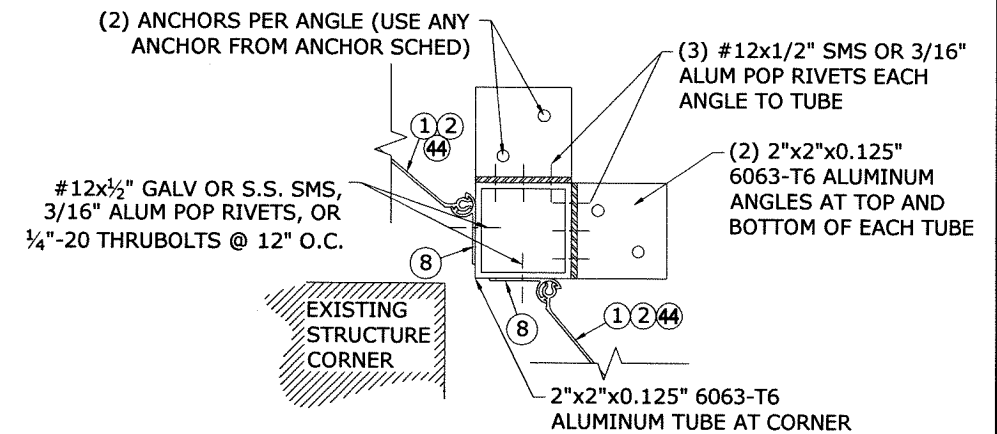
3 ALT. HIGH IMPACT CENTERMATE
6 N.T.S. HORIZ SECTION



4 PASS THRU WINDOW DETAIL
6 N.T.S. VERT SECTION



5 STANDARD CORNER CLOSURE
6 N.T.S. HORIZ SECTION



6 ALTERNATE CORNER CLOSURE
6 N.T.S. HORIZ SECTION

FRANK L. BENNARDO, P.E.
STATE OF TEXAS
04/28/2017
FRANK L. BENNARDO, P.E.
160 SW 12th AVE. SUITE #802
DEERFIELD BEACH, FL 33442
PH: (954) 354-0660 FAX: (954) 354-0661
POWERED BY THE INNOVATIONS OF
ENGINEERING EXPRESS
EXPERIENCE MORE AT ENGINEERINGEXPRESS.COM

IMPACT TECHNOLOGY, INC.
4984 COURTLAND LOOP
WINTER SPRINGS, FL 32708
PHONE: 407-402-4821

ACCORDION SHUTTER WITH ALUMINUM OR POLYCARBONATE BLADES
TEXAS DEPARTMENT OF INSURANCE

REMARKS	DATE
INITIAL SUBMITTAL	05/03/09
2010 FBC (09-11-01-04)	02/14/12
FBC 5TH (2014)	02/06/15

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS AND SHALL NOT BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. PERMISSION TO REPRODUCE THIS DOCUMENT IS NOT PERMITTED AND INVALIDATES OUR CERTIFICATION.

COPYRIGHT ENGINEERING EXPRESS

16-3611

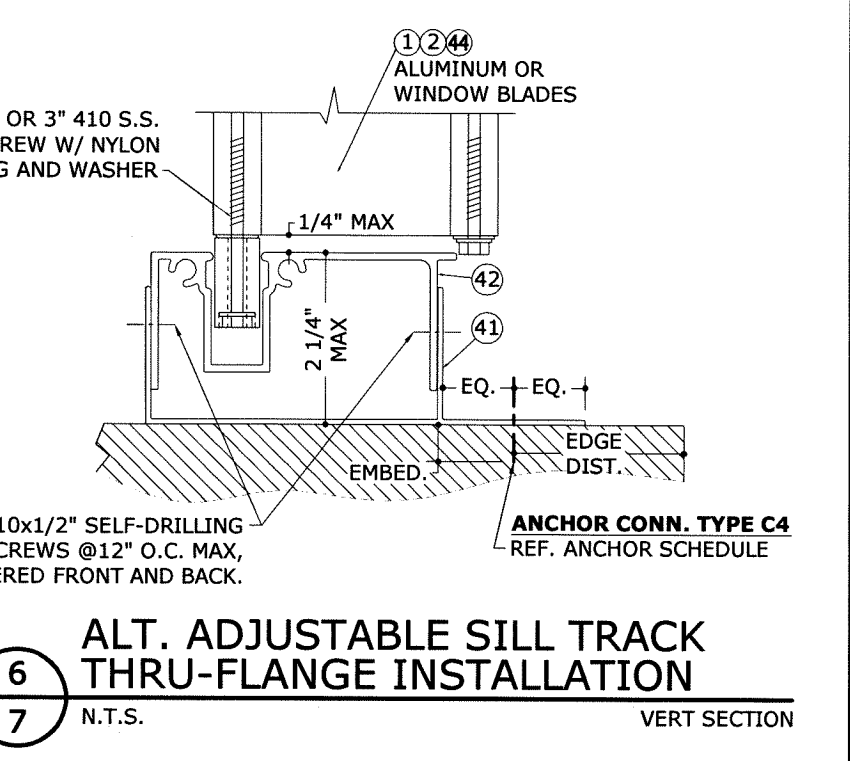
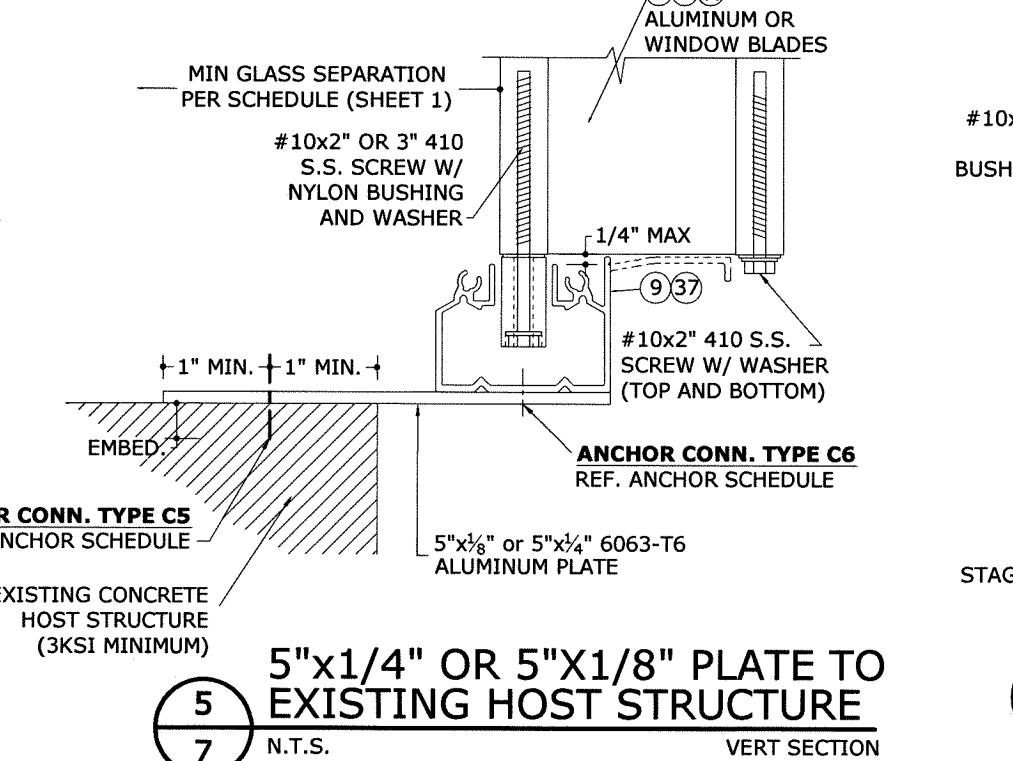
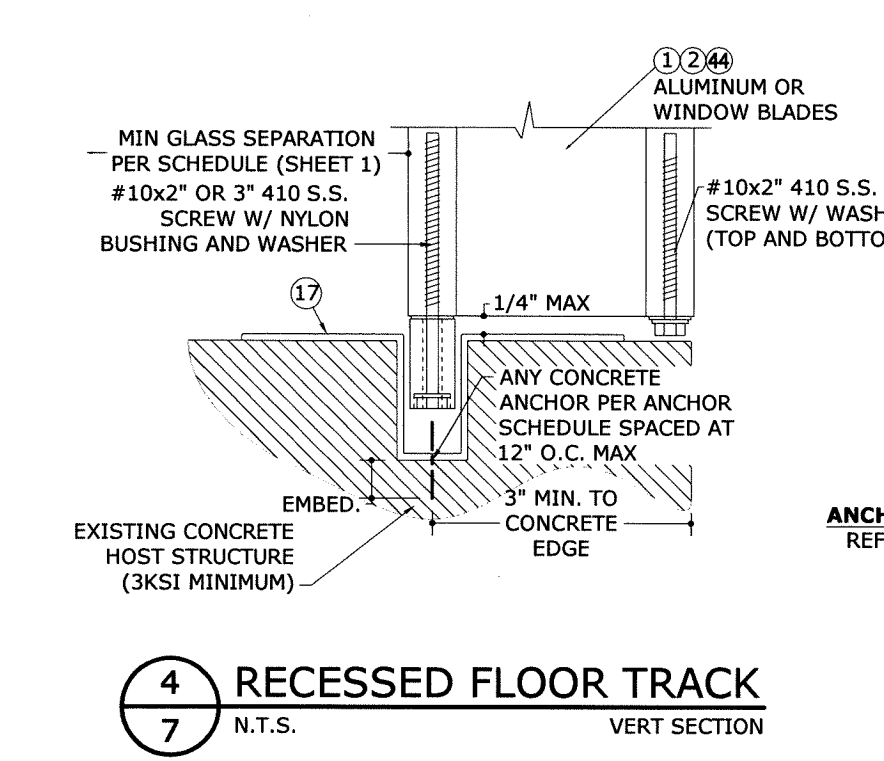
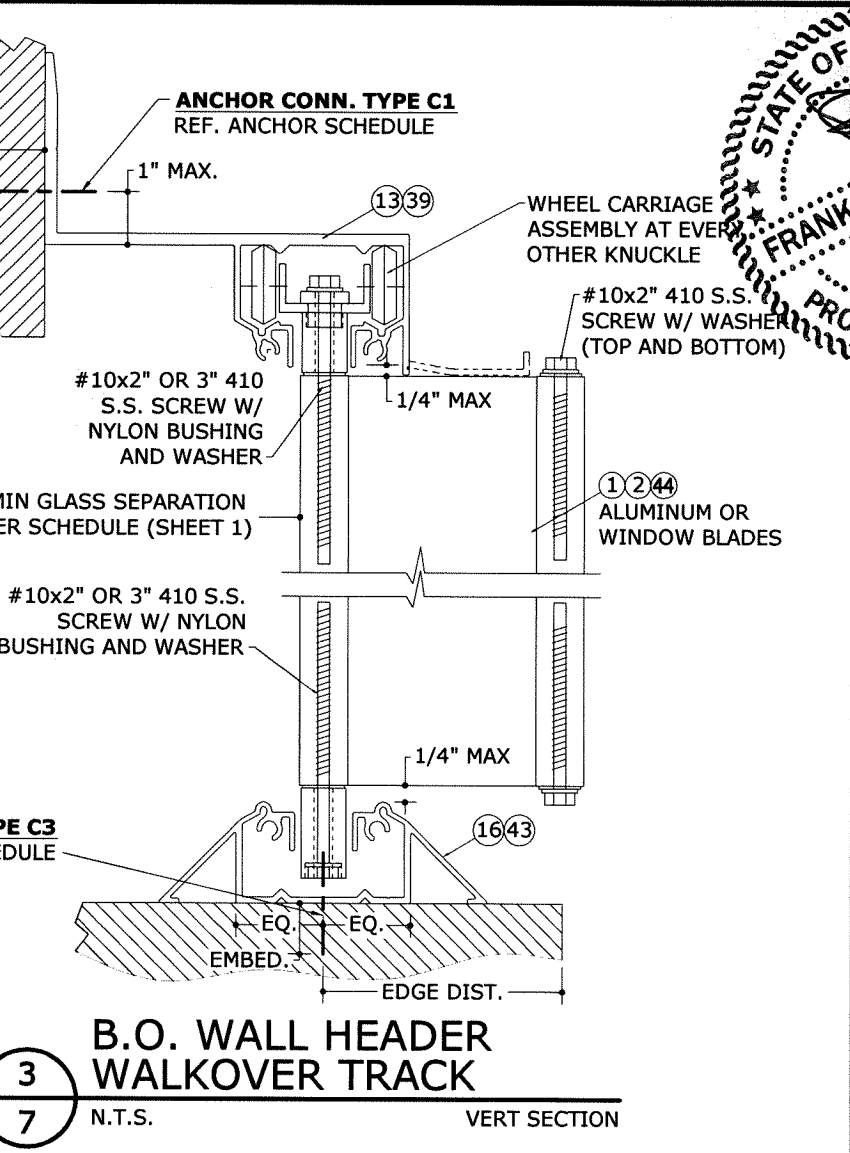
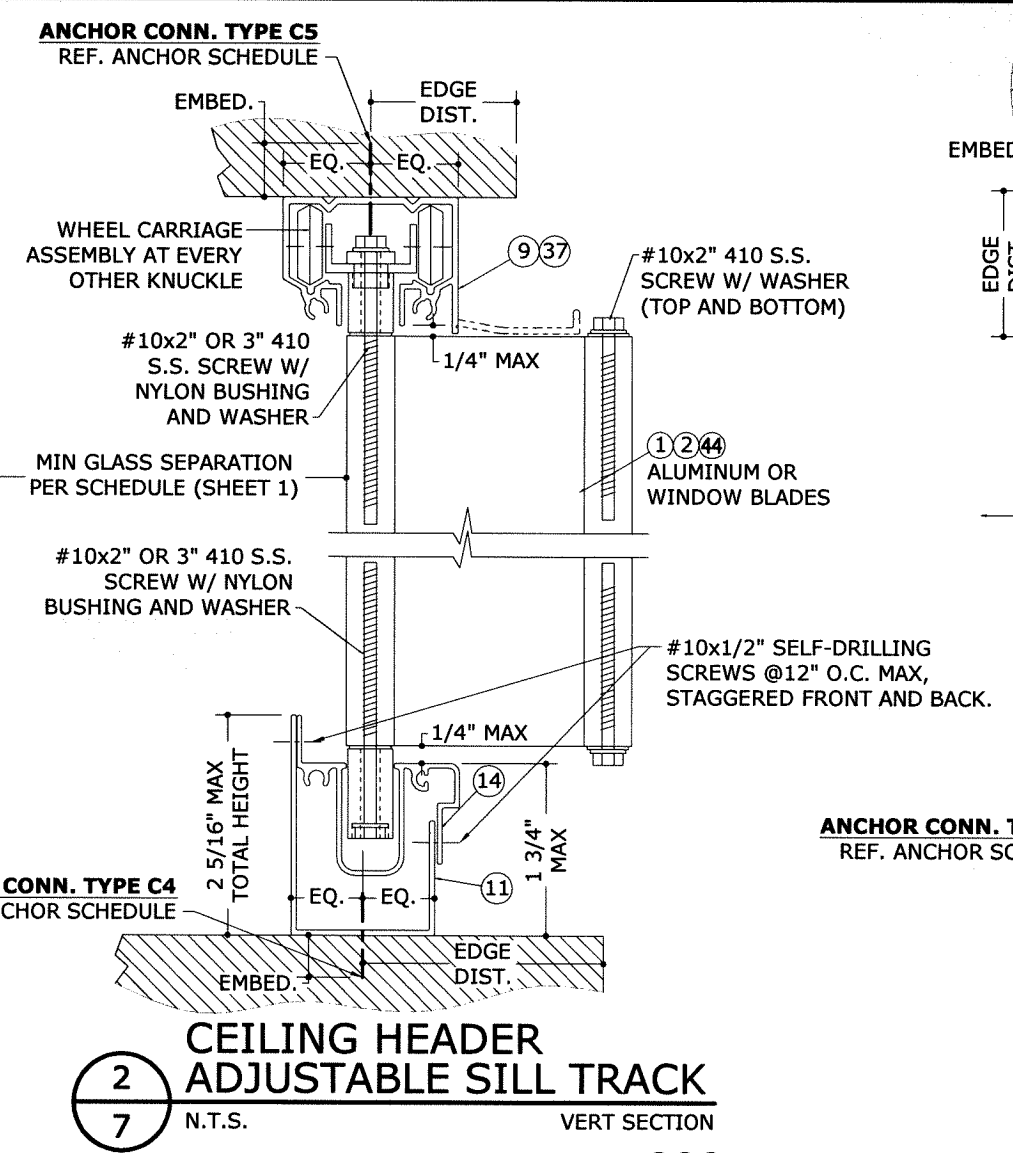
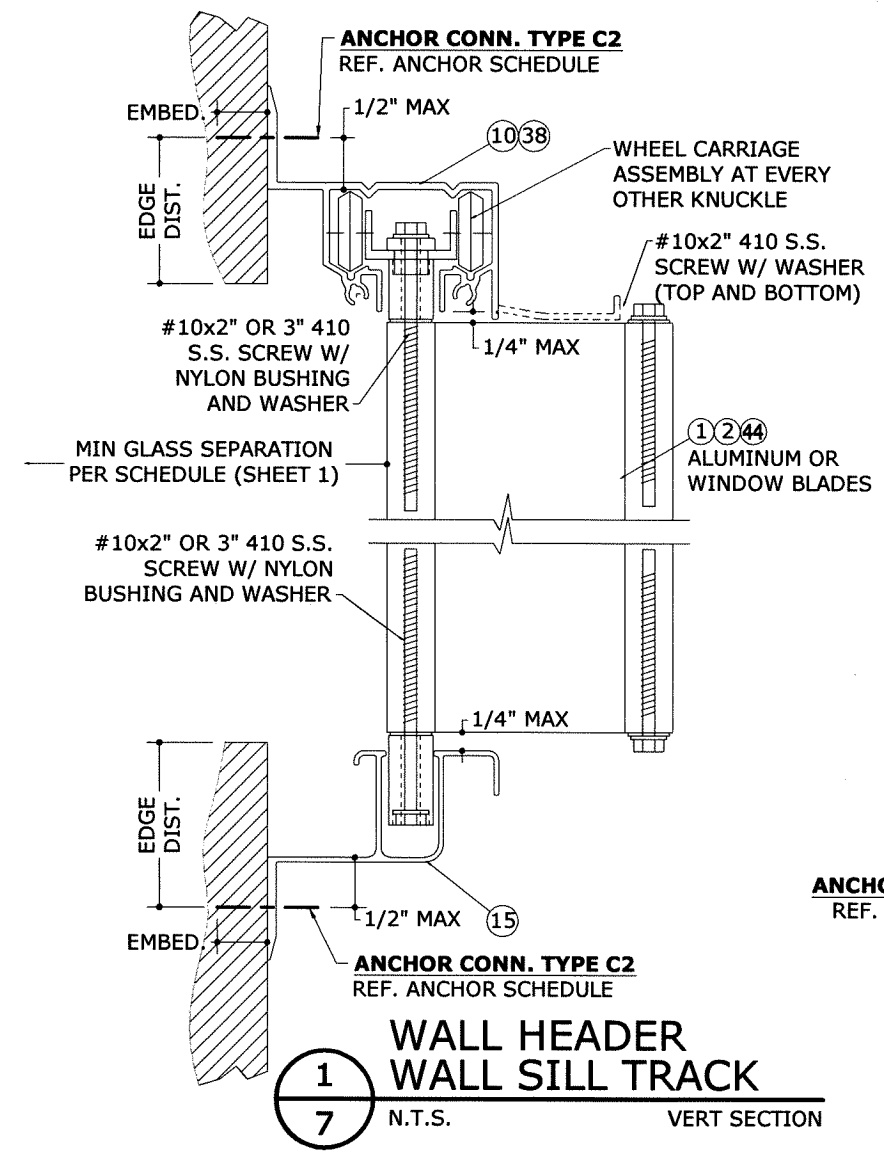
SCALE: _____

PAGE DESCRIPTION: _____

OF 12

6

V:\Projects\16-3611 Accordion Shutter System - TDI Submittal\WP\16-3611d Alum, Polycarb Accordion Shutter (TDI).dwg 04/28/2017 - 11:17am



FRANK L. BENNARDI, P.E.
STATE OF TEXAS
Professional Engineer
No. 10444
Exp. 08/31/2018
POWERED BY THE INNOVATION OF
ENGINEERING EXPRESS
EXPERIENCE MORE AT ENGINEERINGEXPRESS.COM

FRANK L. BENNARDI, P.E.
160 SW 12th Avenue, Suite 100
Deerfield Beach, FL 33442
PH: (954) 354-0660 FAX: (954) 354-0660

IMPACT TECHNOLOGY, INC.
4984 COURTLAND LOOP
WINTER SPRINGS, FL 32708
PHONE: 407-402-4821

ACCORDION SHUTTER WITH ALUMINUM OR POLYCARBONATE BLADES
TEXAS DEPARTMENT OF INSURANCE

REMARKS	INITIAL SUBMITTAL	DATE
	KL	05/03/09
	KL	02/14/12
	CSL	02/06/15
	TSB	

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. PERMISSION IS GRANTED TO REPRODUCE THIS DOCUMENT FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED IN THIS DOCUMENT. ALL RIGHTS ARE RESERVED. PERMISSION IS NOT GRANTED TO REPRODUCE THIS DOCUMENT FOR ANY OTHER PROJECT OR SITE. PERMISSION IS NOT GRANTED TO REPRODUCE THIS DOCUMENT FOR ANY OTHER PROJECT OR SITE.

COPYRIGHT ENGINEERING EXPRESS

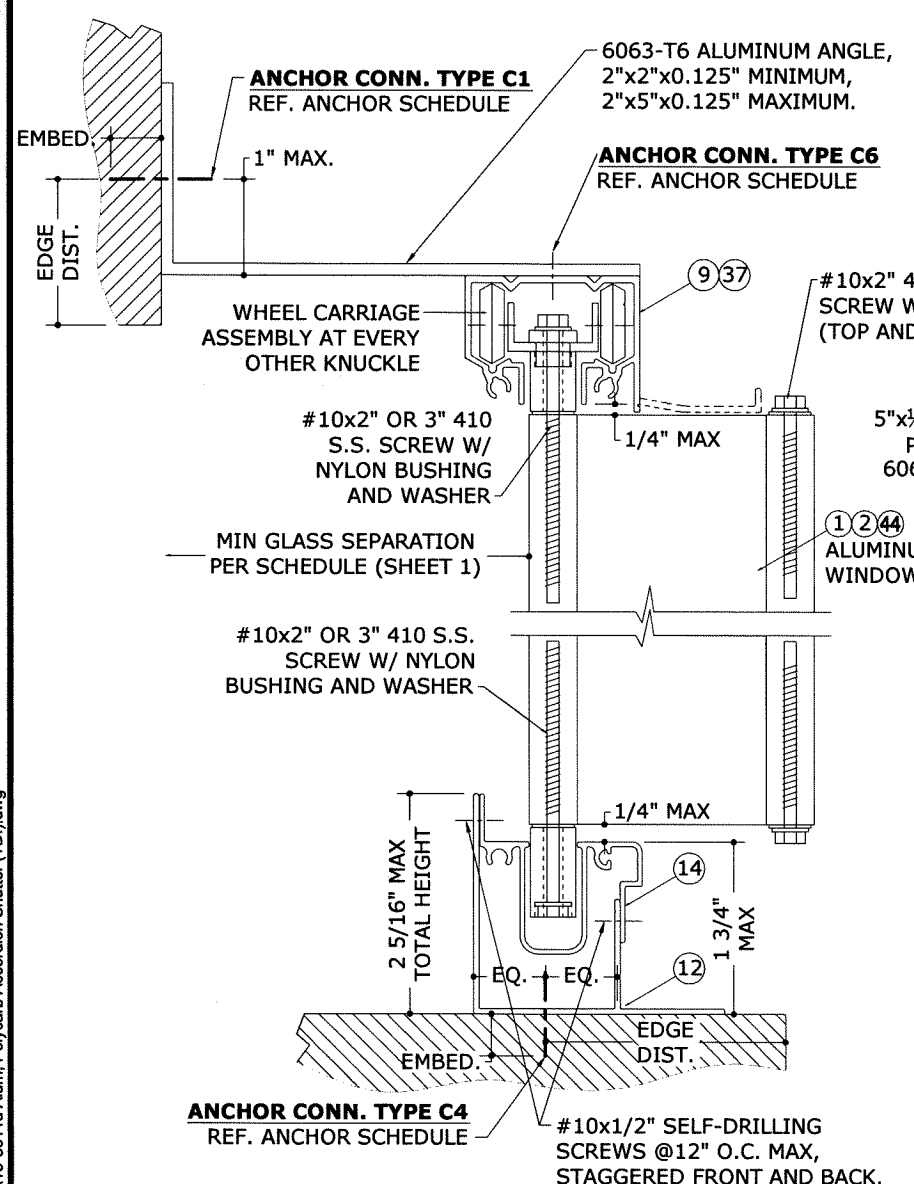
16-3611

SCALE: _____

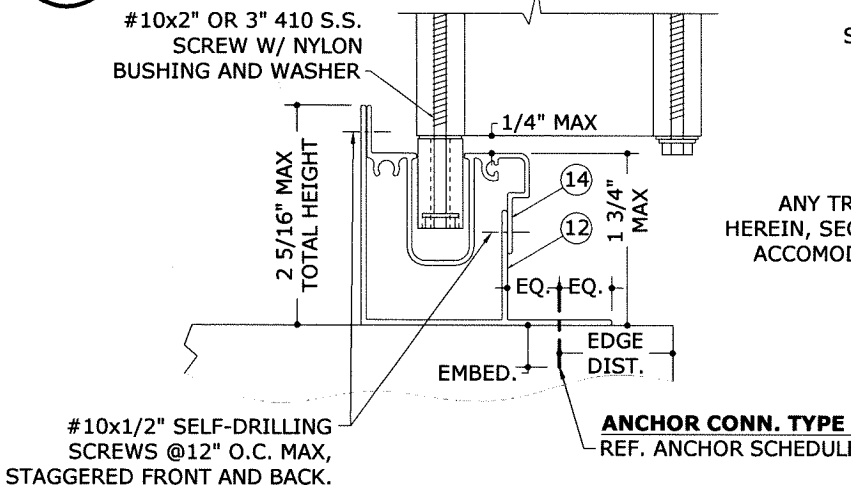
PAGE DESCRIPTION: _____

7 OF 12

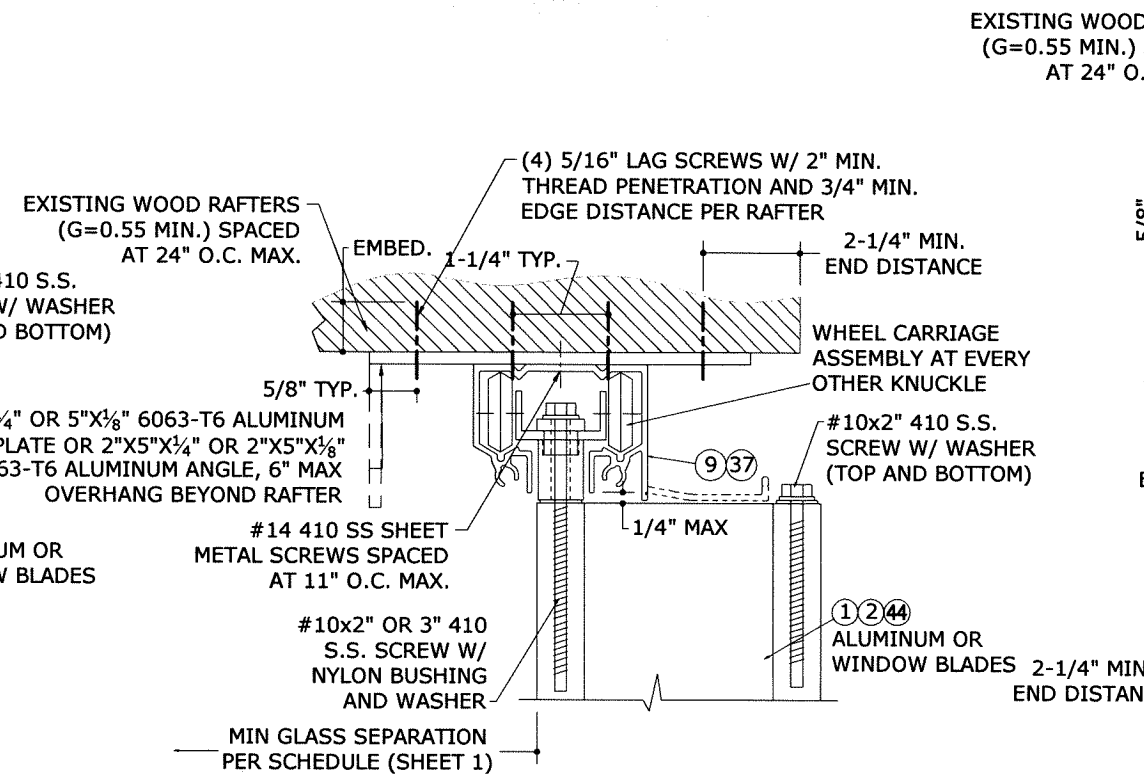
V:\Projects\16-3611 - Accordion Shutter System - TDI Submittal\WP16-3611d Alum, Polycarb Accordion Shutter (TDI).dwg 04/28/2017 - 11:17am



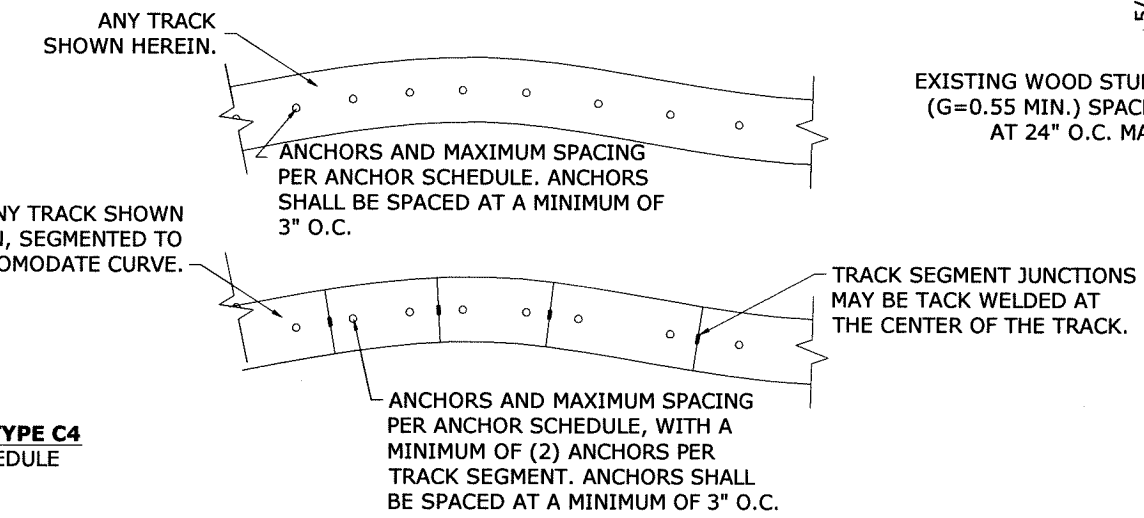
1
8 N.T.S. VERT SECTION



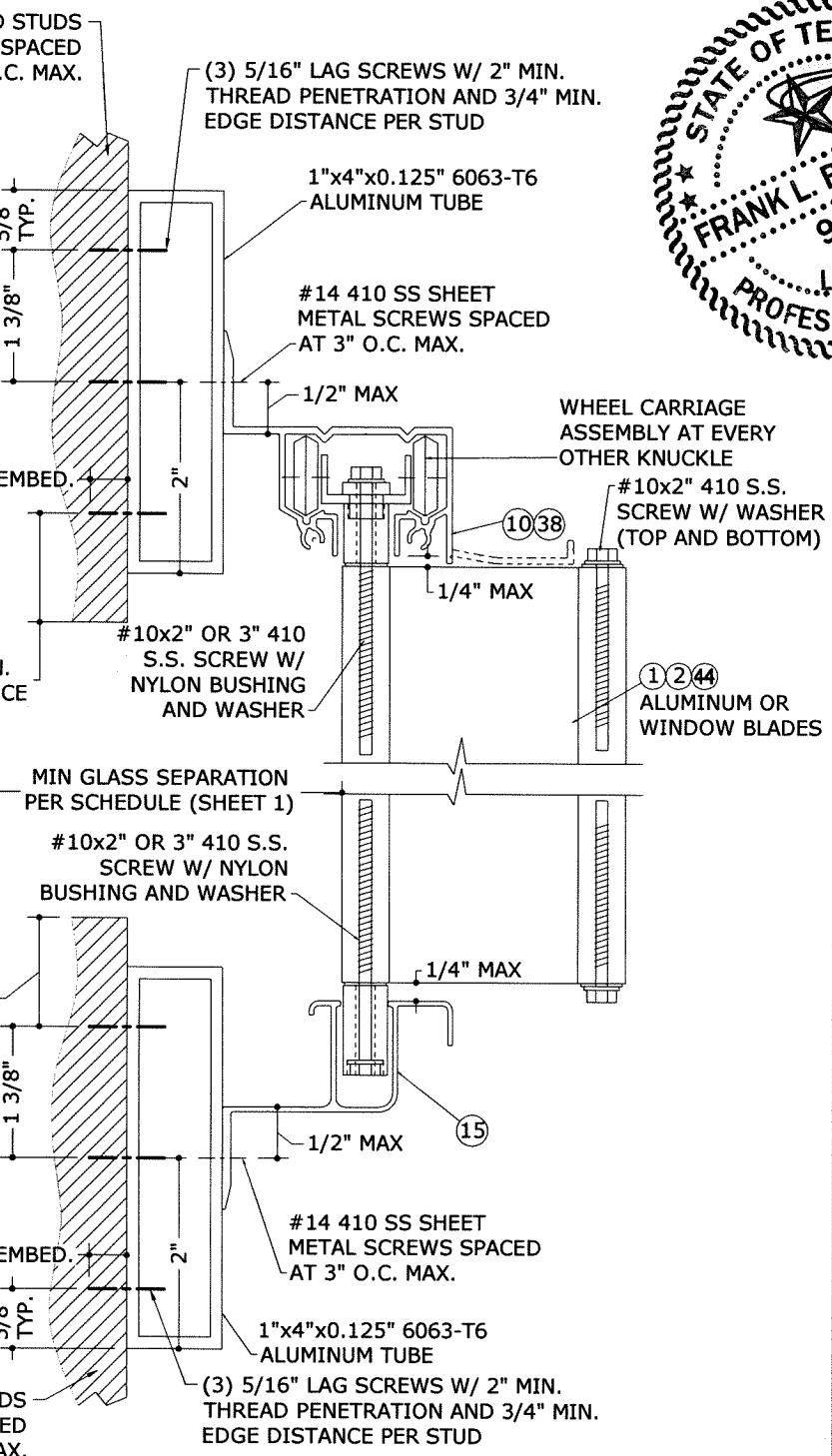
4
8 N.T.S. VERT SECTION



2
8 N.T.S. VERT SECTION



5
8 N.T.S. PLAN VIEW



3
8 N.T.S. VERT SECTION

ALLOWABLE DESIGN PRESSURES FOR DETAIL 2/8 WITH 1/4" ALUMINUM PLATE/ANGLE:

SPAN:	MAX DESIGN PRESSURE:
72"	+124.8 psf / -124.8 psf
90"	+99.8 psf / -99.8 psf
108"	+83.2 psf / -83.2 psf
126"	+61.2 psf / -71.3 psf
144"	+42.4 psf / -62.4 psf

ALLOWABLE DESIGN PRESSURES FOR DETAIL 2/8 WITH 1/8" ALUMINUM PLATE/ANGLE:

SPAN:	MAX DESIGN PRESSURE:
72"	+71.7 psf / -71.7 psf
90"	+57.3 psf / -57.3 psf
108"	+47.8 psf / -47.8 psf
126"	+40.9 psf / -40.9 psf
144"	+35.8 psf / -35.8 psf

ALLOWABLE DESIGN PRESSURES FOR DETAIL 3/8:

SPAN:	MAX DESIGN PRESSURE:
72"	+111.5 psf / -111.5 psf
90"	+89.2 psf / -89.2 psf
108"	+74.3 psf / -74.3 psf
126"	+61.2 psf / -63.7 psf
144"	+42.4 psf / -55.7 psf

NOTE: MAXIMUM ALLOWABLE SPANS AND DESIGN PRESSURES FOR THIS MOUNTING CONDITION PER TABLE BELOW.

NOTE: MAXIMUM ALLOWABLE SPANS AND DESIGN PRESSURES FOR THIS MOUNTING CONDITION PER TABLE BELOW.

FRANK L. BENNARDO, P.E.
04/28/2017

STATE OF TEXAS
FRANK L. BENNARDO, P.E.
160 SW 12th AVE, #1007
DEERFIELD BEACH, FL 33442
PH: (954) 354-0660 FAX: (954) 354-0443
POWERED BY THE INNOVATION OF
ENGINEERING EXPRESS
EXPERIENCE MORE AT ENGINEERINGEXPRESS.COM

IMPACT TECHNOLOGY, INC.
4984 COURTLAND LOOP
WINTER SPRINGS, FL 32708
PHONE: 407-402-4821

ACCORDION SHUTTER
WITH ALUMINUM OR POLYCARBONATE BLADES
TEXAS DEPARTMENT OF INSURANCE

REMARKS	INITIAL	DATE
2010 FBC (09-11-01-04)	KL	05/03/09
FBC 5TH (2014)	CSL	02/14/12
	TSB	02/08/15

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN CONSENT OF ENGINEERING EXPRESS. ENGINEERING EXPRESS ASSUMES NO LIABILITY FOR DAMAGES OF ANY KIND. DOCUMENTS ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION.

COPYRIGHT ENGINEERING EXPRESS

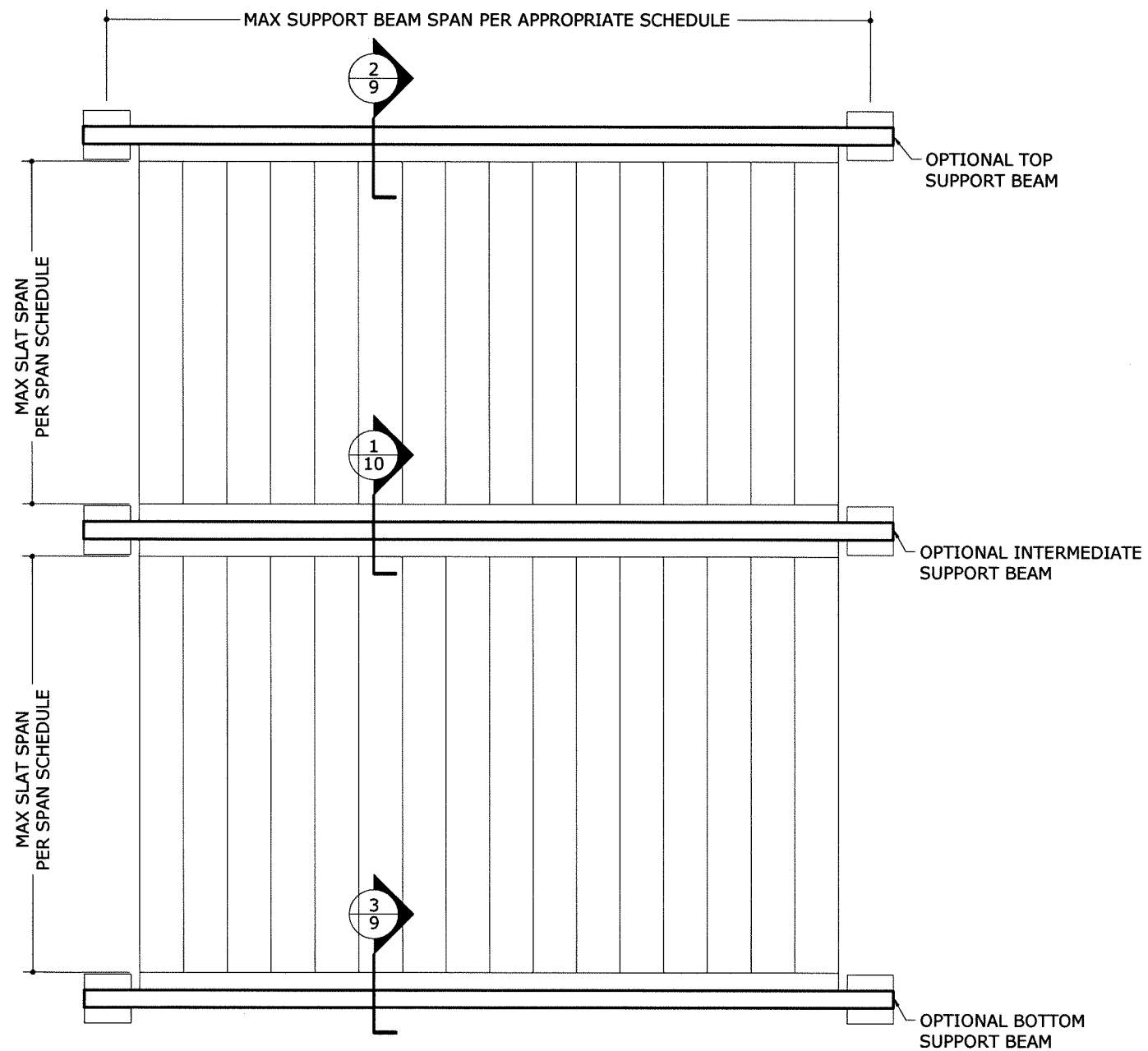
16-3611

SCALE: _____

PAGE DESCRIPTION: _____

8

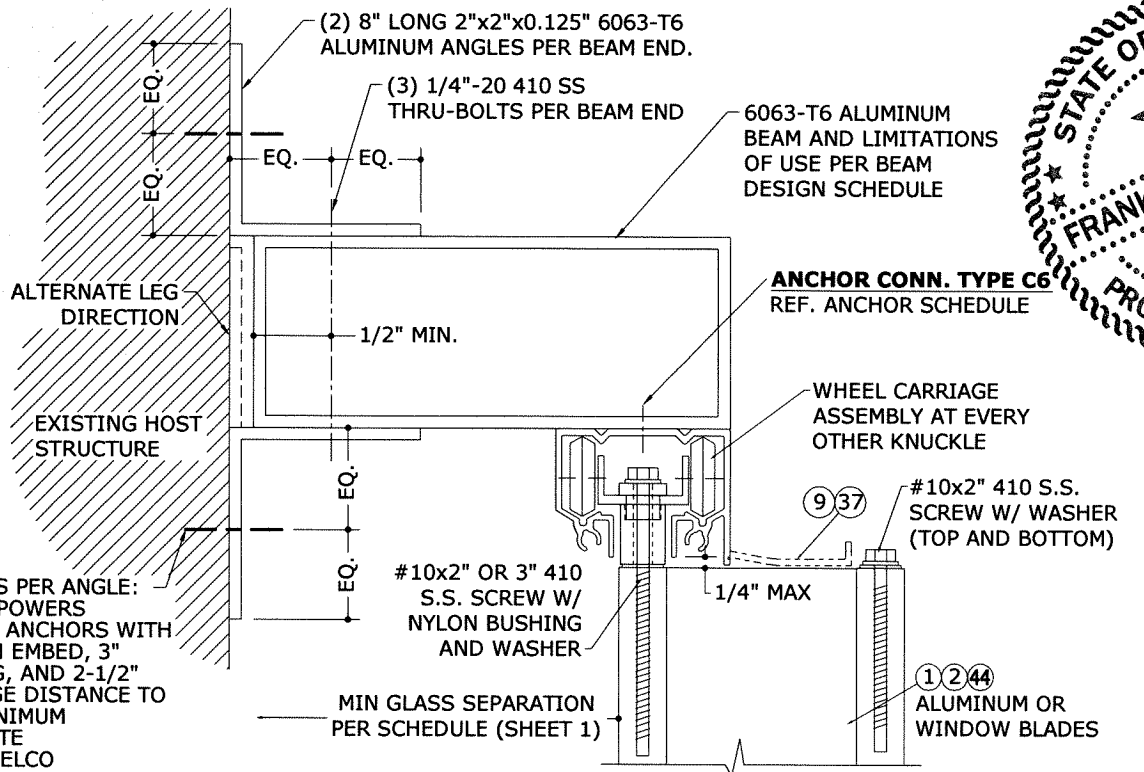
V:\Projects\16-3611_Accordion Shutter System - TDI Submittal\WP16-3611.dwg, Polycarb Accordion Shutter (TDI).dwg



1
9 ELEVATION WITH STORM BARS
N.T.S. EXTERIOR ELEV

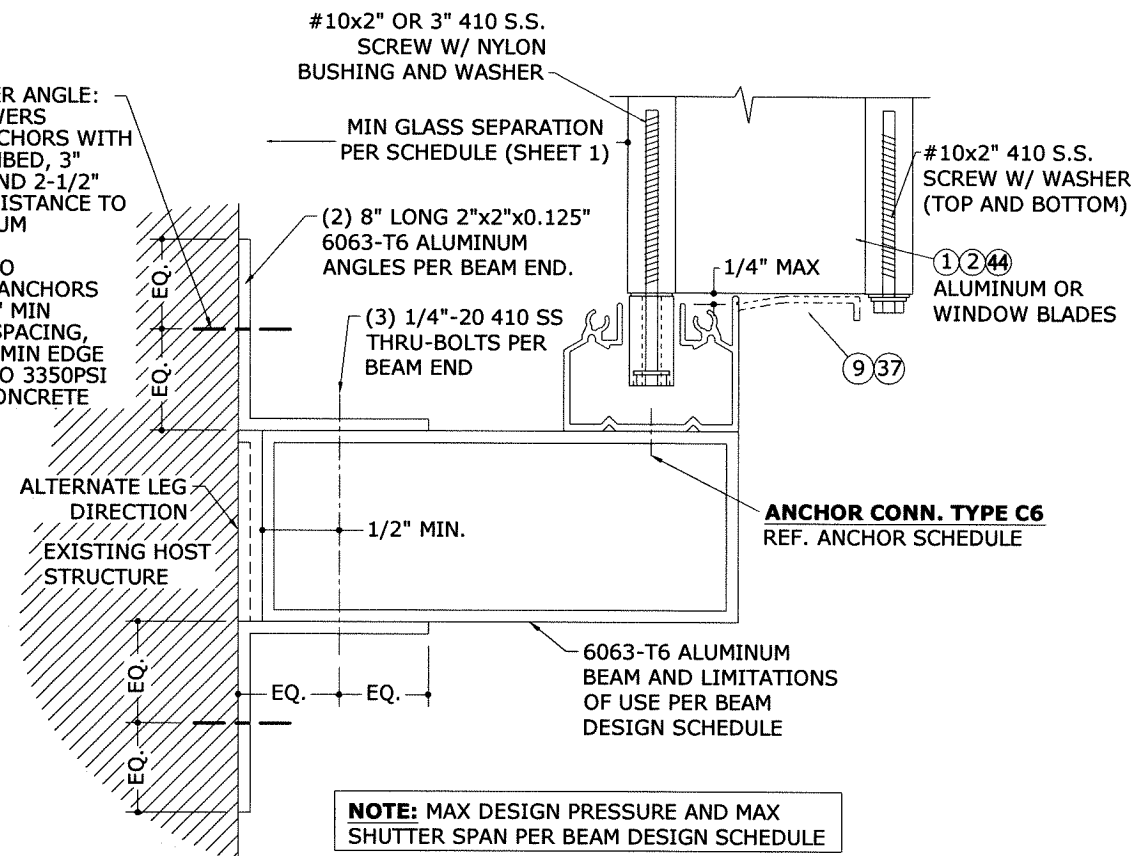
BEAM SIZE	SHUTTER SPAN	BEAM SPAN	ALLOWABLE DESIGN PRESSURE		
			TOP BEAM	BOTTOM BEAM	INTERMEDIATE BEAM
			2"x5"x0.125"	5'-0"	9'-5"
2"x8"x0.072"/0.224"	8'-0"	8'-1"	73.0 PSF	73.0 PSF	36.0 PSF
	10'-0"	7'-6"	73.0 PSF	73.0 PSF	36.0 PSF
	5'-0"	14'-0"	68.4 PSF	81.0 PSF	34.2 PSF
2"x9"x0.072"/0.224"	8'-0"	11'-6"	61.8 PSF	83.1 PSF	30.9 PSF
	10'-0"	10'-4"	61.1 PSF	82.3 PSF	30.5 PSF
	5'-0"	15'-5"	59.4 PSF	80.5 PSF	29.7 PSF
2"x9"x0.072"/0.224"	8'-0"	12'-5"	56.3 PSF	80.4 PSF	28.2 PSF
	10'-0"	11'-2"	55.5 PSF	79.6 PSF	27.7 PSF

- (3) ANCHORS PER ANGLE:
- 1/4-20" POWERS CALK-IN ANCHORS WITH 7/8" MIN EMBED, 3" SPACING, AND 2-1/2" MIN EDGE DISTANCE TO 3KSI MINIMUM CONCRETE
 - OR 1/4" ELCO CRETEFLEX ANCHORS WITH 1-3/4" MIN EMBED, 3" SPACING, AND 2-1/2" MIN EDGE DISTANCE TO 3350PSI MINIMUM CONCRETE

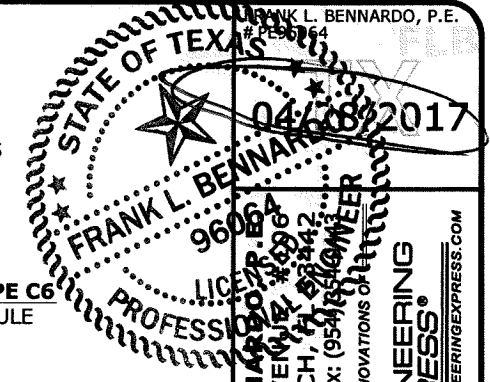


2
9 TOP SUPPORT BEAM
N.T.S. VERT SECTION

- (3) ANCHORS PER ANGLE:
- 1/4-20" POWERS CALK-IN ANCHORS WITH 7/8" MIN EMBED, 3" SPACING, AND 2-1/2" MIN EDGE DISTANCE TO 3KSI MINIMUM CONCRETE
 - OR 1/4" ELCO CRETEFLEX ANCHORS WITH 1-3/4" MIN EMBED, 3" SPACING, AND 2-1/2" MIN EDGE DISTANCE TO 3350PSI MINIMUM CONCRETE



3
9 BOTTOM SUPPORT BEAM
N.T.S. VERT SECTION



IMPACT TECHNOLOGY, INC.
4984 COURTLAND LOOP
WINTER SPRINGS, FL 32708
PHONE: 407-402-4821

ACCORDION SHUTTER
WITH ALUMINUM OR POLYCARBONATE BLADES
TEXAS DEPARTMENT OF INSURANCE

REMARKS	DRWN	CHKD	DATE
INITIAL SUBMITTAL	KL	FLB	05/03/09
2010 FBC (08-11-01-04)	KL	FLB	02/14/12
FBC 5TH (2014)	CSL	TSB	02/06/15

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF ENGINEERING EXPRESS. ALL RIGHTS ARE RESERVED. NO PART OF THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION.

COPYRIGHT ENGINEERING EXPRESS

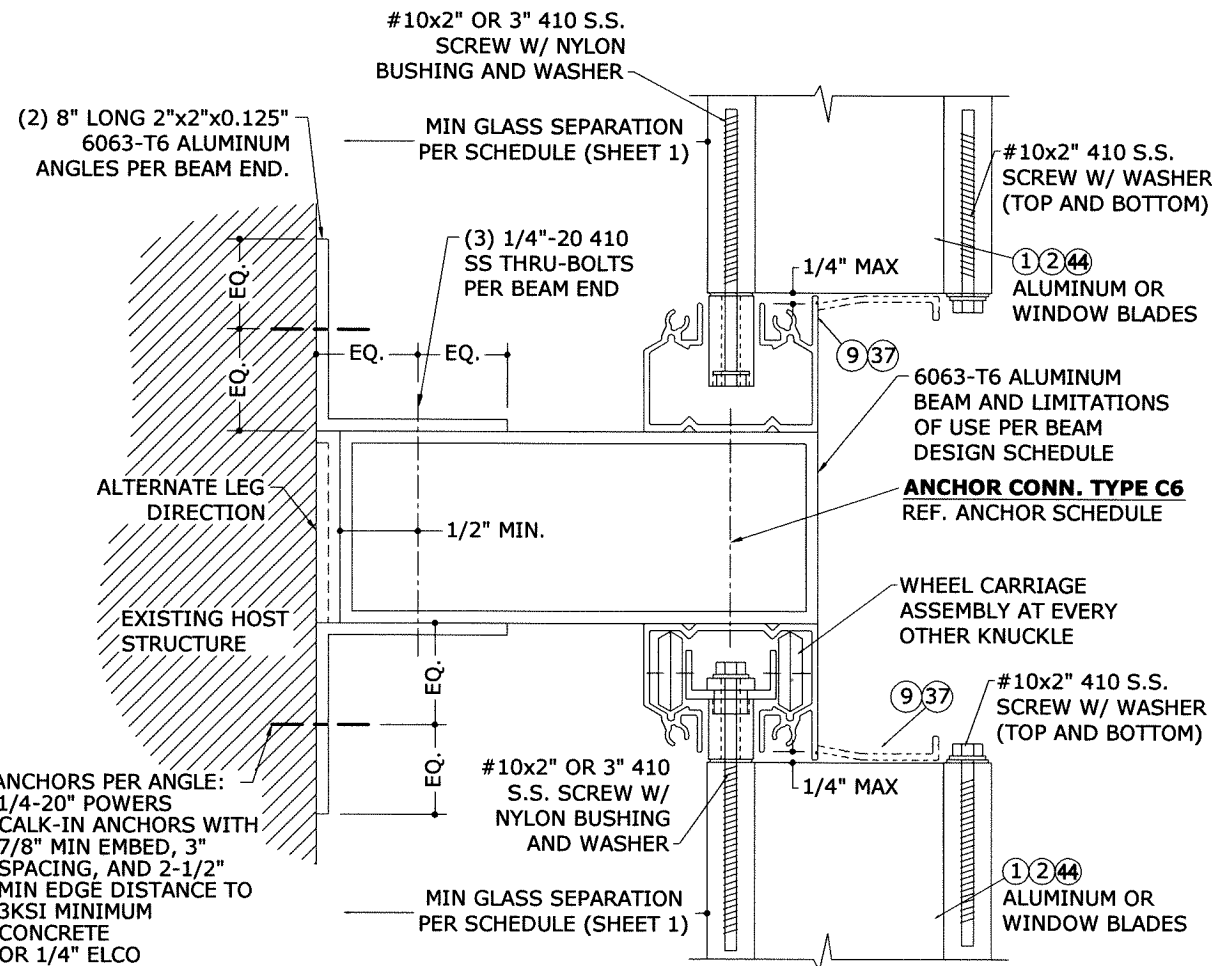
16-3611

SCALE: _____

PAGE DESCRIPTION: _____

OF 12

04/28/2017 - 11:17am V:\Projects\16-3611 Accordion Shutter System - TDI Submittal\WP16-3611d Alum. Polycarb Accordion Shutter (TDI).dwg

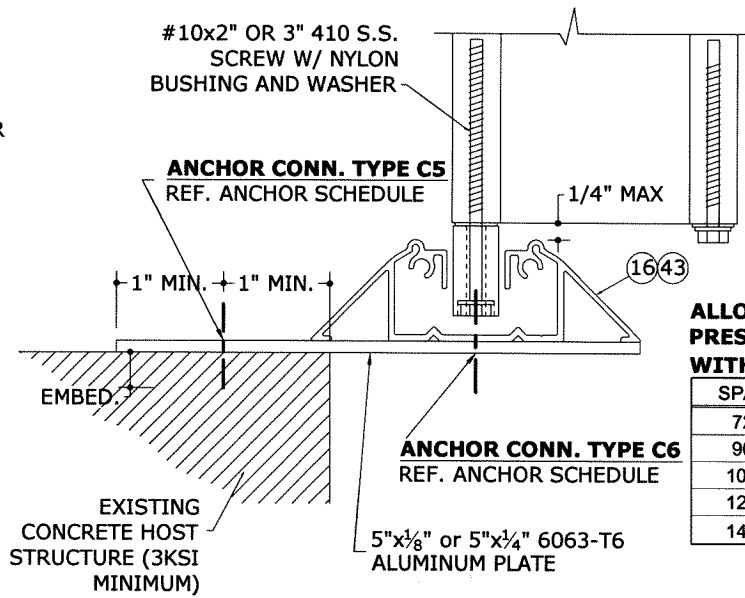


- (3) ANCHORS PER ANGLE: 1/4-20" POWERS CALK-IN ANCHORS WITH 7/8" MIN EMBED, 3" SPACING, AND 2-1/2" MIN EDGE DISTANCE TO 3KSI MINIMUM CONCRETE
- OR 1/4" ELCO CRETEFLEX ANCHORS WITH 1-3/4" MIN EMBED, 3" SPACING, AND 2-1/2" MIN EDGE DISTANCE TO 3350PSI MINIMUM CONCRETE

NOTE: MAX DESIGN PRESSURE AND MAX SHUTTER SPAN PER BEAM DESIGN SCHEDULE

1 INTERMEDIATE SUPPORT BEAM
10 N.T.S. VERT SECTION

BEAM SIZE	SHUTTER SPAN	BEAM SPAN	ALLOWABLE DESIGN PRESSURE		
			TOP BEAM	BOTTOM BEAM	INTERMEDIATE BEAM
2"x5"x0.125"	5'-0"	9'-5"	74.0 PSF	74.0 PSF	37.0 PSF
	8'-0"	8'-1"	73.0 PSF	73.0 PSF	36.0 PSF
	10'-0"	7'-6"	73.0 PSF	73.0 PSF	36.0 PSF
2"x8"x0.072"/0.224"	5'-0"	14'-0"	68.4 PSF	81.0 PSF	34.2 PSF
	8'-0"	11'-6"	61.8 PSF	83.1 PSF	30.9 PSF
	10'-0"	10'-4"	61.1 PSF	82.3 PSF	30.5 PSF
2"x9"x0.072"/0.224"	5'-0"	15'-5"	59.4 PSF	80.5 PSF	29.7 PSF
	8'-0"	12'-5"	56.3 PSF	80.4 PSF	28.2 PSF
	10'-0"	11'-2"	55.5 PSF	79.6 PSF	27.7 PSF



NOTE: MAXIMUM ALLOWABLE SPANS AND DESIGN PRESSURES FOR ALUMINUM PLATE MOUNTING CONDITION PER TABLE BELOW.

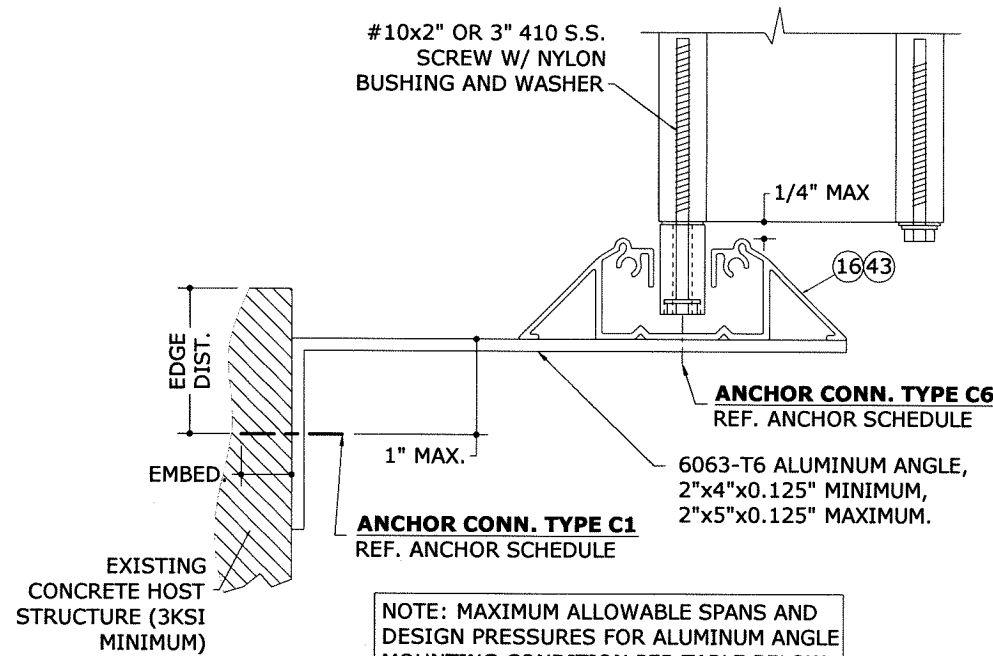
ALLOWABLE DESIGN PRESSURES FOR DETAIL 2/10 WITH 1/4" ALUMINUM PLATE:

SPAN:	MAX DESIGN PRESSURE:
72"	+140.7 psf / -140.7 psf
90"	+112.6 psf / -112.6 psf
108"	+93.8 psf / -93.8 psf
126"	+61.2 psf / -76.2 psf
144"	+42.4 psf / -62.4 psf

ALLOWABLE DESIGN PRESSURES FOR DETAIL 2/10 WITH 1/8" ALUMINUM PLATE:

SPAN:	MAX DESIGN PRESSURE:
72"	+65.7 psf / -65.7 psf
90"	+52.5 psf / -52.5 psf
108"	+43.8 psf / -43.8 psf
126"	+37.5 psf / -37.5 psf
144"	+32.8 psf / -32.8 psf

2 5"x1/4" OR 5"x1/8" PLATE TO EXISTING HOST STRUCTURE
10 N.T.S. VERT SECTION

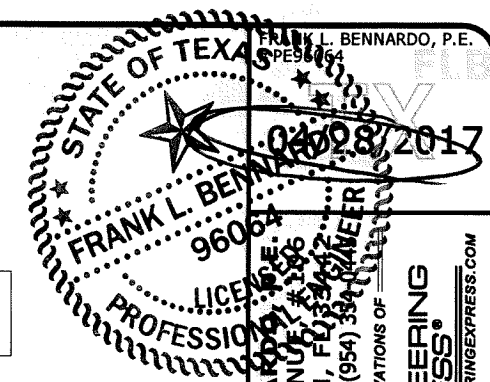


NOTE: MAXIMUM ALLOWABLE SPANS AND DESIGN PRESSURES FOR ALUMINUM ANGLE MOUNTING CONDITION PER TABLE BELOW.

ALLOWABLE DESIGN PRESSURES FOR DETAIL 3/10 WITH 1/8" ALUMINUM ANGLE:

SPAN:	MAX DESIGN PRESSURE:
72"	+77.1 psf / -77.1 psf
90"	+61.7 psf / -61.7 psf
108"	+53.4 psf / -53.4 psf
126"	+44.0 psf / -44.0 psf
144"	+38.5 psf / -38.5 psf

3 2"x5" ANGLE W/ WALKOVER TRACK
10 N.T.S. VERT SECTION



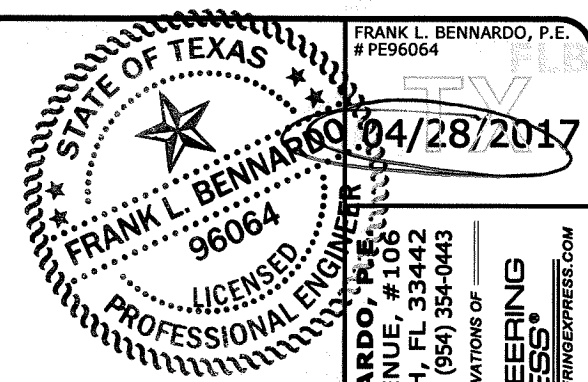
FRANK L. BENNARDO, P.E.
160 SW 12th AVENUE, FL 32708
PH: (954) 354-0660 FAX: (954) 354-0661
POWERED BY THE INNOVATIONS OF
ENGINEERING EXPRESS
EXPERIENCE MORE AT ENGINEERINGEXPRESS.COM

IMPACT TECHNOLOGY, INC.
4984 COURTLAND LOOP
WINTER SPRINGS, FL 32708
PHONE: 407-402-4821
ACCORDION SHUTTER
WITH ALUMINUM OR POLYCARBONATE BLADES
TEXAS DEPARTMENT OF INSURANCE


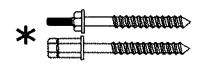



REMARKS	INITIAL SUBMITTAL	DATE
2010 FBC (09-11-01-04) <td>KL <td>05/03/09 </td></td>	KL <td>05/03/09 </td>	05/03/09
FBC 5TH (2014) <td>CSL <td>02/14/12 </td></td>	CSL <td>02/14/12 </td>	02/14/12
	TSS <td>02/06/15</td>	02/06/15

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS AND SHALL NOT BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF ENGINEERING EXPRESS. DOCUMENTS ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION.


COPYRIGHT ENGINEERING EXPRESS
16-3611
SCALE:
PAGE DESCRIPTION:
OF 12
10



FRANK L. BENNARDO, P.E.
PE96064
04/28/2017
FRANK L. BENNARDO, P.E.
160 SW 12th AVENUE, #106
DEERFIELD BEACH, FL 33442
Ph: (954) 354-0660 FAX: (954) 354-0443
POWERED BY THE INNOVATIONS OF
ENGINEERING EXPRESS
EXPERIENCE MORE AT ENGINEERINGEXPRESS.COM

HOST STRUCT.	ANCHOR	LOAD (psf)	2.5" MIN EDGE DISTANCE																					
			Spans Up To 6'-0"					Spans Up To 9'-0"					Spans Up To 12'-0"					Spans Up To 13'-6"						
			CONN TYPE					CONN TYPE					CONN TYPE					CONN TYPE						
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5		
CONCRETE	1/4" ITW TAPCON WITH 1-3/4" EMBED (3192psi MIN CONC) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	10.9"	12.0"	12.0"	12.0"	12.0"	12.0"	8.0"	12.0"	12.0"	11.7"	12.0"	7.0"	12.0"	
		40	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	9.4"	12.0"	12.0"	11.4"	12.0"	6.9"	11.9"	12.0"	9.5"	12.0"	6.1"	10.5"	
		47	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	7.9"	12.0"	11.2"	8.9"	12.0"	5.8"	10.0"	9.5"	7.6"	12.0"	5.1"	8.9"	
		60	12.0"	12.0"	12.0"	9.4"	12.0"	12.0"	9.5"	12.0"	6.1"	10.5"	7.9"	6.4"	10.8"	4.5"	7.8"	6.8"	5.5"	9.7"	4.0"	6.9"		
		72	12.0"	12.0"	12.0"	7.7"	12.0"	9.2"	7.4"	12.0"	5.0"	8.7"	6.2"	5.1"	9.1"	3.7"	6.5"	5.8"	4.7"	8.6"	3.5"	6.1"		
		120	7.9"	6.4"	10.8"	4.5"	7.8"	5.8"	4.7"	8.6"	3.5"	6.1"	5.8"	4.7"	8.6"	3.5"	6.1"	5.8"	4.7"	8.6"	3.5"	6.1"		
	152	5.8"	4.7"	8.7"	3.5"	6.1"	5.8"	4.7"	8.6"	3.5"	6.1"	5.8"	4.7"	8.6"	3.5"	6.1"	5.8"	4.7"	8.6"	3.5"	6.1"			
	1/4" ELCO PANELMATE (FEMALE, MALE) W/ 1-3/4" MIN EMBED (3350psi MIN CONC) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	10.3"	12.0"	12.0"	12.0"	12.0"	7.5"	12.0"	12.0"	11.6"	12.0"	6.6"	11.0"		
		40	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	8.9"	12.0"	12.0"	11.3"	12.0"	6.5"	10.9"	11.9"	9.5"	12.0"	5.8"	9.6"		
		47	12.0"	12.0"	12.0"	11.7"	12.0"	12.0"	12.0"	12.0"	7.5"	12.0"	11.2"	8.9"	12.0"	5.5"	9.2"	9.4"	7.5"	10.9"	4.9"	8.1"		
		60	12.0"	12.0"	12.0"	8.9"	12.0"	11.9"	9.5"	12.0"	5.8"	9.6"	7.9"	6.4"	9.6"	4.3"	7.1"	6.7"	5.5"	8.6"	3.8"	6.3"		
		72	12.0"	12.0"	12.0"	7.3"	12.0"	9.1"	7.3"	10.7"	4.7"	8.0"	6.2"	5.0"	8.1"	3.5"	5.9"	5.8"	4.7"	7.7"	3.3"	5.6"		
		120	7.9"	6.4"	9.6"	4.3"	7.1"	5.8"	4.7"	7.7"	3.3"	5.6"	5.8"	4.7"	7.7"	3.3"	5.6"	5.8"	4.7"	7.7"	3.3"	5.6"		
	152	5.8"	4.7"	7.7"	3.3"	5.6"	5.8"	4.7"	7.7"	3.3"	5.6"	5.8"	4.7"	7.7"	3.3"	5.6"	5.8"	4.7"	7.7"	3.3"	5.6"			
	1/4 ELCO CRETEFLEX W/ 1-3/4" MIN EMBED (3350psi MIN CONC) 	35	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	9.6"	12.0"	12.0"	12.0"	8.4"	12.0"		
		40	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	11.3"	12.0"	12.0"	12.0"	12.0"	8.3"	12.0"	10.9"	12.0"	7.3"	12.0"			
		47	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	9.5"	12.0"	10.2"	12.0"	7.0"	12.0"	10.8"	8.7"	12.0"	6.1"	11.0"			
		60	12.0"	12.0"	12.0"	11.3"	12.0"	12.0"	10.9"	12.0"	7.3"	12.0"	9.1"	7.3"	12.0"	5.4"	9.7"	7.7"	6.3"	12.0"	4.7"	8.6"		
		72	12.0"	12.0"	12.0"	9.3"	12.0"	10.5"	8.4"	12.0"	6.0"	10.8"	7.1"	5.8"	11.7"	4.4"	8.0"	6.6"	5.4"	11.1"	4.2"	7.6"		
		120	9.1"	7.3"	12.0"	5.4"	9.7"	6.6"	5.4"	11.1"	4.2"	7.6"	6.6"	5.4"	11.1"	4.2"	7.6"	6.6"	5.4"	11.1"	4.2"	7.6"		
152	6.6"	5.4"	11.2"	4.2"	7.6"	6.6"	5.4"	11.1"	4.2"	7.6"	6.6"	5.4"	11.1"	4.2"	7.6"	6.6"	5.4"	11.1"	4.2"	7.6"				
1/4-20 POWERS CALK-IN WITH 7/8" MIN EMBED (3000psi MIN CONC) 	35	12.0"	12.0"	12.0"	11.4"	12.0"	12.0"	12.0"	12.0"	7.1"	12.0"	11.3"	8.7"	12.0"	5.2"	9.1"	9.2"	7.2"	11.1"	4.5"	8.1"			
	40	12.0"	12.0"	12.0"	9.7"	12.0"	12.0"	11.5"	12.0"	6.1"	10.7"	8.9"	7.0"	10.9"	4.5"	7.9"	7.4"	5.9"	9.8"	3.9"	7.0"			
	47	12.0"	12.0"	12.0"	8.0"	12.0"	11.1"	8.6"	12.0"	5.1"	9.1"	6.9"	5.5"	9.4"	3.8"	6.7"	5.8"	4.7"	8.4"	3.3"	5.9"			
	60	12.0"	11.5"	12.0"	6.1"	10.7"	7.4"	5.9"	9.8"	3.9"	7.0"	4.9"	4.0"	7.5"		5.2"	4.2"	3.4"	6.7"		4.6"			
	72	10.7"	8.3"	12.0"	5.0"	8.9"	5.7"	4.5"	8.3"	3.2"	5.8"	3.8"	3.1"	6.3"		4.3"	3.6"		6.0"		4.1"			
	120	4.9"	4.0"	7.5"		5.2"	3.6"		6.0"		4.1"	3.6"		6.0"		4.1"	3.6"		6.0"		4.1"			
152	3.6"		6.0"		4.1"	3.6"		6.0"		4.1"	3.6"		6.0"		4.1"	3.6"		6.0"		4.1"				
1/4 ELCO PANELMATE INSERT WITH 1-5/8" MIN EMBED (3000psi MIN CONC) 	35	12.0"	12.0"	12.0"	10.7"	12.0"	12.0"	12.0"	12.0"	6.7"	11.2"	11.5"	8.9"	10.7"	4.9"	8.2"	9.4"	7.3"	9.6"	4.3"	7.3"			
	40	12.0"	12.0"	12.0"	9.2"	12.0"	12.0"	11.7"	12.0"	5.8"	9.7"	7.2"	9.5"	4.2"	7.2"	7.5"	6.0"	8.5"	3.7"	6.3"				
	47	12.0"	12.0"	12.0"	7.6"	12.0"	11.3"	8.8"	10.6"	4.9"	8.2"	7.1"	5.6"	8.1"	3.6"	6.1"	5.9"	4.8"	7.3"	3.1"	5.4"			
	60	12.0"	11.7"	12.0"	5.8"	9.7"	7.5"	6.0"	8.5"	3.7"	6.3"	5.0"	4.0"	6.5"		4.7"	4.3"	3.5"	5.8"		4.2"			
	72	10.9"	8.5"	10.4"	4.7"	8.0"	5.8"	4.6"	7.1"	3.1"	5.3"	3.9"	3.2"	5.4"		3.9"	3.6"		5.1"		3.7"			
	120	5.0"	4.0"	6.5"		4.7"	3.6"		5.1"		3.7"	3.6"		5.1"		3.7"	3.6"		5.1"		3.7"			
152	3.7"		5.2"		3.7"	3.6"		5.1"		3.7"	3.6"		5.1"		3.7"	3.6"		5.1"		3.7"				

ANCHOR NOTES:

- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
- TAPCONS SHALL BE 410 STAINLESS STEEL AND SHALL BE MANUFACTURED BY ITW.
- ENSURE MINIMUM 2.5" EDGE DISTANCE FOR ALL ANCHORS TO CONCRETE & TO HOLLOW BLOCK.
- ALL CONCRETE ANCHOR SHALL BE INSTALLED TO NON-CRACKED CONCRETE ONLY.
- WHERE ANCHORS FASTEN TO NARROW FACE OF STUD FRAMING, ANCHOR SHALL BE LOCATED IN CENTER OF NOMINAL 2x (MIN) WOOD STUD (i.e. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR ANCHORS TO WOOD FRAMING).
- WOOD HOST STRUCTURE SHALL BE "SOUTHERN PINE" G=0.55 OR GREATER DENSITY.
- MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
- 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.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.
- WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
- MACHINE SCREWS SHALL HAVE MINIMUM OF 1/2" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD ("SIDEWALK BOLT") U.N.O.
-  DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE FOR USE.
- * DESIGNATES ANCHORS WHICH ARE REMOVABLE.

IMPACT TECHNOLOGY, INC.
4984 COURTLAND LOOP
WINTER SPRINGS, FL 32708
PHONE: 407-402-4821

ACCORDION SHUTTER
WITH ALUMINUM OR POLYCARBONATE BLADES
TEXAS DEPARTMENT OF INSURANCE

REMARKS	DRWN	CHKD	DATE
INITIAL SUBMITTAL	KL	FLB	05/03/09
2010 FBC (08-11-01-04)	KL	FLB	02/14/12
FBC 5TH (2014)	CSL	TSB	02/08/15

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS AND SHALL NOT BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF ENGINEERING EXPRESS. ALTERATIONS, ADDITIONS, DELETIONS, OR OTHER MODIFICATIONS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION.

COPYRIGHT ENGINEERING EXPRESS

16-3611

SCALE: -

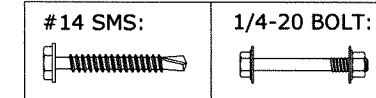
PAGE DESCRIPTION:

11 OF 12

HOST STRUCT.	ANCHOR	LOAD (psf)	2.5" MIN EDGE DISTANCE																			
			Spans Up To 6'-0"					Spans Up To 9'-0"					Spans Up To 12'-0"					Spans Up To 13'-6"				
			CONN TYPE					CONN TYPE					CONN TYPE					CONN TYPE				
	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5		
HOLLOW BLOCK	1/4" ITW TAPCON WITH 1-1/4" EMBED	35	12.0"	12.0"	11.2"	4.9"	9.1"	7.9"	5.7"	8.1"	3.0"	5.8"	4.3"	3.3"	6.3"	4.3"	3.5"	5.7"	3.8"			
		40	12.0"	12.0"	10.1"	4.2"	7.9"	5.8"	4.4"	7.2"	5.0"	3.4"	5.6"	3.7"	5.1"	3.3"	5.1"	3.3"				
		47	10.7"	7.4"	8.8"	3.4"	6.6"	4.2"	3.3"	6.3"	4.2"	3.3"	4.9"	3.1"	4.4"	3.1"	4.4"	3.1"				
		60	5.8"	4.4"	7.2"	5.0"	5.0"	5.1"	3.3"	3.9"	3.9"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"				
		72	4.1"	3.2"	6.2"	4.2"	4.2"	4.3"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"				
		120	3.9"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"				
	152	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"	3.1"					
	1/4" ELCO PANELMATE (FEMALE, MALE) W/ 1-1/4" MIN EMBED	35	12.0"	12.0"	12.0"	7.1"	11.7"	12.0"	9.7"	9.6"	4.4"	7.6"	7.3"	5.6"	7.4"	3.2"	5.6"	5.9"	4.7"	6.6"	4.9"	
		40	12.0"	12.0"	12.0"	6.1"	10.1"	9.9"	7.4"	8.5"	3.8"	6.6"	5.8"	4.5"	6.6"	4.9"	4.8"	3.8"	5.9"	4.3"	4.3"	
		47	12.0"	12.0"	10.6"	5.0"	8.5"	7.2"	5.6"	7.4"	3.2"	5.5"	4.5"	3.6"	5.6"	4.1"	3.8"	3.0"	5.1"	3.6"	3.6"	
		60	9.9"	7.4"	8.5"	3.8"	6.6"	4.8"	3.8"	5.9"	4.3"	3.2"	4.5"	3.2"	4.5"	3.2"	4.0"	4.0"	4.0"	4.0"	4.0"	
		72	6.9"	5.4"	7.2"	3.1"	5.4"	3.7"	5.0"	3.6"	3.6"	3.6"	3.8"	3.8"	3.8"	3.8"	3.6"	3.6"	3.6"	3.6"	3.6"	
		120	3.2"	4.5"	3.2"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	
	152	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"	3.6"		
	1/4 ELCO CRETEFLEX W/ 1-1/4" MIN EMBED	35	12.0"	12.0"	12.0"	8.3"	12.0"	12.0"	10.9"	11.9"	5.2"	9.2"	8.1"	6.3"	9.2"	3.8"	6.8"	6.6"	5.2"	8.3"	3.3"	
40		12.0"	12.0"	12.0"	7.1"	12.0"	11.0"	8.3"	10.6"	4.5"	8.0"	6.5"	5.1"	8.2"	3.3"	5.9"	5.4"	4.2"	7.3"	5.2"		
47		12.0"	12.0"	12.0"	5.9"	10.3"	8.0"	6.2"	9.2"	3.8"	6.7"	5.0"	4.0"	7.1"	5.0"	4.2"	3.4"	6.3"	4.4"	4.4"		
60		11.0"	8.3"	10.6"	4.5"	8.0"	5.4"	4.2"	7.3"	5.2"	3.5"	5.6"	3.9"	3.0"	5.0"	3.0"	5.0"	3.4"	3.4"	3.4"		
72		7.7"	6.0"	9.0"	3.7"	6.6"	4.1"	3.3"	6.2"	4.3"	4.7"	4.7"	4.7"	4.7"	4.7"	4.7"	4.7"	4.7"	4.7"	4.7"		
120		3.5"	5.6"	3.9"	4.5"	3.0"	4.5"	3.0"	4.5"	3.0"	4.5"	3.0"	4.5"	3.0"	4.5"	3.0"	4.5"	3.0"	4.5"	3.0"		
152	4.5"	3.0"	4.5"	3.0"	4.5"	3.0"	4.5"	3.0"	4.5"	3.0"	4.5"	3.0"	4.5"	3.0"	4.5"	3.0"	4.5"	3.0"	4.5"			
1/4-20 ALL POINTS SOLID SET WITH 7/8" MIN EMBED	35	12.0"	12.0"	12.0"	9.6"	12.0"	12.0"	12.0"	12.0"	6.0"	10.1"	10.1"	7.8"	9.8"	4.4"	7.5"	8.2"	6.4"	8.8"	3.9"		
	40	12.0"	12.0"	12.0"	8.2"	12.0"	12.0"	10.2"	11.3"	5.2"	8.8"	8.0"	6.3"	8.7"	3.8"	6.5"	6.6"	5.2"	7.8"	3.3"		
	47	12.0"	12.0"	12.0"	6.8"	11.4"	9.9"	7.7"	9.8"	4.3"	7.4"	6.2"	4.9"	7.5"	3.2"	5.5"	5.2"	4.2"	6.7"	4.9"		
	60	12.0"	10.2"	11.3"	5.2"	8.8"	6.6"	5.2"	7.8"	3.3"	5.8"	4.4"	3.5"	5.9"	4.3"	3.7"	3.0"	5.3"	3.8"	3.8"		
	72	9.6"	7.4"	9.6"	4.2"	7.3"	5.0"	4.1"	6.6"	4.8"	3.4"	5.0"	3.6"	3.2"	4.7"	3.4"	3.2"	4.7"	3.4"	3.4"		
	120	4.4"	3.5"	5.9"	4.3"	3.2"	4.7"	3.4"	3.2"	4.7"	3.4"	3.2"	4.7"	3.4"	3.2"	4.7"	3.4"	3.2"	4.7"	3.4"		
152	3.2"	4.7"	3.4"	3.2"	4.7"	3.4"	3.2"	4.7"	3.4"	3.2"	4.7"	3.4"	3.2"	4.7"	3.4"	3.2"	4.7"	3.4"	3.4"			
1/4 ELCO PANELMATE INSERT WITH 1-1/4" MIN EMBED	35	12.0"	12.0"	12.0"	8.6"	12.0"	12.0"	12.0"	11.1"	5.4"	8.9"	9.2"	7.1"	8.6"	3.9"	6.6"	7.5"	5.9"	7.7"	3.4"		
	40	12.0"	12.0"	12.0"	7.3"	11.9"	12.0"	9.4"	9.9"	4.6"	7.7"	7.3"	5.7"	7.6"	3.4"	5.7"	6.0"	4.8"	6.8"	5.1"		
	47	12.0"	12.0"	12.0"	6.1"	10.0"	9.1"	7.0"	8.5"	3.9"	6.5"	5.7"	4.5"	6.5"	4.9"	4.8"	3.8"	5.8"	4.3"	4.3"		
	60	12.0"	9.4"	9.9"	4.6"	7.7"	6.0"	4.8"	6.8"	5.1"	4.0"	3.2"	5.2"	4.3"	3.8"	3.4"	4.6"	4.6"	4.6"	3.3"		
	72	8.7"	6.8"	8.3"	3.8"	6.4"	4.6"	3.7"	5.7"	4.2"	3.1"	4.3"	4.3"	4.3"	4.3"	3.1"	4.1"	4.1"	4.1"	4.1"		
	120	4.0"	3.2"	5.2"	3.8"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"		
152	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"	4.1"			

HOST STRUCT.	ANCHOR	LOAD (psf)	3/4" MIN EDGE DISTANCE																			
			Spans Up To 6'-0"					Spans Up To 9'-0"					Spans Up To 12'-0"					Spans Up To 13'-6"				
			CONN TYPE					CONN TYPE					CONN TYPE					CONN TYPE				
	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5		
WOOD	1/4" ITW TAPCON OR #14 WOOD SCREW W/ 1-1/2" EMBED	35	12.0"	12.0"	12.0"	9.1"	11.7"	12.0"	12.0"	8.5"	5.9"	7.7"	12.0"	12.0"	6.4"	4.3"	5.7"	12.0"	10.7"	5.8"	3.8"	
		40	12.0"	12.0"	11.0"	7.9"	10.2"	12.0"	12.0"	7.5"	5.1"	6.7"	12.0"	10.4"	5.7"	3.8"	5.0"	11.0"	8.7"	5.1"	3.3"	
		47	12.0"	12.0"	9.4"	6.6"	8.6"	12.0"	12.0"	6.4"	4.3"	5.7"	10.3"	8.2"	4.8"	3.2"	4.3"	8.7"	6.9"	4.3"	2.8"	
		60	12.0"	12.0"	7.5"	5.1"	6.7"	11.0"	8.7"	5.1"	3.3"	4.4"	7.3"	5.9"	3.8"	2.5"	3.3"	6.2"	5.0"	3.4"	2.2"	
		72	12.0"	12.0"	6.3"	4.2"	5.6"	8.4"	6.7"	4.2"	2.8"	3.7"	5.7"	4.6"	3.2"	2.0"	2.8"	5.3"	4.3"	3.0"	2.6"	
		120	7.3"	5.9"	3.8"	2.5"	3.3"	5.3"	4.3"	3.0"	2.6"	5.3"	4.3"	3.0"	2.6"	5.3"	4.3"	3.0"	2.6"	5.3"	4.3"	
	152	5.3"	4.3"	3.0"	2.6"	5.3"	4.3"	3.0"	2.6"	5.3"	4.3"	3.0"	2.6"	5.3"	4.3"	3.0"	2.6"	5.3"	4.3"	3.0"		
	1/4" ELCO PANELMATE (FEMALE, MALE) W/ 1-7/8" MIN EMBED	35	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	10.2"	12.0"	12.0"	12.0"	12.0"	7.4"	11.0"	12.0"	12.0"	11.7"	6.6"	
		40	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	12.0"	8.8"	12.0"	12.0"	12.0"	11.5"	6.5"	11.0"	12.0"	11.5"	10.3"	5.7"	
		47	12.0"	12.0"	12.0"	11.5"	12.0"	12.0"	12.0"	12.0"	7.4"	10.9"	12.0"	10.8"	9.9"	5.5"	8.1"	11.4"	9.1"	8.8"	4.8"	
		60	12.0"	12.0"	12.0"	8.8"	12.0"	12.0"	11.5"	10.3"	5.7"	8.5"	9.5"	7.7"	7.8"	4.2"	6.3"	8.2"	6.6"	7.0"	3.7"	
		72	12.0"	12.0"	12.0"	7.2"	10.7"	11.0"	8.9"	8.6"	4.7"	7.0"	7.5"	6.1"	6.5"	3.5"	5.3"	7.0"	5.7"	6.2"	3.3"	
		120	9.5"	7.7"	7.8"	4.2"	6.3"	7.0"	5.7"	6.2"	3.3"	5.0"	7.0"	5.7"	6.2"	3.3"	5.0"	7.0"	5.7"	6.2"	3.3"	
	152	7.0"	5.7"	6.2"	3.3"	5.0"	7.0"	5.7"	6.2"	3.3"	5.0"	7.0"	5.7"	6.2"	3.3"	5.0"	7.0"	5.7"	6.2"	3.3"		
	1/4" LAG SCREW WITH 1.5" MIN THREAD PENETR	35	12.0"	12.0"	12.0"	9.6"	12.0"	12.0"	12.0"	8.7"	6.2"	8.0"	12.0"	12.0"	6.6"	4.6"	5.9"	12.0"	11.9"	5.9"	4.0"	
40		12.0"	12.0"	11.3"	8.3"	10.6"	12.0"	12.0"	7.7"	5.4"	7.0"	12.0"	11.6"	5.8"	4.0"	5.2"	12.0"	9.7"	5.2"	3.5"		
47		12.0"	12.0"	9.7"	7.0"	8.9"	12.0"	12.0"	6.6"	4.5"	5.9"	11.5"	9.1"	5.0"	3.4"	4.4"	9.6"	7.7"	4.4"	3.0"		
60		12.0"	12.0"	7.7"	5.4"	7.0"	12.0"	9.7"	5.2"	3.5"	4.6"	8.1"	6.5"	3.9"	2.6"	3.4"	6.9"	5.6"	3.5"	2.3"		
72		12.0"	12.0"	6.4"	4.4"	5.8"	9.4"	7.5"	4.3"	2.9"	3.8"	6.4"	5.2"	3.3"	2.2"	2.9"	5.9"	4.8"	3.1"	2.0"		
120		8.1"	6.5"	3.9"	2.6"	3.4"	5.9"	4.8"	3.1"	2.0"	2.7"	5.9"	4.8"	3.1"	2.0"	2.7"	5.9"	4.8"	3.1"	2.0"		
152	5.9"	4.8"	3.1"	2.0"	2.7"	5.9"	4.8"	3.1"	2.0"	2.7"	5.9"	4.8"	3.1"	2.0"	2.7"	5.9"	4.8"	3.1"	2.0"			

MATERIAL	ANCHOR TYPE	CONN TYPE C6†	
		DESIGN PRESSURE	DESIGN PRESSURE
		DP ≤ 100 PSF	DP > 100 PSF
0.072" ALUMINUM	#14 SMS	6.5"	6.0"
	1/4-20 BOLT	7.5"	7.0"
0.125" ALUMINUM	#14 SMS	12.0"	10.0"
	1/4-20 BOLT	12.0"	10.0"
0.25" ALUMINUM	#14 SMS	12.0"	10.0"
	1/4-20 BOLT	12.0"	10.0"



- CONNECTION TYPE C6 NOTES:**
- SHEET METAL SCREWS AND 1/4-20 BOLTS SHALL BE 410 SS.
 - FOR SMS, PROVIDE (5) PITCHES MINIMUM PAST THE THREAD PLANE.
 - ALL FASTENERS HEREIN SHALL UTILIZE 5/8" Ø MINIMUM WASHER AT HEAD OF ANCHOR.
 - 1/4-20 BOLTS SHALL UTILIZE SAE GRADE NUTS AND WASHERS.
 - ALUMINUM MEMBERS SHALL BE 6063-T6 MIN. ALLOY.
- † CONNECTION TYPE C6 IS VALID FOR ALL ALLOWABLE SPANS PER SPAN SCHEDULES.

ANCHOR NOTES:
SEE SHEET 11 FOR ANCHOR NOTES.

FRANK L. BENNARDO, P.E.

STATE OF TEXAS
04/28/2017
FRANK L. BENNARDO, P.E.
PROFESSIONAL ENGINEER
POWERED BY THE INNOVATION EXPRESS
ENGINEERING EXPRESS
EXPERIENCE MORE AT ENGINEERINGEXPRESS.COM

FRANK L. BENNARDO, P.E.
160 SW 12th AVENUE, #106
DEERFIELD BEACH, FL 33442
Ph: (954) 354-0660 FAX: (954) 354-0443

IMPACT TECHNOLOGY, INC.
4984 COURTLAND LOOP
WINTER SPRINGS, FL 32708
PHONE: 407-402-4821

ACCORDION SHUTTER
WITH ALUMINUM OR POLYCARBONATE BLADES
TEXAS DEPARTMENT OF INSURANCE

REMARKS	DATE	DRWN	CHKD
INITIAL SUBMITTAL	05/03/09	KL	FLB
2010 FCC (08-11-01-04)	02/14/12	KL	FLB
FCC 5TH (2014)	02/06/15	CSL	TSB

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF ENGINEERING EXPRESS. ANY UNAUTHORIZED REPRODUCTION OR TRANSMISSION OF THIS DOCUMENT ARE NOT PERMITTED AND WILL BE PROSECUTED TO THE FULL EXTENT OF THE LAW.

16-3611

SCALE: -

PAGE DESCRIPTION: -

12 OF 12