MIAMI-DADE COUNTY
DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

Florida Shutters, Inc.
1055 Commerce Avenue
Vero Beach, FL 32960

SCOPE:
This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER- Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: "Impact" Aluminum Bahama Shutter

APPROVAL DOCUMENT: Drawing No. 23-61305, titled " Impact Aluminum Bahama Shutter ", sheets 1 through 9 of 9, prepared by Engineering Express, last revision dated November 08, 2023, signed and sealed by Frank L. Bennardo, P.E., on Dec. 07, 2023 bearing the Miami-Dade County Product Control Renewal stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, the following statement: "Miami-Dade County Product Control Approved", and NOA number, per TAS-201, TAS-202, and TAS-203, unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **renews NOA #23-1215.07** and consists of this page 1, evidence submitted pages E-1, E-2, E-3, E-4, E-5 and E-6 as well as approval document mentioned above.
The submitted documentation was reviewed by **Helmy A. Makar, P.E., M.S.**

MIAMI-DADE COUNTY APPROVED

Helmy A. Makar
11/28/24

NOA No. 24-0429.02
Expiration Date: 03/08/2029
Approval Date: 11/28/2024

Florida Shutters, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #00-0411.08

A. DRAWINGS

1. *Drawing No. 1001A, titled " Impact Bahama Shutter ", prepared by W. W. Schaefer Engineering & Consulting, P.A., dated November 17, 2000, sheets 1 through 10 of 10, signed and sealed by Warren W. Schaefer, P.E.*

B. TESTS

1. *Test Report on: 1) Large Missile Impact Test, per PA-201, 2) Cyclic Wind Pressure Test, per PA-203 and 3) Uniform Static Air Pressure test per PA-202, of Bahama shutters, prepared by Hurricane Test Laboratory Inc., Report No.* ***0205-1203-99****, dated February 28, 2000, signed and sealed by Vinu J. Abraham, P.E.*

C. CALCULATIONS

1. *Anchor analysis and calculations dated 03/29/2000, Pages 1 to 14, prepared by W. W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P.E.*

D. MATERIAL CERTIFICATION

1. *Certified Tensile Test Report No. 0AM-142, prepared by QC Metallurgical Inc., dated 03/02/2000, per ASTM E8-93, signed and sealed by Frank Grate, P.E.*

2. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 04-0130.03

A. DRAWINGS

1. *Drawing No. 1001A, titled "Impact Bahama Shutters", sheets 1 through 10 of 10, prepared by W. W. Schaefer Engineering & Consulting, P.A., dated November 17, 2000, signed and sealed by Warren W. Schaefer, P.E. on March 18, 2004*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Building Code Compliance Office.*

E. MATERIAL CERTIFICATIONS

1. *None.*

Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
NOA No. 24-0429.02
Expiration Date: 03/08/2029
Approval Date: 11/28/2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

3. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #09-0121.13

A. DRAWINGS

1. *Drawing No. 08-FSH-0002, titled "Impact Aluminum Bahama Shutter", sheets 1 through 9 of 9, prepared by Engineering Express, dated February 24, 2009, last revision dated September 29, 2009, signed and sealed by Frank L. Bennardo, P.E.*

B. TESTS

1. *Test Report on: 1) Large Missile Impact Test, per TAS-201, 2) Cyclic Wind Pressure Test, per TAS-203 and 3) Uniform Static Air Pressure test per TAS-202, of Bahama shutters, prepared by Hurricane Test Laboratory Inc., Report No.* ***0218-0203-09****, dated July 01, 2009, signed and sealed by Vinu J. Abraham, P.E.*

C. CALCULATIONS

1. *Comparative analysis and anchor calculations dated 02/24/2009, Pages 1 to 24, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E., on 02/24/2009.*
2. *Revised comparative analysis and anchor calculations dated 09/29/2009, Pages 1 to 8, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E., on 09/29/2009.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Building Code Compliance Office.*

E. MATERIAL CERTIFICATION

1. *None.*

4. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 11-1128.07

A. DRAWINGS

1. *Drawing No. 08-FSH-0002, titled "Impact Aluminum Bahama Shutter", sheets 1 through 9 of 9, prepared by Engineering Express, dated February 24, 2009, last revision dated October 10, 2011, signed and sealed by Frank L. Bennardo, P.E.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Department of Permitting, Environment, and Regulatory Affairs (PERA).*

Helmy A. Makar

Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
NOA No. 24-0429.02
Expiration Date: 03/08/2029
Approval Date: 11/28/2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

E. MATERIAL CERTIFICATION

1. None.

F. STATEMENTS

1. Compliance letter in accordance with the FBC, 2010 edition, issued by Engineering Express, dated October 10, 2011, signed and sealed by Frank L. Bennardo, P.E.

5. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 13-1203.08

A. DRAWINGS

1. None.

B. TESTS

1. None.

C. CALCULATIONS

1. None.

D. QUALITY ASSURANCE

1. By Miami-Dade County Department of Regulatory and Economic Resources (RER).

E. MATERIAL CERTIFICATION

1. None.

F. STATEMENTS

1. Compliance letter in accordance with the FBC, 2010 edition, issued by Engineering Express, dated November 20, 2013, signed and sealed by Frank L. Bennardo, P.E.

6. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 14-1120.09

A. DRAWINGS

1. None.

B. TESTS

1. None.

C. CALCULATIONS

1. None.

D. QUALITY ASSURANCE

1. By Miami-Dade County Department of Regulatory and Economic Resources (RER).

E. MATERIAL CERTIFICATION

1. None.

F. STATEMENTS

1. Compliance letter in accordance with the FBC, 2010 edition, issued by Engineering Express, dated October 10, 2011, signed and sealed by Frank L. Bennardo, P.E.

Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
NOA No. 24-0429.02
Expiration Date: 03/08/2029
Approval Date: 11/28/2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

7. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 15-0316.11

A. DRAWINGS

1. *Drawing No. 14-1959, titled " Impact Aluminum Bahama Shutter ", sheets 1 through 9 of 9, prepared by Engineering Express, dated February 24, 2009, last revision dated October 28, 2014, signed and sealed by Frank L. Bennardo, P.E.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Department of Regulatory and Economic Resources (RER).*

E. MATERIAL CERTIFICATION

1. *None.*

F. STATEMENTS

1. *Compliance letter in accordance with the FBC, 2014 edition, issued by Engineering Express, dated March 06, 2015, signed and sealed by Frank L. Bennardo, P.E.*

8. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 18-0110.02

A. DRAWINGS

1. *Drawing No. 14-1959, titled " Impact Aluminum Bahama Shutter ", sheets 1 through 9 of 9, prepared by Engineering Express, dated February 24, 2009, last revision dated Dec. 28, 2017, signed and sealed by Frank L. Bennardo, P.E.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *Comparative analysis and anchor calculations dated 01/03/18, 19 Pages, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Department of Regulatory and Economic Resources (RER).*

E. MATERIAL CERTIFICATION

1. *None.*

F. STATEMENTS

1. *Compliance letter in accordance with the FBC, 2017 edition, issued by Engineering Express, dated 01/02/18, signed and sealed by Frank L. Bennardo, P.E.*

Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
NOA No. 24-0429.02
Expiration Date: 03/08/2029
Approval Date: 11/28/2024

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

9. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 20-1102.07

A. DRAWINGS

1. *Drawing No. 20-28467, titled " Impact Aluminum Bahama Shutter ", sheets 1 through 9 of 9, prepared by Engineering Express, dated February 24, 2009, last revision dated October 19, 2020, signed and sealed by Frank L. Bennardo, P.E.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Department of Regulatory and Economic Resources (RER).*

E. MATERIAL CERTIFICATION

1. *None.*

F. STATEMENTS

1. *Compliance letter in accordance with the FBC, 2020 edition, issued by Engineering Express, dated 10/19/20, signed and sealed by Frank L. Bennardo, P.E.*

10. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 23-1215.07

A. DRAWINGS

1. *Drawing No. 23-61305, titled " Impact Aluminum Bahama Shutter ", sheets 1 through 9 of 9, prepared by Engineering Express, last revision dated November 08, 2023, signed and sealed by Frank L. Bennardo, P.E., on Dec. 07, 2023.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Department of Regulatory and Economic Resources (RER).*

E. MATERIAL CERTIFICATION

1. *None.*

F. STATEMENTS

1. *Compliance letter in accordance with the FBC, 2023 edition, issued by Engineering Express, dated 12/07/23, signed and sealed by Frank L. Bennardo, P.E., on 12/07/2023.*

Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
NOA No. 24-0429.02
Expiration Date: 03/08/2029
Approval Date: 11/28/2024

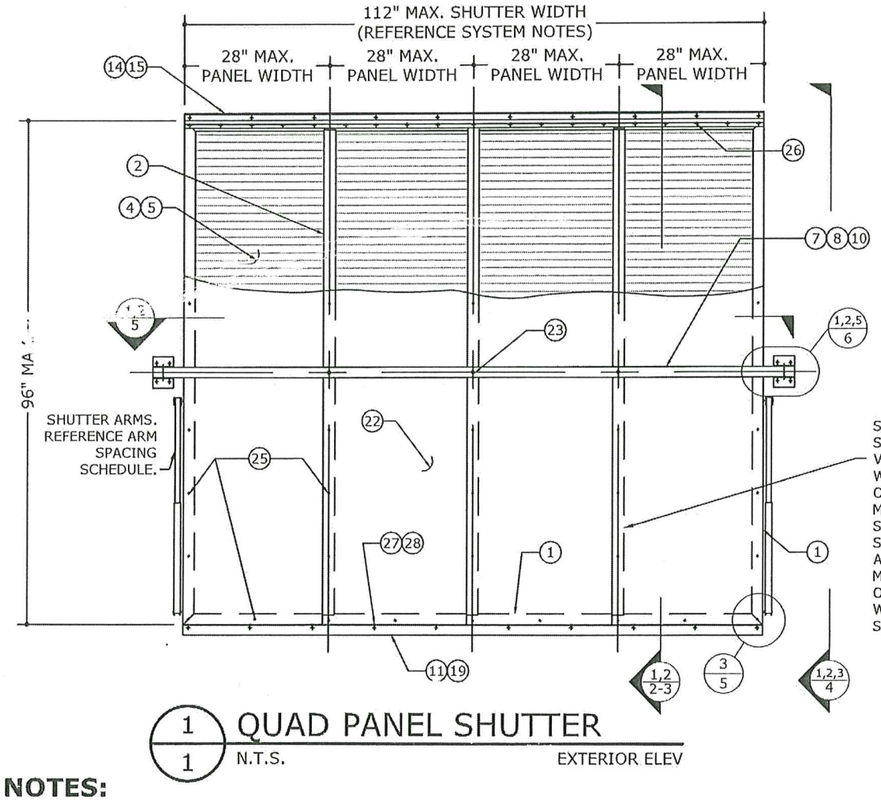
FLORIDA SHUTTERS, INC.

IMPACT ALUMINUM BAHAMA SHUTTER
LARGE MISSILE IMPACT RESISTANT (MISSILE LEVEL D)
VALID FOR USE INSIDE AND OUTSIDE THE HVHZ (SEE LIMITATIONS HEREIN)

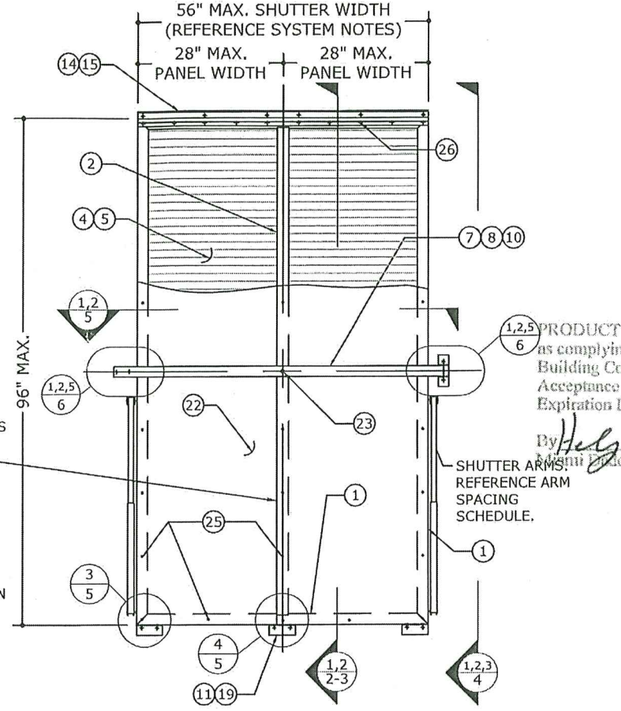
NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. A DESIGN PROFESSIONAL SHALL BE RESPONSIBLE FOR CERTIFYING THE APPLICATION OF THIS INFORMATION TO ANY SITE-SPECIFIC LOCATION.

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No 24-0429.02
Expiration Date 03/08/2029
By Miami Dade Product Control

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885
DECEMBER 7, 2023



1/1 QUAD PANEL SHUTTER
N.T.S. EXTERIOR ELEV



2/1 DOUBLE PANEL SHUTTER
N.T.S. EXTERIOR ELEV

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 23-1215.07
Expiration Date 03/08/25
By Miami Dade Product Control

NOTE REGARDING USE OF THIS DOCUMENT & USE OUTSIDE FLORIDA:

NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. THIS PRODUCT EVALUATION IS VALID FOR USE IN **FLORIDA ONLY**. USE OF THIS EVALUATION REQUIRES A REVIEW & CERTIFICATION BY A LOCAL DESIGN PROFESSIONAL WHO SHALL BE RESPONSIBLE FOR THE PROPER ADAPTATION OF THIS GENERAL PERFORMANCE EVALUATION TO ANY SITE-SPECIFIC PROJECT. CONTACT ENGINEERING EXPRESS FOR ASSISTANCE WITH YOUR PROJECT-SPECIFIC NEEDS & FOR ADAPTATION & CERTIFICATION OF THIS DOCUMENT OUTSIDE OF FLORIDA.

SEE LAST PAGE FOR DEFINITIONS OF TERMINOLOGY/ABBREVIATIONS USED HEREIN.

ARM SPACING TABLE

SHUTTER HEIGHT	MAX ARM SPACING	
	2-PANEL SHUTTERS	3+ PANEL SHUTTERS
0-48"	56"	56"
49"-60"	56"	45"
61"-72"	56"	38"
73"-84"	56"	32"
85"-96"	56"	28"

VALUES IN THIS TABLE ARE BASED ON PRESSURES RESULTING FROM 3-SECOND GUST WIND SPEEDS UP TO 90 MPH

MAXIMUM ALLOWABLE (ASD) DESIGN PRESSURES:
-80.0 PSF
+80.0 PSF
REFERENCE DESIGN SCHEDULES HEREIN FOR ADDITIONAL LIMITATIONS TO ALLOWABLE DESIGN PRESSURES, AS DETERMINED BY SHUTTER SPAN, STORM BAR CONFIGURATIONS, AND ANCHORAGE.

GENERAL NOTES:

1. THE SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE EIGHTH EDITION (2023), FOR USE WITHIN AND OUTSIDE OF THE HIGH VELOCITY HURRICANE ZONE (HVHZ), PER TAS 201 / 202 / 203.
2. 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 BY OTHERS ON A JOB-SPECIFIC BASIS IN ACCORDANCE WITH THE GOVERNING CODE. DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR FOR STATIC WIND LOADS. PRESSURE VALUES IN THIS APPROVAL ARE (ASD) ALLOWABLE DESIGN PRESSURES U.N.O.
4. 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.
5. PERMIT HOLDER SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS.
6. SHUTTER SIZE SHALL BE RESTRICTED BY THE MAXIMUM DIMENSIONS SHOWN HEREIN.
7. EACH SHUTTER ASSEMBLY SHALL BE PERMANENTLY LABELED WITH THE FOLLOWING:
   FLORIDA SHUTTERS, INC.
   VERO BEACH, FLORIDA
   TAS 201, 202, 203
   MIAMI-DADE NOA NUMBER
8. 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.
9. 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., AND ANY APPLICABLE FEDERAL, STATE, AND/OR LOCAL CODES. REFER TO FASTENER MANUFACTURER'S PUBLISHED DATA SHEETS AND RECOMMENDATIONS FOR FASTENER INSTALLATION INSTRUCTIONS.
10. ALL STEEL IN CONTACT WITH ALUMINUM SHALL BE PAINTED OR PLATED AS PRESCRIBED IN THE ABOVE-NOTED BUILDING CODE. THE CONTRACTOR IS RESPONSIBLE FOR INSULATING ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT
11. THIS ENGINEERING IS FOR THE EXCLUSIVE USE OF ITS OWNER, FLORIDA SHUTTERS, INC. IF THIS HAS BEEN SUBMITTED BY ANOTHER COMPANY IT MUST HAVE A NOTARIZED LETTER OF AUTHORIZATION.
12. 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. WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO EXISTING STRUCTURE.
13. ENGINEER SEAL AFFIXED HERETO VALIDATE 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, AND OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.

SYSTEM NOTES:

1. FOR INSTALLATIONS WITH STORM BARS, ANY NUMBER OF PANELS MAY BE USED, PROVIDED THAT THE OVERALL SHUTTER WIDTH DOES NOT EXCEED 112" MAX AND THE PANEL WIDTHS DO NOT EXCEED 28" MAX.
2. FOR INSTALLATIONS WITHOUT STORM BARS, ANY NUMBER OF PANELS MAY BE USED AND THE SHUTTER MAY BE INSTALLED WITH AN UNLIMITED OVERALL WIDTH, PROVIDED THAT THE PANEL WIDTHS DO NOT EXCEED 28" MAX.

PAGE INDEX:

ENGINEERING EXPRESS®
POSTAL ADDRESS:
2234 NORTH FEDERAL HWY #7664
BOCA RATON, FL 33431
ENGINEERINGEXPRESS.COM

FLORIDA SHUTTERS, INC.
1055 COMMERCE AVENUE
VERO BEACH, FL 32960
(772) 569-2200

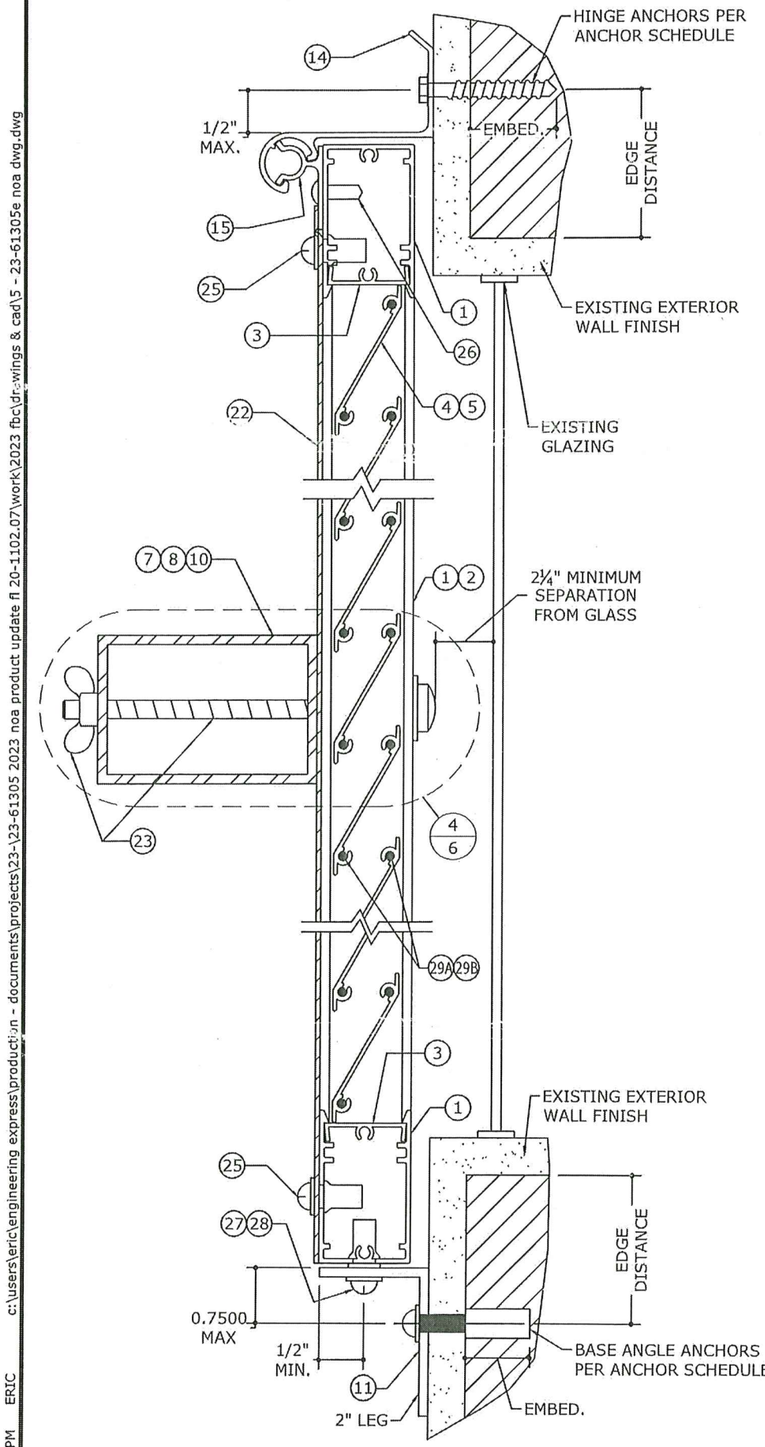
IMPACT ALUMINUM BAHAMA SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)

REMARKS	DRWN	CHKD	DATE
PREV. SUB. NOA 22-1106.02	CCB	RVN	10/19/20
2023 FBC UPDATE	EPR	RVN	11/08/23

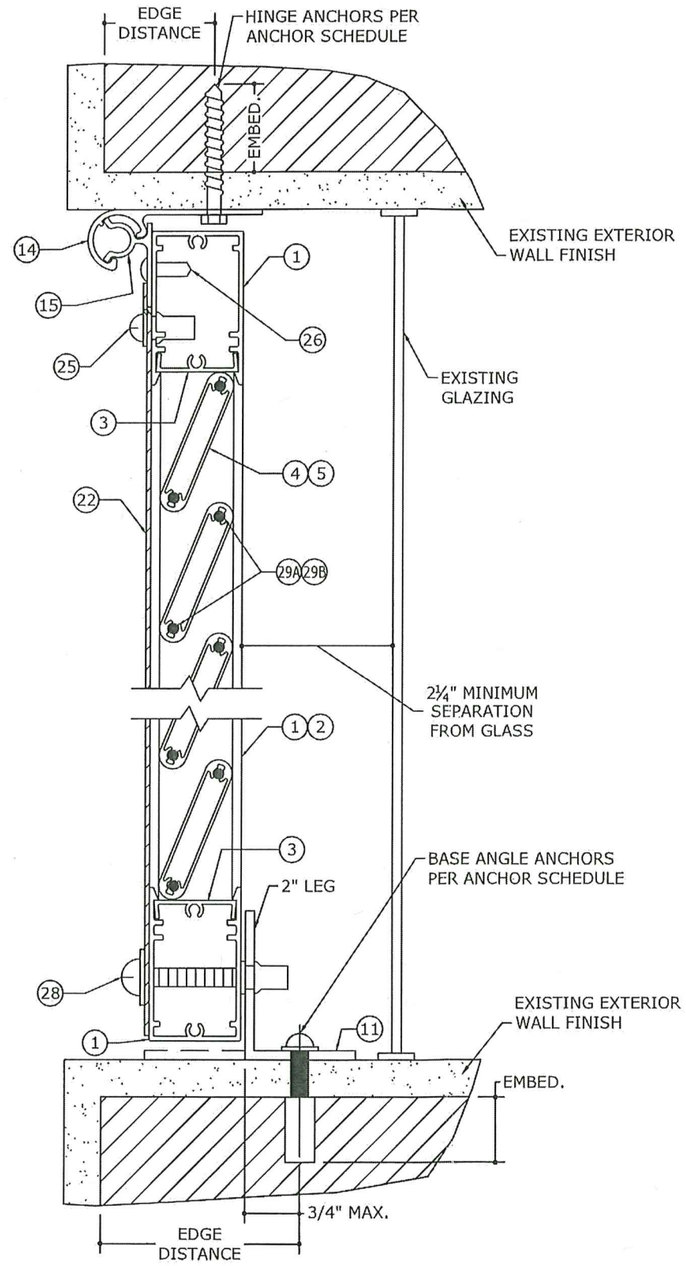
23-61305

SCALE: NTS UNLESS NOTED

1 OF 9



1/2 TYPICAL FACE MOUNT
6" = 1'-0" VERT. SECTION



2/2 ALTERNATE TRAP MOUNT
6" = 1'-0" VERT. SECTION

ANCHOR SCHEDULE:

BASE ANGLE ANCHORS:
- 1/4"-20 DEWALT CALK-INS: **1" MAX FROM ENDS AND 6.5" O.C. MAX** TO MASONRY/CONCRETE WITH 7/8" MIN EMBED, AND 2" MIN EDGE DISTANCE.
- 1/4" DEWALT PANELMATES (MALE OR FEMALE): **1" MAX FROM ENDS AND 6.5" O.C. MAX** TO MASONRY/CONCRETE WITH 1-1/4" MIN EMBED, AND 2" MIN EDGE DISTANCE.
- 1/4" DEWALT PANELMATES (MALE OR FEMALE): **1" MAX FROM ENDS AND 10" O.C. MAX** TO G=0.55 MIN WOOD WITH 1-7/8" MIN THREAD PENETRATION, AND 3/4" MIN EDGE DISTANCE.

HINGE ANCHORS:
- 1/4" TAPCONS (ITW): **1" MAX FROM ENDS AND 5" O.C. MAX** THRU WOOD BUCKS OR DIRECTLY INTO MASONRY/CONCRETE WITH 1-1/4" MIN EMBED, AND 2-1/2" MIN EDGE DISTANCE.
- #12 WOOD SCREWS: **1" MAX FROM ENDS AND 12" O.C. MAX** TO G=0.55 MIN WOOD WITH 1-1/2" MIN THREAD PENETRATION, AND 3/4" MIN EDGE DISTANCE.

STORM BAR ANCHORS:
- 1/4"-20 DEWALT CALK-IN ANCHORS TO MASONRY/CONCRETE WITH 7/8" MIN EMBED, 2-1/2" MIN SPACING, AND 2½" MIN EDGE DISTANCE.
- 1/4" DEWALT PANELMATES (MALE OR FEMALE) TO MASONRY/CONCRETE WITH 1-1/4" MIN EMBED, 2-1/2" MIN SPACING, AND 2" MIN EDGE DISTANCE.
- 1/4" DEWALT PANELMATES (MALE OR FEMALE) TO G=0.55 MIN WOOD WITH 1-7/8" MIN THREAD PENETRATION, 1-1/2" MIN SPACING, AND 3/4" MIN EDGE DISTANCE.

ANCHOR NOTES:

1. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
2. TAPCONS SHALL BE MANUFACTURED BY ITW. "DEWALT PANELMATE" ANCHORS FOR USE IN CONCRETE, HOLLOW BLOCK OR WOOD MAY BE MALE OR FEMALE.
3. 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).
4. WOOD HOST STRUCTURE SHALL BE "SOUTHERN PINE" G=0.55 OR GREATER DENSITY.
5. MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
6. WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.
7. WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
8. 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.

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No 24-0428.02
Expiration Date 03/08/2028
By
Miami Dade Product Control

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 23-1215.07
Expiration Date 03/09/25
By
Miami Dade Product Control

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885
DECEMBER 7, 2023
No PE-0046549 FL STATE OF FLORIDA

ENGINEERING EXPRESS®
POSTAL ADDRESS:
2234 NORTH FEDERAL HWY #7664
BOCA RATON, FL 33431
ENGINEERINGEXPRESS.COM

FLORIDA SHUTTERS, INC.
1055 COMMERCE AVENUE
VERO BEACH, FL 32960
(772) 569-2200

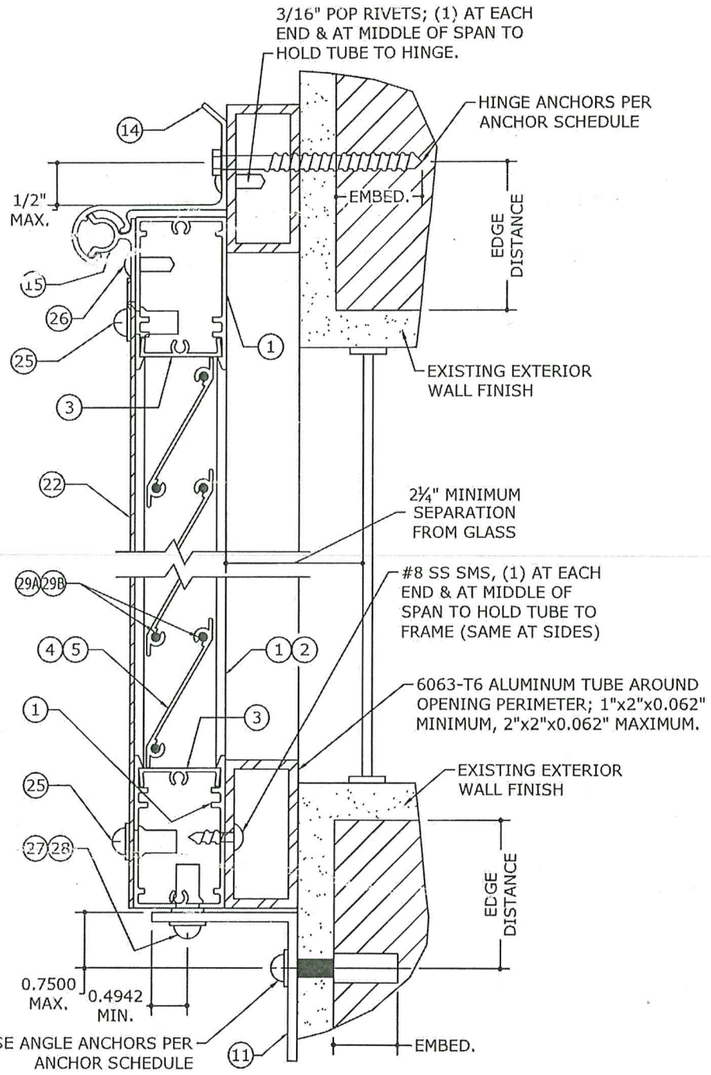
IMPACT ALUMINUM BAHAMA SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)

REMARKS	DRWN	CHKD	DATE
PREV. SUB. NOA 22-1106.02	CCB	RWN	10/19/20
2023 FBC UPDATE	EPR	RWN	11/08/23

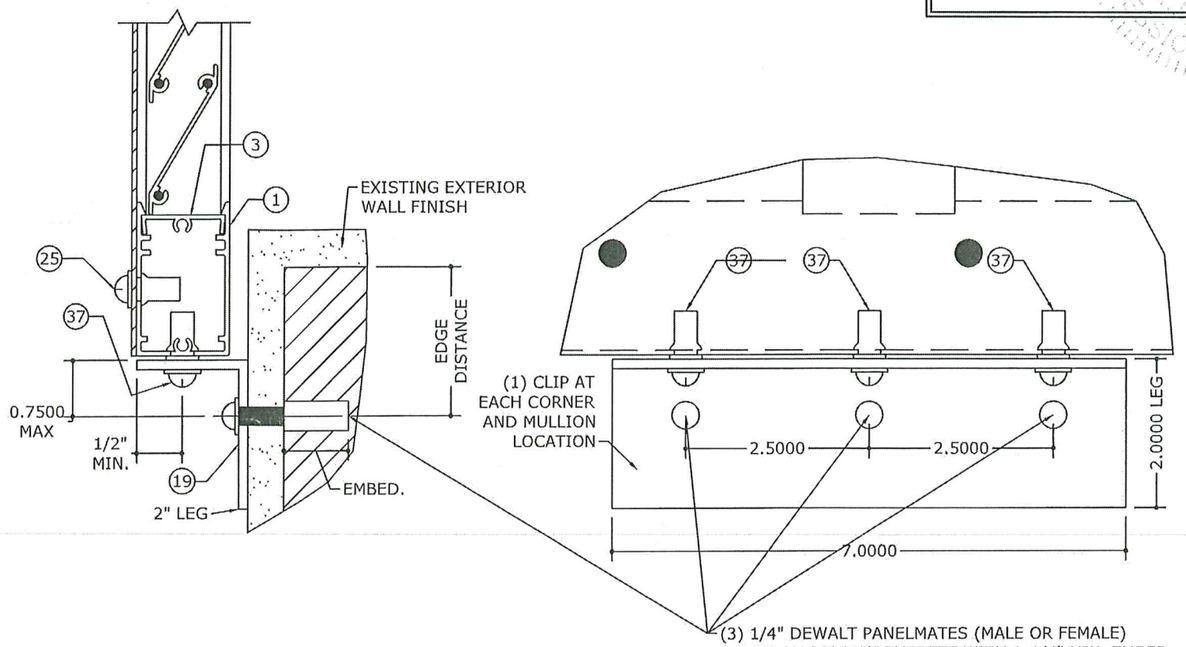
23-61305

SCALE: NTS UNLESS NOTED

2 OF 9



1/3 **BUILD-OUT WALL MOUNT**
6" = 1'-0" VERT SECTION



2/3 **OPTIONAL BASE CLIP**
6" = 1'-0" EXTERIOR ELEV/VERT SECTION

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No 24-0429.02
Expiration Date 03/05/2029
By
Miami Dade Product Control

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 23-1215.07
Expiration Date 03/05/25
By
Miami Dade Product Control

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885
DECEMBER 7, 2023

ENGINEERING EXPRESS®
POSTAL ADDRESS:
2234 NORTH FEDERAL HWY #7664
BOCA RATON, FL 33431
ENGINEERINGEXPRESS.COM

FLORIDA SHUTTERS, INC.
1055 COMMERCE AVENUE
VERO BEACH, FL 32960
(772) 569-2200

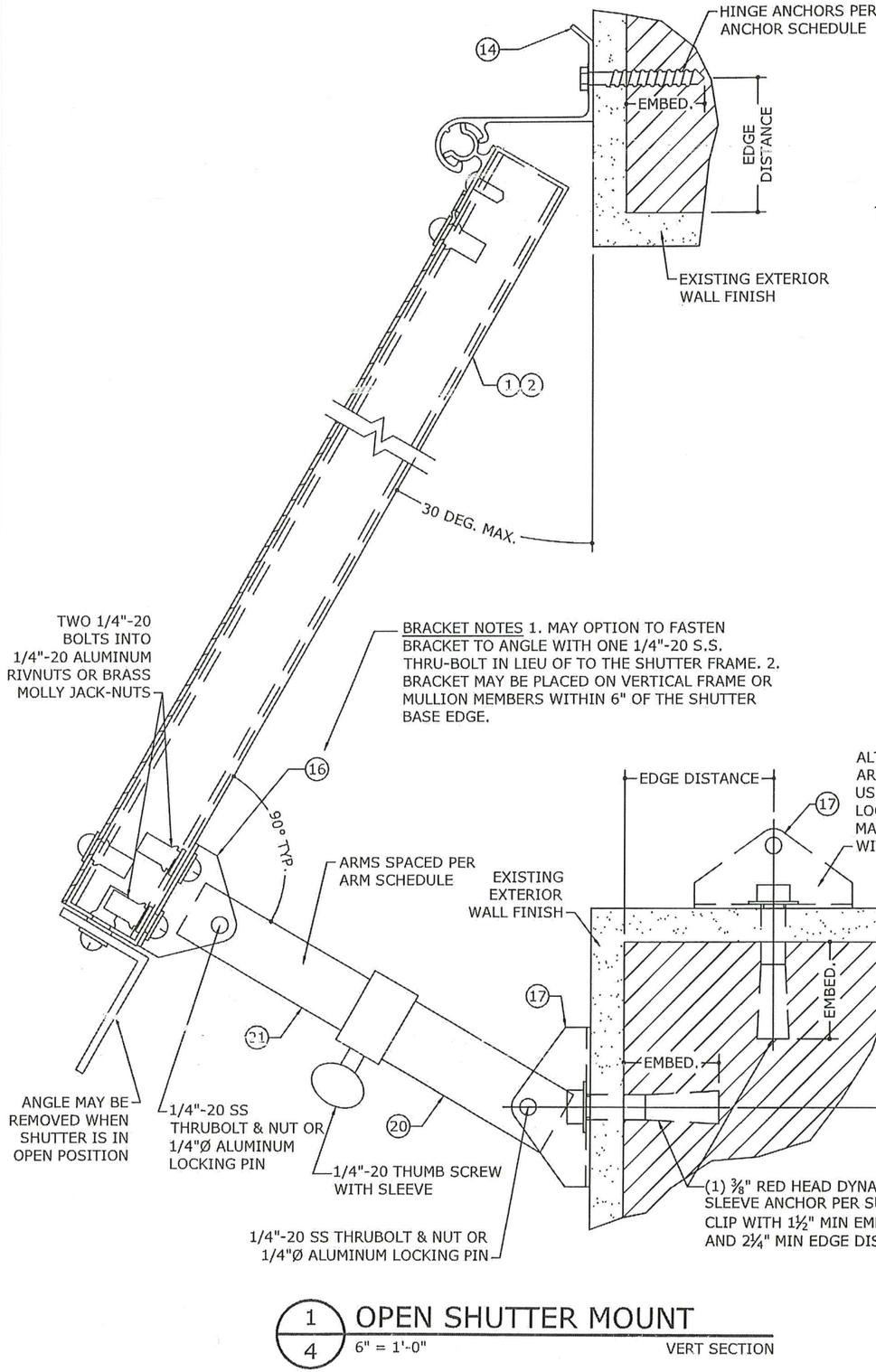
IMPACT ALUMINUM BAHAMA SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)

REMARKS	DRWN	CHKD	DATE
PREV. SUB. NOA 22-1106.02	CCB	RWN	10/19/20
2023 FBC UPDATE	EPR	RWN	11/08/23
,	-	-	-
,	-	-	-
,	-	-	-

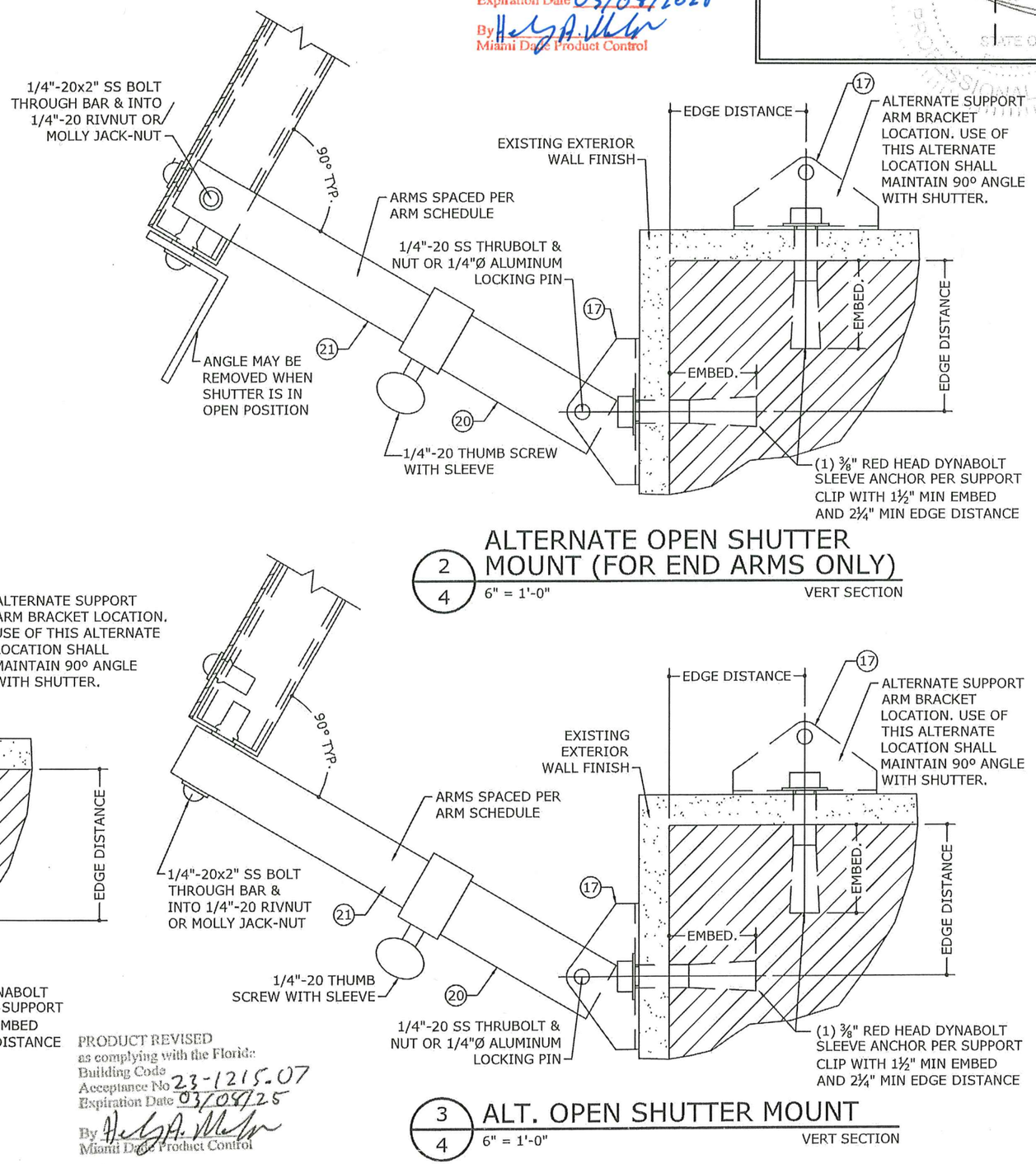
23-61305

SCALE: NTS UNLESS NOTED

3 OF 9



1/4 1 — OPEN SHUTTER MOUNT
6" = 1'-0" VERT SECTION



2/4 ALTERNATE OPEN SHUTTER MOUNT (FOR END ARMS ONLY)
6" = 1'-0" VERT SECTION

3/4 ALT. OPEN SHUTTER MOUNT
6" = 1'-0" VERT SECTION

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No 24-0428.02
Expiration Date 03/05/2029
By
Miami Dade Product Control

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 23-1215.07
Expiration Date 03/08/25
By
Miami Dade Product Control

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885
DECEMBER 7, 2023

ENGINEERING EXPRESS®
POSTAL ADDRESS:
2234 NORTH FEDERAL HWY #7664
BOCA RATON, FL 33431
ENGINEERINGEXPRESS.COM

FLORIDA SHUTTERS, INC.
1055 COMMERCE AVENUE
VERO BEACH, FL 32960
(772) 569-2200

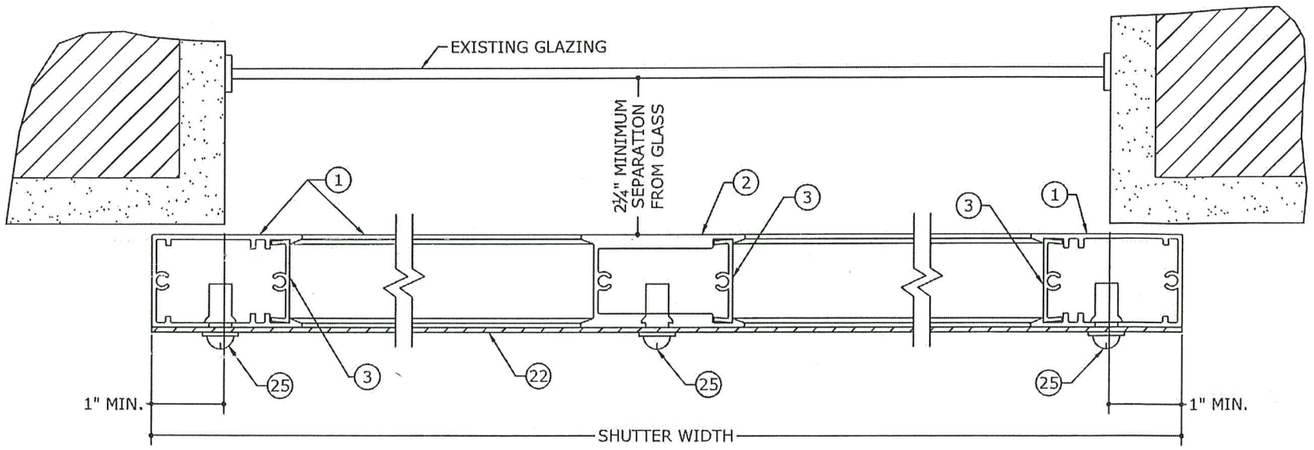
IMPACT ALUMINUM BAHAMA SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)

REMARKS	DRWN	CHKD	DATE
PREV. SUB. NOA 22-1106.02	CCB	RWN	10/19/20
2023 FBC UPDATE	EPR	RWN	11/08/23

23-61305

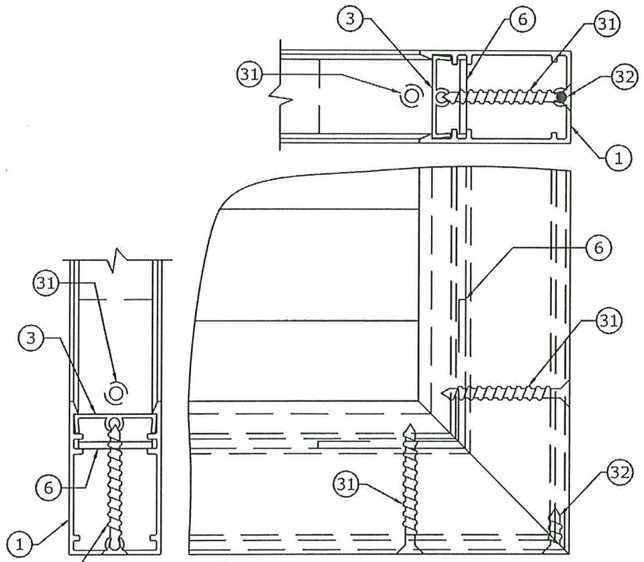
SCALE: NTS UNLESS NOTED

4 OF 9

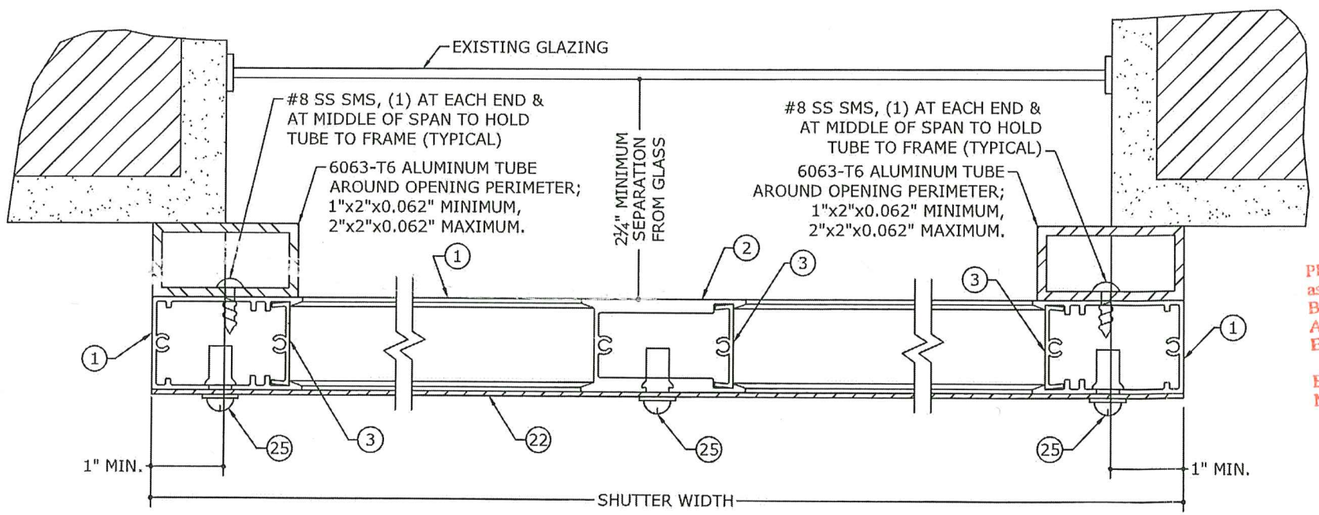


NOTE: STORM BARS NOT SHOWN FOR CLARITY

1/5 TYPICAL FACE MOUNT
6" = 1'-0" HORIZ SECTION



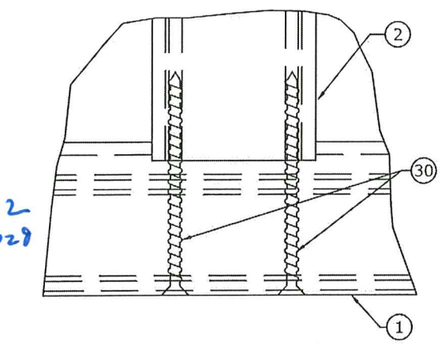
3/5 FRAME CORNER DETAIL
6" = 1'-0" ORTHOGRAPHIC



NOTE: STORM BARS NOT SHOWN FOR CLARITY

2/5 BUILD-OUT MOUNT
6" = 1'-0" HORIZ SECTION

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No 24-0428.02
Expiration Date 03/04/2029
By Miami Dade Product Control



4/5 MULLION CONNECTION
6" = 1'-0" ELEVATION

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 23-1215.07
Expiration Date 03/04/25
By Miami Dade Product Control

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885
DECEMBER 7, 2023

ENGINEERING EXPRESS®
POSTAL ADDRESS:
2234 NORTH FEDERAL HWY #7664
BOCA RATON, FL 33431
ENGINEERINGEXPRESS.COM

FLORIDA SHUTTERS, INC.
1055 COMMERCE AVENUE
VERO BEACH, FL 32960
(772) 569-2200

IMPACT ALUMINUM BAHAMA SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)

REMARKS	DRWN	CHKD	DATE
PREV. SUB. NOA 22-1106.02	CCB	RWN	10/19/20
2023 FBC UPDATE	EPR	RWN	11/08/23

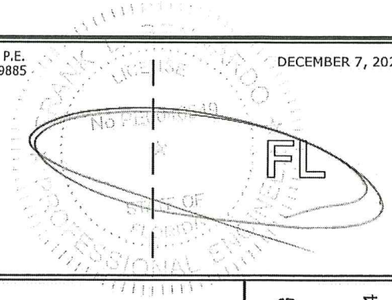
23-61305

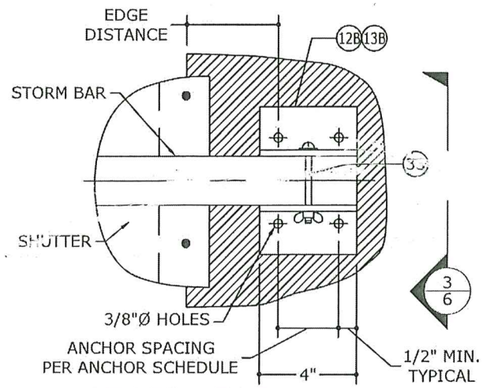
SCALE: NTS UNLESS NOTED

5 OF 9

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885

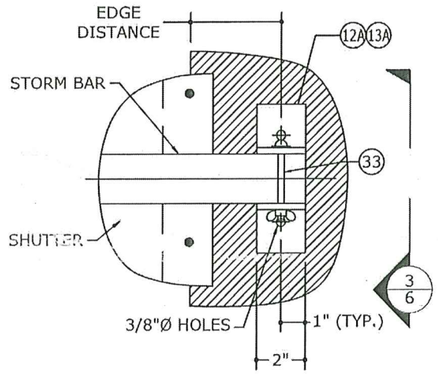
DECEMBER 7, 2023





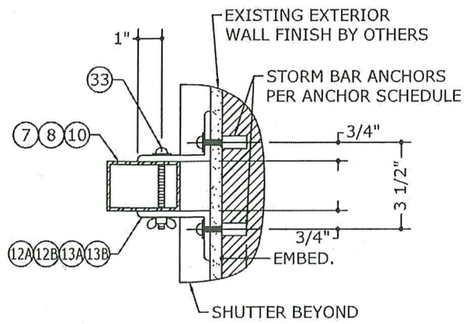
STORM BAR CONNECTION TYPE 'A'

1/6 — 2" = 1'-0" — EXTERIOR ELEV



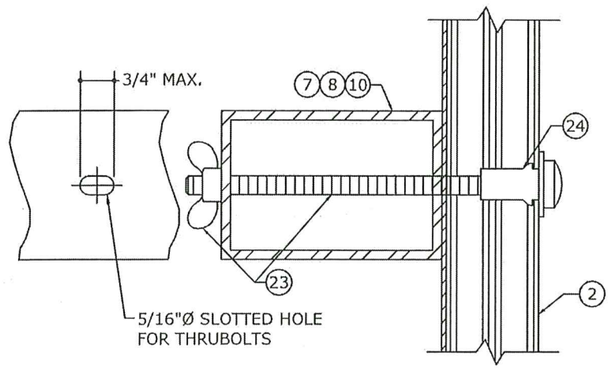
STORM BAR CONNECTION TYPE 'B'

2/6 — 2" = 1'-0" — EXTERIOR ELEV



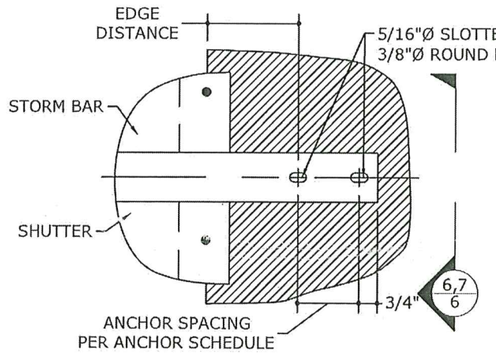
STORM BAR CONNECTION SECTION

3/6 — 2" = 1'-0" — VERT SECTION



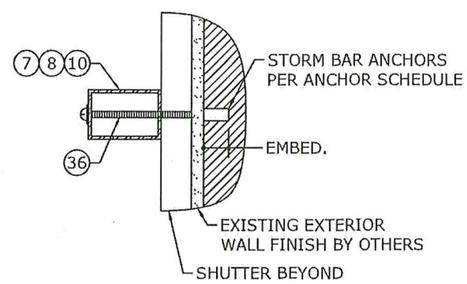
STORM BAR TO MULLION CONNECTION DETAIL

4/6 — 6" = 1'-0" — VERT SECTION



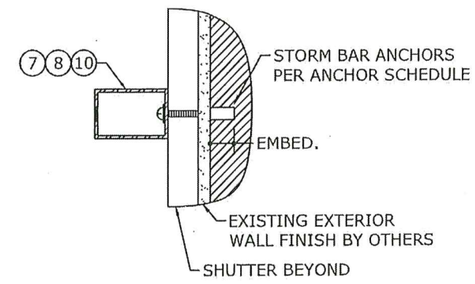
STORM BAR CONNECTION TYPE 'C'

5/6 — 2" = 1'-0" — EXTERIOR ELEV



STORM BAR CONNECTION SECTION

6/6 — 2" = 1'-0" — VERT SECTION



ALT. STORM BAR CONNECTION SECTION

7/6 — 2" = 1'-0" — VERT SECTION

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No 24-0428.02
Expiration Date 03/04/2028
By
Miami Dade Product Control

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 23-1215.07
Expiration Date 03/04/25
By
Miami Dade Product Control

ENGINEERING EXPRESS®
POSTAL ADDRESS:
2234 NORTH FEDERAL HWY #7664
BOCA RATON, FL 33431
ENGINEERINGEXPRESS.COM

FLORIDA SHUTTERS, INC.
1055 COMMERCE AVENUE
VERO BEACH, FL 32960
(772) 569-2200

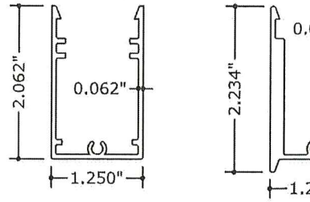
IMPACT ALUMINUM BAHAMA SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)

REMARKS	DRWN	CHKD	DATE
PREV. SUB. NOA 22-1106.02	CCB	RVN	10/19/20
2023 FBC UPDATE	EPR	RVN	11/08/23
-	-	-	-
-	-	-	-
-	-	-	-

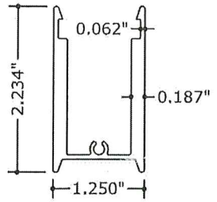
23-61305

SCALE: NTS UNLESS NOTED

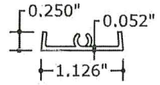
6 OF 9



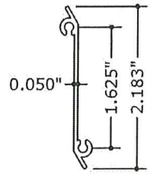
1 FRAME
6063-T6 ALUM.



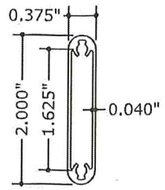
2 MULLION
6061-T6 ALUM.



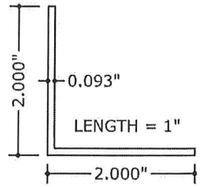
3 FRAME CAP
6063-T6 ALUM.



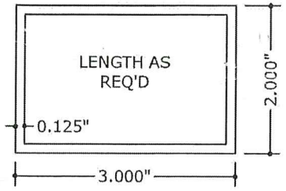
4 Z-BLADE
6063-T6 ALUM.



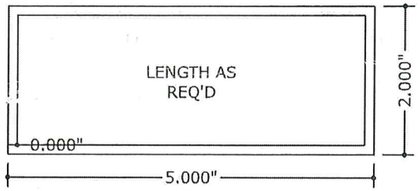
5 HOLLOW BLADE
6063-T6 ALUM.



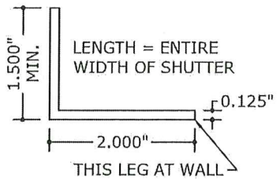
6 FRAME CORNER KEY
6063-T5 ALUM.



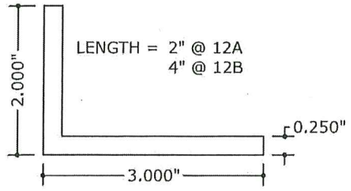
8 STORM BAR 'B'
6061-T6 OR 6005-T5 ALUM.



10 STORM BAR 'C'
6061-T6 OR 6005-T5 ALUM.

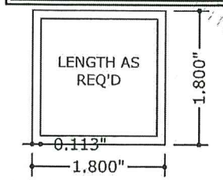


11 BASE ANGLE
6063-T5 ALUM.

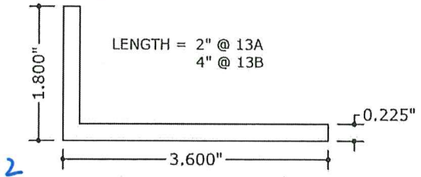


12A 12B STORM BAR CONNECTION ANGLE
6063-T5 ALUM.

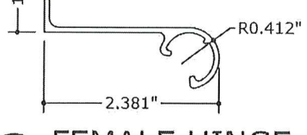
PRODUCT RENEWED
as complying with the Florida
Building Code
Acceptance No 24-0429.02
Expiration Date 03/07/2028
By Miami Dade Product Control



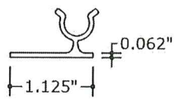
7 STORM BAR 'A'
6061-T6 OR 6005-T5 ALUM.



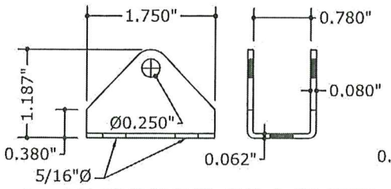
13A 13B STORM BAR CONNECTION ANGLE
6063-T5 ALUM.



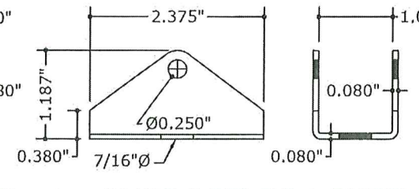
14 FEMALE HINGE
6061-T6 ALUM.



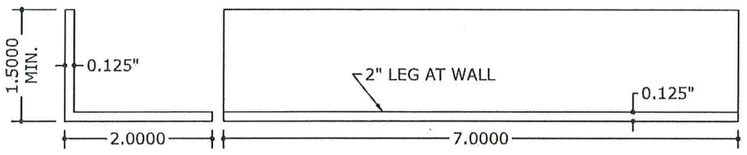
15 MALE HINGE
6061-T6 ALUM.



16 SUPPORT BRACKET
6063-T6 ALUM.



17 SUPPORT BRACKET
6063-T6 ALUM.



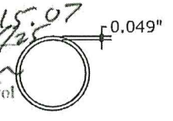
19 OPTIONAL BASE ANGLE
6063-T5 ALUM.

BILL OF MATERIALS

NO.	DESCRIPTION	NOTES
1	SHUTTER FRAME	6063-T6 ALUMINUM
2	MULLION	6061-T6 ALUMINUM
3	FRAME CAP	6063-T6 ALUMINUM
4	Z-BLADE	6063-T6 ALUMINUM
5	HOLLOW BLADE	6063-T6 ALUMINUM
6	L2"x2"x0.093" FRAME CORNER KEY	6063-T5 ALUMINUM; PLACED AT EACH FRAME CORNER
7	L2"x2"x⅛" STORM BAR	6061-T1 OR 6005-T5 ALUMINUM
8	L3"x2"x⅛" STORM BAR	6061-T1 OR 6005-T5 ALUMINUM
9	-	-
10	L5"x2"x⅛" STORM BAR	6061-T1 OR 6005-T5 ALUMINUM
11	L2"x1.5"MINx⅛" CONT. BASE ANGLE	6063-T5 ALUMINUM; SECURES SHUTTERS CLOSED
12A	L3"x2"x¼" STORM BAR END CONNECTOR	6063-T5 ALUMINUM; 2" LONG; USED WITH-OUT BUILD-OUT
12B	L3"x2"x¼" STORM BAR END CONNECTOR	6063-T5 ALUMINUM; 4" LONG; USED WITH-OUT BUILD-OUT
13A	L4"x2"x¼" STORM BAR END CONNECTOR	6063-T5 ALUMINUM; 2" LONG; USED WITH BUILD-OUT
13B	L4"x2"x¼" STORM BAR END CONNECTOR	6063-T5 ALUMINUM; 2" LONG; USED WITH BUILD-OUT
14	FEMALE TOP HINGE	6061-T6 ALUMINUM; FULL WIDTH OF SHUTTER
15	MALE TOP HINGE	6061-T6 ALUMINUM; FULL WIDTH OF SHUTTER
16	SHUTTER ARM SUPPORT BRACKET	6063-T6 ALUMINUM; ARM TO SHUTTER BRACKET
17	SHUTTER ARM SUPPORT BRACKET	6063-T6 ALUMINUM; ARM TO WALL BRACKET
18	-	-
19	L2"x1.5"MINx⅛" BASE ANGLE (7" LONG)	6063-T6 ALUMINUM; (1) AT EA. VERTICAL SHUTTER MEMBER

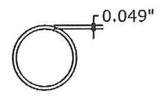
20	OUTER PORTION OF SHUTTER ARM	6063-T6 ALUMINUM
21	INNER PORTION OF SHUTTER ARM	6063-T6 ALUMINUM
22	0.050" THICK ALUMINUM HURRICANE SHEET	3003-H14 ALUM.; MIN SEAM OVERLAPS = 2" AT MULLIONS
23	¼" STL BOLT OR THREADED ROD W/WING NUT	STORM BAR TO SHUTTER MULLIONS
24	¼" MOLLY JACK NUT OR 6061-T6 RIVNUT	FOR SETTING OF NO. 23 ABOVE INTO MULLIONS
25	1/4-20 S.S. BOLTS & 6061-T6 RIVNUTS	AT FRAME CORNERS & 12" MAX O.C. (SHEET TO SHUTTER)
26	3/16" 5052-ALUMINUM POP RIVETS	1" FROM HINGE ENDS & 6" MAX O.C. (TOP HINGE TO SHUTTER)
27	3/16" 5052-ALUMINUM POP RIVETS	1" FROM HINGE ENDS & 6" MAX O.C. (BASE ANGLE TO SHUTTER)
28	1/4-20 S.S. BOLTS & 6061-T6 RIVNUTS	1" FROM ENDS & 12" MAX O.C. (BASE ANGLE TO SHUTTER)
29A	NO. 6 x ⅝" S.S. P.H. SMS	SECURES Z-BLADE END TO FRAME CAP (2 PER BLADE END)
29A	NO. 8 x ⅝" S.S. P.H. SMS	SECURES HOLLOW BLADE END TO FRAME CAP (2 PER BLADE END)
30	NO. 8 x 3" S.S. F.H. SMS	2 PER MULLION END THROUGH FRAME
31	NO. 6 x 1¾" S.S. F.H. SMS	2 PER FRAME CORNER INTO CORNER KEY
32	NO. 6 x ⅝" S.S. F.H. SMS	1 PER FRAME CORNER INTO FRAME SCREW BOSS
33	¼"x3"MIN STL. BOLT W/WING NUT	1 PER STORM BAR END THROUGH END ANGLES & BAR
34A	1/4-20 RAWL CAULK-IN	SEE ANCHOR SCHEDULE
34B	1/4-20 MALE OR FEMALE PANEL MATE	SEE ANCHOR SCHEDULE
35	¼" STL BOLT OR THREADED ROD W/WING NUT	ANCHOR STORM BAR ENDS TO WALL ANCHORS
36	1/4-20 STEEL BOLT	ANCHOR STORM BAR END CLIPS TO WALL ANCHORS
37	1/4-20 S.S. BOLTS & 6061-T6 RIVNUTS	2 PER BASE CLIP INTO SHUTTER FRAME
-	-	-

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 23-1215.07
Expiration Date 03/08/28
By Miami Dade Product Control



1" O.D. SERRATED TUBE

20 ARM (OUTSIDE)
6063-T6 ALUM.



7/8" O.D. SERRATED TUBE

21 ARM (INSIDE)
6063-T6 ALUM.

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885
DECEMBER 7, 2023

ENGINEERING EXPRESS®
POSTAL ADDRESS:
2234 NORTH FEDERAL HWY #7664
BOCA RATON, FL 33431
ENGINEERINGEXPRESS.COM

FLORIDA SHUTTERS, INC.
1055 COMMERCE AVENUE
VERO BEACH, FL 32960
(772) 569-2200

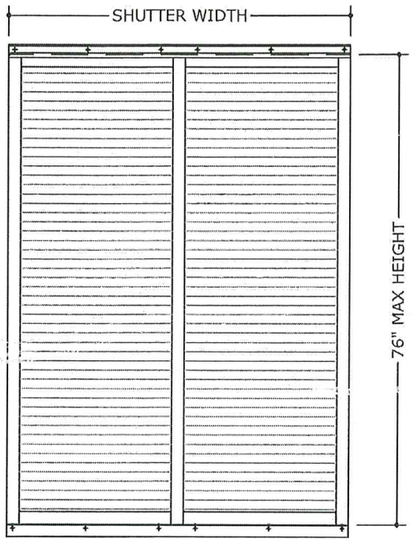
IMPACT ALUMINUM BAHAMA SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)

REMARKS	DRWN	CHKD	DATE
PREV. SUB. NOA 22-1106.02	CCB	RWN	10/19/20
2023 FBC UPDATE	EPR	RWN	11/08/23

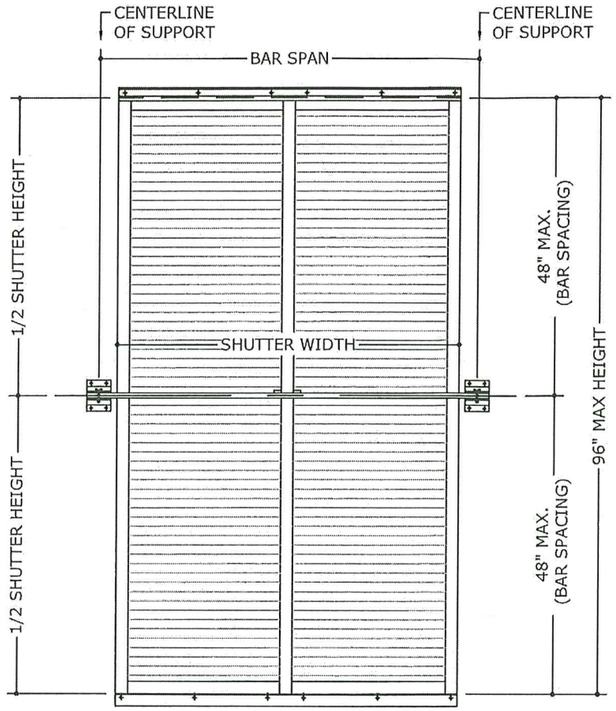
23-61305

SCALE: NTS UNLESS NOTED

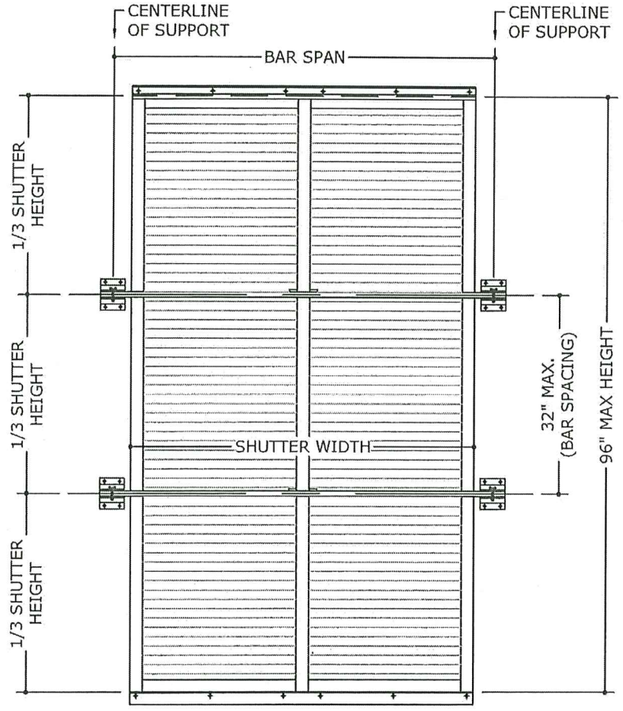
7 OF 9



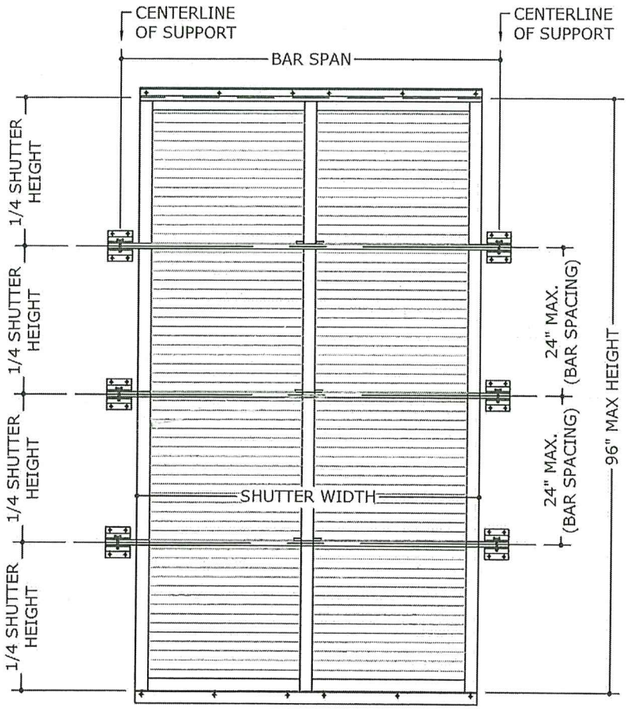
1/8 NO BARS
1/2" = 1'-0" EXTER ELEV
(SINGLE SPAN SHUTTER)



2/8 ONE BAR
1/2" = 1'-0" EXTER ELEV
(TWO SPAN SHUTTER)



3/8 TWO BARS
1/2" = 1'-0" EXTER ELEV
(THREE SPAN SHUTTER)



4/8 THREE BARS
1/2" = 1'-0" EXTER ELEV
(FOUR SPAN SHUTTER)

TABLE 1:

ALLOWABLE PRESSURE TABLE FOR SINGLE SPAN SHUTTERS		
SHUTTER HEIGHT	PRESSURE (PSF)	
	POS	NEG
60" & LESS	65	80
62"	60.7	72.1
64"	56.8	66
66"	53.3	60.4
68"	50	55.4
70"	45	50.9
72"	40	46.8
74"	36	43
76"	32	40

TABLE 1 NOTES:
1. TABLE 1 SHALL BE USED ONLY FOR SINGLE SPAN SHUTTERS WITHOUT STORM BARS.
2. DESIGN PRESSURES FOR SINGLE SPAN SHUTTERS SHALL NOT EXCEED THE DESIGN PRESSURES INDICATED IN TABLE 1.
3. FOR MULTI-SPAN SHUTTERS WITH STORM BARS, REFERENCE TABLE 2.
4. DESIGN PRESSURES LISTED ARE MAXIMUM (ASD) ALLOWABLE DESIGN PRESSURES.

PRODUCT RENEWED
as complying with the Florida Building Code
Acceptance No 24-0428.02
Expiration Date 03/09/2029
By
Miami Dade Product Control

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 23-1215.07
Expiration Date 03/09/25
By
Miami Dade Product Control

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885
DECEMBER 7, 2023

ENGINEERING EXPRESS®
POSTAL ADDRESS:
2234 NORTH FEDERAL HWY #7664
BOCA RATON, FL 33431
ENGINEERINGEXPRESS.COM

FLORIDA SHUTTERS, INC.
1055 COMMERCE AVENUE
VERO BEACH, FL 32960
(772) 569-2200

IMPACT ALUMINUM BAHAMA SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)

REMARKS	DRWN	CHKD	DATE
PREV. SUB. NOA 22-1106.02	CCB	RWN	10/19/20
2023 FBC UPDATE	EPR	RWN	11/08/23
-	-	-	-
-	-	-	-
-	-	-	-

23-61305

SCALE: NTS UNLESS NOTED

8 OF 9

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885

DECEMBER 7, 2023

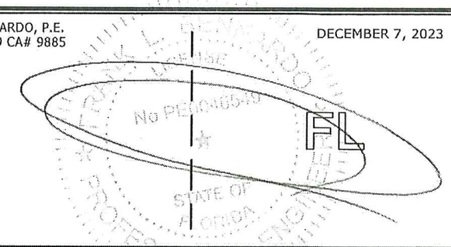


TABLE 2: STORM BAR DESIGN SECHDULE

SHUTTER WIDTH	STORM BAR SPACING	ALLOWABLE STORM BAR DESIGN PRESSURE (PSF)			ALLOWABLE ANCHORAGE DESIGN PRESSURE (PSF)			
					CONN. 'A'		CONN. 'B' & 'C'	
		STORM BAR 'A' 2"x2"x0.125"	STORM BAR 'B' 2"x3"x0.125"	STORM BAR 'C' 2"x5"x0.125"	WOOD	BLOCK/ CONCRETE	WOOD	BLOCK/ CONCRETE
36"	UP TO 42"	80	80	80	80	80	80	52
	UP TO 48"	73	80	80	80	80	80	45
42"	UP TO 36"	67	80	80	80	80	80	52
	UP TO 42"	57	80	80	80	80	80	44
	UP TO 48"	50	80	80	80	78	80	39
48"	UP TO 30"	58	80	80	80	80	80	55
	UP TO 36"	48	80	80	80	80	80	45
	UP TO 42"	41	80	80	80	78	80	39
	UP TO 48"	36	80	80	80	68	80	34
54"	UP TO 30"	43	80	80	80	80	80	48
	UP TO 36"	36	80	80	80	80	80	40
	UP TO 42"	31	80	80	80	69	80	34
	UP TO 48"	-	72	80	80	61	80	30
60"	UP TO 24"	41	80	80	80	80	80	55
	UP TO 30"	33	80	80	80	80	80	44
	UP TO 36"	-	73	80	80	73	80	36
	UP TO 42"	-	63	80	80	62	80	31
	UP TO 48"	-	55	80	80	55	80	-
66"	UP TO 24"	32	80	80	80	80	80	50
	UP TO 30"	-	69	80	80	80	80	40
	UP TO 36"	-	57	80	80	66	80	33
	UP TO 42"	-	49	80	80	57	80	-
	UP TO 48"	-	43	80	80	50	74	-
72"	UP TO 24"	-	68	80	80	80	80	45
	UP TO 30"	-	55	80	80	73	80	36
	UP TO 36"	-	45	80	80	61	80	30
	UP TO 42"	-	39	80	80	52	78	-
	UP TO 48"	-	34	80	80	45	68	-
78"	UP TO 24"	-	55	80	80	80	80	42
	UP TO 30"	-	44	80	80	67	80	33
	UP TO 36"	-	37	80	80	56	80	-
	UP TO 42"	-	31	80	80	48	72	-
	UP TO 48"	-	-	80	80	42	63	-
84"	UP TO 24"	-	45	80	80	78	80	39
	UP TO 30"	-	36	80	80	62	80	31
	UP TO 36"	-	30	80	80	52	78	-
	UP TO 42"	-	-	80	80	44	67	-
	UP TO 48"	-	-	80	80	39	58	-
90"	UP TO 24"	-	37	80	80	73	80	36
	UP TO 30"	-	30	80	80	58	80	-
	UP TO 36"	-	-	80	80	48	73	-
	UP TO 42"	-	-	76	80	41	62	-
	UP TO 48"	-	-	67	80	36	54	-

SHUTTER WIDTH	STORM BAR SPACING	ALLOWABLE STORM BAR DESIGN PRESSURE (PSF)			ALLOWABLE ANCHORAGE DESIGN PRESSURE (PSF)			
					CONN. 'A'		CONN. 'B' & 'C'	
		STORM BAR 'A' 2"x2"x0.125"	STORM BAR 'B' 2"x3"x0.125"	STORM BAR 'C' 2"x5"x0.125"	WOOD	BLOCK/ CONCRETE	WOOD	BLOCK/ CONCRETE
96"	UP TO 24"	-	31	80	80	68	80	34
	UP TO 30"	-	-	80	80	55	80	-
	UP TO 36"	-	-	75	80	45	68	-
	UP TO 42"	-	-	64	80	39	58	-
	UP TO 48"	-	-	56	80	34	51	-
102"	UP TO 24"	-	-	80	80	64	80	32
	UP TO 30"	-	-	76	80	51	77	-
	UP TO 36"	-	-	63	80	43	64	-
	UP TO 42"	-	-	54	80	36	55	-
	UP TO 48"	-	-	47	80	32	48	-
108"	UP TO 24"	-	-	80	80	61	80	30
	UP TO 30"	-	-	65	80	48	73	-
	UP TO 36"	-	-	54	80	40	60	-
	UP TO 42"	-	-	46	80	34	52	-
	UP TO 48"	-	-	40	80	30	45	-
112"	UP TO 24"	-	-	74	80	58	80	-
	UP TO 30"	-	-	59	80	47	70	-
	UP TO 36"	-	-	49	80	39	58	-
	UP TO 42"	-	-	42	80	33	50	-
	UP TO 48"	-	-	37	80	-	44	-

TABLE 2 NOTES:

1. TABLE 2 SHALL BE USED ONLY FOR MULTI-SPAN SHUTTERS WITH STORM BARS.
2. DESIGN PRESSURES FOR MULTI-SPAN SHUTTERS SHALL NOT EXCEED THE DESIGN PRESSURES INDICATED IN TABLE 2.
3. FOR SINGLE SPAN SHUTTERS WITH NO STORM BARS, REFERENCE TABLE 1.
4. DESIGN PRESSURES LISTED ARE MAXIMUM (ASD) ALLOWABLE DESIGN PRESSURES.

TERMINOLOGY:

THE FOLLOWING ABBREVIATIONS MAY APPEAR IN THIS APPROVAL:

"ADDTL." FOR "ADDITIONAL", "AHJ" FOR "AUTHORITY HAVING JURISDICTION", "ALUM" FOR "ALUMINUM, "ASD" FOR "ALLOWABLE STRESS DESIGN", "BO" FOR "BUILD-OUT", "CS" FOR "CARBON STEEL", "EA." FOR "EACH", "E.D."/"EDGE"/"EDGE DIST." FOR "EDGE DISTANCE", "ELEV" FOR "ELEVATION", "EMBED" FOR "EMBEDMENT", "EQ"/"EQUIV." FOR "EQUIVALENT", "EXT" FOR "EXTERIOR", "FBC" FOR "FLORIDA BUILDING CODE", "ft" OR " ' " FOR "FEET", "G" FOR "SPECIFIC GRAVITY", "GA" FOR "GAUGE", "GALV" FOR "GALVANIZED", "GFB" FOR "GROUT-FILLED BLOCK", "GR" FOR "GRADE", "HOLLOW" FOR "HOLLOW BLOCK", "HORIZ" FOR "HORIZONTAL", "HVHZ" FOR "HIGH-VELOCITY HURRICANE ZONE", "in" OR " " " FOR "INCHES", "INT" FOR "INTERIOR", "KSI" FOR "1,000 lb / in^2", "L" FOR "LENGTH", "LB" FOR "POUND", "MAX" FOR "MAXIMUM, "MIN" FOR "MINIMUM", "N.T.S." FOR "NOT TO SCALE", "O.C." FOR "ON-CENTER", "P.E." FOR "PROFESSIONAL ENGINEER", "PERP" FOR "PERPENDICULAR", "PSF" FOR "POUNDS PER SQUARE FOOT (lb/ft^2)", "PSI" FOR "POUNDS PER SQUARE INCH (lb/in^2)", "QTY" FOR "QUANTITY", "REF." FOR "REFERENCE", "SCHED." FOR "SCHEDULE", "SDS" FOR "SELF-DRILLING SCREWS", "SMS" FOR "SHEET METAL SCREWS", "SPECS" FOR "SPECIFICATIONS", "SS" FOR "STAINLESS STEEL", "SUB" FOR "SUBMITTAL", "TAS" FOR "TESTING APPLICATION STANDARD", "TYP." FOR "TYPICAL", "ULT" FOR "ULTIMATE LOADS", "U.N.O." FOR "UNLESS NOTED OTHERWISE", "UTS" OR "Fu" FOR "ULTIMATE TENSILE STRENGTH/STRESS", "VERT" FOR "VERTICAL", "WLL" FOR "WORKING LOAD LIMIT", "W/" FOR "WITH", "W/O" FOR "WITHOUT", "YS" FOR "YIELD STRENGTH", "#" FOR "NUMBER", "&" FOR "AND", AND "Ø" FOR "DIAMETER".

CONTACT ENGINEERING EXPRESS FOR ADDITIONAL ABBREVIATION/TERMINOLOGY CLARIFICATIONS.

ENGINEERING EXPRESS®
POSTAL ADDRESS:
2234 NORTH FEDERAL HWY #7664
BOCA RATON, FL 33431
ENGINEERINGEXPRESS.COM

FLORIDA SHUTTERS, INC.
1055 COMMERCE AVENUE
VERO BEACH, FL 32960
(772) 569-2200

IMPACT ALUMINUM BAHAMA SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)

REMARKS	DRWN	CHKD	DATE
PREV. SUB. NOA 22-1106.02	CCB	RWN	10/19/20
2023 FBC UPDATE	EPR	RWN	11/08/23
-	-	-	-
-	-	-	-
-	-	-	-

23-61305

SCALE: NTS UNLESS NOTED

9 OF 9