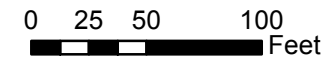




003-17-CA

MOORE SQUARE
HISTORIC DISTRICT
(GENERAL)



APPLICANT: DAVID MAURER,
MAURER ARCHITECTURE

Raleigh Historic Development Commission – Certificate of Appropriateness (COA) Application



**DEVELOPMENT
SERVICES
DEPARTMENT**

Development Services
Customer Service Center
One Exchange Plaza
1 Exchange Plaza, Suite 400
Raleigh, North Carolina 27601
Phone 919-996-2495
eFax 919-996-1831



- ☐ Minor Work (staff review) – **1 copy**
- ☐ Major Work (COA Committee review) – **10 copies**
- ☒ Additions Greater than 25% of Building Square Footage
- ☐ New Buildings
- ☐ Demo of Contributing Historic Resource
- ☐ All Other
- ☐ Post Approval Re-review of Conditions of Approval

For Office Use Only

Transaction # 499818

File # 003-17-CA

Fee \$147

Amount Paid \$147

Received Date 1/6/17

Received By ACH

Property Street Address East 15 West Martin Street

Historic District Moore Square

Historic Property/Landmark name (if applicable)

Owner's Name Jim and Lisa Southern

Lot size

(width in feet) 17

(depth in feet) 68

For applications that require review by the COA Committee (Major Work), provide addressed, stamped envelopes to owners of all properties within 100 feet (i.e. both sides, in front (across the street), and behind the property) not including the width of public streets or alleys ([Label Creator](#)).

Property Address	Property Address
see attached	

I understand that all applications that require review by the commission's Certificate of Appropriateness Committee must be submitted by 4:00 p.m. on the application deadline; otherwise, consideration will be delayed until the following committee meeting. An incomplete application will not be accepted.

Type or print the following:

Applicant David Maurer, Maurer Architecture

Mailing Address 115.5 E Hargett St Suite 300

City Raleigh

State NC

Zip Code 27603

Date 1/06/17

Daytime Phone 919.829.4969

Email Address david@maurerarchitecture.com

Applicant Signature

David A. Maurer

Will you be applying for rehabilitation tax credits for this project? ☐ Yes ☒ No

Did you consult with staff prior to filing the application? ☒ Yes ☐ No

Office Use Only

Type of Work _____

90

Design Guidelines - Please cite the applicable sections of the design guidelines (www.rhdc.org).

Section/Page	Topic	Brief Description of Work (attach additional sheets as needed)
4.2; p 54-55	Additions	Modifications to previously approved CoA 146-16-CA, including an alternate siding material for the upper portions, different window type and arrangement, alternate railing design, etc.
4.1; p 52-53	Decks	

Minor Work Approval (office use only)

Upon being signed and dated below by the Planning Director or designee, this application becomes the Minor Work Certificate of Appropriateness. It is valid until _____. Please post the enclosed placard form of the certificate as indicated at the bottom of the card. Issuance of a Minor Work Certificate shall not relieve the applicant, contractor, tenant, or property owner from obtaining any other permit required by City Code or any law. Minor Works are subject to an appeals period of 30 days from the date of approval.

Signature (City of Raleigh) _____ Date _____

TO BE COMPLETED BY APPLICANT			TO BE COMPLETED BY CITY STAFF		
	YES	N/A	YES	NO	N/A
Attach 8-1/2" x 11" or 11" x 17" sheets with written descriptions and drawings, photographs, and other graphic information necessary to completely describe the project. Use the checklist below to be sure your application is complete.			✓		
<u>Minor Work</u> (staff review) – 1 copy					
<u>Major Work</u> (COA Committee review) – 10 copies					
1. Written description. Describe clearly and in detail the nature of your project. Include exact dimensions for materials to be used (e.g. width of siding, window trim, etc.)	<input checked="" type="checkbox"/>		✓		
2. Description of materials (Provide samples, if appropriate)	<input checked="" type="checkbox"/>		✓		
3. Photographs of existing conditions are required. Minimum image size 4" x 6" as printed. Maximum 2 images per page.	<input checked="" type="checkbox"/>		✓		
4. <u>Paint Schedule</u> (if applicable)	<input type="checkbox"/>	<input checked="" type="checkbox"/>			✓
5. <u>Plot plan</u> (if applicable). A plot plan showing relationship of buildings, additions, sidewalks, drives, trees, property lines, etc., must be provided if your project includes any addition, demolition, fences/walls, or other landscape work. Show accurate measurements. You may also use a copy of the survey you received when you bought your property. Revise the copy as needed to show existing conditions and your proposed work.	<input type="checkbox"/>	<input checked="" type="checkbox"/>			✓
6. Drawings showing existing and proposed work <ul style="list-style-type: none"> <input type="checkbox"/> Plan drawings <input type="checkbox"/> Elevation drawings showing the façade(s) <input type="checkbox"/> Dimensions shown on drawings and/or graphic scale (required) <input type="checkbox"/> 11" x 17" or 8-1/2" x 11" reductions of full-size drawings. If reduced size is so small as to be illegible, make 11" x 17" or 8-1/2" x 11" snap shots of individual drawings from the big sheet. 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	✓		
7. Stamped envelopes addressed to all property owners within 100 feet of property not counting the width of public streets and alleys (required for Major Work). Use the <u>Label Creator</u> to determine the addresses.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	✓		
8. Fee (<u>See Development Fee Schedule</u>)	<input checked="" type="checkbox"/>		✓		

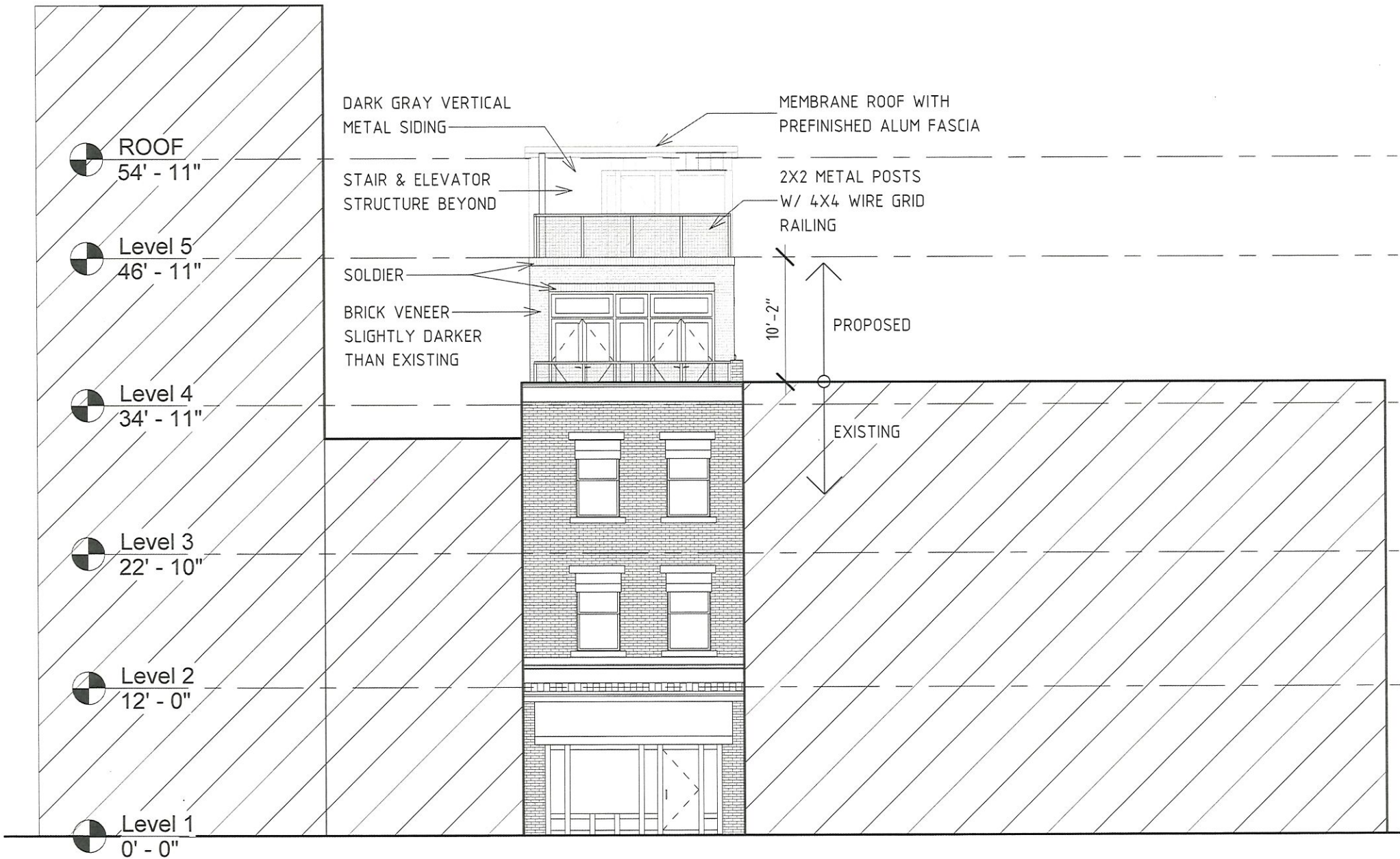


15 East Martin Street Upper Level Addition Certificate of Appropriateness

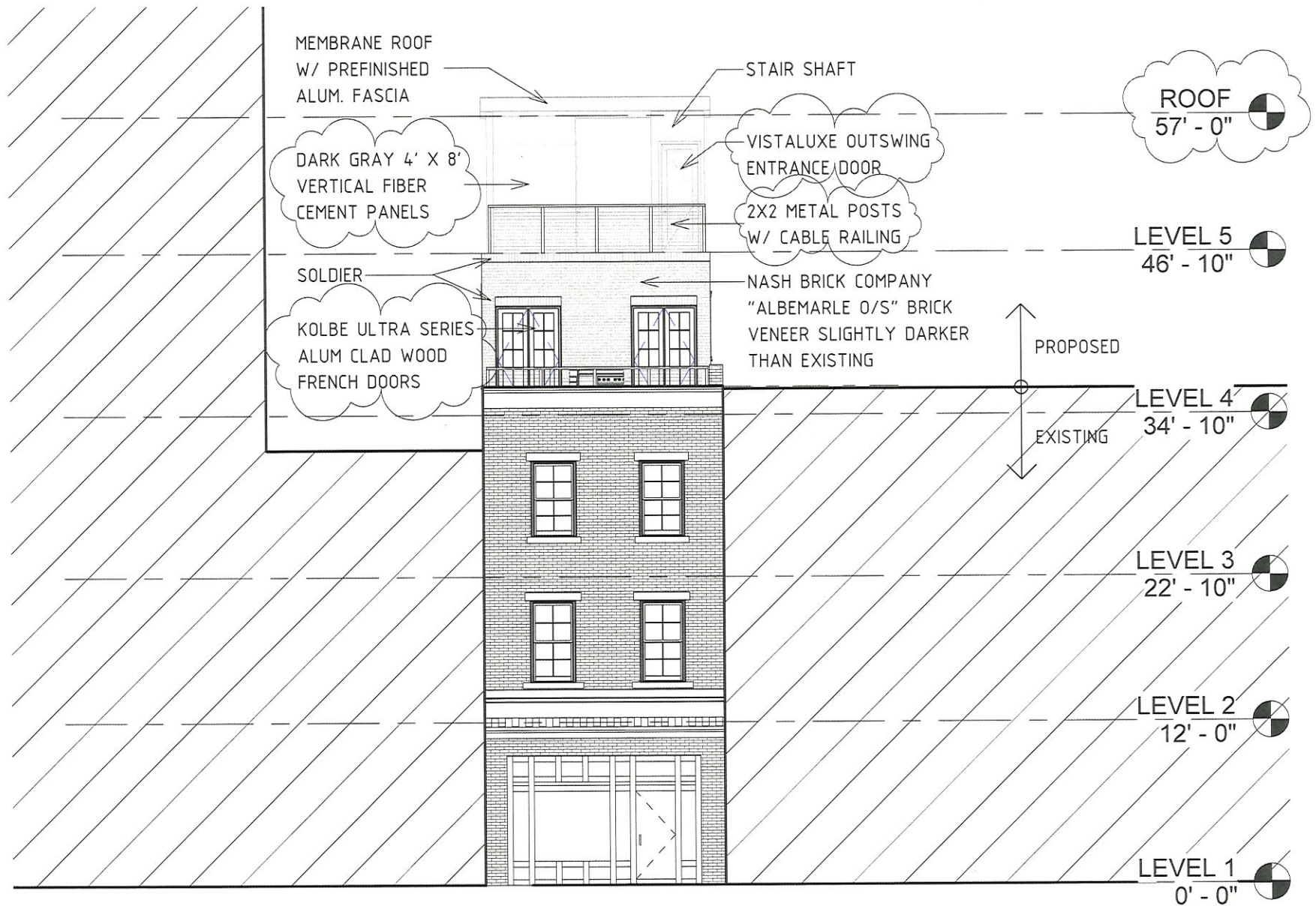
Amendments to previously approved CoA 145-16-CA

Description of Scope:

- 1) Request change of railing from approved 2x2 metal posts with 4x4 wire grid to 2x2 metal posts with stainless steel horizontal cabling.
- 2) Request change of proposed fourth floor aluminum clad 1 over 1 double hung windows to aluminum clad casement windows with muntin pattern as shown. Proportions of overall window size and glass panes are similar to approved replacement windows in the existing building's floors two and three. Also requesting a slightly different window locations from the previously approved application.
- 3) Request change of metal siding on fifth floor to smooth fiber cement panels, painted dark gray.
- 4) Request addition of 4' high wing walls adjacent to both sides of elevator tower on Proposed West Elevation in lieu of previously approved railing in these locations.
- 5) Request 8' tall aluminum clad double doors at Fourth Level facing south, in lieu of previously approved doors and transoms.
- 6) Request approval of alternate siding material on Fourth Level facing west and East. Because of the inability to construct a true brick veneer on the side property lines, Synergy Brick Finish panels shall be installed. Color to match brick veneer still planned for south and north walls (brick veneer to turn the corners onto the east and west walls for 1' depth – see proposed elevations.) See attached literature.
- 7) Request an additional 2' in height for Level 5 rooftop roof structure, from the previously approved 8' ceiling height to a 10' ceiling height.

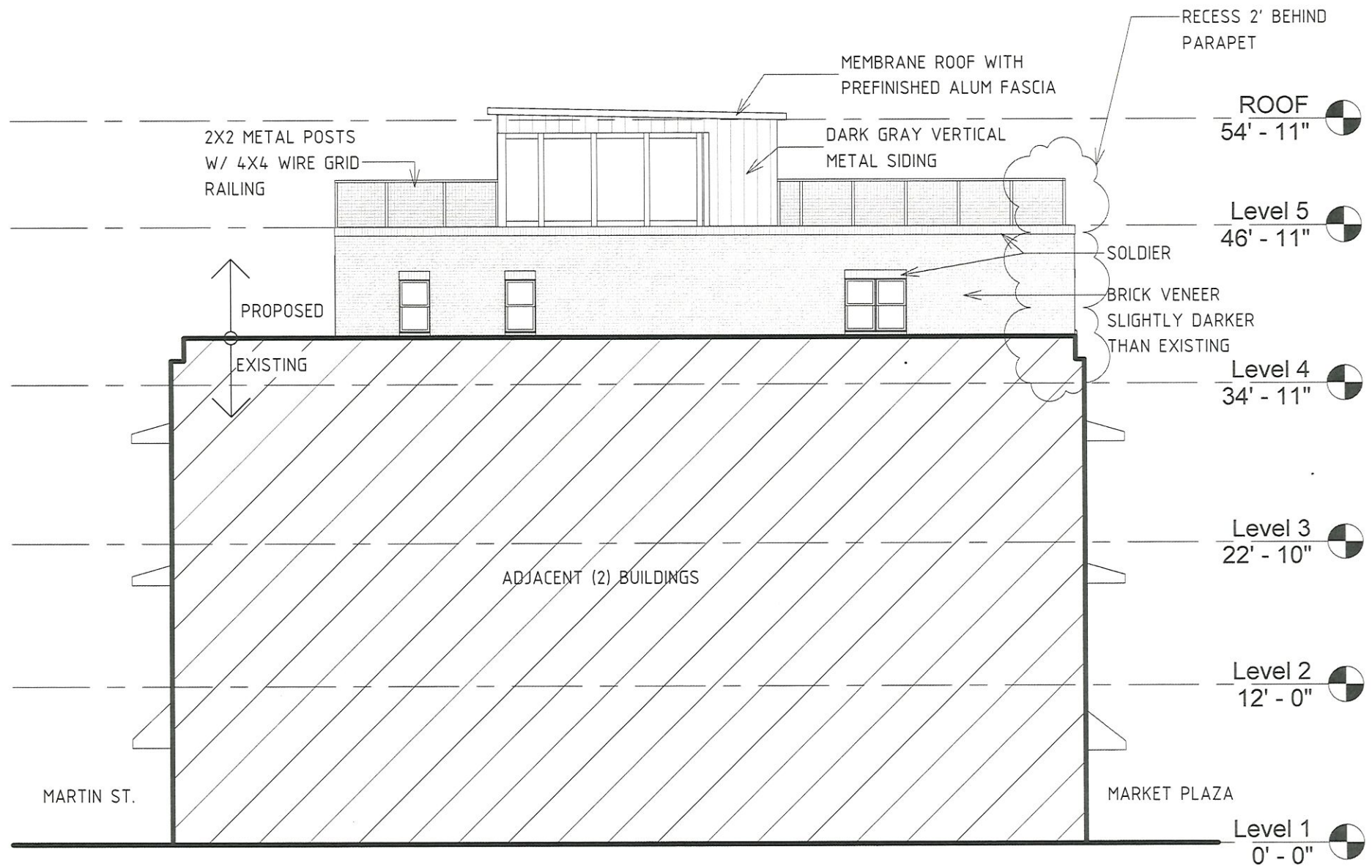


SOUTH - PREVIOUSLY APPROVED COA 145-16-CA



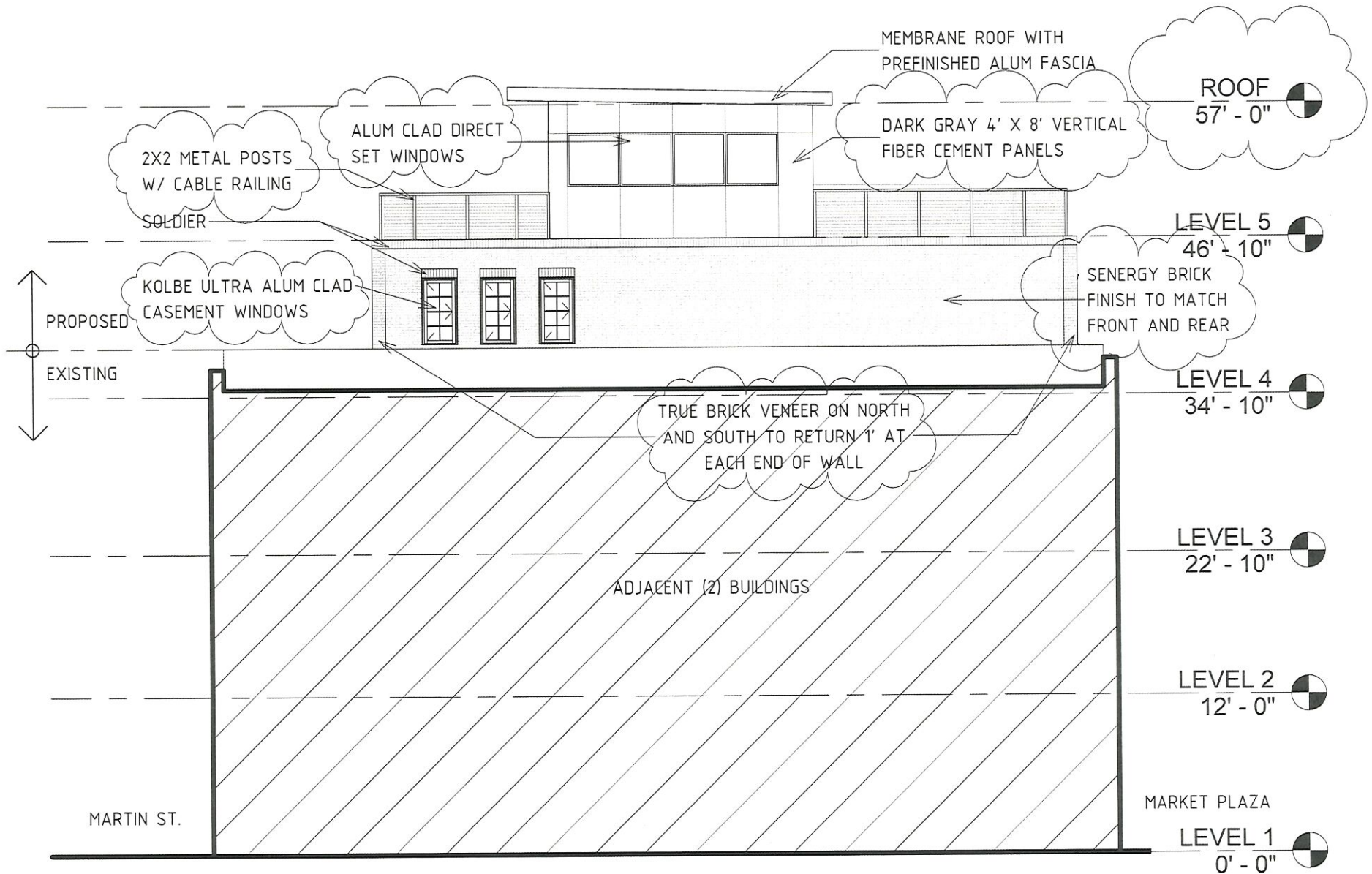
PROPOSED SOUTH ELEVATION

0' 2' 4' 8' 16'



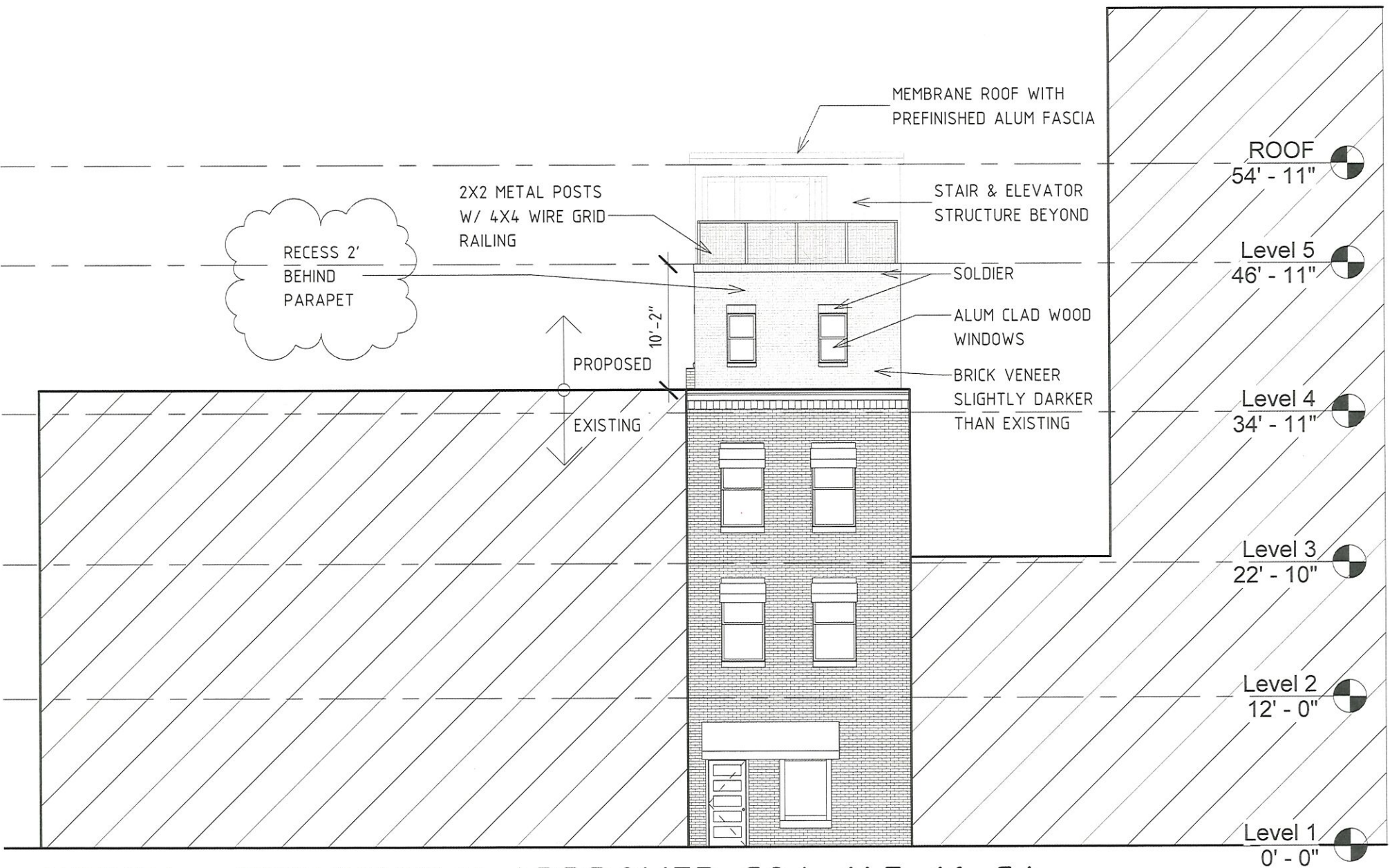
EAST - PREVIOUSLY APPROVED COA 145-16-CA

0' 2' 4' 8' 16'



PROPOSED EAST ELEVATION

0' 2' 4' 8' 16'

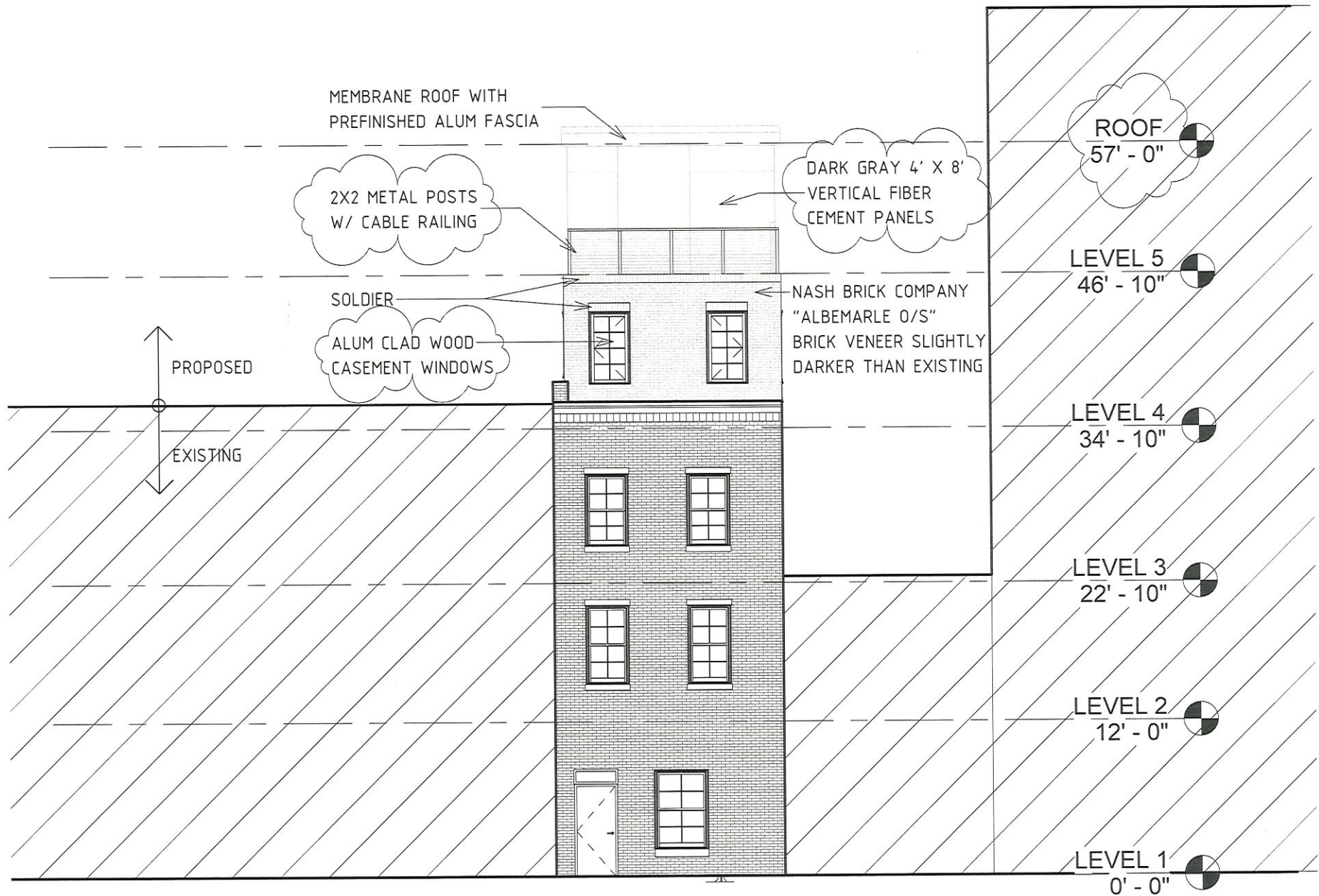


NORTH - PREVIOUSLY APPROVED COA 145-16-CA

0' 2' 4' 8' 16'

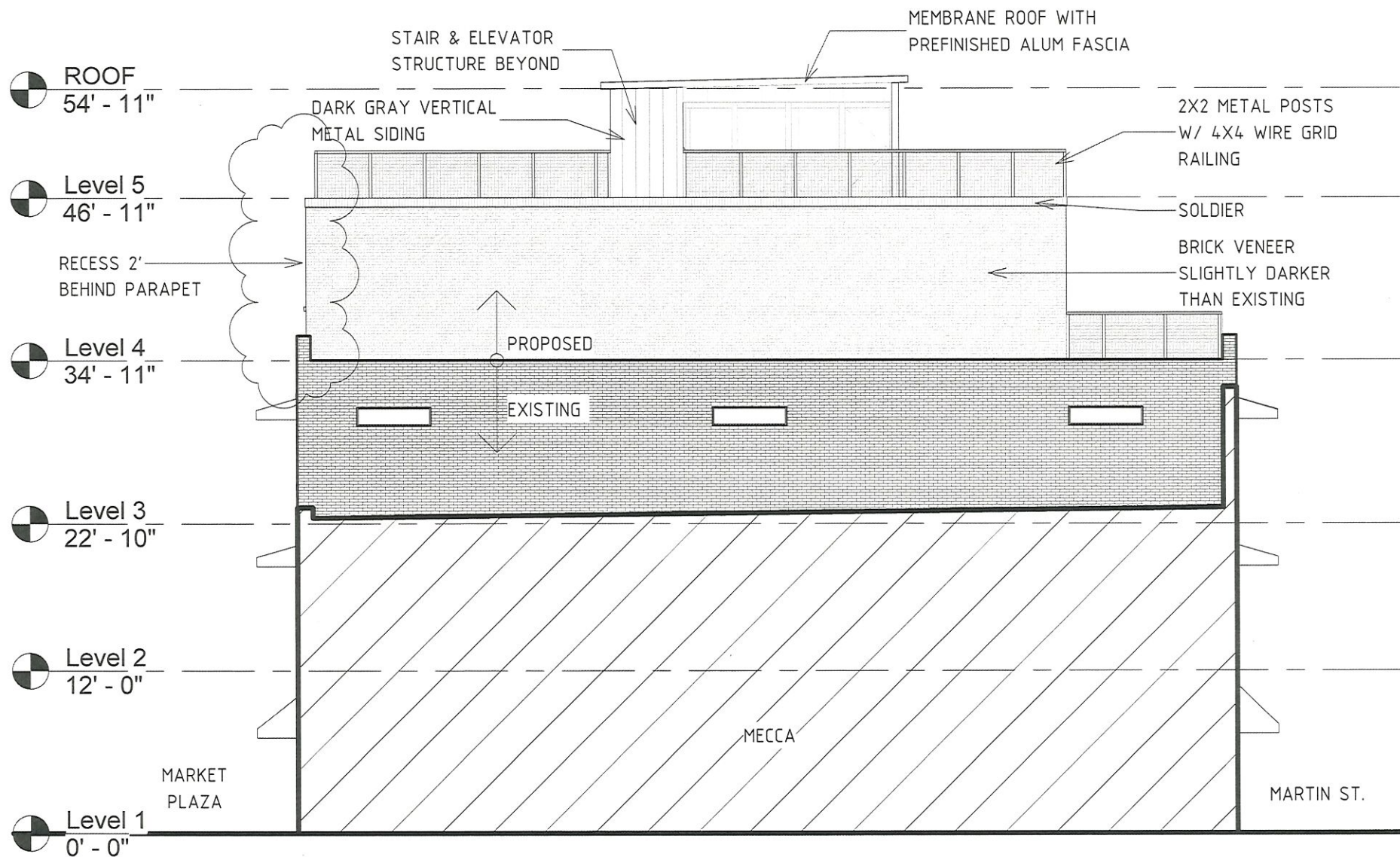
JIM & LISA SOUTHERN RESIDENCE
15 E. MARTIN ST. RALEIGH, NC
SEPTEMBER 22, 2016

M
MAURER
architecture



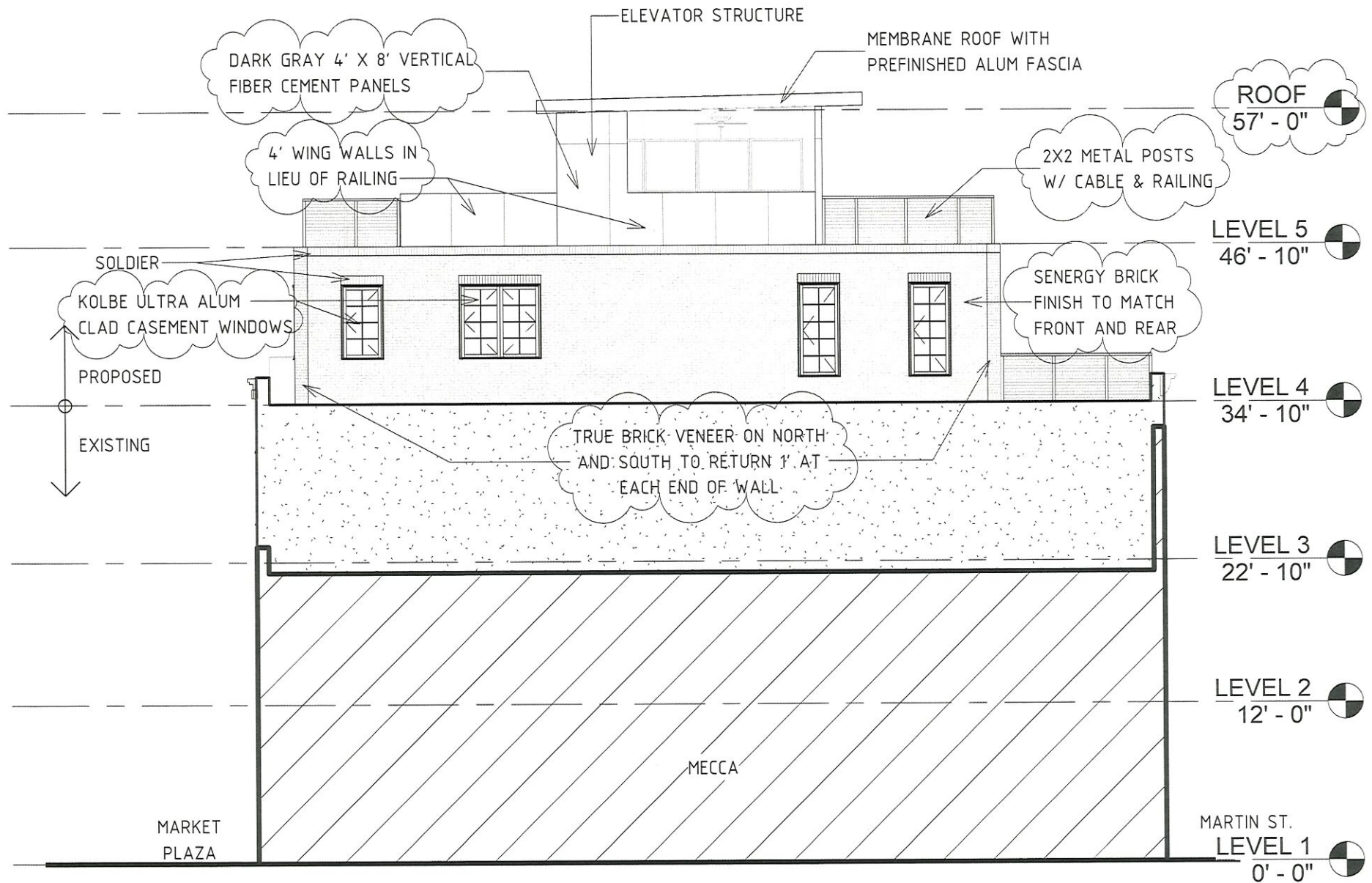
PROPOSED NORTH ELEVATION

0' 2' 4' 8' 16'



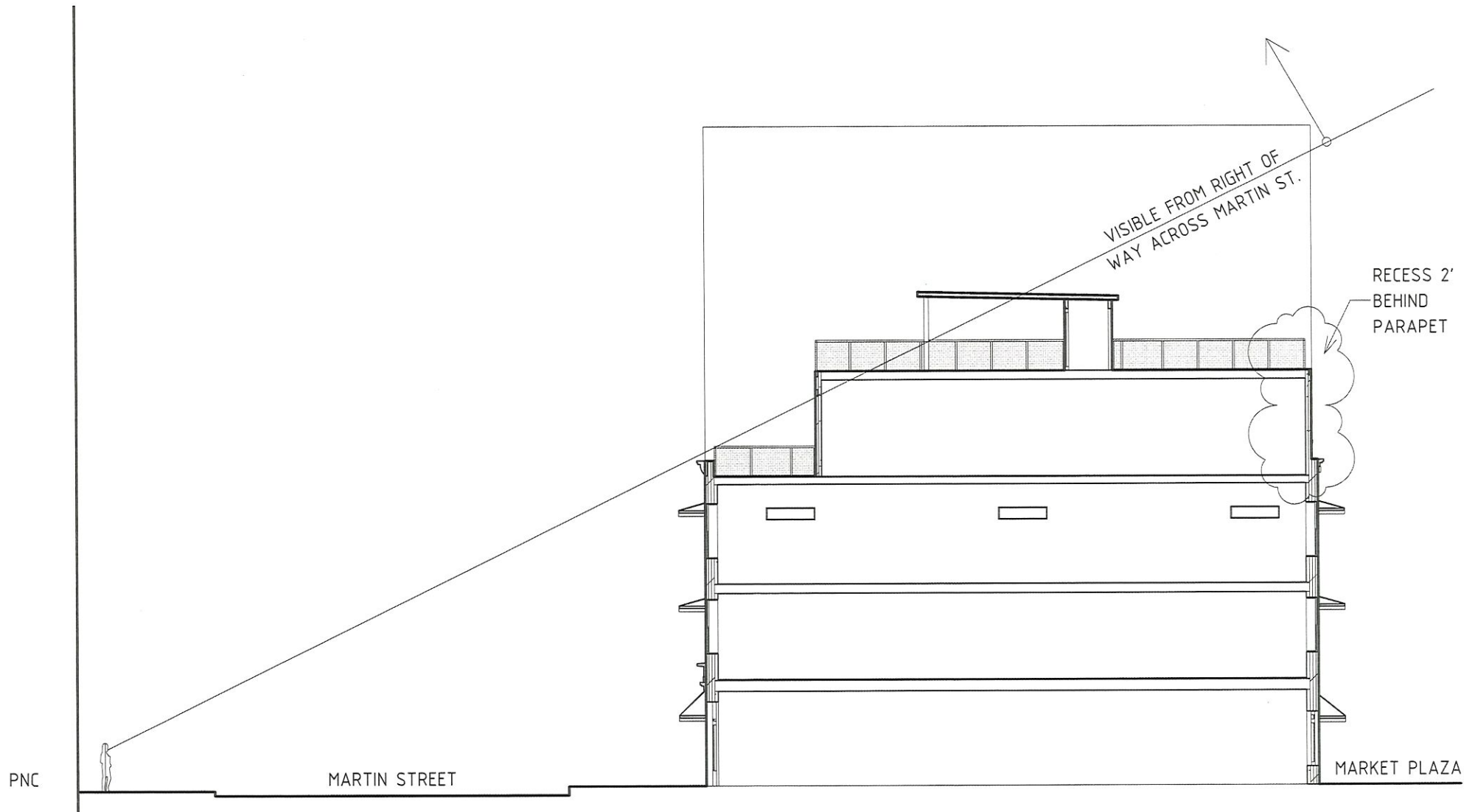
WEST - PREVIOUSLY APPROVED COA 145-16-CA

0' 2' 4' 8' 16'



PROPOSED WEST ELEVATION

0' 2' 4' 8' 16'

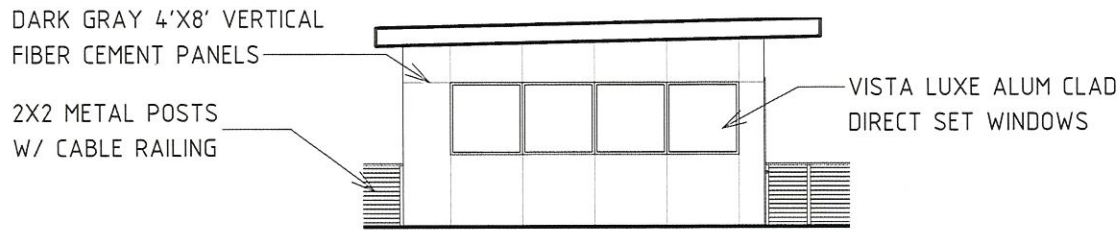


SECTION VIEW - PREVIOUSLY APPROVED COA 145-16-CA

0' 2' 4' 8' 16'

JIM & LISA SOUTHERN RESIDENCE
15 E. MARTIN ST. RALEIGH, NC
SEPTEMBER 22, 2016

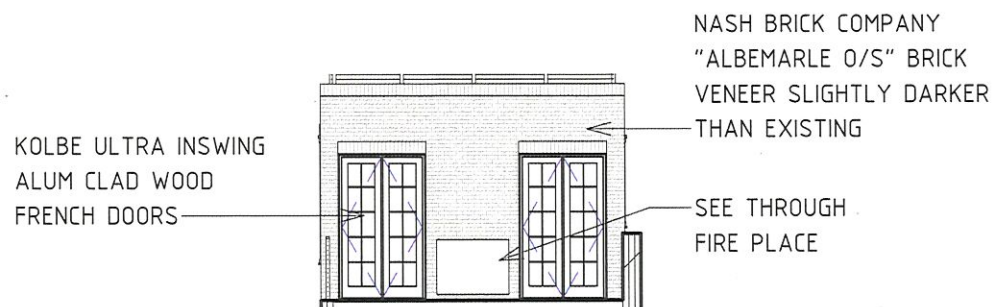
M
MAURER
architecture



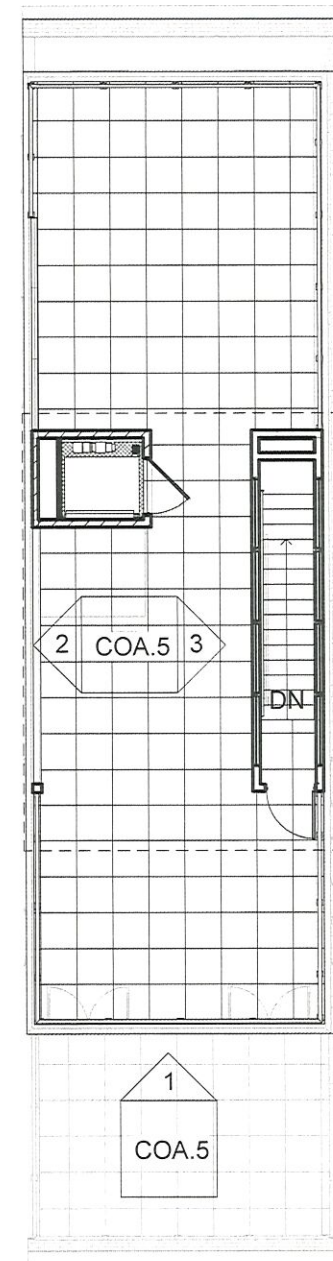
(3) 5TH FLOOR WEST ELEVATION



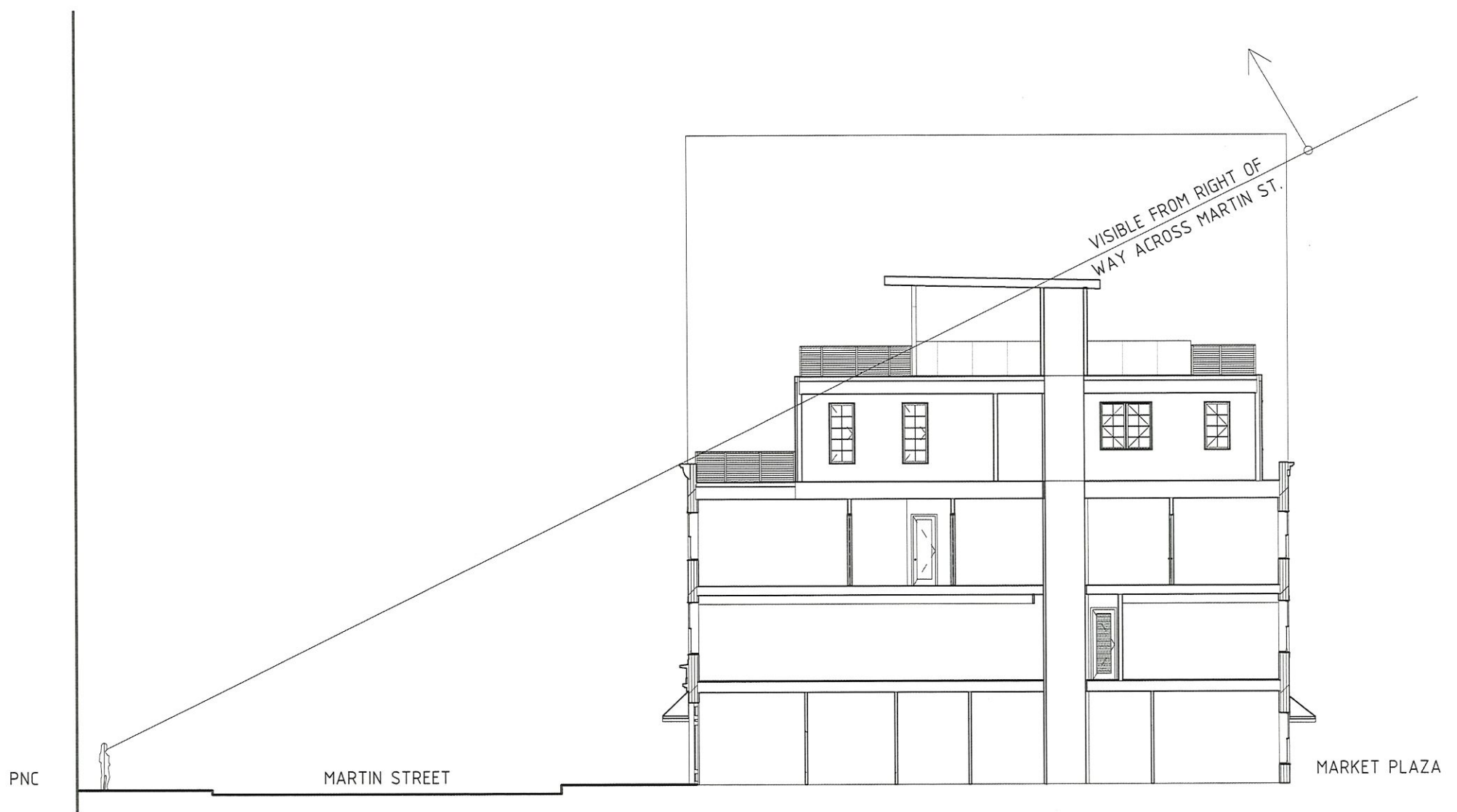
(2) 5TH FLOOR EAST ELEVATION



(1) 4TH FLOOR SOUTH ELEVATION



KEY PLAN



PROPOSED SECTION VIEW

0' 2' 4' 8' 16'

JIM & LISA SOUTHERN RESIDENCE
15 E. MARTIN ST. RALEIGH, NC
JANUARY 6, 2017

M
MAURER
architecture



FRONT FACADE



REAR FACADE



FRONT FACADE



REAR FACADE

Senerbrick

Brick finish application technique

Product Bulletin

DESCRIPTION

The look of brick and benefits of EIFS can be achieved by using brick finish techniques that utilize special templates and Senergy 100% acrylic finishes. SENERBRICK surfaces yield the appearance of a wide variety of brick veneers over any Senergy wall system or other approved substrates, including prepared interior gypsum wallboard, precast or CMU and insulating concrete forms (ICFs).

PACKAGING

Templates are 3 feet wide x 200 feet long rolls.

COVERAGE

Finish coverage varies depending upon the finish, template selected and application technique.

COLOR AND TEXTURE

Mortar color and brick colors are achieved by using any of 128 standard colors or custom colored finishes.



PREPARATION

Follow Senergy Wall Systems specifications for the installation of the components that are required prior to the finish coat. When the base coat has dried (approximately 24 hours), proceed as follows to achieve brick appearance. For application over other substrates, consult the BASF Wall Systems Technical Service Department.

MIXING

Thoroughly mix the factory-prepared finish with a mixer to a homogeneous consistency. A small amount of clean potable water may be added to adjust workability. Additives are not permitted. Close container when not in use. Clean tools with soap and water immediately after use.

LIMITATIONS

Do not use on flat horizontal surfaces exposed to weather. Sloped surfaces must have a minimum slope of 6:12. Senergy Finishes are not recommended for large sloping surfaces. Apply only when ambient and substrate temperatures will be at least 4°C (40°F) and higher for at least 24 hours. Do not apply in direct sunlight. Applying in sunlight may result in cold joints or color variations. Protect from rain for at least 24 hours.

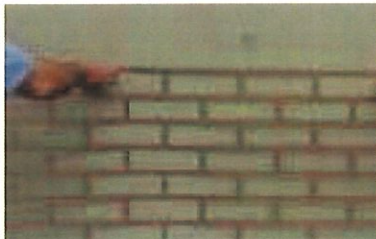
*Do not apply directly to exterior sheathing.

*Always create a mock up to demonstrate the final appearance of the finished product.

SenerBrick - Brick Finish Application Technique



1. Start by laying out the brick template design on the ground to mimic the project drawings. Then, cut the template to working lengths and lay it flat with the release tape facing upward on a clean surface. Lay a 2x2 that is 40 inches long along the width of one end of the template. Pull a portion of the release tape up so it can be wrapped around the 2x2 (as shown in this photo). Once you get the release tape started, rolling the 2x2 across the template will assist you in removing the release tape uniformly.



2. Once the release tape has been removed, with the assistance of a couple of helpers, place the template against the wall aligning the template to the predetermined layout line.



3. Immediately use a clean stainless steel trowel to push the template firmly against the prepared wall surface. Avoid snagging the template with the trowel.

Work within limited areas until you get the feel for how much area you can control comfortably. Do not apply more template than you will be able to finish within a couple of hours.



4. Once the template is secured, trowel the finish diagonally across the template and wall surface. The diagonal method helps to minimize the amount of finish that is pushed under the template. Immediately double back and remove the finish down to the surface of the template. Immediately begin to float the finish with a plastic float in either random or vertical float actions. It is not critical to make the texture perfect. Irregularities actually make the finish look more realistic.

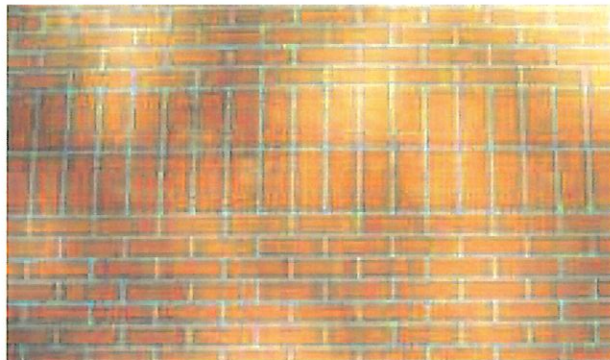


5. As soon as the texturing is complete, remove the template. Pull the template outward, perpendicular to the wall before the finish begins to dry. This technique helps to keep the edges clean and sharp looking.

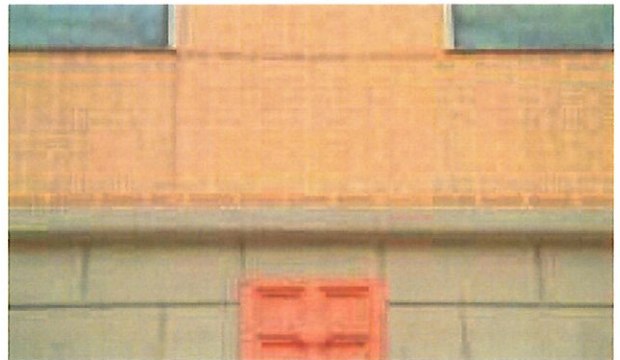


6. The finished look.

If you are looking for a distressed color appearance, lightly spray our ANTICOGLAZE (darker contrasting colors of ANTICOGLAZE work better) randomly onto the finish surface prior to the finish float (Step 4)- before you remove the template. Float the ANTICOGLAZE lightly and briefly to avoid pushing the ANTICOGLAZE into the finish.



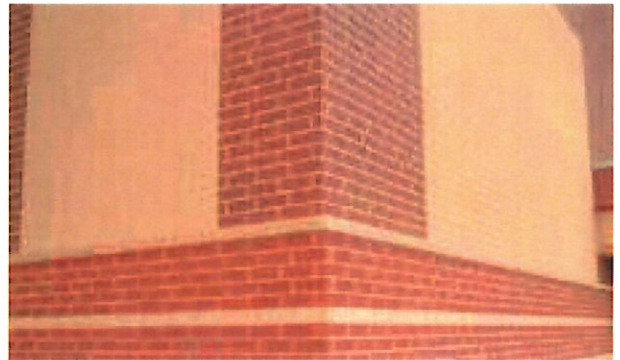
A simple running bond appearance with a sailor bond interval



The block, accent medallion and running bond appearance (with darker stretcher bond accent rows), are all done in EIFS



A raking stretcher bond appearance with finished foam shapes to accentuate the wall



Variations in the brick's color and positioning create endless design options



SENERBRICK FINISH allows you to achieve the appearance you want, using one trade and in less time

SenerBrick - Brick Finish

Application Technique

APPLICATION

Mortar color application:

The SENERBRICK "mortar" color is achieved by trowel applying Senergy Texture Finish over the base coat and floating with a hard trowel or plastic float to a smooth, uniform consistency. Allow approximately 24 hours to dry.

Application of the brick template:

The brick template is a waxed paper with peel-and-stick backing. The template is applied in a running bond pattern over the dried finish that supplies the mortar color. Templates can be matched up easily at the vertical and horizontal ends to continue the selected pattern on large walls. Templates should be applied only to areas that will be completed that day.

Application of the brick finish:

The "brick" color is achieved by trowel applying Senergy SENERFLEX CLASSIC FINISH over the template and then sponging or using a plastic float to float the finish to a uniform consistency. While the finish coat is still wet, the template is carefully peeled away, revealing the underlying mortar color and creating the veneer brick pattern. Other SENERFLEX finishes such as SAHARA, FINE and TEXTURE may be used depending on the type of brick texture desired.

ORDERING

The brick stencil source is: Artcrete, Inc., 5812 Highway 494, Natchitoches, Louisiana 71457. Contact: Frank Piccolo
Phone: 318-379-2000. Download their catalog at www.artcrete.com.

TECHNICAL SUPPORT

Consult our Technical Services Department for specific recommendations concerning all other applications. Consult the web site, www.senergy.basf.com for additional information and for updated literature.

HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting www.senergy.basf.com. Use only as directed.

WARRANTY

BASF warrants this product to be free from manufacturing defects and to meet the technical properties on the current Product Bulletin, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. BASF MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS. The sole and exclusive remedy of Purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is shipment to purchaser of product equal to the amount of product that fails to meet this warranty or refund of the original purchase price of product that fails to meet this warranty, at the sole option of BASF. In the absence of an extended warranty issued by BASF, any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by Purchaser. BASF WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.

Purchaser must determine the suitability of the products for the intended use and assumes all risks and liabilities in connection therewith. This information and all further technical advice are based on BASF's present knowledge and experience. However, BASF assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights, nor shall any legal relationship be created by or arise from the provision of such information and advice. BASF reserves the right to make any changes according to technological progress or further developments. The Purchaser of the Product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with a full application of the product(s). Performance of the product described herein should be verified by testing and carried out by qualified experts.

Artcast[®]

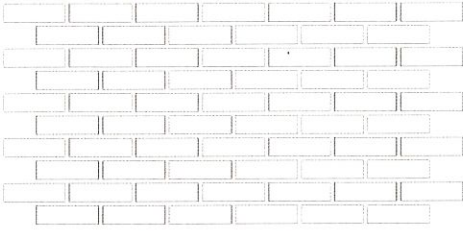
EIFS/Stucco Adhesive Stencil Templates

Available in many patterns, sizes, thickness, rolls or sheets

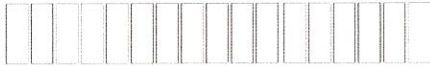
CUSTOM DESIGNS AVAILABLE

Regular Face Brick (S,R)

2 1/4" x 7 3/4" Brick with 1/2" Mortar

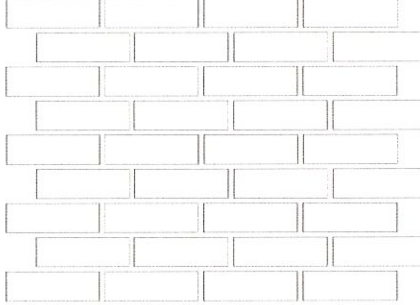


Regular Face Soldier Course (S)



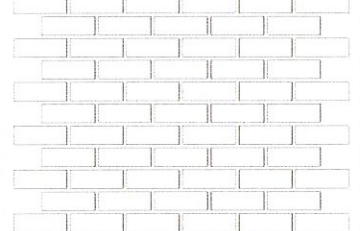
Utility Brick (S)

3 5/8" x 11 5/8" Brick with 1/2" Mortar



California Face Brick (S)

2 1/4" x 7 5/8" Brick with 3/8" Mortar

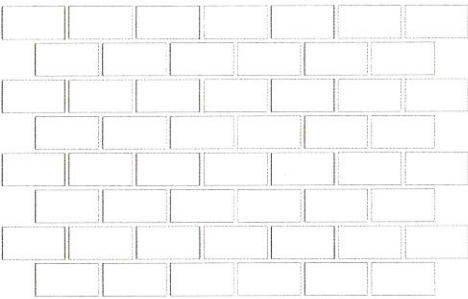


California Face Soldier Course (S)

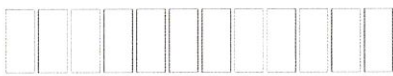


Running Bond (S,R)

4" X 7 3/4" Brick with 1/2" Mortar

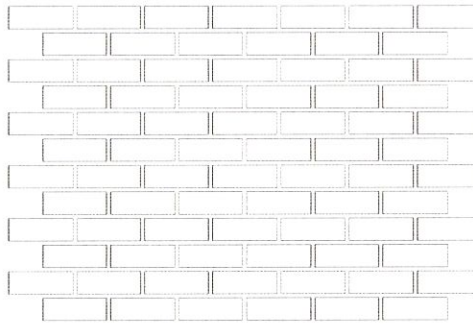


Soldier Course (S,R)



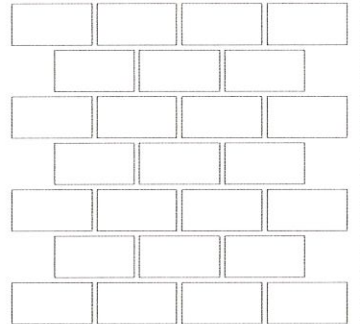
Mid-Town Stucco (S,R)

3" X 10 1/2" Brick with 1/2" Mortar



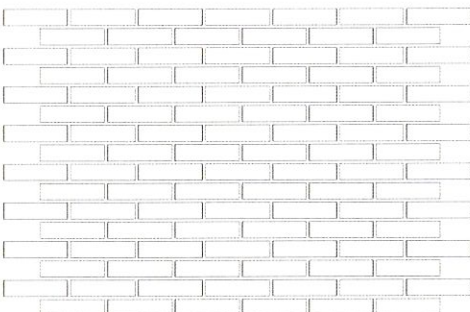
Cinder Block (S,R)

8 1/2" x 15 3/4" Brick with 3/4" Mortar



Metric Face Brick (S,R)

2" X 7 7/8" Brick with 3/8" Mortar

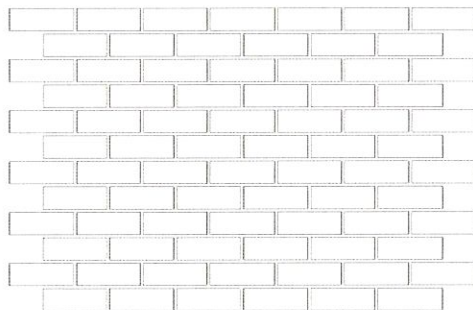


Metric Soldier Course (S,R)



Queens Brick (S)

2 3/4" X 7 7/8" Brick with 3/8" Mortar

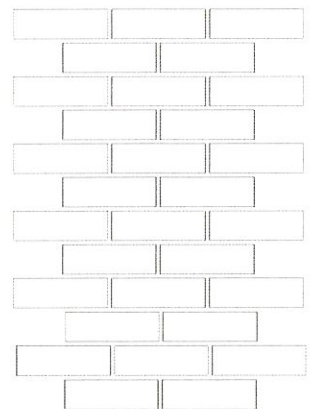


Queens Soldier Course (S)



Hudson Brick (S)

3 5/8" x 11 1/2" Brick with 1/2" Mortar



S - Available in sheets (width and length vary by pattern)

R - Available in rolls (.022 thickness only)

All stencils sold in 500 sq. ft. increments.

ULTRA SERIES
INSWING PATIO DOORS
ELEVATION DRAWINGS

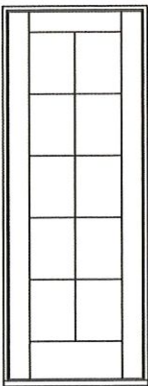
Kolbe ® windows & doors
08/25/16

* NOTE: Grilles configuration shown are typical for width and height combinations shown.

Unit Dim.
Rgh. Opg.
Glass Size

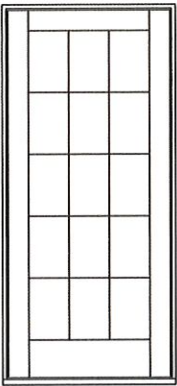
2' 6-1/4"
2' 6-3/4"
20-5/16"

*



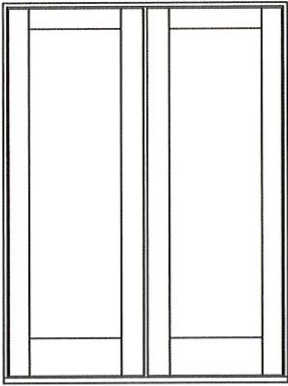
SPU2666

3' 0-1/4"
3' 0-3/4"
26-5/16"



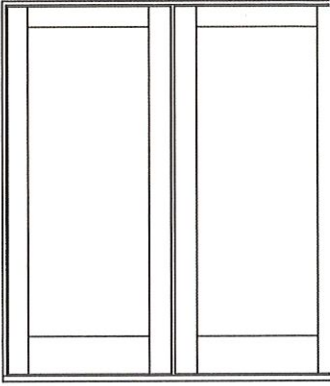
SPU3066

4' 11-7/16"
4' 11-15/16"
20-5/16"



SPU41166

5' 11-7/16"
5' 11-15/16"
26-5/16"

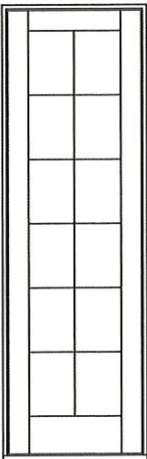


SPU51166

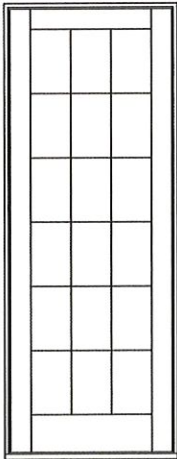
6' 7-1/2"
6' 8"
65-11/16"

7' 11-17/32"
8' 0"
81-11/16"

*

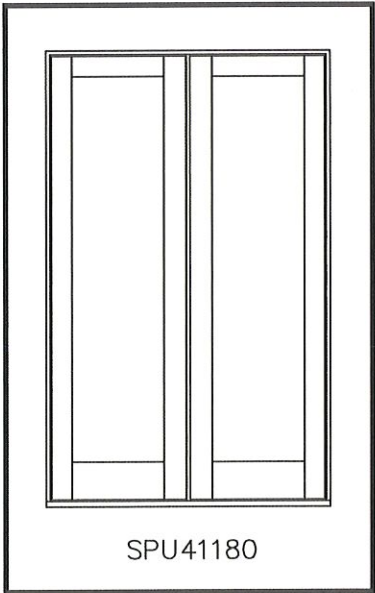


SPU2680

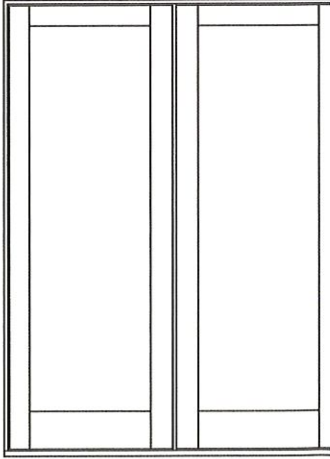


SPU3080

WITH DIVIDED LITES



SPU41180



SPU51180

ULTRA ENTRANCE DOOR SERIES

ULTRA DOOR PANEL

Vertical

FLAT PANEL

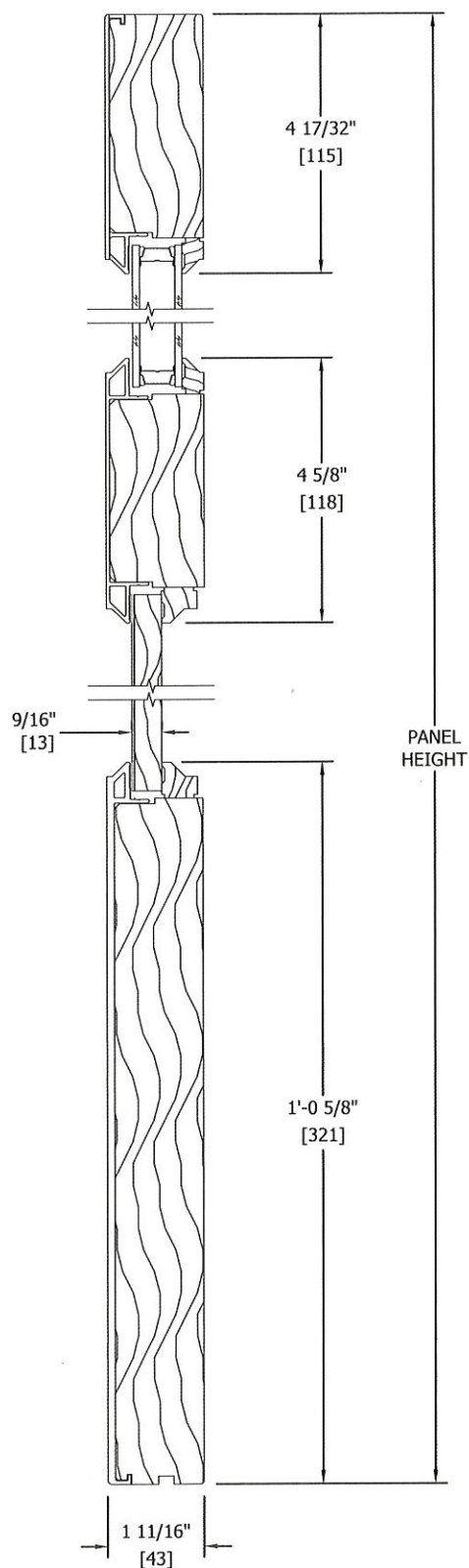
7/8" INSULATED GLASS

12 5/8" BOTTOM RAIL

Kolbe® windows & doors

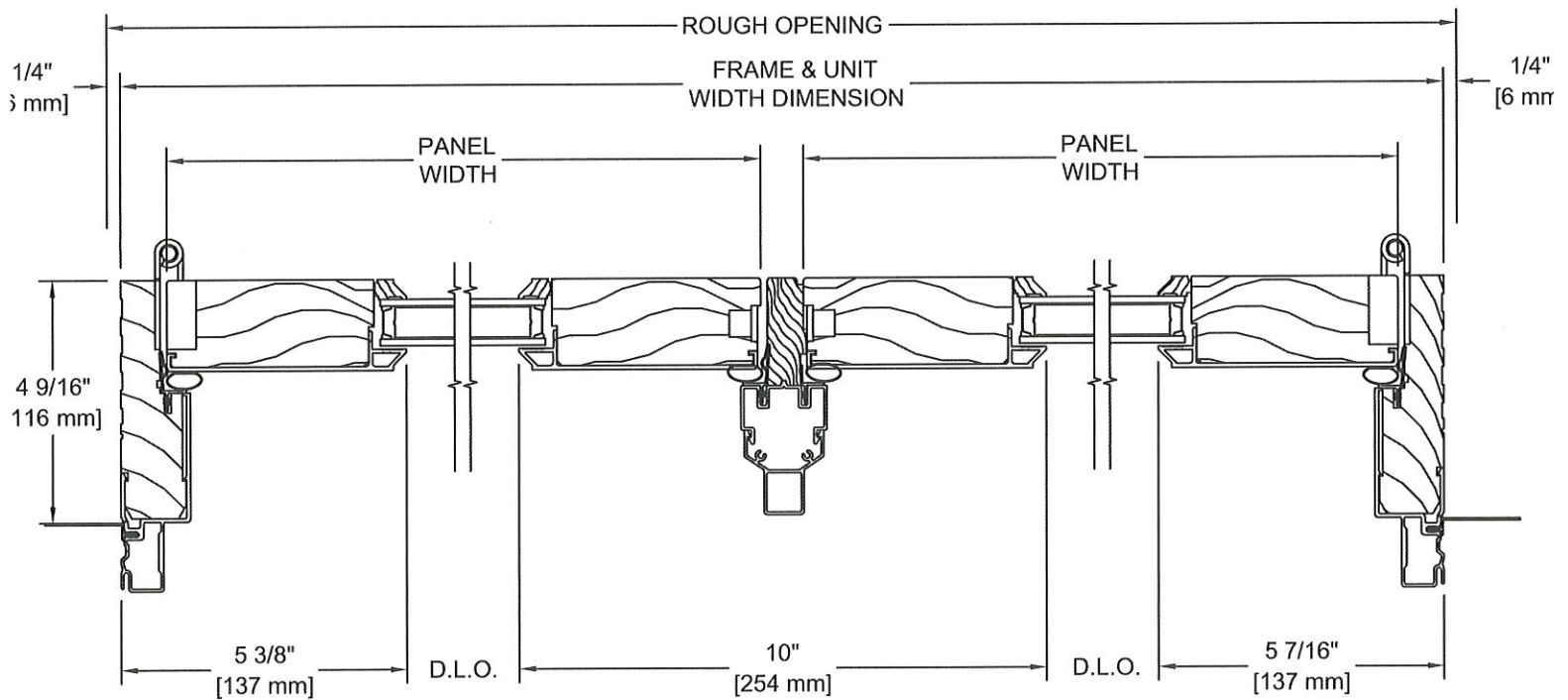
5/06/11

PANEL DETAIL



ULTRA SERIES
 Inswing Entrance Door
 Horizontal French Door Cross section
 1 3/4" Door Panel - 4 9/16" Jambs

Kolbe® windows & doors.
 06/21/13



ULTRA ENTRANCE DOOR SERIES

ULTRA DOOR PANEL

Horizontal

FLAT PANEL

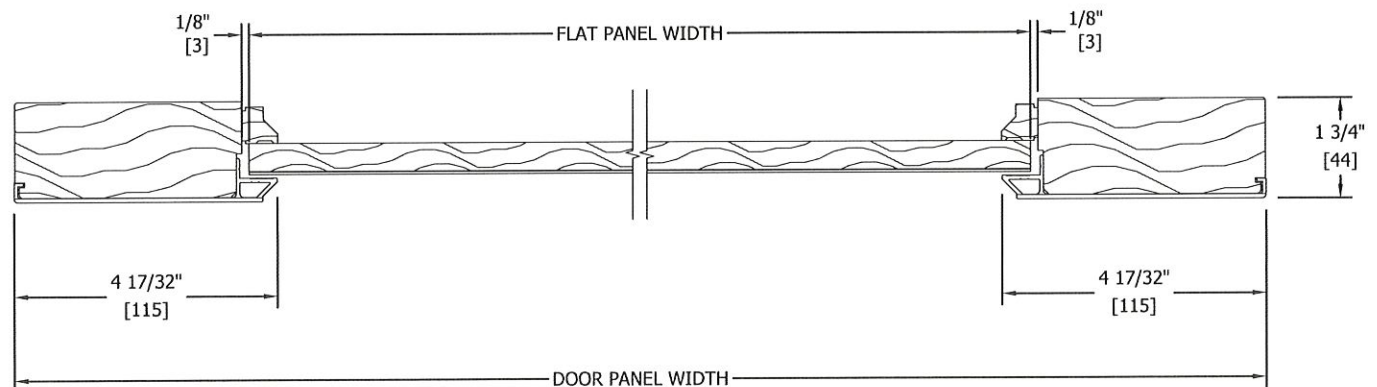
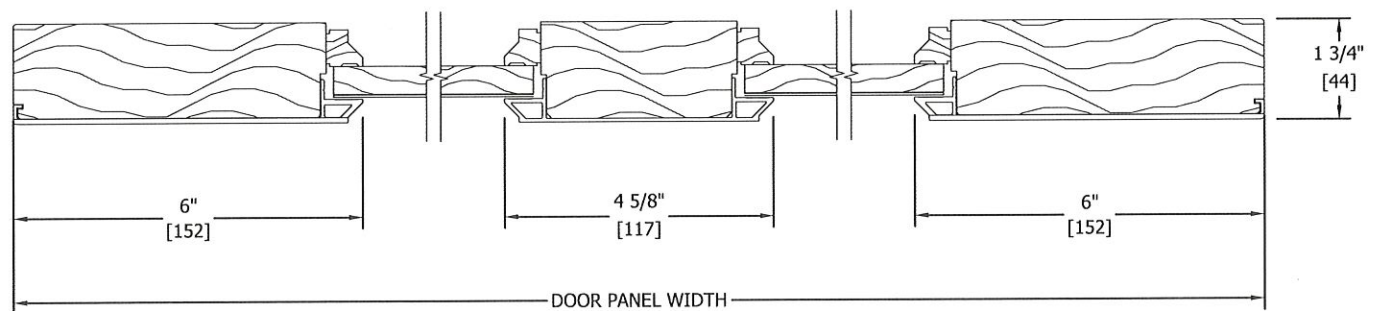
WIDE STILE MULL PANEL

NARROW STILE FULL PANEL

Kolbe® windows & doors

5/06/11

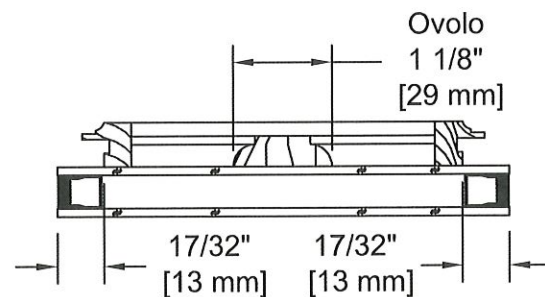
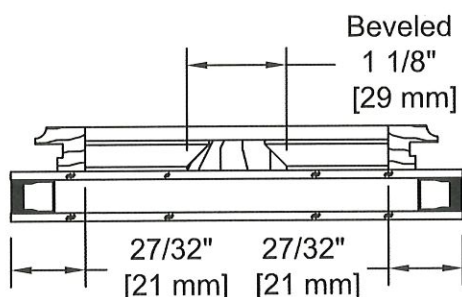
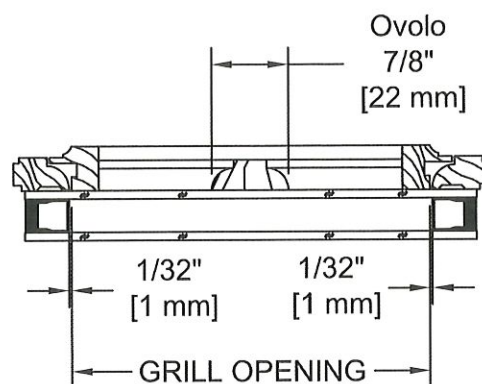
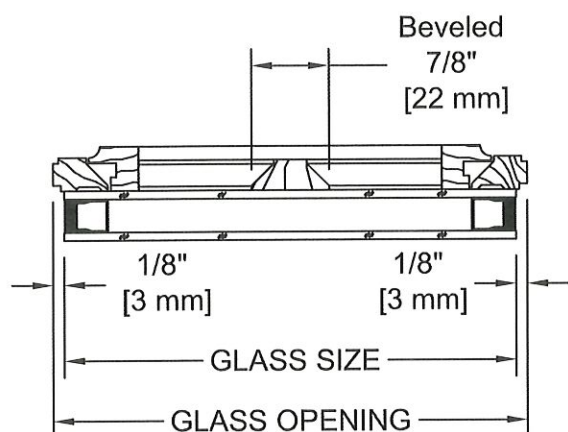
PANEL DETAIL



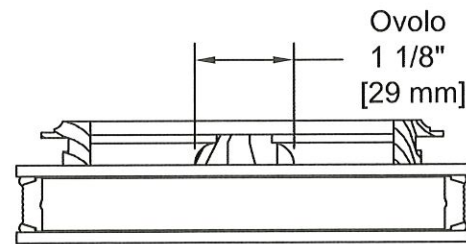
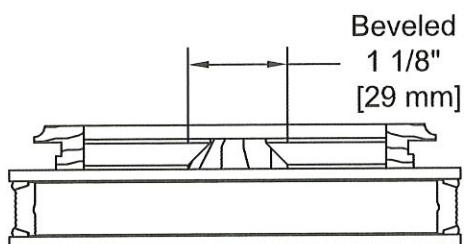
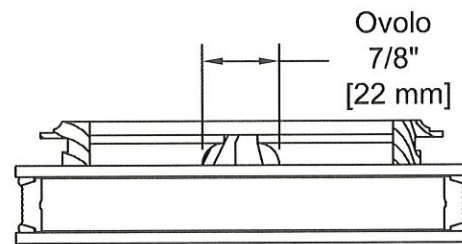
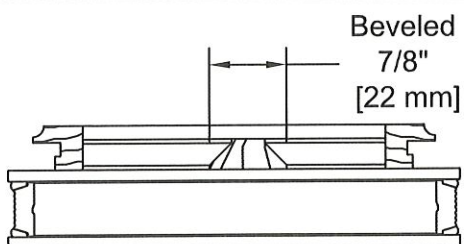
ALL SERIES
 All Wood Products (except TerraSpan doors)
 Interior Removable Grille with Surrounds

Kolbe® windows & doors
 1/16/2014

9/16" Insulated Glass



7/8" Insulated Glass



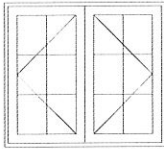
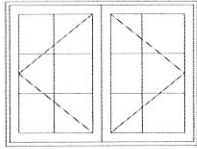
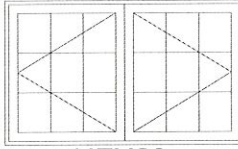
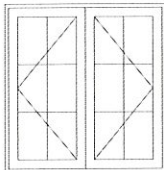
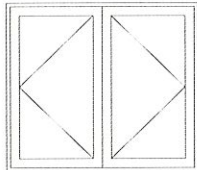
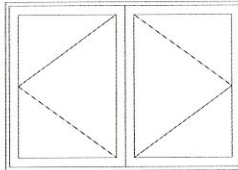
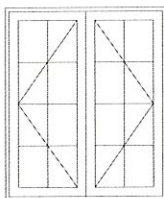
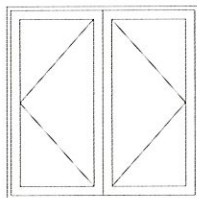
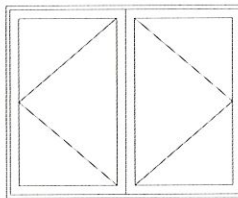
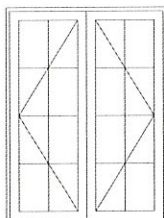
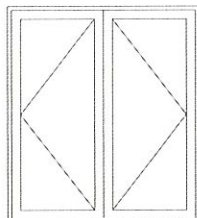
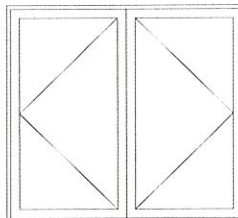
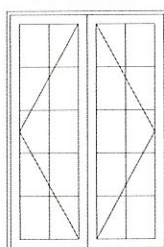
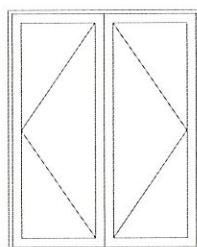
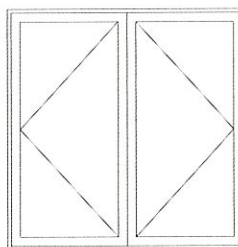
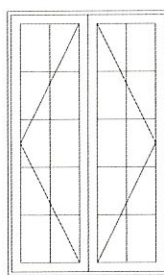
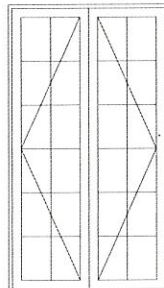
ULTRA SERIES

French Casement Windows

(outswing, roto operation; double-wide opg)

Kolbe® windows & doors

Current on 01/01/08

F.S.	3'-4"	4'-0"	5'-0"
R.O.	3'-4 1/2"	4'-0 1/2"	5'-0 1/2"
G.S.	15 15/32"	19 15/32"	25 15/32"
3'-0"			
3'-0 1/2"	UFN23	UFW23	UFX23
3'-6"			
3'-6 1/2"	UFN236	UFW236	UFX236*
4'-0"			
4'-0 1/2"	UFN24	UFW24	UFX24*
4'-6"			
4'-6 1/2"	UFN246	UFW246	UFX246*
5'-0"			
5'-0 1/2"	UFN25	UFW25	UFX25*
5'-6"			
5'-6 1/2"	UFN256		
6'-0"			
6'-0 1/2"	UFN26		

NOTES:

- All measurements are nominal. For Rough Opening statement, please go to <http://www.kolbe-kolbe.com/RO>
- Venting is viewed from the exterior.
- Grilles are optional. Follow chart down from top row and across from left column to determine grille configurations.

*Units meet most national Emergency Escape & Rescue Opening (egress) requirements.

F.S.=Frame Size (Frame Size=Unit Dimension)

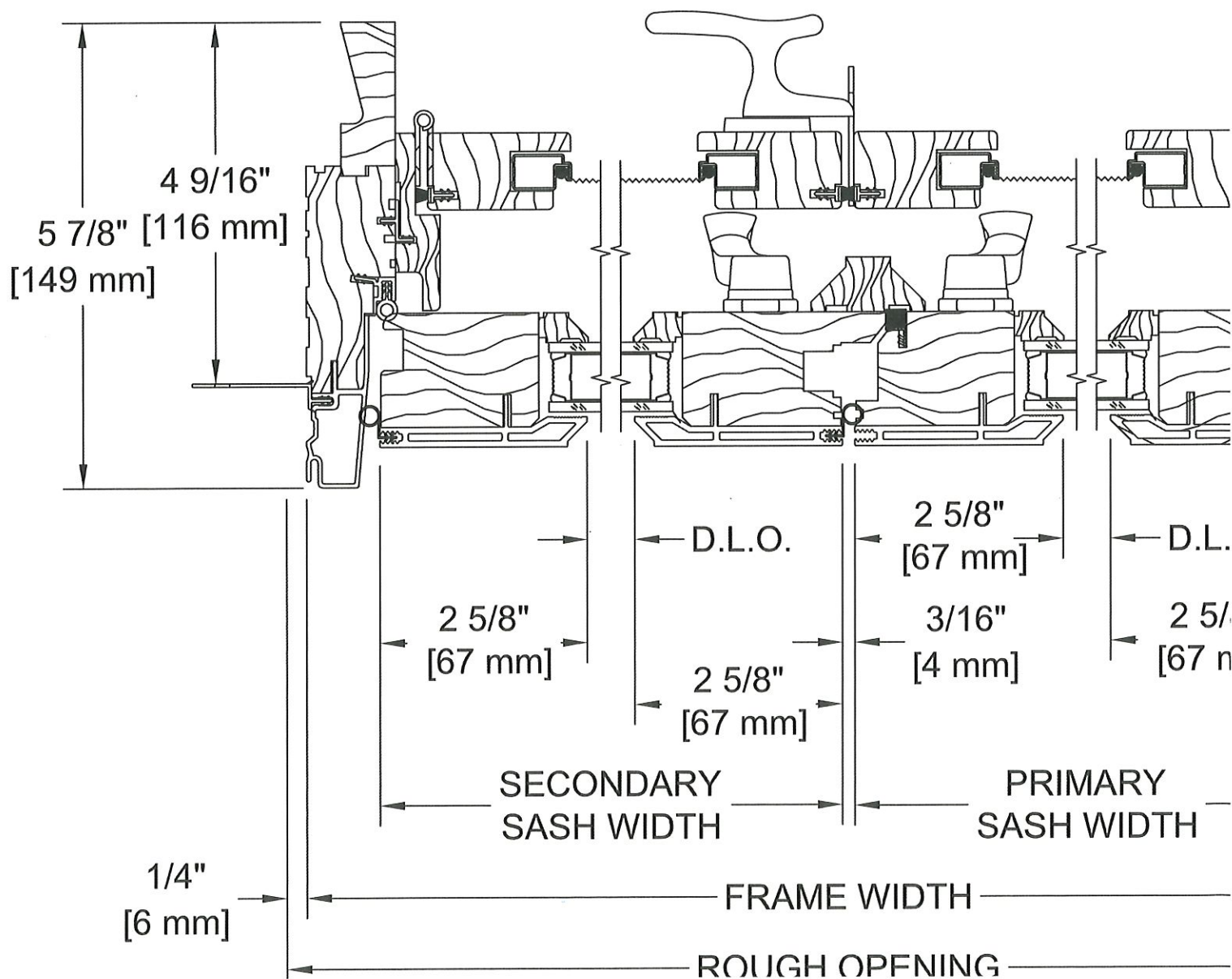
R.O.=Rough Opening

G.S.=Glass Size (Glass sizes are shown per sash.)

ULTRA SERIES

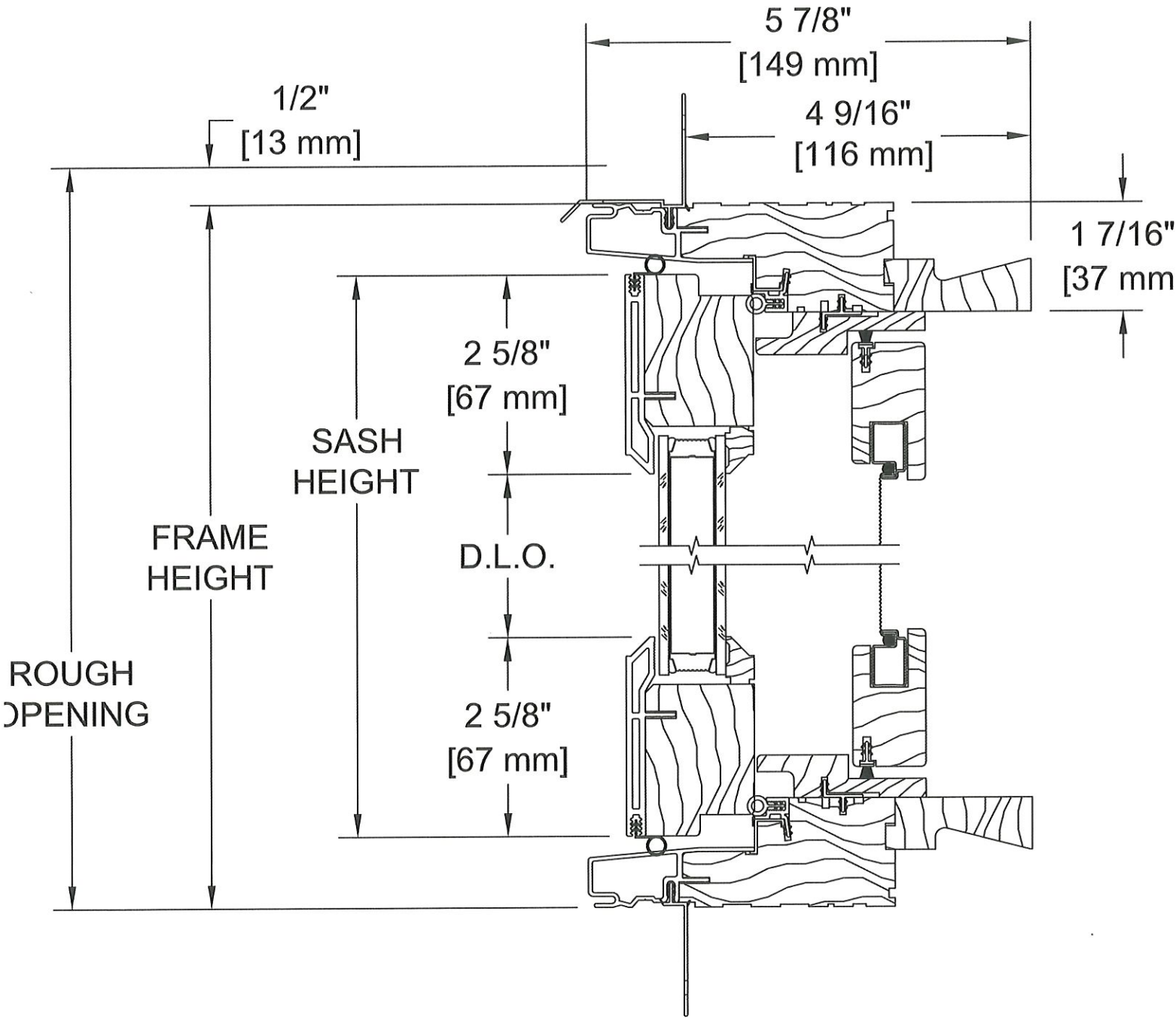
Push-Out French Casement
With Swinging Screen option
Double Pane Glass
Horizontal Cross Section

Kolbe



ULTRA SERIES
Push-Out French Casement
With Swinging Screen option
Double Pane Glass
Vertical Cross Section

Kolbe® windows & doors
2/24/15



ULTRA SERIES

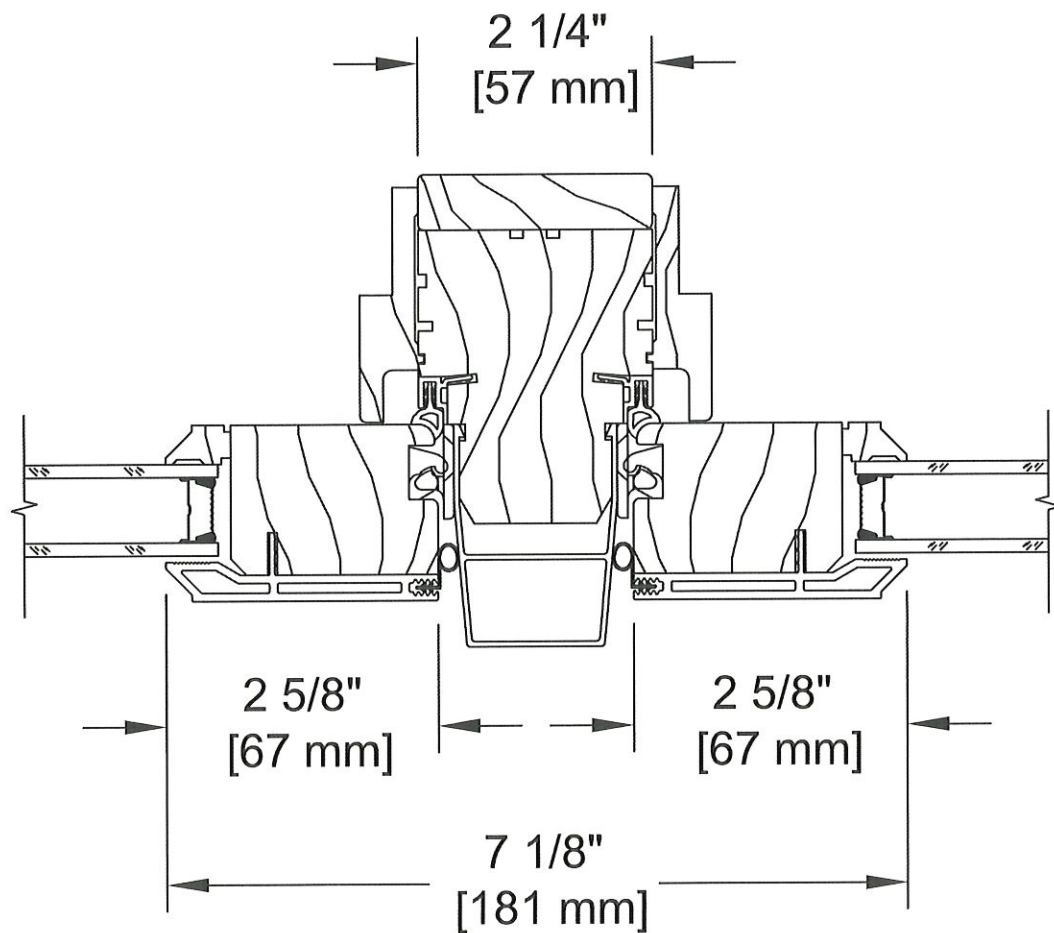
Push-Out Casement

Standard Mullion - Operating to Operating

No Screen

Kolbe® windows & doors


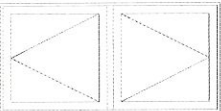


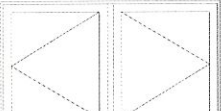





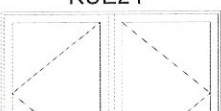




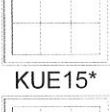
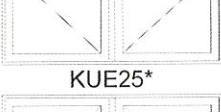




10/27/11



LTRA SERIES

Push-Out Casements with Single & Multi-Point Locks - E Series

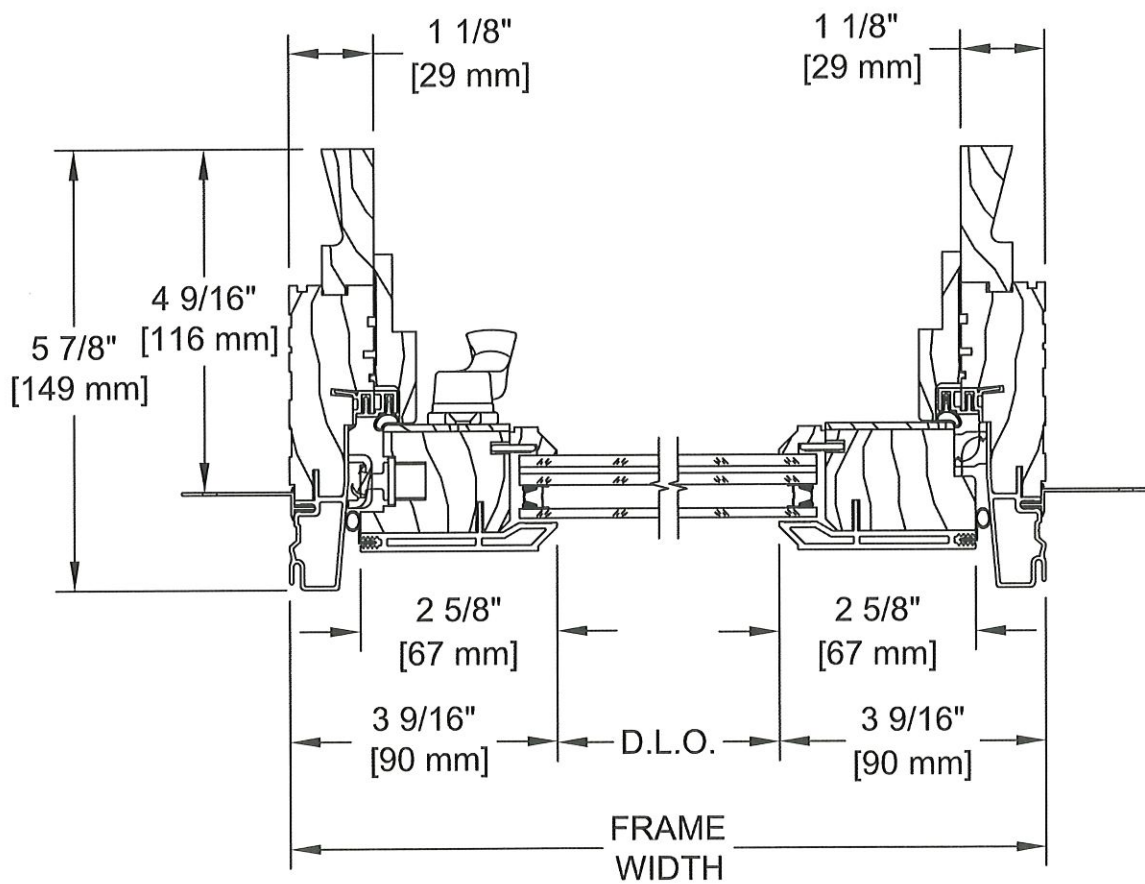
Kolbe® windows & doors

	3'-0"	6'-0"	9'-0"
R.O.	3'-0 1/2"	6'-0 1/2"	9'-0 1/2"
G.S.	29 7/8"	29 7/8"	29 7/8"
3'-0 1/2" 29 7/8"			
	KUE13*	KUE23*	KUE33*
3'-6 1/2" 35 7/8"			
	KUE136*	KUE236*	KUE336*
4'-0 1/2" 41 7/8"			
	KUE14*	KUE24*	KUE34*
4'-6 1/2" 47 7/8"			
	KUE146*	KUE246*	KUE346*
5'-0 1/2" 53 7/8"			
	KUE15*	KUE25*	KUE35*
5'-6 1/2" 59 7/8"			
	KUE156*	KUE256*	KUE356*
6'-0 1/2" 65 7/8"			
	KUE16*	KUE26*	KUE36*

NOTES: All measurements are nominal. For Rough Opening statement, please go to <http://www.kolbe-kolbe.com/RO>
Specify push-out casement when ordering. Specify left or right venting for single units. Venting is viewed from the exterior.
Grilles are optional. The grille configurations shown for a single sash are typical for each sash of mulled units.

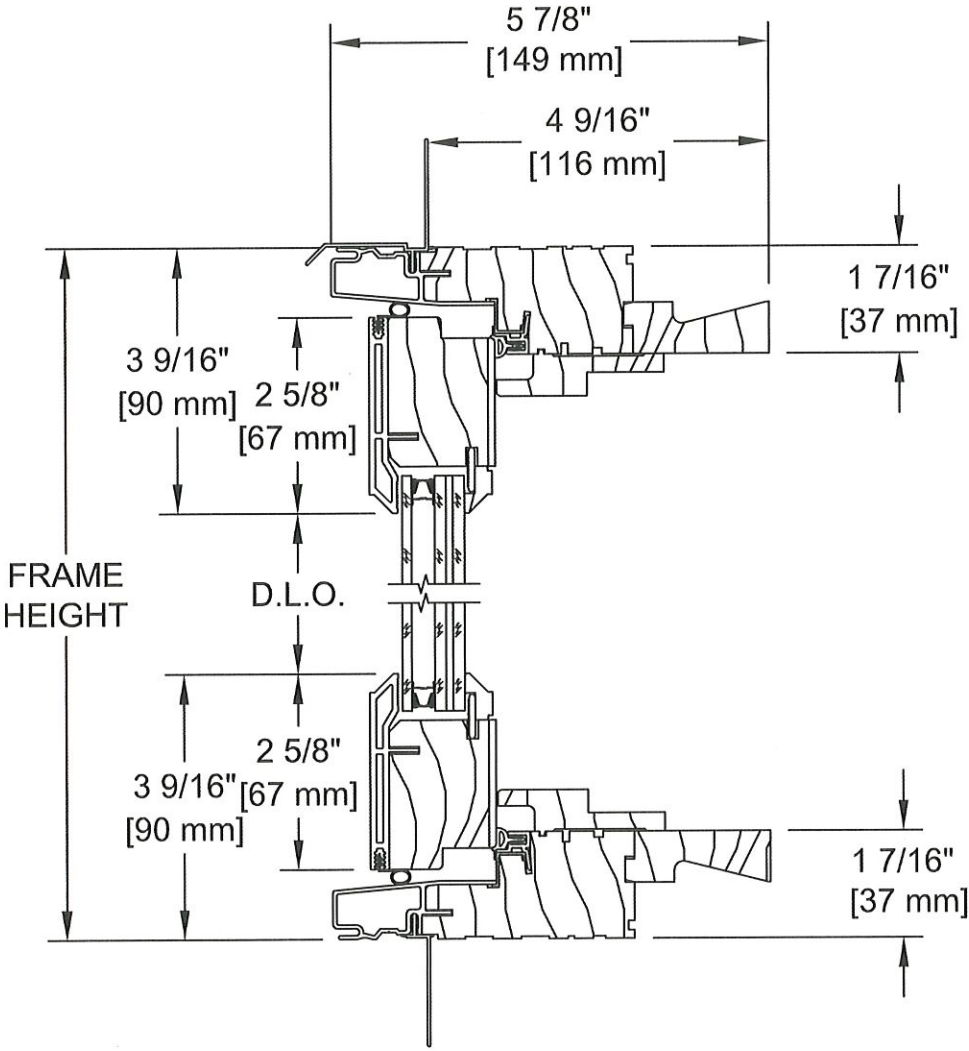
ULTRA SERIES
Push-out Casement
Impact Insulating IPD3
Horizontal Cross Section

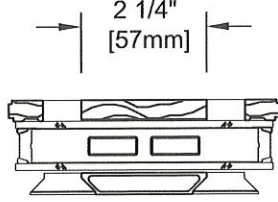
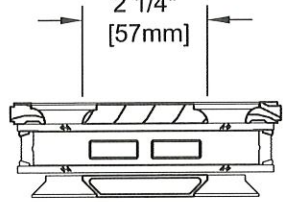
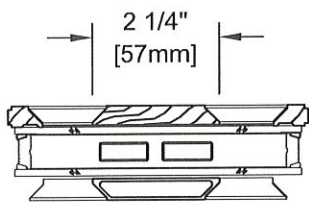
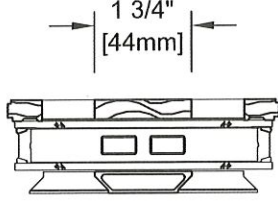
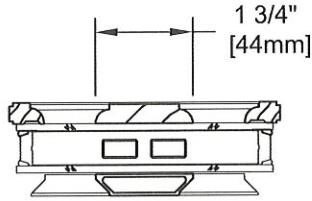
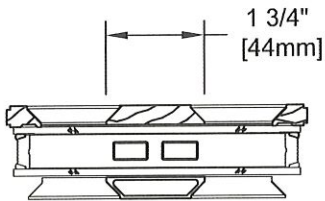
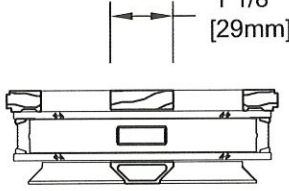
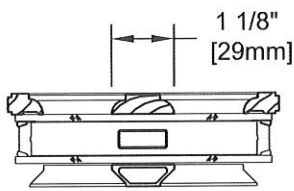
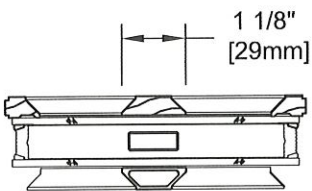
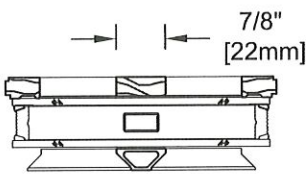
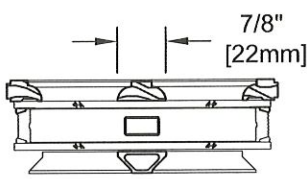
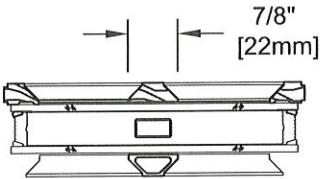
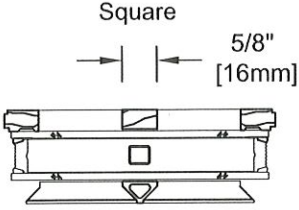
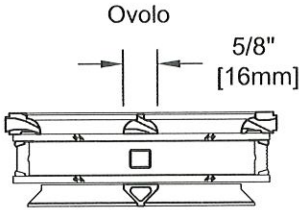
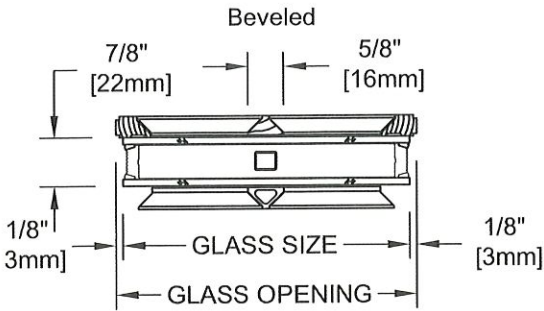
Kolbe® windows & doors
10/27/11



ULTRA SERIES
Push-out Casement
Impact Insulating IPD3
Vertical Cross Section

Kolbe® windows & doors
10/27/1





ard Sizes & Size Limitations

	1' 8"	2' 0"	2' 4"	2' 6"	2' 8"	3' 0"
"	1' 8-1/2"	2' 0-1/2"	2' 4-1/2"	2' 6-1/2"	2' 8-1/2"	3' 0-1/2"
"	16-9/16"	20-9/16"	24-9/16"	26-9/16"	28-9/16"	32-9/16"
0	1-8 x 2-0	2-0 x 2-0	2-4 x 2-0	2-6 x 2-0	2-8 x 2-0	3-0 x 2-0
6	1-8 x 2-6	2-0 x 2-6	2-4 x 2-6	2-6 x 2-6	2-8 x 2-6	3-0 x 2-6
0	1-8 x 3-0	2-0 x 3-0	2-4 x 3-0	2-6 x 3-0	2-8 x 3-0	3-0 x 3-0
6	1-8 x 3-6	2-0 x 3-6	2-4 x 3-6	2-6 x 3-6	2-8 x 3-6	3-0 x 3-6
0	1-8 x 4-0	2-0 x 4-0	2-4 x 4-0	2-6 x 4-0	2-8 x 4-0	3-0 x 4-0
6	1-8 x 4-6	2-0 x 4-6	2-4 x 4-6	2-6 x 4-6	2-8 x 4-6	3-0 x 4-6
0	1-8 x 5-0	2-0 x 5-0	2-4 x 5-0	2-6 x 5-0	2-8 x 5-0	3-0 x 5-0
6	1-8 x 5-6	2-0 x 5-6	2-4 x 5-6	2-6 x 5-6	2-8 x 5-6	3-0 x 5-6
0	1-8 x 6-0	2-0 x 6-0	2-4 x 6-0	2-6 x 6-0	2-8 x 6-0	3-0 x 6-0

	2' 0"	2' 4"	2' 6"	2' 8"	3' 0"	3' 6"	4' 0"
"	2' 0-1/2"	2' 4-1/2"	2' 6-1/2"	2' 8-1/2"	3' 0-1/2"	3' 6-1/2"	4' 0-1/2"
"	20-9/16"	24-9/16"	26-9/16"	28-9/16"	32-9/16"	38-9/16"	44-9/16"
1*	2-0 x 1-4*	2-4 x 1-4*	2-6 x 1-4*	2-8 x 1-4*	3-0 x 1-4*	3-6 x 1-4*	4-0 x 1-4*
8	2-0 x 1-8	2-4 x 1-8	2-6 x 1-8	2-8 x 1-8	3-0 x 1-8	3-6 x 1-8	4-0 x 1-8
0	2-0 x 2-0	2-4 x 2-0	2-6 x 2-0	2-8 x 2-0	3-0 x 2-0	3-6 x 2-0	4-0 x 2-0
6	2-0 x 2-6	2-4 x 2-6	2-6 x 2-6	2-8 x 2-6	3-0 x 2-6	3-6 x 2-6	4-0 x 2-6
0	2-0 x 3-0	2-4 x 3-0	2-6 x 3-0	2-8 x 3-0	3-0 x 3-0	3-6 x 3-0	4-0 x 3-0

h set stationary)

	1' 8"	2' 0"	2' 4"	2' 6"	2' 8"	3' 0"	3' 6"	4' 0"	4' 6"	5' 0"	5' 6"	6' 0"
"	1' 8-1/2"	2' 0-1/2"	2' 4-1/2"	2' 6-1/2"	2' 8-1/2"	3' 0-1/2"	3' 6-1/2"	4' 0-1/2"	4' 6-1/2"	5' 0-1/2"	5' 6-1/2"	6' 0-1/2"
"	16-9/16"	20-9/16"	24-9/16"	26-9/16"	28-9/16"	32-9/16"	38-9/16"	44-9/16"	50-9/16"	56-9/16"	62-9/16"	68-9/16"
4	1-8 x 1-4	2-0 x 1-4	2-4 x 1-4	2-6 x 1-4	2-8 x 1-4	3-0 x 1-4	3-6 x 1-4	4-0 x 1-4	4-6 x 1-4	5-0 x 1-4	5-6 x 1-4	6-0 x 1-4
8	1-8 x 1-8	2-0 x 1-8	2-4 x 1-8	2-6 x 1-8	2-8 x 1-8	3-0 x 1-8	3-6 x 1-8	4-0 x 1-8	4-6 x 1-8	5-0 x 1-8	5-6 x 1-8	6-0 x 1-8
0	1-8 x 2-0	2-0 x 2-0	2-4 x 2-0	2-6 x 2-0	2-8 x 2-0	3-0 x 2-0	3-6 x 2-0	4-0 x 2-0	4-6 x 2-0	5-0 x 2-0	5-6 x 2-0	6-0 x 2-0
6	1-8 x 2-6	2-0 x 2-6	2-4 x 2-6	2-6 x 2-6	2-8 x 2-6	3-0 x 2-6	3-6 x 2-6	4-0 x 2-6	4-6 x 2-6	5-0 x 2-6	5-6 x 2-6	6-0 x 2-6
0	1-8 x 3-0	2-0 x 3-0	2-4 x 3-0	2-6 x 3-0	2-8 x 3-0	3-0 x 3-0	3-6 x 3-0	4-0 x 3-0	4-6 x 3-0	5-0 x 3-0	5-6 x 3-0	6-0 x 3-0
6	1-8 x 3-6	2-0 x 3-6	2-4 x 3-6	2-6 x 3-6	2-8 x 3-6	3-0 x 3-6	3-6 x 3-6	4-0 x 3-6	4-6 x 3-6	5-0 x 3-6	5-6 x 3-6	6-0 x 3-6
0	1-8 x 4-0	2-0 x 4-0	2-4 x 4-0	2-6 x 4-0	2-8 x 4-0	3-0 x 4-0	3-6 x 4-0	4-0 x 4-0	4-6 x 4-0	5-0 x 4-0	5-6 x 4-0	6-0 x 4-0
6	1-8 x 4-6	2-0 x 4-6	2-4 x 4-6	2-6 x 4-6	2-8 x 4-6	3-0 x 4-6	3-6 x 4-6	4-0 x 4-6	4-6 x 4-6	5-0 x 4-6	5-6 x 4-6	6-0 x 4-6
0	1-8 x 5-0	2-0 x 5-0	2-4 x 5-0	2-6 x 5-0	2-8 x 5-0	3-0 x 5-0	3-6 x 5-0	4-0 x 5-0	4-6 x 5-0	5-0 x 5-0	5-6 x 5-0	6-0 x 5-0
6	1-8 x 5-6	2-0 x 5-6	2-4 x 5-6	2-6 x 5-6	2-8 x 5-6	3-0 x 5-6	3-6 x 5-6	4-0 x 5-6	4-6 x 5-6	5-0 x 5-6	5-6 x 5-6	6-0 x 5-6
0	1-8 x 6-0	2-0 x 6-0	2-4 x 6-0	2-6 x 6-0	2-8 x 6-0	3-0 x 6-0	3-6 x 6-0	4-0 x 6-0	4-6 x 6-0	5-0 x 6-0	5-6 x 6-0	6-0 x 6-0

Size Limitations

	Min	Max
Casements (venting)		
Crank-Out (venting), Width	1' 4"	3' 0"
Crank-Out (venting), Height	1' 6"	6' 0"
Awnings (venting)		
Crank-Out (venting), Width	1' 4"	4' 0"
Crank-Out (venting), Height	1' 4"	3' 6"
Picture Units (sash set stationary)		
Width	1' 4"	9' 0"
Height	1' 4"	7' 0"
Mulled Assemblies**		Max
Mulled Assemblies,** Width		14' 0"
Mulled Assemblies,** Height		9' 0"

*Not available with locks.

**Accessories are available for mulls.

Custom sizes may be available within the size limitations shown. Other limitations may apply as well. Custom products may incur additional costs and/or longer lead times.

Rough Opening Statement: <http://www.kolbe-kolbe.com/ro>
 More about Emergency Escape: <http://www.kolbe-kolbe.com/egress>
 More about Multiple Assemblies: <http://www.kolbe-kolbe.com/mull>

ard Sizes & Size Limitations

1' 8"	2' 0"	2' 4"	2' 6"	2' 8"	3' 0"	3' 4"	3' 6"	4' 0"	4' 6"	5' 0"	5' 6"	6' 0"
1' 8-1/2"	2' 0-1/2"	2' 4-1/2"	2' 6-1/2"	2' 8-1/2"	3' 0-1/2"	3' 4-1/2"	3' 6-1/2"	4' 0-1/2"	4' 6-1/2"	5' 0-1/2"	5' 6-1/2"	6' 0-1/2"
18-1/8"	22-1/8"	26-1/8"	28-1/8"	30-1/8"	34-1/8"	38-1/8"	40-1/8"	46-1/8"	52-1/8"	58-1/8"	64-1/8"	70-1/8"
1-8 x 1-4	2-0 x 1-4	2-4 x 1-4	2-6 x 1-4	2-8 x 1-4	3-0 x 1-4	3-4 x 1-4	3-6 x 1-4	4-0 x 1-4	4-6 x 1-4	5-0 x 1-4	5-6 x 1-4	6-0 x 1-4
1-8 x 1-8	2-0 x 1-8	2-4 x 1-8	2-6 x 1-8	2-8 x 1-8	3-0 x 1-8	3-4 x 1-8	3-6 x 1-8	4-0 x 1-8	4-6 x 1-8	5-0 x 1-8	5-6 x 1-8	6-0 x 1-8
1-8 x 2-0	2-0 x 2-0	2-4 x 2-0	2-6 x 2-0	2-8 x 2-0	3-0 x 2-0	3-4 x 2-0	3-6 x 2-0	4-0 x 2-0	4-6 x 2-0	5-0 x 2-0	5-6 x 2-0	6-0 x 2-0
1-8 x 2-6	2-0 x 2-6	2-4 x 2-6	2-6 x 2-6	2-8 x 2-6	3-0 x 2-6	3-4 x 2-6	3-6 x 2-6	4-0 x 2-6	4-6 x 2-6	5-0 x 2-6	5-6 x 2-6	6-0 x 2-6
1-8 x 3-0	2-0 x 3-0	2-4 x 3-0	2-6 x 3-0	2-8 x 3-0	3-0 x 3-0	3-4 x 3-0	3-6 x 3-0	4-0 x 3-0	4-6 x 3-0	5-0 x 3-0	5-6 x 3-0	6-0 x 3-0
1-8 x 3-6	2-0 x 3-6	2-4 x 3-6	2-6 x 3-6	2-8 x 3-6	3-0 x 3-6	3-4 x 3-6	3-6 x 3-6	4-0 x 3-6	4-6 x 3-6	5-0 x 3-6	5-6 x 3-6	6-0 x 3-6
1-8 x 4-0	2-0 x 4-0	2-4 x 4-0	2-6 x 4-0	2-8 x 4-0	3-0 x 4-0	3-4 x 4-0	3-6 x 4-0	4-0 x 4-0	4-6 x 4-0	5-0 x 4-0	5-6 x 4-0	6-0 x 4-0
1-8 x 4-6	2-0 x 4-6	2-4 x 4-6	2-6 x 4-6	2-8 x 4-6	3-0 x 4-6	3-4 x 4-6	3-6 x 4-6	4-0 x 4-6	4-6 x 4-6	5-0 x 4-6	5-6 x 4-6	6-0 x 4-6
1-8 x 5-0	2-0 x 5-0	2-4 x 5-0	2-6 x 5-0	2-8 x 5-0	3-0 x 5-0	3-4 x 5-0	3-6 x 5-0	4-0 x 5-0	4-6 x 5-0	5-0 x 5-0	5-6 x 5-0	6-0 x 5-0
1-8 x 5-6	2-0 x 5-6	2-4 x 5-6	2-6 x 5-6	2-8 x 5-6	3-0 x 5-6	3-4 x 5-6	3-6 x 5-6	4-0 x 5-6	4-6 x 5-6	5-0 x 5-6	5-6 x 5-6	6-0 x 5-6
1-8 x 6-0	2-0 x 6-0	2-4 x 6-0	2-6 x 6-0	2-8 x 6-0	3-0 x 6-0	3-4 x 6-0	3-6 x 6-0	4-0 x 6-0	4-6 x 6-0	5-0 x 6-0	5-6 x 6-0	6-0 x 6-0

& Outswing Doors

Single Doors			Double Doors			
2-6	2-8	3-0	4-0	5-0	5-4	6-0
2' 8"	2' 10"	3' 2"	4' 2-25/32"	5' 2-25/32"	5' 6-25/32"	6' 2-25/32"
2' 8-1/2"	2' 10-1/2"	3' 2-1/2"	51-5/16"	63-5/16"	67-5/16"	75-5/16"
30-1/8"	32-1/8"	36-1/8"	48-7/8"	60-7/8"	64-7/8"	72-7/8"
2-6 x 1-0	2-8 x 1-0	3-0 x 1-0	4-0 x 1-0	5-0 x 1-0	5-4 x 1-0	6-0 x 1-0
2-6 x 1-4	2-8 x 1-4	3-0 x 1-4	4-0 x 1-4	5-0 x 1-4	5-4 x 1-4	6-0 x 1-4
2-6 x 1-6	2-8 x 1-6	3-0 x 1-6	4-0 x 1-6	5-0 x 1-6	5-4 x 1-6	6-0 x 1-6
2-6 x 1-8	2-8 x 1-8	3-0 x 1-8	4-0 x 1-8	5-0 x 1-8	5-4 x 1-8	6-0 x 1-8
2-6 x 2-0	2-8 x 2-0	3-0 x 2-0	4-0 x 2-0	5-0 x 2-0	5-4 x 2-0	6-0 x 2-0
2-6 x 2-6	2-8 x 2-6	3-0 x 2-6	4-0 x 2-6	5-0 x 2-6	5-4 x 2-6	6-0 x 2-6

Size Limitations

Direct Set Units	Min	Max
Width	1' 4"	7' 0"
Height	1' 4"	10' 0"
Direct Set Corner Units*		
Factory-Assembled with/without corner post		
Box Size Width	12"	72"
Box Size Height	15"	120"
Factory-Glazed with corner post		
Combined left & right width		84"
Height		110"

*Units beyond the factory-glazed limit will be shipped as a kit that requires field assembly and glazing.

Complementary Products

Folding Doors	Min	Max
Basic Jamb:	6-9/16"	
# Panels per Side:		8 panels
Unobstructed Views:		45 feet
Panel Width:	23-3/4"	39-3/8"
Panel Height:	72"	120"

Multi-Slide Doors	Min	Max
Panel Width:	23-3/4"	47-3/4"
Panel Height:	33-9/16"	120"
Maximum Panels Per Unit:		10

limitations shown. Other limitations may apply as well. Custom products may incur additional costs and/or longer lead times.

Rough Opening Statement: <http://www.kolbe-kolbe.com/ro>
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 More about Multiple Assemblies: <http://www.kolbe-kolbe.com/mull>

Dimensions - VistaLuxe® Collection Doors

			Single Doors				French Doors (Double-Wide Opening)			
			2-0	2-6	2-8	3-0	4-0	5-0	5-4	6-0
			2' 0"	2' 6"	2' 8"	3' 0"	2' 0"	2' 6"	2' 8"	3' 0"
Width:			26-1/2"	32-1/2"	34-1/2"	38-1/2"	51-9/32"	63-9/32"	67-9/32"	75-9/32"
	Glass Size†		18-7/8"	24-7/8"	26-7/8"	30-7/8"	18-7/8"	24-7/8"	26-7/8"	30-7/8"
	Glass Size‡	Glass Size§	14-7/8"	20-7/8"	22-7/8"	26-7/8"	14-7/8"	20-7/8"	22-7/8"	26-7/8"
70-9/16"	66-15/16"	64-15/16"	2-0 x 6-8	2-6 x 6-8	2-8 x 6-8	3-0 x 6-8	4-0 x 6-8	5-0 x 6-8	5-4 x 6-8	6-0 x 6-8
74-9/16"	70-15/16"	68-15/16"	2-0 x 7-0	2-6 x 7-0	2-8 x 7-0	3-0 x 7-0	4-0 x 7-0	5-0 x 7-0	5-4 x 7-0	6-0 x 7-0
86-9/16"	82-15/16"	80-15/16"	2-0 x 8-0	2-6 x 8-0	2-8 x 8-0	3-0 x 8-0	4-0 x 8-0	5-0 x 8-0	5-4 x 8-0	6-0 x 8-0

			Single Doors				French Doors (Double-Wide Opening)			
			2-0	2-6	2-8	3-0	4-0	5-0	5-4	6-0
			2' 0"	2' 6"	2' 8"	3' 0"	2' 0"	2' 6"	2' 8"	3' 0"
Width:			26-1/2"	32-1/2"	34-1/2"	38-1/2"	51-9/32"	63-9/32"	67-9/32"	75-9/32"
	Glass Size†		18-7/8"	24-7/8"	26-7/8"	30-7/8"	18-7/8"	24-7/8"	26-7/8"	30-7/8"
	Glass Size‡	Glass Size§	14-7/8"	20-7/8"	22-7/8"	26-7/8"	14-7/8"	20-7/8"	22-7/8"	26-7/8"
71"	67-3/8"	65-3/8"	2-0 x 6-8	2-6 x 6-8	2-8 x 6-8	3-0 x 6-8	4-0 x 6-8	5-0 x 6-8	5-4 x 6-8	6-0 x 6-8
75"	71-3/8"	69-3/8"	2-0 x 7-0	2-6 x 7-0	2-8 x 7-0	3-0 x 7-0	4-0 x 7-0	5-0 x 7-0	5-4 x 7-0	6-0 x 7-0
87"	83-3/8"	81-3/8"	2-0 x 8-0	2-6 x 8-0	2-8 x 8-0	3-0 x 8-0	4-0 x 8-0	5-0 x 8-0	5-4 x 8-0	6-0 x 8-0

top rail, and 5" bottom rail

*Applies to units with standard sill, 3" stiles & top rail, and 5" bottom rail

top rail, and 10" bottom rail

†Applies to units with standard sill, 3" stiles & top rail, and 10" bottom rail

direct set)

		1-0	1-2	1-4	1-6
Width:		14-1/2"	16-1/2"	18-1/2"	20-1/2"
		10-15/16"	12-15/16"	16-15/16"	18-15/16"
Glass Size*	Glass Size†	6-7/8"	8-7/8"	10-7/8"	12-7/8"
72-9/16"	66-15/16"	1-0 x 6-8	1-2 x 6-8	1-4 x 6-8	1-6 x 6-8
76-9/16"	70-15/16"	1-0 x 7-0	1-2 x 7-0	1-4 x 7-0	1-6 x 7-0
88-9/16"	82-15/16"	1-0 x 8-0	1-2 x 8-0	1-4 x 8-0	1-6 x 8-0

direct set)

		1-0	1-2	1-4	1-6
Width:		14-1/2"	16-1/2"	18-1/2"	20-1/2"
		10-15/16"	12-15/16"	16-15/16"	18-15/16"
Glass Size*	Glass Size†	6-7/8"	8-7/8"	10-7/8"	12-7/8"
73"	67-3/8"	1-0 x 6-8	1-2 x 6-8	1-4 x 6-8	1-6 x 6-8
77"	71-3/8"	1-0 x 7-0	1-2 x 7-0	1-4 x 7-0	1-6 x 7-0
89"	83-3/8"	1-0 x 8-0	1-2 x 8-0	1-4 x 8-0	1-6 x 8-0

ing door sill.

Size Limitations

Swinging Doors	Min	Max
Width	1' 6"	3' 6"
Height	1' 6"	10' 0"

Custom sizes may be available within the size limitations shown. Other limitations may apply as well. Custom products may incur additional costs and/or longer lead times. Please ask your dealer for more information.

Rough Opening Statement: <http://www.kolbe-kolbe.com/ro>
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 More about Multiple Assemblies: <http://www.kolbe-kolbe.com/mull>

VistaLuxe Collection Crank-Out Casements
with Dyad or Dual-Arm Operators & Adjustable Bar Hinges

Meets Most Codes	Kolbe Standard Size (box callout)	EER CLEAR OPENING			Daylight Area (ft²)	Vent Area (ft²)	Frame Area (ft²)	GLASS SIZE		FRAME SIZE		
		Area (ft²)	Width (in.)	Height (in.)				Width (in.)	Height (in.)	Width (in.)	Height (in.)	
no	1'4" x 2'0"	1.15	8 7/32	20 3/32	1.57	1.77	2.67	12.5625	20.5625	16.00	24.00	Dyad Operator w/10" Adjustable Bar Hinge (Dyad operators used on unit widths smaller than 24" and larger; 10" hinge used on unit widths equal to 30" and smaller)
no	1'4" x 2'6"	1.49	8 7/32	26 3/32	2.05	2.30	3.33	12.5625	26.5625	16.00	30.00	
no	1'4" x 3'0"	1.83	8 7/32	32 3/32	2.53	2.83	4.00	12.5625	32.5625	16.00	36.00	
no	1'4" x 3'6"	2.17	8 7/32	38 3/32	3.02	3.36	4.67	12.5625	38.5625	16.00	42.00	
no	1'4" x 4'0"	2.52	8 7/32	44 3/32	3.50	3.88	5.33	12.5625	44.5625	16.00	48.00	
no	1'4" x 4'6"	2.86	8 7/32	50 3/32	3.98	4.41	6.00	12.5625	50.5625	16.00	54.00	
no	1'4" x 5'0"	3.20	8 7/32	56 3/32	4.46	4.94	6.67	12.5625	56.5625	16.00	60.00	
no	1'4" x 5'6"	3.54	8 7/32	62 3/32	4.94	5.47	7.33	12.5625	62.5625	16.00	66.00	
no	1'4" x 6'0"	3.89	8 7/32	68 3/32	5.42	6.00	8.00	12.5625	68.5625	16.00	72.00	Dual Arm Operator w/10" Adjustable Bar Hinge (Dual arm operators used on unit widths equal to 24" and larger; 10" hinge used on unit widths equal to 30" and smaller)
no	1'8" x 2'0"	1.71	12 7/32	20 3/32	2.11	2.33	3.33	16.5625	20.5625	20.00	24.00	
no	1'8" x 2'6"	2.21	12 7/32	26 3/32	2.76	3.02	4.17	16.5625	26.5625	20.00	30.00	
no	1'8" x 3'0"	2.72	12 7/32	32 3/32	3.41	3.72	5.00	16.5625	32.5625	20.00	36.00	
no	1'8" x 3'6"	3.23	12 7/32	38 3/32	4.06	4.41	5.83	16.5625	38.5625	20.00	42.00	
no	1'8" x 4'0"	3.74	12 7/32	44 3/32	4.71	5.11	6.67	16.5625	44.5625	20.00	48.00	
no	1'8" x 4'6"	4.25	12 7/32	50 3/32	5.36	5.81	7.50	16.5625	50.5625	20.00	54.00	
no	1'8" x 5'0"	4.76	12 7/32	56 3/32	6.00	6.50	8.33	16.5625	56.5625	20.00	60.00	
no	1'8" x 5'6"	5.27	12 7/32	62 3/32	6.65	7.20	9.17	16.5625	62.5625	20.00	66.00	Dual Arm Operator w/10" Adjustable Bar Hinge (Dual arm operators used on unit widths equal to 24" and larger; 10" hinge used on unit widths equal to 30" and smaller)
no	1'8" x 6'0"	5.78	12 7/32	68 3/32	7.30	7.89	10.00	16.5625	68.5625	20.00	72.00	
no	2'0" x 2'0"	2.26	16 7/32	20 3/32	2.66	2.89	4.00	20.5625	20.5625	24.00	24.00	
no	2'0" x 2'6"	2.94	16 7/32	26 3/32	3.47	3.75	5.00	20.5625	26.5625	24.00	30.00	
no	2'0" x 3'0"	3.61	16 7/32	32 3/32	4.29	4.61	6.00	20.5625	32.5625	24.00	36.00	
no	2'0" x 3'6"	4.29	16 7/32	38 3/32	5.10	5.47	7.00	20.5625	38.5625	24.00	42.00	
no	2'0" x 4'0"	4.97	16 7/32	44 3/32	5.92	6.33	8.00	20.5625	44.5625	24.00	48.00	
no	2'0" x 4'6"	5.64	16 7/32	50 3/32	6.73	7.20	9.00	20.5625	50.5625	24.00	54.00	
no	2'0" x 5'0"	6.32	16 7/32	56 3/32	7.55	8.06	10.00	20.5625	56.5625	24.00	60.00	Dual Arm Operator w/14" Adjustable Bar Hinge (Dual arm operators used on unit widths equal to 24" and larger; 14" hinge used on unit widths greater than 30")
no	2'0" x 5'6"	6.99	16 7/32	62 3/32	8.36	8.92	11.00	20.5625	62.5625	24.00	66.00	
no	2'0" x 6'0"	7.67	16 7/32	68 3/32	9.18	9.78	12.00	20.5625	68.5625	24.00	72.00	
no	2'4" x 2'0"	2.82	20 7/32	20 3/32	3.20	3.44	4.67	24.5625	20.5625	28.00	24.00	
no	2'4" x 2'6"	3.66	20 7/32	26 3/32	4.18	4.47	5.83	24.5625	26.5625	28.00	30.00	
no	2'4" x 3'0"	4.51	20 7/32	32 3/32	5.16	5.50	7.00	24.5625	32.5625	28.00	36.00	
no	2'4" x 3'6"	5.35	20 7/32	38 3/32	6.15	6.53	8.17	24.5625	38.5625	28.00	42.00	
yes	2'4" x 4'0"	6.19	20 7/32	44 3/32	7.13	7.56	9.33	24.5625	44.5625	28.00	48.00	
yes	2'4" x 4'6"	7.03	20 7/32	50 3/32	8.11	8.59	10.50	24.5625	50.5625	28.00	54.00	Dual Arm Operator w/14" Adjustable Bar Hinge (Dual arm operators used on unit widths equal to 24" and larger; 14" hinge used on unit widths greater than 30")
yes	2'4" x 5'0"	7.88	20 7/32	56 3/32	9.09	9.62	11.67	24.5625	56.5625	28.00	60.00	
yes	2'4" x 5'6"	8.72	20 7/32	62 3/32	10.07	10.65	12.83	24.5625	62.5625	28.00	66.00	
yes	2'4" x 6'0"	9.56	20 7/32	68 3/32	11.06	11.67	14.00	24.5625	68.5625	28.00	72.00	
no	2'6" x 2'0"	3.10	22 7/32	20 3/32	3.47	3.72	5.00	26.5625	20.5625	30.00	24.00	
no	2'6" x 2'6"	4.03	22 7/32	26 3/32	4.54	4.84	6.25	26.5625	26.5625	30.00	30.00	
no	2'6" x 3'0"	4.95	22 7/32	32 3/32	5.60	5.95	7.50	26.5625	32.5625	30.00	36.00	
yes	2'6" x 3'6"	5.88	22 7/32	38 3/32	6.67	7.06	8.75	26.5625	38.5625	30.00	42.00	
yes	2'6" x 4'0"	6.80	22 7/32	44 3/32	7.73	8.17	10.00	26.5625	44.5625	30.00	48.00	Dual Arm Operator w/14" Adjustable Bar Hinge (Dual arm operators used on unit widths equal to 24" and larger; 14" hinge used on unit widths greater than 30")
yes	2'6" x 4'6"	7.73	22 7/32	50 3/32	8.80	9.28	11.25	26.5625	50.5625	30.00	54.00	
yes	2'6" x 5'0"	8.66	22 7/32	56 3/32	9.86	10.40	12.50	26.5625	56.5625	30.00	60.00	
yes	2'6" x 5'6"	9.58	22 7/32	62 3/32	10.93	11.51	13.75	26.5625	62.5625	30.00	66.00	
yes	2'6" x 6'0"	10.51	22 7/32	68 3/32	11.99	12.62	15.00	26.5625	68.5625	30.00	72.00	
no	2'8" x 2'0"	3.12	22 11/32	20 3/32	3.74	4.00	5.33	28.5625	20.5625	32.00	24.00	
no	2'8" x 2'6"	4.05	22 11/32	26 3/32	4.89	5.20	6.67	28.5625	26.5625	32.00	30.00	
no	2'8" x 3'0"	4.98	22 11/32	32 3/32	6.04	6.39	8.00	28.5625	32.5625	32.00	36.00	
yes	2'8" x 3'6"	5.91	22 11/32	38 3/32	7.19	7.59	9.33	28.5625	38.5625	32.00	42.00	Dual Arm Operator w/14" Adjustable Bar Hinge (Dual arm operators used on unit widths equal to 24" and larger; 14" hinge used on unit widths greater than 30")
yes	2'8" x 4'0"	6.84	22 11/32	44 3/32	8.34	8.78	10.67	28.5625	44.5625	32.00	48.00	
yes	2'8" x 4'6"	7.77	22 11/32	50 3/32	9.49	9.98	12.00	28.5625	50.5625	32.00	54.00	
yes	2'8" x 5'0"	8.70	22 11/32	56 3/32	10.64	11.17	13.33	28.5625	56.5625	32.00	60.00	
yes	2'8" x 5'6"	9.63	22 11/32	62 3/32	11.78	12.37	14.67	28.5625	62.5625	32.00	66.00	
yes	2'8" x 6'0"	10.57	22 11/32	68 3/32	12.93	13.57	16.00	28.5625	68.5625	32.00	72.00	
no	3'0" x 2'0"	3.68	26 11/32	20 3/32	4.29	4.56	6.00	32.5625	20.5625	36.00	24.00	
no	3'0" x 2'6"	4.77	26 11/32	26 3/32	5.60	5.92	7.50	32.5625	26.5625	36.00	30.00	
yes	3'0" x 3'0"	5.87	26 11/32	32 3/32	6.92	7.29	9.00	32.5625	32.5625	36.00	36.00	Dual Arm Operator w/14" Adjustable Bar Hinge (Dual arm operators used on unit widths equal to 24" and larger; 14" hinge used on unit widths greater than 30")
yes	3'0" x 3'6"	6.97	26 11/32	38 3/32	8.23	8.65	10.50	32.5625	38.5625	36.00	42.00	
yes	3'0" x 4'0"	8.07	26 11/32	44 3/32	9.55	10.01	12.00	32.5625	44.5625	36.00	48.00	
yes	3'0" x 4'6"	9.16	26 11/32	50 3/32	10.86	11.37	13.50	32.5625	50.5625	36.00	54.00	
yes	3'0" x 5'0"	10.26	26 11/32	56 3/32	12.18	12.73	15.00	32.5625	56.5625	36.00	60.00	
yes	3'0" x 5'6"	11.36	26 11/32	62 3/32	13.49	14.10	16.50	32.5625	62.5625	36.00	66.00	
yes	3'0" x 6'0"	12.46	26 11/32	68 3/32	14.81	15.46	18.00	32.5625	68.5625	36.00	72.00	

NOTES:

Meets most national building codes for Emergency Escape & Rescue requirements.

Clear opening charts apply only to rectangle-shaped units unless otherwise specified.

Clear openings are based upon the window being open to 90 degrees.

GS = Glass Size; FS = Frame Size

to Clear Opp		to Clear Opp	
Width (in.)		Height (in.)	
GS +	(varies)	GS +	-0.4688
FS +	(varies)	FS +	-3.9063

**VistaLuxe Collection Crank-Out Awnings
with Adjustable Bar Hinges**

Meets Most Codes	Kolbe Standard Size (box callout)	EER CLEAR OPENING						GLASS SIZE		FRAME SIZE	
		Area (ft ²)	Width (in.)	Height (in.)	Daylight Area (ft ²)	Vent Area (ft ²)	Frame Area (ft ²)	Width (in.)	Height (in.)	Width (in.)	Height (in.)
no	1'8" X 1'4"	0.95	16 11/16	8 7/32	1.25	1.40	2.22	16.5625	12.5625	20.00	16.00
no	2'0" X 1'4"	1.18	20 11/16	8 7/32	1.57	1.74	2.67	20.5625	12.5625	24.00	16.00
no	2'4" X 1'4"	1.41	24 11/16	8 7/32	1.89	2.07	3.11	24.5625	12.5625	28.00	16.00
no	2'6" X 1'4"	1.52	26 11/16	8 7/32	2.05	2.24	3.33	26.5625	12.5625	30.00	16.00
no	2'8" X 1'4"	1.64	28 11/16	8 7/32	2.21	2.41	3.56	28.5625	12.5625	32.00	16.00
no	3'0" X 1'4"	1.87	32 11/16	8 7/32	2.53	2.75	4.00	32.5625	12.5625	36.00	16.00
no	3'6" X 1'4"	2.21	38 11/16	8 7/32	3.02	3.25	4.67	38.5625	12.5625	42.00	16.00
no	4'0" X 1'4"	2.55	44 11/16	8 7/32	3.50	3.75	5.33	44.5625	12.5625	48.00	16.00
no	1'8" X 1'8"	1.42	16 11/16	12 7/32	1.68	1.87	2.78	16.5625	16.5625	20.00	20.00
no	2'0" X 1'8"	1.76	20 11/16	12 7/32	2.11	2.31	3.33	20.5625	16.5625	24.00	20.00
no	2'4" X 1'8"	2.09	24 11/16	12 7/32	2.55	2.76	3.89	24.5625	16.5625	28.00	20.00
no	2'6" X 1'8"	2.26	26 11/16	12 7/32	2.76	2.98	4.17	26.5625	16.5625	30.00	20.00
no	2'8" X 1'8"	2.43	28 11/16	12 7/32	2.98	3.21	4.44	28.5625	16.5625	32.00	20.00
no	3'0" X 1'8"	2.77	32 11/16	12 7/32	3.41	3.65	5.00	32.5625	16.5625	36.00	20.00
no	3'6" X 1'8"	3.28	38 11/16	12 7/32	4.06	4.32	5.83	38.5625	16.5625	42.00	20.00
no	4'0" X 1'8"	3.79	44 11/16	12 7/32	4.71	4.99	6.67	44.5625	16.5625	48.00	20.00
no	1'8" X 2'0"	1.88	16 11/16	16 7/32	2.11	2.33	3.33	16.5625	20.5625	20.00	24.00
no	2'0" X 2'0"	2.33	20 11/16	16 7/32	2.66	2.89	4.00	20.5625	20.5625	24.00	24.00
no	2'4" X 2'0"	2.78	24 11/16	16 7/32	3.20	3.44	4.67	24.5625	20.5625	28.00	24.00
no	2'6" X 2'0"	3.01	26 11/16	16 7/32	3.47	3.72	5.00	26.5625	20.5625	30.00	24.00
no	2'8" X 2'0"	3.23	28 11/16	16 7/32	3.74	4.00	5.33	28.5625	20.5625	32.00	24.00
no	3'0" X 2'0"	3.68	32 11/16	16 7/32	4.29	4.56	6.00	32.5625	20.5625	36.00	24.00
no	3'6" X 2'0"	4.36	38 11/16	16 7/32	5.10	5.40	7.00	38.5625	20.5625	42.00	24.00
no	4'0" X 2'0"	5.03	44 11/16	16 7/32	5.92	6.24	8.00	44.5625	20.5625	48.00	24.00
no	1'8" X 2'6"	2.57	16 11/16	22 7/32	2.76	3.02	4.17	16.5625	26.5625	20.00	30.00
no	2'0" X 2'6"	3.19	20 11/16	22 7/32	3.47	3.75	5.00	20.5625	26.5625	24.00	30.00
no	2'4" X 2'6"	3.81	24 11/16	22 7/32	4.18	4.47	5.83	24.5625	26.5625	28.00	30.00
no	2'6" X 2'6"	4.12	26 11/16	22 7/32	4.54	4.84	6.25	26.5625	26.5625	30.00	30.00
no	2'8" X 2'6"	4.43	28 11/16	22 7/32	4.89	5.20	6.67	28.5625	26.5625	32.00	30.00
no	3'0" X 2'6"	5.04	32 11/16	22 7/32	5.60	5.92	7.50	32.5625	26.5625	36.00	30.00
no	3'6" X 2'6"	5.97	38 11/16	22 7/32	6.67	7.01	8.75	38.5625	26.5625	42.00	30.00
no	4'0" X 2'6"	6.90	44 11/16	22 7/32	7.73	8.10	10.00	44.5625	26.5625	48.00	30.00
no	1'8" X 3'0"	3.27	16 11/16	28 7/32	3.41	3.72	5.00	16.5625	32.5625	20.00	36.00
no	2'0" X 3'0"	4.05	20 11/16	28 7/32	4.29	4.61	6.00	20.5625	32.5625	24.00	36.00
no	2'4" X 3'0"	4.84	24 11/16	28 7/32	5.16	5.50	7.00	24.5625	32.5625	28.00	36.00
no	2'6" X 3'0"	5.23	26 11/16	28 7/32	5.60	5.95	7.50	26.5625	32.5625	30.00	36.00
no	2'8" X 3'0"	5.62	28 11/16	28 7/32	6.04	6.39	8.00	28.5625	32.5625	32.00	36.00
yes	3'0" X 3'0"	6.41	32 11/16	28 7/32	6.92	7.29	9.00	32.5625	32.5625	36.00	36.00
yes	3'6" X 3'0"	7.58	38 11/16	28 7/32	8.23	8.62	10.50	38.5625	32.5625	42.00	36.00
yes	4'0" X 3'0"	8.76	44 11/16	28 7/32	9.55	9.96	12.00	44.5625	32.5625	48.00	36.00

NOTES:

yes = Meets most national building codes for Emergency Escape & Rescue requirements
(based on adjustments as noted below).

Crank-out awning windows may not be considered emergency escape and rescue windows because operator arms protrude across the clear opening and windows require a direction change from vertical to horizontal to exit through the window.

Clear opening charts apply only to rectangle-shaped units unless otherwise specified.

Clear openings determined after unhooking and retracting operator arms, then pushing the sash open to 90 degrees.

Wide awning operators are used on standard performance units with frame sizes greater than 20-3/8".

Narrow awning operators are used on standard performance units with frame sizes less than or equal to 20-3/8".

GS = Glass Size; FS = Frame Size

to Clear Opg Width (in.)		to Clear Opg Height (in.)	
GS +	0.1250	GS +	-4.3438
FS +	-3.3125	FS +	-7.7813

1-3/4" Thick Panels*

Size (in.)	EER CLEAR OPENING					Daylight Area (ft²)	Vent Area (ft²)	Frame Area (ft²)	GLASS SIZE		FRAME SIZE	
	Area 1 Open (ft²)	Area 2 Open (ft²)	Width 1 Open (in.)	Width 2 Open (in.)	Height (in.)				Width (in.)	Height (in.)	Width (in.)	Height (in.)
	11.77	-	21 11/32	-	79 13/32	8.88	12.82	14.81	18.8750	72.5625	26.0000	82.00
	15.08	-	27 11/32	-	79 13/32	11.86	16.13	18.22	24.8750	72.5625	32.0000	82.00
	16.18	-	29 11/32	-	79 13/32	12.86	17.23	19.36	26.8750	72.5625	34.0000	82.00
	18.39	-	33 11/32	-	79 13/32	14.85	19.44	21.64	30.8750	72.5625	38.0000	82.00
	12.36	-	21 11/32	-	83 13/32	9.38	13.47	15.53	18.8750	76.5625	26.0000	86.00
	15.84	-	27 11/32	-	83 13/32	12.53	16.94	19.11	24.8750	76.5625	32.0000	86.00
	17.00	-	29 11/32	-	83 13/32	13.58	18.10	20.31	26.8750	76.5625	34.0000	86.00
	19.31	-	33 11/32	-	83 13/32	15.68	20.42	22.69	30.8750	76.5625	38.0000	86.00
	14.14	-	21 11/32	-	95 13/32	10.87	15.40	17.69	18.8750	88.5625	26.0000	98.00
	18.12	-	27 11/32	-	95 13/32	14.52	19.38	21.78	24.8750	88.5625	32.0000	98.00
	19.44	-	29 11/32	-	95 13/32	15.73	20.70	23.14	26.8750	88.5625	34.0000	98.00
	22.09	-	33 11/32	-	95 13/32	18.17	23.35	25.86	30.8750	88.5625	38.0000	98.00
	11.77	24.38	21 11/32	44 7/32	79 13/32	17.77	26.49	28.92	18.8750	72.5625	50.7813	82.00
	15.08	31.00	27 11/32	56 7/32	79 13/32	23.73	33.10	35.75	24.8750	72.5625	62.7813	82.00
	16.18	33.21	29 11/32	60 7/32	79 13/32	25.72	35.31	38.03	26.8750	72.5625	66.7813	82.00
	18.39	37.62	33 11/32	68 7/32	79 13/32	29.69	39.72	42.58	30.8750	72.5625	74.7813	82.00
	12.36	25.61	21 11/32	44 7/32	83 13/32	18.76	27.82	30.33	18.8750	76.5625	50.7813	86.00
	15.84	32.56	27 11/32	56 7/32	83 13/32	25.06	34.77	37.49	24.8750	76.5625	62.7813	86.00
	17.00	34.88	29 11/32	60 7/32	83 13/32	27.16	37.09	39.88	26.8750	76.5625	66.7813	86.00
	19.31	39.51	33 11/32	68 7/32	83 13/32	31.35	41.72	44.66	30.8750	76.5625	74.7813	86.00
	14.14	29.30	21 11/32	44 7/32	95 13/32	21.74	31.82	34.56	18.8750	88.5625	50.7813	98.00
	18.12	37.25	27 11/32	56 7/32	95 13/32	29.04	39.77	42.73	24.8750	88.5625	62.7813	98.00
	19.44	39.90	29 11/32	60 7/32	95 13/32	31.47	42.42	45.45	26.8750	88.5625	66.7813	98.00
	22.09	45.20	33 11/32	68 7/32	95 13/32	36.33	47.72	50.89	30.8750	88.5625	74.7813	98.00

codes for Emergency Escape & Rescue requirements

codes for Means of Egress

n to 90 degrees.

ails as standard.

an acceptable emergency escape and rescue opening per the local building inspector.

opening heights shown here.

lear opening widths shown here for each active panel.

to Clear Opg Width (in.)	to Clear Opg Width (in.)	to Clear Opg Ht (in.)
1 active	2 active (French)	
GS + 2.4688	(GS*2) + 6.4688	GS + 6.8438
FS + (varies)	FS + -6.5625	FS + -2.5938

Rough Opening Statement: <http://www.kolbe-kolbe.com/ro>
 More about Emergency Escape: <http://www.kolbe-kolbe.com/egress>
 More about Multiple Assemblies: <http://www.kolbe-kolbe.com/mull>

1-3/4" or 2-1/4" Thick Panels

Standard Size)	EER CLEAR OPENING					Daylight Area (ft²)	Vent Area (ft²)	Frame Area (ft²)	GLASS SIZE		FRAME SIZE	
	Area 1 Open (ft²)	Area 2 Open (ft²)	Width 1 Open (in.)	Width 2 Open (in.)	Height (in.)				Width (in.)	Height (in.)	Width (in.)	Height (in.)
	11.69	-	21 9/32	-	79 1/8	8.95	12.78	14.81	18.9375	72.8125	26.00	82.00
	14.99	-	27 9/32	-	79 1/8	11.94	16.07	18.22	24.9375	72.8125	32.00	82.00
	16.09	-	29 9/32	-	79 1/8	12.93	17.17	19.36	26.9375	72.8125	34.00	82.00
	18.29	-	33 9/32	-	79 1/8	14.93	19.37	21.64	30.9375	72.8125	38.00	82.00
	12.28	-	21 9/32	-	83 1/8	9.44	13.42	15.53	18.9375	76.8125	26.00	86.00
	15.75	-	27 9/32	-	83 1/8	12.60	16.88	19.11	24.9375	76.8125	32.00	86.00
	16.90	-	29 9/32	-	83 1/8	13.66	18.04	20.31	26.9375	76.8125	34.00	86.00
	19.21	-	33 9/32	-	83 1/8	15.76	20.35	22.69	30.9375	76.8125	38.00	86.00
	14.06	-	21 9/32	-	95 1/8	10.94	15.36	17.69	18.9375	88.8125	26.00	98.00
	18.02	-	27 9/32	-	95 1/8	14.60	19.32	21.78	24.9375	88.8125	32.00	98.00
	19.34	-	29 9/32	-	95 1/8	15.82	20.64	23.14	26.9375	88.8125	34.00	98.00
	21.99	-	33 9/32	-	95 1/8	18.26	23.29	25.86	30.9375	88.8125	38.00	98.00
	11.69	24.23	21 9/32	44 3/32	79 1/8	17.89	26.39	28.92	18.9375	72.8125	50.78	82.00
	14.99	30.82	27 9/32	56 3/32	79 1/8	23.88	32.99	35.75	24.9375	72.8125	62.78	82.00
	16.09	33.02	29 9/32	60 3/32	79 1/8	25.87	35.18	38.03	26.9375	72.8125	66.78	82.00
	18.29	37.42	33 9/32	68 3/32	79 1/8	29.86	39.58	42.58	30.9375	72.8125	74.78	82.00
	12.28	25.45	21 9/32	44 3/32	83 1/8	18.89	27.73	30.33	18.9375	76.8125	50.78	86.00
	15.75	32.38	27 9/32	56 3/32	83 1/8	25.21	34.65	37.49	24.9375	76.8125	62.78	86.00
	16.90	34.69	29 9/32	60 3/32	83 1/8	27.31	36.96	39.88	26.9375	76.8125	66.78	86.00
	19.21	39.31	33 9/32	68 3/32	83 1/8	31.52	41.58	44.66	30.9375	76.8125	74.78	86.00
	14.06	29.13	21 9/32	44 3/32	95 1/8	21.88	31.73	34.56	18.9375	88.8125	50.78	98.00
	18.02	37.05	27 9/32	56 3/32	95 1/8	29.19	39.66	42.73	24.9375	88.8125	62.78	98.00
	19.34	39.70	29 9/32	60 3/32	95 1/8	31.63	42.30	45.45	26.9375	88.8125	66.78	98.00
	21.99	44.98	33 9/32	68 3/32	95 1/8	36.51	47.58	50.89	30.9375	88.8125	74.78	98.00

Codes for Emergency Escape & Rescue requirements.

Codes for Means of Egress.

to 90 degrees.

as standard.

acceptable emergency escape and rescue opening per the local building inspector.

* for non-thermal to the clear opening heights shown here.

to Clear Opg Width (in.)	to Clear Opg Width (in.)	to Clear Opg Ht (in.)
1 active	2 active (French)	
GS + 2.3438	(GS*2) + 6.2188	GS + 6.3125
FS + (varies)	FS + -6.6875	FS + -2.8750

Rough Opening Statement: <http://www.kolbe-kolbe.com/ro>
More about Emergency Escape: <http://www.kolbe-kolbe.com/egress>
More about Multiple Assemblies: <http://www.kolbe-kolbe.com/mull>

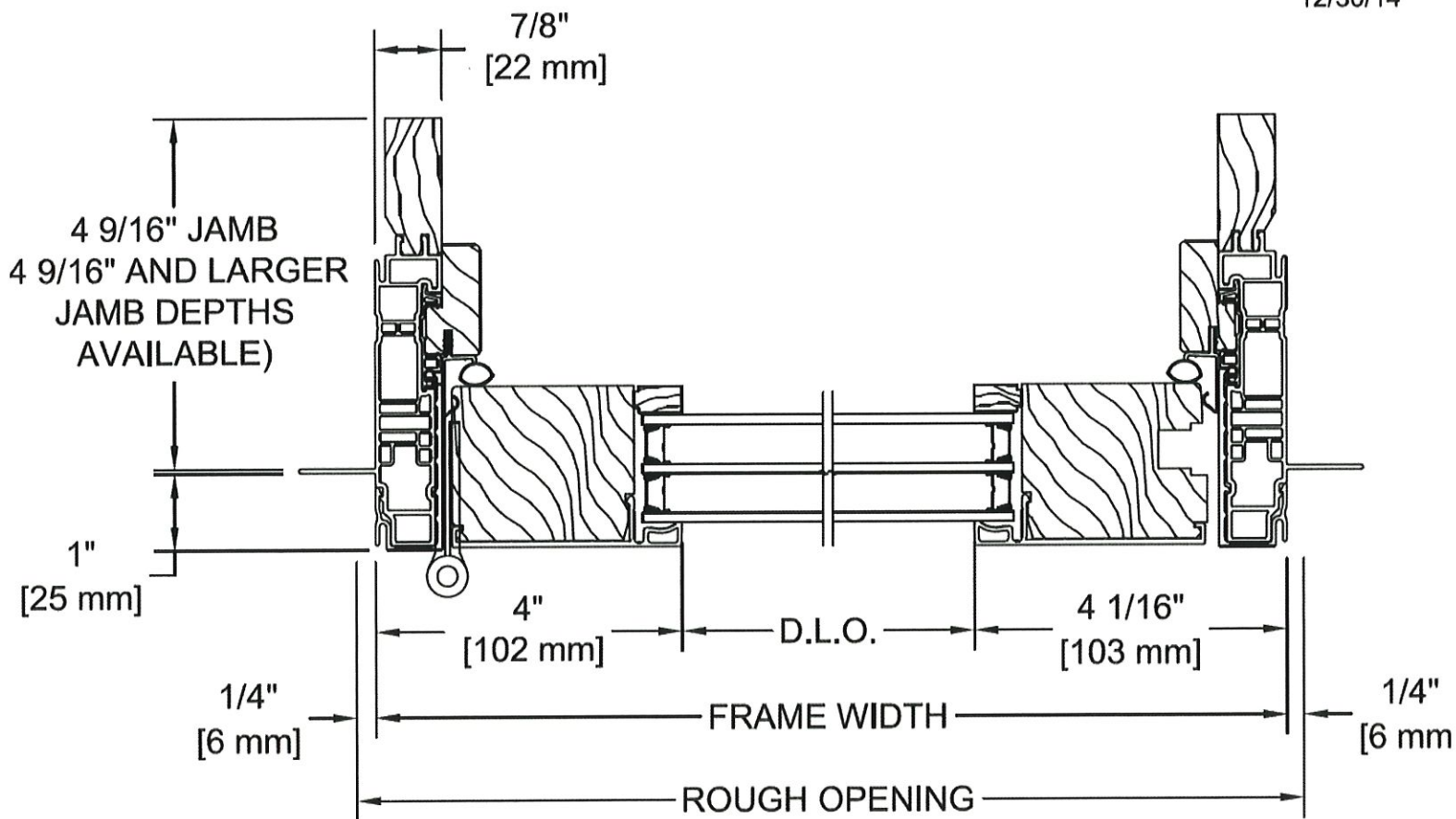
VISTALUXE™ COLLECTION - Flush Style

One-Wide Active Outswing Door with Triple Pane Glass & 2-1/8" Thick Panel

Horizontal Cross Section

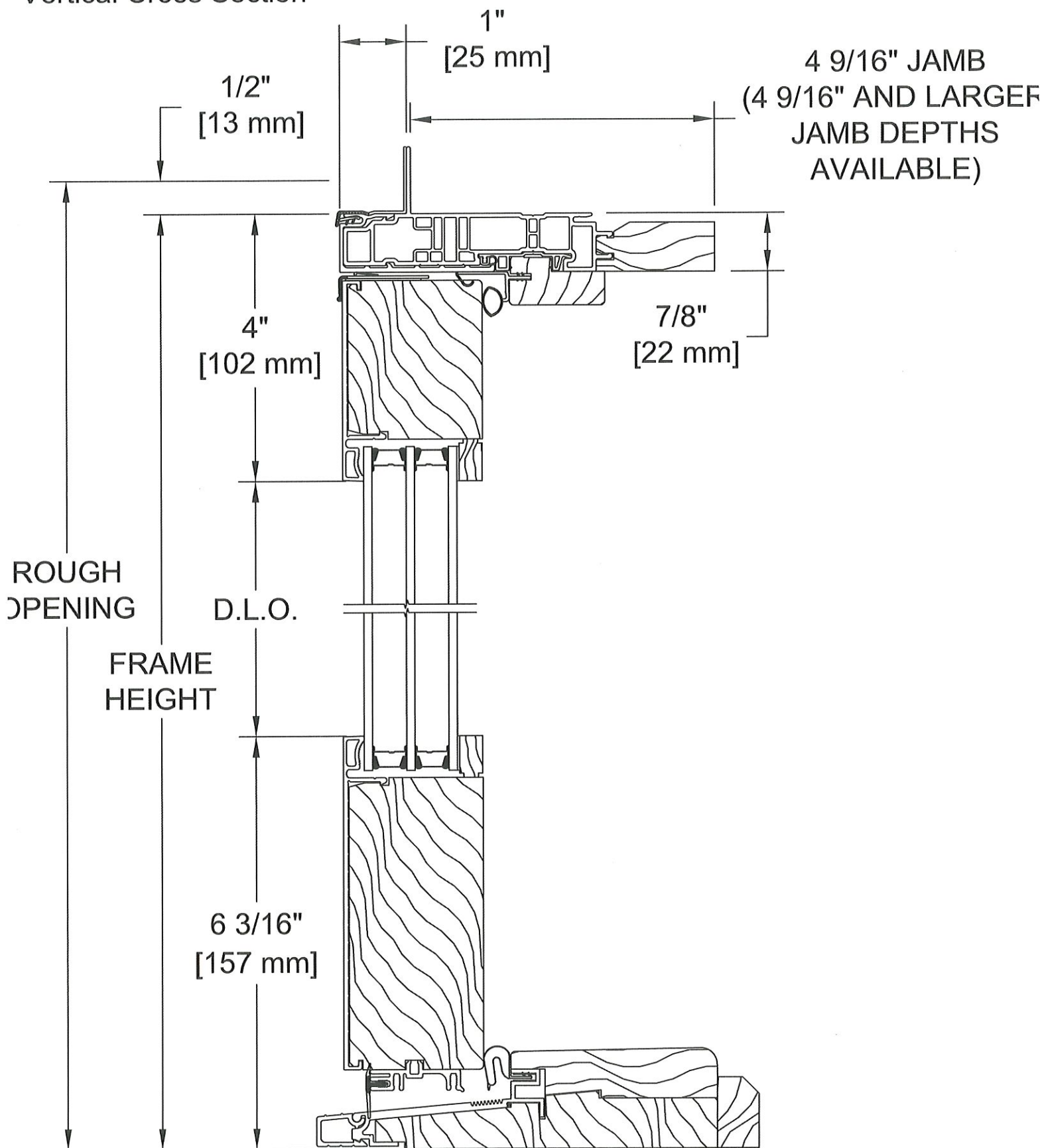
Kolbe® windows & doors

12/30/14



VISTALUXE™ COLLECTION - Flush Style
Active Outswing Door with Triple Pane Glass,
2-1/8" Thick Panel & Standard Sill
Vertical Cross Section

Kolbe® windows & doors
5/19/16



Horizontal Cross Section

Technical cross-section diagram of a window frame assembly. The diagram shows a central window unit (double-pane glass) held within a frame. The frame is mounted into a rough opening in a wall. The wall is shown in cross-section on both sides of the frame. The window unit is labeled with a height of $3 \frac{1}{8}"$ [79 mm] and a width of $1 \frac{9}{16}"$ [40 mm]. The frame is labeled with a width of $1 \frac{9}{16}"$ [40 mm]. The rough opening is labeled with a width of $7 \frac{7}{8}"$ [22 mm]. The diagram also shows the frame's depth, with a dimension of $1"$ [25 mm] for the frame's thickness and $\frac{1}{4}"$ [6 mm] for the frame's flange. The frame is labeled with a height of $3 \frac{1}{8}"$ [79 mm]. The diagram also shows the frame's depth, with a dimension of $1"$ [25 mm] for the frame's thickness and $\frac{1}{4}"$ [6 mm] for the frame's flange. The frame is labeled with a height of $3 \frac{1}{8}"$ [79 mm]. The diagram also shows the frame's depth, with a dimension of $1"$ [25 mm] for the frame's thickness and $\frac{1}{4}"$ [6 mm] for the frame's flange. The frame is labeled with a height of $3 \frac{1}{8}"$ [79 mm].

VISTALUXE™ COLLECTION - Flush Style
Direct Set with Triple Pane Glass & 3-1/8" Jamb
Vertical Cross Section

Kolbe® windows & doors
5/19/16

