

ANN ARBOR HISTORIC DISTRICT COMMISSION

Staff Report

ADDRESS: 309 South Main, Application Number HDC19-047

DISTRICT: Main Street Historic District

REPORT DATE: April 11, 2019

REPORT PREPARED BY: Jill Thacher, Historic Preservation Coordinator

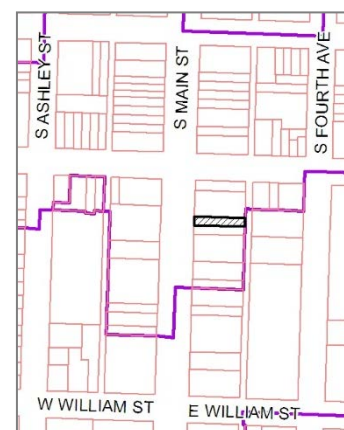
REVIEW COMMITTEE DATE: Monday, April 8, 2019

OWNER
Name: 309 S Main, LLC
Address: 1735 Fairview St
 Saline, MI 48176
Phone: (734) 645-5409

APPLICANT
 Chris Biggers
 127 E Commerce
 Milford, MI 48381
 (248) 886-4460

LOCATION: The site is located on the east side of South Main Street, south of E. Liberty and north of E. William. The most recent tenant was the Melting Pot restaurant.

BACKGROUND: The three-story building was constructed in 1866 in an Italianate vernacular style. It featured a prominent cornice and hooded arched windows. The original first floor tenant was Fred Gross Clothing.



305 & 309 (at right) S Main, pre-1871



309 S Main, 1958 (AADL Old News)

In 1916 the front of the building was altered to its current yellow brick façade. Photos from the 1950s show the building covered in metal panels. The tenant was Dietzel's Shoe Store, and the storefront had recessed show windows on either side. After Dietzel's closed in 1987, the storefront was removed and boarded up. Note the second floor window configuration.

In January 1992, the Commission granted permission to remodel the storefront by bringing it out flush with the front of the building in a wood framed design that matches that of 311 S Main next door.

Certificates of Appropriateness were issued by the HDC at their February and April, 2008 meetings to rebuild the storefront to its current configuration. The original proposal was to expose the brick columns on either side



309 S. Main, January 2008

of the storefront, but during demolition it was determined that the bricks on the south end had been damaged by epoxy. Rather than replace these bricks, the wood storefront was extended to cover the bricks on the north and south. (See March 2008 photos at end of report)

In 2010, the HDC approved a new roof deck exit stair on the rear elevation.

APPLICATION: The applicant seeks HDC approval to replace four single and two triple vinyl windows on the front elevation with aluminum clad windows; and replace the current wood storefront with an aluminum storefront system, two metal doors, and stone cladding surrounding the windows.

APPLICABLE REGULATIONS:

From the Secretary of the Interior's Standards for Rehabilitation:

- (1) A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
- (2) The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

- (9) New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

From the Secretary of the Interior's Guidelines for Rehabilitating Historic Buildings (other SOI Guidelines may also apply):

Storefronts

Recommended: Designing and constructing a new storefront when the historic storefront is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

Not Recommended: Introducing a new design that is incompatible in size, scale, material, and color.

Building Site

Not Recommended: Removing or radically changing buildings and their features or site features which are important in defining the overall historic character of the property so that, as a result, the character is diminished.

Windows

Recommended: Designing and installing new windows when the historic windows (frames, sash and glazing) are completely missing. The replacement windows may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the window openings and the historic character of the building.

Not Recommended: Introducing a new design that is incompatible with the historic character of the building.

From the Ann Arbor Historic District Design Guidelines:

Design Guidelines for Storefronts

Appropriate: Designing and constructing a new storefront when the historic storefront is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or may be a new design that is compatible with the size, scale, and material of the historic building. New designs should be flush with the façade and be kept as simple as possible.

Not Appropriate: Installing a new storefront that is incompatible in size and material with the historic building and district.

Signs

Appropriate: Installing signage in the historic sign band area of the building, typically the area above the transoms or just above the storefront.

Installing signage that is compatible in size, style, material, and appearance to the historic resource and district.

Placing signs to align with others along the commercial block face.

Installing signage that is subordinate to the overall building composition.

Windows

Appropriate: If a window is completely missing, replacing it with a new window based on accurate documentation of the original or a new design compatible with the original opening and the historic character of the building. Materials other than wood will be reviewed by the Commission on a case-by-case basis.

STAFF FINDINGS:

1. This building has had a number of modern storefronts, and the configuration of the storefront from the period of significance (after the 1916 façade remodel) is unknown. The proposed aluminum storefront and recessed doors are simple and appropriate. The proportions are appropriate and align reasonably well with adjacent storefronts. The cast stone cladding is a modern material that staff feels does not detract from the character of South Main Street and surrounding historic structures.
2. The sign band is being shown as the small yellow brick area above the new storefront. The signage is dimensioned on the plans and, if approved, will allow staff to approve future signage that does not exceed these dimensions, in this location. Any other signage must be reviewed by the HDC instead of staff.
3. The second and third story windows are vinyl. Photos from 1958 through the 1992 survey card (attached) show the same openings, with one-over-one single windows but triple windows with a larger fixed pane in the center flanked by smaller one-over-one windows. The application proposes three equal-width windows with a $\frac{3}{4}$ height sash (fixed or casement is not specified) over a $\frac{1}{4}$ height awning sash. These proportions have no historic basis on this building. It would be appropriate to install triple windows with proportions to match the existing, which match photos back to 1958, unless evidence is found of a different window style between 1916 and 1958. Visually, the 1958-1992 windows are more balanced and historically appropriate with the one-over-one windows flanking a single center window. Therefore, the motion proposed by staff includes this as a condition.
4. In summary, staff finds that the redesign of the storefront is appropriate and meets the Secretary of the Interior's Standards and Guidelines, and the Ann Arbor Historic District Design Guidelines. As conditioned, replacing the vinyl windows with aluminum-clad windows in the earlier proportions shown in photographs, is also appropriate.

POSSIBLE MOTIONS: (Note that the motion is only a suggestion. The Review Committee, consisting of staff and at least two Commissioners, will meet with the applicant on site and then make a recommendation at the meeting.)

I move that the Commission issue a certificate of appropriateness for the application at 309 S. Main Street, a contributing property in the Main Street Historic District to replace four single and two triple vinyl windows on the front elevation with aluminum clad windows, and replace the current wood storefront with an aluminum storefront system, two metal doors, and stone cladding surrounding the storefront windows, on the following conditions: that the triple windows replicate the proportions and style of windows shown in photographs from 1958-1992. The work as conditioned is compatible in exterior design, arrangement, texture, material and relationship to the rest of the building and the surrounding area and meets the *Ann Arbor Historic District Design Guidelines* for storefronts, windows, and signs, and *The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*, in particular standards 1, 2, and 9 and the guidelines for storefronts, windows, and building site.

MOTION WORKSHEET:

I move that the Commission issue a Certificate of Appropriateness for the work at 309 S. Main Street in the Main Street Historic District

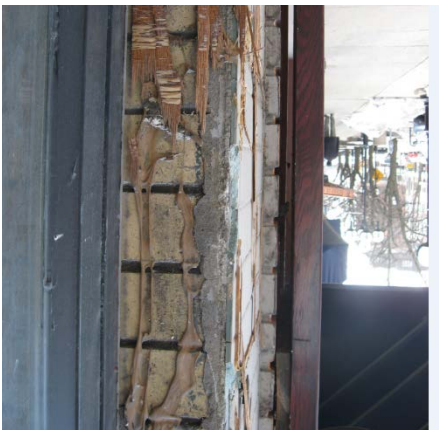
_____ Provided the following condition(S) is (ARE) met: 1) STATE CONDITION(s)

The work is generally compatible with the size, scale, massing, and materials and meets the Secretary of the Interior's Standards for Rehabilitation, standard(S) number(S) (*circle all that apply*): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

ATTACHMENTS: Wineberg history, survey sheets, application, photos, drawings

Additional Staff Photos

Bricks flanking storefront (March 2008)



HISTORY OF 309 S. MAIN STREET, ANN ARBOR, MICHIGAN

Researched and compiled by Susan Wineberg, Ann Arbor, Michigan, July 1987.

- Earliest photograph: 1860's photograph shows 309 at the far right. Probably taken by John Haarer from his photography studio in the Mack and Schmid Block at Liberty and Main.
- Earliest City Directory: 1868 lists George W. Moore, book-keeper for Bach and Abel, residing here. Have not been able to identify the first business. The address is listed as 57 S. Main. The 1860 City Directory has an H. Moore, carpenter, living on S. Main between Liberty and William, but we cannot be sure it is the same building.
- Earliest Map: 1866 Bird's Eye Map of Ann Arbor shows a commercial building at this site. The 1870 Surveyor's Map shows this in a different perspective.
- Later Maps: The Sanborn Insurance maps, which are an invaluable tool for the researcher, begin in the year 1888. This earliest Sanborn shows a commercial brick building at the site, numbered both 57 and 59 (when 307 S. Main was constructed in 1895, 309 became officially 59). This Sanborn also indicates music as the primary business here.
- Later City Directories: George W. Moore is listed as living here from 1868-1878. No tenant was located in the year 1883 and the tenant for the year 1886 was Reuben Kempf, music teacher, after whom the Kempf House is named. The 1888-89 City Directory lists J.P. Hoffman, dealer in pianos and organs and Mrs. S.L. Hoffman, music teacher *at #69. Reuben Kempf at 57.*
- From 1892-c.1915, the store was occupied by a series of millinery shops, all owned and run by women. In the early 1890's we have Miss Florence Sterrett and Miss Lena Michael; from 1898-1906, the shop is known as the Utopia Millinery Parlors, run by Miss Minnie Steinbach (see her biography in the 1906 pamphlet Ann Arbor, The Athens of the West, p. 9)
- From 1920-1930, Fred Gross had his clothing store here. Dr. Ganzhorn, physician and county coroner, had his offices here from 1920-1960's. From c. 1935-c 1955 Mr. Staeb carried on his clothing business with a number of partners. By 1960, Dietzel's Shoes occupied the commercial portion of the building.

SURVEY NAME SURVEY DATE BY

ADDRESS ³⁰⁹ 311 S. Main St.

HISTORIC NAME CURRENT NAME

LOCATION SECTION BLOCK PARCEL BUILDING

TYPE USE PRIMARY SECONDARY ORIGINAL ZONING

No. of FLOORS No. OCCUPIED CELLAR OCCUPIED ? ATTIC OCCUPIED ?

FRONT DIRECTION SURFACE MATERIAL ROOF COVERING

ITEMS TO BE GRADED - PUT A CHECK OR "X" IN THE APPROPRIATE SQUARE SPACE

STRUCTURAL CONDITION	GOOD	FAIR	POOR	
MAINTENANCE QUALITY	GOOD	FAIR	POOR	

ALTERATIONS	NONE or MINOR	MODERATE	EXTENSIVE	
	APPROPRIATE	INAPPROPRIATE		



PERIOD or STYLE			
DATE	ADD'N		
NATIONAL	IMPORT.		
LOCAL	EXCELLENCE		
NOTABLE			
WORTHY OF MENTION			
POOR			

INCIDENCE			
RARE			
MODERATE			
COMMON			

TOTAL		
CATEGORY		

PHOTO DATE	Fall 1992
BY	Kirk Huffaker
ROLL	12
FRAME	9

40
27

SURVEY DATE <i>6-28-73</i>		BY <i>MENECHINI / O</i>		ADDRESS <i>309 S. MAIN</i>	
HISTORIC NAME			CURRENT NAME <i>DIETZEL'S</i>		
LOCATION	SECTION	BLOCK	PARCEL	BUILDING	

TYPE <i>BUDG</i>	USE	PRIMARY <i>2.1</i>	SECONDARY <i>2.2</i>	ORIGINAL <i>SAME</i>	ZONING <i>C2A</i>
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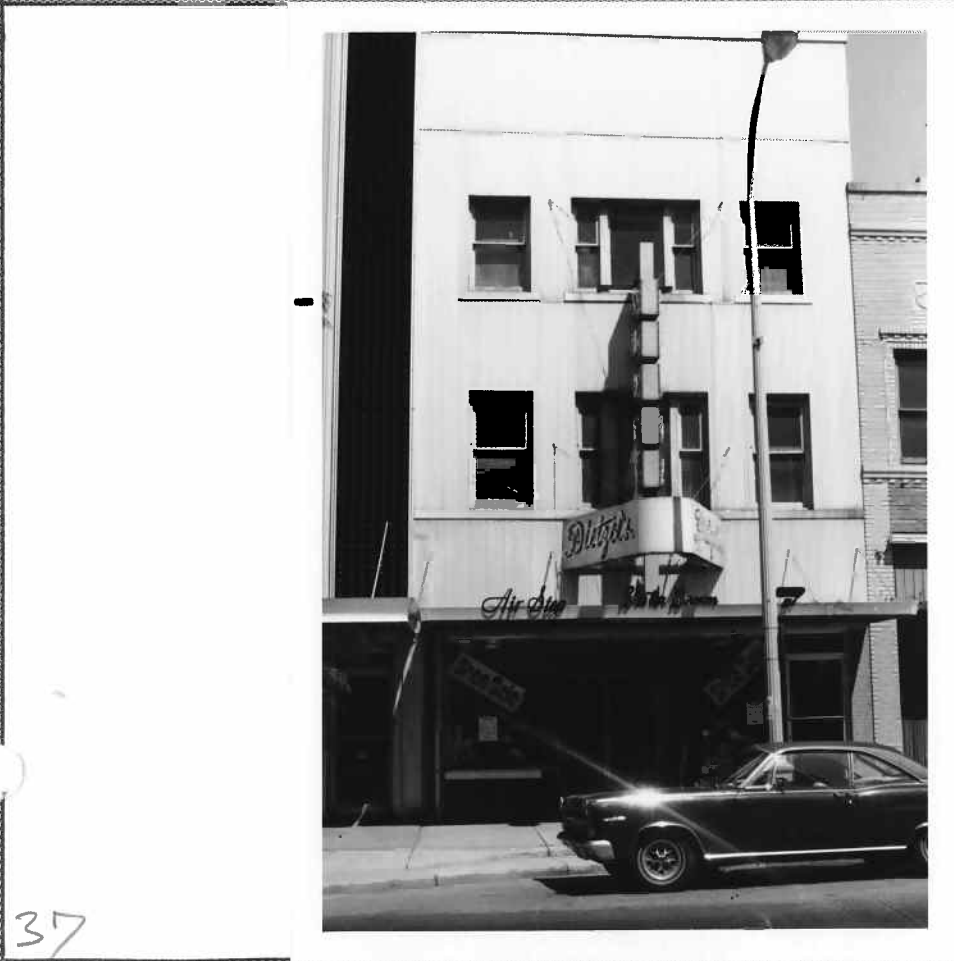
SURFACE MATERIAL <i>ALUM</i>	No. of FLOORS <i>3</i>	No. OCCUPIED	FRONT DIRECTION <i>W</i>
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ITEMS TO BE GRADED - PUT CHECK OR "X" IN APPROPRIATE SQUARE SPACE

EFFECT OF THE SURROUNDINGS ON THE BUILDING			
GOOD	MODERATE	<input checked="" type="checkbox"/> NEUTRAL	DETRIMENTAL

STRL CONDITION	GOOD	<input checked="" type="checkbox"/> FAIR	POOR
MAINTENANCE	GOOD	<input checked="" type="checkbox"/> FAIR	POOR

ALTERATIONS	NONE or MINOR	MODERATE	<input checked="" type="checkbox"/> EXTENSIVE
	APPROPRIATE	INAPPROPRIATE	<input checked="" type="checkbox"/>

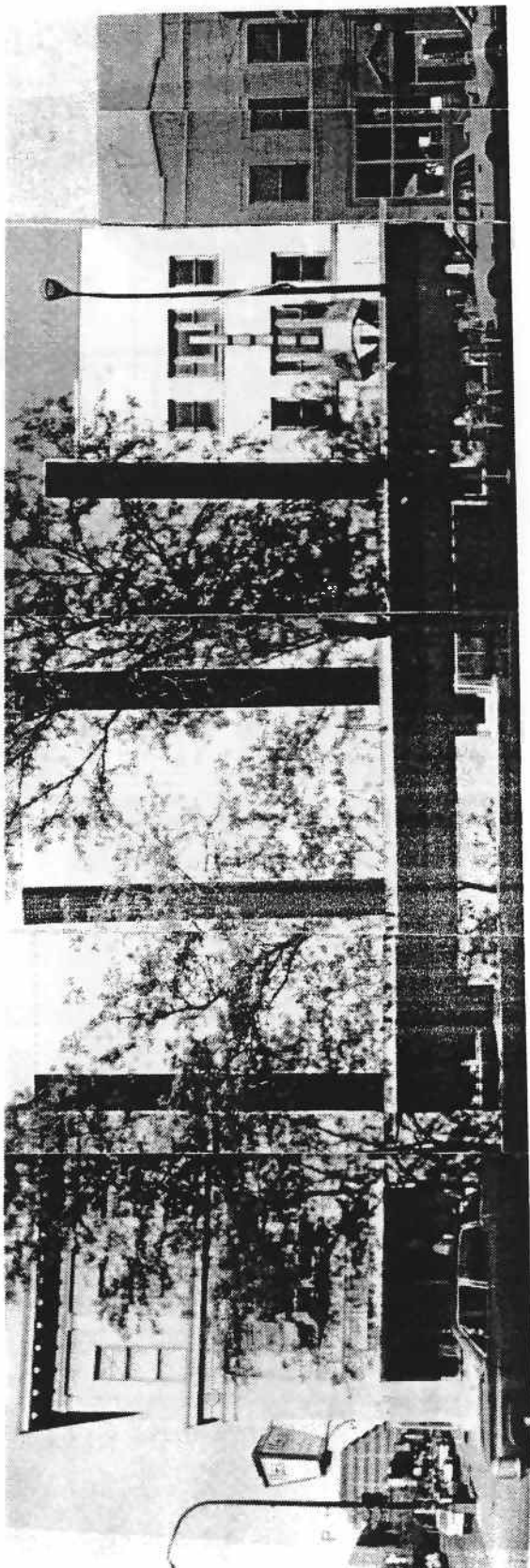


PERIOD or STYLE			
<i>Mod. - No</i>			
DATE	ADD'N		
NATIONAL	IMPORT.		
LOCAL	EXCELLENCE		
NOTABLE			
WORTHY OF MENTION			
POOR			

INCIDENCE			
RARE			
MODERATE			
COMMON			

TOTAL		
CATEGORY		

PHOTO DATE <i>6 June 73</i>
BY <i>KM</i>
ROLL <i>14</i> FRAME <i>10</i>



(N) 311-317 310-25 327

*301 303 305 307 309 311

SOUTH MAIN STREET (east side, part IV) Main Street Historic District

Year	Owner/Use	Year	Year	Year	Year	
(1880) 1906	(J. Baumgartner) German /American Savings Bank	1871	1866	1895	(1866) 1916	1930
	Henry Binder saloon	Henry Binder saloon	J. Laubengayer meats	Anton Teufel harness	Fred Gross clothing	Muehlig & Lanphear hardware
	Hutzel's	Lucky Drug's		Manika's Restaurant	vacant	City Grill
	Colonial Revival	Italianate (covered)			Commercial Vernacular	Commercial Vernacular
	three	three			three	two
	brick	brick			brick	brick
	double-hung, one-over-one, transoms	covered			double-hung, one-over-one	double-hung, one-over-one
	cornices, pilasters, bay window	round & segmented arches			none	stone trim, tapestry brick



HISTORIC DISTRICT COMMISSION

PLANNING AND DEVELOPMENT SERVICES

City Hall: 301 E. Huron St. Ann Arbor, MI 48104-6120
 Mailing: P.O. Box 8647, Ann Arbor, MI 48107-8647
 Phone: 734.794.6265 ext. 42608 jthacher@a2gov.org
 Fax: 734.994.8460

OFFICE USE ONLY	
Permit Number	HDC# 19-047
	BLDG#
DATE STAMP	
CITY OF ANN ARBOR RECEIVED	
APR 01 2019	
PLANNING & DEVELOPMENT SERVICES	

APPLICATION MUST BE FILLED OUT COMPLETELY

PROPERTY LOCATION/OWNER INFORMATION			
NAME OF PROPERTY OWNER 309 S MAIN LLC		HISTORIC DISTRICT D1	
PROPERTY ADDRESS 309 S MAIN ST.			CITY ANN ARBOR
ZIP CODE	DAYTIME PHONE NUMBER (734) 645-5409	EMAIL ADDRESS MGULVEZAN@GMAIL.COM	
PROPERTY OWNER'S ADDRESS (IF DIFFERENT FROM ABOVE) 1735 FAIRVIEW ST.		CITY SALINE	STATE, ZIP 48176
PROPERTY OWNER'S SIGNATURE			
SIGN HERE	PRINT NAME MAGDALENA GULVEZAN		DATE 3-28-2019
APPLICANT INFORMATION			
NAME OF APPLICANT (IF DIFFERENT FROM ABOVE) CHRIS BIGGERS			
ADDRESS OF APPLICANT 127 E COMMERCE ST			CITY MILFORD
STATE MI	ZIP CODE 48381	PHONE / CELL # 248-886-4460	FAX No ()
EMAIL ADDRESS CB@BIGGDESIGNS.COM			
APPLICANT'S SIGNATURE (if different from Property Owner)			
SIGN HERE	PRINT NAME CHRIS BIGGERS		DATE 3/27/2019
BUILDING USE - CHECK ALL THAT APPLY			
<input type="checkbox"/> SINGLE FAMILY	<input type="checkbox"/> DUPLEX	<input type="checkbox"/> RENTAL	<input type="checkbox"/> MULTIPLE FAMILY <input checked="" type="checkbox"/> COMMERCIAL <input type="checkbox"/> INSTITUTIONAL
PROPOSED WORK			
Describe in detail each proposed exterior alteration, improvement and/or repair (use additional paper, if necessary).			
REPLACEMENT OF EXIST. VINYL WINDOWS			
REPLACEMENT OF EXIST. STOREFRONT FOR NEW EGRESS STAIRS REQUIRED BY CODE FOR 2ND FLOOR OCCUPANCY. NEW CAST STONE IS PROPOSED TO REPLACE THE EXISTING WOOD FACADE.			
EXIST. BRICK TO REMAIN AS-IS			
DESCRIBE CONDITIONS THAT JUSTIFY THE PROPOSED CHANGES:			
EXISTING VINYL WINDOWS ARE LEAKING, BROKEN, AND BEYOND REPAIR. THE VINYL WINDOWS WERE AN IN-EXPENSIVE WINDOW REPLACEMENT AT THE TIME AND ARE PAST ALL WARRANTY AND LIFE SPAN.			
A NEW EXIT STAIR IS REQUIRE TO ALLOW 2ND FLOOR TENANT OCCUPANCY. THE EXISTING STAIR IS IS CENTERED IN THE FIRST FLOOR AND CODE REQUIRES A DIRECT EXIT TO THE STREET FORCING STORE TO BE REPLACED.			



HISTORIC DISTRICT COMMISSION APPLICATION

FEE CHART

DESCRIPTION	
STAFF REVIEW FEES	FEE
Application for Staff Approval	\$35.00
Work started without approvals	Additional \$50.00
HISTORIC DISTRICT COMMISSION FEES	
All other proposed work not listed below	\$100.00
Work started without approvals	Additional \$250.00
RESIDENTIAL – Single and 2-story Structure	
Addition: single story	\$300.00
Addition: taller than single story	\$550.00
New Structure - Accessory	\$100.00
New Structure – Principal	\$850.00
Replacement of single and 2-family window(s)	\$100 + \$25/window
COMMERCIAL – includes multi-family (3 or more unit) structures	
Additions	\$700.00
Replacement of multi-family and commercial window (s)	\$100 + \$50/window
Replacement of commercial storefront	\$250.00
DEMOLITION and RELOCATION	
Demolition of a contributing structure	\$1000.0
Demolition of a non-contributing structure	\$250.00
Relocation of a contributing structure	\$750.00
Relocation of a non-contributing structure	\$250.00

FOR COMMISSION REVIEWS:

- Application withdrawals made before public notice is published will qualify for a 50% refund of the application fee.
- Application withdrawals made after public notice is sent but before the public hearing will qualify for a 25% refund of the application fee.

INSTRUCTIONS FOR SUBMITTING APPLICATIONS

All HDC applications must be signed by the property owner and the applicant, if different, with the exception of staff approvals, which may be signed by only the applicant.

All completed HDC applications and their attachments may be submitted to Planning and Development Services by mail, in person (paper or digital), faxed, or via email to building@a2gov.org.

We accept CASH, CHECK, and all major credit cards. Checks should be made payable to "City of Ann Arbor"

HDC applications that are incomplete or not submitted with the required documentation or payment will not be processed or approved.

APPLICATION EXPIRATION

HDC applications expire three (3) years after the date of approval.

OFFICE USE ONLY

Date of Hearing:		
Action	<input type="checkbox"/> HDC COA	<input type="checkbox"/> HDC Denial
	<input type="checkbox"/> HDC NTP	<input type="checkbox"/> Staff COA
Staff Signature		
Comments		
Fee:	\$ <u>100</u>	
Payment Type	<input type="checkbox"/> Check: # _____ <input type="checkbox"/> Cash <input checked="" type="checkbox"/> Credit Card	



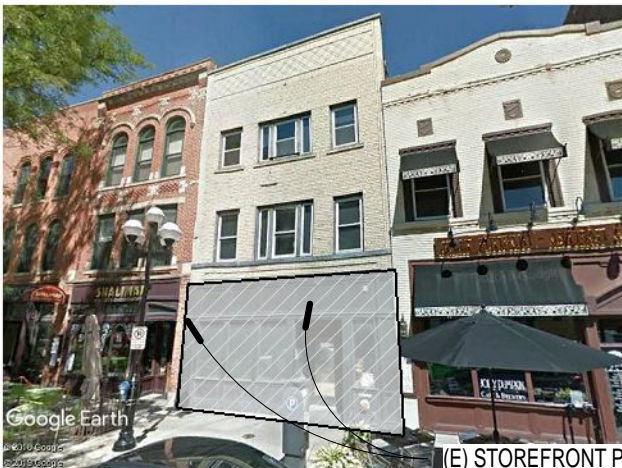
(E) STOREFRONT



SHALIMAR

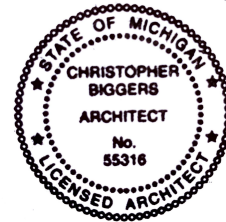


JOLLY PUMPKIN



(E) STOREFRONT PROPORTIONS TO REMAIN IN (N) STOREFRONT

(E) STREET VIEW

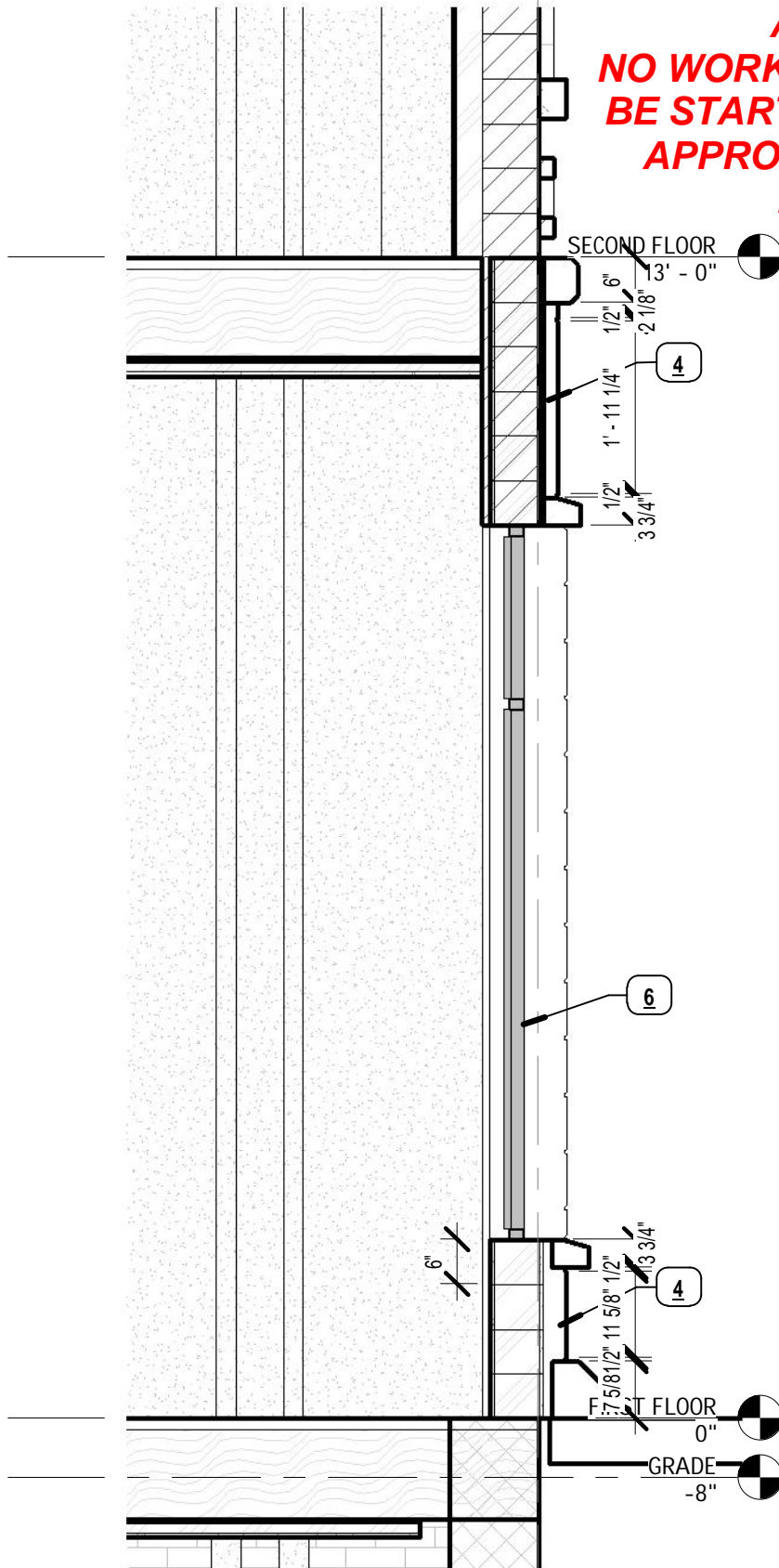


BIGGDESIGNSLLC
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248.886.4460

18263
PHASE II: 309 S
MAIN, LLC.
PERMIT (WHITE
BOX)
STOREFRONT
TYPOLOGIES
04/02/19

HDC-1

**NOTE: MAIN STREET FACADE
WORK IS SUBJECT TO HDC
APPROVAL.
NO WORK ON FACADE SHALL
BE STARTED UNTIL WRITTEN
APPROVAL FROM HDC IS
PROVIDED.**



Christopher Biggers

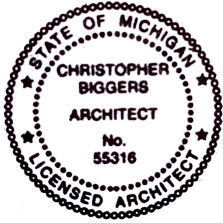


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18263
PHASE II: 309 S
MAIN, LLC.
PERMIT (WHITE
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STOREFRONT
DETAILS
04/03/19

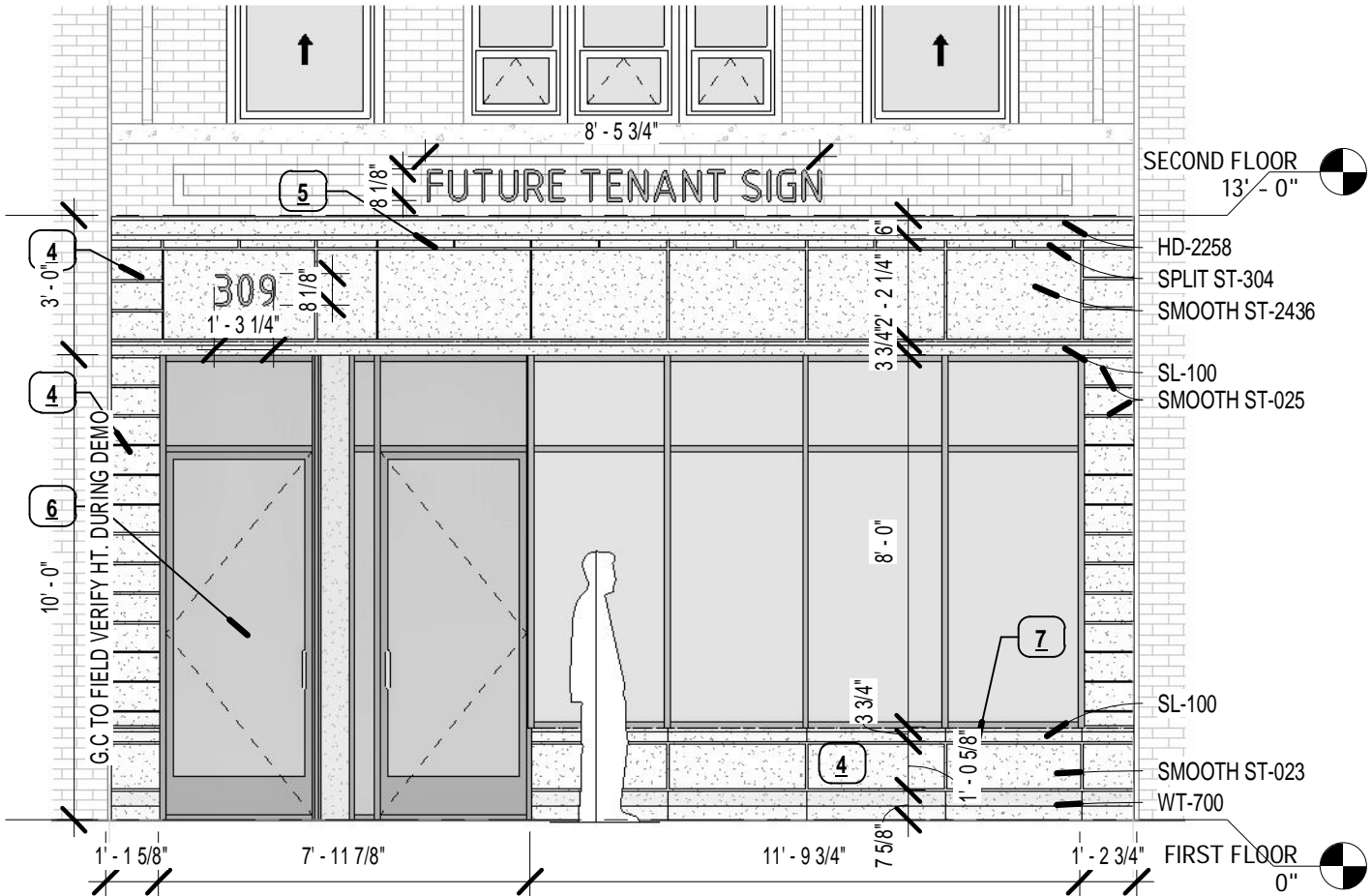
1 SECTION TRHU STOREFRONT
1/2" = 1'-0"

HDC-1.2



Christopher Biggers

**NOTE: MAIN STREET FACADE
WORK IS SUBJECT TO HDC
APPROVAL.
NO WORK ON FACADE SHALL
BE STARTED UNTIL WRITTEN
APPROVAL FROM HDC IS
PROVIDED.**



STORE FRONT ELEVATION

1/4" = 1'-0"

ELEVATION NOTES

TAG	NOTE CONTENT
1	(E) BRICK TO BE CLEANED + REPAIRED AS REQ'D.
2	(E) CONC. SILL TO REMAIN
3	(N) WINDOWS FIELD MEASURE EXISTING OPENINGS PRIOR TO ORDER (REFER TO HDC SHEETS)
4	PRE-CAST STONE (REFER TO HDC SHEETS)
5	SIGNAGE BY TENANT- UNDER SEPARATE PERMIT
6	ALUMINUM FRAME STOREFRONT WITH 1" INSULATED GLASS
7	(E) FDC TO REMAIN
8	INSULATED DUCTS PAINTED TO MATCH BUILDING
9	(E) ROOF ACCESS LADDER
10	(E) ACCESS LADDER TO REMAIN

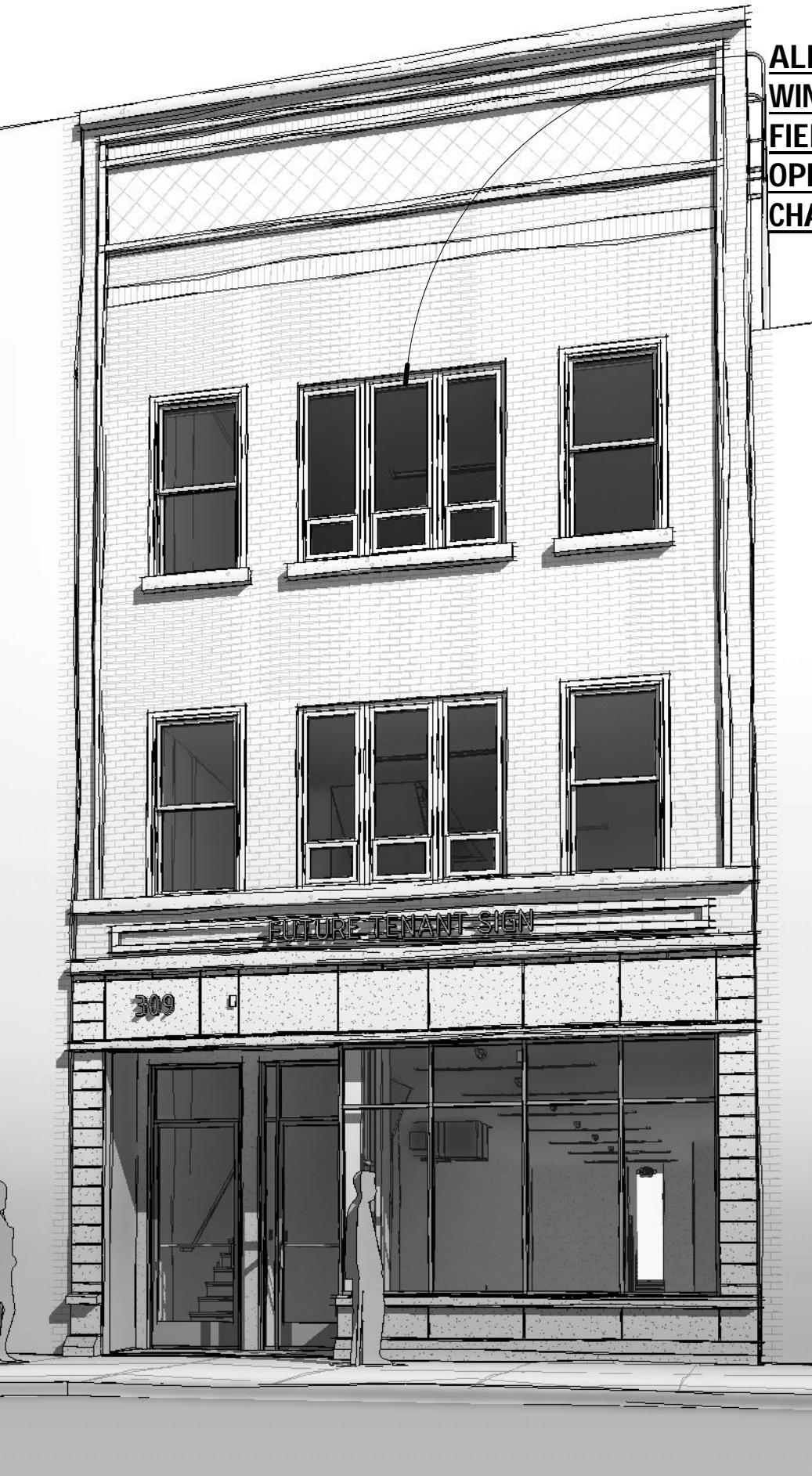


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**18263
PHASE II: 309 S
MAIN, LLC.
PERMIT (WHITE
BOX)
STOREFRONT
DETAIL
04/03/19**

HDC-1.3

**ALL (E) POST 1950 VINYL
WINDOWS TO BE REPLACED.
FIELD VERIFY SIZE. WINDOW
OPENING SIZES SHALL NOT
CHANGE.**



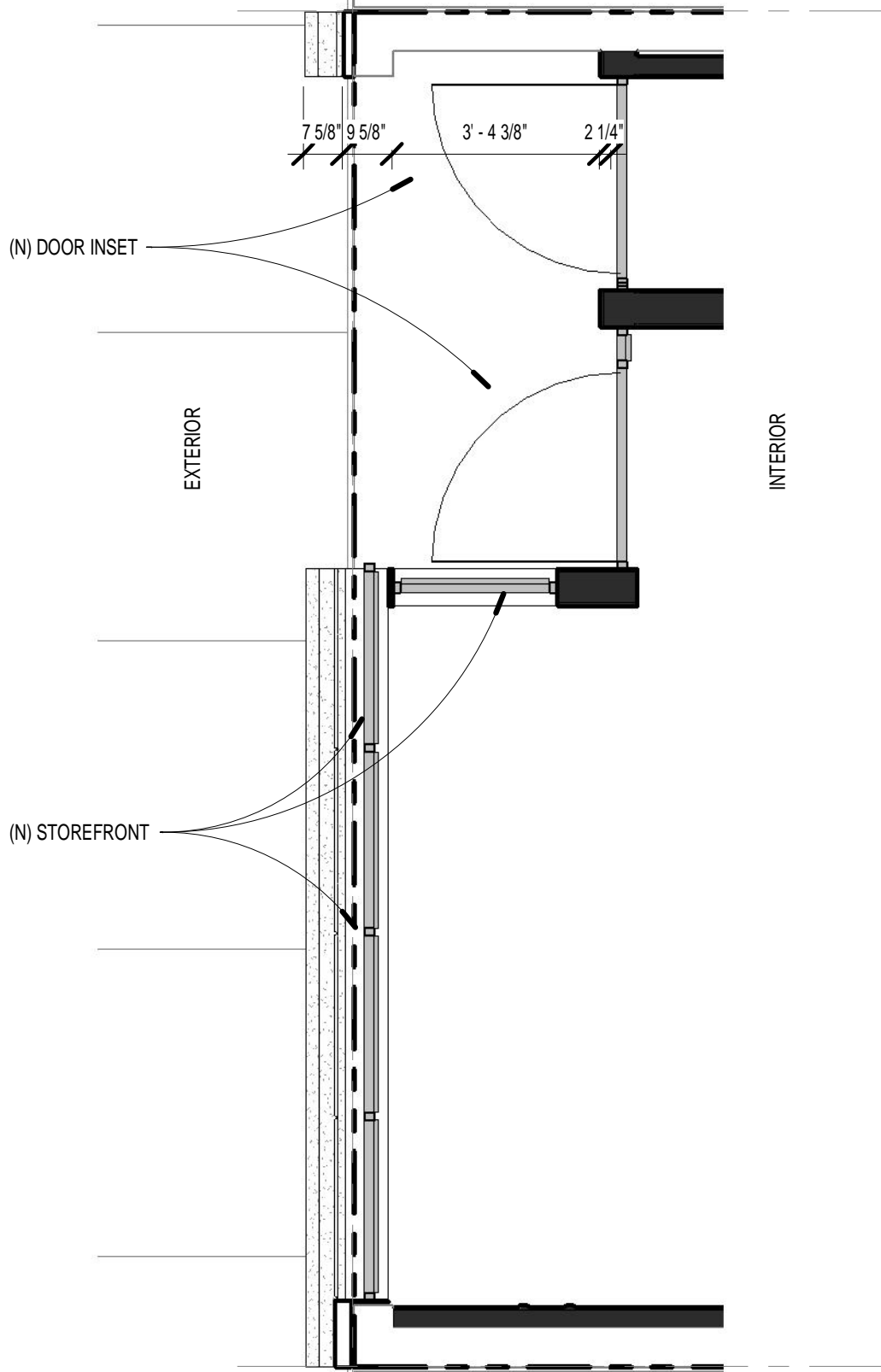
Christopher Biggers



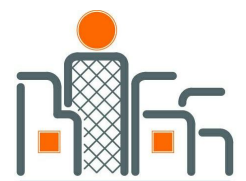
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18263
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MAIN, LLC.
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BOX)
STOREFRONT
DETAILS
04/03/19

(N) STOREFRONT PERSPECTIVE



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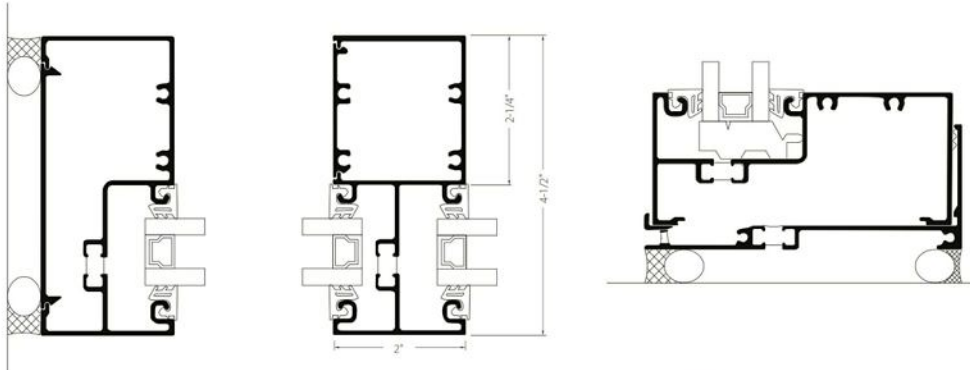
18263
 PHASE II: 309 S
 MAIN, LLC.
 PERMIT (WHITE
 BOX)
 STOREFRONT
 DETAILS
 04/02/19

1 FIRST FLOOR PLAN - STOREFRONT PROFILE

3/8" = 1'-0"

HDC-1.5

14000 I/O Series Multiplane Storefront Framing

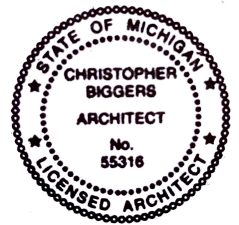


System Features:

- Standard 2" (50.8mm) sight-line on verticals and horizontals
- 4-1/2" (114.3mm) system depth
- Single Pour & Debridge thermal break with Azon's Lancer® mechanical lock
- EPDM wedge type gaskets for 1" glass or panel thickness

Optional Features:

- Screw-spline or shear block connections
- Steel reinforcing if required
- Easily integrates with standard or thermal doors, operable vent windows & sun shades
- 7 anodized and 19 painted standard finishes
- Curved Headers
- Non-thermal Framing
- In-board, Centered, or Out-board glass plane
- Silicone Glazed Vertical



Christopher Biggers

14000 I/O Series Product Specifications

See Tubelite's Test Reports for mock up sizes and test conditions.

Application: Low-rise commercial buildings: retail, office, healthcare, schools, etc

Description: 2" x 4-1/2" multiplane outside or inside flush glazed storefront

Face Width:	System Depth:	Glass:	Air Infiltration:	Water Infiltration:	Structural:	CRF:	U-Value:	Acoustic:
2"	4-1/2"	1" std (1/8" - 1-1/8")	0.06 CFM/Ft.2 @ 6.24 PSF	10 PSF - Inside Plane 12 PSF - Outside Plane	30 PSF - Design 45 PSF - Overload	52, 61 _o - Inside Plane 67, 69 _o - Outside Plane 64, 63 _o - Outside Plane SSG	0.33 - Inside Plane 0.35 - Outside Plane 0.32 - Outside Plane SSG	STC 32 OITC 26

DISCLAIMER: Tubelite takes no responsibility for product selection or application, including, but not limited to, compliance with building codes, safety codes, laws, merchantability or fitness for a particular purpose; and further disclaims all liability for the use, in whole or in part, of this Technical Guide in preparation of project specifications and/or other documents. Technical Guides are subject to change at any time, without notice, and at Tubelite's sole discretion. ©2017 Tubelite Inc.

3056 Walker Ridge Drive NW, Suite G, Walker, MI 49544

TUBELITE
DEPENDABLE
LEADERS IN ECO-EFFICIENT STOREFRONT,
CURTAINWALL, AND ENTRANCE SYSTEMS



ARCHITECTURE

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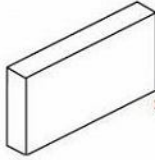
18263
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BOX)
FACADE SPECS
04/03/19

(D) 3 $\frac{5}{8}$ " x (H) 3 $\frac{5}{8}$ " x (L) 23 $\frac{5}{8}$ "



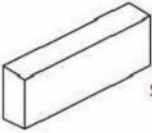
Split ST304

(D) 4 $\frac{1}{8}$ " x (H) 1 1 $\frac{1}{8}$ " x (L) 23 $\frac{5}{8}$ "



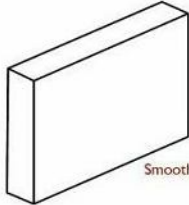
Smooth ST023

(D) 4 $\frac{1}{8}$ " x (H) 7 $\frac{5}{8}$ " x (L) 23 $\frac{5}{8}$ "

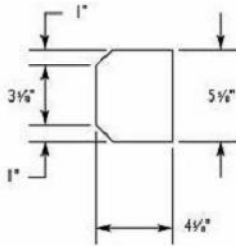


Smooth ST025

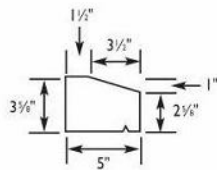
(D) 3 $\frac{1}{8}$ " x (H) 23 $\frac{1}{8}$ " x (L) 35 $\frac{1}{8}$ "



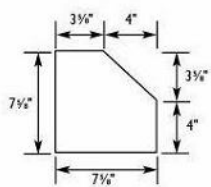
Smooth ST2436



HD2258



SL100



WT700

GET READY FOR ROCKCAST[®]!



RockCast, a product of Reading Rock, Inc.[®] one of the nation's largest cast stone producers, is developed with a spirit of continuous innovation and tested with the highest standards in the industry. Our complete line of RockCast Architectural Stone products; Architectural Masonry Veneer, Thin Veneer, Lightweight Series, Custom Cast Stone, Precast, Ashlar Series, and Caliza Stone Series are created from similar mix designs giving you design solutions that are more versatile, more economical, and ready when you need them.

ROCKCAST READY — A CUSTOM LOOK WITHOUT THE WAIT!

For a custom look on your project, use RockCast Ready and select your profiles from this RockCast Ready Shape Catalog. With RockCast Ready, we offer a large selection of pre-engineered, standard-length pieces available in the fastest delivery time.

READY SHAPE CATALOG LEAD TIMES

➤ **TODAY** – RockCast Architectural Masonry Veneer Series 8" Smooth and 8" Chiseled are available in limited quantities in Buffstone and ready to ship today!

➤ **TODAY** – Custom Cast Stone catalog items in Buffstone & Crystal White, as indicated on published price list, are available and in stock to get your project started, today!

➤ 3 WEEKS

• RockCast Architectural Masonry Veneer units in 12 monotone and 10 blended colors; various textures — Smooth, Chiseled, Split, Chamfered, Slate.

• Custom Cast Stone profiles in 12 monotone and 10 blended colors from our Ready Shape catalog selection.

➤ 5+ WEEKS

• Caliza Stone Series is available in Smooth, Split, and Chiseled textures; 4 monotone and 4 blended colors in 5 - 6 weeks.

• Dimensional Stone (machine made) units can be manufactured for Ashlar Patterns and are available in 5 - 6 weeks.

• RockCast Architectural Masonry Veneer products in Chiseled Tumbled texture are available in all sizes (4", 6", 8" and 12") in random lengths. Various patterns are available depending on the sizes used.

• Caliza Stone Series is available in Chiseled Tumbled texture and available in all sizes (4", 6", 8" and 12") in random lengths. Various patterns are available depending on the sizes used.

• All RockCast and Caliza Stone units in Smooth, Split and Chiseled textures can be manufactured for the Cut Stone Program. Patterns are limited only by your imagination. Please consult your sales representative for Ashlar pattern options.

Save time and money by using RockCast Ready and choose from the profile options outlined within this catalog. Simply complete our Easy Order form, available online at www.readingrock.com, and fax it to 513.874.2361.

SERVICE PROGRAM	1. QUOTE*	2. SHOP DRAWINGS	3. DELIVERY LEAD TIME
READY	PUBLISHED PRICE LIST	1 WORKING DAY	STOCK OR 3-5 WEEKS

*Material take-off estimates from plan sets are available as an optional service. Complete plans and specifications are required for all material take-off estimates. Take-off estimates will be completed in seven working days. Lead time on take-off estimates for intricate or large custom cast stone projects will be quoted by the project upon receipt of plans.

**If layout drawings are requested at any time during this program the lead times default to those as outlined in the RockCast Plus or Merit program and a new quoted price will apply.

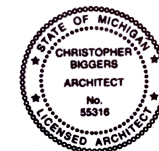
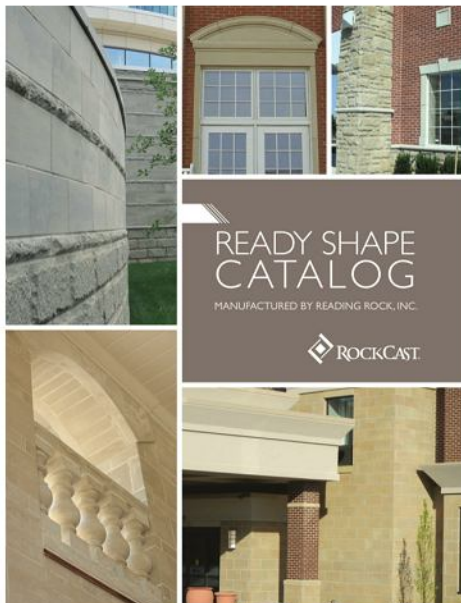
RockCast products are available to be modified or customized for your project. We offer estimating services as well as layout drawings so field cutting is left to a minimum. Our in-house technical services department is available to help with your design or technical questions.



Reading Rock proudly supports the development of green product innovations and is committed to developing and improving our entire product line with respect to the environment. Our commitment to sustainability and environmental responsibility involves our every process and product. Reading Rock was one of the first cast stone manufacturers to devote resources to products with supplementary cementitious materials (SCM).

LIFETIME WARRANTY

Reading Rock, Inc. warrants its products to meet ASTM manufacturing guidelines and specifications provided the products have been installed, used and maintained according to accepted ASTM masonry standards and as recommended by the manufacturer. (For complete warranty information, please see the Reading Rock, Inc. Terms and Conditions of Sale on www.readingrock.com).



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14000 I/O Series Multiplane Storefront Framing

Glass or panels can be positioned to the inboard (I) or outboard (O) side of the 4-1/2" depth frame to achieve the look you imagine. Typical glass thickness is 1", and can be installed from the outside or inside of the building. Special glazing pocket reducers allow the use of 1/4" infill thicknesses, too.

14000 I/O Series Multiplane Storefront Framing thermal barrier insulates exterior surfaces from the interior to minimize temperature transfer. This provides industry accepted performance for condensation resistance and energy performance.

Using the same design, assembly, and accessories as the 14000 center glazed system allows combining inboard, outboard and center planes of glass in the same elevation with the same great performance.



Standard Medium
Stile Entrances

ALSO
USED
WITH



200 Series
Curtainwall

TUBELITE®
DEPENDABLE

LEADERS IN ECO-EFFICIENT STOREFRONT,
CURTAINWALL AND ENTRANCE SYSTEMS



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PRODUCT SELECTION GUIDE
Size and Performance Data
Sound Transmission Class / OITC



SIZES		Clad
Standard double-hung vent/fixed sizes		•
Transom sizes		•
Egress sizes		•
Special sizes available		•
PERFORMANCE 1		
Meets or Exceeds AAMA/WDMA Ratings		H-LC30-LC50 Hallmark Certified
Air Infiltration (cfm/ft ² of frame @ 1.57 psf wind pressure) ₂		0.11
Water Resistance		7.5 psf
Design Pressure		30-50 psf
OTHER PERFORMANCE CRITERIA		
Forced Entry Resistance Level (Minimum Security Grade) ₃		10
Operating Force (lb) Initiate Motion / Maintain Motion (of Hallmark tested size and glazing) ₄		40/40

Product	Frame Size Tested ₅	Glazing System				STC Rating	OITC Rating
		Overall Glazing Thickness	Exterior Glass Thickness	Interior Glass Thickness	Third Pane Thickness (HGP)		
PELLA 450 SERIES CLAD DOUBLE-HUNG	37" x 59"	11/16"	2.5mm	2.5mm	-	25	22

(-) = Not Available

(1) Maximum performance for single unit when glazed with the appropriate glass thickness. See Design Data pages in this section for specific product performance class and grade values.

(2) Published performance data for air infiltration is determined by testing a minimum of four (4) products of NFRC model size. Testing is conducted in accordance with ASTM E283. Air infiltration ratings for products will differ by size. The performance data does not apply to combination assemblies unless noted. Actual product performance may vary for a number of reasons including installation and product care.

(3) The higher the level, the greater the product's ability to resist forced entry.

(4) Glazing configurations may result in higher operational forces.

(5) ASTM E 1425 defines standard sizes for acoustical testing. Ratings achieved at that size are representative of all sizes of the same configuration.




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DOUBLE HUNG
SPECS
04/03/19

1 WINDOWS SPECS 1

12" = 1'-0"

HDC-3



DOUBLE-HUNG

PRODUCT SELECTION GUIDE
Features and Options



STANDARD	OPTIONS / UPGRADES
GLAZING	
Glazing Type	
Dual-Pane Insulating Glass	–
Insulated Glass Options/Low-E Types	
	SunDefense™ Low-E
Advanced Low-E	AdvancedComfort Low-E
	NaturalSun Low-E
Additional Glass Options	
Annealed Glass	Tempered Glass
	Obscure Glass ₁
Gas Fill/High Altitude	
Argon	High altitude (Air-filled only)
EXTERIOR	
EnduraClad® protective finish	–
Cladding Colors	
10 Standard colors ₁	–
INTERIOR	
	Factory primed
Unfinished wood	Factory prefinished paint ₁
	Factory prefinished stain ₁
WOOD TYPES	
Pine	–
HARDWARE	
Finishes	
Champagne, White or Brown	Matte Black, Oil Rubbed Bronze, Satin Nickel
Sash Locks/Sash Lifts	
Cam-action lock	Sash lifts ₂
Tilt-Wash Cleaning	
Tilt to interior on both sashes	–
GRILLES	
Roomside Removable Grilles	
–	Traditional
Grilles-Between-the-Glass	
–	Traditional, Prairie, Cross, Top Row ₁ , Custom-Equally Divided
Simulated Divided Light with Optional Spacer₃	
–	Traditional, Prairie, Cross, Top Row, Custom-Equally Divided
SCREENS	
–	Full-Size InView™ screens and Vivid View® screens




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SPECS
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HDC-3.1

(1) Contact your local Pella sales representative for current color options.

(2) Sold separately for Pella® 450 Series double-hung windows.

(3) Available with Low-E argon-insulated glass only.

1 WINDOW SPECS 3.1
1/2" = 1'-0"

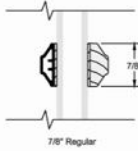


GRILLE TYPES
Typical Grille Profiles and Patterns

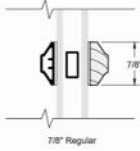


GRILLE PROFILES

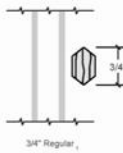
Simulated-Divided-Light Grilles



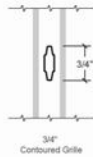
Simulated-Divided-Light Grilles with optional spacer



Roomside Removable Grilles

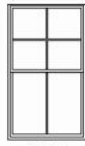
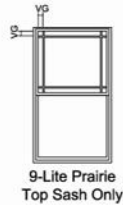
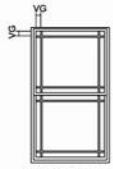


Grilles-Between-the-Glass



GRILLE PATTERNS

Grilles-Between-the-Glass and Simulated-Divided-Light Grilles



- 9-Lite Prairie**
 - Standard corner lite dimension for Prairie patterns = 2-1/2" VG.
 - Available in transoms ≥ 1'3" height and width.
- Cross**
 - Minimum DH frame height 35".
 - Horizontal bar will be at 1/2" of the VG height of the top sash.
- Top Row**
 - Minimum DH frame height 35".
 - Horizontal bar will be at 1/2" of the VG height of the top sash.

For traditional patterns, see size tables.



VG = Visible Glass
(1) Grilles are available in traditional patterns only.
Lite dimensions noted can vary.
For size and pattern availability contact your local Pella sales representative.



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1 WINDOW SPECS 3.2
1/2" = 1'-0"

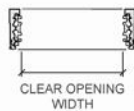


DESIGN DATA
Aluminum-Clad Exterior
Double-Hung



VENT UNITS

Unit	Egress	Clear Opening (Inches)		Vent Area Ft ²	Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹
		Width	Height			Annealed	Tempered	
2135		17-13/16	14-1/4	1.8	3.2	2.5	3	LC50
2141		17-13/16	17-1/4	2.1	3.9	2.5	3	LC50
2147		17-13/16	20-1/4	2.5	4.5	2.5	3	LC50
2153		17-13/16	23-1/4	2.9	5.2	2.5	3	LC50
2157		17-13/16	25-1/4	3.1	5.6	2.5	3	LC40/LC50
2159		17-13/16	26-1/4	3.2	5.9	2.5	3	LC40/LC50
2165		17-13/16	29-1/4	3.6	6.5	2.5	3	LC40/LC50
2171		17-13/16	32-1/4	4.0	7.2	2.5	3	LC30/LC50
2177		17-13/16	35-1/4	4.3	7.8	2.5	3	LC30
2535		21-13/16	14-1/4	2.2	4.0	2.5	3	LC50
2541		21-13/16	17-1/4	2.6	4.8	2.5	3	LC50
2547		21-13/16	20-1/4	3.1	5.7	2.5	3	LC50
2553		21-13/16	23-1/4	3.5	6.5	2.5	3	LC50
2557		21-13/16	25-1/4	3.8	7.0	2.5	3	LC40/LC50
2559		21-13/16	26-1/4	4.0	7.3	2.5	3	LC40/LC50
2565		21-13/16	29-1/4	4.4	8.2	2.5	3	LC40/LC50
2571		21-13/16	32-1/4	4.9	9.0	2.5	3	LC30/LC50
2577	E1	21-13/16	35-1/4	5.3	9.8	2.5	3	LC30
2935		25-13/16	14-1/4	2.6	4.8	2.5	3	LC50
2941		25-13/16	17-1/4	3.1	5.8	2.5	3	LC50
2947		25-13/16	20-1/4	3.6	6.8	2.5	3	LC50
2953		25-13/16	23-1/4	4.2	7.8	2.5	3	LC50
2957		25-13/16	25-1/4	4.5	8.4	2.5	3	LC40/LC50
2959		25-13/16	26-1/4	4.7	8.8	2.5	3	LC40/LC50
2965	E1	25-13/16	29-1/4	5.2	9.8	2.5	3	LC40/LC50
2971	E	25-13/16	32-1/4	5.8	10.8	2.5	3	LC30/LC50
2977	E	25-13/16	35-1/4	6.3	11.7	2.5	3	LC30
3335		29-13/16	14-1/4	3.0	5.6	2.5	3	LC50
3341		29-13/16	17-1/4	3.6	6.7	2.5	3	LC50
3347		29-13/16	20-1/4	4.2	7.9	2.5	3	LC50
3353		29-13/16	23-1/4	4.8	9.1	2.5	3	LC40/LC50
3357	E1	29-13/16	25-1/4	5.2	9.9	2.5	3	LC40/LC50
3359	E1	29-13/16	26-1/4	5.4	10.2	2.5	3	LC40/LC50
3365	E	29-13/16	29-1/4	6.1	11.4	2.5	3	LC35/LC50
3371	E	29-13/16	32-1/4	6.7	12.6	2.5	3	LC30/LC50
3377	E	29-13/16	35-1/4	7.3	13.7	2.5	3	LC30
3735		33-13/16	14-1/4	3.3	6.4	2.5	3	LC35/LC50
3741		33-13/16	17-1/4	4.1	7.7	2.5	3	LC35/LC50
3747		33-13/16	20-1/4	4.8	9.0	2.5	3	LC35/LC50
3753		33-13/16	23-1/4	5.5	10.4	2.5	3	LC35/LC50
3757	E	33-13/16	25-1/4	5.9	11.3	2.5	3	LC35/LC50
3759	E	33-13/16	26-1/4	6.2	11.7	2.5	3	LC35/LC50
3765	E	33-13/16	29-1/4	6.9	13.0	2.5	3	LC35/LC50
3771	E	33-13/16	32-1/4	7.6	14.4	2.5	3	LC30/LC50
3777	E	33-13/16	35-1/4	8.3	15.7	2.5	3	LC30
4135		37-13/16	14-1/4	3.7	6.5	2.5	3	LC30
4141		37-13/16	17-1/4	4.5	7.9	2.5	3	LC30
4147		37-13/16	20-1/4	5.3	9.2	2.5	3	LC30
4153		37-13/16	23-1/4	6.1	11.7	2.5	3	LC30
4157	E	37-13/16	25-1/4	6.6	12.7	2.5	3	LC30
4159	E	37-13/16	26-1/4	6.9	13.2	2.5	3	LC30
4165	E	37-13/16	29-1/4	7.7	14.7	2.5	3	LC30
4171	E	37-13/16	32-1/4	8.5	16.2	2.5	3	LC30
4177	E	37-13/16	35-1/4	9.2	17.6	2.5	3	LC30



Shaded portion shows vent area.

Miscellaneous Formulas (Equal Sash Only)

	VENT UNITS
VISIBLE GLASS	Width = Frame - 5"
	Height* = (Frame - 6-5/16") / 2
ACTUAL GLASS	Width = Frame - 4"
	Height* = (Frame - 4-5/16") / 2

CLEAR OPENING HEIGHT:

(Frame Height) / 2 - 3-1/4"

CLEAR OPENING WIDTH:

Frame Width - 3-3/16"

Egress Notes:

Check all applicable local codes for emergency egress requirements.

E = Window meets minimum clear opening of 24" height, 20" width, and 5.7 ft².

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft².

See Design Data pages in this section for clear opening dimensions.

(*1) Per Sash

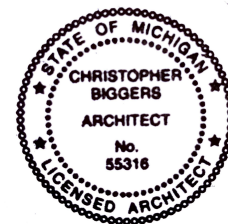
(1) Maximum performance when glazed with the appropriate glass thickness. Second number, where shown, indicates performance with DP Enhancement Kit installed.

To convert area to square meters (m²), multiply square feet by 0.0929.

1

WINDOW SPECS 3.3

1/2" = 1'-0"



Christopher Biggers



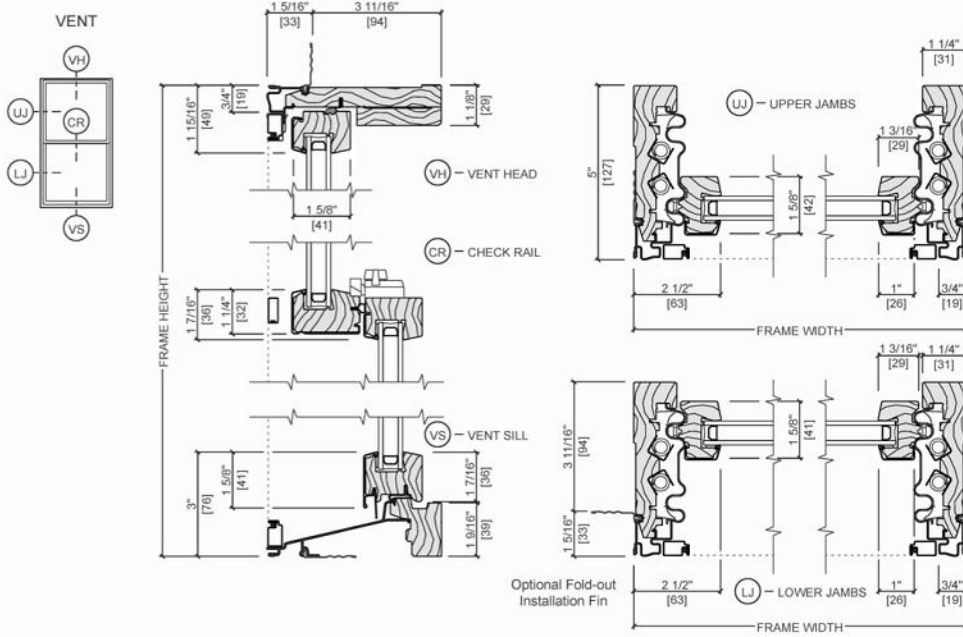
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HDC-3.3



UNIT SECTIONS
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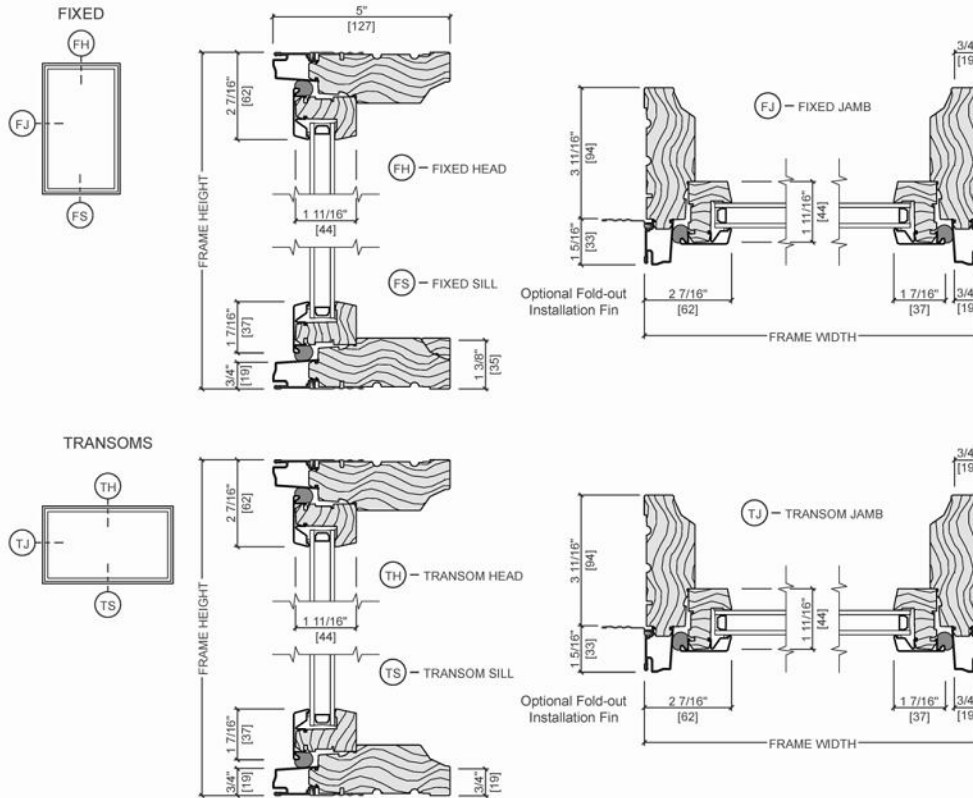
Scale 3" = 1'-0"
All dimensions are approximate.

1 WINDOW SPECS 3.4
1/2" = 1'-0"

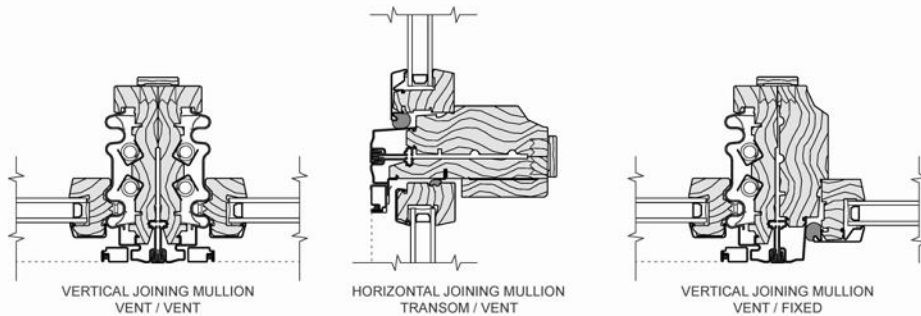


DOUBLE-HUNG

UNIT SECTIONS
Aluminum-Clad Exterior



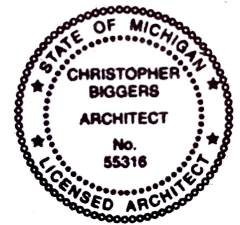
TYPICAL JOINING MULLIONS



Scale 3" = 1'-0"

All dimensions are approximate.

See www.PellaADM.com for mullion limitations and reinforcing requirements.




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HDC-3.5

1 WINDOW SPECS 3.5
1/2" = 1'-0"



AWNING

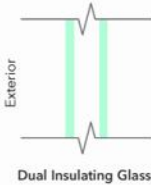
PRODUCT SELECTION GUIDE

Size and Performance Data
Sound Transmission Class / OITC



SIZES		Clad
Standard vent/ fixed sizes		•
Standard fixed sizes		•
Special sizes available		•
PERFORMANCE 1		
Meets or Exceeds AAMA/WDMA Ratings		LC45-50 Hallmark Certified
Air Infiltration (cfm/ft ² of frame @ 1.57 psf wind pressure)		0.05
Water Resistance		7.5 psf
Design Pressure		50 psf
OTHER PERFORMANCE CRITERIA		
Forced Entry Resistance Level (Minimum Security Grade) ₂		10

SOUND TRANSMISSION CLASS AND GRADE						
Product	Frame Size Tested ₃	Glazing System			STC Rating	OITC Rating
		Overall Glazing Thickness	Exterior Glass Thickness	Interior Glass Thickness		
PELLA 450 SERIES CLAD WINDOW	VENT					
	59" x 23"	11/16"	2.5mm	2.5mm	26	22
	FIXED					
	47" x 59"	11/16"	3mm	3mm	27	24




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(1) Maximum performance for single unit when glazed with the appropriate glass thickness. See Design Data pages in this section for specific product performance class and grade values. Values shown are for standard and special sizes; Custom sizes may not have the same values. Contact your local sales representative for complete information.
(2) The higher the level, the greater the product's ability to resist forced entry.
(3) ASTM E 1425 defines standard sizes for acoustical testing. Ratings achieved at that size are representative of all sizes of the same configuration.

1 WINDOW SPECS 4.1

1/2" = 1'-0"

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PRODUCT SELECTION GUIDE
Features and Options



STANDARD	OPTIONS / UPGRADES
GLAZING	
Glazing Type	
Dual-Pane Insulating Glass	–
Insulated Glass Options/Low-E Types	
	SunDefense™ Low-E
Advanced Low-E	AdvancedComfort Low-E
	NaturalSun Low-E
Additional Glass Options	
Annealed Glass	Tempered Glass
	Obscure Glass ₁
Gas Fill/High Altitude	
Argon	High altitude (Air-filled only)
EXTERIOR	
EnduraClad® protective finish	–
Cladding Colors	
10 Standard colors ₁	–
INTERIOR	
	Factory primed
Unfinished wood	Factory prefinished paint ₁
	Factory prefinished stain ₁
WOOD TYPES	
Pine	–
HARDWARE	
Champagne, White or Brown	Matte Black, Oil Rubbed Bronze, Satin Nickel
Sash Locks	
SureLock® System	–
Unison Lock System ₃	–
Hinging	
Awning–Stainless Steel	–
GRILLES	
Roomside Removable Grilles	
–	Traditional
Grilles-Between-the-Glass	
–	Traditional, Prairie, Cross, Top Row ₁ , Custom-Equally Divided
Simulated Divided Light with Optional Spacer₂	
–	Traditional, Prairie, Cross, Top Row, Custom-Equally Divided
SCREENS	
–	InView™ screens, Vivid View® screens

(1) Contact your local Pella sales representative for current designs and color options.
 (2) Available with Low-E argon-insulated glass only.
 (3) Unit height determines availability.




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1 WINDOW SPECS 4.2

1/2" = 1'-0"



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COMBINATION ASSEMBLIES



Combinations are a great way to create visual interest in any project. A combination is an assembly formed by two or more separate windows or doors whose frames are mullered together by a combination or reinforcing mullion.

Pella window combinations are available in an endless variety of arrangements. Below are available factory-assembled combinations. Some units can be fixed or vent depending on availability. Go to www.PellaADM.com for typical combinations and requirements and limitations related to mulling various combinations.

Contact your local Pella sales representative for more information.



Two-Wide



Three-Wide



Four-Wide



Two-Wide
Two-High



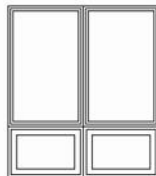
Three-Wide
Two-High



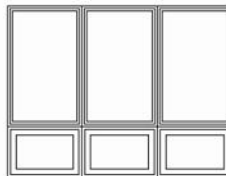
Four-Wide
Two-High



Clad Frame over
Single-Wide



Two-Wide Clad Frame
over Two-Wide



Three-Wide Clad Frame
over Three-Wide



Two-High



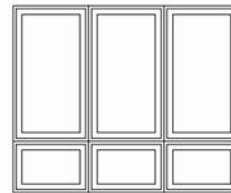
Three-High



Casement over
Single



Two-Wide Casement over
Two-Wide Awning



Three-Wide Casement over
Three-Wide Awning



Half Circle over
Two-Wide

See the Installation and Performance section at www.PellaADM.com for standard size range charts.



Click to view Clad-Wood Combinations Sections

• [Combination Recommendations Downloadable PDF](#)




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WINDOW SPECS 4.3

1/2" = 1'-0"

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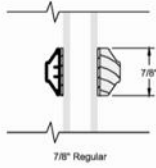
GRILLE TYPES

Removable, Grilles-Between-the-Glass and Simulated Divided Light

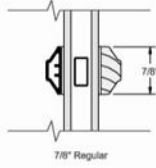


GRILLE PROFILES

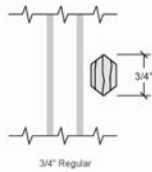
Simulated-Divided-Light Grilles



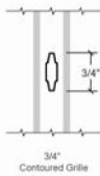
Simulated-Divided-Light Grilles with optional spacer



Removable Interior Pine Grilles

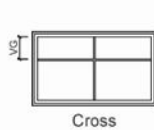
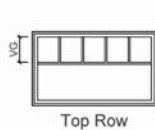
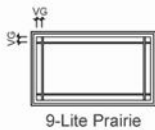


Grilles-Between-the-Glass



GRILLE PATTERNS

Grilles-Between-the-Glass and Simulated Divided Light Grilles



Prairie
- Standard corner lite dimension for Prairie patterns = 2-1/2" VG.

Top Row
- Standard visible glass to separator bar = 1/2 of visible glass for frame heights greater than or equal to 21".

For traditional patterns, see size tables.

VG = Visible Glass
(1) Grilles are available in traditional patterns only.
Lite dimensions noted can vary.
Custom configurations are also available, for details contact your local Pella sales representative.




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1 WINDOW SPECS 4.4

1/2" = 1'-0"



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DESIGN DATA
Aluminum-Clad Exterior



VENT AND FIXED UNITS

Unit	Vent Area Ft ²	Visible Glass Ft ²	Standard Glass Thickness (mm)				Performance Class & Grade ¹	
			Vent		Fixed		Vent	Fixed
			Annealed	Tempered	Annealed	Tempered		
1717	0.8	1.0	2.5	3	3	3	LC50	LC50
2117	1.1	1.3	2.5	3	3	3	LC50	LC50
2121	1.5	1.8	2.5	3	3	3	LC50	LC50
2317	1.3	1.5	2.5	3	3	3	LC50	LC50
2321	1.7	2.0	2.5	3	3	3	LC50	LC50
2323	2.0	2.3	2.5	3	3	3	LC50	LC50
2517	1.4	1.7	2.5	3	3	3	LC50	LC50
2521	1.9	2.2	2.5	3	3	3	LC50	LC50
2523	2.2	2.5	2.5	3	3	3	LC50	LC50
2525	2.5	2.8	2.5	3	3	3	LC50	LC50
2917	1.7	2.0	2.5	3	3	3	LC50	LC50
2921	2.3	2.7	2.5	3	3	3	LC50	LC50
2923	2.7	3.0	2.5	3	3	3	LC50	LC50
2925	3.0	3.4	2.5	3	3	3	LC50	LC50
2929	3.7	4.0	2.5	3	3	3	LC50	LC50
3217	1.9	2.3	2.5	3	3	3	LC50	LC50
3221	2.6	3.0	2.5	3	2.5	3	LC50	LC50
3223	3.0	3.4	2.5	3	2.5	3	LC50	LC50
3225	3.4	3.8	2.5	3	2.5	3	LC50	LC50
3229	4.1	4.5	2.5	3	2.5	3	LC50	LC50
3517	2.1	2.5	2.5	3	3	3	LC50	LC50
3521	2.9	3.4	2.5	3	2.5	3	LC50	LC50
3523	3.3	3.8	2.5	3	2.5	3	LC50	LC50
3525	3.8	4.2	2.5	3	2.5	3	LC50	LC50
3529	4.6	5.0	2.5	3	2.5	3	LC50	LC50
4117	2.5	3.0	2.5	3	3	3	LC50	LC50
4121	3.5	4.0	2.5	3	2.5	3	LC50	LC50
4123	4.0	4.5	2.5	3	2.5	3	LC50	LC50
4125	4.5	5.0	2.5	3	2.5	3	LC50	LC50
4129	5.5	6.0	2.5	3	2.5	3	LC50	LC50
4717	3.0	3.5	2.5	3	3	3	LC50	LC50
4721	4.1	4.7	2.5	3	2.5	3	LC50	LC50
4723	4.7	5.3	2.5	3	2.5	3	LC50	LC50
4725	5.3	5.9	2.5	3	2.5	3	LC50	LC50
4729	6.4	7.0	2.5	3	2.5	3	LC50	LC50
5317	3.4	4.0	2.5	3	3	3	LC50	LC50
5321	4.7	5.4	2.5	3	2.5	3	LC50	LC50
5323	5.4	6.0	2.5	3	2.5	3	LC50	LC50
5325	6.0	6.7	2.5	3	2.5	3	LC50	LC50
5329	7.4	8.0	2.5	3	2.5	3	LC50	LC50
5917F	-	4.5	-	-	3	3	-	LC50
5921F	-	6.0	-	-	2.5	3	-	LC50
5923F	-	6.8	-	-	2.5	3	-	LC50
5925F	-	7.5	-	-	2.5	3	-	LC50
5929F	-	9.0	-	-	2.5	3	-	LC50

FIXED UNITS

Unit	Visible Glass Ft ²	Standard Glass Thickness (mm)		Performance Class & Grade ¹
		Annealed		
		Tempered	Tempered	
3241	6.8	3	3	LC50
3247	7.9	3	3	LC50
3253	9.0	3	3	LC50
3259	10.2	3	3	LC50
3265	11.3	3	3	LC50
3271	12.4	3	3	LC45/LC50
3541	7.5	3	3	LC50
3547	8.8	3	3	LC50
3553	10.0	3	3	LC50
3559	11.3	3	3	LC50
3565	12.6	3	3	LC50
3571	13.8	3	3	LC45/LC50
4141	9.0	3	3	LC50
4147	10.5	3	3	LC50
4153	12.0	3	3	LC50
4159	13.6	3	3	LC50
4165	15.1	3	3	LC50
4171	16.6	3	3	LC45/LC50
4741	10.5	3	3	LC50
4747	12.3	3	3	LC50
4753	14.1	3	3	LC50
4759	15.8	3	3	LC45/LC50
4765	17.6	4	4	LC50
4771	19.3	4	4	LC50
5341	12.0	3	3	LC50
5347	14.1	3	3	LC50
5353	16.1	3	4	LC45/LC50
5359	18.1	4	4	LC50
5365	20.1	4	4	LC50
5371	22.1	4	4	LC50
5941	13.6	3	3	LC50
5947	15.8	3	3	LC45/LC50
5953	18.1	4	4	LC50
5959	20.3	4	4	LC50
5965	22.6	4	4	LC50
5971	24.8	4	4	LC45/LC50

Miscellaneous Formulas

VISIBLE GLASS	Width = Frame - 4-15/16"
	Height = Frame - 4-15/16"
ACTUAL GLASS	Width = Frame - 4"
	Height = Frame - 4"

F = Fixed only
 (-) = Not Applicable
 (1) Maximum performance when glazed with the appropriate glass thickness. Second value, where shown, requires tempered glass.
 To convert areas to square meters (m²), multiply square feet by 0.0929.



Christopher Biggers



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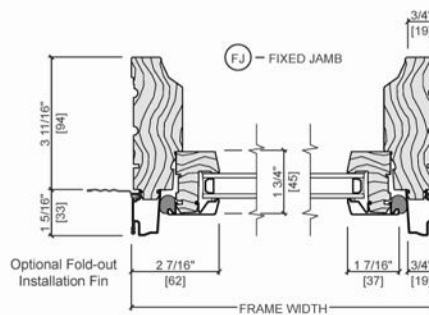
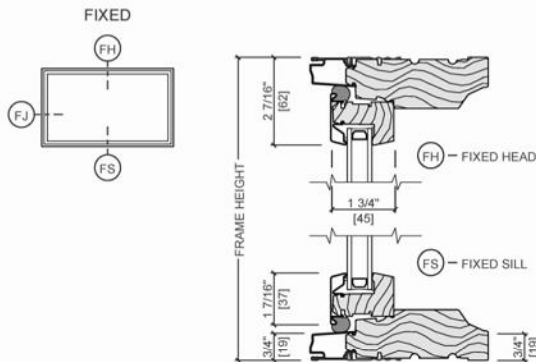
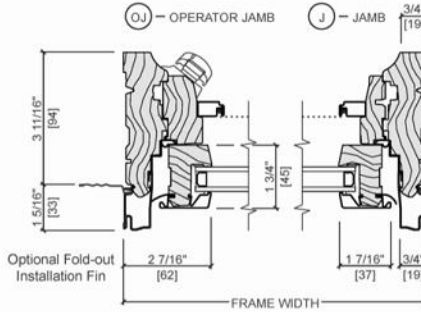
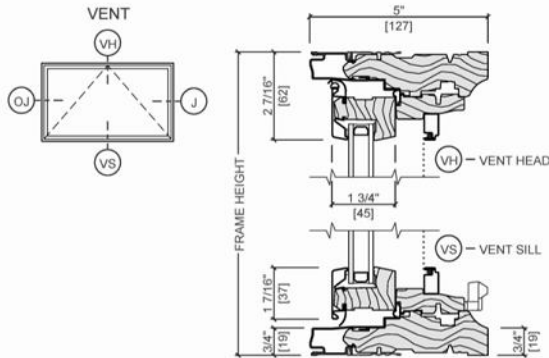
1 WINDOW SPECS 4.5

1/2" = 1'-0"

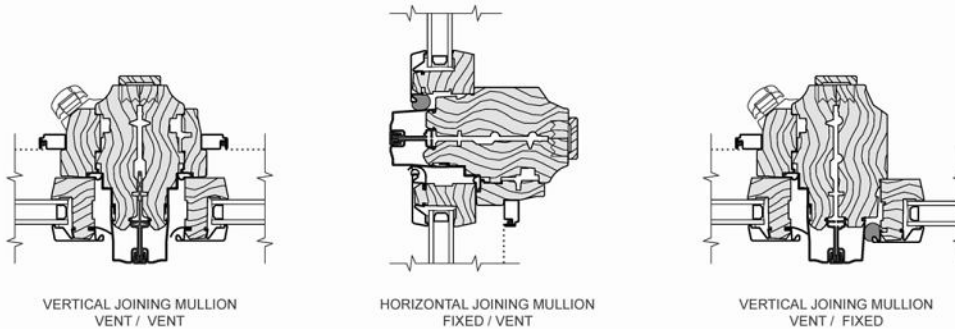


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UNIT SECTIONS
Aluminum-Clad Exterior



TYPICAL JOINING MULLIONS



Scale 3" = 1' 0"
All dimensions are approximate.
See www.PellaADM.com for mullion limitations and reinforcing requirements.

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WINDOW SPECS 4.6

1/2" = 1'-0"

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