STAFF REPORT: SEPTEMBER 22, 2021 MEETING PREPARED BY: A. DYE

**APPLICATION NUMBER: 21-7470** 

**ADDRESS: 1022 SEMINOLE** 

HISTORIC DISTRICT: INDIAN VILLAGE

**APPLICANT**: BRADLEY KENOYER & JORDAN MEDEIROS

PROPERTY OWNER: BRADLEY KENOYER & JORDAN MEDEIROS

DATE OF PROVISIONALLY COMPLETE APPLICATION: AUGUST 30, 2021

**DATE OF STAFF SITE VISIT:** SEPTEMBER 1, 2021

**SCOPE**: DEMOLISH EXISTING 3-SEASON SUNROOM; ERECT 4-SEASON SUNROOM, MASONRY SHED, BRICK WALL/FENCE WITH BRONZE INSERTS; CEDAR SHAKE ROOF; COPPER ROOF, GUTTERS & DOWNSPOUTS

# **EXISTING CONDITIONS**

Erected ca. 1900, the building at 1022 Seminole is a two-story, English Revival, single-family dwelling, designed by Albert Kahn for the Cook Farm Company. The structure features a reverse gable roof, brick cladding at the first story, and wood shake and stucco with half-timbering at the second story. Multiple projecting surfaces culminate with a front-facing second-floor gable that overhangs the first floor and includes ornately and heavily carved trim surrounding a triple window (which showcases arched upper sashes with leaded diamond pattern glass). A box-bay window directly below at the first floor offers slightly more straightforward detailing, while the carved trim supporting and partially enclosing the front entry porch, coupled with the glass-enclosed side porch, offers a counterbalance to the ornate gable design. Windows are wood-sash and include some clear glass units, while double-hung and casement units (with wood muntins or lead cames) are most common. The sides and rear elevations are faced with wood shake and clapboard siding at the second and first floors, respectively.



Above:

Sanborn Map Company, Vol. 8, 1915. 206 was renumbered as 1022 in 1921.

Right:

HDC Staff Photo, September 1, 2021

As shown in the adjacent photos, the house almost fills the width of the lot. The front yard is separated from the adjacent houses by hedges running along the north and south lot lines; an iron (or aluminum) fence with gate, at the front southwest corner of the house, closes off access to the rear yard.



The historic two-story, wood-framed garage is located at the southeast corner of the rear yard. The roof has a reverse gable; the exterior is faced with clapboard and shake siding, matching the general house form and materials of the rear elevation. The rear yard is enclosed from the neighboring houses and alley by chain link fencing, a wood privacy fence, and/or shrubbery.

The front yard includes a boxwood hedge that is transected by the concrete front walkway. The ground surface spanning the inside of the hedge is covered with gray gravel, upon which four outdoor chairs are placed.

## **PROPOSAL**

Per the applicant's scope of work, narrative, and drawings, it is staff's understanding the projects before the Commission consist of the following items:

# **Demolition:**

• Demolish existing rear enclosed porch

# **New Construction:**

# • Rear enclosed porch addition

- o Exterior Finishes: brick, wood, limestone
- o New wood, aluminum-clad windows
- o Cedar shake roof
- Copper gutters and downspouts
- o Wood perimeter railing at upper porch
- o Electrical and lighting
- o HVAC

# • Tool Shed (to house pool equipment)

- o Exterior finishes: brick, wood, limestone sill
- Windows (wood clad)
- o Cedar Shake Roof
- Copper Gutters and Downspouts

# • Rear Yard Masonry Pier/Wall and Bronze Rail Fence (north and south lot lines)

o Exterior finishes: brick, limestone caps (piers), clay coping (walls), salvaged bronze fencing

# Cabanas

- o Exterior Finishes: brick, canvas sunshades, and metal support structure
- o Colors: black metal supports, canvas not specified

# **Materials**

- o Brick: Brick Tech "Cherry Red" color in modular size with a running bond coursing.
- Wood Trim: To be painted "dark brown" to match the existing horizontal wood lap siding and trim at the rear
  of the home.
- o Windows and patio doors: Pella, Reserve, Traditional, wood, aluminum-clad units, color: tan

# **Repairs to Existing Structures:**

# • Roof

- o Full Tear-Off of Existing Roofs
- o New Cedar Shingle Roofs at Main House and Carriage House
- New Raised Seam Copper Roof at existing front/side sunroom addition.
- o New gutters, copper flashing, and repair of eaves where needed, to match existing finishes

# STAFF OBSERVATIONS AND RESEARCH

- The Indian Village Historic District was established in 1971.
- In 1896, Albert Kahn, George Nettleton and Alexander Trowbridge established an architectural firm in Detroit (Nettleton, Kahn & Trowbridge). Trowbridge left shortly thereafter to become Dean of the College of Architecture at Cornell University. Kahn's design for 1022 Seminole (original street number was 206) was created when the firm was known as Nettleton & Kahn. Upon Nettleton's death in 1900, the firm's name and partnership structure changed a few times until finally settling at Albert Kahn Associates, Inc. It is possible this is one of the first residential designs Kahn completed as an independent architect.
- It is staff's opinion the independent roof structure of a single-story porch allows for a contrasting roof material and color (a common example is the use of metal standing seam on single-story porch shed roofs of Victorianera two-story houses). For this house, the use of a raised seam copper roof will offer a richly colored, textural contrast to the front elevation.

#### Sunroom

- While the sunroom's southern wall is in line with the wall of the existing house, the site plan shows a small, recessed area at the intersection of the sunroom and house. Allowing the new brick to abut the existing house walls, an easy separation of old and new is created (detail is shown on the north and south walls).
- The vertical rhythm of openings framed by flat wood mullions, in conjunction with the flat roof and wood perimeter railing, creates a restrained design which is a less visually impactful form for the rear elevation than that of the existing front gabled screen porch, and defers to the historic context.

# **Accessory Structure**

• While the shed's roof form is common on historic accessory structures (as shown in the applicant's photo included in the *existing condition/narrative* document) the minimal details of the proposed structure (i.e., flat-faced vergeboard; no patterns to the masonry walls; single window openings with no wood casings) gives the shed a more contemporary appearance and defers to the historic context.

# Masonry Wall/Bronze Fence

- The use of salvaged bronze fencing within newly constructed masonry walls offers an interesting juxtaposition of old and new. Standard #3 states -- "Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken." It is staff's opinion the insertion of fencing pieces within new masonry walls does not conflict with Standard #3:
  - Historic metal fences were generally anchored by (matching material) metal posts. If
    masonry piers were used, they were typically narrow piers and most commonly placed at
    entrance points.
  - The proposed pier/wall design, in staff's opinion, is a contemporary take on a historic feature due to the height, massing, unadornment and joining of wall and pier. This allows the walls and fencing to be differentiated from a historic fence, as well as from the historic details and materials on the house, thus being a product of its time and unlikeliness to read as "falsely historical".
- The masonry walls will be located along the side property lines within the rear yard. The finished height of the walls and fencing is 5'-7" which is below the allowed six-foot height of side property line fences as illustrated in the Commission's Fence and Hedge Guidelines. The guidelines also state under Allowable Types: Brick and stone –masonry foundations, piers and fence walls. The material of any masonry wall should be compatible with that of the building it abuts.

#### Cabana

• The shades will be installed within newly constructed masonry piers/walls. The element is minimal in physicality and won't offer a visual impact any greater than the ubiquitous free-standing table/patio umbrellas.

## General

• The combined effect of the new construction and change of roofing materials will offer this site an exciting comprehensive design befitting the lavish historical details of the original structures (house and garage).

# **ISSUES**

- A pool is referenced within the narrative and through the proposed shade structures, however no indication of the future pool is shown on the site plan. As such, no pool is included in the review nor the HDC decision.
- At the July 13, 2016 HDC meeting, the Commission approved the then-previously installed front yard boxwood hedge and denied the gravel and brick border patio.
- The scope says the sunroom's wood siding will be painted dark brown to match existing horizontal wood lap siding and trim at the rear of the home. The Pella window order states the exterior cladding for the sunroom windows, doors, and shed windows, will be tan. This will create a precisely opposite color pattern of the rear elevation second floor and a disjointed look for the windows across the first floor.



# RECOMMENDATION

# Section 21-2-78, Determination of Historic District Commission

The proposed new construction is compatible with the massing, size, scale and architectural features of its environment, and does not destroy historic materials that characterize the property. The design includes several features to add complexity and visual interest consistent with its historic context. Staff therefore recommends that the proposal should qualify for a Certificate of Appropriateness, as it meets the Secretary of the Interior's Standards and the Indian Village Historic District's Elements of Design.

Staff recommends the Certificate of Appropriateness be issued with the following conditions:

- The windows and doors within the sunroom and storage shed will be clad with a dark brown aluminum; color will be submitted for staff review.
- The catalog cut for the wood door within the storage shed will be submitted for staff review.
- Color selection for the cabana screens will be submitted for staff review.

# 4545 architecture

Auguist 13, 2021

Brad Kenoyer 1022 Seminole St. Detroit, MI 48214

RE: 1022 Seminole St – Exterior Renovation/ Historic District Commission Submission

# **Scope of Work**

## Demolition:

Demolish existing rear enclosed porch

## New Construction:

- Rear enclosed porch addition
  - New Construction, including:
    - Exterior Finishes
      - Brick
      - Wood
      - Limestone
    - New wood Windows
    - Cedar Shake Roof
    - Copper Gutters and Downspouts
    - Gutters and Downspouts
    - Electrical and lighting
    - HVAC
    - Interior Finishes
- Tool Shed
  - New Construction, Including
    - Exterior Finishes
      - Brick
      - Wood
      - Limestone sill
    - Windows
    - Cedar Shake Roof
    - Copper Gutters and Downspouts
    - Pool Equipment
- Cabanas
  - New Construction, including:
    - Exterior Finishes
      - Brick
      - Canvas Sun shades and metal support structure
- Repairs to Existing Structures:
  - Roof
    - Full Tear-Off of Existing Roofs
    - New Cedar Shingle Roofs at Main House and Carriage House
    - New Raised Seam Copper Roof at existing front/side sunroom addition.
    - New gutters, copper flashing, and repair of eaves where needed, to match existing finishes



August 13, 2021

RE: 1022 Seminole St – Exterior Renovation/ Historic District Commission Submission

# Description of Existing conditions.

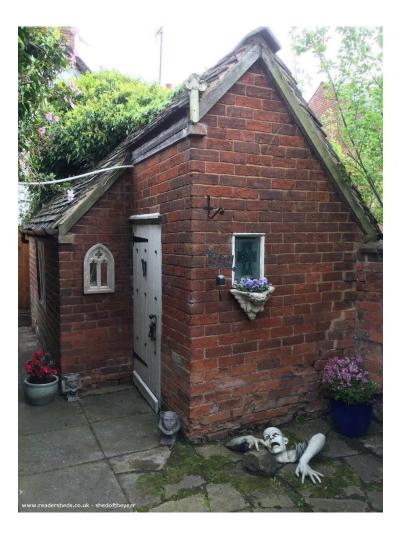
1022 Seminole is a single-family home constructed in 1900. The residence in 3,492 sq.ft., 5 bedrooms and 3 baths. The home is 2 stories. The property also includes a detached 2 story carriage house. The home features many details typical of an Indian village home with ornated trim work. The façade consists of: brick, lapboard siding, shake siding and half-timber and stucco on the second floor of the front facade. The home currently has an existing rear sunporch that is to be removed.

## Scope of work

The design for the new sun porch draws inspiration from the existing sun porch in the front right corner of the home. The new windows are seated directly on the stone sills and extend to the ceiling in a similar design. The entry porch also provides inspiration for our covered entry at the rear addition. The front center 3 panel windows with transom are the inspiration for the window configuration as we try to extend our glass from floor to ceiling.

A new storage shed to include space for pool equipment and new site walls on the side property lines to be a mixture of brick piers and bronze fencing will also be constructed.

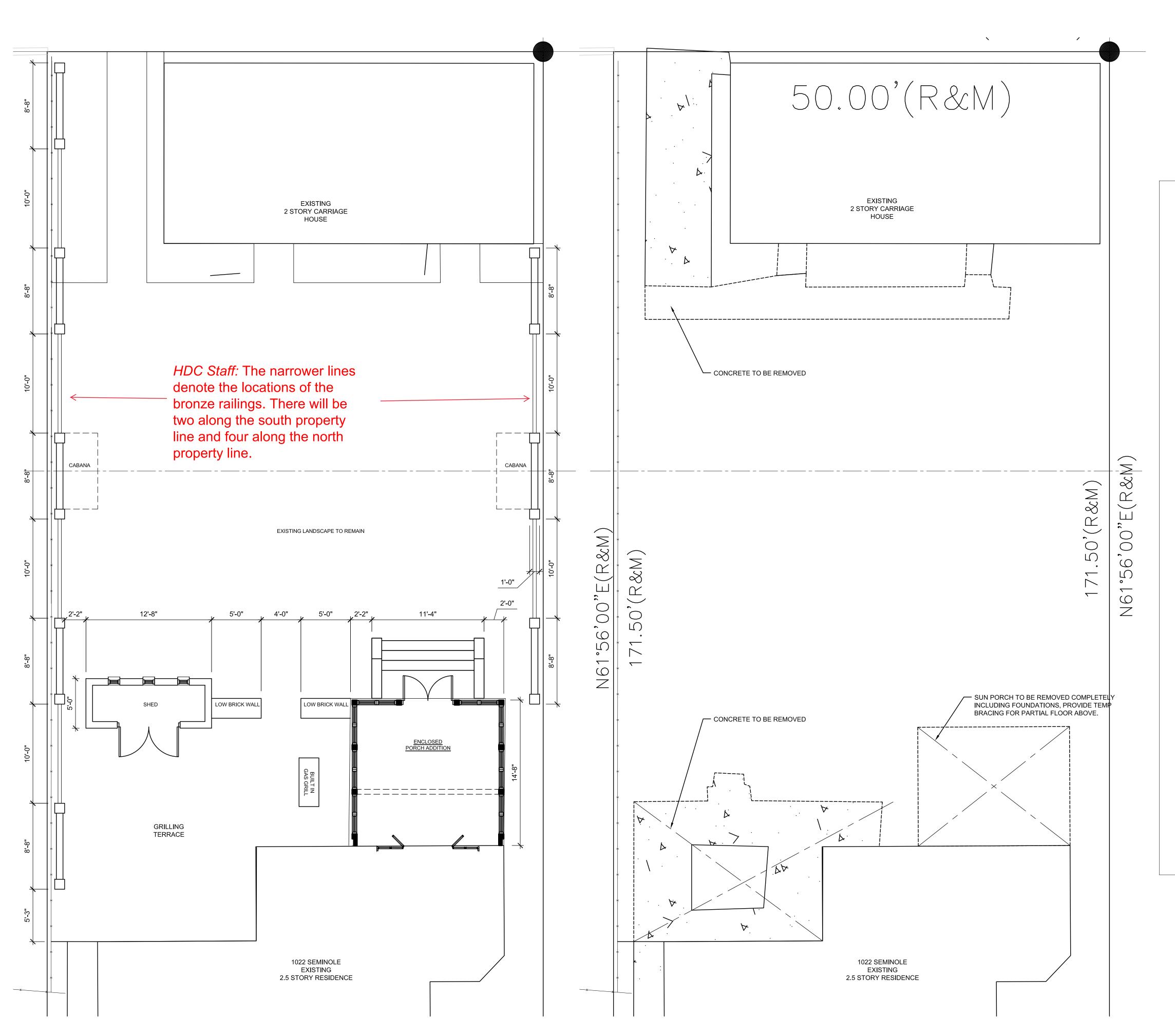
All new brick will be Brick Tech "Cherry Red" color in modular size with a running bond coursing. All wood trim will be painted "dark brown" to match the existing horizontal wood lap siding and trim at the rear of the home. Samples will be taken from the existing siding to establish a color match. Windows and patio doors will be custom aluminum-clad wood from Pella.



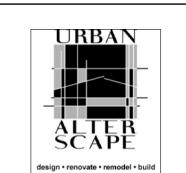
Storage shed ideas which will divide the terrace from the pool. This doesn't need to be very big, just deep enough to store garbage and recycling bins and maybe a lawn mower. Does not need to be walk in, just shallow but wide. With doors, or just some sort of privacy gate that can be locked up.

6 pieces 120 in. W x 68.375 in. H, 5 pieces 62 in. W x 54.625 H

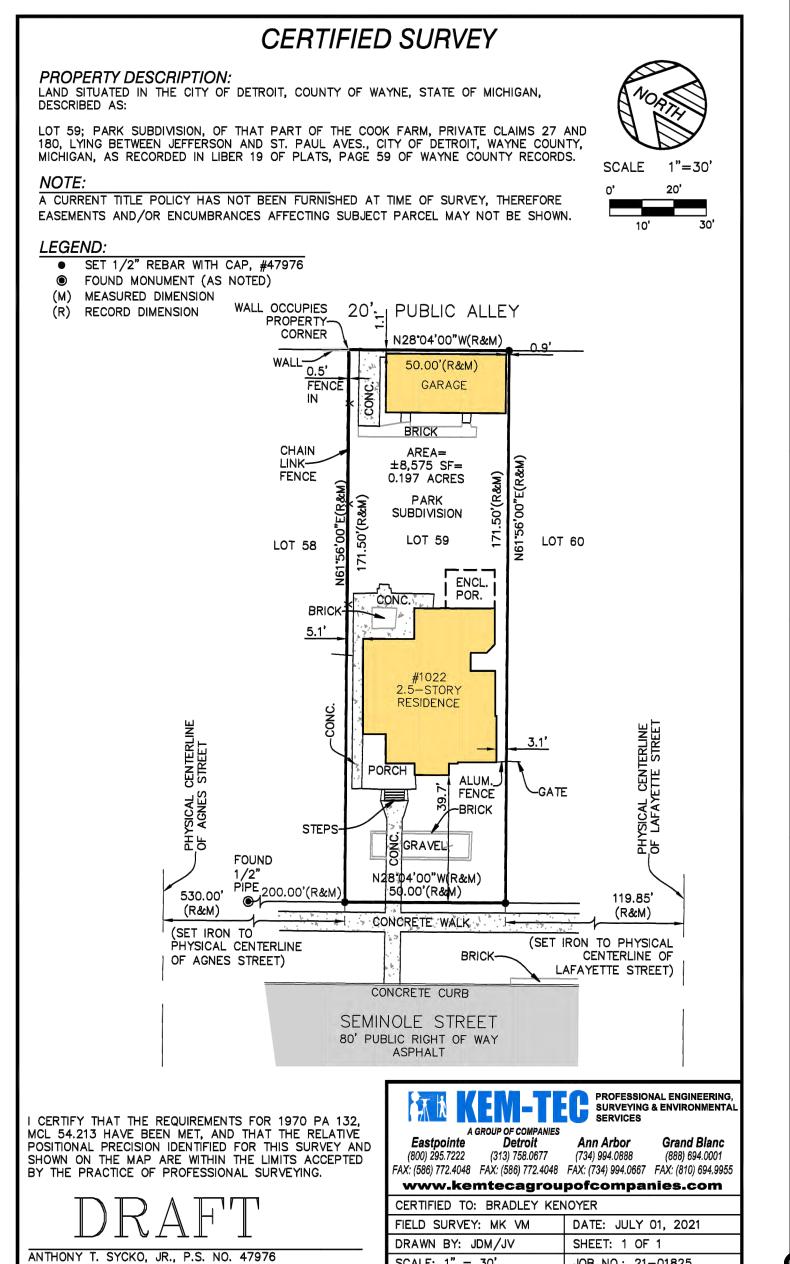




3011 W. GRAND BLVD STE 400 DETROIT, MI 48208 P. 248.320.6098 TIM.FLINTOFF@4545ARCHITECTURE.COM



1938 FRANKLIN ST. #207 DETROIT, MI 48207



SCALE: 1" = 30'

JOB NO.: 21-01825

KENOYER RESIDENCE EXTERIOR RENOVATION

1022 SEMINOLE ST.

DETROIT, MI 48214

Issued for .

Project:

08-13-2021

Drawn by:

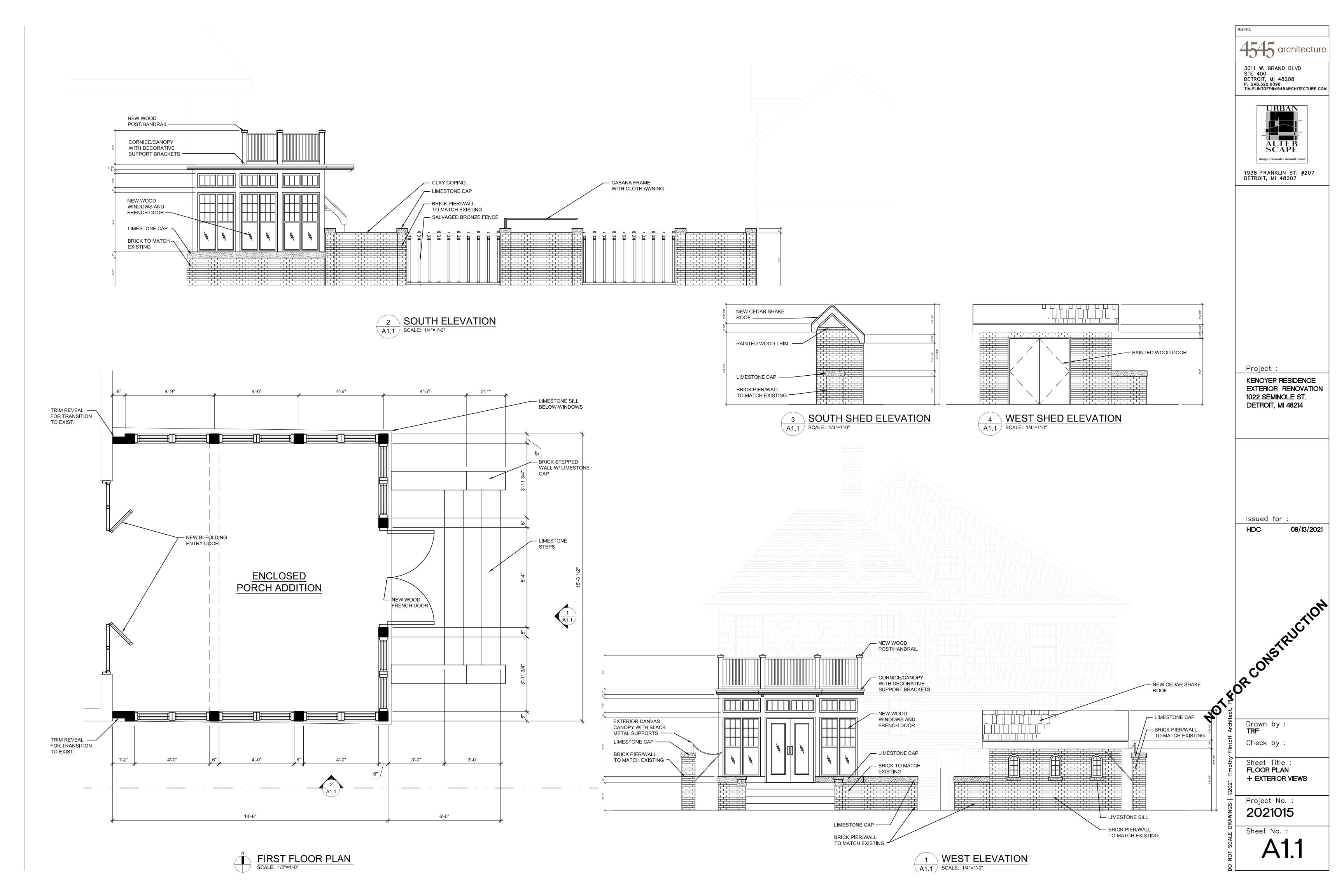
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Sheet Title ARCHITECTURAL SITE PLAN

Project No. :

2021015

Sheet No. :









1 PROPOSED EAST ELEVATION
SCALE: 1/4"=1'-0"

3011 W. GRAND BLVD STE 400 DETROIT, MI 48208 P. 248.320.6098 TIM.FLINTOFF@4545ARCHITECTURE.COM



1938 FRANKLIN ST. #207 DETROIT, MI 48207

Project :

KENOYER RESIDENCE EXTERIOR RENOVATION 1022 SEMINOLE ST. DETROIT, MI 48214

Issued for :

HDC 08/13/2021

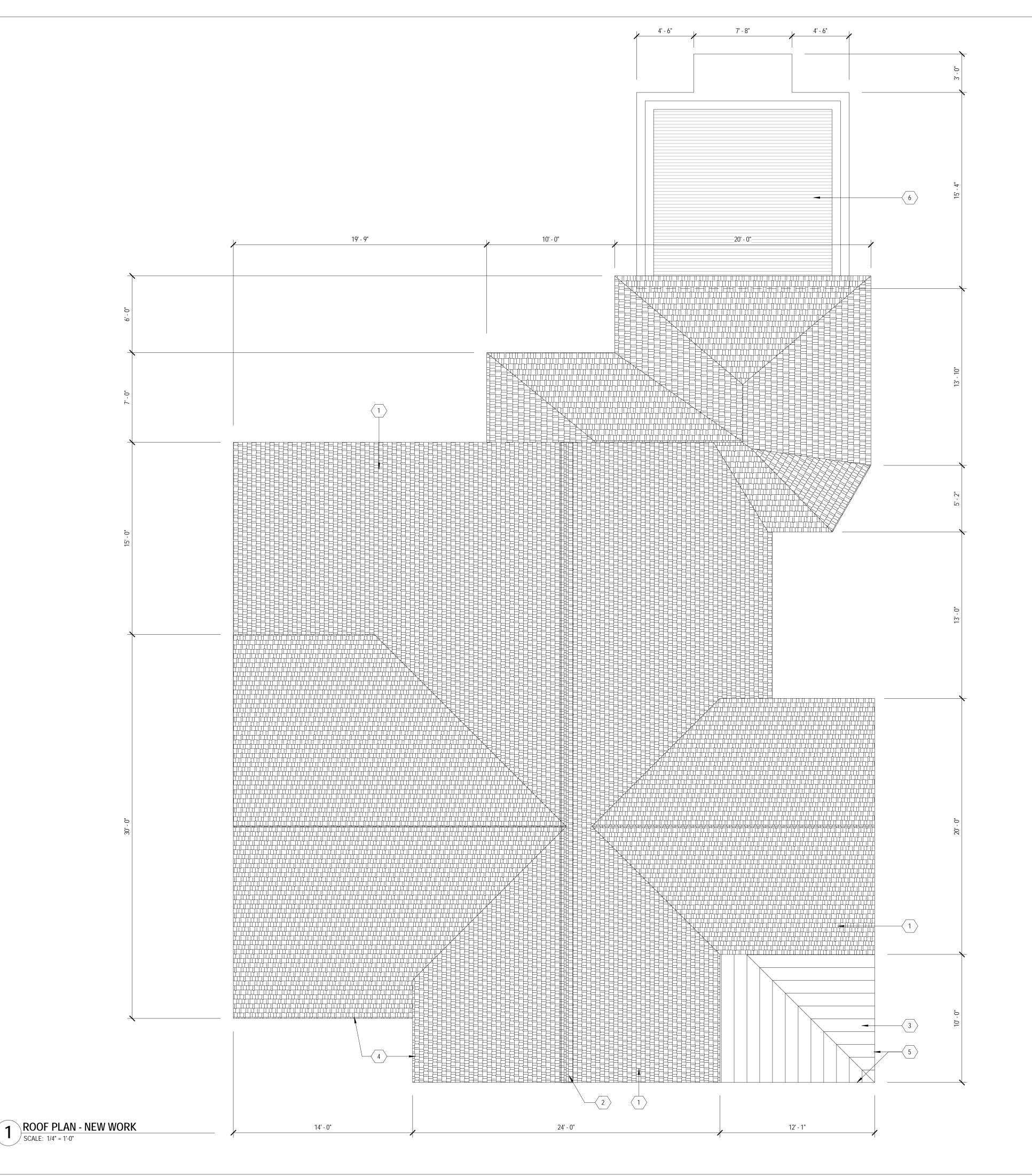
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Sheet Title : **ELEVATION** COMPARISON

Project No. : 2021015

Sheet No. :



# **GENERAL EXTERIOR DEMOLITION / REPAIR NOTES:**

CONTRACTOR TO PERFORM ALL EXTERIOR MAINTENANCE REQUIRED USING SAME/SIMILAR MATERIAL TO PERSERVE EXISTING HISTORICAL

DETAILS, FORMS, SHAPES, TRIM, AND COLORS SURVEY TO BE PERFORMED OF EXTERIOR BRICK FACING AS TO ITS CONDITION AND MAKE ANY RECOMENDATIONS FOR REPAIRS TO

COLOR AND/OR MATERIAL CHANGES MAY BE SUBJECT TO APPROVAL BY CITY HISTORIC COMMISSION.

CONTRACTOR TO REMOVE ALL EXISTING WOOD SIDING.

CONDITIONS IN NEED OF REPAIR.

SURVEY TO BE PERFORMED OF ALL EXISTING WOOD TRIM, SOFFITS, AND FASCIAS TO DETERMINE EXTENT THAT CAN BE SALVAGED AND REPAIRED VS. REPLACED. ANY NEW WOOD TRIM TO BE OF SAME MATERIAL AND PROFILE TO PRESERVE EXISTING HISTORICAL DETAILS.

CONTRACTOR TO SURVEY ALL EXISTING WINDOWS AND PROVIDE COST ESTIMATE FOR REMOVAL, REFURBISHMENT, AND REINSTALLATION.

# **ROOF KEY NOTES:**

(TYPLICAL THIS SHEET ONLY)

1 NEW CEDAR SHAKE ROOFING ON ROOFING PAPER AND ICE/WATER SHEILD ON NEW 3/4" PLYWOOD SHEATHING.

2 RIDGE VENT WITH CEDAR SHAKE RIDGE CAP

(3) NEW COPPER STANDING SEAM ROOFING ON NEW ROOFING PAPER AND ICE/WATER SHEILD ON NEW 3/4" PLYWOOD SHEATHING.

NEW COPPER GUTTER AND DOWNSPOUTS. EXISTING WOOD FASCIA TO REMAIN. REPAIR/REPLACE FASCIA AS REQUIRED USING LIKE MATERIALS WITH MATCHING PROFILES. DOWNSPOUT LOCATIONS TO MATCH EXISTING

5 NEW INTERGRATED COPPER GUTTER AND DOWNSPOUTS. PROFILE TO MATCH EXISTING. DOWNSPOUT LOCATIONS TO MATCH EXISTING.

6 NEW ROOF DECK ON ROOF OF REBUILT REAR 4-SEASON PORCH. WOOD DECKING AND SLEEPERS ON MEMBRANE ROOF. REFER TO PLANS AND ELEVATIONS FOR DETAILS.

3011 W. GRAND BLVD SUITE 400 DETROIT, MI 48202 P. 313.450.4545 TIM.FLINTOFF@4545ARCHITECTURE.COM

CONSULTANT:

Project:

KEYONER RESIDENCE **EXTERIOR RENOVATION** 1022 SEMINOLE ST. DETROIT, MI 48214

Issued for :

08-13-2021

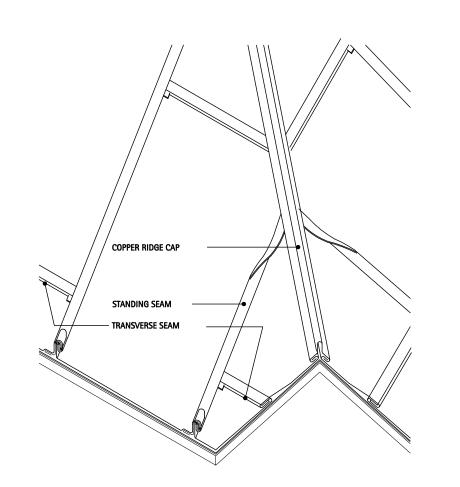
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Sheet Title: ROOF PLAN

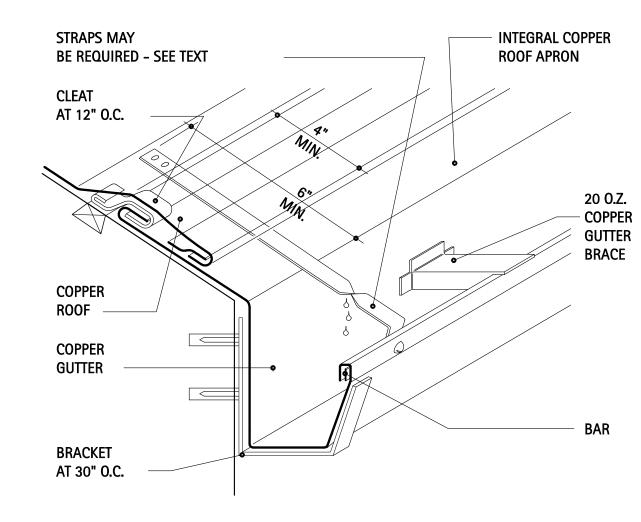
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2021015

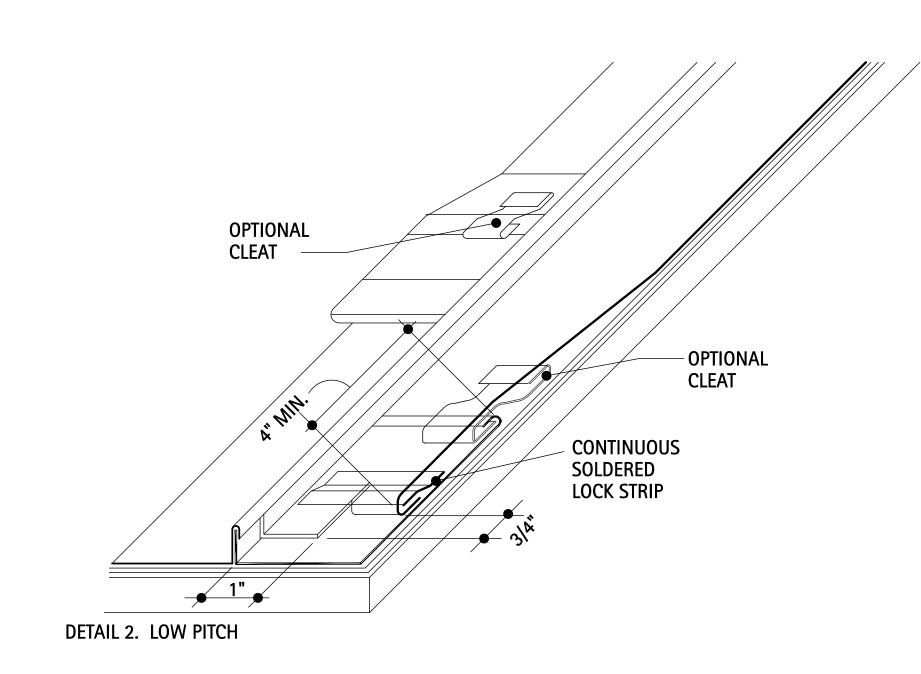
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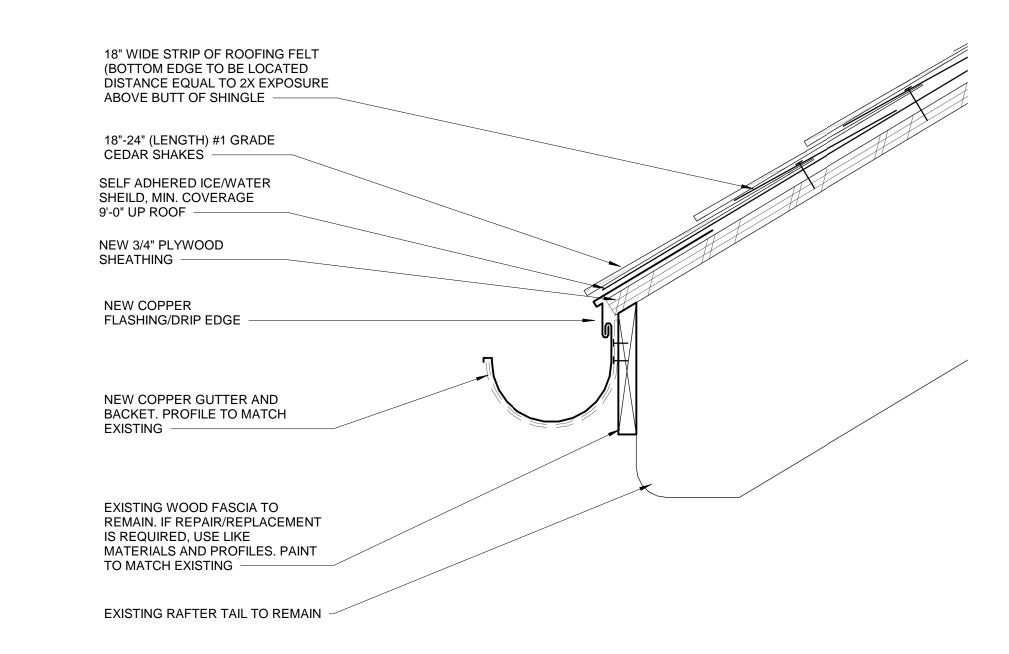
# 4 COPER RIDGE CAP / STANDING SEAM DETAIL



# 4 INTEGRATED COPPER GUTTER DETAIL

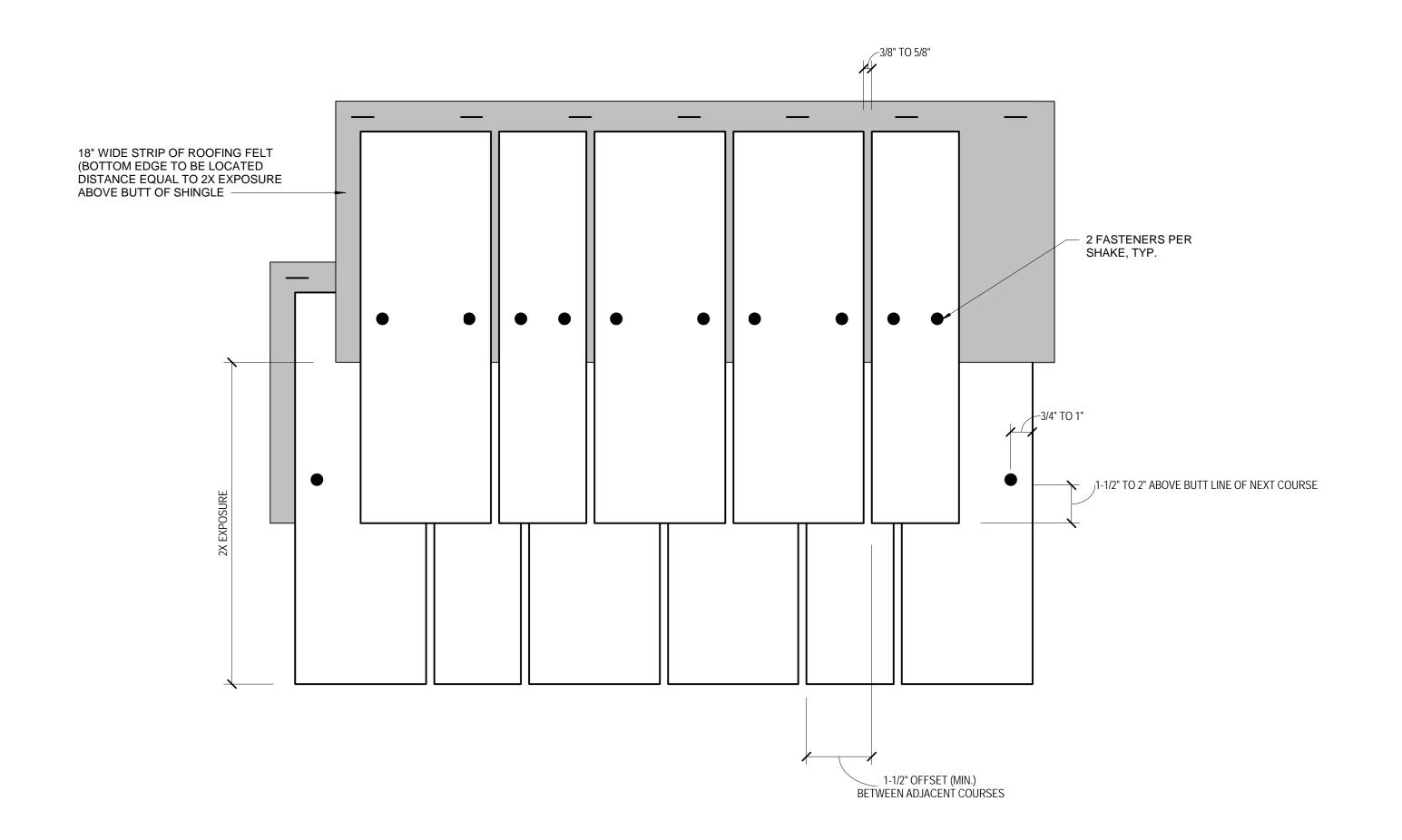


3 COPPER STANDING SEAM JOINT DETAIL



TYPICAL EAVE DETAIL AT CEDAR SHAKE ROOF

SCALE: 3" = 1'-0"



CEDAR SHAKE TYPICAL INSTALLATION

SCALE: 3" = 1'-0"

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SUITE 400
DETROIT, MI 48202
P. 313.450.4545
TIM.FLINTOFF @4545ARCHITECTURE.COM

CONSULTANT:

Project :

KEYONER RESIDENCE
EXTERIOR RENOVATION
1022 SEMINOLE ST.
DETROIT, MI 48214

Issued for :
HDC 08-13-2021

OT FOR CONSTRUCTIVE

Drawn by :

JRM
Checked by :

JRM

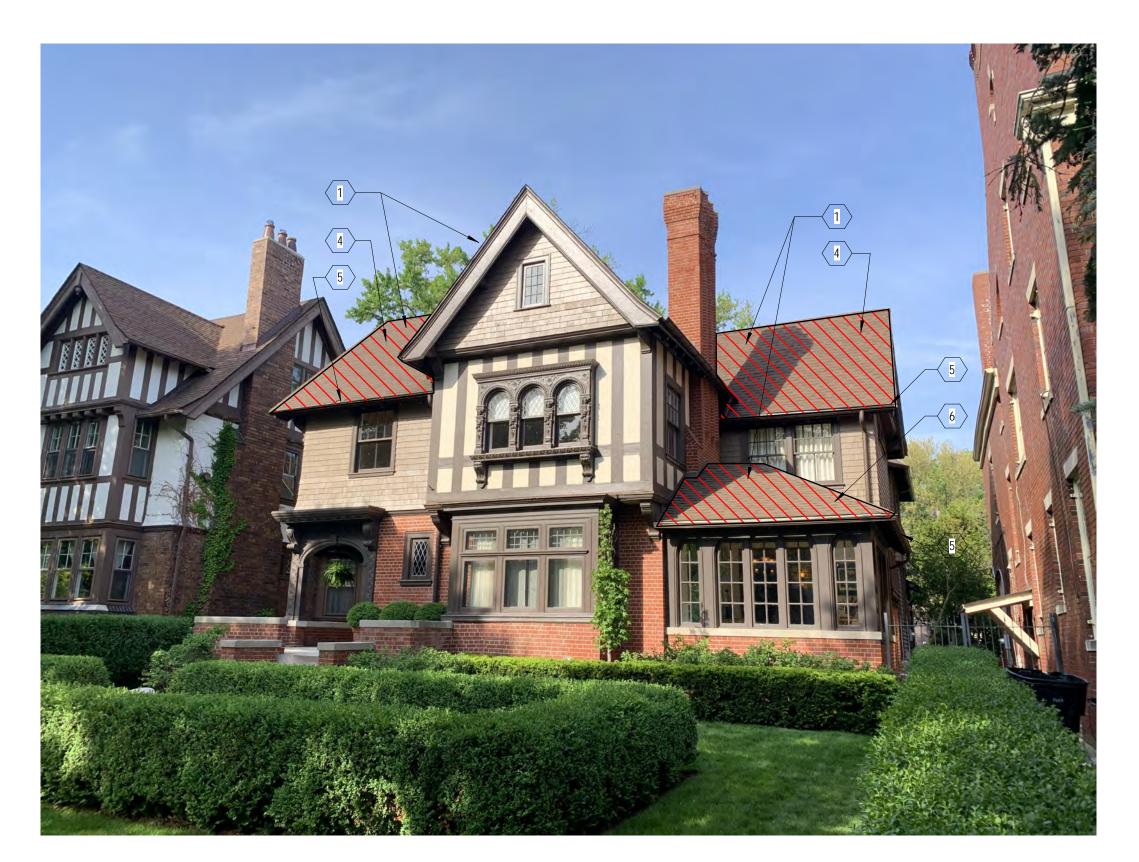
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Sheet Title : ROOF DETAILS

Project No. : 2021015

Sheet No. :

A1.3



**WEST (FRONT) ELEVATION** 



**REAR PORCH NORTH (SIDE) ELEVATION** NOT TO SCALE



EAST (REAR) ELEVATION
NOT TO SCALE

# **GENERAL EXTERIOR DEMOLITION / REPAIR NOTES:**

- CONTRACTOR TO PERFORM ALL EXTERIOR MAINTENANCE REQUIRED USING SAME/SIMILAR MATERIAL TO PERSERVE EXISTING HISTORICAL DETAILS, FORMS, SHAPES, TRIM, AND COLORS
  - SURVEY TO BE PERFORMED OF EXTERIOR BRICK FACING AS TO ITS CONDITION AND MAKE ANY RECOMENDATIONS FOR REPAIRS TO CONDITIONS IN NEED OF REPAIR.
- COLOR AND/OR MATERIAL CHANGES MAY BE SUBJECT TO APPROVAL BY CITY HISTORIC COMMISSION.
- CONTRACTOR TO REMOVE ALL EXISTING WOOD SIDING.
- SURVEY TO BE PERFORMED OF ALL EXISTING WOOD TRIM, SOFFITS, AND FASCIAS TO DETERMINE EXTENT THAT CAN BE SALVAGED AND REPAIRED VS. REPLACED. ANY NEW WOOD TRIM TO BE OF SAME MATERIAL AND PROFILE TO PRESERVE EXISTING HISTORICAL DETAILS.
- CONTRACTOR TO SURVEY ALL EXISTING WINDOWS AND PROVIDE COST ESTIMATE FOR REMOVAL, REFURBISHMENT, AND REINSTALLATION.

# **EXTERIOR REPAIR KEY NOTES:** (TYPLICAL THIS SHEET ONLY)

- $\langle$  1  $\rangle$  Tear off existing asphalt shingle roof and sheathing complete.
- 2 DEMOLISH EXISTING REAR PORCH COMPLETE.
- CONSTRUCT NEW REAR 4-SEASON PORCH. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS.
- INSTALL NEW CEDAR SHAKE ROOF ON ROOFING PAPER AND ICE/WATER SHEILD ON 3/4" PLYWOOD SHEATHING
- 5 INSTALL NEW COPPER DRIP EDGE/FLASHING AND COPPER GUTTERS AND DOWNSPOUTS. GUTTER PROFILE TO MATCH EXISTING. DOWNPOUT LOCATIONS TO MATCH EXISTING.
- 6 INSTALL NEW COPPER STANDING SEAM ROOFING ON ROOFING PAPER AND ICE/WATER SHEILD ON 3/4" PLYWOOD SHEATHING

3011 W. GRAND BLVD SUITE 400 DETROIT, MI 48202 P. 313.450.4545 TIM.FLINTOFF@4545ARCHITECTURE.COM

CONSULTANT:

Project:

KEYONER RESIDENCE EXTERIOR RENOVATION 1022 SEMINOLE ST. DETROIT, MI 48214

Issued for :

08-13-2021

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Sheet Title:

**ELEVATIONS AND WORK NOTES** 

Project No. : 2021015

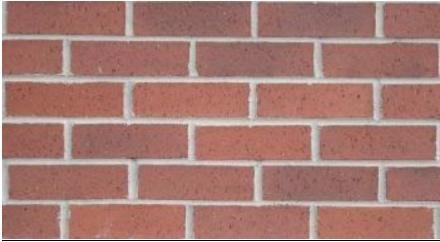
Sheet No.



August 13, 2021

RE: 1022 Seminole St – Exterior Renovation/ Historic District Commission Submission

# **Brick Selection:**



BrickTech Color: "Cherry Red" Size: Modular





# **Contract - Detailed**

Pella Window and Door Showroom of Auburn Hills 1940 Opdyke Ct

Auburn Hills, MI 48326

Sales Rep Name: Kruzel, Patrick Sales Rep Phone: 248-260-6844 Sales Rep Fax: 248-292-5053

Sales Rep E-Mail: KruzelPL@pella.com

Customer Information	Project/Delivery Address	Order Information				
URBAN ALTERSCAPE	1022 SEMINOLE ST DETROIT	Quote Name: ENCLOSED PORCH				
1000 WHITTIER RD	1000 WHITTIER RD					
		Order Number: 189				
GROSSE POINT PARK, MI 48230	Lot#	Quote Number: 14437172				
<b>Primary Phone:</b> (313) 5222137	GROSSE POINT PARK, MI 48230	Order Type: Non-Installed Sales				
Mobile Phone:	County:	Wall Depth:				
Fax Number:	Owner Name:	Payment Terms:				
<b>E-Mail:</b> GBAKER@URBANALTERSCAPE.COM		Tax Code: MISALESTAX				
Contact Name:	Owner Phone:	Cust Delivery Date: None				
		Quoted Date: 8/9/2021				
Great Plains #: 1004971347		Contracted Date:				
Customer Number: 1008945919		Booked Date:				
Customer Account: 1004971347		Customer PO #:				

Customer Notes: 2021 PELLA RESERVE

\*\*\*yOUR COST AS SHOWN\*\*\*

EXTERIOR- TAN (VERIFY)

INTERIOR- UNFINISHED (FOR PREFIN WHITE ADD \$4700)

HARDWARE- VERIFY

SCREEN- TAN

GRILL SDL 7/8" OGEE/ GLAZE GLASS- ADV. LOW E W/ ARGON

JAMB EXT- NONE

Printed on 8/10/2021 Contract - Detailed Page 1 of 12

0 Porch Addition

PK#
2093

Viewed From Exterior

# Pella® Reserve, Traditional, 2-Wide Double Hung, 47 X 77, Tan

 Item Price
 Qty
 Ext'd Price

 \$2,551.59
 6
 \$15,309.54

1: Traditional, 23.577 Double Hung, Equal

Frame Size: 23 1/2 X 77

**General Information:** Standard, Luxury, Clad, Pine, 5", 3 11/16" **Exterior Color / Finish:** Painted, Standard Enduraclad, Tan

Interior Color / Finish: Unfinished Interior

Sash / Panel: Ogee, Ogee, Standard, No Sash Lugs

Glass: Insulated Dual Low-E Advanced Low-E Insulating Glass Argon Non High Altitude

Hardware Options: Cam-Action Lock, White, No Window Opening Control Device, No Limited Opening Hardware, Order Sash Lift, No Integrated Sensor

Screen: Full Screen, Standard EnduraClad, Tan, Standard, InView™

Performance Information: U-Factor 0.29, SHGC 0.25, VLT 0.47, CPD PEL-N-232-00255-00001, Performance Class CW, PG 50, Calculated Positive DP Rating 50, Calculated Negative DP Rating 50, Year Rated 08|11, Clear Opening Width 20.125, Clear Opening Height 34.062, Clear Opening Area 4.760401,

Egress Does not meet typical United States egress, but may comply with local code requirements

Grille: ILT, No Custom Grille, 7/8", Traditional (3W3H / 0W0H), Ogee, Ogee

Vertical Mull 1: FactoryMull, Standard Joining Mullion, Frame To Frame Width- 0", Mull Design Pressure- 20

2: Traditional, 23.577 Double Hung, Equal

Frame Size: 23 1/2 X 77

**General Information:** Standard, Luxury, Clad, Pine, 5", 3 11/16" **Exterior Color / Finish:** Painted, Standard Enduraclad, Tan

Interior Color / Finish: Unfinished Interior

Sash / Panel: Ogee, Ogee, Standard, No Sash Lugs

Glass: Insulated Dual Low-E Advanced Low-E Insulating Glass Argon Non High Altitude

Hardware Options: Cam-Action Lock, White, No Window Opening Control Device, No Limited Opening Hardware, Order Sash Lift, No Integrated Sensor

Screen: Full Screen, Standard EnduraClad, Tan, Standard, InView™

**Performance Information:** U-Factor 0.29, SHGC 0.25, VLT 0.47, CPD PEL-N-232-00255-00001, Performance Class CW, PG 50, Calculated Positive DP Rating 50, Calculated Negative DP Rating 50, Year Rated 08|11, Clear Opening Width 20.125, Clear Opening Height 34.062, Clear Opening Area 4.760401, Egress Does not meet typical United States egress, but may comply with local code requirements

Grille: ILT, No Custom Grille, 7/8", Traditional (3W3H / 0W0H), Ogee, Ogee

Wrapping Information: Foldout Fins, Factory Applied, No Exterior Trim, 6 9/16", 7 7/8", Standard Four Sided Jamb Extension, Factory Applied, Pella

Recommended Clearance, Perimeter Length = 248".

**Rough Opening:** 47 - 3/4" X 77 - 3/4"

Line # Location: Attributes

23 3 23 5

Porch Addition

11

**PK #** 2093

Viewed From Exterior

# Pella® Reserve, Traditional, 2-Wide Sash Set, 47 X 17, Tan

 Item Price
 Qty
 Ext'd Price

 \$1,078.38
 8
 \$8,627.04

1: Traditional, 23.517 Fixed Sash Set

Frame Size: 23 1/2 X 17

General Information: Standard, Clad, Pine, 5", 3 11/16" Exterior Color / Finish: Painted, Standard Enduraclad, Tan

**Interior Color / Finish:** Unfinished Interior **Sash / Panel:** Ogee, Ogee, Standard

Glass: Insulated Dual Low-E Advanced Low-E Insulating Glass Argon Non High Altitude

Performance Information: U-Factor 0.28, SHGC 0.27, VLT 0.50, CPD PEL-N-1-53758-00002, Performance Class CW, PG 50, Calculated Positive DP

Rating 50, Calculated Negative DP Rating 50, Year Rated 11 **Grille:** ILT, No Custom Grille, 7/8", Traditional (3W1H), Ogee, Ogee

Vertical Mull 1: FactoryMull, Standard Joining Mullion, Frame To Frame Width- 0", Mull Design Pressure- 20

2: Traditional, 23.517 Fixed Sash Set

Frame Size: 23 1/2 X 17

**General Information:** Standard, Clad, Pine, 5", 3 11/16" **Exterior Color / Finish:** Painted, Standard Enduraclad, Tan

Interior Color / Finish: Unfinished Interior Sash / Panel: Ogee, Ogee, Standard

Glass: Insulated Dual Low-E Advanced Low-E Insulating Glass Argon Non High Altitude

Performance Information: U-Factor 0.28, SHGC 0.27, VLT 0.50, CPD PEL-N-1-53758-00002, Performance Class CW, PG 50, Calculated Positive DP

Rating 50, Calculated Negative DP Rating 50, Year Rated 11 **Grille:** ILT, No Custom Grille, 7/8", Traditional (3W1H), Ogee, Ogee

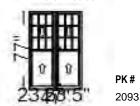
Wrapping Information: Foldout Fins, Factory Applied, No Exterior Trim, 6 9/16", 7 7/8", Standard Four Sided Jamb Extension, Factory Applied, Pella

Recommended Clearance, Perimeter Length = 128".

Rough Opening: 47 - 3/4" X 17 - 3/4"

Attributes Line # Location:

15 Porch Addition



Viewed From Exterior

# Pella® Reserve, Traditional, 2-Wide Double Hung, 47 X 77, Tan

**Item Price Ext'd Price** Qty \$2.678.22 \$2,678.22 1

1: Traditional, 23.577 Double Hung, Equal

Frame Size: 23 1/2 X 77

General Information: Standard, Luxury, Clad, Pine, 5", 3 11/16" Exterior Color / Finish: Painted, Standard Enduraclad, Tan

Interior Color / Finish: Unfinished Interior

Sash / Panel: Ogee, Ogee, Standard, No Sash Lugs

Glass: Insulated Dual Low-E Advanced Low-E Insulating Glass Argon Non High Altitude

Hardware Options: Cam-Action Lock, White, No Window Opening Control Device, No Limited Opening Hardware, Order Sash Lift, No Integrated Sensor

Screen: Full Screen, Standard EnduraClad, Tan, Standard, InView™

Performance Information: U-Factor 0.29, SHGC 0.25, VLT 0.47, CPD PEL-N-232-00255-00001, Performance Class CW, PG 50, Calculated Positive DP Rating 50, Calculated Negative DP Rating 50, Year Rated 08|11, Clear Opening Width 20.125, Clear Opening Height 34.062, Clear Opening Area 4.760401.

Egress Does not meet typical United States egress, but may comply with local code requirements

Grille: ILT, No Custom Grille, 7/8", Traditional (3W3H / 0W0H), Ogee, Ogee

Vertical Mull 1: FactoryMull, Standard Joining Mullion, Frame To Frame Width- 0", Mull Design Pressure- 20

2: Traditional, 23.577 Double Hung, Equal

Frame Size: 23 1/2 X 77

General Information: Standard, Luxury, Clad, Pine, 5", 3 11/16" Exterior Color / Finish: Painted, Standard Enduraclad, Tan

Interior Color / Finish: Unfinished Interior

Sash / Panel: Ogee, Ogee, Standard, No Sash Lugs

Glass: Insulated Dual Tempered Low-E Advanced Low-E Insulating Glass Argon Non High Altitude

Hardware Options: Cam-Action Lock, White, No Window Opening Control Device, No Limited Opening Hardware, Order Sash Lift, No Integrated Sensor

Screen: Full Screen, Standard EnduraClad, Tan, Standard, InView™

Performance Information: U-Factor 0.29, SHGC 0.25, VLT 0.46, CPD PEL-N-232-00259-00001, Performance Class CW, PG 50, Calculated Positive DP Rating 50, Calculated Negative DP Rating 50, Year Rated 08|11, Clear Opening Width 20.125, Clear Opening Height 34.062, Clear Opening Area 4.760401, Egress Does not meet typical United States egress, but may comply with local code requirements

Grille: ILT, No Custom Grille, 7/8", Traditional (3W3H / 0W0H), Ogee, Ogee

Wrapping Information: Foldout Fins, Factory Applied, No Exterior Trim, 6 9/16", 7 7/8", Standard Four Sided Jamb Extension, Factory Applied, Pella

Recommended Clearance, Perimeter Length = 248".

**Rough Opening:** 47 - 3/4" X 77 - 3/4"

Attributes

20 Line #

Location:
Porch Addition



**PK #** 2093

Viewed From Exterior

Pella® Reserve, Traditional, Double Outswing Door, Active / Passive, 59.25 X 81.5, Tan

 Item Price
 Qty
 Ext'd Price

 \$3,769.13
 1
 \$3,769.13

1: Traditional, 6082 Active / Passive Double Outswing Door

Frame Size: 59 1/4 X 81 1/2

General Information: Standard, Clad, Pine, 5 7/8", 4 9/16", Standard Sill, Black Finish Sill, Standard Frame Stops, Black Composite Threshold

Exterior Color / Finish: Painted, Standard Enduraclad, Tan

Interior Color / Finish: Unfinished Interior

Sash / Panel: Ogee, Ogee, Standard

Glass: Insulated Dual Tempered Low-E Advanced Low-E Insulating Glass Argon Non High Altitude

Hardware Options: Standard, Satin Nickel, Order Handle Set, Multipoint Lock, No Integrated Sensor, Aluminum Adjustable, Tan

Performance Information: U-Factor 0.28, SHGC 0.21, VLT 0.39, CPD PEL-N-212-02861-00001, Performance Class LC, PG 55, Calculated Positive DP

Rating 55, Calculated Negative DP Rating 65, Year Rated 11

Grille: No Grille,

Wrapping Information: Foldout Fins, Factory Applied, No Exterior Trim, 6 9/16", 7 7/8", Factory Applied, Pella Recommended Clearance, Perimeter Length

= 282".

Rough Opening: 60" X 82"

Location:

Porch Addition

Line #

25

Attributes

# Pella® Reserve, Traditional, 2-Wide Sash Set, 59.25 X 17, Tan

 Item Price
 Qty
 Ext'd Price

 \$1,413.86
 1
 \$1,413.86



2093

Viewed From Exterior

1: Traditional, 29.62517 Fixed Sash Set

Frame Size: 29 5/8 X 17

**General Information:** Standard, Clad, Pine, 5", 3 11/16" **Exterior Color / Finish:** Painted, Standard Enduraclad, Tan

Interior Color / Finish: Unfinished Interior Sash / Panel: Ogee, Ogee, Standard

Glass: Insulated Dual Low-E Advanced Low-E Insulating Glass Argon Non High Altitude

Performance Information: U-Factor 0.28, SHGC 0.27, VLT 0.50, CPD PEL-N-1-53758-00002, Performance Class CW, PG 50, Calculated Positive DP

Rating 50, Calculated Negative DP Rating 50, Year Rated 11

Grille: ILT, No Custom Grille, 7/8", Traditional (4W1H), Ogee, Ogee

Vertical Mull 1: FactoryMull, Standard Joining Mullion, Frame To Frame Width- 0", Mull Design Pressure- 20

2: Traditional, 29.62517 Fixed Sash Set

Frame Size: 29 5/8 X 17

**General Information:** Standard, Clad, Pine, 5", 3 11/16" **Exterior Color / Finish:** Painted, Standard Enduraclad, Tan

Interior Color / Finish: Unfinished Interior Sash / Panel: Ogee, Ogee, Standard

Glass: Insulated Dual Low-E Advanced Low-E Insulating Glass Argon Non High Altitude

Performance Information: U-Factor 0.28, SHGC 0.27, VLT 0.50, CPD PEL-N-1-53758-00002, Performance Class CW, PG 50, Calculated Positive DP

Rating 50, Calculated Negative DP Rating 50, Year Rated 11

Grille: ILT, No Custom Grille, 7/8", Traditional (4W1H), Ogee, Ogee

Wrapping Information: Foldout Fins, Factory Applied, No Exterior Trim, 6 9/16", 7 7/8", Standard Four Sided Jamb Extension, Factory Applied, Pella

Recommended Clearance, Perimeter Length = 153".

**Rough Opening:** 60" X 17.75"

Line # Location: Attributes



Viewed From Exterior

# Pella® Reserve, Traditional, 2-Wide Double Hung, 47 X 77, Tan

 Item Price
 Qty
 Ext'd Price

 \$2,920.53
 1
 \$2,920.53

1: Traditional, 23.577 Double Hung, Equal

Frame Size: 23 1/2 X 77

General Information: Standard, Luxury, Clad, Pine, 5", 3 11/16" Exterior Color / Finish: Painted, Standard Enduraclad, Tan Interior Color / Finish: Prefinished White Paint Interior Sash / Panel: Ogee, Ogee, Standard, No Sash Lugs

Glass: Insulated Dual Tempered Low-E Advanced Low-E Insulating Glass Argon Non High Altitude

Hardware Options: Cam-Action Lock, White, No Window Opening Control Device, No Limited Opening Hardware, Order Sash Lift, No Integrated Sensor

Screen: Full Screen, Standard EnduraClad, Tan, Standard, InView™

Performance Information: U-Factor 0.29, SHGC 0.25, VLT 0.46, CPD PEL-N-232-00259-00001, Performance Class CW, PG 50, Calculated Positive DP Rating 50, Calculated Negative DP Rating 50, Year Rated 08|11, Clear Opening Width 20.125, Clear Opening Height 34.062, Clear Opening Area 4.760401,

Egress Does not meet typical United States egress, but may comply with local code requirements

Grille: ILT, No Custom Grille, 7/8", Traditional (3W3H / 0W0H), Ogee, Ogee

Vertical Mull 1: FactoryMull, Standard Joining Mullion, Frame To Frame Width- 0", Mull Design Pressure- 20

2: Traditional, 23.577 Double Hung, Equal

Frame Size: 23 1/2 X 77

General Information: Standard, Luxury, Clad, Pine, 5", 3 11/16" Exterior Color / Finish: Painted, Standard Enduraclad, Tan Interior Color / Finish: Prefinished White Paint Interior Sash / Panel: Ogee, Ogee, Standard, No Sash Lugs

Glass: Insulated Dual Low-E Advanced Low-E Insulating Glass Argon Non High Altitude

Hardware Options: Cam-Action Lock, White, No Window Opening Control Device, No Limited Opening Hardware, Order Sash Lift, No Integrated Sensor

Screen: Full Screen, Standard EnduraClad, Tan, Standard, InView™

**Performance Information:** U-Factor 0.29, SHGC 0.25, VLT 0.47, CPD PEL-N-232-00255-00001, Performance Class CW, PG 50, Calculated Positive DP Rating 50, Calculated Negative DP Rating 50, Year Rated 08|11, Clear Opening Width 20.125, Clear Opening Height 34.062, Clear Opening Area 4.760401, Egress Does not meet typical United States egress, but may comply with local code requirements

Grille: ILT, No Custom Grille, 7/8", Traditional (3W3H / 0W0H), Ogee, Ogee

Wrapping Information: Foldout Fins, Factory Applied, No Exterior Trim, 6 9/16", 7 7/8", Standard Four Sided Jamb Extension, Factory Applied, Pella

Recommended Clearance, Perimeter Length = 248".

**Rough Opening:** 47 - 3/4" X 77 - 3/4"

Line # Location:

35 Shed
ame Radius =

PK#
2093

Viewed From Exterior

# Attributes

# Pella® Reserve, Traditional, Sash Set, Fixed Springline, 18 X 29, Tan

 Item Price
 Qty
 Ext'd Price

 \$2,944.05
 3
 \$8,832.15

1: Traditional, 1829 Fixed Sash Set Springline

Frame Size: 18 X 29 X 20

**General Information:** Standard, Clad, Pine, 5", 3 11/16" **Exterior Color / Finish:** Painted, Standard Enduraclad, Tan

**Interior Color / Finish:** Unfinished Interior **Sash / Panel:** Ogee, Ogee, Standard

Glass: Insulated Dual Low-E Advanced Low-E Insulating Glass Argon Non High Altitude

Performance Information: U-Factor 0.27, SHGC 0.26, VLT 0.49, CPD PEL-N-1-54501-00002, Performance Class CW, PG 50, Calculated Positive DP

Rating 50, Calculated Negative DP Rating 50, Year Rated 11 **Grille:** ILT, No Custom Grille, 7/8", Traditional (2W4H), Ogee, Ogee

Wrapping Information: Foldout Fins, Factory Applied, No Exterior Trim, 6 9/16", 7 7/8", Standard Four Sided Jamb Extension, Factory Applied, Pella

Recommended Clearance, Perimeter Length = 87".

Rough Opening: 18 - 3/4" X 29 - 3/4"

Customer Notes: Minimum width 24" for Direct Set and 18" for Sash Set

# Thank You For Purchasing Pella® Products

## **PELLA WARRANTY:**

Pella products are covered by Pella's limited warranties in effect at the time of sale. All applicable product warranties are incorporated into and become a part of this contract. Please see the warranties for complete details, taking special note of the two important notice sections regarding installation of Pella products and proper management of moisture within the wall system. Neither Pella Corporation nor the Seller will be bound by any other warranty unless specifically set out in this contract. However, Pella Corporation will not be liable for branch warranties which create obligations in addition to or obligations which are inconsistent with Pella written warranties.

Clear opening (egress) information does not take into consideration the addition of a Rolscreen [or any other accessory] to the product. You should consult your local building code to ensure your Pella products meet local egress requirements.

Per the manufacturer's limited warranty, unfinished mahogany exterior windows and doors must be finished upon receipt prior to installing and refinished annually, thereafter. Variations in wood grain, color, texture or natural characteristics are not covered under the limited warranty.

INSYNCTIVE PRODUCTS: In addition, Pella Insynctive Products are covered by the Pella Insynctive Products Software License Agreement and Pella Insynctive Products Privacy Policy in effect at the time of sale, which can be found at Insynctive.pella.com. By installing or using Your Insynctive Products you are acknowledging the Insynctive Software Agreement and Privacy Policy are part of the terms of sale.

Notice of Collection of Personal Information: We may collect your personal information when you interact with us. Under the California Consumer Privacy Act (CCPA), California residents have specific rights to request this information, request to delete this information, and opt out of the sharing or sale of this information to third parties. To learn more about our collection practices and your rights under the CCPA please visit our link <a href="https://www.pella.com/california-rights-policy/">https://www.pella.com/california-rights-policy/</a> at pella.com.

# ARBITRATION AND CLASS ACTION WAIVER ("ARBITRATION AGREEMENT")

YOU and Pella and its subsidiaries and the Pella Branded Distributor AGREE TO ARBITRATE DISPUTES ARISING OUT OF OR RELATING TO YOUR PELLA PRODUCTS (INCLUDES PELLA GOODS AND PELLA SERVICES) AND WAIVE THE RIGHT TO HAVE A COURT OR JURY DECIDE DISPUTES. YOU WAIVE ALL RIGHTS TO PROCEED AS A MEMBER OR REPRESENTATIVE OF A CLASS ACTION, INCLUDING CLASS ARBITRATION, REGARDING DISPUTES ARISING OUT OF OR RELATING TO YOUR PELLA PRODUCTS. You may opt out of this Arbitration Agreement by providing notice to Pella no later than ninety (90) calendar days from the date You purchased or otherwise took ownership of Your Pella Goods. To opt out, You must send notice by e-mail to pellawebsupport@pella.com, with the subject line: "Arbitration Opt Out" or by calling (877) 473-5527. Opting out of the Arbitration Agreement will not affect the coverage provided by any applicable limited warranty pertaining to Your Pella Products. For complete information, including the full terms and conditions of this Arbitration Agreement, which are incorporated herein by reference, please visit <a href="https://www.pella.com/arbitration">www.pella.com/arbitration</a> or e-mail to <a href="mailto:pellawebsupport@pella.com">pellawebsupport@pella.com</a>, with the subject line: "Arbitration Details" or call (877) 473-5527. D'ARBITRAGE ET RENONCIATION AU RECOURS COLLECTIF ("convention d'arbitrage") EN FRANÇAIS SEE PELLA.COM/ARBITRATION. DE ARBITRAJE Y RENUNCIA COLECTIVA ("acuerdo de arbitraje") EN ESPAÑOL VER PELLA.COM/ARBITRATION.

Seller shall not be held liable for failure or delay in the performance of its obligations under this Agreement, if such performance is hindered or delayed by the occurrence of an act or event beyond the Seller's reasonable control (force majeure event), including but not limited to earthquakes, unusually severe weather and other Acts of God, fire, strikes and labor unrest, epidemics, riots, war, civil unrest, and government interventions. Seller shall give timely notice of a force majeure event and take such reasonable action to mitigate the impacts of such an event.

# **Product Performance Information:**

U-Factor, Solar Heat Gain Coefficient (SHGC), and Visible Light Transmittance (VLT) are certified by the National Fenestration Rating Council (NFRC).

For more information regarding the finishing, maintenance, service and warranty of all Pella® products, visit the Pella® website at www.pella.com

Manufacturer stipulates that these ratings conform to applicable NFRC procedures for determining whole product performance. NFRC ratings are determined for a fixed set of environmental conditions and a specific product size. NFRC does not recommend any products and does not warrant the suitability of any product for any specific use.

Design Pressure (DP), Performance Class, and Performance Grade (PG) are certified by a third party organization, in many cases the Window and Door Manufacturers Association (WDMA). The certification requires the performance of at least one product of the product line to be tested in accordance with the applicable performance standards and verified by an independent party. The certification indicates that the product(s) of the product line passed the applicable tests. The certification does not apply to mulled and/or product combinations unless noted. Actual product results will vary and change over the products life.

For more performance information along with information on Florida Product Approval System (FPAS) Number and Texas Dept. of Insurance (TDI) number go to <a href="https://www.pella.com/performance">www.pella.com/performance</a>.

Pella products are covered by Pella's limited warranties in effect at the time of sale. All applicable product warranties are incorporated into and become a part of this contract. Please see the warranties for complete details, taking special note of the two important notice sections regarding installation of Pella products and proper management of moisture within the wall system. Neither Pella Corporation nor PWD, LLC ("Pella Windows and Doors") will be bound by any other warranty unless specifically set out in this contract. However, Pella Corporation will not be liable for branch warranties which create obligations in addition to or obligations which are inconsistent with Pella written warranties.

Clear opening (egress) information does not take into consideration the addition of a Rolscreen [or any other accessory] to the product. You should consult your local building code to ensure your Pella products meet local egress requirements.

Per the manufacturer's limited warranty, unfinished mahogany exterior windows and doors must be finished upon receipt prior to installing and refinished annually, thereafter. Variations in wood grain, color, texture or natural characteristics are not covered under the limited warranty.

For more information regarding the finishing, maintenance, service and warranty of all Pella® products, visit the Pella® website at www.pella.com

GENERAL TERMS AND CONDITIONS: ACCEPTANCE: This order is subject to acceptance by an authorized agent of PWD, LLC. PRICING: All quote pricing is valid for a period of 30 days, at which time an adjustment may be made for product offering changes or transportation costs. CHANGES: Product manufactured or in process of manufacturing in accordance with the specifications, as outlined herein, cannot be returned or cancelled. Additional materials or services will be billed at the price prevailing at the time of order. INSPECTION: Buyer should carefully check material upon delivery and report any claim for product shortages or damages within 3 days. TERMS: Payment required with order unless upon approved credit. Net 30 Days on approved credit. Accounts not paid within terms are subject to finance charge of 1 ½% per month which is an annual percentage rate of 18%. LIENS: Claim of Lien is automatically filed on delinquent jobs as required by law. Waivers of Lien (partial, full or conditional) are furnished upon request after payment. PERFORMANCE: Seller shall not be liable for any consequences of delay regardless of cause. INSTALLATION: Products purchased from and installed by seller under the "Retail" program are covered by a two-year limited installation warranty. With the exception of the "Retail" program, seller shall not be liable to buyer for any damages or problems resulting from installation of Pella products. In the event that buyer has been referred to an independent contractor, including a Certified Pella Contractor, buyer assumes full responsibility for all installation matters, including the selection of the contractor. WARRANTY: Pella products are covered by Pella's limited warranties in effect at the time of sale. All applicable product warranties are incorporated into and become a part of this contract. Please see the warranties for complete details. Neither Pella Corporation nor PWD, LLC will be bound by any other warranty.

Order Checklist	
PWD, LLC	
Our #1 Priority is Your Satisfaction!	
Pella products are made to your specifications, carefully re	view the details of this contract as we have a NO Return Policy.
Initial below ALL items that have been verified	
Brand:	Brand:
Brand:	Brand:
Exterior Color:	Grilles: (Exterior/Interior)
Interior Stain/Finish:	Glazing/Glass:
Blinds/Shades:	Wall Condition:
Check below ALL items that have been verified/reviewed	
Other Product Attributes:	
[ ] Reviewed Sizes on Contract	[ ] Window Hardware Color
For more information regarding the finishing, ma	aintenance, service and warranty of all Pella® products, visit the Pella® website at www.pella.com

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Customer: URBAN ALTERSCAPE	Project Name: 1022 SEMINOLE ST DETROIT	Order Number: 189	Quote Number: 14437172
] Window Screens	[ ] Door Hardware/Key Cylinder	r	
] Door Screens	[ ] Trim/Casing/Mull Covers		
] Hinging/Sliding (exterior)	[ ] Tape/Foam/Caulk/C	oil/Etc	
] Handing (exterior)	[ ] Line Items Initialed		_
Other Items Special to this order:			
] Item #1	[ ] Item #3		
] Item #2	[ ] Item #4		
Other Information:			
] Customer Satisfaction!	[ ] Product Warranty Reviewed		_
	[ ] I Have Received Interior Finis		
Delivery Date & Special Instructions	[ ] Sales & Service Cont	act Information Reviewed	
	ons Reviewed [ ] Service Contact Info		
] Delivery Cancellation Fee \$150 if order rej	ected at job site [ ] Accessory Hold Item	s Reviewed & Date Set	
] Reschedule Fee \$75 if Cancelled within 24	hours of Scheduled Delivery [ ] Other		
] I hereby authorize Pella Corporation, its af	filiates and/or subsidiaries to use, reproduce, and/	or publish photographs and/or	video that may pertain to me and
ny project, including materials described belo	ow, without compensation. I understand that this n	naterial may be used in various	communications (e.g. Website, e-
ewsletters, promotional materials, etc).			
onsequently, the Corporation may publish mems appropriate.	naterials, photographs, and/or make reference to the	he project in a manner that the	Corporation or project sponsor
-			
omments:			

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Project	Checklist	has	been	reviewed
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Credit Card Approval Signature

Customer Name	(Please print)	Pella Sales Rep Name	(Please print)
		-	
Customer Signature		Pella Sales Rep Signature	
Date		Date	
Date		Bate	

Order Totals	
Taxable Subtotal	\$43,550.47
Sales Tax @ 6%	\$2,613.03
Non-taxable Subtotal	\$0.00
Total	\$46,163.50
Deposit Received	\$0.00
Amount Due	\$46,163.50

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# Pella® Reserve™ Traditional Hung Window



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The information published in this document is believed to be accurate at the time of publication. However, because we are constantly working to improve our products, specifications are subject to change without notice. Consult your local Pella representative for up-to-date product information.

# $\mathsf{Pella}^{\circledast}\;\mathsf{Reserve}^{\mathsf{\tiny TM}}\;\mathsf{Traditional}\;\mathsf{Hung}\;\mathsf{Window}$

# Size and Performance Data

Air/Water/Structural Performance	
Meets or Exceeds AAMA/WDMA Ratings	H-CW30 - CW50 Hallmark Certified
Air Infiltration (cfm/ft $^2$ of frame @ 1.57 psf wind pressure) $_2$	0.11
Water Resistance	4.6-7.5 psf
Design Pressure	30-50 psf

Other Performance Criteria	
Forced Entry Resistance Level (Minimum Security Grade) <sub>3</sub>	10
Operating Force (lb) Initiate Motion / Maintain Motion (of Hallmark tested size and glazing) <sub>4</sub>	40/45

# Sound Transmission Class / Outdoor-Indoor Transmission Class

Count Hansingston Class / Catacor Macor Hansingston Class											
Product	Frame Size Tested 5	Overall Glazing Thickness	Exterior Glass Thickness	Interior Glass Thickness	Third Pane Thickness	STC Rating	OITC Rating				
Reserve	WITH INTEGRA	L GRILLES									
Clad Double-Hung Window	45" x 65"	11/16"	2.5mm	2.5mm	-	29	26				
willdow	45" x 65"	11/16"	3mm	5mm	-	34	30				
	45" x 65"	11/16"	3mm	6mm Laminated	-	35	30				
	WITH REMOVA	BLE OR NO GR	ILLES								
	45" x 65"	11/16"	2.5mm	2.5mm	-	28	24				
	45" x 65"	11/16"	3mm	5mm	-	32	28				
	45" x 65"	11/16"	3mm	6mm Laminated	-	33	28				

<sup>(-) =</sup> Not Available

<sup>(1)</sup> 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.

<sup>(2)</sup> 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.

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

<sup>(4)</sup> Glazing configurations may result in higher operational forces

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



# Features and Options

Standard	Options / Upgrades				
Glazing					
Glazing Type					
Dual-Pane Insulating Glass	-				
Insulated Glass Options/Low-E Typ	es				
•	SunDefense™ Low-E				
	AdvancedComfort Low-E				
Advanced Low-E	NaturalSun Low-E				
	Clear (no Low-E coating)				
Additional Glass Options					
·	Tempered Glass				
A 1 1 CI	Obscure Glass <sub>1</sub>				
Annealed Glass	Low-E Tinted Glass (Bronze, Gray and Green)				
	Non-Impact Laminated Dual-Pane Insulating Glass				
Gas Fill/High Altitude					
Argon	High altitude				
Exterior					
Exterior Sash Profile					
Ogee	Putty Glaze				
Exterior Finish					
EnduraClad® aluminum-clad exterior	EnduraClad Plus protective finish, Factory Primed Pine wood exterior, Unfinished Mahogany wood exterior				
Cladding Colors					
27 Standard colors₁	Custom Colors 1				
Interior					
	Factory primed				
Unfinished wood	Factory prefinished paint 1				
	Factory prefinished stain₁				
Wood Types					
Pine	Mahogany, Douglas Fir				
Hardware					
Hardware Types					
	Simulated lock				
Sash lifts, Cam-action lock	Air conditioner lock				
	Historical spoon-style lock (surface mounted)				
Hardware Finishes					
Champagne, White, Brown or Matte Black	Bright Brass, Satin Nickel, Oil-Rubbed Bronze, Antique Brass, Distressed Bronze, Distressed Nickel				
Tilt-Wash Cleaning					
Tilt to interior on both sashes	·				
Grilles					
Integral Light Technology® Grilles					
_	Traditional, Prairie, Top Row, Cross, New England, Victorian, Diamond, Custom				
Roomside Removable Grilles					
_	Traditional, Prairie, Custom				
Grilles-Between-the-Glass					
_	Traditional, Prairie, Top Row <sub>1</sub> , Cross, Custom-Equally Divided				
Screens					
	Integrated Rolscreen® - retractable screen, InView™ screens, Vivid View® screens, in standard roll-				
	form or premium extruded aluminum frame				

#### (-) = Not Available

- (1) Contact your local Pella sales representative for current designs and color options.
- (2) Only available for Pella Reserve products with triple glazing. Not available with high altitude glazing.
- (3) Available with Low-E argon-insulated glass only.
- (4) Antique Brass, Distressed Nickel, Distressed Bronze finishes available for Historical spoon-style lock only.

# Combination Assemblies - Rectangular Units

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 mulled 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. Refer to Combinations Section for typical combinations requirements, and limitations related to mulling various combinations.

Contact your local Pella sales representative for more information.

Single

Two-Wide





Click to view Clad-Wood Combinations Sections

Combination Recommendations Downloadable PDF

Two-Wide

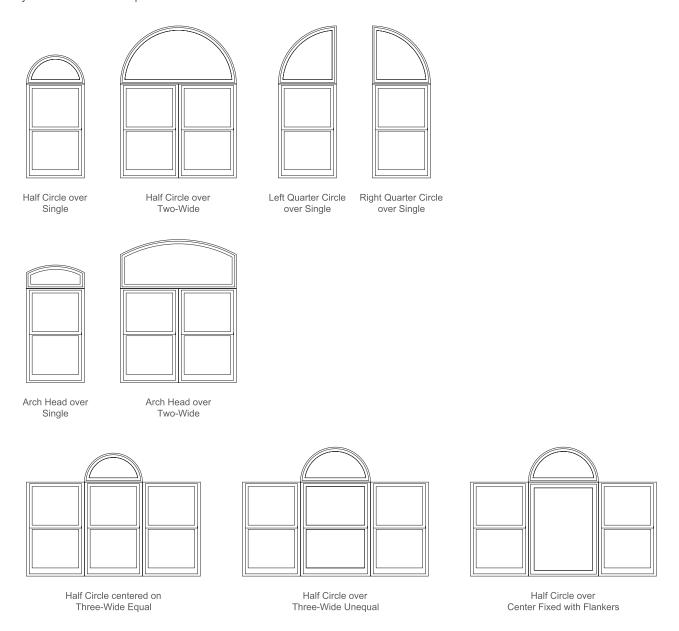


# Combination Assemblies - Arch Top Units

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 mulled 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. Refer to Combinations Section for typical combinations requirements, and limitations related to mulling various combinations.

Contact your local Pella sales representative for more information.



Click to view Clad-Wood Combinations Sections



Sse Sse				lass   Performance Values   Shaded Areas Meet   Performance Criteria											
Glazing Thickness	Type of Glazing	NFRC Certified Product #			Gap Fill	ctor	SHGC	<b>⊢</b> ;	~		U. S. Zone			Canada <sub>2</sub>	
			Ext.	Int.		U-Factor	SH	VLT	8				ER	Zone	
Vent	Dual-Pane Glazing - Aluminui	m-Clad Exterior								N	NC	SC	S		CA
11/16"	Clear IG	PEL-N-232-00217-00001	2.5	2.5	Air	0.46	0.59	0.62	44						
	with grilles-between-the-glass	PEL-N-232-00218-00001				0.46	0.53	0.55	44						
	with integral grilles	PEL-N-232-00219-00001				0.46	0.53	0.55	44						
11/16"	Clear IG	PEL-N-232-00221-00001	3	3	Air	0.46	0.58	0.61	44						
	with grilles-between-the-glass	PEL-N-232-00222-00001				0.46	0.52	0.54	44						
	with integral grilles	PEL-N-232-00223-00001				0.46	0.52	0.54	44						
11/16"	Advanced Low-E IG	PEL-N-232-00253-00001	2.5	2.5	Argon	0.29	0.28	0.53	60		NC				
	with grilles-between-the-glass	PEL-N-232-00254-00001				0.29	0.25	0.47	60		NC	SC	S		
	with integral grilles	PEL-N-232-00255-00001				0.29	0.25	0.47	60		NC	SC	S		$oxed{oxed}$
11/16"	Advanced Low-E IG	PEL-N-232-00257-00001	3	3	Argon	0.29	0.28	0.52	59		NC				<u> </u>
	with grilles-between-the-glass	PEL-N-232-00258-00001				0.29	0.25	0.46	59		NC	SC	S		
	with integral grilles	PEL-N-232-00259-00001				0.29	0.25	0.46	59		NC	SC	S		
11/16"	SunDefense™ Low-E IG	PEL-N-232-00301-00001	2.5	2.5	Argon	0.28	0.21	0.49	60		NC	SC	S		
	with grilles-between-the-glass	PEL-N-232-00302-00001				0.28	0.19	0.43	60		NC	SC	S		<b>↓</b>
	with integral grilles	PEL-N-232-00303-00001				0.29	0.19	0.43	60		NC	SC	S		$oldsymbol{oldsymbol{oldsymbol{eta}}}$
11/16"	SunDefense™ Low-E IG	PEL-N-232-00305-00001	3	3	Argon	0.28	0.21	0.48	60		NC	SC	S		<del>                                     </del>
	with grilles-between-the-glass	PEL-N-232-00306-00001				0.28	0.19	0.43	60		NC	SC	S		<u> </u>
	with integral grilles	PEL-N-232-00307-00001				0.29	0.19	0.43	60		NC	SC	S		<u> </u>
11/16"	AdvancedComfort Low-E IG	PEL-N-232-00277-00001	2.5	2.5	Argon	0.25	0.27	0.51	49	N	NC				↓
	with grilles-between-the-glass	PEL-N-232-00278-00001				0.25	0.25	0.46	49	N	NC	SC	S		ــــــ
	with integral grilles	PEL-N-232-00279-00001				0.26	0.25	0.46	49	N	NC	SC	S		<b>↓</b>
11/16"	AdvancedComfort Low-E IG	PEL-N-232-00281-00001	3	3	Argon	0.25	0.27	0.51	48	N	NC				<b>↓</b>
	with grilles-between-the-glass	PEL-N-232-00282-00001				0.25	0.25	0.45	48	N	NC	SC	S		↓
	with integral grilles	PEL-N-232-00283-00001				0.26	0.25	0.45	48	N	NC	SC	S		↓
11/16"	NaturalSun Low-E IG	PEL-N-232-00229-00001	2.5	2.5	Argon	0.30	0.52	0.60	60	N					↓
	with grilles-between-the-glass	PEL-N-232-00230-00001				0.30	0.47	0.53	60	N					<del> </del>
	with integral grilles	PEL-N-232-00231-00001			1.	0.30	0.47	0.53	60	N				<u> </u>	┼
11/16"	NaturalSun Low-E IG	PEL-N-232-00233-00001	3	3	Argon	0.30	0.51	0.59	59	N				_	—
	with grilles-between-the-glass	PEL-N-232-00234-00001				0.30	0.46	0.52	59	N					┼
	with integral grilles	PEL-N-232-00235-00001				0.30	0.46	0.52	59	N					
	d Glazing	DEL N. 000 00005 00004	1 -			0.00	0.05	0.04	40	1		0.0	-		
11/16"		PEL-N-232-00325-00001	5	3	Argon	0.29	0.25	0.34	48		NC	SC	S		├─
	with grilles-between-the-glass	PEL-N-232-00326-00001				0.31	0.22	0.30	48		NIC	66	S	_	₩
44/4/	with integral grilles	PEL-N-232-00327-00001	-		1	0.30	0.22	0.30	48	_	NC	SC	S	_	+
11/16"	Gray Advanced Low-E IG	PEL-N-232-00333-00001	5	3	Argon	0.29	0.23	0.29	58		NC	SC	S	-	+-
	with grilles-between-the-glass	PEL-N-232-00334-00001				0.31	0.21	0.26	58		NC	00	S	_	+
11/1/"	with integral grilles	PEL-N-232-00335-00001		1	1	0.30	0.21	0.26	58	_	NC	SC	S		+
11/16"	Green Advanced Low-E IG	PEL-N-232-00341-00001	5	3	Argon	0.29	0.28	0.46	58		NC				+
	with grilles-between-the-glass	PEL-N-232-00342-00001				0.31	0.25	0.25	58		NIC	00	S		+
	with integral grilles	PEL-N-232-00343-00001				0.30	0.25	0.41	58	l	NC	SC	5	l	1

R-Value = 1/U-Factor SHGC = Solar Heat Gain Coefficient VLT % = Visible Light Transmission CR = Condensation Resistance ER = Canadian Energy Rating

See the Product Performance section for more detailed information or visit www.energystar.gov for Energy Star guidelines. Non Rectangular Unit thermal values will vary slightly.



<sup>(1)</sup> Glazing performance values are calculated for Pine using NFRC 100, NFRC 200 and NFRC 500. Thermal performance of other wood species may vary. ENERGY STAR\* values are updated to 2016 (Version 6) criteria.

<sup>(2)</sup> The values shown are based on Canada's updated ENERGY STAR\* 2020 initiative.



ng ess	Type of Glazing	NFRC Certified Product #	Glass (mm)			Performance Values <sub>1</sub>				Shaded Areas Meet ENERGY STAR Performance Criteria in Zones Show					
Glazing Thickness			Ext.	Int.	Gap Fill	U-Factor	SHGC	T	~		U. S.			Can	ada 2
· ⊢								VLT	R		Zo	ne		ER	Zone
Vent	Dual-Pane High Altitude Glaz	zing - Aluminum-Clad Ex	terior							N	NC	SC	S		CA
11/16"	Advanced Low-E IG	PEL-N-232-00265-00001	2.5	2.5	Air	0.32	0.28	0.53	56						
	with grilles-between-the-glass	PEL-N-232-00265-00001				0.32	0.25	0.47	56				S		
	with integral grilles	PEL-N-232-00267-00001				0.33	0.25	0.47	56				S		
11/16"	Advanced Low-E IG	PEL-N-232-00269-00001	3	3	Air	0.32	0.28	0.52	55						
	with grilles-between-the-glass	PEL-N-232-00270-00001				0.32	0.25	0.46	55				S		
	with integral grilles	PEL-N-232-00271-00001				0.33	0.25	0.46	55				S		
11/16"	SunDefense Low-E IG	PEL-N-232-00313-00001	2.5	2.5	Air	0.32	0.21	0.49	57				S		
	with grilles-between-the-glass	PEL-N-232-00314-00001				0.32	0.19	0.43	57				S		
	with integral grilles	PEL-N-232-00315-00001				0.33	0.19	0.43	57				S		
11/16"	SunDefense Low-E IG	PEL-N-232-00317-00001	3	3	Air	0.32	0.21	0.48	56				S		
	with grilles-between-the-glass	PEL-N-232-00318-00001				0.32	0.19	0.43	56				S		
	with integral grilles	PEL-N-232-00319-00001				0.33	0.19	0.43	56				S		
11/16"	AdvancedComfort Low-E IG	PEL-N-232-00289-00001	2.5	2.5	Air	0.27	0.28	0.51	45	N	NC				
	with grilles-between-the-glass	PEL-N-232-00290-00001				0.27	0.25	0.46	45	N	NC	SC	S		
	with integral grilles	PEL-N-232-00291-00001				0.28	0.25	0.46	45		NC	SC	S		
11/16"	AdvancedComfort Low-E IG	PEL-N-232-00293-00001	3	3	Air	0.28	0.27	0.51	44		NC				
	with grilles-between-the-glass	PEL-N-232-00294-00001				0.28	0.25	0.45	44		NC	SC	S		
	with integral grilles	PEL-N-232-00295-00001				0.28	0.25	0.45	44		NC	SC	S		
11/16"	NaturalSun Low-E IG	PEL-N-232-00241-00001	2.5	2.5	Air	0.33	0.52	0.60	56						
	with grilles-between-the-glass	PEL-N-232-00242-00001				0.33	0.47	0.53	56						
	with integral grilles	PEL-N-232-00243-00001				0.34	0.47	0.53	56						
11/16"	NaturalSun Low-E IG	PEL-N-232-00245-00001	3	3	Air	0.33	0.51	0.59	55						
	with grilles-between-the-glass	PEL-N-232-00246-00001				0.33	0.46	0.52	55						
	with integral grilles	PEL-N-232-00247-00001				0.34	0.46	0.52	55						

R-Value = 1/U-Factor SHGC = Solar Heat Gain Coefficient VLT % = Visible Light Transmission CR = Condensation Resistance ER = Canadian Energy Rating

See the Product Performance section for more detailed information or visit www.energystar.gov for Energy Star guidelines. Non Rectangular Unit thermal values will vary slightly.



<sup>(1)</sup> Glazing performance values are calculated for Pine using NFRC 100, NFRC 200 and NFRC 500. Thermal performance of other wood species may vary. ENERGY STAR\* values are updated to 2016 (Version 6) criteria.

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gr ess	Type of Glazing	NFRC Certified Product #	Glass (mm)			Pe	Shaded Areas Meet ENERGY STAF Performance Criteria in Zones Sho								
Glazing Thickness				Int.	Gap Fill	to.	ည္ဟ	F	~	U.S.				Car	ada 2
~ F			Ext.			U-Factor	SHGC	VLT	8		Zo	ne		ER	Zone
Vent	Dual-Pane Glazing - Wood Ex	terior								N	NC	SC	S		CA
11/16"	Clear IG	PEL-N-234-00217-00001	2.5	2.5	Air	0.45	0.60	0.62	45						
	with grilles-between-the-glass	PEL-N-234-00218-00001				0.45	0.54	0.56	45						
	with integral grilles	PEL-N-234-00219-00001				0.45	0.54	0.56	45						
11/16"	Clear IG	PEL-N-234-00221-00001	3	3	Air	0.45	0.59	0.62	44						
	with grilles-between-the-glass	PEL-N-234-00222-00001				0.45	0.53	0.55	44						
	with integral grilles	PEL-N-234-00223-00001				0.46	0.53	0.55	44						$\perp$
11/16"	Advanced Low-E IG	PEL-N-234-00253-00001	2.5	2.5	Argon	0.28	0.28	0.53	60		NC				
	with grilles-between-the-glass	PEL-N-234-00254-00001				0.28	0.25	0.47	60		NC	SC	S		
	with integral grilles	PEL-N-234-00255-00001				0.29	0.25	0.47	60		NC	SC	S		<b>↓</b>
11/16"	Advanced Low-E IG	PEL-N-234-00257-00001	3	3	Argon	0.28	0.28	0.53	59		NC				<u> </u>
	with grilles-between-the-glass	PEL-N-234-00258-00001				0.28	0.25	0.47	59		NC	SC	S		<u> </u>
	with integral grilles	PEL-N-234-00259-00001				0.29	0.25	0.47	59		NC	SC	S		
11/16"	SunDefense™ Low-E IG	PEL-N-234-00301-00001	2.5	2.5	Argon	0.28	0.21	0.49	60		NC	SC	S		<u> </u>
	with grilles-between-the-glass	PEL-N-234-00302-00001				0.28	0.19	0.44	60		NC	SC	S	_	
	with integral grilles	PEL-N-234-00303-00001				0.28	0.19	0.44	60		NC	SC	S	_	—
11/16"	SunDefense™ Low-E IG	PEL-N-234-00305-00001	3	3	Argon	0.28	0.21	0.49	59		NC	SC	S		<del>                                     </del>
	with grilles-between-the-glass	PEL-N-234-00306-00001				0.28	0.19	0.43	59		NC NC	SC SC	S		
44/4/1	with integral grilles	PEL-N-234-00307-00001	0.5	0.5		0.28	0.19	0.43	59	N.		SC	S		<b>├</b> ──
11/16"	AdvancedComfort Low-E IG	PEL-N-234-00277-00001	2.5	2.5	Argon	0.24	0.28	0.52	49 49	N N	NC	SC	-		
	with grilles-between-the-glass	PEL-N-234-00278-00001 PEL-N-234-00279-00001				0.24	0.25	0.46	49	N N	NC NC	SC	S S		<del> </del>
11/16"	with integral grilles  AdvancedComfort Low-E IG	PEL-N-234-00279-00001	3	3	Δ	0.23	0.23	0.46	48	N	NC	3C	3		—
11/16	with grilles-between-the-glass	PEL-N-234-00281-00001	3	3	Argon	0.24	0.28	0.51	48	N	NC	SC	S		<del>                                     </del>
	with integral grilles	PEL-N-234-00282-00001				0.24	0.25	0.46	48	N	NC	SC	S	-	<del></del>
11/16"	NaturalSun Low-E IG	PEL-N-234-00209-00001	2.5	2.5	Argon	0.29	0.53	0.60	59	N	IVC	30	J	34	CA
11/10	with grilles-between-the-glass	PEL-N-234-00230-00001	2.3	2.3	Argon	0.27	0.33	0.53	59	N				34	CA
	with integral grilles	PEL-N-234-00231-00001				0.30	0.47	0.53	59	N					<del>                                     </del>
11/16"	NaturalSun Low-E IG	PEL-N-234-00233-00001	3	3	Argon	0.29	0.52	0.59	58	N					$\vdash$
11710	with grilles-between-the-glass	PEL-N-234-00234-00001			7 11 9011	0.29	0.46	0.53	58	N					<del>                                     </del>
	with integral grilles	PEL-N-234-00235-00001				0.30	0.46	0.53	58	N					<del>                                     </del>
Tinte	d Glazing														
11/16"	Bronze Advanced Low-E IG	PEL-N-234-00325-00001	5	3	Argon	0.29	0.25	0.34	58	1	NC	SC	S		П
	with grilles-between-the-glass	PEL-N-234-00326-00001			J -	0.30	0.23	0.30	58		NC	SC	S		$\vdash$
	with integral grilles	PEL-N-234-00327-00001				0.30	0.23	0.30	58		NC	SC	S		
11/16"	Gray Advanced Low-E IG	PEL-N-234-00333-00001	5	3	Argon	0.29	0.23	0.29	58		NC	SC	S		
	with grilles-between-the-glass	PEL-N-234-00334-00001				0.30	0.21	0.26	58		NC	SC	S		
	with integral grilles	PEL-N-234-00335-00001				0.30	0.21	0.26	58		NC	SC	S		
11/16"	Green Advanced Low-E IG	PEL-N-234-00341-00001	5	3	Argon	0.29	0.28	0.46	58		NC				
	with grilles-between-the-glass	PEL-N-234-00342-00001				0.30	0.25	0.41	58		NC	SC	S		
	with integral grilles	PEL-N-234-00343-00001				0.30	0.25	0.41	58		NC	SC	S		

R-Value = 1/U-Factor SHGC = Solar Heat Gain Coefficient VLT % = Visible Light Transmission CR = Condensation Resistance ER = Canadian Energy Rating

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<sup>(1)</sup> Glazing performance values are calculated for Pine using NFRC 100, NFRC 200 and NFRC 500. Thermal performance of other wood species may vary. ENERGY STAR\* values are updated to 2016 (Version 6) criteria.

<sup>(2)</sup> The values shown are based on Canada's updated ENERGY STAR\* 2020 initiative.



ng ess	Type of Glazing	NFRC Certified Product #	Glass (mm)			Performance Values <sub>1</sub>					RGY ST				
Glazing Thickness			Ext.	Int.	Gap Fill	U-Factor	SHGC	H.	~	U. S.				Can	ada 2
~ F								VLT	S		Zo	ne		ER	Zone
Vent	Dual-Pane High Altitude Glaz	ing - Wood Exterior								N	NC	SC	S		CA
11/16"	Advanced Low-E IG	PEL-N-234-00265-00001	2.5	2.5	Air	0.31	0.28	0.53	56						
	with grilles-between-the-glass	PEL-N-234-00266-00001				0.31	0.26	0.47	56						
	with integral grilles	PEL-N-234-00267-00001				0.32	0.26	0.47	56						
11/16"	Advanced Low-E IG	PEL-N-234-00269-00001	3	3	Air	0.32	0.28	0.53	55						
	with grilles-between-the-glass	PEL-N-234-00270-00001				0.32	0.26	0.47	55						
	with integral grilles	PEL-N-234-00271-00001				0.33	0.26	0.47	55						
11/16"	SunDefense Low-E IG	PEL-N-234-00313-00001	2.5	2.5	Air	0.31	0.21	0.49	56				S		
	with grilles-between-the-glass	PEL-N-234-00314-00001				0.31	0.19	0.44	56				S		
	with integral grilles	PEL-N-234-00315-00001				0.32	0.19	0.44	56				S		
11/16"	SunDefense Low-E IG	PEL-N-234-00317-00001	3	3	Air	0.31	0.21	0.49	55				S		
	with grilles-between-the-glass	PEL-N-234-00318-00001				0.31	0.19	0.43	55				S		
	with integral grilles	PEL-N-234-00319-00001				0.32	0.19	0.43	55				S		
11/16"	AdvancedComfort Low-E IG	PEL-N-234-00289-00001	2.5	2.5	Air	0.27	0.28	0.52	45	N	NC				
	with grilles-between-the-glass	PEL-N-234-00290-00001				0.27	0.25	0.46	45	N	NC	SC	S		
	with integral grilles	PEL-N-234-00291-00001				0.27	0.25	0.46	45	N	NC	SC	S		
11/16"	AdvancedComfort Low-E IG	PEL-N-234-00293-00001	3	3	Air	0.27	0.28	0.51	44	N	NC				
	with grilles-between-the-glass	PEL-N-234-00294-00001				0.27	0.25	0.46	44	N	NC	SC	S		
	with integral grilles	PEL-N-234-00295-00001				0.28	0.25	0.46	44		NC	SC	S		
11/16"	NaturalSun Low-E IG	PEL-N-234-00241-00001	2.5	2.5	Air	0.32	0.53	0.60	56						
	with grilles-between-the-glass	PEL-N-234-00242-00001				0.32	0.47	0.53	56						
	with integral grilles	PEL-N-234-00243-00001				0.33	0.47	0.53	56						
11/16"	NaturalSun Low-E IG	PEL-N-234-00245-00001	3	3	Air	0.32	0.52	0.59	55						
	with grilles-between-the-glass	PEL-N-234-00246-00001				0.32	0.46	0.53	55						
	with integral grilles	PEL-N-234-00247-00001				0.33	0.46	0.53	55						

R-Value = 1/U-Factor SHGC = Solar Heat Gain Coefficient VLT % = Visible Light Transmission CR = Condensation Resistance ER = Canadian Energy Rating

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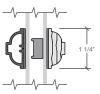
# Grille Profiles

# Integral Light Technology® Grilles

## Ogee Grilles

Clad Exterior - Wood Interior



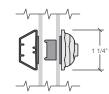




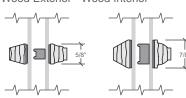
Putty Glaze and Ogee Grilles Clad Exterior - Wood Interior

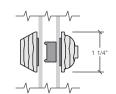




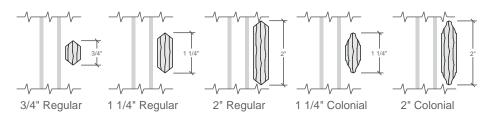


Putty Glaze and Ogee Grilles Wood Exterior - Wood Interior

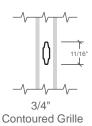




# Roomside Removable Grilles



# Grilles-Between-the-Glass



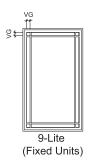
Interior wood ILT grilles available in Pine, Mahogany or Douglas Fir to match complete unit. Exterior wood ILT grilles available in Pine or Mahogany to match complete unit.

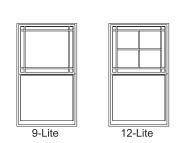


## Grille Patterns

# Integral light technology® Grilles and Roomside Removable Grilles

Prairie Lite Patterns

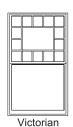


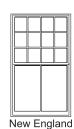


Standard corner lite dimension for Prairie patterns = 2-1/2" VG.

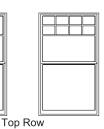
Available in transoms ≥ 1'3" height and width. Available in all standard and special sizes.

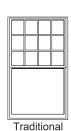
Other Available Patterns









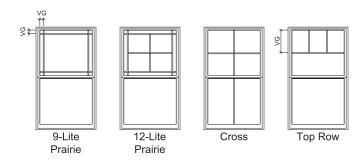


VG = Visible Glass

Lite dimensions noted can vary.

For size and pattern availability contact your local Pella sales representative.

## Grilles-Between-the-Glass



For traditional patterns, see size tables.

- Standard corner lite dimension for Prairie patterns =
- Available in transoms ≥ 1'3" height and width.

#### Cross

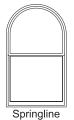
- Minimum DH frame height 35".
- Horizontal bar will be at 1/2" of the VG height of the top sash.

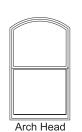
#### **Top Row**

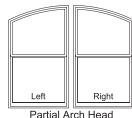
- Minimum DH frame height 35".
- Horizontal bar will be at 1/2" of the VG height of the top sash.

#### **Custom shapes**

Pella Reserve single-hung windows are available in custom shapes shown below, and additional shapes per drawing. For specifications, size limitations, and details on these units, contact your local Pella sales representative.



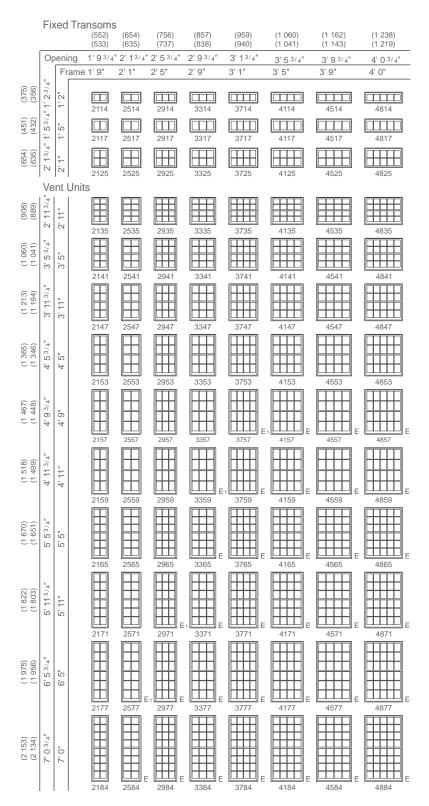




Partial Arch Head

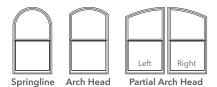


# Size Tables - Equal Sash





Traditional grille patterns shown. Refer to Grille Types section for additional patterns and profiles.



Pella Reserve single-hung windows are available in shapes shown above, and additional custom shapes per drawing. For specifications, size limitations, and details on these units, contact your local Pella sales representative.

## **Opening Dimensions**

#### **Clad Exterior Units:**

Dimensions shown in standard size tables are rough opening dimensions.

#### **Wood Exterior Units:**

Use frame dimension plus dimensions below. This dimension includes the use of standard 1-1/8" wood subsill.

Frame	Rough		Mas	onry
Brickmould	Width Height		Width	Height
STD	+ 3/4"	+1-7/8"	+ 3-1/8"	+ 3-1/8"
3-1/2"	+ 3/4"	+1-7/8"	+ 6-3/8"	+ 4-3/4"

For clad and wood units with impact-resistant glass, see the product installation instructions or refer to local building code requirements.

#### **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 ft<sup>2</sup>.
- 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.

Clear opening (egress) information does not take into consideration the addition of a Rolscreen (or any other accessory) to the product. You should consult your local building code to ensure products with Rolscreens meet egress requirements.



# Size Tables - Fixed

	Fix	ed Units				
			(1 060) (1 041)	(1 213) (1 194)	(1 365) (1 346)	(1 518) (1 499)
	On	ening	3' 53/4"	3' 113/4"	4' 5 <sup>3</sup> / <sub>4</sub> "	4' 113/4"
	- 1	Frame	3' 5"	3' 11"	4' 5"	4' 11"
(808)	2' 113/4"	2' 11"	4135	4735	5335	5935
(1 060)	3' 53/4"	3, 5"	4141	4741	5341	5941
(1 213) (1 194)	3' 113/4"	.8	4147	4747	5347	5947
(1 365) (1 346)	4' 53/4"	"2,4	4153	4753	5353	5953
(1 467) (1 448)	4' 93/4"	1,9"	4157	4757	5357	5957
(1518) (1499)	4' 113/4"	"11"	4159	4759	5359	5959
(1670) (1651)	5' 53/4"	5. 5.	4165	4765	5365	5965
(1 822) (1 803)	5' 113/4"	11.1	4171	4771	5371	5971

# **Opening Dimensions**

#### **Clad Exterior Units:**

Dimensions shown in standard size tables are rough opening dimensions.

# Wood Exterior Units:

Use frame dimension plus dimensions below. This dimension includes the use of standard 1-1/8" wood subsill.

Frame	Rot	ugh	Masonry		
Brickmould	Width Height		Width	Height	
STD	+ 3/4"	+1-7/8"	+ 3-1/8"	+ 3-1/8"	
3-1/2"	+ 3/4"	+1-7/8"	+ 6-3/8"	+ 4-3/4"	

For clad and wood units with impact-resistant glass, see the product installation instructions or refer to local building code requirements.

Not to scale.

 $Traditional\ grille\ patterns\ shown.\ Refer\ to\ Grille\ Types\ section\ for\ additional\ patterns\ and\ profiles.$ 

Grille patterns will align with companion hung window with equal sash split.

5-lite high grille patterns may be ordered in 5'5" fixed units to match cottage sash vent units.

Grilles are equally-divided on fixed units with odd-number lites high.



# Size Tables - Cottage Sash

#### **VENT UNITS**

			(552) (533)	(654) (635)	(756) (737)	(857) (838)	(959) (940)	(1 060) (1 041)	(1 162) (1 143)	(1 238) (1 219)
	Or	ening	1' 93/4"	2' 13/4"	2' 53/4"	2' 93/4"	3' 13/4"	3' 53/4"	3' 93/4"	4' 03/4"
		Frame	1' 9"	2' 1"	2' 5"	2' 9"	3' 1"	3' 5"	3' 9"	4' 0"
(1 060) (1 041)	3' 53/4"	3'5"	VG2141	VG2541	VG2941	VG3341	VG3741	VG4141	VG4541	VG4841
(1 213) (1 194)	3' 113/4"	3'11"	VG2147	VG2547	VG2947	VG3347	VG3747	VG4147	VG4547	VG4847
(1 365) (1 346)	4' 53/4"	4' 5"	VG2153	VG2553	VG2953	VG3353	VG3753	VG4153	VG4553	VG4853
(1 467) (1 448)	4' 93/4"	4, 8,,	VG2157	VG2557	VG2957	VG3357	VG3757	VG4157	VG4557	VG4857
(1 518) (1 499)	4' 113/4"	4'11"	VG2159	VG2559	VG2959	VG3359	VG3759	VG4159	VG4559	VG4859
(1 670) (1 651)	5' 53/4"	5' 5"	VG2165	VG2565	VG2965	VG3365	VG3765	VG4165	VG4565	VG4865
(1 822) (1 803)	5' 113/4"	5'11"	VG2171	VG2571	VG2971	VG3371	VG3771	VG4171	VG4571	VG4871
(1 822) (1 803)	5' 113/4"	6'5"	VG2177	VG2577	VG297	VG3377	VG3777	VG4177	VG457	VG4877

#### **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 ft<sup>2</sup>.

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

Clear opening (egress) information does not take into consideration the addition of a Rolscreen (or any other accessory) to the product. You should consult your local building code to ensure products with Rolscreens meet egress requirements.

# **Opening Dimensions**

#### **Clad Exterior Units:**

Dimensions shown in standard size tables are rough opening dimensions.

# Wood Exterior Units:

Use frame dimension plus dimensions below. This dimension includes the use of standard 1-1/8" wood subsill.

Frame	Rough		Masonry		
Brickmould	Width Height		Width	Height	
STD	+ 3/4"	+1-7/8"	+ 3-1/8"	+ 3-1/8"	
3-1/2"	+ 3/4"	+1-7/8"	+ 6-3/8"	+ 4-3/4"	

For clad and wood units with impact-resistant glass, see the product installation instructions or refer to local building code requirements.

Not to scale.

 $Traditional\ grille\ patterns\ shown.\ Refer\ to\ Grille\ Types\ section\ for\ additional\ patterns\ and\ profiles.$ 

 $Cottage\ units\ have\ unequal\ sash\ split.\ Sash\ glass\ ratio\ is\ 40\%\ upper\ sash\ to\ 60\%\ Lower\ sash.$ 

Vent variable units have unequal sash split. Sash glass ratio is determined by checkrail heights. See unit sections for dimension requirements.



# Size Tables - Replacement Equal Sash Sizes

Trans	soms	(616) (597)	(718) (699)	(762) (749)	(819) (800)	(921) (902)	(1 022) (1 003)	(1 073) (1 054)
	Opening	2' 0 1/4"	2' 4 1/4"	2' 61/4"	2' 81/4"	3' 0 1/4"	3' 4 1/4"	3' 61/4"
	Frame	e 1' 11 <sup>1</sup> /2"	2' 31/2"	2' 51/2"	2' 71/2"	2' 111/2"	3' 31/2"	3' 51/2"
(375)	1'23/4"	23.5 x 14	27.5 x 14	29.5 x 14	31.5 x 14	35.5 x 14	39.5 x 14	41.5 x 14
(451) (432)	1'53/4"	23.5 x 17	27.5 x 17	29.5 x 17	31.5 x 17	35.5 x 17	39.5 x 17	41.5 x 17
(654) (635)	2' 13/4"	23.5 x 25	27.5 x 25	29.5 x 25	31.5 x 25	35.5 x 25	39.5 x 25	41.5 x 25
Vent	Units							
(921)	3' 01/4"	23.5 x 35.5	27.5 x 35.5	29.5 x 35.5	31.5 x 35.5	35.5 x 35.5	39.5 x 35.5	41.5 x 35.5
(972) (953)	3' 21/4"	23.5 x 37.5	27.5 x 37.5	29.5 x 37.5	31.5 x 37.5	35.5 x 37.5	39.5 x 37.5	41.5 x 37.5
(1 073) (1 054)	3' 51/2"	23.5 x 41.5	27.5 x 41.5	29.5 x 41.5	31.5 x 41.5	35.5 x 41.5	39.5 x 41.5	41.5 x 41.5
(1 175)	3' 91/2"	23.5 x 45.5	27.5 x 45.5	29.5 x 45.5	31.5 x 45.5	35.5 x 45.5	39.5 x 45.5	41.5 x 45.5
(1 226)	4' 01/4" 3' 111/2"	23.5 x 47.5	27.5 x 47.5	29.5 x 47.5	31.5 x 47.5	35.5 x 47.5	39.5 x 47.5	41.5 x 47.5
(1 327)	4' 4'1/4"	23.5 x 51.5	27.5 x 51.5	29.5 x 51.5	31.5 x 51.5	35.5 x 51.5	39.5 x 51.5	41.5 x 51.5
(1 378) (1 359)	4' 61/4" 4' 51/2"	23.5 x 53.5	27.5 x 53.5	29.5 x 53.5	31.5 x 53.5	35.5 x 53.5	39.5 x 53.5	41.5 x 53.5
(1 461)	4' 101/4" 4' 91/2"	23.5 x 57.5	27.5 x 57.5	29.5 x 57.5	31.5 x 57.5	35.5 x 57.5	39.5 x 57.5	41.5 x 57.5

# Egress Notes:

Check all applicable local codes for emergency egress requirements.

- $E = \mbox{Window meets minimum clear opening of} \\ 24" \mbox{height, 20" width, and 5.7 ft}^2.$
- E1 = Window meets minimum clear opening of 24" height, 20" width, and  $5.0\ ft^2$ .

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

Clear opening (egress) information does not take into consideration the addition of a Rolscreen (or any other accessory) to the product. You should consult your local building code to ensure products with Rolscreens meet egress requirements.

Not to scale.

 $Traditional\ grille\ patterns\ shown.\ Refer\ to\ Grille\ Types\ section\ for\ additional\ patterns\ and\ profiles.$ 



# Size Tables - Replacement Sizes

	Ve	nt Units	S						
			(616) (597)	(718) (699)	(762) (749)	(819) (800)	(921) (902)	(1 022) (1 003)	(1 073) (1 054)
	Op	pening	2' 0 1/4"	2' 4 1/4"	2' 6"	2' 8 1/4"	3' 0 1/4"	3' 4 1/4"	3' 61/4"
		Frame	1' 111/2"	2' 31/2"	2' 51/2"	2' 71/2"	2' 111/2"	3' 31/2"	3' 51/2"
(1530) (1511)	5' 0 1/4"	4' 111/2"	23.5 x 59.5	27.5 x 59.5	29.5 x 59.5	31.5 x 59.5	35.5 x 59.5	39.5 x 59.5	41.5 x 59.5
(1581) (1562)	5' 21/4"	5' 11/2"	23.5 x 61.5	27.5 x 61.5	29.5 x 61.5	31.5 x 61.5	35.5 x 61.5	39.5 x 61.5	41.5 x 61.5
(1 683) (1 664)	5' 61/4"	5'51/2"	23.5 x 65.5	27.5 x 65.5	29.5 x 65.5	31.5 x 65.5	E 35.5 x 65.5	39.5 x 65.5	41.5 x 65.5
(1835) (1816)	6' 0 1/4"	5' 111/2"	23.5 x 71.5	27.5 x 71.5	E <sub>1</sub> 29.5 x 71.5	E 31.5 x 71.5	35.5 x 71.5	39.5 x 71.5	41.5 x 71.5

## Egress Notes:

Check all applicable local codes for emergency egress requirements.

- $E = Window \ meets \ minimum \ clear \ opening \ of \ 24" \ height, \ 20" \ width, \ and \ 5.7 \ ft^2.$
- E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft $^2$ .

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

Clear opening (egress) information does not take into consideration the addition of a Rolscreen (or any other accessory) to the product. You should consult your local building code to ensure products with Rolscreens meet egress requirements.

Not to scale.

 $Traditional\ grille\ patterns\ shown.\ Refer\ to\ Grille\ Types\ section\ for\ additional\ patterns\ and\ profiles.$ 



# Size Tables - Replacement Cottage Sash Sizes

## Cottage Vent Units

			(616) (597)	(718) (699)	(762) (749)	(819) (800)	(921) (902)	(1 022) (1 003)	(1 073) (1 054)
	Openi		2' 0 1/4"	2' 4 1/4"	2' 61/4"	2' 81/4"	3' 0 1/4"	3' 4 1/4"	3' 6 1/4"
	Fr	ame	1' 111/2"	2' 31/2"	2' 51/2"	2' 71/2"	2' 111/2"	3' 31/2"	3' 5 1/2"
(1 073) (1 054)	3' 61/4" 3' 51/2"		23.5 x 41.5	27.5 x 41.5	29.5 x 41.5	31.5 x 41.5	35.5 x 41.5	39.5 x 41.5	41.5 x 41.5
(1 175) (1 156)	3' 101/4"		23.5 x 45.5	27.5 x 45.5	29.5 x 45.5	31.5 x 45.5	35.5 x 45.5	39.5 x 45.5	41.5 x 45.5
(1 226) (1 206)	4'01/4" 3'111/2"		23.5 x 47.5	27.5 x 47.5	29.5 x 47.5	31.5 x 47.5	35.5 x 47.5	39.5 x 47.5	41.5 x 47.5
(1 327) (1 308)	4'41/4"		23.5 x 51.5	27.5 x 51.5	29.5 x 51.5	31.5 x 51.5	35.5 x 51.5	39.5 x 51.5	41.5 x 51.5
(1 378) (1 359)	4'61/4"		23.5 x 53.5	27.5 x 53.5	29.5 x 53.5	31.5 x 53.5	35.5 x 53.5	39.5 x 53.5	41.5 x 53.5
(1 473) (1 461)	4' 101/4" 4' 91/2"		23.5 x 57.5	27.5 x 57.5	29.5 x 57.5	31.5 x 57.5	35.5 x 57.5	39.5 x 57.5	41.5 x 57.5
(1 530) (1 511)	5' 01/4" 4' 111/2"		23.5 x 59.5	27.5 x 59.5	29.5 x 59.5	31.5 x 59.5	35.5 x 59.5	39.5 x 59.5	41.5 x 59.5
(1 581) (1 561.5)	5' 21/4" 5' 11/2"		23.5 x 61.5	27.5 x 61.5	29.5 x 61.5	31.5 x 61.5	35.5 x 61.5	39.5 x 61.5	41.5 x 61.5
(1 683) (1 664)	5' 61/4" 5' 51/2"		23.5 x 65.5	27.5 x 65.5	29.5 x 65.5	31.5 x 65.5	35.5 x 65.5	39.5 x 65.5	41.5 × 65.5
(1 835) (1 816)	6' 0 1/4" 5' 111/2"		23.5 x 71.5	27.5 x 71.5	29.5 x 71.5	31.5 x 71.5	35.5 x 71.5	39.5 x 71.5	41.5 x 71.5

#### **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 ft<sup>2</sup>.
- E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft<sup>2</sup>.

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

Clear opening (egress) information does not take into consideration the addition of a Rolscreen (or any other accessory) to the product. You should consult your local building code to ensure products with Rolscreens meet egress requirements.

Not to scale.

 $Traditional\ grille\ patterns\ shown.\ Refer\ to\ Grille\ Types\ section\ for\ additional\ patterns\ and\ profiles.$ 



# Size Tables - Replacement Fixed Sizes

Fixed Units	(1 060) (1 041)	(1 213) (1 194)	(1 365) (1 346)	(1 518) (1 499)		(1 060) (1 041)	(1 213) (1 194)	(1 365) (1 346)	(1 518) (1 499)
Opening	3' 53/4"	3' 113/4"	4' 53/4"	4' 11 <sup>3</sup> / <sub>4</sub> "		3' 53/4"	3' 113/4"	4' 53/4"	4' 113/4"
Frame	3' 5"	3' 11"	4' 5"	4' 11"		3' 5"	3' 11"	4' 5"	4' 11"
(921) (902) 3' 0 1/4" 2' 111/2"	41 x 35.5	47 x 35.5	53 x 35.5	59 x 35.5	(1530) (1511) 5' 0 <sup>1</sup> / <sub>4</sub> " 4' 11 <sup>1</sup> / <sub>2</sub> "				
(972) (963) 3' 21 <sub>1</sub> 4" 3' 11 <sub>12</sub> "	41 x 37.5	47 x 37.5	53 x 37.5	59 x 37.5	581) 562) 21/4" 11/2"	41 x 59.5	47 x 59.5	53 x 59.5	59 x 59.5
(1 073) (1 054) 3' 6 <sup>1</sup> / <sub>4</sub> " 3' 5 <sup>1</sup> / <sub>2</sub> "	41 x 41.5	47 x 41.5	53 x 41.5	59 x 41.5	(1581) (1562) 5' 21/4" 5' 11/2"	41 x 61.5	47 x 61.5	53 x 61.5	59 x 61.5
(1175) (1156) 3' 101/4" 3' 91/2"	41 X 45.5	47 X 45.5	53 X 45.5	59 X 45.5	(1 683) (1 664) 5' 61/4" 5' 51/2"	41 x 65.5	47 x 65.5	53 x 65.5	59 x 65.5
(1 226) (1 206) 4' 01/4" 3' 111/2"	41 X 47.5	47 X 47.5	53 X 47.5	59 X 47.5	(1835) (1816) 6' 01/4" 5' 111/2"	11 X 65.5	47 X 03.5		39 X 00.0
(1 327) (1 308) 4' 4 1/4" 4' 3 1/2"	41 x 51.5	47 x 51.5	53 x 51.5	59 x 51.5		41 x 71.5	47 x 71.5	53 x 71.5	59 x 71.5
(1378) (1359) 4' 6 <sup>1</sup> / <sub>4</sub> " 4' 5 <sup>1</sup> / <sub>2</sub> "	41 x 53.5	47 x 53.5	53 x 53.5	59 x 53.5					
(1 473) (1 461) 4' 101/4" 4' 91/2"	41 x 57.5	47 x 57.5	53 x 57.5	59 x 57.5					

Not to scale.

Traditional grille patterns shown. Refer to Grille Types section for additional patterns and profiles.



# Special Sizes and Dimensions

## Special Size Frame Dimensions\*

Sash configuration	Vent-Equal	Cottage	Fixed
Sash Glass Ratio Top % : Bottom %	50 : 50	40 : 60	NA
Shortest Unit	24-3/8"	40-1/4"	17"
Frame Size	(619)	(1 022)	(432)
Tallest Unit	96"	81"	71"
Frame Size	(2 438)	(2 057)	(1 803)
Unit Frame	14" to 48"	14" to 48"	17" to 59"
Width Range	(356 to 1 219)	(356 to 1 219)	(432 to 1 499)

# **Opening Dimensions**

#### **Clad Exterior Units:**

Dimensions shown in standard size tables are rough opening dimensions.

#### **Wood Exterior Units:**

Use frame dimension plus dimensions below. This dimension includes the use of standard 1-1/8" wood subsill.

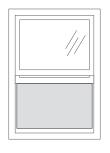
Frame	Rot	Rough		Masonry		
Brickmould	Width	Height	Width	Height		
STD	+ 3/4"	+1-7/8"	+ 3-1/8"	+ 3-1/8"		
3-1/2"	+ 3/4"	+1-7/8"	+ 6-3/8"	+ 4-3/4"		

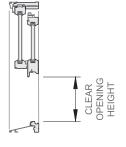
For clad and wood units with impact-resistant glass, see the product installation instructions or refer to local building code requirements.

# **Equal Sash Only**

	Vent Units	Fixed and Transom Units		
Visible	Width = Frame - 5.647"	Width = Frame - 5.75"		
Glass	Height = (Frame - 8.681") ÷ 2	Height = Frame - 5.75"		
Actual Glass	Width = Frame - 4.375"	Width = Frame - 4.375"		
Actual Glass	Height = (Frame - 5.983") ÷ 2	Height = Frame - 4.375"		
Clear	COW = Frame Width - 3.4375"			
Opening*	COH = (Frame Height ÷ 2) - 4.4375"			
Vent Area Ft <sup>2</sup>	(COW x COH) ÷ 144			







Shaded portion shows vent area.

 $<sup>\</sup>label{thm:continuous} \mbox{Traditional grille patterns shown. Refer to Grille Types section for additional patterns and profiles.}$ 

<sup>\*</sup> Some units with custom glazing may have limited travel. Integrated Rolscreen® is only available on sizes greater than or equal to 34" tall and 21" wide and less than or equal to 84" tall and 48" wide.

See your local Pella sales representative for specific size information.



Vent E	qual :	Sash for Si	ngle- and	Double	-Hung				
	SS	Clear O (Inc	pening hes)	Vent	Visible		rd Glass ess (mm)		mance Grade 1
Unit	Egress	Width (Inches)	Height (Inches)	Area Ft <sup>2</sup>	Glass Ft <sup>2</sup>	Annealed	Tempered	Clad	Wood
2135		17-5/16	13-1/16	1.6	2.8	2.5	3	CW50	CW45
2141		17-5/16	16-1/16	1.9	3.4	2.5	3	CW50	CW45
2147		17-5/16	19-1/16	2.3	4.1	2.5	3	CW50	CW45
2153		17-5/16	22-1/16	2.7	4.7	2.5	3	CW50	CW45
2157		17-5/16	24-1/16	2.9	5.2	2.5	3	CW50	CW45
2159		17-5/16	25-1/16	3.0	5.4	2.5	3	CW50	CW45
2165		17-5/16	28-1/16	3.4	6.0	2.5	3	CW50	CW45
2171		17-5/16	31-1/16	3.7	6.6	2.5	3	CW50	CW45
2177		17-5/16	34-1/16	4.1	7.3	2.5	3	CW50	CW45
2184		17-5/16	37-9/16	4.5	8.0	2.5	3	CW40	CW40
2535		21-5/16	13-1/16	1.9	3.5	2.5	3	CW50	CW45
2541		21-5/16	16-1/16	2.4	4.3	2.5	3	CW50	CW45
2547		21-5/16	19-1/16	2.8	5.1	2.5	3	CW50	CW45
2553		21-5/16	22-1/16	3.3	6.0	2.5	3	CW50	CW45
2557		21-5/16	24-1/16	3.6	6.5	2.5	3	CW50	CW45
2559		21-5/16	25-1/16	3.7	6.8	2.5	3	CW50	CW45
2565		21-5/16	28-1/16	4.2	7.6	2.5	3	CW50	CW45
2571		21-5/16	31-1/16	4.6	8.4	2.5	3	CW50	CW45
2577	E1	21-5/16	34-1/16	5.0	9.2	2.5	3	CW50	CW45
2584	E1	21-5/16	37-9/16	5.6	10.1	2.5	3	CW40	CW40
2935		25-5/16	13-1/16	2.3	4.3	2.5	3	CW50	CW45
2941		25-5/16	16-1/16	2.8	5.2	2.5	3	CW50	CW45
2947		25-5/16	19-1/16	3.4	6.2	2.5	3	CW50	CW45
2953		25-5/16	22-1/16	3.9	7.2	2.5	3	CW50	CW45
2957		25-5/16	24-1/16	4.2	7.8	2.5	3	CW50	CW45
2959		25-5/16	25-1/16	4.4	8.2	2.5	3	CW50	CW45
2965		25-5/16	28-1/16	4.9	9.1	2.5	3	CW50	CW45
2971	E <sub>1</sub>	25-5/16	31-1/16	5.5	10.1	2.5	3	CW50	CW45
2977	Е	25-5/16	34-1/16	6.0	11.1	2.5	3	CW50	CW45
2984	Е	25-5/16	37-9/16	6.6	12.2	2.5	3	CW40	CW40
3335		29-5/16	13-1/16	2.7	5.0	2.5	3	CW50	CW45
3341		29-5/16	16-1/16	3.3	6.1	2.5	3	CW50	CW45
3347		29-5/16	19-1/16	3.9	7.3	2.5	3	CW50	CW45
3353		29-5/16	22-1/16	4.5	8.4	2.5	3	CW50	CW45
3357		29-5/16	24-1/16	4.9	9.2	2.5	3	CW50	CW45
3359	E1	29-5/16	25-1/16	5.1	9.6	2.5	3	CW50	CW45
3365	Е	29-5/16	28-1/16	5.7	10.7	2.5	3	CW50	CW45
3371	Е	29-5/16	31-1/16	6.3	11.8	2.5	3	CW50	CW45
3377	Е	29-5/16	34-1/16	6.9	13.0	2.5	3	CW50	CW45
3384	Е	29-5/16	37-9/16	7.7	14.3	2.5	3	CW40	CW40

Continued on next page

## 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 ft<sup>2</sup>.

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft<sup>2</sup>.

<sup>(1)</sup> Maximum design pressure when glazed with appropriate glass thickness.

To convert area to square meters ( $m^2$ ), multiply square feet by 0.0929.



Vent E	qual :	Sash for Si	ngle- and	Double	-Hung				
	sss	Clear O	pening hes)	Vent	Visible		rd Glass ss (mm)	Perfor Class &	mance Grade 1
Unit	Egress	Width (Inches)	Height (Inches)	Area Ft <sup>2</sup>	Glass Ft <sup>2</sup>	Annealed	Tempered	Clad	Wood
3735		33-5/16	13-1/16	3.0	5.7	2.5	3	CW50	CW45
3741		33-5/16	16-1/16	3.7	7.0	2.5	3	CW50	CW45
3747		33-5/16	19-1/16	4.4	8.3	2.5	3	CW50	CW45
3753		33-5/16	22-1/16	5.1	9.6	2.5	3	CW50	CW45
3757	E1	33-5/16	24-1/16	5.6	10.5	2.5	3	CW50	CW45
3759	Е	33-5/16	25-1/16	5.8	11.0	2.5	3	CW50	CW45
3765	Е	33-5/16	28-1/16	6.5	12.3	2.5	3	CW50	CW45
3771	Е	33-5/16	31-1/16	7.2	13.6	2.5	3	CW50	CW45
3777	Е	33-5/16	34-1/16	7.9	14.9	2.5	3	CW50	CW45
3784	Е	33-5/16	37-9/16	8.7	16.4	2.5	3	CW40	CW40
4135		37-5/16	13-1/16	3.4	6.5	2.5	3	CW50	CW45
4141		37-5/16	16-1/16	4.2	7.9	2.5	3	CW50	CW45
4147		37-5/16	19-1/16	4.9	9.4	2.5	3	CW50	CW45
4153		37-5/16	22-1/16	5.7	10.9	2.5	3	CW50	CW45
4157	Е	37-5/16	24-1/16	6.2	11.9	2.5	3	CW50	CW45
4159	Е	37-5/16	25-1/16	6.5	12.4	2.5	3	CW50	CW45
4165	Е	37-5/16	28-1/16	7.3	13.8	2.5	3	CW50	CW45
4171	Е	37-5/16	31-1/16	8.1	15.3	2.5	3	CW50	CW45
4177	Е	37-5/16	34-1/16	8.8	16.8	2.5	3	CW45	CW45
4184	Е	37-5/16	37-9/16	9.7	18.5	2.5	3	CW40	CW40
4535		41-5/16	13-1/16	3.7	7.2	2.5	3	CW50	CW45
4541		41-5/16	16-1/16	4.6	8.8	2.5	3	CW50	CW45
4547		41-5/16	19-1/16	5.5	10.5	2.5	3	CW50	CW45
4553		41-5/16	22-1/16	6.3	12.1	2.5	3	CW50	CW45
4557	Е	41-5/16	24-1/16	6.9	13.2	2.5	3	CW50	CW45
4559	Е	41-5/16	25-1/16	7.2	13.7	2.5	3	CW50	CW45
4565	Е	41-5/16	28-1/16	8.1	15.4	2.5	3	CW50	CW45
4571	Е	41-5/16	31-1/16	8.9	17.0	2.5	3	CW45	CW45
4577	Е	41-5/16	34-1/16	9.8	18.7	2.5	3	CW45	CW45
4584	Е	41-5/16	37-9/16	10.8	20.6	3	3	CW40	CW40
4835		44-5/16	13-1/16	4.0	7.7	2.5	3	CW50	CW45
4841		44-5/16	16-1/16	4.9	9.5	2.5	3	CW50	CW45
4847		44-5/16	19-1/16	5.9	11.3	2.5	3	CW50	CW45
4853		44-5/16	22-1/16	6.8	13.0	2.5	3	CW50	CW45
4857	Е	44-5/16	24-1/16	7.4	14.2	2.5	3	CW50	CW45
4859	Е	44-5/16	25-1/16	7.7	14.8	2.5	3	CW50	CW45
4865	Е	44-5/16	28-1/16	8.6	16.6	2.5	3	CW45	CW45
4871	Е	44-5/16	31-1/16	9.6	18.3	2.5	3	CW45	CW45
4877	Е	44-5/16	34-1/16	10.5	20.1	3	3	CW45	CW45
4884	Е	44-5/16	37-9/16	11.6	22.2	3	3	CW40	CW40

## 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 ft<sup>2</sup>.

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft<sup>2</sup>.

<sup>(1)</sup> Maximum performance when glazed with the appropriate glass thickness.

To convert area to square meters ( $m^2$ ), multiply square feet by 0.0929.



Fixed				
Unit	Visible Glass		rd Glass ss (mm)	Performance
Onit	Ft <sup>2</sup>	Annealed	Tempered	Class & Grade 1
4135	7.2	2.5	3	CW50
4141	8.6	2.5	3	CW50
4147	10.1	3	3	CW50
4153	11.6	3	3	CW50
4157	12.5	3	3	CW50
4165	14.5	3	3	CW50
4171	16.0	3	3	CW45/CW50
4735	8.4	2.5	3	CW50
4741	10.1	3	3	CW50
4747	11.8	3	3	CW50
4753	13.5	3	3	CW50
4757	14.7	3	3	CW50
4759	15.3	3	3	CW50
4765	17.0	3	3	CW45/CW50
4771	18.7	4	4	CW50
5335	9.6	2.5	3	CW45/CW50
5341	11.6	3	3	CW50
5347	13.5	3	3	CW50
5353	15.5	3	4	CW45/CW50
5357	16.8	3	4	CW45/CW50
5359	17.5	3	4	CW40/CW50
5365	19.4	4	4	CW50
5371	21.4	4	4	CW50
5935	10.8	3	3	CW50
5941	13.0	3	3	CW50
5953	17.5	3	4	CW40/CW50
5957	19.0	4	4	CW50
5959	19.7	4	4	CW50
5965	21.9	4	4	CW50
5971	24.1	4	4	CW45/CW50

Transoms	;			
Unit	Visible Glass		rd Glass ss (mm)	Performance
Offic	Ft <sup>2</sup>	Annealed	Tempered	Class & Grade 1
2114	0.9	2.5	3	CW50
2514	1.1	2.5	3	CW50
2914	1.3	2.5	3	CW50
3314	1.6	2.5	3	CW50
3714	1.8	2.5	3	CW50
4114	2.0	2.5	3	CW50
4514	2.2	2.5	3	CW50
4814	2.4	2.5	3	CW50
2117	1.2	2.5	3	CW50
2517	1.5	2.5	3	CW50
2917	1.8	2.5	3	CW50
3317	2.1	2.5	3	CW50
3717	2.4	2.5	3	CW50
4117	2.8	2.5	3	CW50
4517	3.1	2.5	3	CW50
4817	3.3	2.5	3	CW50
2125	2.0	2.5	3	CW50
2525	2.6	2.5	3	CW50
2925	3.1	2.5	3	CW50
3325	3.6	2.5	3	CW50
3725	4.2	2.5	3	CW50
4125	4.7	2.5	3	CW50
4525	5.2	2.5	3	CW50
4825	5.6	2.5	3	CW50

<sup>(1)</sup> Maximum design pressure when glazed with the appropriate glass thickness. Second number, where shown, requires tempered glass.



Cottage Sas	h for S	ingle- and	Double-Hui	ng					
Unit	Egress		pening hes)	Vent Area	Visible Glass		rd Glass ss (mm)		mance Grade <sub>1</sub>
Ome	Egi	Width	Height	Ft <sup>2</sup>	Ft <sup>2</sup>	Annealed	Tempered	Clad	Wood
VG2141		17-5/16	12-11/16	1.5	3.4	2.5	3	CW50	CW45
VG2147		17-5/16	15-1/16	1.8	4.1	2.5	3	CW50	CW45
VG2153		17-5/16	17-7/16	2.1	4.7	2.5	3	CW50	CW45
VG2157		17-5/16	19-1/16	2.3	5.2	2.5	3	CW50	CW45
VG2159		17-5/16	19-7/8	2.4	5.4	2.5	3	CW50	CW45
VG2165		17-5/16	22-1/4	2.7	6.0	2.5	3	CW50	CW45
VG2171		17-5/16	24-11/16	3.0	6.6	2.5	3	CW40	CW40
VG2541		21-5/16	12-11/16	1.9	4.3	2.5	3	CW50	CW45
VG2547		21-5/16	15-1/16	2.2	5.1	2.5	3	CW50	CW45
VG2553		21-5/16	17-7/16	2.6	6.0	2.5	3	CW50	CW45
VG2557		21-5/16	19-1/16	2.8	6.5	2.5	3	CW50	CW45
VG2559		21-5/16	19-7/8	2.9	6.8	2.5	3	CW50	CW45
VG2565		21-5/16	22-1/4	3.3	7.6	2.5	3	CW50	CW45
VG2571		21-5/16	24-11/16	3.7	8.4	2.5	3	CW40	CW40
VG2941		25-5/16	12-11/16	2.2	5.2	2.5	3	CW50	CW45
VG2947		25-5/16	15-1/16	2.7	6.2	2.5	3	CW50	CW45
VG2953		25-5/16	17-7/16	3.1	7.2	2.5	3	CW50	CW45
VG2957		25-5/16	19-1/16	3.4	7.8	2.5	3	CW50	CW45
VG2959		25-5/16	19-7/8	3.5	8.2	2.5	3	CW50	CW45
VG2965		25-5/16	22-1/4	3.9	9.1	2.5	3	CW50	CW45
VG2971		25-5/16	24-11/16	4.3	10.1	2.5	3	CW40	CW40
VG3341		29-5/16	12-11/16	2.6	6.1	2.5	3	CW50	CW45
VG3347		29-5/16	15-1/16	3.1	7.3	2.5	3	CW50	CW45
VG3353		29-5/16	17-7/16	3.6	8.4	2.5	3	CW50	CW45
VG3357		29-5/16	19-1/16	3.9	9.2	2.5	3	CW50	CW45
VG3359		29-5/16	19-7/8	4.1	9.6	2.5	3	CW50	CW45
VG3365		29-5/16	22-1/4	4.5	10.7	2.5	3	CW50	CW45
VG3371	E1	29-5/16	24-11/16	5.0	11.8	2.5	3	CW40	CW40

Continued on next page

#### **Egress Notes**

Check all applicable local codes for emergency egress requirements.

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft $^2$ .

 $<sup>\</sup>begin{tabular}{ll} \end{tabular} \begin{tabular}{ll} \end{tabular} \beg$ 

To convert area to square meters ( $m^2$ ), multiply square feet by 0.0929.



Cottage Sas	h for S	ingle- and	Double- <u>H</u> ui	ng					
Unit	Egress		pening hes)	Vent Area	Visible Glass		rd Glass ss (mm)	Perfor Class &	mance Grade <sub>1</sub>
Onic	Eg	Width	Height	Ft <sup>2</sup>	Ft <sup>2</sup>	Annealed	Tempered	Clad	Wood
VG3741		33-5/16	12-11/16	2.9	7.0	2.5	3	CW50	CW45
VG3747		33-5/16	15-1/16	3.5	8.3	2.5	3	CW50	CW45
VG3753		33-5/16	17-7/16	4.0	9.6	2.5	3	CW50	CW45
VG3757		33-5/16	19-1/16	4.4	10.5	2.5	3	CW50	CW45
VG3759		33-5/16	19-7/8	4.6	11.0	2.5	3	CW50	CW45
VG3765		33-5/16	22-1/4	5.2	12.3	2.5	3	CW50	CW45
VG3771	Е	33-5/16	24-11/16	5.7	13.6	2.5	3	CW40	CW40
VG4141		37-5/16	12-11/16	3.3	7.9	2.5	3	CW50	CW45
VG4147		37-5/16	15-1/16	3.9	9.4	2.5	3	CW50	CW45
VG4153		37-5/16	17-7/16	4.5	10.9	2.5	3	CW50	CW45
VG4157		37-5/16	19-1/16	4.9	11.9	2.5	3	CW50	CW45
VG4159		37-5/16	19-7/8	5.2	12.4	2.5	3	CW50	CW45
VG4165		37-5/16	22-1/4	5.8	13.8	2.5	3	CW45	CW45
VG4171	Е	37-5/16	24-11/16	6.4	15.3	2.5	3	CW40	CW40
VG4541		41-5/16	12-11/16	3.6	8.8	2.5	3	CW50	CW45
VG4547		41-5/16	15-1/16	4.3	10.5	2.5	3	CW50	CW45
VG4553		41-5/16	17-7/16	5.0	12.1	2.5	3	CW50	CW45
VG4557		41-5/16	19-1/16	5.5	13.2	2.5	3	CW45	CW45
VG4559		41-5/16	19-7/8	5.7	13.8	2.5	3	CW45	CW45
VG4565		41-5/16	22-1/4	6.4	15.4	2.5	3	CW45	CW45
VG4571	Е	41-5/16	24-11/16	7.1	17.0	3	3	CW40	CW40
VG4841		44-5/16	12-11/16	3.9	9.5	2.5	3	CW50	CW45
VG4847		44-5/16	15-1/16	4.6	11.3	2.5	3	CW50	CW45
VG4853		44-5/16	17-7/16	5.4	13.0	2.5	3	CW45	CW45
VG4857		44-5/16	19-1/16	5.9	14.2	2.5	3	CW45	CW45
VG4859		44-5/16	19-7/8	6.1	14.8	2.5	3	CW45	CW45
VG4865		44-5/16	22-1/4	6.9	16.6	3	3	CW40	CW40
VG4871	Е	44-5/16	24-11/16	7.6	18.3	3	3	CW40	CW40

## 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 ft<sup>2</sup>.

 $<sup>(1) \,</sup> Maximum \, performance \, when \, glazed \, with \, the \, appropriate \, glass \, thickness. \\$ 

To convert area to square meters ( $m^2$ ), multiply square feet by 0.0929.



# Design Data - Replacement Sizes

Replacemen	t Equa	al Sash for	Single- an	d Doub	le-Hung				
Unit	Egress	Clear O	pening	Vent Area	Visible Glass		rd Glass ss (mm)		mance Grade 1
Offic	Egr	Width (Inches)	Height (Inches)	Ft <sup>2</sup>	Ft <sup>2</sup>	Annealed	Tempered	Clad	Wood
23.5 x 35.5		19-13/16	13-5/16	1.8	3.3	2.5	3	CW50	CW45
23.5 x 37.5		19-13/16	14-5/16	2.0	3.6	2.5	3	CW50	CW45
23.5 x 41.5		19-13/16	16-5/16	2.2	4.1	2.5	3	CW50	CW45
23.5 x 45.5		19-13/16	18-5/16	2.5	4.6	2.5	3	CW50	CW45
23.5 x 47.5		19-13/16	19-5/16	2.7	4.8	2.5	3	CW50	CW45
23.5 x 51.5		19-13/16	21-5/16	2.9	5.3	2.5	3	CW50	CW45
23.5 x 53.5		19-13/16	22-5/16	3.1	5.6	2.5	3	CW50	CW45
23.5 x 57.5		19-13/16	24-5/16	3.3	6.1	2.5	3	CW50	CW45
23.5 x 59.5		19-13/16	25-5/16	3.5	6.3	2.5	3	CW50	CW45
23.5 x 61.5		19-13/16	26-5/16	3.6	6.5	2.5	3	CW50	CW45
23.5 x 65.5		19-13/16	28-5/16	3.9	7.0	2.5	3	CW50	CW45
23.5 x 71.5		19-13/16	31-5/16	4.3	7.8	2.5	3	CW50	CW45
27.5 x 35.5		23-13/16	13-5/16	2.2	4.1	2.5	3	CW50	CW45
27.5 x 37.5		23-13/16	14-5/16	2.4	4.4	2.5	3	CW50	CW45
27.5 x 41.5		23-13/16	16-5/16	2.7	5.0	2.5	3	CW50	CW45
27.5 x 45.5		23-13/16	18-5/16	3.0	5.6	2.5	3	CW50	CW45
27.5 x 47.5		23-13/16	19-5/16	3.2	5.9	2.5	3	CW50	CW45
27.5 x 51.5		23-13/16	21-5/16	3.5	6.5	2.5	3	CW50	CW45
27.5×53.5		23-13/16	22-5/16	3.7	6.8	2.5	3	CW50	CW45
27.5 x 57.5		23-13/16	24-5/16	4.0	7.4	2.5	3	CW50	CW45
27.5 x 59.5		23-13/16	25-5/16	4.2	7.7	2.5	3	CW50	CW45
27.5×61.5		23-13/16	26-5/16	4.4	8.0	2.5	3	CW50	CW45
27.5 x 65.5		23-13/16	28-5/16	4.7	8.6	2.5	3	CW50	CW45
27.5×71.5	E1	23-13/16	31-5/16	5.2	9.5	2.5	3	CW50	CW45
29.5 x 35.5		25-13/16	13-5/16	2.4	4.4	2.5	3	CW50	CW45
29.5 x 37.5		25-13/16	14-5/16	2.6	4.8	2.5	3	CW50	CW45
29.5 x 41.5		25-13/16	16-5/16	2.9	5.4	2.5	3	CW50	CW45
29.5 x 45.5		25-13/16	18-5/16	3.3	6.1	2.5	3	CW50	CW45
29.5 x 47.5		25-13/16	19-5/16	3.5	6.4	2.5	3	CW50	CW45
29.5 x 51.5		25-13/16	21-5/16	3.8	7.1	2.5	3	CW50	CW45
29.5×53.5		25-13/16	22-5/16	4.0	7.4	2.5	3	CW50	CW45
29.5 x 57.5		25-13/16	24-5/16	4.4	8.1	2.5	3	CW50	CW45
29.5×59.5		25-13/16	25-5/16	4.5	8.4	2.5	3	CW50	CW45
29.5×61.5		25-13/16	26-5/16	4.7	8.7	2.5	3	CW50	CW45
29.5 x 65.5	E1	25-13/16	28-5/16	5.1	9.4	2.5	3	CW50	CW45
29.5 x 71.5	E <sub>1</sub>	25-13/16	31-5/16	5.6	10.4	2.5	3	CW50	CW45

Continued on next page

#### Egress Notes:

Check all applicable local codes for emergency egress requirements.

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft<sup>2</sup>.

<sup>(1)</sup> Maximum performance when glazed with the appropriate glass thickness.

To convert area to square meters ( $m^2$ ), multiply square feet by 0.0929.



# Design Data - Replacement Sizes

Replacement	t Egua	al Sas <u>h for</u>	Singl <u>e- an</u> c	l Doub	le-H <u>una</u>				
		Clear O		Vent	Visible		rd Glass ss (mm)		mance Grade 1
Unit	Egress	Width (Inches)	Height (Inches)	Area Ft <sup>2</sup>	Glass Ft <sup>2</sup>	Annealed	Tempered	Clad	Wood
31.5 x 35.5		27-13/16	13-5/16	2.6	4.8	2.5	3	CW50	CW45
31.5 x 37.5		27-13/16	14-5/16	2.8	5.2	2.5	3	CW50	CW45
31.5×41.5		27-13/16	16-5/16	3.2	5.9	2.5	3	CW50	CW45
31.5 x 45.5		27-13/16	18-5/16	3.5	6.6	2.5	3	CW50	CW45
31.5 x 47.5		27-13/16	19-5/16	3.7	7.0	2.5	3	CW50	CW45
31.5×51.5		27-13/16	21-5/16	4.1	7.7	2.5	3	CW50	CW45
31.5×53.5		27-13/16	22-5/16	4.3	8.0	2.5	3	CW50	CW45
31.5×57.5		27-13/16	24-5/16	4.7	8.8	2.5	3	CW50	CW45
31.5×59.5		27-13/16	25-5/16	4.9	9.1	2.5	3	CW50	CW45
31.5×61.5	E1	27-13/16	26-5/16	5.1	9.5	2.5	3	CW50	CW45
31.5 x 65.5	E1	27-13/16	28-5/16	5.5	10.2	2.5	3	CW50	CW45
31.5×71.5	Е	27-13/16	31-5/16	6.0	11.3	2.5	3	CW50	CW45
35.5 x 35.5		31-13/16	13-5/16	2.9	5.6	2.5	3	CW50	CW45
35.5 x 37.5		31-13/16	14-5/16	3.2	6.0	2.5	3	CW50	CW45
35.5 x 41.5		31-13/16	16-5/16	3.6	6.8	2.5	3	CW50	CW45
35.5 x 45.5		31-13/16	18-5/16	4.0	7.6	2.5	3	CW50	CW45
35.5 x 47.5		31-13/16	19-5/16	4.3	8.0	2.5	3	CW50	CW45
35.5×51.5		31-13/16	21-5/16	4.7	8.9	2.5	3	CW50	CW45
35.5 x 53.5		31-13/16	22-5/16	4.9	9.3	2.5	3	CW50	CW45
35.5×57.5	E1	31-13/16	24-5/16	5.4	10.1	2.5	3	CW50	CW45
35.5×59.5	E1	31-13/16	25-5/16	5.6	10.5	2.5	3	CW50	CW45
35.5×61.5	Е	31-13/16	26-5/16	5.8	10.9	2.5	3	CW50	CW45
35.5 x 65.5	Е	31-13/16	28-5/16	6.3	11.8	2.5	3	CW50	CW45
35.5 x 71.5	Е	31-13/16	31-5/16	6.9	13.0	2.5	3	CW50	CW45
39.5 x 35.5		35-13/16	13-5/16	3.3	6.3	2.5	3	CW50	CW45
39.5 x 37.5		35-13/16	14-5/16	3.6	6.8	2.5	3	CW50	CW45
39.5 x 41.5		35-13/16	16-5/16	4.1	7.7	2.5	3	CW50	CW45
39.5 x 45.5		35-13/16	18-5/16	4.6	8.7	2.5	3	CW50	CW45
39.5 x 47.5		35-13/16	19-5/16	4.8	9.1	2.5	3	CW50	CW45
39.5 x 51.5		35-13/16	21-5/16	5.3	10.1	2.5	3	CW50	CW45
39.5 x 53.5		35-13/16	22-5/16	5.5	10.5	2.5	3	CW50	CW45
39.5 x 57.5	Е	35-13/16	24-5/16	6.0	11.5	2.5	3	CW50	CW45
39.5 x 59.5	Е	35-13/16	25-5/16	6.3	11.9	2.5	3	CW50	CW45
39.5×61.5	Е	35-13/16	26-5/16	6.5	12.4	2.5	3	CW50	CW45
39.5 x 65.5	Е	35-13/16	28-5/16	7.0	13.4	2.5	3	CW50	CW45
39.5×71.5	Е	35-13/16	31-5/16	7.8	14.8	2.5	3	CW50	CW45
41.5 x 35.5		37-13/16	13-5/16	3.5	6.7	2.5	3	CW50	CW45
41.5 x 37.5		37-13/16	14-5/16	3.8	7.2	2.5	3	CW50	CW45
41.5 x 41.5		37-13/16	16-5/16	4.3	8.2	2.5	3	CW50	CW45
41.5 x 45.5		37-13/16	18-5/16	4.8	9.2	2.5	3	CW50	CW45
41.5 x 47.5		37-13/16	19-5/16	5.1	9.7	2.5	3	CW50	CW45
41.5×51.5		37-13/16	21-5/16	5.6	10.7	2.5	3	CW50	CW45
41.5 x 53.5		37-13/16	22-5/16	5.9	11.2	2.5	3	CW50	CW45
41.5 x 57.5	Е	37-13/16	24-5/16	6.4	12.2	2.5	3	CW50	CW45
41.5×59.5	Е	37-13/16	25-5/16	6.6	12.7	2.5	3	CW50	CW45
41.5×61.5	Е	37-13/16	26-5/16	6.9	13.1	2.5	3	CW50	CW45
41.5×65.5	Е	37-13/16	28-5/16	7.4	14.1	2.5	3	CW50	CW45
41.5 x 71.5	Е	37-13/16	31-5/16	8.2	15.6	2.5	3	CW50	CW45

#### 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 ft<sup>2</sup>.

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft<sup>2</sup>.

<sup>(1)</sup> Maximum performance when glazed with the appropriate glass thickness.



# Design Data - Replacement Sizes

Replaceme	ent Fixed			
Unit	Visible Glass		rd Glass ss (mm)	Performance
Onit	Ft <sup>2</sup>	Annealed	Tempered	Class & Grade 1
41 x 35.5	7.3	2.5	3	CW50
41 x 37.5	7.8	2.5	3	CW50
41 x 41.5	8.8	2.5	3	CW50
41 x 45.5	9.7	2.5	3	CW45/CW50
41 x 47.5	10.2	3.0	3	CW50
41 x 51.5	11.2	3.0	3	CW50
41 x 53.5	11.7	3.0	3	CW50
41 x 57.5	12.7	3.0	3	CW50
41 x 59.5	13.2	3.0	3	CW50
41 x 61.5	13.6	3.0	3	CW50
41 x 65.5	14.6	3.0	3	CW50
41 x 71.5	16.1	3.0	3	CW45/CW50
47 x 35.5	8.5	2.5	3	CW50
47 x 37.5	9.1	2.5	3	CW50
47 x 41.5	10.2	3.0	3	CW50
47 x 45.5	11.4	3.0	3	CW50
47 x 47.5	12.0	3.0	3	CW50
47 x 51.5	13.1	3.0	3	CW50
47 x 53.5	13.7	3.0	3	CW50
47 x 57.5	14.8	3.0	3	CW50
47 x 59.5	15.4	3.0	3	CW45/CW50
47×61.5	16.0	3.0	3	CW45/CW50
47×65.5	17.1	3.0	3	CW45/CW50
47×71.5	18.8	4.0	4	CW50
53×35.5	9.8	2.5	3	CW45/CW50
53×37.5	10.4	3.0	3	CW50
53×41.5	11.7	3.0	3	CW50
53×45.5	13.0	3.0	3	CW50
53×47.5	13.7	3.0	3	CW50
53×51.5	15.0	3.0	4	CW50
53×53.5	15.7	3.0	4	CW45/CW50
53×57.5	17.0	3.0	4	CW45/CW50
53 x 59.5	17.6	4.0	4	CW50
53×61.5	18.3	4.0	4	CW50
53 x 65.5	19.6	4.0	4	CW50
53 x 71.5	21.6	4.0	4	CW50
59 x 35.5	11.0	3.0	3	CW50
59 x 37.5	11.7	3.0	3	CW50
59 x 41.5	13.2	3.0	3	CW50
59 x 45.5	14.7	3.0	3	CW50
59 x 47.5	15.4	3.0	3	CW45/CW50
59 x 51.5	16.9	3.0	4	CW45/CW50
59 x 53.5	17.7	4.0	4	CW50
59 x 57.5	19.1	4.0	4	CW50
59 x 59.5	19.9	4.0	4	CW50
59x61.5	20.6	4.0	4	CW50
59 x 65.5	22.1	4.0	4	CW50
59×71.5	24.3	4.0	4	CW45/CW50

Replaceme	Replacement Transoms										
Unit	Visible Glass		rd Glass ss (mm)	Performance							
Onit	Ft <sup>2</sup>	Annealed	Tempered	Class & Grade 1							
23.5 x 14	1.0	2.5	3	CW50							
23.5 x 17	1.4	2.5	3	CW50							
23.5 x 25	2.4	2.5	3	CW50							
27.5×14	1.2	2.5	3	CW50							
27.5×17	1.7	2.5	3	CW50							
27.5×25	2.9	2.5	3	CW50							
29.5 x 14	1.4	2.5	3	CW50							
29.5 x 17	1.9	2.5	3	CW50							
29.5 x 25	3.2	2.5	3	CW50							
31.5 x 14	1.5	2.5	3	CW50							
31.5 x 17	2.0	2.5	3	CW50							
31.5 x 25	3.4	2.5	3	CW50							
35.5 x 14	1.7	2.5	3	CW50							
35.5 x 17	2.3	2.5	3	CW50							
35.5 x 25	4.0	2.5	3	CW50							
39.5 x 14	1.9	2.5	3	CW50							
39.5 x 17	2.6	2.5	3	CW50							
39.5 x 25	4.5	2.5	3	CW50							
41.5 x 14	2.0	2.5	3	CW50							
41.5 x 17	2.8	2.5	3	CW50							
41.5 x 25	4.8	2.5	3	CW50							

<sup>(1)</sup> Maximum performance when glazed with the appropriate glass thickness. Second number, where shown, requires tempered glass.



Replacement	Cotta	ige Sash fo	or Single- a	and Do	uble-Hu	ng			
11-2-	Egress	Clear C	pening	Vent	Visible		rd Glass ss (mm)		mance Grade 1
Unit	Egr	Width (Inches)	Height (Inches)	Area Ft <sup>2</sup>	Glass Ft <sup>2</sup>	Annealed	Tempered	Clad	Wood
VG23.5 x 41.5		19-13/16	12-7/8	1.8	4.1	2.5	3	CW50	CW45
VG23.5 x 45.5		19-13/16	14-1/2	2.0	4.6	2.5	3	CW50	CW45
VG23.5 x 47.5		19-13/16	15-1/4	2.1	4.8	2.5	3	CW50	CW45
VG23.5 x 51.5		19-13/16	16-7/8	2.3	5.3	2.5	3	CW50	CW45
VG23.5 x 53.5		19-13/16	17-11/16	2.4	5.6	2.5	3	CW50	CW45
VG23.5 x 57.5		19-13/16	19-1/4	2.7	6.1	2.5	3	CW50	CW45
VG23.5 x 59.5		19-13/16	19-15/16	2.8	6.3	2.5	3	CW50	CW45
VG23.5 x 61.5		19-13/16	20-7/8	2.9	6.5	2.5	3	CW50	CW45
VG23.5 x 65.5		19-13/16	22-1/2	3.1	7.0	2.5	3	CW50	CW45
VG23.5 x 71.5		19-13/16	24-7/8	3.4	7.8	2.5	3	CW40	CW40
VG27.5 x 41.5		23-13/16	12-7/8	2.1	5.0	2.5	3	CW50	CW45
VG27.5 x 45.5		23-13/16	14-1/2	2.4	5.6	2.5	3	CW50	CW45
VG27.5 x 47.5		23-13/16	15-1/4	2.5	5.9	2.5	3	CW50	CW45
VG27.5 x 51.5		23-13/16	16-7/8	2.8	6.5	2.5	3	CW50	CW45
VG27.5 x 53.5		23-13/16	17-11/16	2.9	6.8	2.5	3	CW50	CW45
VG27.5 x 57.5		23-13/16	19-1/4	3.2	7.4	2.5	3	CW50	CW45
VG27.5 x 59.5		23-13/16	19-15/16	3.3	7.7	2.5	3	CW50	CW45
VG27.5 x 61.5		23-13/16	20-7/8	3.5	8.0	2.5	3	CW50	CW45
VG27.5 x 65.5		23-13/16	22-1/2	3.7	8.6	2.5	3	CW50	CW45
VG27.5 x 71.5		23-13/16	24-7/8	4.1	9.5	2.5	3	CW40	CW40
VG29.5 x 41.5		25-13/16	12-7/8	2.3	5.4	2.5	3	CW50	CW45
VG29.5 x 45.5		25-13/16	14-1/2	2.6	6.1	2.5	3	CW50	CW45
VG29.5 x 47.5		25-13/16	15-1/4	2.7	6.4	2.5	3	CW50	CW45
VG29.5 x 51.5		25-13/16	16-7/8	3.0	7.1	2.5	3	CW50	CW45
VG29.5 x 53.5		25-13/16	17-11/16	3.2	7.4	2.5	3	CW50	CW45
VG29.5 x 57.5		25-13/16	19-1/4	3.5	8.1	2.5	3	CW50	CW45
VG29.5 x 59.5		25-13/16	19-15/16	3.6	8.4	2.5	3	CW50	CW45
VG29.5 x 61.5		25-13/16	20-7/8	3.7	8.7	2.5	3	CW50	CW45
VG29.5 x 65.5		25-13/16	22-1/2	4.0	9.4	2.5	3	CW50	CW45
VG29.5 x 71.5		25-13/16	24-7/8	4.5	10.4	2.5	3	CW40	CW40
VG31.5 x 41.5		27-13/16	12-7/8	2.5	5.9	2.5	3	CW50	CW45
VG31.5 x 45.5		27-13/16	14-1/2	2.8	6.6	2.5	3	CW50	CW45
VG31.5 x 47.5		27-13/16	15-1/4	3.0	7.0	2.5	3	CW50	CW45
VG31.5 x 51.5		27-13/16	16-7/8	3.3	7.7	2.5	3	CW50	CW45
VG31.5 x 53.5		27-13/16	17-11/16	3.4	8.0	2.5	3	CW50	CW45
VG31.5 x 57.5		27-13/16	19-1/4	3.7	8.8	2.5	3	CW50	CW45
VG31.5 x 59.5		27-13/16	19-15/16	3.9	9.1	2.5	3	CW50	CW45
VG31.5 x 61.5		27-13/16	20-7/8	4.0	9.5	2.5	3	CW50	CW45
VG31.5 x 65.5		27-13/16	22-1/2	4.3	10.2	2.5	3	CW50	CW45
VG31.5 x 71.5		27-13/16	24-7/8	4.8	11.3	2.5	3	CW40	CW40

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 $<sup>\</sup>begin{tabular}{ll} \end{tabular} \begin{tabular}{ll} \end{tabular} \beg$ 

To convert area to square meters ( $m^2$ ), multiply square feet by 0.0929.



Replacement	Cotta	age Sash fo	or Single- a	and Do	uble-Hu	ng			
Unit	Egress	Clear C	pening	Vent Area	Visible Glass		rd Glass ss (mm)	Perfor Class &	mance Grade 1
	Egi	Width (Inches)	Height (Inches)	Ft <sup>2</sup>	Ft <sup>2</sup>	Annealed	Tempered	Clad	Wood
VG35.5 x 41.5		31-13/16	12-7/8	2.8	6.8	2.5	3	CW50	CW45
VG35.5 x 45.5		31-13/16	14-1/2	3.2	7.6	2.5	3	CW50	CW45
VG35.5 x 47.5		31-13/16	15-1/4	3.4	8.0	2.5	3	CW50	CW45
VG35.5 x 51.5		31-13/16	16-7/8	3.7	8.9	2.5	3	CW50	CW45
VG35.5 x 53.5		31-13/16	17-11/16	3.9	9.3	2.5	3	CW50	CW45
VG35.5 x 57.5		31-13/16	19-1/4	4.3	10.1	2.5	3	CW50	CW45
VG35.5 x 59.5		31-13/16	19-15/16	4.4	10.5	2.5	3	CW50	CW45
VG35.5 x 61.5		31-13/16	20-7/8	4.6	11.0	2.5	3	CW50	CW45
VG35.5 x 65.5		31-13/16	22-1/2	5.0	11.8	2.5	3	CW50	CW45
VG35.5 x 71.5	E1	31-13/16	24-7/8	5.5	13.0	2.5	3	CW40	CW40
VG39.5 x 41.5		35-13/16	12-7/8	3.2	7.7	2.5	3	CW50	CW45
VG39.5 x 45.5		35-13/16	14-1/2	3.6	8.7	2.5	3	CW50	CW45
VG39.5 x 47.5		35-13/16	15-1/4	3.8	9.1	2.5	3	CW50	CW45
VG39.5 x 51.5		35-13/16	16-7/8	4.2	10.1	2.5	3	CW50	CW45
VG39.5 x 53.5		35-13/16	17-11/16	4.4	10.5	2.5	3	CW50	CW45
VG39.5 x 57.5		35-13/16	19-1/4	4.8	11.5	2.5	3	CW50	CW45
VG39.5 x 59.5		35-13/16	19-15/16	5.0	11.9	2.5	3	CW50	CW45
VG39.5 x 61.5		35-13/16	20-7/8	5.2	12.4	2.5	3	CW45	CW45
VG39.5 x 65.5		35-13/16	22-1/2	5.6	13.4	2.5	3	CW45	CW45
VG39.5×71.5	Е	35-13/16	24-7/8	6.2	14.8	2.5	3	CW40	CW40
VG41.5 x 41.5		37-13/16	12-7/8	3.4	8.2	2.5	3	CW50	CW45
VG41.5 x 45.5		37-13/16	14-1/2	3.8	9.2	2.5	3	CW50	CW45
VG41.5 x 47.5		37-13/16	15-1/4	4.0	9.7	2.5	3	CW50	CW45
VG41.5 x 51.5		37-13/16	16-7/8	4.4	10.7	2.5	3	CW50	CW45
VG41.5 x 53.5		37-13/16	17-11/16	4.6	11.2	2.5	3	CW50	CW45
VG41.5 x 57.5		37-13/16	19-1/4	5.1	12.2	2.5	3	CW50	CW45
VG41.5 x 59.5		37-13/16	19-15/16	5.3	12.7	2.5	3	CW50	CW45
VG41.5 x 61.5		37-13/16	20-7/8	5.5	13.2	2.5	3	CW45	CW45
VG41.5 x 65.5		37-13/16	22-1/2	5.9	14.1	2.5	3	CW45	CW45
VG41.5 x 71.5	Е	37-13/16	24-7/8	6.5	15.6	2.5	3	CW40	CW40

## 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 ft $^2$ .

E1 = Window meets minimum clear opening of 24" height, 20" width, and 5.0 ft<sup>2</sup>.

<sup>(1)</sup> Maximum performance when glazed with the appropriate glass thickness.

To convert area to square meters ( $m^2$ ), multiply square feet by 0.0929.



# Pella® Reserve™ Traditional Hung Window

# Detailed Product Description - Aluminum-Clad Exterior

#### Frame

- Select softwood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [clear pine] [mahogany] [douglas fir].
- Exterior surfaces are clad with aluminum.
- Components are assembled with screws, staples and concealed corner locks.
- Overall frame depth is 5" (127mm) for a wall depth of 3-11/16" (94mm).
- Optional factory applied jamb extensions available between 3-13/16" (97mm) and 9-3/16" (233mm).
- Vinyl jamb liner with wood / clad inserts.
- Optional factory installed fold-out installation fins with flexible fin corners.
- Optional factory-applied EnduraClad® exterior trim.

- Select softwood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [clear pine] [mahogany] [douglas fir]. Any curved member may have visible finger-jointed surfaces.
- Exterior surfaces are clad with extruded aluminum butt-jointed at all corners of the sash with through-stile construction and sealed.
- Corners mortised and tenoned, glued and secured with metal fasteners.
- Sash thickness is 1-7/8" (47mm).
- Double-Hung: Upper sash has surface-mounted wash locks for easy tilt-in cleaning] [Single-Hung: Fixed upper sash has surface-mounted wash locks] [Arch Head units have no wash locks].
- · Lower sash has concealed wash locks in lower check rail allowing sash to tilt in for easy cleaning.
- Simulated-Hung units have non-operable upper and lower sashes.
- Sash exterior profile is [ogee] [putty glaze], interior profile is ogee.

#### Weatherstripping

- Water-stop santoprene-wrapped foam at head and sill.
- Thermoplastic elastomer bulb with slip-coating set into lower sash for tight contact at check rail.
- Vinyl-wrapped foam inserted into jamb liner to seal against sides of sash.

#### Glazing System

- Quality float glass complying with ASTM C 1036.
   Custom and high altitude glazing available.
   Silicone-glazed dual-pane 13/16" dual-seal insulating glass [[annealed] [tempered]], [[clear] [[Advanced Low-E] [SunDefense™ Low-E] [NaturalSun Low-E] [AdvancedComfort Low-E] with argon]] [[bronze] [gray] [green] Advanced Low-E [with Argon]] [obscure] [Reflective Bronze].
- Silicone-glazed dual-pane 13/16" dual-seal [[annealed] [tempered]] non-impact laminated glass [[clear] [[Advanced Low-E] [SunDefense Low-E] with Argon]] [[bronze] [gray] [green] Advanced Low-E [with argon]].

#### Exterior

- Aluminum-clad exteriors shall be finished with EnduraClad® protective finish, in a multi-step, baked-on finish.
  - Color is [standard] [custom]<sub>1</sub>.

- Aluminum-clad exteriors shall be finished with EnduraClad Plus protective finish with 70% fluoropolymer resin in a multi-step, baked-on finish.
  - Color is [standard] [custom]<sub>1</sub>.

• [Unfinished, ready for site finishing] [factory primed with one coat acrylic latex] [pine: factory prefinished [paint] [stain]1].

- (1) Contact your local Pella sales representative for current designs and color options.
- (2) Available in clear or Low-E insulating glass only.
- (3) Tan, Brown and Putty Interior GBG colors are available in single-tone (Brown/Brown, Tan/Tan or Putty/Putty). Other interior colors are also available with Tan or Brown exterior.
- (4) Appearance of exterior grille color will vary depending on Low-E coating on glass.
- (5) Full screens are available on units ≤ 96" height.
- (6) Integrated Rolscreen only available on sizes  $\geq$  34" tall and 21" wide, and  $\leq$  84" tall and 48"
- (7) Vivid View screen is not available when frame height is > 84" or when both frame width and frame height are > 48"

#### Hardware

- Galvanized block-and-tackle balances are connected to self-locking balance shoes which are connected to the sashes using zinc die cast terminals and concealed within the frame.
- Sash lock is [standard (cam-action)] [historic spoon-style] [air-conditioner lock] [simulated lock (Single-piece lock ties upper and lower sash together. When removed lower sash becomes operable)]. Two sash locks on units with frame width 37" and greater.
- $\bullet\,$  Optional sash lift furnished for field installation. Two lifts on units with frame width 37" and greater.
- Hardware finish is [baked enamel [Champagne] [White] [Brown] [Matte Black]] [Bright Brass] [Satin Nickel] [Oil-rubbed Bronze] [Antique Brass] [Distressed Bronze] [Distressed Nickel].

#### **Optional Products**

#### Sash

- · Exterior sash lugs
  - Optional factory applied accessory. Exterior finish is [Standard 1] [Custom 1].

#### Grilles

- Integral Light Technology\* grilles
   Interior grilles are [5/8"] [7/8"] [1-1/4"] [2"] ogee profile that are solid [pine] [mahogany] [douglas fir]. Interior surfaces are [unfinished, ready for site
  - finishing] [factory primed] [pine: factory prefinished [paint] [stain] 1].

    Exterior grilles are [5/8" putty glaze profile] [7/8" [putty glaze] [ogee] profile]
    [1-1/4" [putty glaze] [ogee] profile] [2" ogee profile] that are extruded aluminum.
  - Patterns are [Traditional] [Prairie] [Top Row] [New England] [Victorian].
  - Insulating glass contains non-glare spacer between the panes of glass.
     Grilles are adhered to both sides of the insulating glass with VHB acrylic
  - adhesive tape and aligned with the non-glare spacer. - or -
- $\bullet \ \, \text{Grilles-Between-the-Glass}_{\,2}$ 
  - Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass.

    Patterns are [Traditional] [9-Lite Prairie] [Cross] [Top Row]

  - Interior color is [White] [Tan<sub>3</sub>] [Brown<sub>3</sub>] [Putty<sub>3</sub>] [Black] [Morning Sky Gray] [Ivory] [Sand Dune] [Harvest] [Cordovan] [Brickstone].
  - Exterior color<sub>4</sub> is [standard]<sub>1</sub>.

- Roomside Removable grilles
   [[3/4"][1-1/4"][2"] traditional] [[1-1/4"][2"] colonial] profile, with [Traditional] [Prairie] patterns that are removable solid pine wood bars steel-pinned at joints and fitted to sash with steel clips and tacks.
  - Interior [unfinished, ready for site finishing] [factory primed] [pine: factory prefinished [paint] [stain] 1].
  - Exterior [unfinished, ready for site finishing] [factory primed] [finish color matched to exterior cladding 4].

- Integrated Rolscreen® (for rectangular units only)6
  - Retractable screen integrated into [lower sash] [both upper and lower sash]. Screen rollers are fixed and concealed within the frame, screen is held to the sash by magnets which release when the bottom sash is tilted for cleaning, and when the upper sash is opened past 18"
  - InView Screen cloth, black vinyl-coated 18/18 mesh fiberglass screen cloth complying with ASTM D 3656 and the performance requirements of SMA
- or - InView<sup>™</sup> screens
  - [Half-Size] [Full-Size 4] black vinyl-coated 18/18 mesh fiberglass screen cloth complying with the performance requirements of SMA 1201, set in a [standard roll-form] [premium extruded] aluminum frame fitted to outside of
  - window, supplied complete with all necessary hardware.
    Full screen spreader bar placed on units > 37" width or > 65" height.
  - Screen frame finish is [standard screen: baked enamel] [premium extruded: [baked enamel] [anodized]], color to match window cladding.
- Vivid View<sup>®</sup> screens<sub>7</sub>
  - [Half-Size] [Full-Size] PVDF 21 / 17 mesh, minimum 78 percent light transmissive screen, set in a [standard roll-form] [premium extruded] aluminum frame fitted to outside of window, supplied complete with all necessary hardware.
  - Full screen spreader bar placed on units > 37" width or > 65" height.
  - Screen frame finish is [standard screen: baked enamel] [premium extruded: [baked enamel] [anodized]], color to match window cladding.

#### Hardware

- Optional factory applied limited opening device available for vent units in stainless steel; nominal 3-3/4" opening. Limiting device concealed from view.
- Optional factory applied window opening control device. Device allows window to open less than 4" with normal operation, with a release mechanism that allows the sash to open completely. Complies with ASTM F2090-10.

Optional factory installed integrated security sensors available in vent units.



# Pella® Reserve™ Traditional Hung Window

# Detailed Product Description - Wood Exterior

#### Frame

- Select softwood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [clear pine] [mahogany] (standard rectangular windows only). Any curved member may have visible finger-jointed surfaces.
- · Exterior surfaces are [pine] [mahogany].
- Overall frame depth is 4-3/8" (111mm) for a wall depth of 4-3/16" (106mm).
- Vinyl Jamb liner includes wood / clad inserts.
- Optional factory applied jamb extensions available between 4-5/16" (110mm) and 9-3/16" (233mm).

- Select softwood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [clear pine] [mahogany (standard rectangular windows only)]. Any curved member may have visible finger-jointed surfaces.
- Exterior surfaces are [pine] [mahogany].
- Sash exterior profile is putty glaze, interior profile is ogee.
- Corners [mortised and tenoned on rectangular units] [mitered on arch head units], glued and secured with metal fasteners.
- Sash thickness is 1-7/8" (47mm).
- [Double-Hung: Upper sash has surface-mounted wash locks] [Single-Hung: Fixed upper sash has surface-mounted wash locks] [Arch Head units have no wash locks].
- · Lower sash has concealed wash locks in lower check rail.
- Sashes tilt in for easy cleaning.
- Simulated-Hung units have non-operable upper and lower sashes.

#### Weatherstripping

- · Water-stop santoprene-wrapped foam at head and sill. Thermoplastic elastomer bulb with slip-coating set into lower sash for tight contact at check rail.
- Vinyl-wrapped foam inserted into jamb liner to seal against sides of sash.

#### Glazing System

- Quality float glass complying with ASTM C 1036.
- Custom and high altitude glazing available.
  Silicone-glazed 11/16" dual-seal insulating glass [[annealed] [tempered]] [[clear]
  [[Advanced Low-E] [SunDefense™ Low-E] [AdvancedComfort] [NaturalSun Low-E] with argon]] [[bronze] [gray] [green] Advanced Low-E with argon].

#### Exterior

• [Pine: factory primed with one coat acrylic latex] [Mahogany: [factory primed with one coat acrylic latex] [Unfinished, ready for site finishing]].

• [Unfinished, ready for site finishing] [factory primed with one coat acrylic latex] [pine: factory prefinished [paint] [stain]<sub>1</sub>].

- Galvanized block-and-tackle balances are connected to self-locking balance shoes which are connected to the sashes using zinc die cast terminals and concealed within the frame.
- Sash lock is [standard (cam-action)] [historic spoon-style] [air-conditioner lock] [simulated lock (Single-piece lock ties upper and lower sash together. When removed lower sash becomes operable)]. Two sash locks on units with frame width 37" and greater.
- Optional sash lift furnished for field installation. Two lifts on units with frame width 37" and greater.
- Hardware finish is [baked enamel [Champagne] [White] [Brown] [Matte Black]] [bright brass] [satin nickel] [oil-rubbed bronze] [antique brass] [distressed bronze] [distressed nickel].

# **Optional Products**

#### Grilles

 Integral Light Technology® grilles
 Interior grilles are solid [5/8"] [7/8"] [1-1/4"] ogee profile that are solid [pine] [mahogany]. Interior surfaces are [unfinished, ready for site finishing]

[factory primed] [pine: factory prefinished [paint] [stain] 1].

Exterior grilles are solid [5/8"] [7/8"] [1-1/4"] putty glaze profile] that are [pine] [mahogany]. Exterior surfaces are water repellent, preservative-treated in accordance with WDMA I.S.-4, and are [unfinished, ready for site finishing] [factory primed].

Patterns are [Traditional] [Prairie] [Top Row] [New England] [Victorian].

- Insulating glass contains non-glare spacer between the panes of glass
- Grilles are adhered to both sides of the insulating glass with VHB acrylic adhesive tape and aligned with the non-glare spacer

- Grilles-Between-the-Glass 2
  - Insulating glass contains 3/4" contoured aluminum grilles permanently

- installed between two panes of glass.

  Patterns are [Traditional] [9-Lite Prairie] [Cross] [Top Row]

  Interior color is [White] [Tan3] [Brown3] [Putty3] [Black] [Morning Sky Gray]

  [Ivory] [Sand Dune] [Harvest] [Cordovan] [Brickstone].
- Exterior color<sub>5</sub> is [standard]<sub>1</sub>.

• Roomside Removable grilles

- [[3/4"][1-1/4"][2"] regular] [[1-1/4"][2"] colonial] profile, with [Traditional] [Prairie] patterns that are removable solid pine wood bars steel-pinned at joints and fitted to sash with steel clips and tacks.

  Interior [unfinished, ready for site finishing] [factory primed] [pine: factory
- prefinished [paint] [stain] 1].
- Exterior [unfinished, ready for site finishing] [factory primed].

#### Screens

- - [Half-Size] [Full-Size4] black vinyl-coated 18/18 mesh fiberglass screen cloth complying with the performance requirements of SMA 1201, set in a [standard roll-form aluminum frame with 3/4" wide rails and stiles] [premium extruded aluminum frame with 1" wide rails and stiles] fitted to outside of window, supplied complete with all necessary hardware.

    Full screen spreader bar placed on units > 37" width or > 65" height.

  - Insect screen frame finish is baked enamel. - or -
- Vivid View\* Screens<sub>6</sub>
   [Half-Size] [Full-Size] PVDF 21/17 mesh, minimum 78 percent light transmissive screen, set in a [standard roll-form aluminum frame with 3/4" wide rails and stiles] [premium extruded aluminum frame with 1" wide rails and stiles] fitted to outside of window, supplied complete with all necessary
  - Full screen spreader bar placed on units > 37" width or > 65" height.
     Insect screen frame finish is baked enamel.

#### Hardware

- Optional factory applied limited opening device available for vent units in stainless steel; nominal 3-3/4" opening. Limiting device concealed from
- Optional factory applied window opening control device. Device allows window to open less than 4" with normal operation, with a release mechanism that allows the sash to open completely. Complies with ASTM

#### Sensors

Optional factory installed integrated security sensors available in vent units.

<sup>(1)</sup> Contact your local Pella sales representative for current designs and color options.

<sup>(2)</sup> Available in clear or Low-E insulating glass with argon, and obscure insulated glass.

<sup>(3)</sup> Tan, Brown and Putty Interior GBG colors are available in single-tone (Brown/Brown, Tan/Tan or Putty/Putty). Other interior colors are also available with Tan or Brown exterior.

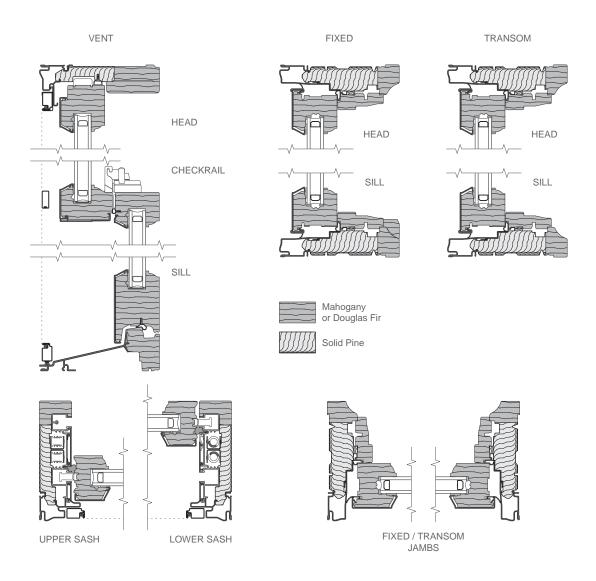
<sup>(4)</sup> Full screens are available on units ≤ 96" height.

<sup>(5)</sup> Appearance of exterior grille color will vary depending on Low-E coating on glass.

<sup>(6)</sup> Vivid View screen is not available when frame height is > 84" or when both frame width and frame height are > 48".

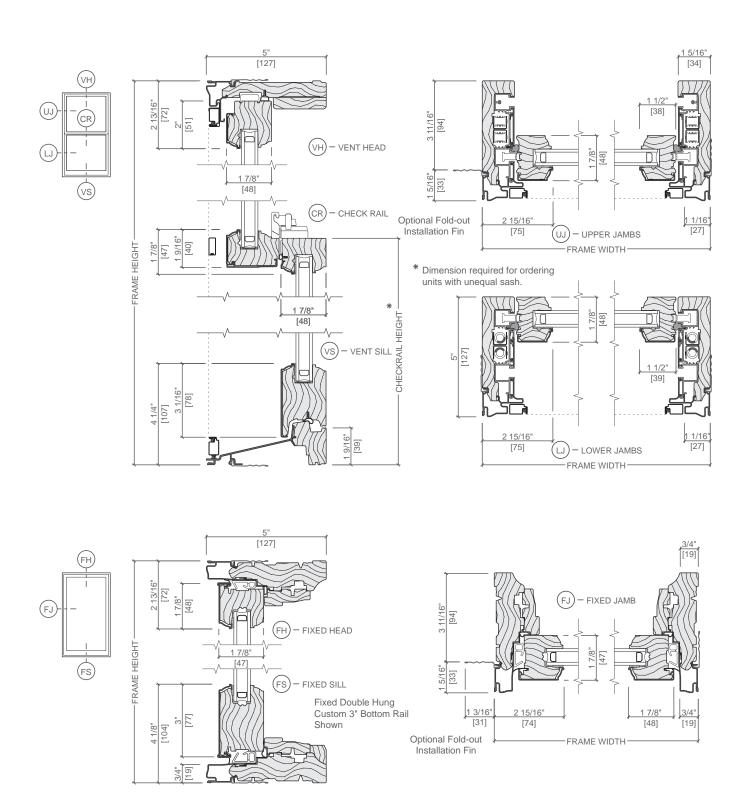


# Unit Sections - Wood Collection





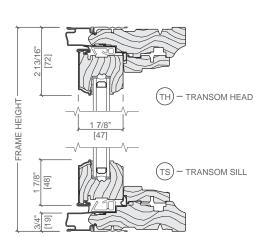
# Unit Sections - Aluminum-Clad Ogee Exterior Glazing Profile

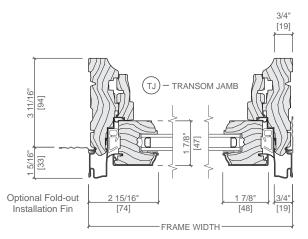




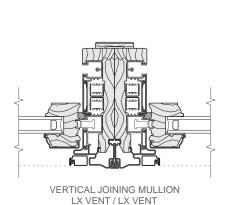
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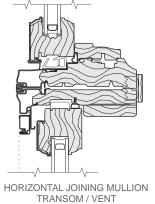


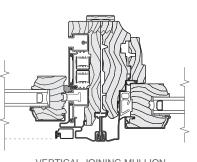




# **Typical Joining Mullions**







VERTICAL JOINING MULLION LX VENT / FIXED

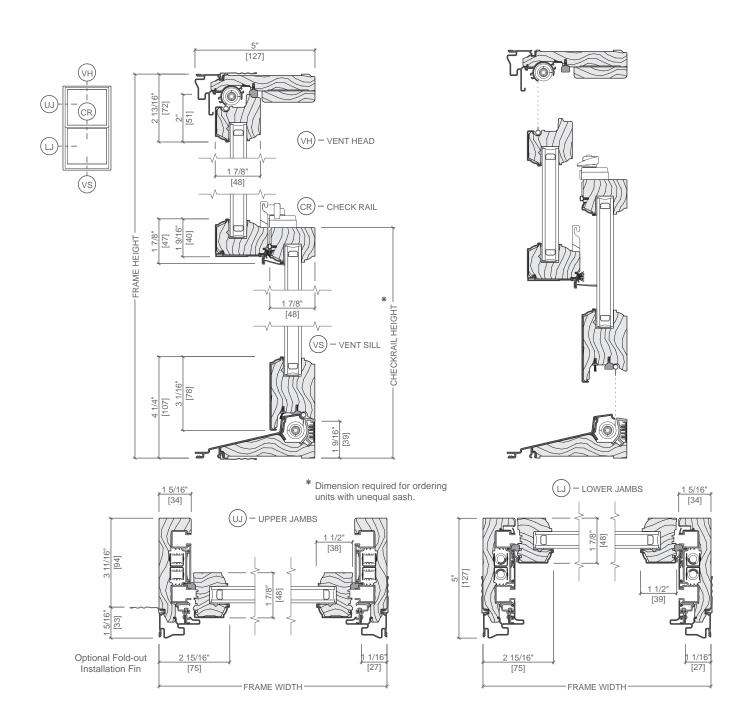
Scale 3" = 1' 0"

All dimensions are approximate.

See www.Pella.com for mullion limitation and reinforcing requirements.

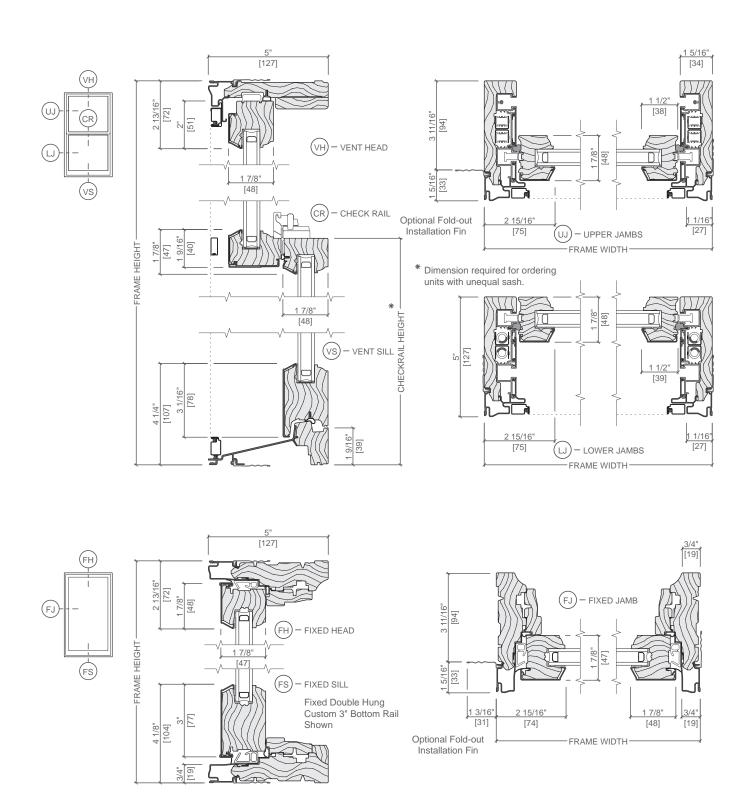


# Unit Sections - Aluminum-Clad Ogee Exterior Glazing Profile with Integrated Rolscreen®





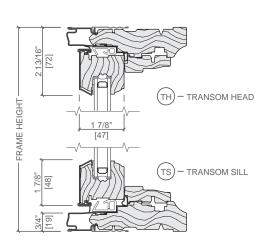
# Unit Sections - Aluminum-Clad Putty Glaze Exterior Profile

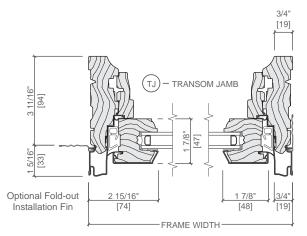




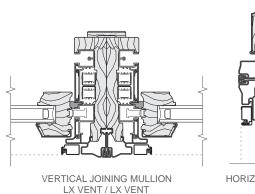
# Unit Sections - Aluminum-Clad Putty Glaze Exterior Profile

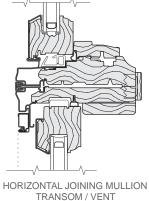


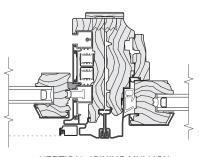




## **Typical Joining Mullions**







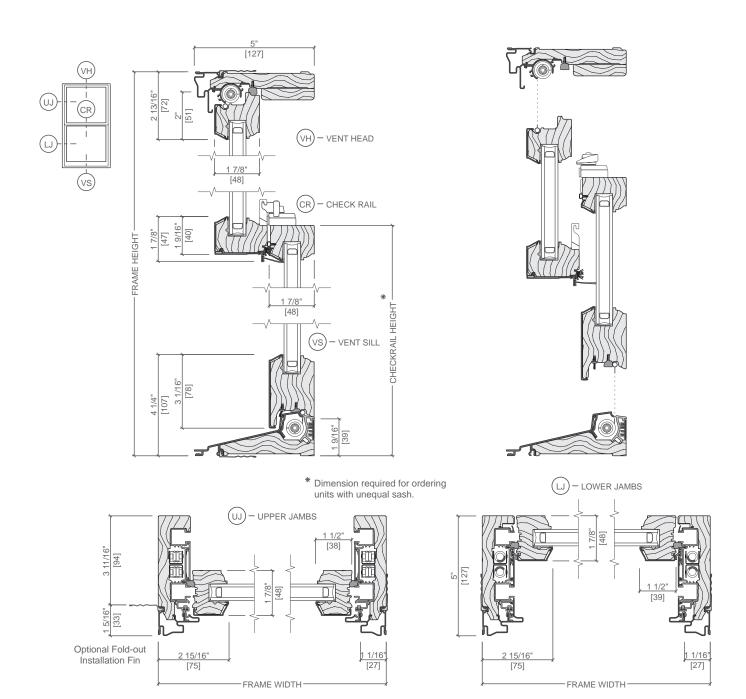
VERTICAL JOINING MULLION LX VENT / FIXED

Scale  $3" = 1' \ 0"$ All dimensions are approximate.

See www.Pella.com for mullion limitation and reinforcing requirements.

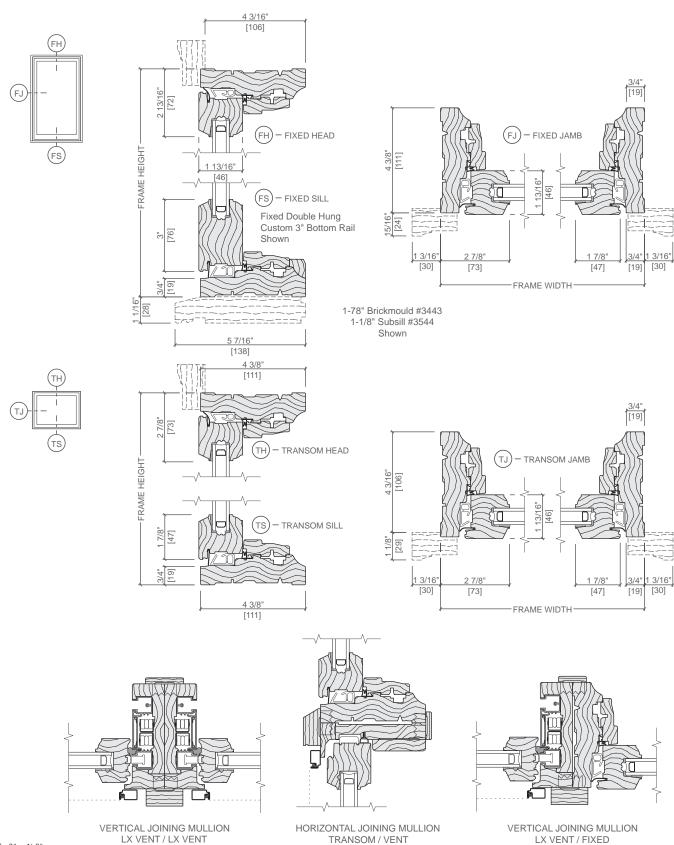


# Unit Sections - Aluminum-Clad Putty Glaze Exterior Profile with Integrated Rolscreen®





# Unit Sections - Wood Exterior Putty Glaze Exterior Profile

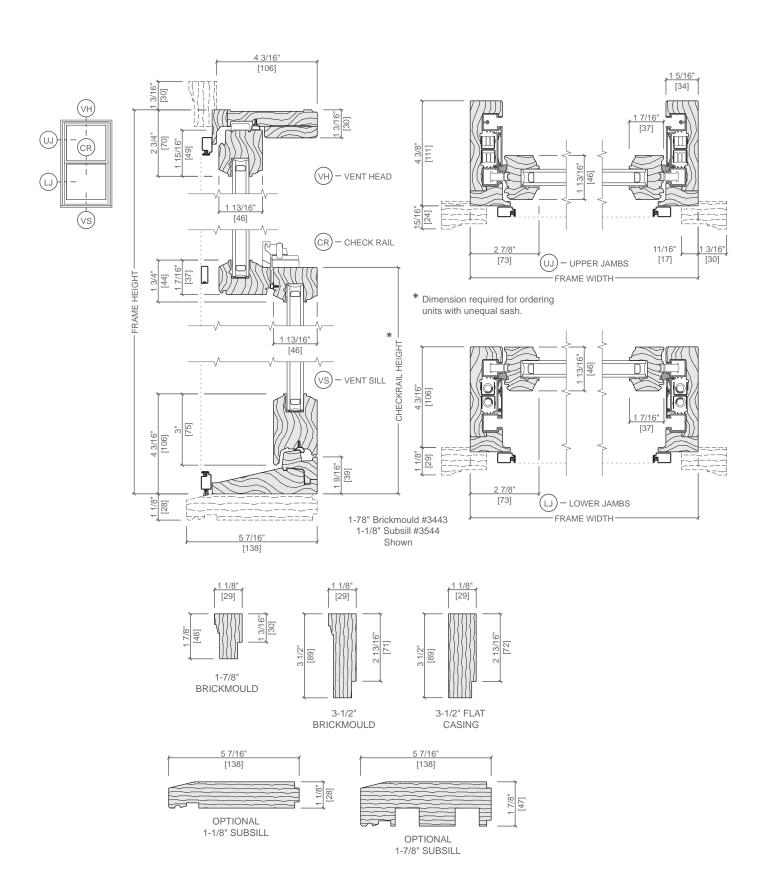


Scale 3" = 1' 0"
All dimensions are approximate.

See www.Pella.com for mullion limitation and reinforcing requirements.



# Unit Sections - Wood Exterior Putty Glaze Exterior Profile







WOOD &
ALUMINUMCLAD WOOD
WINDOWS
& PATIO
DOORS

EXQUISITELY
DESIGNED
WINDOWS AND
DOORS WITH
UNPARALLELED
HISTORICAL
DETAILING.



# WHY YOU CAN TRUST PELLA

At Pella, we don't just create windows and doors. We innovate with purpose, design with passion, build with integrity and deliver with pride.

# RATED #1 BY HOMEOWNERS FOR INNOVATION<sup>1</sup>

We are continually striving to improve what we do and how we do it.

That drive has earned us 150 patents and counting for amazing innovations.

In 1925 we opened our doors with the patented Rolscreen\* retractable screen, a time-tested innovation that is still one of our most desired features today.

# RATED #1 BY HOMEOWNERS FOR HIGHEST QUALITY<sup>1</sup>

We make products specifically for you with meticulous care and attention.

Our wood craftsmen have been honing their skills, on average, for over

14 years – that's longer than it takes for most to earn their PhD. And it doesn't stop there. Our product designs are tested to extremes, so you can trust them to perform. Door designs are opened and closed 100,000 times, and double-hung and casement window designs are tested at least 6,000 times.

# #1 LIMITED LIFETIME WARRANTY FOR WOOD WINDOWS AND PATIO DOORS<sup>2</sup>

You can feel confident in your investment. We pride ourselves on providing exceptional quality, exceeding expectations and going beyond requirements. That's why we stand behind all of our windows and patio doors with a limited lifetime warranty.<sup>3</sup>

2

<sup>&</sup>lt;sup>1</sup> Study of homeowner perceptions of leading national brands. Study commissioned by Pella, 2019.

<sup>2</sup> Based on comparing written limited warranties of leading national wood window and wood patio door brands. See written limited warranties for complete details, including exceptions and limitations, at pella.com/warranty, or contact Pella Customer Service.

<sup>3</sup> See written limited warranties for complete details, including exceptions and limitations, at pella.com/warranty, or contact Pella Customer Service.



# WHY CHOOSE WOOD?

Get the beauty and warmth of natural wood, our most customizable designs and exceptional energy efficiency.

All Pella wood products are made with high-quality wood, metal and manufacturing processes, regardless of product line.

# **EXCLUSIVE WOOD PROTECTION**

Pella's exclusive EnduraGuard® wood protection is applied after the pieces have been cut and milled, but prior to final assembly, providing advanced protection against the elements.

# DESIGNED FOR LONG-LASTING DURABILITY

Intentional jamb-on-sill design helps seal the end grain of the wood and elevates it off the rough opening, reducing the potential to absorb moisture. For added strength and durability, our three-way corner joints are made up of mortise-and-tenon, metal fasteners and commercial adhesive.

## QUALITY EXTERIOR AND INTERIOR FINISHES

Extruded aluminum-clad exteriors feature through-stile construction for exceptional durability and EnduraClad® finishes that resist fading and chalking. Interiors can be factory pre-finished to save time. Our prefinish is applied prior to final assembly and kiln-cured for a quality finish.



# #1 LIMITED LIFETIME WARRANTY FOR WOOD WINDOWS AND PATIO DOORS\*

You can be confident in your investment. At Pella, we are committed to designing and building wood products with exceptional quality and durability. This is supported by:

ENDURAGUARD® WOOD PROTECTION Advanced protection for wood against the effects of moisture, decay, stains from mold and mildew – as well as termite damage. EXTERIOR ALUMINUM CLADDING
Exceptionally durable aluminum cladding
with EnduraClad® exterior finish helps
protect windows and patio doors for years.

INSULATING GLASS SEAL A long-lasting insulating glass seal provides a clear view and exceptional energy efficiency.

\* Based on comparing written limited warranties of leading national wood window and wood patio door brands. See written limited warranty for details, including exceptions and limitations, at pella.com/warranty or contact Pella Customer Service.

4







# **EVERY DETAIL MATTERS**

Created for those who refuse to settle for anything less than extraordinary, Pella Reserve products provide unparalleled historical detailing. From authentic hardware and a disappearing screen to sash lugs that allow tilting, we've thought of every detail.





#### AVAILABLE IN THESE WINDOW AND PATIO DOOR STYLES:









Bay or Bow



Casement



Double-



Window









**Push-Out** 

Casement

Window







WHY CHOOSE PELLA® RESERVE™ - TRADITIONAL?

Revel in the authenticity and bring your design vision to life. Exuding

the tenets of traditional designs, Pella Reserve products provide historical elements with uncompromised attention to detail.

HISTORIC PUTTY PROFILE

Further your aesthetic with the putty profile, recreated with historically accurate

angles - providing meaningful depth and a realistic shadow. Pella Reserve products offer the industry's deepest sash dimension.

THROUGH-STILE CONSTRUCTION

Essential to the tradition of window making, butt joinery and through-stile

construction create authentic proportions and emulate historic window design.

INTEGRAL LIGHT TECHNOLOGY® Featuring the industry's only foam spacer solution, Pella's Integral Light Technology helps capture the look of true-divided-light without sacrificing energy efficiency.

**AUTHENTIC HARDWARE** Complement your project with historically authentic spoon-lock window hardware. Our Antiek casement window hardware is inspired by period furniture to deliver authentic, traditional style. Add charm to patio doors with premium hardware created in collaboration with Baldwin\*.







**Patio Door** 



Multi-Slide Patio Door

Patio Door

Patio Door

# **ACHIEVE YOUR VISION** WITHOUT CONCESSIONS

#### TAILOR-MADE SOLUTIONS

Partner with Pella. From preliminary drawings to installation, Pella's expert consultants can work to deliver custom window and door solutions for your project.

#### THROUGH-STILE CONSTRUCTION

Essential to the authenticity of traditional window making, historical accuracy is achieved by using through-stile construction



#### INTEGRATED ROLSCREEN®

Winner of the 2019 Most Innovative Window from Window and Door Magazine, the Integrated Rolscreen retractable screen provides a cleaner, more polished look. The Integrated Rolscreen is a double- and single-hung screen that appears when you open the window, and rolls away, out of sight, when you close it.



Our putty profile with historically

# AUTHENTIC LOOK OF TRUE DIVIDED LIGHT

Featuring the industry's only foam spacer solution, our Integral Light Technology® grilles help capture the look of true-divided-light without sacrificing energy performance.

# EXTRUDED ALUMINUM EXTERIORS

Pella Reserve products are available with extruded aluminum-clad exteriors for exceptional durability. Create a custom exterior color to meet your design needs or choose from 27 standard color options.



## **COLORS & FINISHES**

# Wood Types

Choose the wood species that best complements your project's interior.











Maple

Cherry

Prefinished **Pine Interior** Colors

When you select pine, we can prefinish in your choice of four paint colors or eleven stains. Unfinished or primed and ready-to-paint are also available.



#### Extruded Aluminum-Clad **Exterior Colors**

12

Our low-maintenance EnduraClad® exterior finish resists chalking and fading. Take durability further with EnduraClad Plus protective finish, which meets the industry's highest exterior coating standard to defend against chalking and fading.\*



Custom colors are also available.

#### \* EnduraClad Plus protective finish is not available with all colors. See your local Pella sales representative for availability

## **WINDOW HARDWARE**

#### Classic Collection

Get a timeless look with authentic styles in classic finishes.



Fold-away

Crank

Antiek



Spoon-Style Lock







Champagne

Matte Black

Oil-Rubbed Bronze

Satin

Bright

Brass

Antique Brass

**Essential** Collection

Select from popular designs and finishes to suit every style.



Fold-away Crank







Champagne





Black

Oil-Rubbed

Nickel Bronze





Bright Brass

# PATIO DOOR HARDWARE

#### Classic Collection

Choose timeless pieces, created in collaboration with Baldwin® Hardware, for a look that will never go out of style.

Finishes:

#### BALDWIN



Hinged Patio Door



Sliding & Multi-Slide Patio Door Handle



Multi-Slide Patio Door



Black







Antique Brass

**Essential** Collection

Elevate your style and transform your home with elegant selections.



Hinged & **Bifold Patio Door Handle** 



**Sliding Patio** Door Handle



Handle<sup>1,2</sup>



Multi-Slide Patio Door







Oil-Rubbed



**Bright** 



Additional hardware collections available. Visit pellaADM.com for more information.

<sup>&</sup>lt;sup>1</sup> Flush multi-slide handle is a Pella exclusive design.

<sup>&</sup>lt;sup>2</sup> Flush multi-slide handle is not available in Antique Brass, Champagne or Polished Nickel.

## Grilles

Choose the look of true divided light, removable roomside grilles or make cleaning easier by selecting grilles-between-the-glass.



Putty Glaze Technology® with Ogee Interior<sup>1</sup> 5/8", 7/8" or 1-1/4"



Roomside Removable 3/4", 1-1/4" or 2"



Aluminum Grilles- Between-The-Glass 3/4"



Ogee Integral Light Technology®1 7/8", 1-1/4" or 2"

#### Grilles-between-the-glass Interior Colors:2



## **GLASS**

#### InsulShield\* Low-E Glass

Advanced Low-E insulating dual-pane glass with argon<sup>4</sup>

Advanced Low-E insulating triple-pane glass with argon or krypton<sup>4,5</sup>

AdvancedComfort Low-E insulating dual-pane glass with argon<sup>4</sup>

NaturalSun Low-E insulating dual-pane glass with argon<sup>4</sup>

NaturalSun Low-E insulating triple-pane glass with argon or krypton<sup>4,5</sup>

SunDefense™ Low-E insulating dual-pane glass with argon<sup>4</sup>

SunDefense Low-E insulating triple-pane glass with argon or krypton<sup>4,5</sup>

#### **Additional Glass Options**

Laminated (non-impact-resistant)<sup>6,7</sup>, tinted<sup>4,6</sup> or obscure<sup>4,6</sup> glass also available on select products STC (Sound Transmission Class)-improved dual-pane sound glass<sup>5,8</sup> Impact-resistant glass<sup>5,6</sup>

## ADDED PEACE OF MIND

## Integrated Security Sensors

Choose optional, built-in security sensors powered by Insynctive® technology so you can monitor windows and doors while at home or away with the Pella Insynctive App. 9 Learn more at pella.com/insynctive.

- Color-matched to your product's interior and exterior color.

- 2 Appearance of exterior grille color may vary depending on the Low-E insulating glass selection.
  3 Only available with matching interior and exterior colors.
  4 Optional high-altitude InsulShield Low-E glass is available with or without argon on select products.
  5 Available on select products only. See your local Pella sales representative for availability.
- Available with Low-E insulating glass with argon on select products.
  For best performance, the laminated glass may be in the interior or exterior pane of the insulating glass, depending on the product.
  Sound control glass consists of dissimilar glass thickness (3mm/Smm).
  Requires the Pella Insynctive App on a smart device, an Insynctive Bridge and a wireless home internet router with internet connection.



# LET'S GO SHOPPING

Whether you are in a showroom or on your couch, Pella has the tools and expertise you need to make the right decision – and make it with greater ease.



# YOUR PELLA REPRESENTATIVE

Free In-Home Consultation

Get inspired from the comfort of your own home. Schedule a free in-home consultation and a Pella Design Expert will come to you. They'll help you find the right product for your home and budget and provide measurements and a free quote.



# DISCOVER PELLA EXPERIENCE CENTERS

Want to see products in person? Visit a Pella Experience Center to work with a dedicated window and door expert. They will curate products to perfectly complement your life and project. Touch products in person and see the latest innovations.



## VISIT PELLA.COM

Start from the comfort of your own home. Explore the possibilities online to match your home and personal style, and improve your home's curb appeal. Discover the innovations, features and options that make Pella® windows and doors an exceptional addition to your home.



# #1 LIMITED LIFETIME WARRANTY FOR WOOD WINDOWS AND PATIO DOORS

Pella wood products are backed by the best limited lifetime warranty for wood windows and patio doors.\* A ten-year limited warranty for Baldwin hardware is included. See written limited warranty for details, including exceptions and limitations, at pella.com/warranty.

WANT TO LEARN MORE? CALL US AT 833-44-PELLA OR VISIT PELLA.COM



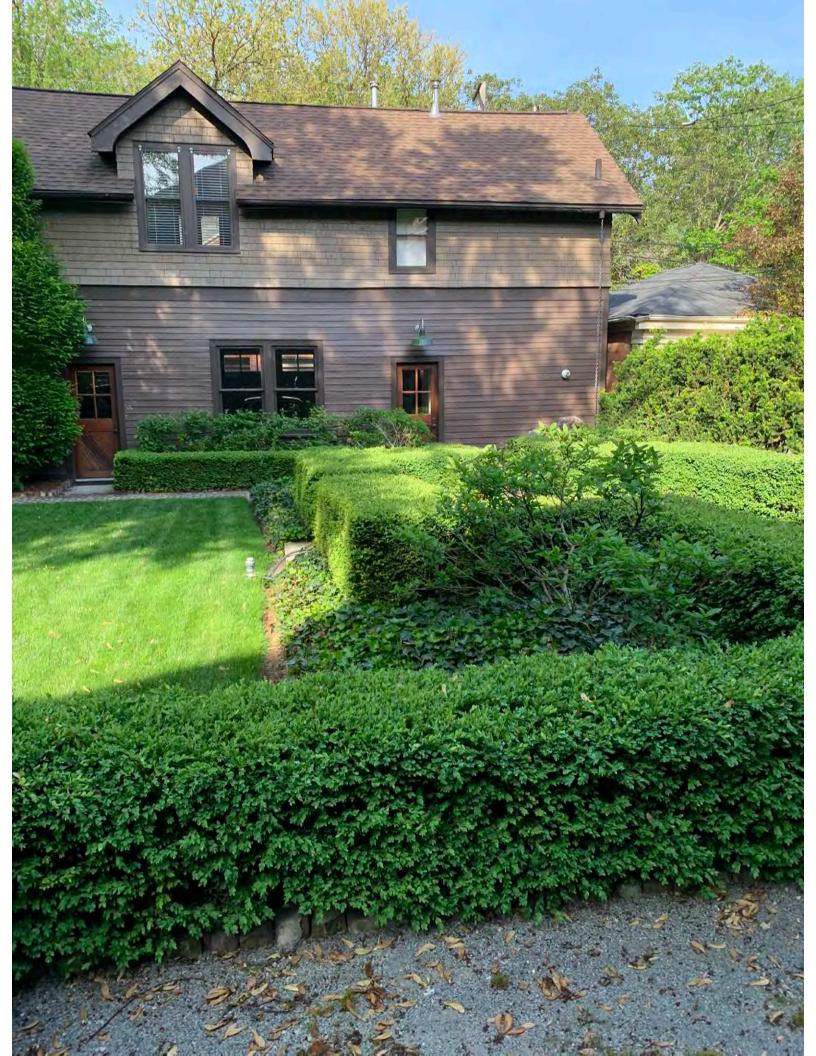


<sup>\*</sup> Based on comparing written limited warranties of leading national wood window and wood patio door brands. See Pella written Limited Warranty for details, including exceptions and limitations, at pella.com/warranty, or contact Pella Customer Service at 877-473-5527.







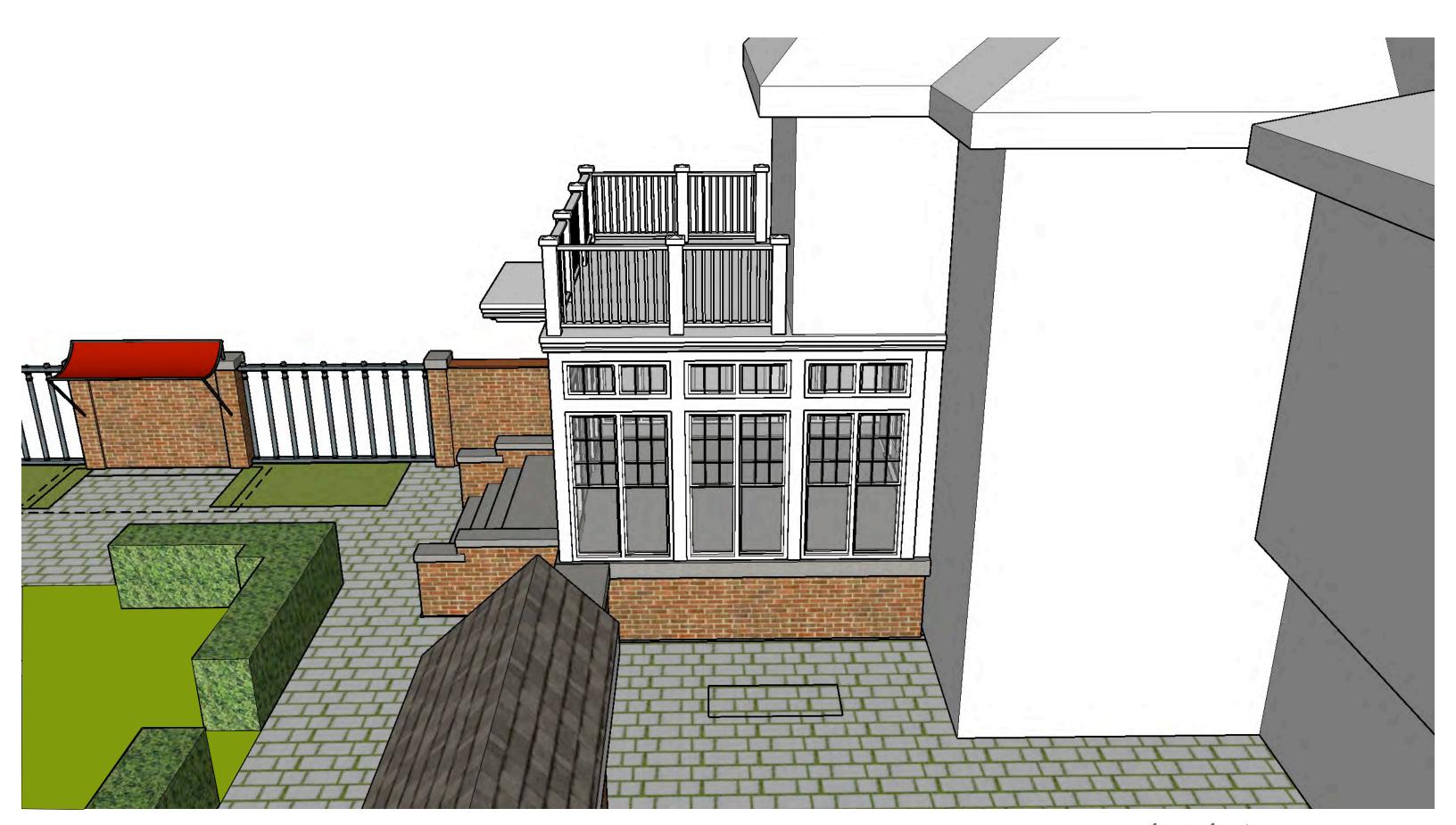




4545 architecture



4545 architecture



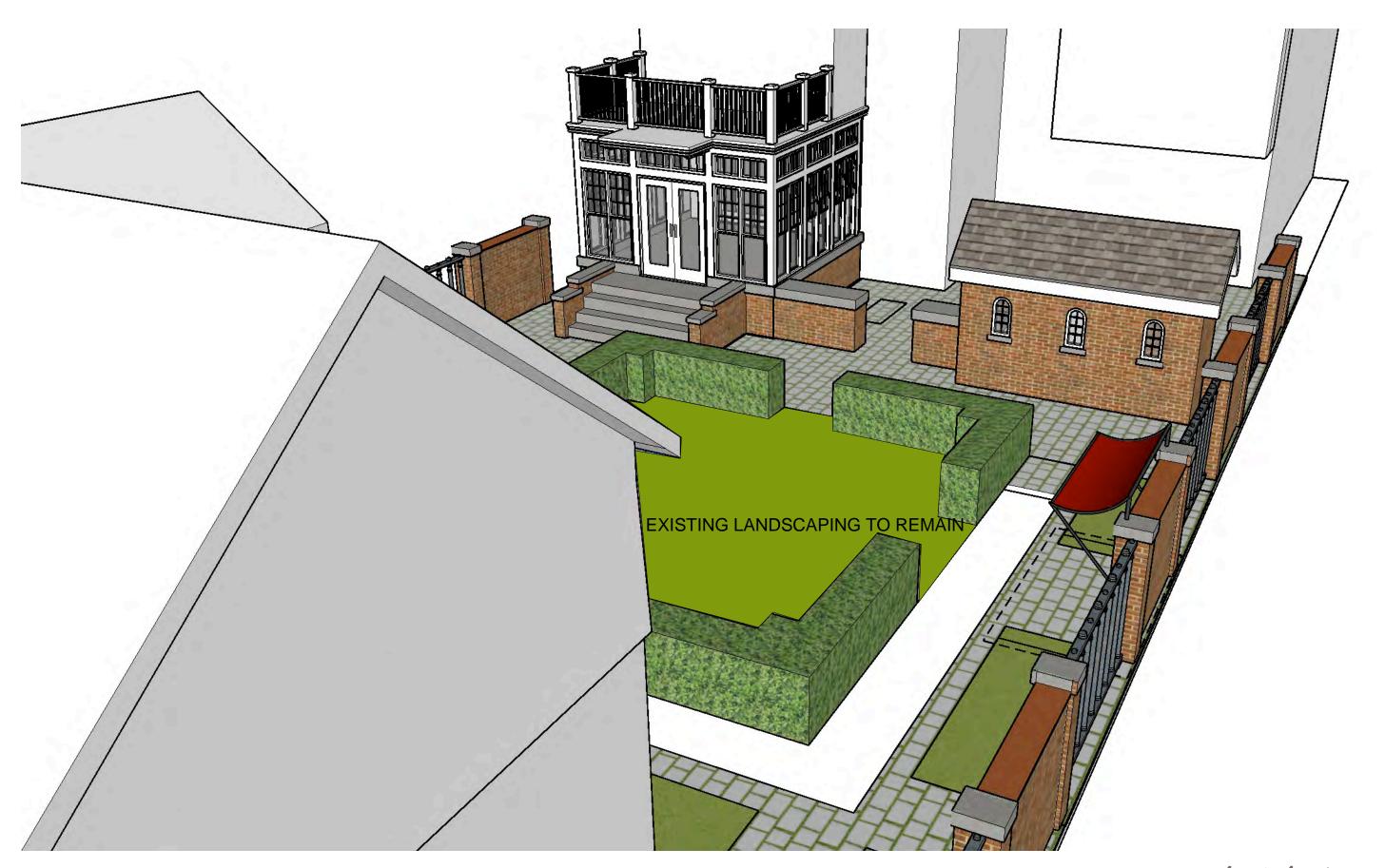
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