1. VRB Agenda 6.17.2025

    Documents:

    VILLAGE_REVIEW_BOARD_AGENDA_061725.PDF

2. VRB 25-012 37 School St

    Documents:

    37 SCHOOL ST BINDER.PDF

3. VRB 25-013 108-110 Maine St

    Documents:

    108-110 MAINE ST BINDER.PDF

4. VRB 25-014 9 Cleaveland St

    Documents:

    9 CLEAVELAND ST BINDER.PDF

4.I. Public Comment 9 Cleaveland

    Documents:

    PUBLIC COMMENT.PDF

Town of Brunswick, Maine

Planning & Development Department

85 UNION STREET, BRUNSWICK, ME 04011

VILLAGE REVIEW BOARD AGENDA
Tuesday, June 17, 2025 @ 6:30 P.M.
Brunswick Town Council Chambers

There is an opportunity to attend this meeting in person or view the meeting via Zoom

How to watch and comment via Zoom

Please follow the link below to join the webinar:

https://us02web.zoom.us/j/87168139567?pwd=Ttl5H8naUePDXIuYVobShhxtSNvANg.1

Passcode: y5KJbX

The public may provide comment via email (jerdman@brunswickme.gov) prior to the meeting OR they may provide live comment at the meeting via Zoom or in person. Comments are allowed during the public comment period, during public hearings, and on other items and matters at the discretion of the Council Chair.

1. **Case No. VRB 25-012 37 School Street:** At the request of the applicants and owners, Eric and Lindsey Hathaway, the Village Review Board will review and act upon a request for a Certificate of Appropriateness to replace windows and a door in their barn as well as add a faux brick skirting to mimic the foundation on the principal structure. The property is located at 37 School Street (Map U08, Lot 23) within the Growth Residential Use 7 (GR7) Zoning District and the Village Review Overlay (VRO).

2. **Case No. VRB 25-013 108-110 Maine Street:** At the request of the applicant, Approach Architects, on behalf of the owners, Fleet Bank of Maine, the Village Review Board will review and act upon a request for a Certificate of Appropriateness to replace all 19 of the existing first story windows. The property is located at 108-110 Maine Street (Map U13, Lot 38) within the Growth Mixed Use 6 (GM6) Zoning District and the Village Review Overlay (VRO).

3. **Case No. VRB 25-014 9 Cleaveland Street:** At the request of the applicant and owner, First Parish Church - Brunswick, the Village Review Board will review and act upon a request for a Certificate of Appropriateness to insulate the roof, replace the asphalt roof shingles, and add rooftop solar panels to the church's Pilgrim House building. The property is located at 9 Cleaveland Street (Map U08, Lot 112) within the Growth Mixed Use 6 (GM6) Zoning District and the Village Review Overlay (VRO).

4. **Staff Approvals:**
   94 Maine Street - Signage
   123 Maine Street - Signage
   11 Pleasant Street - Signage

5. **Other Business**

6. **Adjourn**

Town of Brunswick, Maine

DEPARTMENT OF PLANNING AND DEVELOPMENT

DRAFT FINDINGS OF FACT
REQUEST FOR CERTIFICATE OF APPROPRIATENESS FOR ADDITIONS AND ALTERATIONS VILLAGE REVIEW BOARD

PROJECT NAME: 37 School Street Barn

CASE NUMBER: VRB 25-012

LOCATION: Map U08, Lot 23; 37 School Street

OWNERS/ APPLICANTS: Eric and Lindsey Hathaway
37 School Street
Brunswick, ME 04011

REVIEW DATE: June 17, 2025

PROJECT SUMMARY

The owners of 37 School Street are requesting a Certificate of Appropriateness for Alterations to replace windows and a door in their barn as well as install faux brick skirting to provide a solid enclosure at the base of the barn and mimic the home's foundation. A window on the southeast side of the barn, not visible from School Street, will be replaced with one of the same size and style another window on the north side of the barn will be replaced with a larger window of a similar style. The replacements are both Harvey single-hung, 2 over 2 windows. The solid entrance door on the east side of the barn, not visible from the street, will be replaced with a six-lite steel Harvey door. The barn sits on piers and is currently surrounded with latticework at its base. This lattice will be replaced with solid faux brick skirting per a request of the applicants' homeowners insurance company. The subject property is an Italianate structure with connected outbuildings, circa 1875. It is a contributing structure in the VRO.

REVIEW STANDARDS, SECTION 5.2.8.C, TOWN OF BRUNSWICK ZONING ORDINANCE

(1) General Standard

a. All Certificates of Appropriateness for new construction, additions, alterations, relocations or demolition shall be in accordance with applicable requirements of this Ordinance.

The proposed modifications to the property require a building permit in addition to a Certificate of Appropriateness due to the increase in size of one of the window openings.

b. In meeting the standards of this Ordinance, the applicant may obtain additional guidance from the *U.S. Secretary of Interior's Standards for Rehabilitating Historic Buildings* and the *Village Review Zone Design Guidelines*.

The Village Review Overlay District Design Guidelines state that "alterations to an outbuilding should be reviewed using the same standards one would apply to a primary structure". The guidelines note that that the treatments used on outbuildings often mimicked that of the principal structure but concede that "different materials (shingles as opposed to clapboards) and simpler window configurations were often used on the side (or less visible) barn elevations".

(2) New Construction and Additions and Alterations to Existing Structures

a. In approving applications for a Certificate of Appropriateness for new construction, additions or alterations to contributing resources, the reviewing entity shall make findings that the following standards have been satisfied:

i. Any additions or alterations shall be designed in a manner to minimize the overall effect on the historic integrity of the contributing resource.

Most of the modifications the applicant proposes will only be slightly visible, if at all, from School Street. The most visible change, the faux brick skirting, will mimic the home's brick foundation for a cohesive look and won't affect the structure's historic integrity. The solid skirting (as opposed to the existing lattice) has been requested by the applicants' homeowner's insurance. The applicants intend to bring a sample of this skirting to the Village Review Board meeting.

ii. Alterations shall remain visually compatible with the existing streetscape.

The proposed revisions do not affect the structure's compatibility with the existing streetscape.

iii. Concealing of distinctive historic or architectural character-defining features is prohibited. If needed, the applicant may replace any significant features with in-kind replacement and/or accurate reproductions.

No significant features are to be concealed or replaced.

iv. New construction or additions shall be visually compatible with existing mass, scale and materials of the surrounding contributing resources.

Not applicable.

v. When constructing additions, the applicant shall maintain the structural integrity of existing structures.

Not applicable.

b. In approving applications for a Certificate of Appropriateness for new construction of, or additions to commercial, multi-family and other non-residential structures, the Village Review Board shall make findings that the following additional standards have been satisfied.

i. Where practicable, new off-street parking shall be located to the rear of the principal building and shall be accessed from a secondary street. In cases

where off-street parking currently exists in a front or side yard, the parking area shall be screened from the public right-of-way with landscaping or fencing.

Not applicable.

ii. Site plans shall identify pedestrian ways and connections from parking areas to public rights-of-way.

Not applicable.

iii. All dumpsters and mechanical equipment shall be located no less than 25 feet away from a public right-of-way, unless required by a public utility, and shall be screened from public view.

Not applicable.

iv. Roof-top mounted heating, ventilation, air conditioning and energy producing equipment shall be screened from the view of any public right-of-way or incorporated into the structural design to the extent that either method does not impede functionality. Parapets, projecting cornices, awnings or decorative roof hangs are encouraged. Flat roofs without cornices are prohibited.

Not applicable.

v. The use of cinder block, concrete and concrete block is prohibited on any portion of a structure that is visible from the building's exterior, with the exception of use in the building's foundation.

Not applicable.

vi. The use of vinyl, aluminum or other non-wood siding is permitted as illustrated in the Village Review Board Design Guidelines. Asphalt and asbestos siding are prohibited.

Not applicable.

vii. Buildings with advertising icon images built into their design ("trademark buildings") are prohibited.

Not applicable.

viii. No building on Maine Street shall have a horizontal expanse of more than 40 feet without a pedestrian entry.

Not applicable.

ix. No building on Maine Street shall have more than 15 feet horizontally of windowless wall.

Not applicable.

x. **All new buildings and additions on Maine Street shall be built to the front property line. This may be waived if at least 60 percent of the building's front facade is on the property line, and the area in front of the setback is developed as a pedestrian space.**

Not applicable.

xi. **If adding more than 50 percent new floor area to a structure located on Maine Street, the addition shall be at least two (2) stories high and/or not less than 20 feet tall at the front property line.**

Not applicable.

xii. **The first-floor facade of any portion of a building that is visible from Maine Street shall include a minimum of 50 percent glass. Upper floors shall have a higher percentage of solid wall, between 15 percent and 40 percent glass.**

Not applicable.

c. **Proposed additions or alterations to noncontributing resources shall be designed to enhance or improve the structure's compatibility with nearby contributing resources as compared to the existing noncontributing resources.**

The building is a contributing structure and therefore this standard is not applicable.

(3) Signs

Signs shall comply with the requirements of Section 4.13 (Signs) with consideration given to the Village Review Zone Design Guidelines.

No new signage is proposed as part of this project; not applicable

(4) Demolition and Relocation

a. **Demolition or partial demolition or relocation of a contributing or, if visible from a public right-of-way, a noncontributing resource, excluding incidental or noncontributing accessory buildings and structures located on the same property, shall be prohibited unless the application satisfies at least one of the following criteria.**

i. **The structure poses an imminent threat to public health or safety. An application must be accompanied by a report from a qualified structural engineer for review by the Codes Enforcement Officer and photographs depicting the current condition of the building.**

There is no demolition proposed and therefore this standard is not applicable.

ii. **The condition of the structure is such that it cannot be adapted for any other**

permitted use, whether by the current owner or by a purchaser, resulting in a reasonable economic return, regardless of whether that return represents the most profitable return possible, provided that the applicant can document he/she has not contributed significantly to the deterioration of the structure. An opinion shall be provided from an architect, licensed engineer, developer, real estate consultant or appraiser or from a professional experienced in historic rehabilitation, as to the economic feasibility for restoration, renovation, or rehabilitation of the contributing resource versus demolition or relocation of same.

Not applicable.

b. Demo, partial demolition or relocation of a noncontributing resource visible from a public right-of-way, shall be approved by the Village Review Board if it is determined that the proposed replacement structure or reuse of the property is deemed more appropriate and compatible with the surrounding contributing resources than the resource proposed for demolition.

Not applicable.

DRAFT MOTIONS
MAP U08 LOT 23 (37 SCHOOL STREET)
REQUEST FOR A CERTIFICATE OF APPROPRIATENESS FOR ALTERATIONS
VILLAGE REVIEW BOARD
REVIEW DATE: JUNE 17, 2025

Draft Motion 1: That the Certificate of Appropriateness application is deemed complete.

Motion: Second: Vote:

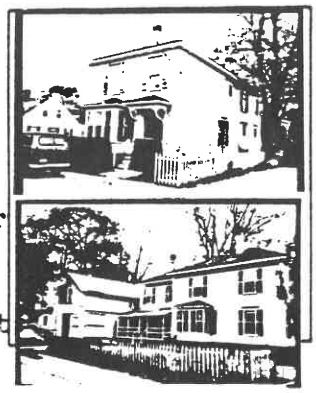
Draft Motion 2: That the Board approves the **Certificate of Appropriateness for Alterations** to modify the barn at the rear of the property located at Map U08, Lot 23; 37 School Street, by replacing windows and a door and adding faux brick skirting as outlined in the application and as satisfied by Subsection 5.2.8.C with the following condition:

1. That the Board's review and approval does hereby refer to these findings of fact, the plans and materials submitted by the applicant and the written and oral comments of the applicant, his representatives, reviewing officials, and members of the public as reflected in the public record. Any changes to the approved plan not called for in these conditions of approval or otherwise approved by the Director of Planning and Development as a minor modification, shall require further review and approval in accordance with the Brunswick Zoning Ordinance.

Motion: Second: Vote:

U8-23

HISTORIC PRESERVATION SURVEY



1980 photos J. Goff

Cumberland (County) Brunswick (City/Town) 37 School (Street Address and Number)

Name of Building/site: historic: bet.1875-1910 res. of Thomas S. Melcher (Common and/or Historic)

Approximate Date: bet.1875-1910 Style: Italianate massing, bracketed windows; Colonial Revival roof

Type of Structure:
☒ Residential ☐ Commercial ☐ Industrial ☐ Other:

Condition: ☒ Good ☐ Fair ☐ Poor

Endangered: ☐ No ☐ Yes

Surveyor: J. Goff Organization: Pejepscot Regional Survey Date: 1,80; Aug.'83

Rating:

Historic Significance to the Community: Well-preserved Italianate homestead w/ connected outbuildings. Melcher was an employee of the Maine Central Railroad? (check 1910 directory)

---

37 School

Maps: 1910 #37 = T.S. Melcher

Deeds: 285:120 John D. Carleton to Jotham Varney $500 lot 7r16 front bet Aaron Richardson--- and (Geo. W. Carleton to John W. Perry) 3/4/1857
418:189 JV tc Thomas S. Melcher $700 lot ...4/15/1875 cites 285:120

Directories: 1910: Thomas S. (Melcher or McLellan?), employee MCRR, h., 37 School
1917-1926: Thomas S. Melcher
1928-1944: Mrs. Allen T. Melcher
1946: Casper A. Cousens
1951-1958: W. Scott Davis
1961: vacant
1963-1965: Steve Raymond
1967-1971: Raymond E. Stein
1975-1977: John S. Neal

Received: LS 5/19/25 5/20/25 VRB Case #: 25-010
By:

VILLAGE REVIEW OVERLAY
CERTIFICATE OF APPROPRIATENESS
APPLICATION

1. Project Applicant:

   Name: Eric and Lindsey Hathaway
   Address: 37 School St
   Brunswick, ME 04011
   Phone Number: 207 286 5029
   Email Address: erichathaway x5@gmail.com

2. Project Property Owner:

   Name: Eric and Lindsey Hathaway
   Address: 37 School St
   Brunswick ME 04011
   Phone Number: 207 286 5029
   Email Address: erichathaway x5@gmail.com

3. Authorized Representative: (If different than applicant)

   Name:
   Address:
   Phone Number:
   Email Address:

4. Physical Location of Property Being Affected:

   Address: 37 School St

5. Tax Assessor's Map # U08 Lot # 23 of subject property.

6. Underlying Zoning District GR7

7. Type of Activity (check all that apply):

   - ☐ Additions and New Construction
   - ☑ Structural Alteration
   - ☐ Demolition/Moving of Structure
   - ☐ Sign Permit

8. Describe the location and nature of the proposed change(s), including a brief description of the proposed construction, reconstruction, alteration, demolition, proposed re-use, or other change (use separate sheet if necessary):
   Replace 1 window on southe side of barn - same size and style
   Replace and expand 1 window on north side of barn - similar style
   Replace 1 door on east side of barn
   install faux brick skirting around the perimeter of the barn to comply with homeowners insurance - style to match the house

Applicant Name (printed): Eric Hathaway Lindsey Hathaway

Applicant Signature: E Hath

Property Owner Name (printed): Eric Hathaway Lindsey Hathaway

Property Owner Signature:

Revised 12/17/2024

VILLAGE REVIEW OVERLAY
APPLICATION FOR CERTIFICATE OF COMPLIANCE
APPLICATION CHECK-LIST

This checklist will be completed by the Department of Planning and Development. The Department requires that all application materials be submitted in BOTH hard copy and digital format. In addition, for Major Review applications, EIGHT (8) HARD COPIES are required after your application is considered complete by Department staff. Your project will not be placed on the Village Review Board's agenda until this determination is made. For assistance, please contact the Department of Planning and Development at (207)725-6660.

- ☑ Completed application form
- ☒ A copy of the building survey prepared by the Pejepscot Historical Society pertaining to the structure under review (*provided by Department Staff).*
- N/A ☐ A drawing showing the design, texture, and location of any construction, alteration, demolition for which a certificate is required. The drawing shall include plans and exterior elevations drawn to scale, with sufficient detail to show their relations to exterior appearances and the architectural design of the building. Drawings need not be prepared by an architect or engineer, but shall be clear, complete, and specific.
- ☒ A site plan or photographs showing the relationship of the changes to the surroundings.
- N/A ☐ If architectural features are to be removed or replaced (including but not limited to original windows, siding, roofing material and other design elements), provide photographic documentation or a written assessment from a preservation professional or contractor explaining the condition of the material and reason for removal/replacement.
- ☑ Photographs of the building(s) involved, its context, and detailed photos of immediate area.
- ☒ List all proposed materials and products, and clearly identify their location on the drawings. Indicate texture of material, if applicable.
- ☒ Provide manufacturer's product information and, if possible, bring material samples to the meeting.
- N/A ☐ Provide information such as dimensions, photographs or source for salvaged or reused materials.
- N/A ☐ For demolition applications, provide detailed information addressing standards contained in Subsections 5.2.8.C (4) of the Brunswick Zoning Ordinance.

This application was certified as being complete on 6/3/25 **(date) by**
JLC **of the Department of Planning and Development.**

THIS APPLICATION WAS:

- ☐ **Granted**
- ☐ **Granted With Conditions**
- ☐ **Denied**
- ☒ **Forwarded to Village Review Board**
- ☒ **Building Permit Required**
- ☐ **Building Permit NOT Required**

Applicable Comments: _____

JLC
Signature of Department Staff Reviewing Application

Revised 12/17/2024

COMPLIANCE WITH ZONING STANDARDS

Notice: ***This form is to be completed by the Codes Enforcement Officer and filed with the application.***

This is to certify that the application for Certificate of Appropriateness submitted by [illegible], relating to property designated on Assessors Tax Map # U68 and Lot # 23 has been reviewed by the Codes Enforcement Officer and has been found to be in compliance with all applicable zoning standards:

Comments: _____

Signed: _____ Date: 6-12-25

Print: Taylor Burdin

Code Enforcement Officer


School

37 School St.

window A as seen from School St.

- brick foundation

view from door (C)

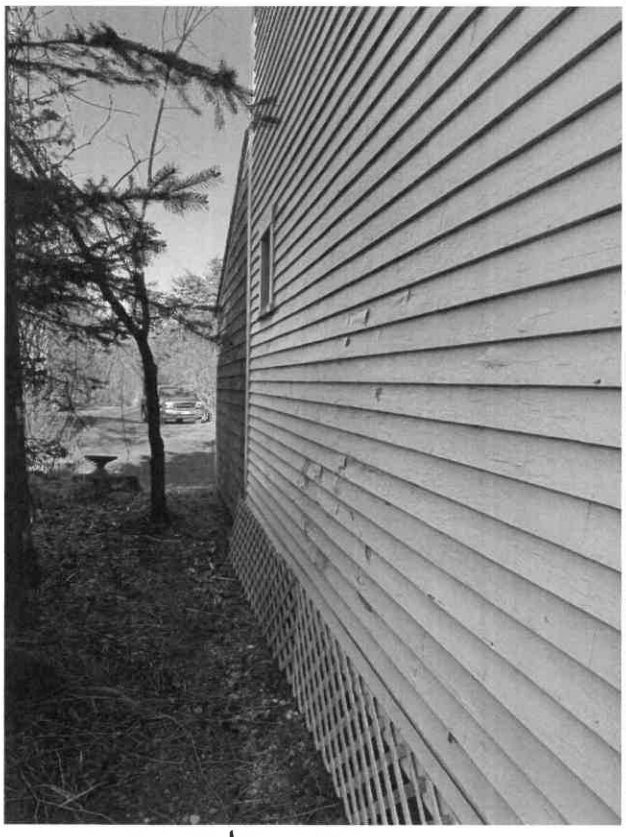
door (C)

- foundation opening to be enclosed

window B

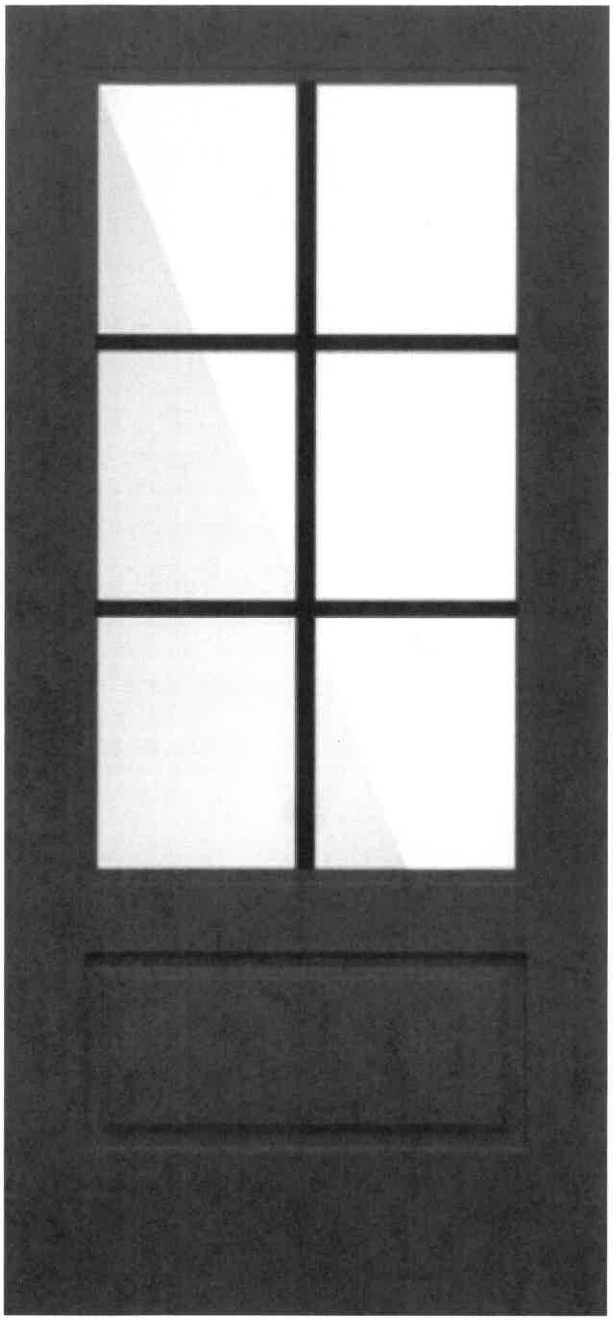
window B

open foundation to be enclosed

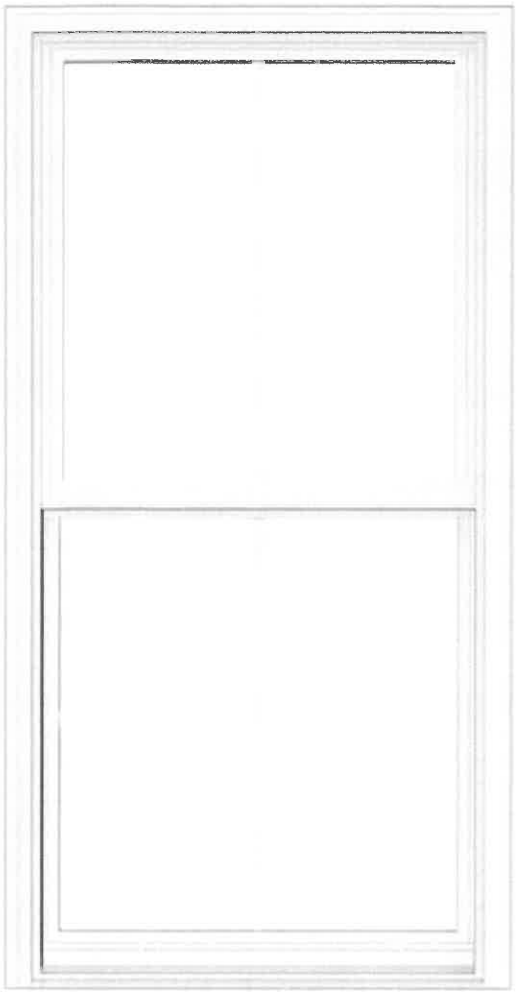


window B

location of door ©



black steel door to replace door ©



white vinyl windows to replace window (A) and enlarge window (B)

(A) 21.5" x 58"

(B) 30" x 60"

thin brick to be secured with mortar to foundation wall to enclose crawl space (open foundation)

LANSING BUILDING PRODUCTS

www.lansingbp.com

Manufacturing
ACKNOWLEDGEMENT

Distributor Quote Summary

Lansing Building Products

BILL TO:
LANSING PORTLAND ME
PO BOX 6649
RICHMOND, VA 23230-0000
Phone: (804) 266 - 8893 Fax: (804) 261 - 6743

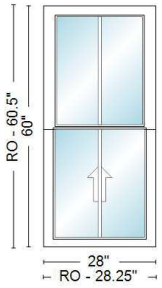
SHIP TO:
LANSING PORTLAND ME
401 RIVERSIDE STREET
PORTLAND, ME 04103-0000
Phone: (207) 797 - 9345 Fax:

QUOTE NBR	CUST NBR	CUSTOMER PO	CREATED	ORDERED	ORDER TYPE
6158142	1141369	Keystone Design	5/23/2025	Quote Only	Charge

ORDERED BY	STATUS	SHIP VIA	JOB NAME
Anthony	None	Whse Delivery	Single Hungs

CLERK	MESSAGE
zachary.miles - Zachary Miles	

LINE #	DESCRIPTION	QTY	UNIT PRICE	EXTENDED
10000-1	Slimline SH , Unit Size 28 x 60, RO 28.25 x 60.5 Unit 1: U-Factor = 0.25, SHGC = 0.44, VT = 0.54, HII-M-34-07452-00002, Size Options = Custom Size, Replacement Frame Width (Inches) = 28, Frame Height (Inches) = 60 Double Glazed, Double Low-E 180 RS, Argon Filled ENERGY STAR® Performance Packages = SunGain PLUS (Northern), Performance Package = SunGain PLUS, Overall DP Rating=DP30 Unit Color = White, Prefinished Unit = No Program = None, Label Name = Harvey, Lock Option = Single , Lift Rail Options=None/Standard, Sash Limit Devices = Night Latch Half Screen, Fiberglass Mesh Contour In-Glass, Colonial, Match Frame, 2W1H Head Expander, Foam Wrap (Pre-Applied) = No Overall Frame Width (Inches) = 28, Overall Frame Height (Inches) = 60, Overall Rough Opening Width (Inches) = 28.25, Overall Rough Opening Height (Inches) = 60.5 Clear Opening Width = 22.75, Clear Opening Height = 25.5625, Clear Opening Square Footage = 4.04 Unit 1: Calc::Backend U-Factor = <Overall U-Factor Text> Unit 1 Lower Glass, 1 Upper Glass: Calc::Glass SQFT = <Glass Width> * <Glass Height> / 144 Continuous Foam Insulation Install Method = No E.Star Zone:North=Yes RoughOpening::Head Offset = 0.5, RoughOpening::Sill Offset = 0.5, RoughOpening::Left Offset = 0.5, RoughOpening::Right Offset = 0.5, FrameSize::Head Offset = 0, FrameSize::Sill Offset = 0, FrameSize::Left Offset = 0, FrameSize::Right Offset = 0	1	$347.09	$347.09



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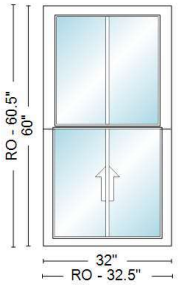
6158142	1141369	Keystone Design	5/23/2025	Quote Only	Charge

ORDERED BY	STATUS	SHIP VIA	JOB NAME
Anthony	None	Whse Delivery	Single Hungs

CLERK	MESSAGE
zachary.miles - Zachary Miles	

LINE #	DESCRIPTION	QTY	UNIT PRICE	EXTENDED
11000-1	Slimline SH , Unit Size 32 x 60, RO 32.5 x 60.5 Unit 1: U-Factor = 0.25, SHGC = 0.44, VT = 0.54, HII-M-34-07452-00002, Size Options = Custom Size, New Construction Frame Width (Inches) = 32, Frame Height (Inches) = 60 Double Glazed, Double Low-E 180 RS, Argon Filled ENERGY STAR® Performance Packages = SunGain PLUS (Northern), Performance Package = SunGain PLUS, Overall DP Rating=DP30 Unit Color = White, Prefinished Unit = No Program = None, Label Name = Harvey, Lock Option = Double, Lift Rail Options=None/Standard, Sash Limit Devices = Night Latch Half Screen, Fiberglass Mesh Contour In-Glass, Colonial, Match Frame, 2W1H Integral J Fin, Inside Extension Jamb Receiver Pocket = Yes, Foam Wrap (Pre-Applied) = No Overall Frame Width (Inches) = 32, Overall Frame Height (Inches) = 60, Overall Rough Opening Width (Inches) = 32.5, Overall Rough Opening Height (Inches) = 60.5 Clear Opening Width = 26.75, Clear Opening Height = 25.5625, Clear Opening Square Footage = 4.75 Unit 1: Calc::Backend U-Factor = <Overall U-Factor Text> Unit 1 Lower Glass, 1 Upper Glass: Calc::Glass SQFT = <Glass Width> * <Glass Height> / 144 Continuous Foam Insulation Install Method = No E.Star Zone:North=Yes RoughOpening::Head Offset = 0.5, RoughOpening::Sill Offset = 0.5, RoughOpening::Left Offset = 0.5, RoughOpening::Right Offset = 0.5, FrameSize::Head Offset = 0, FrameSize::Sill Offset = 0, FrameSize::Left Offset = 0, FrameSize::Right Offset = 0	1	$383.25	$383.25



LINE #	DESCRIPTION	QTY	UNIT PRICE	EXTENDED
12000-1	Fiberglass Single Door, Overall Frame Width and Height = 37.4375 x 80.625, RO = 38.1875 x 81.125, Call Width = 30, Call Height = 68 Handing and Swing (as viewed from exterior) = Single Left Hinge Outswing, Door Prefinish Location = Interior and Exterior 1 Color Black Paint Door Lite Configuration = 3/4 Lite, Texture = Smooth, Panel Design = 3/4 1-Panel Glass Option = Low-E, Glass Style = Grilles, Grille Pattern = 6 Lite, Glass Grille Options = Black Flat in Glass Grille, Active Door Bore Options = Bore Lockset & Deadbolt, Hinge Type = Flat Black NRP, Jamb Material = Lifetime White Cap Composite, Jamb Depth = 6 9/16, Jamb Weatherstripping = Bronze, Sill Options = Bronze Fixed Outswing Sill, Pre-Finished Jamb = Yes Black Paint	1	$1,704.65	$1,704.65

QUOTE NBR	CUST NBR	CUSTOMER PO	CREATED	ORDERED	ORDER TYPE
6158142	1141369	Keystone Design	5/23/2025	Quote Only	Charge

ORDERED BY	STATUS	SHIP VIA	JOB NAME
Anthony	None	Whse Delivery	Single Hungs

CLERK	MESSAGE
zachary.miles - Zachary Miles	

This quotation is based on our interpretation of the information provided. All quantities, sizes, extensions, grand totals, and specifications should be verified by the ordering party prior to bidding or ordering of materials. Harvey Windows + Doors and or Thermo-Tech Windows and Doors are responsible only for the items as quoted above. Any changes or addendums will be subject
to a requote. We propose to supply the materials as described above, subject to the terms and conditions as required by our credit department. The prices are guaranteed for 30 days from the date of quotation unless otherwise noted. Delivery charges may apply and are not reflected on this quote. We appreciate the opportunity to quote this job.

SUBTOTAL:	$2,434.99
TAX:	$40.17
ORDER TOTAL:	$2,475.16

CUSTOMER SIGNATURE_____DATE_____

Scan QR code for the Harvey Installation Hub to view installation guides and best practices.

Scan QR code for the Thermo-Tech Resources page to view installation instructions.

Town of Brunswick, Maine

DEPARTMENT OF PLANNING AND DEVELOPMENT

DRAFT FINDINGS OF FACT
REQUEST FOR CERTIFICATE OF APPROPRIATENESS FOR ADDITIONS AND ALTERATIONS VILLAGE REVIEW BOARD

PROJECT NAME: 108-110 Maine Street; Bank of America Windows

CASE NUMBER: VRB 25-013

LOCATION: Map U13, Lot 38; 108-110 Maine Street

APPLICANT: Christian Klein
Approach Architects
54 Newport Street
Arlington, MA 02476

OWNER: Fleet Bank of Maine
c/o Bank of America
PO Box 32547
Charlotte, NC 28232

REVIEW DATE: June 17, 2025

PROJECT SUMMARY

The applicant is requesting a Certificate of Appropriateness for Alterations to replace all of the (19) first story windows in the Bank of America building at 108-110 Maine Street with new Pella Reserve aluminum-clad wood windows. The style of the new windows will match the existing as closely as possible; they will feature low-E insulated glass and integrated grilles with 7/8" aluminum-clad muntin bars on the exterior. The existing window trim will remain and be repainted. The neo-classical building is a contributing structure in the VRO and was constructed in 1917.

REVIEW STANDARDS, SECTION 5.2.8.C, TOWN OF BRUNSWICK ZONING ORDINANCE

(1) General Standard

a. All Certificates of Appropriateness for new construction, additions, alterations, relocations or demolition shall be in accordance with applicable requirements of this Ordinance.

There is no proposed change in size to the window openings and therefore the modifications to the property do not require a building permit.

b. In meeting the standards of this Ordinance, the applicant may obtain additional guidance from the *U.S. Secretary of Interior's Standards for Rehabilitating Historic Buildings* and the *Village Review Zone Design Guidelines*.

The Village Review Overlay District Design Guidelines state that, for replacement windows, "the first and best option to maintain historic character is to look for a replacement in kind – a window that matches the size, material, muntin configuration, and detail of the existing window."

(2) New Construction and Additions and Alterations to Existing Structures

a. In approving applications for a Certificate of Appropriateness for new construction, additions or alterations to contributing resources, the reviewing entity shall make findings that the following standards have been satisfied:

i. Any additions or alterations shall be designed in a manner to minimize the overall effect on the historic integrity of the contributing resource.

The applicant proposes to use Pella Reserve Series Traditional Clad Monumental Hung and Traditional Clad Picture windows. Eleven of the new monumental windows will match the existing 10 over 15-light double-hung windows; one of these windows will match an existing 6 over 9-light window. The seven fixed windows will be replaced with 20-light picture windows that also closely match the existing.

The Pella website boasts that the Reserve series products have been approved for use by the National Park Service for use on projects with historic tax credits on a case by case basis. As noted, the windows will remain the same size and in the same configuration as the existing windows.

ii. Alterations shall remain visually compatible with the existing streetscape.

The proposed revisions do not affect the existing streetscape.

iii. Concealing of distinctive historic or architectural character-defining features is prohibited. If needed, the applicant may replace any significant features with in-kind replacement and/or accurate reproductions.

No significant features are to be concealed. It is unclear if any of the existing windows are original to the building.

iv. New construction or additions shall be visually compatible with existing mass, scale and materials of the surrounding contributing resources.

Not applicable.

v. When constructing additions, the applicant shall maintain the structural integrity of existing structures.

Not applicable.

b. In approving applications for a Certificate of Appropriateness for new construction of, or additions to commercial, multi-family and other non-residential structures, the Village Review Board shall make findings that the following additional standards

have been satisfied.

i. Where practicable, new off-street parking shall be located to the rear of the principal building and shall be accessed from a secondary street. In cases where off-street parking currently exists in a front or side yard, the parking area shall be screened from the public right-of-way with landscaping or fencing.

Not applicable.

ii. Site plans shall identify pedestrian ways and connections from parking areas to public rights-of-way.

Not applicable.

iii. All dumpsters and mechanical equipment shall be located no less than 25 feet away from a public right-of-way, unless required by a public utility, and shall be screened from public view.

Not applicable.

iv. Roof-top mounted heating, ventilation, air conditioning and energy producing equipment shall be screened from the view of any public right-of-way or incorporated into the structural design to the extent that either method does not impede functionality. Parapets, projecting cornices, awnings or decorative roof hangs are encouraged. Flat roofs without cornices are prohibited.

Not applicable.

v. The use of cinder block, concrete and concrete block is prohibited on any portion of a structure that is visible from the building's exterior, with the exception of use in the building's foundation.

Not applicable.

vi. The use of vinyl, aluminum or other non-wood siding is permitted as illustrated in the Village Review Board Design Guidelines. Asphalt and asbestos siding are prohibited.

Not applicable.

vii. Buildings with advertising icon images built into their design ("trademark buildings") are prohibited.

Not applicable.

viii. No building on Maine Street shall have a horizontal expanse of more than 40 feet without a pedestrian entry.

Not applicable.

ix. **No building on Maine Street shall have more than 15 feet horizontally of windowless wall.**

Not applicable.

x. **All new buildings and additions on Maine Street shall be built to the front property line. This may be waived if at least 60 percent of the building's front facade is on the property line, and the area in front of the setback is developed as a pedestrian space.**

Not applicable.

xi. **If adding more than 50 percent new floor area to a structure located on Maine Street, the addition shall be at least two (2) stories high and/or not less than 20 feet tall at the front property line.**

Not applicable.

xii. **The first-floor facade of any portion of a building that is visible from Maine Street shall include a minimum of 50 percent glass. Upper floors shall have a higher percentage of solid wall, between 15 percent and 40 percent glass.**

Not applicable.

c. **Proposed additions or alterations to noncontributing resources shall be designed to enhance or improve the structure's compatibility with nearby contributing resources as compared to the existing noncontributing resources.**

The building is a contributing structure and therefore this standard is not applicable.

(3) Signs

Signs shall comply with the requirements of Section 4.13 (Signs) with consideration given to the Village Review Zone Design Guidelines.

No new signage is proposed as part of this project; not applicable

(4) Demolition and Relocation

a. **Demolition or partial demolition or relocation of a contributing or, if visible from a public right-of-way, a noncontributing resource, excluding incidental or noncontributing accessory buildings and structures located on the same property, shall be prohibited unless the application satisfies at least one of the following criteria.**

i. **The structure poses an imminent threat to public health or safety. An application must be accompanied by a report from a qualified structural engineer for review by the Codes Enforcement Officer and photographs depicting the current condition of the building.**

There is no demolition proposed and therefore this standard is not applicable.

ii. **The condition of the structure is such that it cannot be adapted for any other permitted use, whether by the current owner or by a purchaser, resulting in a reasonable economic return, regardless of whether that return represents the most profitable return possible, provided that the applicant can document he/she has not contributed significantly to the deterioration of the structure. An opinion shall be provided from an architect, licensed engineer, developer, real estate consultant or appraiser or from a professional experienced in historic rehabilitation, as to the economic feasibility for restoration, renovation, or rehabilitation of the contributing resource versus demolition or relocation of same.**

Not applicable.

b. **Demo, partial demolition or relocation of a noncontributing resource visible from a public right-of-way, shall be approved by the Village Review Board if it is determined that the proposed replacement structure or reuse of the property is deemed more appropriate and compatible with the surrounding contributing resources than the resource proposed for demolition.**

Not applicable.

DRAFT MOTIONS
MAP U13 LOT 38 (108-110 MAINE STREET)
REQUEST FOR A CERTIFICATE OF APPROPRIATENESS FOR ALTERATIONS
VILLAGE REVIEW BOARD
REVIEW DATE: JUNE 17, 2025

Draft Motion 1: That the Certificate of Appropriateness application is deemed complete.

Motion: Second: Vote:

Draft Motion 2: That the Board approves the **Certificate of Appropriateness for Alterations** to replace all (19) of the windows on the first story of the property located at Map U13, Lot 38; 108-110 Maine Street, as outlined in the application and as satisfied by Subsection 5.2.8.C with the following condition:

1. That the Board's review and approval does hereby refer to these findings of fact, the plans and materials submitted by the applicant and the written and oral comments of the applicant, his representatives, reviewing officials, and members of the public as reflected in the public record. Any changes to the approved plan not called for in these conditions of approval or otherwise approved by the Director of Planning and Development as a minor modification, shall require further review and approval in accordance with the Brunswick Zoning Ordinance.

Motion: Second: Vote:

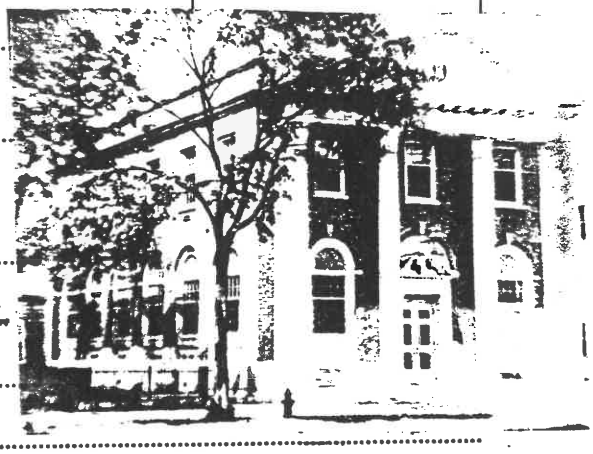
U13-38

HISTORIC PRESERVATION SURVEY

Cumberland County | Brunswick City/Town | 106/108/110 Maine Street Address and Number

historic: First National Bank common: Maine National Bank
Name of Building/site: Common and/or Historic

Approximate Date: 1917 Style: Neo-Classic



Type of Structure:
☐ Residential ☒ Commercial ☐ Industrial ☐ Other:

Condition: ☒ Good ☐ Fair ☐ Poor

Endangered: ☐ No ☐ Yes

Surveyor: J. Goff Organization: Pejepscot Regional Survey

Rating:

Historic Significance to the Community:

Earlier Buildings on site: 1874 Benjamin Greene res. here until 1905 move to 259 Me. Pastime Theatre on corner property before First National Bank, also. 1794 Lemuel Swift ("Forsaith") estate stood on site of #106 until razed in 1967.

(For Additional Information — Use Reverse Side)

(Note: Front and side "Federal" fanlight windows removed before 1980 top photo.)

106-110 MAIN

Maps: 1910 #106=Forsaith Est.
corner propperty-no #- =W.O. Gould

Deeds:

Newspaper: Brunswick Record 4/28/1955 "For a few years the Pastime theatre was located on the lot then the present building of the First National Bank was built during World War I."

Other: Shipman p. 10 "Swift-Forsaith house...built for Lemuel Swift in 1794...taken down in 1967"

1898 views of 1874 Benj. Greene residence (left), 1794 Swift-Forsaith house on property

Received:_____ VRB Case #:_____
By:_____

VILLAGE REVIEW OVERLAY
CERTIFICATE OF APPROPRIATENESS
APPLICATION

1. Project Applicant:

   Name: Christian Klein / Approach Architects
   Address: 54 Newport Street
   Arlington, MA 02476
   Phone Number: 617-962-3464
   Email Address: cklein@approach3.com

2. Project Property Owner:

   Name: Fleet Bank of Maine (CC#79444) c/o Bank of America
   Address: P.O. Box 32547
   Charlotte, NC 28232
   Phone Number: 857-343-2774
   Email Address: Carlos.Raduenz@cbre.com

3. Authorized Representative: (If different than applicant)

   Name: Carlos Raduenz / CBRE - Turner & Townsend
   Address: 100 Federal Street
   Boston, MA 01810
   Phone Number: 857-343-2774
   Email Address: Carlos.Raduenz@cbre.com

4. Physical Location of Property Being Affected:

   Address: 108-110 Maine Street, Brunswick, ME

5. Tax Assessor's Map # U13 Lot # 38 of subject property.

6. Underlying Zoning District GM6

7. Type of Activity (check all that apply):

   - ☐ Additions and New Construction
   - ☐ Structural Alteration
   - ☐ Demolition/Moving of Structure
   - ☐ Sign Permit

8. Describe the location and nature of the proposed change(s), including a brief description of the proposed construction, reconstruction, alteration, demolition, proposed re-use, or other change (use separate sheet if necessary): Removal and replacement of existing first floor windows (19 total) with new aluminum clad wood windows to match existing windows as closely as possible. Existing exterior trim to be repainted. New windows to be Pella Reserve Traditional Clad Monumental Hung Windows and Pella Reserve Traditional Clad Picture Windows with aluminum clad sash exteriors, painted wood sash interiors, Low-E insulated glass with integrated grilles featuring 7/8" clad muntin bars on the exterior and 7/8" painted wood muntin bars on the interior.

Applicant Name (printed): Christian Klein

Applicant Signature: _____

Property Owner Name (printed): Carlos Raduenz

Property Owner Signature: _____

VILLAGE REVIEW OVERLAY
APPLICATION FOR CERTIFICATE OF COMPLIANCE
APPLICATION CHECK-LIST

This checklist will be completed by the Department of Planning and Development. The Department requires that all application materials be submitted in BOTH hard copy and digital format. In addition, for Major Review applications, EIGHT (8) HARD COPIES are required after your application is considered complete by Department staff. Your project will not be placed on the Village Review Board's agenda until this determination is made. For assistance, please contact the Department of Planning and Development at (207)725-6660.

- ☑ Completed application form
- ☑ A copy of the building survey prepared by the Pejepscot Historical Society pertaining to the structure under review (*provided by Department Staff).*
- ☑ A drawing showing the design, texture, and location of any construction, alteration, demolition for which a certificate is required. The drawing shall include plans and exterior elevations drawn to scale, with sufficient detail to show their relations to exterior appearances and the architectural design of the building. Drawings need not be prepared by an architect or engineer, but shall be clear, complete, and specific.
- ☒ A site plan or photographs showing the relationship of the changes to the surroundings.
- ☐ If architectural features are to be removed or replaced (including but not limited to original windows, siding, roofing material and other design elements), provide photographic documentation or a written assessment from a preservation professional or contractor explaining the condition of the material and reason for removal/replacement.
- ☑ Photographs of the building(s) involved, its context, and detailed photos of immediate area.
- ☐ N/A List all proposed materials and products, and clearly identify their location on the drawings. Indicate texture of material, if applicable.
- ☑ Provide manufacturer's product information and, if possible, bring material samples to the meeting.
- ☐ N/A Provide information such as dimensions, photographs or source for salvaged or reused materials.
- ☐ N/A For demolition applications, provide detailed information addressing standards contained in Subsections 5.2.8.C (4) of the Brunswick Zoning Ordinance.

This application was certified as being complete on 6/3/25 **(date) by**
JULIE BROWN **of the Department of Planning and Development.**

THIS APPLICATION WAS:

- ☐ **Granted**
- ☐ **Granted With Conditions**
- ☐ **Denied**
- ☒ **Forwarded to Village Review Board**
- ☐ **Building Permit Required**
- ☑ **Building Permit NOT Required**

Applicable Comments: _____

_____

_____

_____

_____
Signature of Department Staff Reviewing Application

COMPLIANCE WITH ZONING STANDARDS

Notice: ***This form is to be completed by the Codes Enforcement Officer and filed with the application.***

This is to certify that the application for Certificate of Appropriateness submitted by CHRISTIAN KLEIN, relating to property designated on Assessors Tax Map #U13 and Lot #38 has been reviewed by the Codes Enforcement Officer and has been found to be in compliance with all applicable zoning standards:

Comments: _____

Signed: _____ Date: 6-12-25

Print: Taylor Brundin

Code Enforcement Officer


Bank of America

Document Navigation Tips:

Items listed in the table of contents above are active links that will take you to the corresponding page.

The Pella logo on each page is a link back to this table of contents.

Bookmarks are also included in this PDF document and are available as an additional navigation option.

Supporting documents for this product:

Test Reports:
https://media.pella.com/professional/adm/CertificationReports/Test_Reports_FFDS.pdf?utm_source=pdfdoc

Rectangular CSI Specs (readable using Microsoft Word or other text editing application):
https://media.pella.com/professional/adm/Wood-CSI_Specs/08553.rtf?utm_source=pdfdoc

Curved Shapes CSI Specs (readable using Microsoft Word or other text editing application):
https://media.pella.com/professional/adm/Wood-CSI_Specs/08554.rtf?utm_source=pdfdoc

Impact-Resistant Rectangular CSI Specs (readable using Microsoft Word or other text editing application):
https://media.pella.com/professional/adm/Wood-CSI_Specs/08553-HIG.rtf?utm_source=pdfdoc

Impact-Resistant Curved Shapes CSI Specs (readable using Microsoft Word or other text editing application):
https://media.pella.com/professional/adm/Wood-CSI_Specs/08554-HIG.rtf?utm_source=pdfdoc

AIA Masterspec (readable using Microsoft Word or other text editing application):
https://media.pella.com/professional/adm/Wood-CSI_Specs/Masterspec/085200_fl.doc?utm_source=pdfdoc

Interior Glazed (Rectangular and Shapes) Detailed Product Description (readable using Microsoft Word or other text editing application):
https://media.pella.com/professional/adm/Clad-Wood/FFDS-INTGL.rtf?utm_source=pdfdoc

Exterior Glazed (Rectangular Only) Detailed Product Description (readable using Microsoft Word or other text editing application):
https://media.pella.com/professional/adm/Clad-Wood/FFDS-EXTGL.rtf?utm_source=pdfdoc

CAD cross sections (interior and exterior glazed, rectangular and curved shapes) (requires appropriate CAD software to read and use):
https://media.pella.com/professional/adm/Clad-Wood/PellaClad-FxdFrm-Details_D.dwg?utm_source=pdfdoc

Mitered Corner CAD cross sections (requires appropriate CAD software to read and use):
https://media.pella.com/professional/adm/Clad-Wood/PR-MiterCorner-Detail_D.dwg?utm_source=pdfdoc

Rectangular Revit - 3D & BIM (requires appropriate software to read and use):
https://media.pella.com/professional/adm/RevitFiles/Window-Fixed-Pella-Clad-Rectangular.zip?utm_source=pdfdoc

Curved Shapes Revit - 3D & BIM (requires appropriate software to read and use):
https://media.pella.com/professional/adm/RevitFiles/Window-Fixed-Pella-Clad-Shapes.zip?utm_source=pdfdoc

Rectangular Sketchup (requires appropriate software to read and use):
https://media.pella.com/professional/adm/Clad-Wood/PellaSKP_Fixed_DirectSet-Rectangular.zip?utm_source=pdfdoc

Curved Shapes Sketchup (requires appropriate software to read and use):
https://media.pella.com/professional/adm/Clad-Wood/PellaSKP_Fixed_DirectSet-shapes.zip?utm_source=pdfdoc

Combination Recommendations:
https://media.pella.com/professional/adm/Clad-Wood/D_Combinations.pdf?utm_source=pdfdoc

Installation Details:
https://media.pella.com/professional/adm/Clad-Wood/F_InstallationDetails.pdf?utm_source=pdfdoc

Impact-Resistant Casement, Complete Product Information:
https://media.pella.com/professional/adm/Clad-Wood/Pella-ImpactResistant_Casement.pdf?utm_source=pdfdoc

Casement Shapes, Complete Product Information:
https://media.pella.com/professional/adm/Clad-Wood/Pella-Reserve_CasementShapes.pdf?utm_source=pdfdoc

Size and Performance Data

	Shapes Other Curved	Rectangular / Angled Shapes
Sizes		
Custom shapes and sizes made to order	●	●
Interior Glazed Unit Performance [1, 2]		
Meets or exceeds AAMA / WDMA ratings – Fin Installation	F-CW40 – F-AW50 Hallmark Certified	F-CW40 – F-AW50 Hallmark Certified
Meets or exceeds AAMA/WDMA ratings - Clip or Screw-through-frame Installation	F-CW60 – AW90 Hallmark Certified	F-CW60 – F-AW90 Hallmark Certified
Air Infiltration (cfm / ft² of frame @ 6.24 psf wind pressure)	0.05	0.05
Water Resistance	9.2 - 15.05 psf	9.2 - 15.05 psf
Products with Impact-Resistant Glass	Up to F-CW90 Hallmark Certified	UP TO F-CW90 Hallmark Certified

Sound Transmission Class /Outdoor-Indoor Transmission Class

Product	Frame Size Tested [3]	Glazing System				STC Rating	OITC Rating
		Overall Glazing Thickness	Exterior Glass Thickness	Center Glass Thickness	Interior Glass Thickness		
Rectangular and Angled Shaped Clad Window	47" x 59"	**Fixed Double-Pane Glazing**					
		13/16"	3mm	—	3mm	27	22
		13/16"	4mm	—	4mm	28	24
		13/16"	5mm	—	3mm	31	26
		1"	4mm	—	6mm	34	28
		1"	6mm	—	6mm	31	26
		1"	4mm	—	7mm PVB	34	29
		1-1/4"	6mm	—	12mm PVB	38	34
		Fixed Impact-Resistant Laminated Glazing					
		1"	11.7mm PVB	—	5mm	36	32
		1"	11.7mm SGP	—	5mm	35	31
		1-1/4"	13.6mm SGP	—	6mm	37	31
		Fixed Triple-Pane Glazing					
		1-1/4"	5mm	5mm	5mm	31	26

(—) = Not Available

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

(2) AAMA / WDMA AW performance class attainable with EnduraClad Plus finish. Contact Pella Representative for details.

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

Not all sizes are Hallmark Certified.

Features and Options

	Curved Shapes	Rectangular / Angled Shapes
Glazing		
Glazing Type		
Dual-Pane Insulating Glass	S	S
Triple-Pane Insulating Glass	O	O
Clad panel with hardboard core (1)	—	O
Insulated Glass Options / Low-E Types		
Advanced Low-E	S	S
SunDefense™ Low-E	O	O
SunDefense+ Low-E	O	O
AdvancedComfort Low-E	O	O
NaturalSun Low-E	O	O
NaturalSun+ Low-E	O	O
Clear (no Low-E coating)	O	O
Additional Glass Options		
Annealed Glass	S	S
Tempered Glass	O	O
Obscure Glass (2)	O	O
Tinted Glass (Bronze, Gray and Green)	O	O
Spandrel Glass	O	O
Non-Impact Laminated Dual-Pane Insulating Glass	O	O
Impact-Resistant Laminated Dual-Pane Insulating Glass	O	O
Gas Fill/High Altitude		
Argon	S	S
High altitude	O	O
Exterior		
EnduraClad® aluminum-clad exterior	S	S
EnduraClad Plus aluminum-clad exterior	O	O
Cladding Colors		
Standard colors (2)	S	S
Feature Colors, Custom colors (1)	O	O
Interior Finish		
Factory primed interior	O	O
Factory prefinished paint (1)	O	O
Factory prefinished stain (1)	O	O
Wood Types		
Pine	S	S
Mahogany	O	O
Douglas Fir	O	O
Grilles		
Integral Light Technology® Grilles		
Traditional	O	O (4)
Sunburst	O	—
Custom	O	—
Simulated Divided Light Grilles		
Traditional, Prairie, Cross, Top Row	O (3)	O
Sunburst, Starburst	O	—
Grilles-Between-the-Glass		
Traditional, Prairie, Cross, Top Row	O (3)	O
Sunburst	O	—

S = Standard; O = Optional; (—) = Not Available

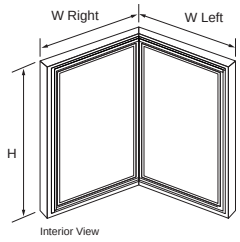
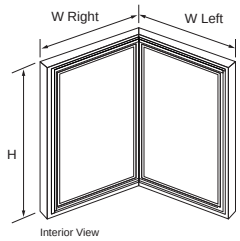
(1) Contact your local Pella sales representative for current availability, designs and/or color options.

(2) Pella Lifestyle Series is limited to color options within that product offering. Contact your local Pella sales representative for current color options

(3) In select shapes. Cross and Top Row not available in curved units.

(4) Only available in Contemporary rectangular and angle shape units with square grille profile.

Mitered Corner Sizes and Dimensions

Mitered Corner		Minimum	Maximum	Restrictions
Fixed Frame Direct Set				
	W Left	12"	4' 0"	Max Frame area of each side cannot be > 54.5 sq ft. Max Glass Area of each side cannot be > 48 sq ft. See Fixed Frame Direct Set product section for features and options
	W Right	12"	4' 0"	
	Height	12"	6' 1"	
Fixed Sash in Frame (Casement)				
	W Left	12"	4' 0"	Max Frame area of each side cannot be > 54.5 sq ft. Max Glass Area of each side cannot be > 48 sq ft.
	W Right	12"	4' 0"	
	Height	12"	6' 1"	

See Casement sections for standard sizes and performance information, corner unit casements included here for comparison purposes.

Clad-Wood Fixed Frame Direct Set Windows

Glazing Performance - Total Units

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values [1]				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada [2]	
										Zone				ER	Zone
Rectangular And Curved Shapes										N	NC	SC	S		CA
13/16"	Clear IG	PEL-N-18-04004-00001	3	3	Air	0.47	0.69	0.72	43						
	with grilles-between-the-glass	PEL-N-18-04005-00001				0.47	0.62	0.65	43						
	with integral grilles	PEL-N-18-04006-00001				0.47	0.62	0.65	43						
13/16"	Clear IG	PEL-N-18-04008-00001	4	4	Air	0.47	0.67	0.72	42						
	with grilles-between-the-glass	PEL-N-18-04009-00001				0.47	0.61	0.65	42						
	with integral grilles	PEL-N-18-04010-00001				0.47	0.61	0.65	42						
13/16"	Clear IG	PEL-N-18-04020-00001	5	5	Air	0.47	0.66	0.71	42						
	with grilles-between-the-glass	PEL-N-18-04021-00001				0.47	0.60	0.64	42						
	with integral grilles	PEL-N-18-04022-00001				0.47	0.60	0.64	42						
13/16"	Advanced Low-E IG	PEL-N-18-04208-00001	3	3	Argon	0.28	0.32	0.62	57						
	with grilles-between-the-glass	PEL-N-18-04209-00001				0.28	0.29	0.55	57						
	with integral grilles	PEL-N-18-04210-00001				0.29	0.29	0.55	57						
13/16"	Advanced Low-E IG	PEL-N-18-04216-00001	4	4	Argon	0.28	0.32	0.61	57						
	with grilles-between-the-glass	PEL-N-18-04217-00001				0.28	0.29	0.55	57						
	with integral grilles	PEL-N-18-04218-00001				0.28	0.29	0.55	57						
13/16"	Advanced Low-E IG	PEL-N-18-04240-00001	5	5	Argon	0.27	0.32	0.60	56						
	with grilles-between-the-glass	PEL-N-18-04241-00001				0.27	0.29	0.54	56						
	with integral grilles	PEL-N-18-04242-00001				0.28	0.29	0.54	56						
13/16"	SunDefense™ Low-E IG	PEL-N-18-04376-00001	3	3	Argon	0.28	0.24	0.57	57						
	with grilles-between-the-glass	PEL-N-18-04377-00001				0.28	0.22	0.51	57			SC	S		
	with integral grilles	PEL-N-18-04378-00001				0.28	0.22	0.51	57			SC	S		
13/16"	SunDefense™ Low-E IG	PEL-N-18-04384-00001	4	4	Argon	0.27	0.24	0.57	57						
	with grilles-between-the-glass	PEL-N-18-04385-00001				0.27	0.22	0.51	57			SC	S		
	with integral grilles	PEL-N-18-04386-00001				0.28	0.22	0.51	57			SC	S		
13/16"	SunDefense™ Low-E IG	PEL-N-18-04408-00001	5	5	Argon	0.27	0.24	0.56	56						
	with grilles-between-the-glass	PEL-N-18-04409-00001				0.27	0.22	0.50	56			SC	S		
	with integral grilles	PEL-N-18-04410-00001				0.28	0.22	0.50	56			SC	S		
13/16"	SunDefense+ Low-E IG	PEL-N-18-04424-00001	3	3	Argon	0.23	0.24	0.56	46		NC				
	with grilles-between-the-glass	PEL-N-18-04425-00001				0.23	0.21	0.50	46		NC	SC	S		
	with integral grilles	PEL-N-18-04426-00001				0.24	0.21	0.50	46		NC	SC	S		
13/16"	SunDefense+ Low-E IG	PEL-N-18-04432-00001	4	4	Argon	0.23	0.24	0.55	45		NC				
	with grilles-between-the-glass	PEL-N-18-04433-00001				0.23	0.22	0.50	45		NC	SC	S		
	with integral grilles	PEL-N-18-04434-00001				0.23	0.22	0.50	45		NC	SC	S		
13/16"	SunDefense+ Low-E IG	PEL-N-18-04456-00001	5	5	Argon	0.23	0.24	0.55	44		NC				
	with grilles-between-the-glass	PEL-N-18-04457-00001				0.23	0.22	0.49	44		NC	SC	S		
	with integral grilles	PEL-N-18-04458-00001				0.23	0.22	0.49	44		NC	SC	S		
13/16"	AdvancedComfort Low-E IG	PEL-N-18-04328-00001	3	3	Argon	0.23	0.32	0.60	45		NC				
	with grilles-between-the-glass	PEL-N-18-04329-00001				0.23	0.29	0.54	45		NC				
	with integral grilles	PEL-N-18-04330-00001				0.24	0.29	0.54	45		NC				
13/16"	AdvancedComfort Low-E IG	PEL-N-18-04336-00001	4	4	Argon	0.23	0.31	0.59	45		NC				
	with grilles-between-the-glass	PEL-N-18-04337-00001				0.23	0.29	0.53	45		NC				
	with integral grilles	PEL-N-18-04338-00001				0.24	0.29	0.53	45		NC				
13/16"	AdvancedComfort Low-E IG	PEL-N-18-04360-00001	5	5	Argon	0.23	0.31	0.59	44		NC				
	with grilles-between-the-glass	PEL-N-18-04361-00001				0.23	0.28	0.53	44		NC				
	with integral grilles	PEL-N-18-04362-00001				0.24	0.28	0.53	44		NC				

R-Value = 1/U-Factor
SHGC = Solar Heat Gain Coefficient
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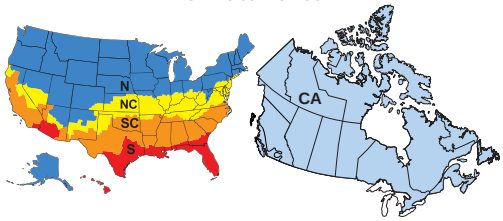
Climate Zones



(1) Glazing performance values are calculated based on NFRC 100, NFRC 200 and NFRC 500. ENERGY STAR® values are updated to 2023 (Version 7) criteria.

(2) The values shown are based on Canada's updated ENERGY STAR® 2020 initiative.

See the Product Performance section for more detailed information or visit www.energystar.gov for Energy Star guidelines.

Clad-Wood Fixed Frame Direct Set Windows

Glazing Performance - Total Units

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values [1]				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada [2]	
										Zone				ER	Zone
Rectangular And Curved Shapes										N	NC	SC	S		CA
13/16"	NaturalSun Low-E IG	PEL-N-18-04112-00001	3	3	Argon	0.29	0.61	0.70	57					39	CA
	with grilles-between-the-glass	PEL-N-18-04113-00001				0.29	0.55	0.63	57					35	CA
	with integral grilles	PEL-N-18-04114-00001				0.30	0.55	0.63	57					34	CA
13/16"	NaturalSun Low-E IG	PEL-N-18-04120-00001	4	4	Argon	0.29	0.59	0.69	56					38	CA
	with grilles-between-the-glass	PEL-N-18-04121-00001				0.29	0.54	0.62	56					35	CA
	with integral grilles	PEL-N-18-04122-00001				0.30	0.54	0.62	56					34	CA
13/16"	NaturalSun Low-E IG	PEL-N-18-04144-00001	5	5	Argon	0.28	0.58	0.69	55					38	CA
	with grilles-between-the-glass	PEL-N-18-04145-00001				0.28	0.53	0.62	55					36	CA
	with integral grilles	PEL-N-18-04146-00001				0.30	0.53	0.62	55						
13/16"	NaturalSun+ Low-E IG	PEL-N-18-04160-00001	3	3	Argon	0.24	0.55	0.68	45	N				42	CA
	with grilles-between-the-glass	PEL-N-18-04161-00001				0.24	0.50	0.61	45	N				39	CA
	with integral grilles	PEL-N-18-04162-00001				0.25	0.50	0.61	45	N				38	CA
13/16"	NaturalSun+ Low-E IG	PEL-N-18-04168-00001	4	4	Argon	0.24	0.54	0.68	44	N				41	CA
	with grilles-between-the-glass	PEL-N-18-04169-00001				0.24	0.48	0.61	44	N				38	CA
	with integral grilles	PEL-N-18-04170-00001				0.24	0.48	0.61	44	N				38	CA
13/16"	NaturalSun+ Low-E IG	PEL-N-18-04192-00001	5	5	Argon	0.24	0.53	0.67	43	N				41	CA
	with grilles-between-the-glass	PEL-N-18-04193-00001				0.24	0.48	0.60	43	N				38	CA
	with integral grilles	PEL-N-18-04194-00001				0.24	0.48	0.60	43	N				38	CA
1"	Advanced Low-E IG	PEL-N-18-04248-00001	6	6	Argon	0.28	0.31	0.59	56						
	with grilles-between-the-glass	PEL-N-18-04249-00001				0.28	0.29	0.53	56						
	with integral grilles	PEL-N-18-04250-00001				0.28	0.29	0.53	56						
1"	SunDefense™ Low-E IG	PEL-N-18-04416-00001	6	6	Argon	0.27	0.24	0.55	56						
	with grilles-between-the-glass	PEL-N-18-04417-00001				0.27	0.22	0.50	56			SC	S		
	with integral grilles	PEL-N-18-04418-00001				0.28	0.22	0.50	56			SC	S		
1"	SunDefense+ Low-E IG	PEL-N-18-04464-00001	6	6	Argon	0.23	0.23	0.54	45		NC	SC	S		
	with grilles-between-the-glass	PEL-N-18-04465-00001				0.23	0.21	0.48	45		NC	SC	S		
	with integral grilles	PEL-N-18-04466-00001				0.23	0.21	0.48	45		NC	SC	S		
1"	AdvancedComfort Low-E IG	PEL-N-18-04368-00001	6	6	Argon	0.23	0.31	0.58	44		NC				
	with grilles-between-the-glass	PEL-N-18-04369-00001				0.23	0.28	0.52	44		NC				
	with integral grilles	PEL-N-18-04370-00001				0.24	0.28	0.52	44		NC				
1"	NaturalSun Low-E IG	PEL-N-18-04152-00001	6	6	Argon	0.29	0.57	0.68	55					37	CA
	with grilles-between-the-glass	PEL-N-18-04153-00001				0.29	0.51	0.61	55						
	with integral grilles	PEL-N-18-04154-00001				0.30	0.51	0.61	55						
1"	NaturalSun+ Low-E IG	PEL-N-18-04200-00001	6	6	Argon	0.24	0.51	0.66	43	N				39	CA
	with grilles-between-the-glass	PEL-N-18-04201-00001				0.24	0.46	0.59	43	N				37	CA
	with integral grilles	PEL-N-18-04202-00001				0.24	0.46	0.59	43	N				37	CA

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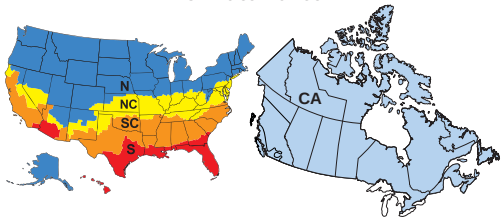
Climate Zones



Glazing Performance - Total Units

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values [1]				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada [2]	
										Zone				ER	Zone
Rectangular And Curved Shapes With Tinted Glazing										N	NC	SC	S		CA
13/16"	Bronze Advanced Low-E IG	PEL-N-18-04256-00001	5	3	Argon	0.27	0.29	0.40	58						
	with grilles-between-the-glass	PEL-N-18-04257-00001				0.27	0.26	0.36	58						
	with integral grilles	PEL-N-18-04258-00001				0.29	0.26	0.36	58						
13/16"	Gray Advanced Low-E IG	PEL-N-18-04280-00001	5	3	Argon	0.27	0.26	0.34	58						
	with grilles-between-the-glass	PEL-N-18-04281-00001				0.27	0.24	0.31	58						
	with integral grilles	PEL-N-18-04282-00001				0.29	0.24	0.31	58						
13/16"	Green Advanced Low-E IG	PEL-N-18-04304-00001	5	3	Argon	0.27	0.33	0.54	58						
	with grilles-between-the-glass	PEL-N-18-04305-00001				0.27	0.30	0.49	58						
	with integral grilles	PEL-N-18-04306-00001				0.29	0.30	0.49	58						
13/16"	Reflective Bronze IG	PEL-N-18-04028-00001	5	5	Air	0.47	0.30	0.18	42						
	with grilles-between-the-glass	PEL-N-18-04029-00001				0.47	0.27	0.16	42						
	with integral grilles	PEL-N-18-04030-00001				0.47	0.27	0.16	42						
1"	Bronze Advanced Low-E IG	PEL-N-18-04272-00001	6	6	Argon	0.28	0.27	0.35	56						
	with grilles-between-the-glass	PEL-N-18-04273-00001				0.28	0.24	0.32	56						
	with integral grilles	PEL-N-18-04274-00001				0.29	0.24	0.32	56						
1"	Gray Advanced Low-E IG	PEL-N-18-04296-00001	6	6	Argon	0.28	0.24	0.30	56						
	with grilles-between-the-glass	PEL-N-18-04297-00001				0.28	0.22	0.27	56			SC	S		
	with integral grilles	PEL-N-18-04298-00001				0.29	0.22	0.27	56				S		
1"	Green Advanced Low-E IG	PEL-N-18-04320-00001	6	6	Argon	0.28	0.31	0.52	56						
	with grilles-between-the-glass	PEL-N-18-04321-00001				0.28	0.28	0.46	56						
	with integral grilles	PEL-N-18-04322-00001				0.29	0.28	0.46	56						
1"	Reflective Bronze IG	PEL-N-18-04036-00001	6	6	Air	0.46	0.27	0.16	42						
	with grilles-between-the-glass	PEL-N-18-04037-00001				0.46	0.25	0.15	42						
	with integral grilles	PEL-N-18-04038-00001				0.47	0.25	0.15	42						
1"	Reflective Gray IG	PEL-N-18-04048-00001	6	6	Argon	0.44	0.24	0.13	44						
	with grilles-between-the-glass	PEL-N-18-04049-00001				0.44	0.22	0.12	44						
	with integral grilles	PEL-N-18-04050-00001				0.45	0.22	0.12	44						

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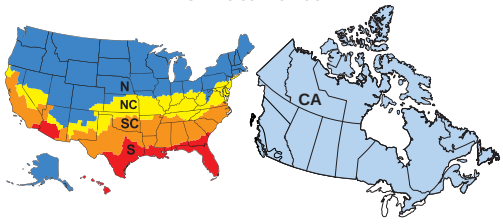
Climate Zones



Glazing Performance - Total Units

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values [1]				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada [2]	
										Zone				ER	Zone
Rectangular And Curved Shapes - High Altitude Glazing										N	NC	SC	S		CA
13/16"	Advanced Low-E IG	PEL-N-18-04204-00001	3	3	Air	0.32	0.33	0.62	54						
	with grilles-between-the-glass	PEL-N-18-04205-00001				0.32	0.30	0.55	54						
	with integral grilles	PEL-N-18-04206-00001				0.33	0.30	0.55	54						
13/16"	Advanced Low-E IG	PEL-N-18-04212-00001	4	4	Air	0.32	0.32	0.61	53						
	with grilles-between-the-glass	PEL-N-18-04213-00001				0.32	0.29	0.55	53						
	with integral grilles	PEL-N-18-04214-00001				0.32	0.29	0.55	53						
13/16"	Advanced Low-E IG	PEL-N-18-04236-00001	5	5	Air	0.32	0.32	0.60	52						
	with grilles-between-the-glass	PEL-N-18-04237-00001				0.32	0.29	0.54	52						
	with integral grilles	PEL-N-18-04238-00001				0.32	0.29	0.54	52						
13/16"	SunDefense Low-E IG	PEL-N-18-04372-00001	3	3	Air	0.32	0.24	0.57	54						
	with grilles-between-the-glass	PEL-N-18-04373-00001				0.32	0.22	0.51	54				S		
	with integral grilles	PEL-N-18-04374-00001				0.32	0.22	0.51	54				S		
13/16"	SunDefense Low-E IG	PEL-N-18-04380-00001	4	4	Air	0.31	0.25	0.57	54						
	with grilles-between-the-glass	PEL-N-18-04381-00001				0.31	0.22	0.51	54				S		
	with integral grilles	PEL-N-18-04382-00001				0.32	0.22	0.51	54				S		
13/16"	SunDefense Low-E IG	PEL-N-18-04404-00001	5	5	Air	0.31	0.25	0.56	53						
	with grilles-between-the-glass	PEL-N-18-04405-00001				0.31	0.22	0.50	53				S		
	with integral grilles	PEL-N-18-04406-00001				0.32	0.22	0.50	53				S		
13/16"	SunDefense+ Low-E IG	PEL-N-18-04420-00001	3	3	Air	0.26	0.24	0.56	42						
	with grilles-between-the-glass	PEL-N-18-04421-00001				0.26	0.22	0.50	42			SC	S		
	with integral grilles	PEL-N-18-04422-00001				0.26	0.22	0.50	42			SC	S		
13/16"	SunDefense+ Low-E IG	PEL-N-18-04428-00001	4	4	Air	0.25	0.24	0.55	42		NC				
	with grilles-between-the-glass	PEL-N-18-04429-00001				0.25	0.22	0.50	42		NC	SC	S		
	with integral grilles	PEL-N-18-04430-00001				0.26	0.22	0.50	42			SC	S		
13/16"	SunDefense+ Low-E IG	PEL-N-18-04452-00001	5	5	Air	0.26	0.24	0.55	41						
	with grilles-between-the-glass	PEL-N-18-04453-00001				0.26	0.22	0.49	41			SC	S		
	with integral grilles	PEL-N-18-04454-00001				0.26	0.22	0.49	41			SC	S		
13/16"	AdvancedComfort Low-E IG	PEL-N-18-04324-00001	3	3	Air	0.26	0.32	0.60	42						
	with grilles-between-the-glass	PEL-N-18-04325-00001				0.26	0.29	0.54	42						
	with integral grilles	PEL-N-18-04326-00001				0.27	0.29	0.54	42						
13/16"	AdvancedComfort Low-E IG	PEL-N-18-04332-00001	4	4	Air	0.26	0.32	0.59	42						
	with grilles-between-the-glass	PEL-N-18-04333-00001				0.26	0.29	0.53	42						
	with integral grilles	PEL-N-18-04334-00001				0.26	0.29	0.53	42						
13/16"	AdvancedComfort Low-E IG	PEL-N-18-04356-00001	5	5	Air	0.26	0.31	0.59	40						
	with grilles-between-the-glass	PEL-N-18-04357-00001				0.26	0.28	0.53	40						
	with integral grilles	PEL-N-18-04358-00001				0.27	0.28	0.53	40						

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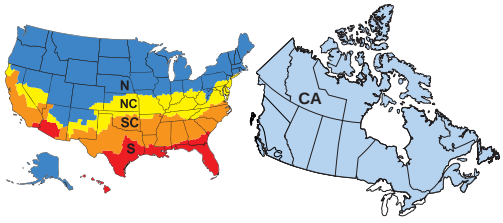
Climate Zones



Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values [1]				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada [2]	
										Zone				ER	Zone
Rectangular And Curved Shapes - High Altitude Glazing										N	NC	SC	S		CA
13/16"	NaturalSun Low-E IG	PEL-N-18-04108-00001	3	3	Air	0.33	0.60	0.70	53					34	CA
	with grilles-between-the-glass	PEL-N-18-04109-00001				0.33	0.55	0.63	53						
	with integral grilles	PEL-N-18-04110-00001				0.34	0.55	0.63	53						
13/16"	NaturalSun Low-E IG	PEL-N-18-04116-00001	4	4	Air	0.32	0.59	0.69	53					34	CA
	with grilles-between-the-glass	PEL-N-18-04117-00001				0.32	0.54	0.62	53						
	with integral grilles	PEL-N-18-04118-00001				0.33	0.54	0.62	53						
13/16"	NaturalSun Low-E IG	PEL-N-18-04140-00001	5	5	Air	0.33	0.58	0.69	52						
	with grilles-between-the-glass	PEL-N-18-04141-00001				0.33	0.53	0.62	52						
	with integral grilles	PEL-N-18-04142-00001				0.34	0.53	0.62	52						
13/16"	NaturalSun+ Low-E IG	PEL-N-18-04156-00001	3	3	Air	0.27	0.55	0.68	41					38	CA
	with grilles-between-the-glass	PEL-N-18-04157-00001				0.27	0.50	0.61	41					35	CA
	with integral grilles	PEL-N-18-04158-00001				0.27	0.50	0.61	41					35	CA
13/16"	NaturalSun+ Low-E IG	PEL-N-18-04164-00001	4	4	Air	0.26	0.53	0.68	41	N				38	CA
	with grilles-between-the-glass	PEL-N-18-04165-00001				0.26	0.48	0.61	41	N				35	CA
	with integral grilles	PEL-N-18-04166-00001				0.27	0.48	0.61	41					34	CA
13/16"	NaturalSun+ Low-E IG	PEL-N-18-04188-00001	5	5	Air	0.27	0.52	0.67	40					36	CA
	with grilles-between-the-glass	PEL-N-18-04189-00001				0.27	0.47	0.60	40						
	with integral grilles	PEL-N-18-04190-00001				0.27	0.47	0.60	40						
1"	Clear IG	PEL-N-18-04024-00001	6	6	Air	0.46	0.64	0.70	42						
	with grilles-between-the-glass	PEL-N-18-04025-00001				0.46	0.58	0.63	42						
	with integral grilles	PEL-N-18-04026-00001				0.47	0.58	0.63	42						
1"	Advanced Low-E IG	PEL-N-18-04244-00001	6	6	Air	0.32	0.32	0.59	53						
	with grilles-between-the-glass	PEL-N-18-04245-00001				0.32	0.29	0.53	53						
	with integral grilles	PEL-N-18-04246-00001				0.32	0.29	0.53	53						
1"	SunDefense™ Low-E IG	PEL-N-18-04412-00001	6	6	Air	0.31	0.24	0.55	53						
	with grilles-between-the-glass	PEL-N-18-04413-00001				0.31	0.22	0.50	53				S		
	with integral grilles	PEL-N-18-04414-00001				0.32	0.22	0.50	53				S		
1"	SunDefense+ Low-E IG	PEL-N-18-04460-00001	6	6	Air	0.25	0.24	0.54	41		NC				
	with grilles-between-the-glass	PEL-N-18-04461-00001				0.25	0.22	0.48	41		NC	SC	S		
	with integral grilles	PEL-N-18-04462-00001				0.26	0.22	0.48	41			SC	S		
1"	AdvancedComfort Low-E IG	PEL-N-18-04364-00001	6	6	Air	0.26	0.31	0.58	41						
	with grilles-between-the-glass	PEL-N-18-04365-00001				0.26	0.28	0.52	41						
	with integral grilles	PEL-N-18-04366-00001				0.26	0.28	0.52	41						
1"	NaturalSun Low-E IG	PEL-N-18-04148-00001	6	6	Air	0.33	0.57	0.68	52						
	with grilles-between-the-glass	PEL-N-18-04149-00001				0.33	0.51	0.61	52						
	with integral grilles	PEL-N-18-04150-00001				0.33	0.51	0.61	52						
1"	NaturalSun+ Low-E IG	PEL-N-18-04196-00001	6	6	Air	0.26	0.51	0.66	41	N				37	CA
	with grilles-between-the-glass	PEL-N-18-04197-00001				0.26	0.46	0.59	41	N				34	CA
	with integral grilles	PEL-N-18-04198-00001				0.27	0.46	0.59	41						

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CR = Condensation Resistance
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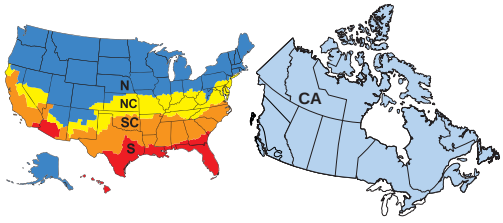
(1) Glazing performance values are calculated based on NFRC 100, NFRC 200 and NFRC 500. ENERGY STAR® values are updated to 2023 (Version 7) criteria.

(2) The values shown are based on Canada's updated ENERGY STAR® 2020 initiative.

See the Product Performance section for more detailed information or visit www.energystar.gov for Energy Star guidelines.

Climate Zones



Glazing Performance - Total Units

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)			Gap Fill	Performance Values [1]				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
											U. S.				Canada [2]	
			Ext.	Mid.	Int.		U-Factor	SHGC	VLT %	CR	Zone				ER	Zone
Interior Glazed With Triple-Pane Glazing											N	NC	SC	S		CA
1-1/8"	Decorative Glass (3)	PEL-N-18-04620-00001	3	3	3	Air	0.34	0.62	0.66	55						
1-1/8"	Advanced Low-E IG	PEL-N-18-04661-00001	3	3	3	Argon	0.18	0.29	0.54	69	N	NC			34	CA
	with grilles-between-the-glass	PEL-N-18-04662-00001					0.18	0.27	0.49	69	N	NC			33	CA
	with integral grilles	PEL-N-18-04663-00001					0.18	0.27	0.49	69	N	NC			33	CA
1-1/4"	Advanced Low-E IG	PEL-N-18-04673-00001	4	4	4	Argon	0.18	0.29	0.53	68	N	NC			34	CA
	with grilles-between-the-glass	PEL-N-18-04674-00001					0.18	0.26	0.48	68	N	NC			32	CA
	with integral grilles	PEL-N-18-04675-00001					0.18	0.26	0.48	68	N	NC			32	CA
1-3/8"	Advanced Low-E IG	PEL-N-18-04685-00001	5	5	5	Argon	0.18	0.29	0.53	68	N	NC			34	CA
	with grilles-between-the-glass	PEL-N-18-04686-00001					0.18	0.26	0.47	68	N	NC			32	CA
	with integral grilles	PEL-N-18-04687-00001					0.18	0.26	0.47	68	N	NC			32	CA
1-1/8"	SunDefense™ Low-E IG	PEL-N-18-04697-00001	3	3	3	Argon	0.18	0.22	0.50	69	N	NC	SC	S	30	CA
	with grilles-between-the-glass	PEL-N-18-04698-00001					0.18	0.20	0.45	69	N	NC	SC	S	29	CA
	with integral grilles	PEL-N-18-04699-00001					0.18	0.20	0.45	69	N	NC	SC	S	29	CA
1-1/4"	SunDefense™ Low-E IG	PEL-N-18-04709-00001	4	4	4	Argon	0.18	0.22	0.50	68	N	NC	SC	S	30	CA
	with grilles-between-the-glass	PEL-N-18-04710-00001					0.18	0.20	0.45	68	N	NC	SC	S	29	CA
	with integral grilles	PEL-N-18-04711-00001					0.18	0.20	0.45	68	N	NC	SC	S	29	CA
1-3/8"	SunDefense™ Low-E IG	PEL-N-18-04721-00001	5	5	5	Argon	0.18	0.22	0.49	68	N	NC	SC	S	30	CA
	with grilles-between-the-glass	PEL-N-18-04722-00001					0.18	0.20	0.44	68	N	NC	SC	S	29	CA
	with integral grilles	PEL-N-18-04723-00001					0.18	0.20	0.44	68	N	NC	SC	S	29	CA
1-1/8"	NaturalSun Low-E IG	PEL-N-18-04625-00001	3	3	3	Argon	0.18	0.49	0.61	68	N				46	CA
	with grilles-between-the-glass	PEL-N-18-04626-00001					0.19	0.45	0.55	68	N				42	CA
	with integral grilles	PEL-N-18-04627-00001					0.19	0.45	0.55	68	N				42	CA
1-1/4"	NaturalSun Low-E IG	PEL-N-18-04637-00001	4	4	4	Argon	0.18	0.48	0.61	68	N				45	CA
	with grilles-between-the-glass	PEL-N-18-04638-00001					0.19	0.43	0.55	68	N				41	CA
	with integral grilles	PEL-N-18-04639-00001					0.19	0.43	0.55	68	N				41	CA
1-3/8"	NaturalSun Low-E IG	PEL-N-18-04649-00001	5	5	5	Argon	0.18	0.47	0.60	67	N				45	CA
	with grilles-between-the-glass	PEL-N-18-04650-00001					0.18	0.43	0.54	67	N				42	CA
	with integral grilles	PEL-N-18-04651-00001					0.19	0.43	0.54	67	N				41	CA

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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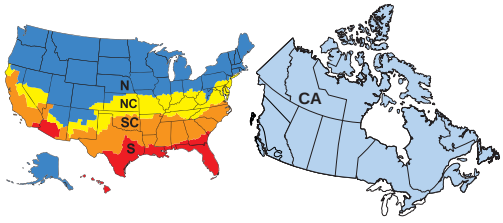
Climate Zones



Glazing Performance - Total Units

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)			Gap Fill	Performance Values [1]				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Mid.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada [2]	
											Zone				ER	Zone
Interior Glazed Triple-Pane High Altitude Glazing											N	NC	SC	S		CA
1-1/8"	Advanced Low-E IG	PEL-N-18-04657-00001	3	3	3	Air	0.22	0.30	0.54	65	N	NC				
	with grilles-between-the-glass	PEL-N-18-04658-00001					0.22	0.27	0.49	65	N	NC				
	with integral grilles	PEL-N-18-04659-00001					0.22	0.27	0.49	65	N	NC				
1-1/4"	Advanced Low-E IG	PEL-N-18-04669-00001	4	4	4	Air	0.21	0.29	0.53	65	N	NC			30	CA
	with grilles-between-the-glass	PEL-N-18-04670-00001					0.22	0.26	0.48	65	N	NC				
	with integral grilles	PEL-N-18-04671-00001					0.22	0.26	0.48	65	N	NC				
1-3/8"	Advanced Low-E IG	PEL-N-18-04681-00001	5	5	5	Air	0.21	0.29	0.53	65	N	NC			30	CA
	with grilles-between-the-glass	PEL-N-18-04682-00001					0.22	0.26	0.47	65	N	NC				
	with integral grilles	PEL-N-18-04683-00001					0.22	0.26	0.47	65	N	NC				
1-1/8"	SunDefense Low-E IG	PEL-N-18-04693-00001	3	3	3	Air	0.21	0.22	0.50	65	N	NC	SC	S	26	CA
	with grilles-between-the-glass	PEL-N-18-04694-00001					0.22	0.20	0.45	65	N	NC	SC	S		
	with integral grilles	PEL-N-18-04695-00001					0.22	0.20	0.45	65	N	NC	SC	S		
1-1/4"	SunDefense Low-E IG	PEL-N-18-04705-00001	4	4	4	Air	0.21	0.22	0.50	65	N	NC	SC	S	26	CA
	with grilles-between-the-glass	PEL-N-18-04706-00001					0.22	0.20	0.45	65	N	NC	SC	S		
	with integral grilles	PEL-N-18-04707-00001					0.22	0.20	0.45	65	N	NC	SC	S		
1-3/8"	SunDefense Low-E IG	PEL-N-18-04717-00001	5	5	5	Air	0.21	0.22	0.49	65	N	NC	SC	S	26	CA
	with grilles-between-the-glass	PEL-N-18-04718-00001					0.22	0.20	0.44	65	N	NC	SC	S		
	with integral grilles	PEL-N-18-04719-00001					0.22	0.20	0.44	65	N	NC	SC	S		
1-1/8"	NaturalSun Low-E IG	PEL-N-18-04621-00001	3	3	3	Air	0.22	0.49	0.61	65	N				41	CA
	with grilles-between-the-glass	PEL-N-18-04622-00001					0.22	0.45	0.55	65	N				38	CA
	with integral grilles	PEL-N-18-04623-00001					0.22	0.45	0.55	65	N				38	CA
1-1/4"	NaturalSun Low-E IG	PEL-N-18-04633-00001	4	4	4	Air	0.22	0.48	0.61	65	N				40	CA
	with grilles-between-the-glass	PEL-N-18-04634-00001					0.22	0.43	0.55	65	N				37	CA
	with integral grilles	PEL-N-18-04635-00001					0.22	0.43	0.55	65	N				37	CA
1-3/8"	NaturalSun Low-E IG	PEL-N-18-04645-00001	5	5	5	Air	0.22	0.47	0.60	64	N				40	CA
	with grilles-between-the-glass	PEL-N-18-04646-00001					0.22	0.43	0.54	64	N				37	CA
	with integral grilles	PEL-N-18-04647-00001					0.22	0.43	0.54	64	N				37	CA

R-Value = 1/U-Factor
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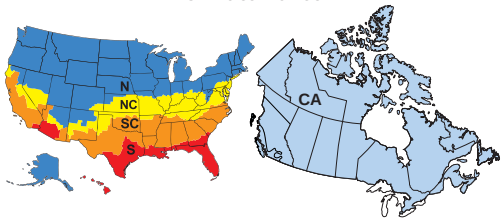
Climate Zones



Glazing Performance - Total Unit

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values [1]				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada [2]	
										Zone				ER	Zone
Interior Glazed Laminated Impact-Resistant Glass										N	NC	SC	S		CA
1"	PVB clear laminated IG	PEL-N-18-04060-00001	12	5	air	0.46	0.56	0.68	43						
	with grilles-between-the-glass	PEL-N-18-04061-00001				0.47	0.51	0.61	43						
	with integral grilles	PEL-N-18-04062-00001				0.47	0.51	0.61	43						
1"	PVB Advanced Low-E IG	PEL-N-18-04596-00001	12	5	argon	0.27	0.31	0.57	56						
	with grilles-between-the-glass	PEL-N-18-04597-00001				0.29	0.28	0.51	56						
	with integral grilles	PEL-N-18-04598-00001				0.28	0.28	0.51	56						
1"	PVB SunDefense™ Low-E IG	PEL-N-18-04608-00001	12	5	argon	0.27	0.24	0.53	57						
	with grilles-between-the-glass	PEL-N-18-04609-00001				0.28	0.22	0.48	57			SC	S		
	with integral grilles	PEL-N-18-04610-00001				0.28	0.22	0.48	57			SC	S		
1"	SGP clear laminated IG	PEL-N-18-04064-00001	12	5	air	0.46	0.57	0.69	43						
	with grilles-between-the-glass	PEL-N-18-04065-00001				0.47	0.51	0.62	43						
	with integral grilles	PEL-N-18-04066-00001				0.47	0.51	0.62	43						
1"	SGP Advanced Low-E IG	PEL-N-18-04600-00001	12	5	argon	0.27	0.31	0.58	57						
	with grilles-between-the-glass	PEL-N-18-04601-00001				0.28	0.28	0.52	57						
	with integral grilles	PEL-N-18-04602-00001				0.28	0.28	0.52	57						
1"	SGP SunDefense™ Low-E IG	PEL-N-18-04612-00001	12	5	argon	0.27	0.25	0.54	57						
	with grilles-between-the-glass	PEL-N-18-04613-00001				0.28	0.22	0.49	57			SC	S		
	with integral grilles	PEL-N-18-04614-00001				0.28	0.22	0.49	57			SC	S		
1-1/4"	SGP clear laminated IG	PEL-N-18-04068-00001	14	6	air	0.44	0.54	0.67	45						
	with grilles-between-the-glass	PEL-N-18-04069-00001				0.44	0.49	0.60	45						
	with integral grilles	PEL-N-18-04070-00001				0.44	0.49	0.60	45						
1-1/4"	SGP Advanced Low-E IG	PEL-N-18-04604-00001	14	6	argon	0.26	0.30	0.57	58						
	with grilles-between-the-glass	PEL-N-18-04605-00001				0.26	0.27	0.51	58						
	with integral grilles	PEL-N-18-04606-00001				0.27	0.27	0.51	58						
1-1/4"	SGP SunDefense Low-E IG	PEL-N-18-04616-00001	14	6	argon	0.26	0.24	0.53	58						
	with grilles-between-the-glass	PEL-N-18-04617-00001				0.26	0.22	0.47	58			SC	S		
	with integral grilles	PEL-N-18-04618-00001				0.26	0.22	0.47	58			SC	S		
Interior Glazed Laminated Impact-Resistant Glass With Tinted Glazing															
1"	Bronze PVB laminated IG	PEL-N-18-04072-00001	12	5	air	0.46	0.38	0.28	43						
1"	Gray PVB laminated IG	PEL-N-18-04084-00001	12	5	air	0.46	0.43	0.35	43						
1"	Green PVB laminated IG	PEL-N-18-04096-00001	12	5	air	0.46	0.51	0.56	43						
1"	Bronze SGP laminated IG	PEL-N-18-04076-00001	12	5	air	0.46	0.39	0.28	43						
1"	Gray SGP laminated IG	PEL-N-18-04088-00001	12	5	air	0.46	0.43	0.35	43						
1"	Green SGP laminated IG	PEL-N-18-04100-00001	12	5	air	0.46	0.51	0.56	43						
1-1/4"	Bronze SGP laminated IG	PEL-N-18-04080-00001	14	6	air	0.44	0.37	0.27	45						
1-1/4"	Gray SGP laminated IG	PEL-N-18-04092-00001	14	6	air	0.44	0.41	0.34	45						
1-1/4"	Green SGP laminated IG	PEL-N-18-04104-00001	14	6	air	0.44	0.49	0.54	45						

R-Value = 1/U-Factor
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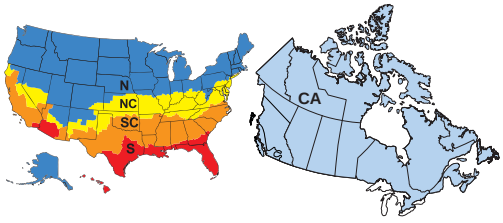
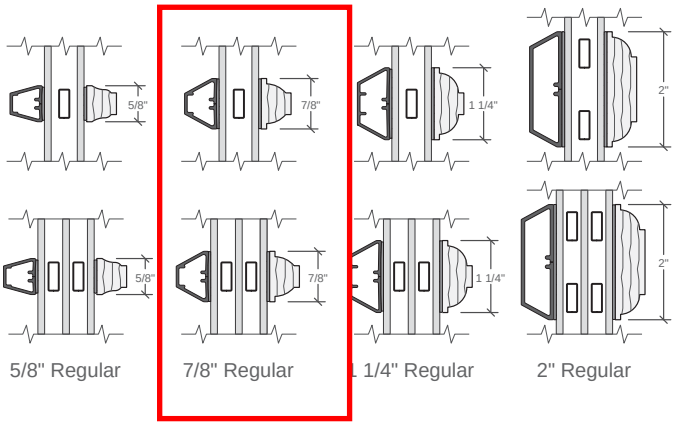
Climate Zones



Grille Profiles

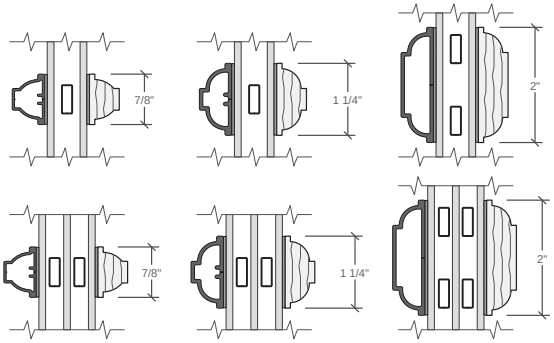
Traditional Style Collection - Integral Light Technology ®

Putty Glaze and Ogee Grilles
Clad Exterior - Wood Interior



5/8" Regular | 7/8" Regular | 1 1/4" Regular | 2" Regular

Ogee Grilles
Clad Exterior - Wood Interior

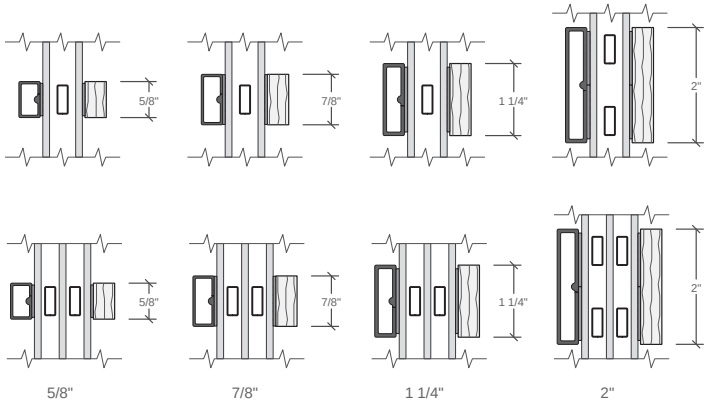


7/8" Regular | 1 1/4" Regular | 2" Regular

(Ogee ILT Grilles are available for Rectangle and Radius Shapes,
Putty Glaze ILT grilles are available for rectangle only.)

Contemporary Style Collection - Integral Light Technology®

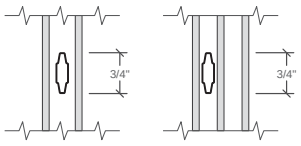
Square Grilles
Clad Exterior - Wood Interior



5/8" | 7/8" | 1 1/4" | 2"

(Square ILT Grilles are available for Contemporary Style Rectangular and Angle Shapes only)

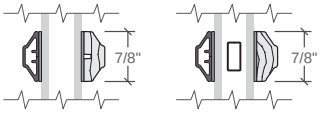
Grilles-Between-the-Glass



3/4" Contoured | 3/4" Contoured

Simulated-Divided-Light-Grilles

Simulated Divided Light



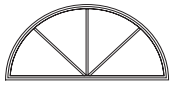
7/8" SDL | 7/8" SDL with Spacer

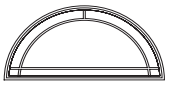
(1) Available in Pine, Mahogany, or Douglas Fir to match complete unit.

Grille Patterns - Curved Shapes

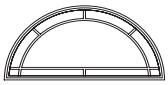
Below are examples of typical combination assemblies showing grille alignment of half circles and quarter circles over casements, hung, hinged and sliding doors. For specific information contact your local Pella sales representative.

Typical Grille Patterns

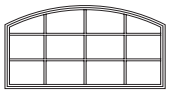




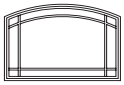
FW ≤ 71"

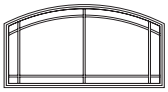


FW > 71"



SHORT SIDE 8"

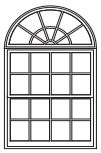




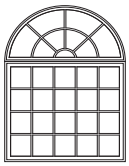
FW > 47"

Half and Quarter Circle

Casement

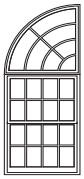


Double-Hung

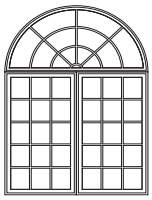


Large Fixed

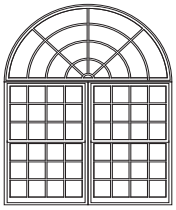
Casement



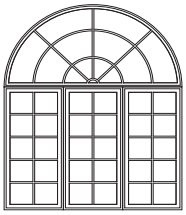
Double-Hung



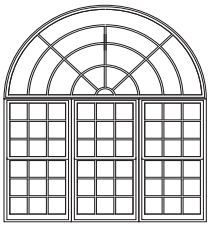
2-Wide
Casement



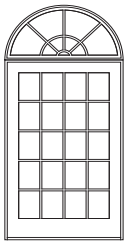
2-Wide
Double-Hung



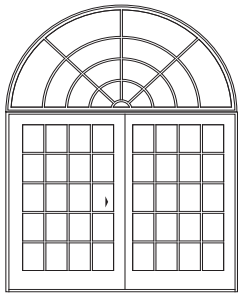
3-Wide
Casement



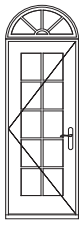
3-Wide
Double-Hung



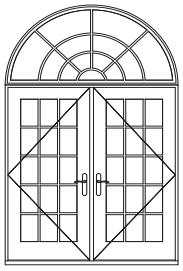
Fixed Door



Sliding Patio Door



Hinged Door

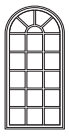


2-Panel Hinged Door

Elliptical

Elliptical

Springline



Springline

Full Circle

Circle

Ovals

4-Lite
Traditional

5-Lite
with Rays

9-Lite
with Sunburst

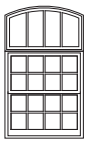
17-Lite
with Sunburst

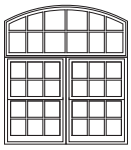
Not all pattern scenarios are shown above. Actual pattern may differ depending on size, shape and grille spacing. See Pella sales representative for actual patterns.

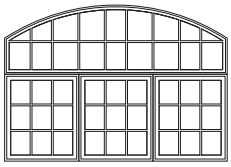
Grille Patterns - Arch Head Curved Shapes

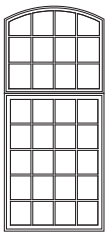
Below are examples of typical combination assemblies showing grille alignment of arch heads over casements, hung, and hinged doors. For specific information contact your local Pella sales representative.

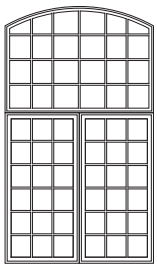
Full Arch Heads

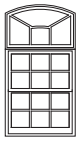

Double-Hung

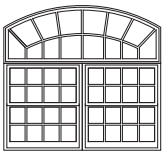

2-Wide Double-Hung

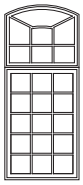

3-Wide Double-Hung

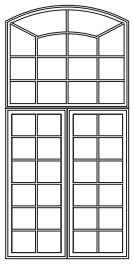

Large Fixed

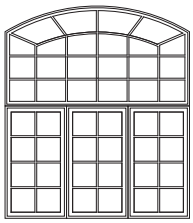

2-Wide Large Fixed

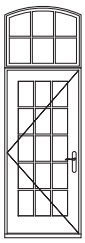

Double-Hung

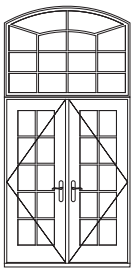

2-Wide Double-Hung

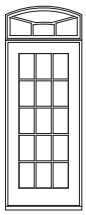

Fixed

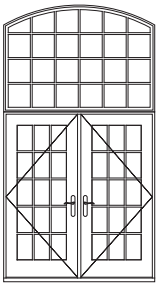

2-Wide Fixed


3-Wide Fixed


Single Panel Hinged Door


2-Panel Hinged Door

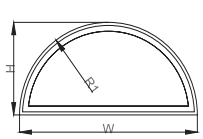

Fixed Panel


2-Panel Hinged Door

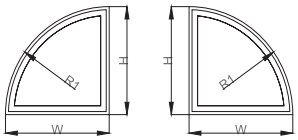
Not all pattern scenarios are shown above. Actual pattern may differ depending on size, shape and grille spacing. See Pella sales representative for actual patterns.

Clad-Wood Fixed Frame Direct Set Windows

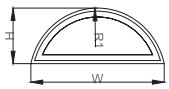
Interior Glazed Curved Shape Sizes and Dimensions



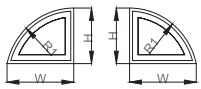
Half Circle



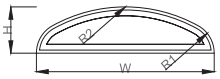
Quarter Circle



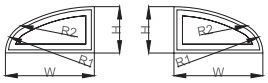
Full Chord



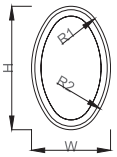
Partial Chord



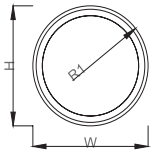
Full Elliptical



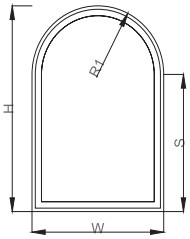
Half Elliptical



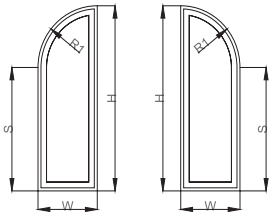
Oval



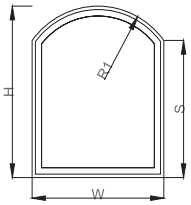
Full Circle



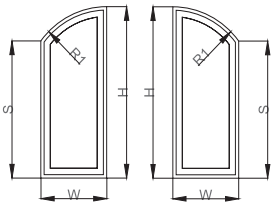
Full Springline



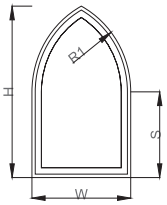
Partial Springline



Full Arch Head



Partial Arch Head

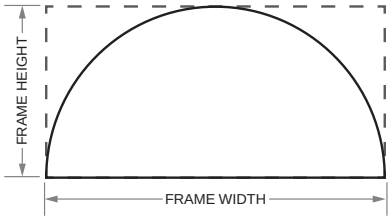


Cathedral / Gothic

Description	Frame Radius		Width		Height				Min. Unit Frame Angle	Max. Unit Frame Angle	Max. Sq. Ft.
	Min.	Max.	Min.	Max.	Min.	Max.	Min. S	Other			
Half Circle	12"	60"	24"	120"	24"	120"	—	—	—	—	48
Quarter Circle	12"	85"	12"	85"	12"	85"	—	—	—	—	48
Full Springline	12"	54"	24"	108"	R + 4.25"	120"	4.25"	—	—	—	48
Partial Springline	12"	96"	12"	85"	FW + 4.25"	120"	4.25"	—	40°	90°	48
Full Chord	12"	500"	24"	120"	10.5"	(W÷2)-1"	—	> 0.24 W	40°	< 90°	48
Partial Chord [2]	12"	500"	9"	120"	10.5"	85.125"	—	> 0.48 W	40°	< 90°	48
Full Elliptical [1]	R1 = 12" R2 = 12"	R1 = 150" R2 = 500"	32.5"	120"	R1+1.25"	< (W÷2)	—	—	—	—	48
Partial Elliptical [1]	R1 = 12" R2 = 12"	R1 = 150" R2 = 500"	14"	120	R1+1.25""	60"	—	—	40°	90°	48
Full Arch Head	12"	500"	9"	120"	9"	120"	4.25"	—	90°	160°	48
Partial Arch Head	12"	500"	9"	120"	9"	120"	4.25"	—	40°	160°	48
Gothic Springline	12"	500"	9"	108"	14	120"	4.25"	—	40°	—	48
Full Circle [3]	12"	36"	24"	72"	—	—	—	—	—	—	—
Oval [3]	Standard sizes only. 24" W x 36" H, 30" W x 48" H or 36" W x 60" H										

Miscellaneous Formulas

Glass Dimension	Formula
Visible Glass	Width = Frame – 3-1/4" Height = Frame – 3-1/4"
Actual Glass	Width = Frame – 2" Height = Frame – 2"



For all shapes, calculate the area as if it were a rectangle.

(—) = Not applicable

(1) Minor radius must begin at the baseline of the frame.

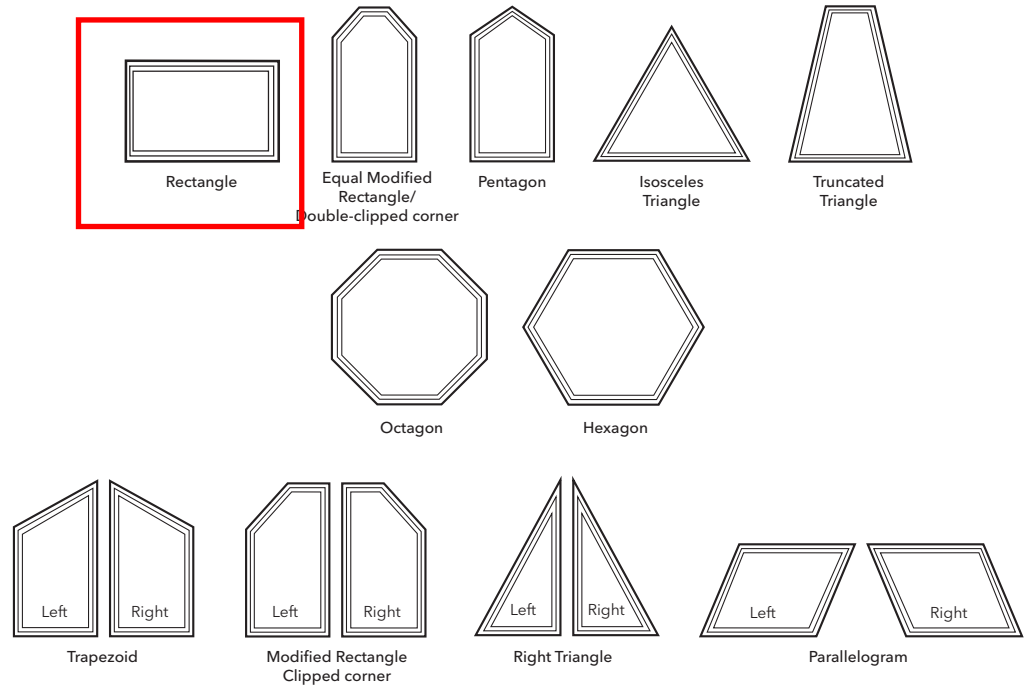
(2) Project shape to full chord, using full chord width (W), calculate minimum height restrictions using full chord parameters.

(3) Tempered glass is required for any units where glass dimensions exceed 48"

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

Interior Glazed Angled Shape Sizes and Dimensions

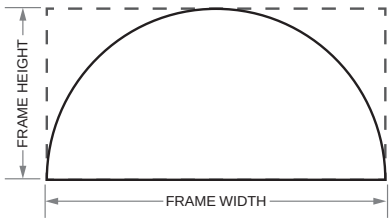
Pella angled and rectangular fixed frame direct set windows are available in custom shapes shown below. These windows may be installed in any orientation. For specifications, size limitations, and details on these units, contact your local Pella sales representative.



Glazing Type	Frame Dimension		Panel Dimension	
	Minimum Size	Maximum Size[1]	Minimum Size	Maximum Size
Glass	8" x 8" (203 x 203)	12' 0"$_2$ or 76 ft^2 (3 658) or (7.06 m^2)	—	—
Clad Panel (Available In Rectangular Units Only)	8" x 8" (203 x 203)	4' 2" x 8' 2" (1 270 x 2 489)	6" x 6" (152 x 152)	48" x 96" (1 219 x 2 438)

Miscellaneous Formulas for Rectangular Units

Glass Dimension	Formula
Visible Glass	Visible Glass Width = Frame Width – 3-1/4" Visible Glass Height = Frame Height – 3-1/4"
Actual Glass	Actual Glass Width = Frame Width – 2" Actual Glass Height = Frame Height – 2"



For all shapes, calculate the area as if it were a rectangle.

(—) = Not applicable

- Keep frame dimension to the nearest 1/8".
- See Performance Grade chart for size limitations.
- Glass width to height ratio maximums: annealed glass 1 to 5, tempered glass 1 to 10.

(1) For all shapes, calculate the area of the unit as if it were rectangular.

(2) Maximum dimension in one direction with frame area as specified (subject to glass availability).

Corner angles for all shapes are minimum 20° and maximum 160°.

144" slope for triangles and parallelograms.

Not all sizes are Hallmark Certified.

Exterior Glazed Rectangular Shape Sizes and Dimensions

Consult with your local Pella sales representative for current availability, limitations may apply.

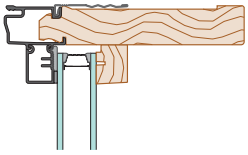
Exterior glazed windows are available as rectangles only.

Glazing Type	Frame Dimension		Panel Dimension	
	Minimum Size	Maximum Size[1]	Minimum Size	Maximum Size
Glass	8" x 8" (203 x 203)	8' 0"[1] or 38.0 ft² (2 438) (3.53 m²)	—	—
Clad Panel	8" x 8" (203 x 203)	4' 2-3/8" x 8' 2-3/8" (1 280 x 2 499)	5-5/8" x 5-5/8" (143 x 143)	48" x 96" (1 219 x 2 438)

Miscellaneous Formulas

Glass Dimension	Formula
Visible Glass	Visible Glass Width = Frame Width – 3-1/4" Visible Glass Height = Frame Height – 3-1/4"
Actual Glass	Actual Glass Width = Frame Width – 2" Actual Glass Height = Frame Height – 2"

Designed for applications where exterior reglazing is necessary due to inaccessibility from the interior. Is not intended for initial field glazing.

Glazing Options	Standard	Special	Custom[2]
	Clear or Advanced Low-E Insulated Glass with Argon or Natural Sun	Bronze, Gray, Green, Obscure Advanced Comfort, Sun Defense	Spandrel

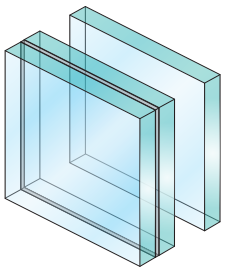
(—) = Not applicable

(1) In one direction with frame area as specified (subject to glass availability).

(2) Consult your Pella representative for parameters and availability of custom glazings.

Design Data - Impact-Resistant Glass

Double-Pane Laminated Insulating Glass



	SGP IG	PVB IG
Maximum Performance Grade [1]		
Max sizes: 55 x 55, 39 x 79, 79 x 39	—	60
Max sizes: 35 x 73, 73 x 35	90	—
Larger Sizes	60	—
Certification [1]		
Hallmark	411-H-670	411-H-670
FPAS [2]	FL20349	FL20349
TDI [2]	WIN-478	WIN-478

The use of fixed frame direct set windows is limited by product performance rating, design pressure load chart, installation method and glass thickness or type. Always consult local building code and Florida FPAS for performance and installation requirements.

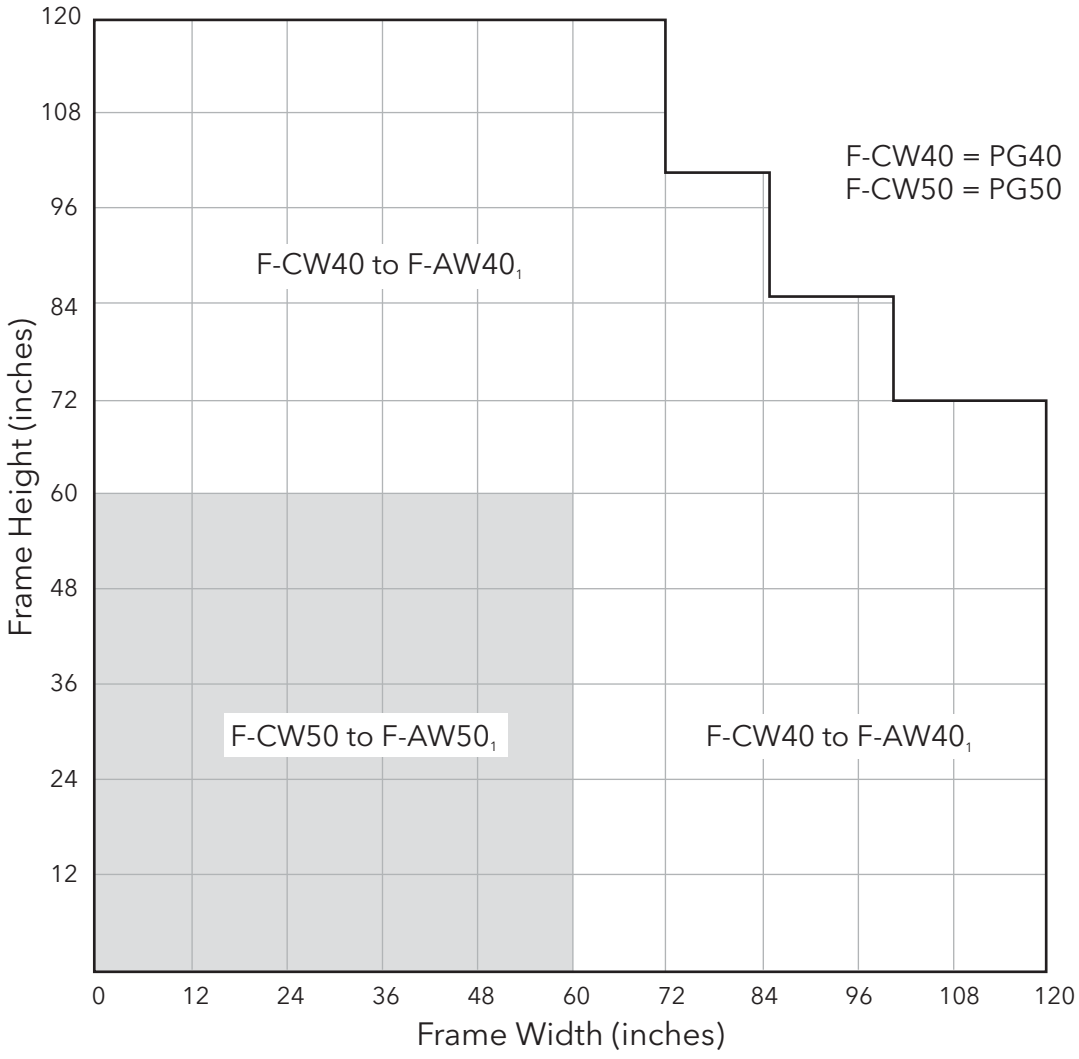
(—) Not Applicable

(1) Maximum design pressure limited by unit testing or ASTM E 1300-04(H) and ASTM E 1300-04(D)

All interior glazed units with Impact glazing are certified for wind zone 4, large missile rating D.

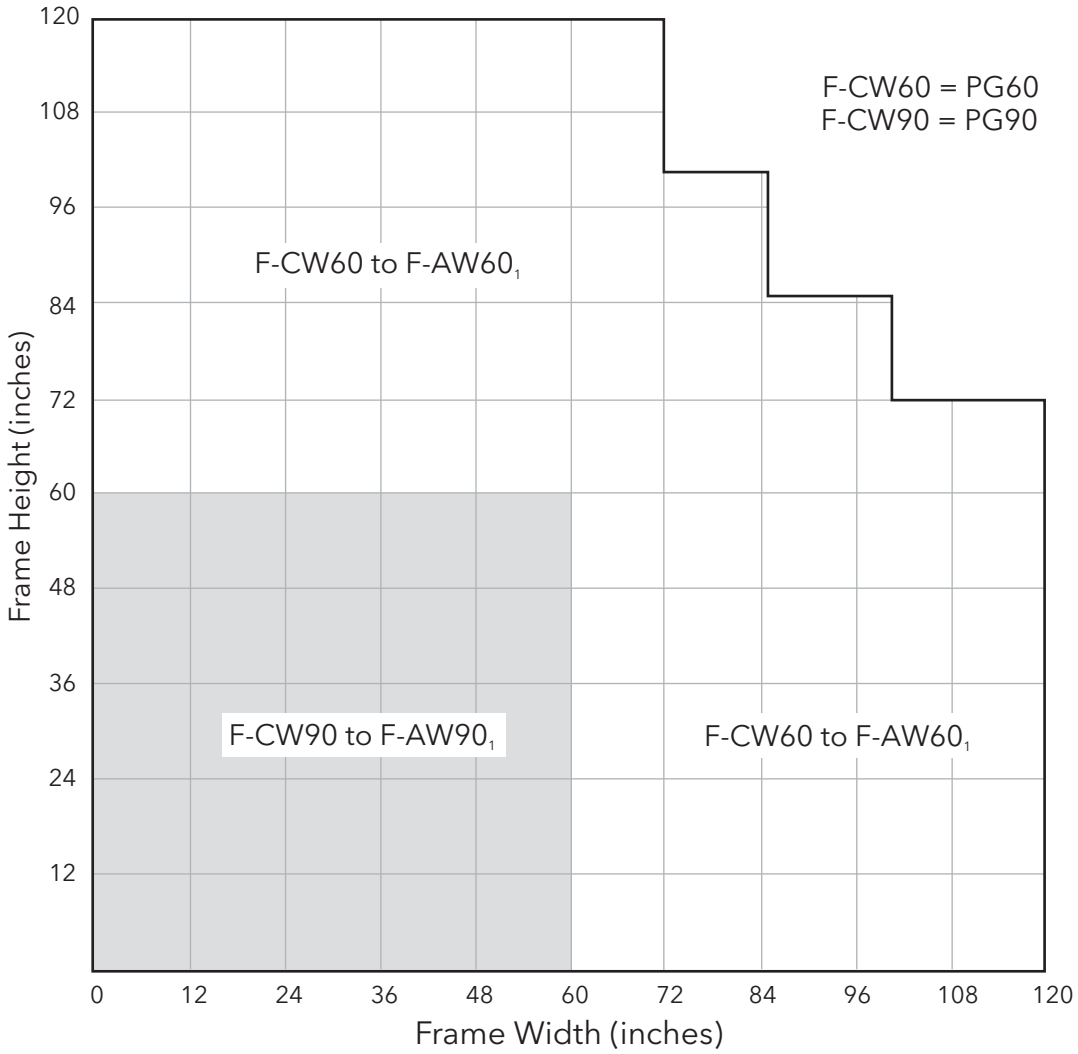
(2) Some size exclusions apply.

- The use of fixed frame direct set windows is limited by product performance rating, design pressure load chart, installation method, mullion strength and glass thickness or type. See mullion limitation and glass charts in the Combinations section at PellaADM.com.
- Fixed Frames are available up to a maximum frame area of 76 ft^2 (7.06 m^2). Angled and Curved frames are measured as a rectangle.
- **IMPORTANT:** Glass must meet requirements of the glass charts and comply with the load chart. This chart below shows the maximum performance class and grade of the frame only when glazed with the appropriate glass thickness.



(1) AAMA / WDMA F-AW rating can be obtained with the EnduraClad Plus protective finish with 70% fluoropolymer resin in a multi-step finish system.

- The use of fixed frame direct set windows is limited by product performance rating, design pressure load chart, installation method, mullion strength and glass thickness or type. See mullion limitation and glass charts in the Combinations section at PellaADM.com.
- Fixed Frames are available up to a maximum frame area of 76 ft^2 (7.06 m^2). Angled and Curved frames are measured as a rectangle.
- **IMPORTANT:** Glass must meet requirements of the glass charts and comply with the load chart. This chart below shows the maximum performance class and grade of the frame only when glazed with the appropriate glass thickness.



(1) AAMA / WDMA F-AW rating can be obtained with the EnduraClad Plus protective finish with 70% fluoropolymer resin in a multi-step finish.
AW rating is not applicable to impact product.

Clad-Wood Fixed Frame Direct Set Windows

Interior Glazed Detailed Product Description

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 extruded aluminum.
- Components are assembled with screws, staples, and concealed corner locks.
- Curved glass stops are segmented.
- Curved head assembly shall be mitered at end where joined to non- curved frame members, screwed and sealed.
- Curved head assembly consists of solid wood core blocks bonded to stabilized wood fiber with water-resistant glue. Two sheets are laminated with veneers at interior.
- Overall frame depth is 5" (127mm) for a wall depth of 3-11/16" (94mm).
- Optional factory-applied jamb extensions available.
- Optional factory-applied EnduraClad® exterior trim.
- Optional factory-installed Pella Steady Set Installation System (rectangle only).

Glazing System [1]

- Quality float glass complying with ASTM C 1036.
- Custom and high altitude glazing available.
- Urethane-glazed [13/16"] [1"] dual-seal insulating glass [[annealed] [tempered]] [[clear] [Advanced] [SunDefense™] [SunDefense+] [AdvancedComfort] [NaturalSun] [NaturalSun+] Low-E [with argon]] [[bronze] [gray] [green] [obscure] Advanced Low-E with argon].

– or –

- Urethane-glazed [1-1/8"] [1-1/4"] [1-3/8"] triple-seal insulating glass [[annealed] [tempered]] [[Advanced] [SunDefense™] [NaturalSun] Low-E [with Argon]].

– or –

- Impact-Resistant
  - Urethane-glazed 1" dual-seal impact-resistant insulating glass [1] [1" [SGP] [PVB]] [1-1/4" SGP]. [[tempered] [annealed]] Laminated exterior light is [[Advanced Low-E with Argon] [SunDefense Low-E] [clear] [bronze] [gray] [green]]. Clear tempered interior light.

Exterior

- Extruded aluminum clad exteriors shall be finished with EnduraClad® protective finish, in a multi-step, baked-on finish.
  - Color is [standard] [feature] [custom] [2]

– or –

- Extruded 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] [feature] [custom] [2]

Interior

- [Unfinished, ready for site finishing] [factory primed with one coat acrylic latex] [factory prefinished [paint] [stain] [2].

Optional Products

Grilles [5]

- Integral Light Technology® grilles – Traditional Style Collection
  - Interior grilles are are [5/8" putty profile] [7/8" [ogee] [putty] profile] [1-1/4" [ogee] [putty] profile] [2" [ogee] [putty] profile (traditional pattern only)] that are solid [pine] [mahogany] [douglas fir]. Interior surfaces are [unfinished, ready for site finishing] [factory primed] [pine: factory prefinished [paint [2]] [stain [2]] to match interior finish]. Curved grilles may have visible finger joints.
  - Exterior grilles are [5/8" putty profile] [7/8" [ogee] [putty] profile] [1-1/4" [ogee] [putty] profile] [2" [ogee] [putty] profile (traditional pattern only)] that are extruded aluminum, color matched to exterior cladding.
  - 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.
  - Grille pattern is [Traditional] [Prairie] [Top Row] [Cross] [Sunburst] [Starburst].

– or –

- Integral Light Technology® grilles – Contemporary Style Collection (rectangular and angled shapes only)
  - Interior grilles are [5/8"] [7/8"] [1-1/4"] [2"] square profile that are solid [pine] [mahogany] [douglas fir]. Interior surfaces are [unfinished, ready for site finishing] [factory primed] [pine: factory prefinished [paint] [stain] [2] to match interior finish].
  - Exterior grilles are [5/8"] [7/8"] [1-1/4"] [2"] square profile that are extruded aluminum, color matched to exterior cladding.
  - 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.
  - Grille pattern is [Traditional] [Prairie] [Top Row] [Cross].

– or –

- Simulated-Divided-Light grilles [with optional spacer]
  - Interior grilles are 7/8" regular profile that are solid pine. Curved grilles may have visible finger joints. Interior surfaces are [unfinished, ready for site finishing] [factory prefinished [paint] [stain] [2] to match interior finish].
  - Exterior grilles are 7/8" regular profile extruded aluminum, color matched to exterior cladding.
  - Grilles permanently bonded to the interior and exterior of glass with VHB acrylic adhesive tape and are aligned with the optional spacer between the panes of insulating glass.
  - Grille Pattern is [Traditional] [Prairie] [Top Row] [Cross] [Sunburst] [Starburst]
  - Available only on units glazed with Low-E insulated glass with Argon.

– or –

- Grilles-Between-the-Glass [3]
  - Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass.
  - Interior color is [White] [Black] [Tan [4]] [Brown [4]] [Putty [4]] [Ivory] [Brickstone] [Harvest] [Cordovan].
  - Exterior color [6] is [standard] [feature] [2].
  - Grille pattern is [Traditional] [Prairie] [Cross] [Top Row] [Sunburst].

(1) Insulating glass with Argon is Low-E coated (except high altitude). All other insulating glass (including high altitude Low-E) is Air-filled.

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

(3) Available in clear or Low-E insulating glass with Argon, and obscure insulated glass.

(4) Tan, Brown and Putty GBG colors are available in single-tone only (Brown/Brown, Tan/Tan or Putty/Putty), other interior/exterior color restrictions may apply.

(5) Certain grille types and patterns may have restrictions depending on unit size and shape, contact your local Pella sales representative for details.

(6) Appearance of exterior grille color will vary depending on Low-E coating on glass.

Clad-Wood Fixed Frame Direct Set Windows

Exterior Glazed Detailed Product Description

Consult with your local Pella sales representative for current availability, limitations may apply.

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.

Glazing System [1]

- Quality float glass complying with ASTM C 1036.
- Custom and high altitude glazing available.
- Urethane-glazed clear single-light with removable aluminum stops.

– or –

- Urethane-glazed dual-seal insulating glass [[annealed] [tempered]] [[[clear] [[Advanced] [SunDefense™] [AdvancedComfort] [NaturalSun] Low-E [with Argon]] [[bronze] [gray] [green] Advanced Low-E with Argon] with removable aluminum stops.

Exterior

- Aluminum clad exteriors shall be finished with EnduraClad® protective finish, in a multi-step, baked-on finish.
  - Color is [standard] [feature] [custom] [2].

– or –

- 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] [feature] [custom] [2].

Interior

- [Unfinished, ready for site finishing] [factory primed with one coat acrylic latex] [factory prefinished [paint] [stain] [2].

Optional Products

Grilles

- Grilles-Between-the-Glass
  - Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass.
  - Patterns are [Traditional] [Prairie] [Cross] [Top Row] [Custom – Equally Divided].
  - Interior color is [White] [Black] [Tan [3]] [Brown [3]] [Putty [3]] [Ivory] [Brickstone] [Harvest] [Cordovan].
  - Exterior color [4] is [standard [2]].

(1) Insulating glass with Argon is Low-E coated (except high altitude). All other insulating glass (including high altitude Low-E) is Air-filled.

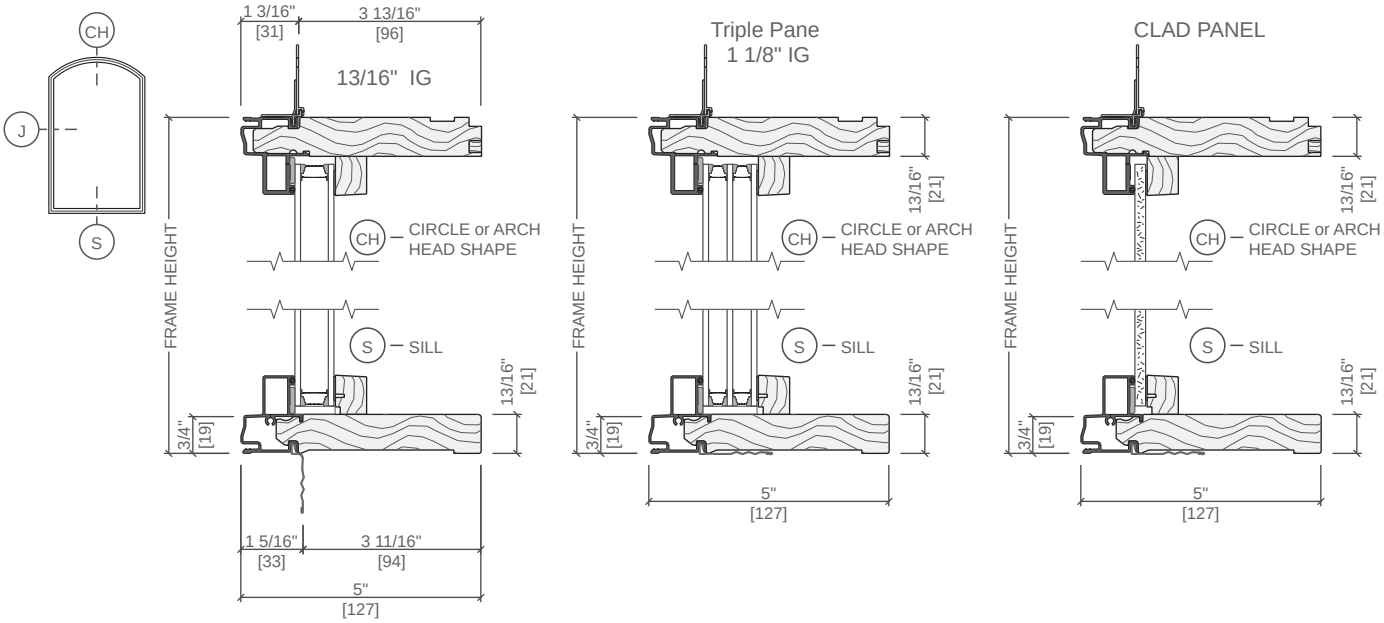
(2) Contact your local Pella sales representative for current designs and color options.

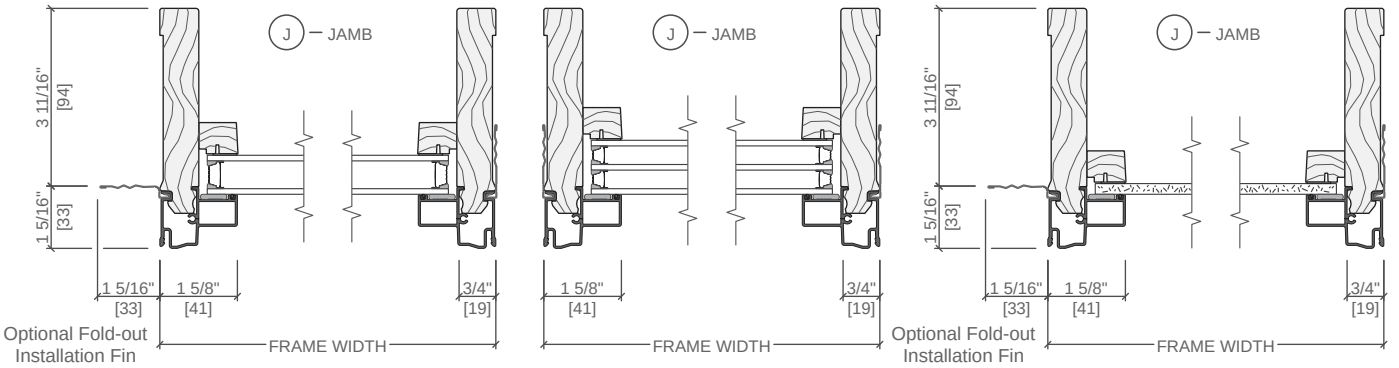
(3) Tan, Brown and Putty GBG colors are available in single-tone only (Brown/Brown, Tan/Tan or Putty/Putty) (Putty mono), other interior/exterior color restrictions may apply.

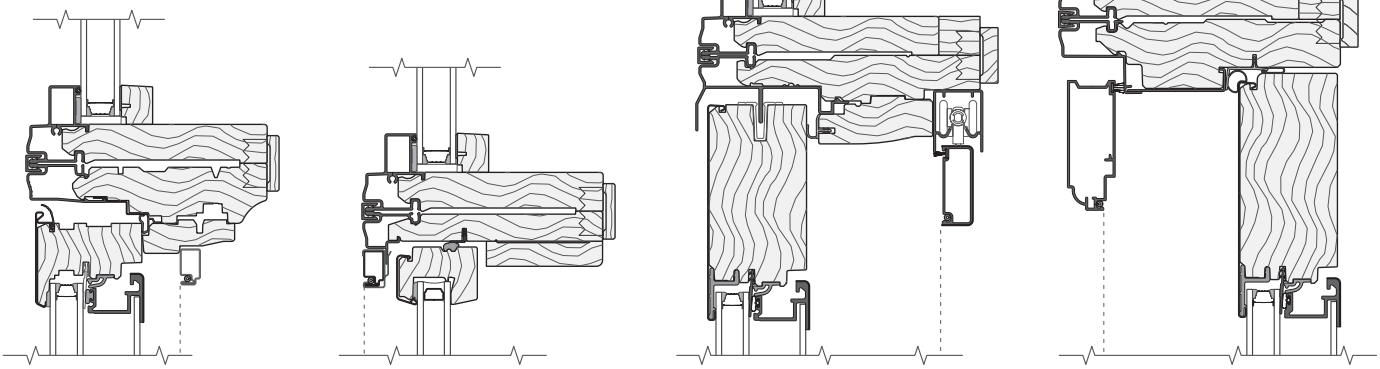
(4) Appearance of exterior grille color will vary depending on Low-E coating on glass.

Clad-Wood Fixed Frame Direct Set Windows

Unit Sections - Interior Glazed Curved Shapes







HORIZONTAL JOINING MULLION DIRECT SET / CASEMENT

HORIZONTAL JOINING MULLION DIRECT SET / DOUBLE-HUNG

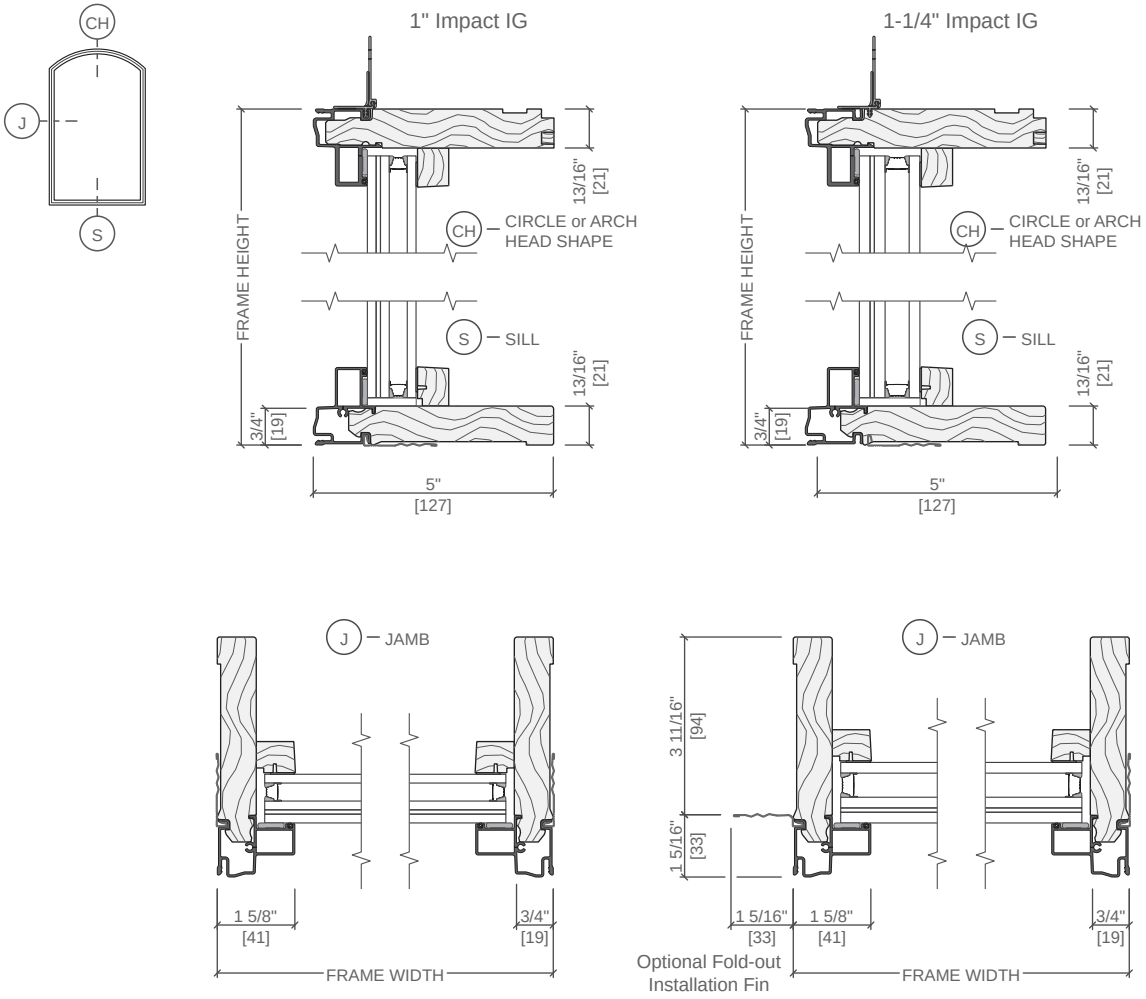
HORIZONTAL JOINING MULLION DIRECT SET / SLIDING DOOR

HORIZONTAL JOINING MULLION DIRECT SET / IN-SWING DOOR

Scale 3" = 1' 0"

All dimensions are approximate.

Unit Sections - Interior Glazed Curved Shapes w/Impact-Resistant Glass

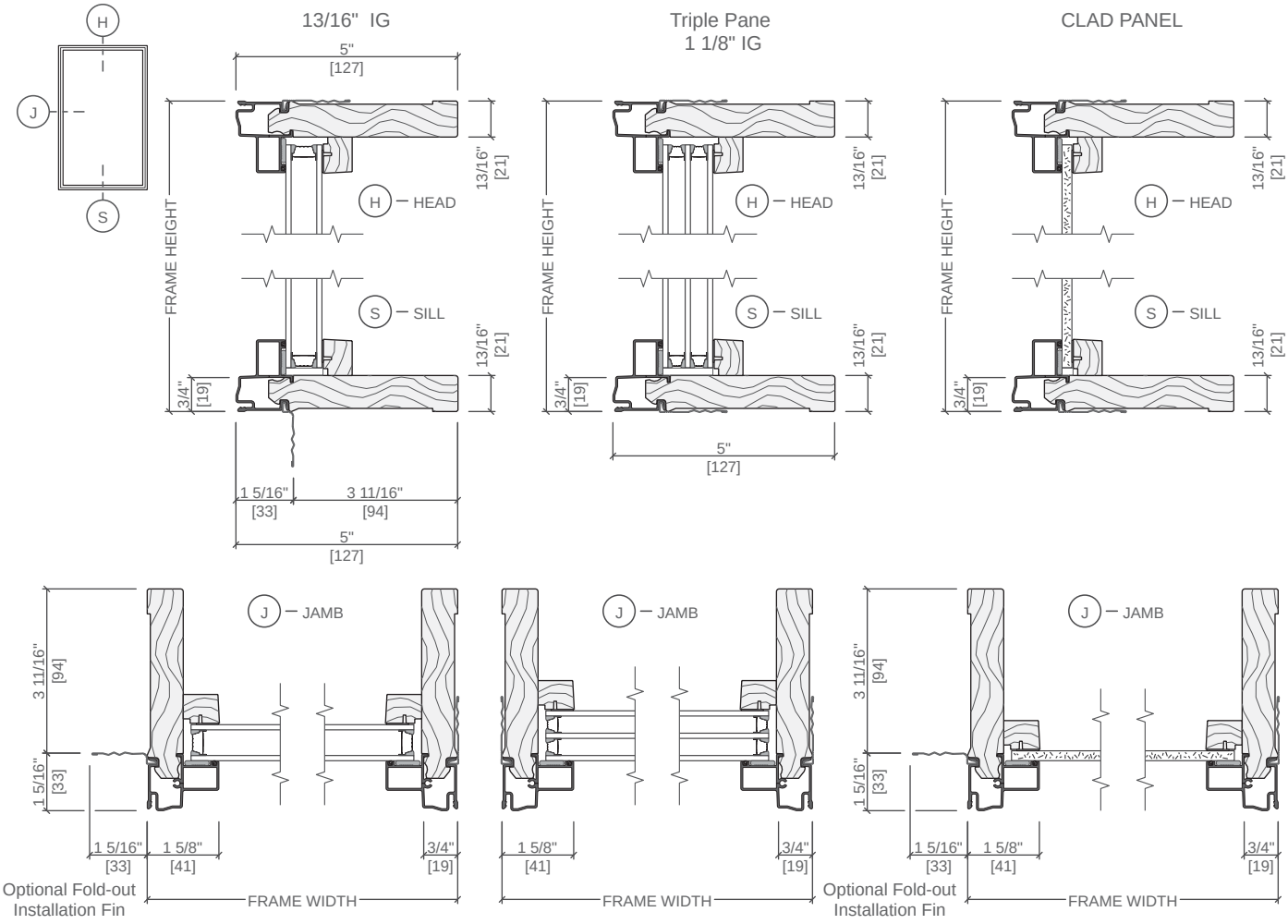


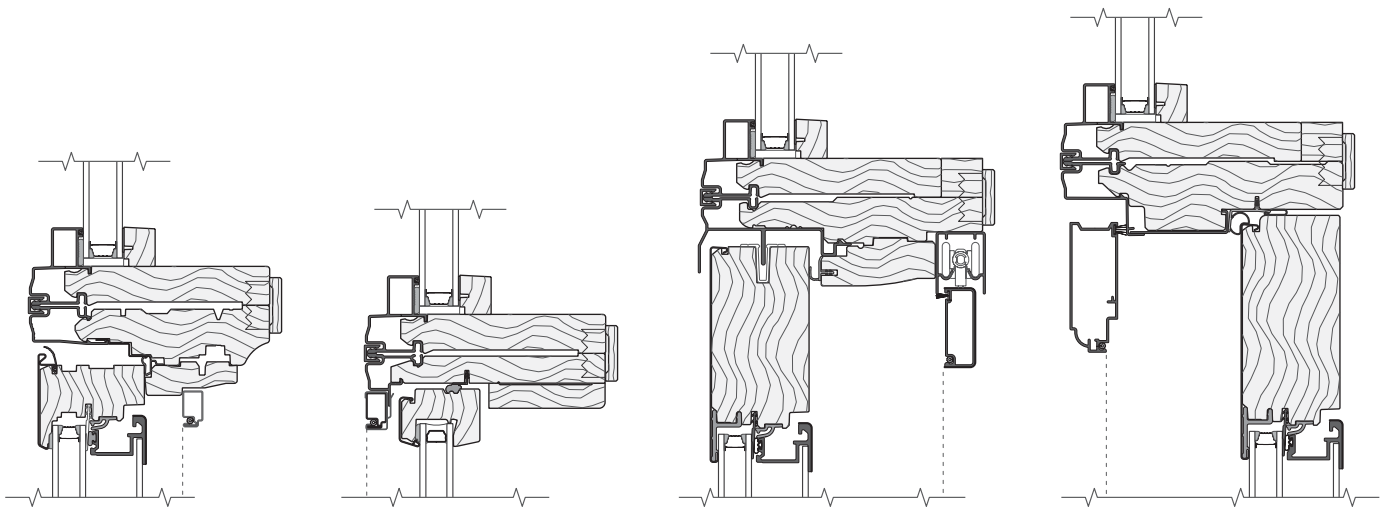
Scale 3" = 1' 0"

All dimensions are approximate.

Clad-Wood Fixed Frame Direct Set Windows

Unit Sections - Interior Glazed Rectangular and Angled Shapes





HORIZONTAL JOINING MULLION
DIRECT SET / CASEMENT

HORIZONTAL JOINING MULLION
DIRECT SET / DOUBLE-HUNG

HORIZONTAL JOINING MULLION
DIRECT SET / SLIDING DOOR

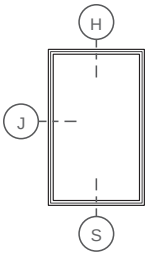
HORIZONTAL JOINING MULLION
DIRECT SET / HINGED DOOR

Scale 3" = 1' 0"

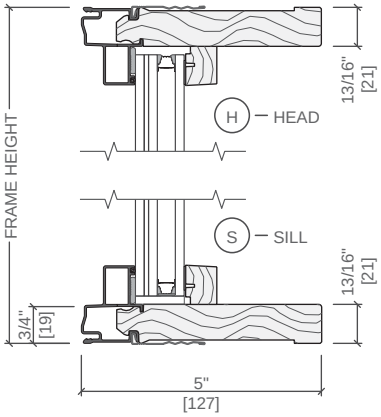
All dimensions are approximate.

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

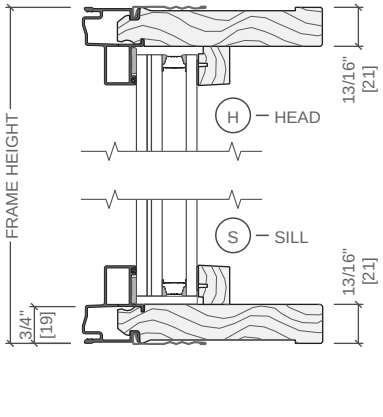
Unit Sections - Interior Glazed Rectangular and Angled Shapes w/Impact-Resistant Glass

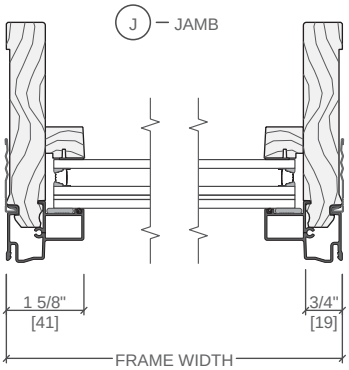


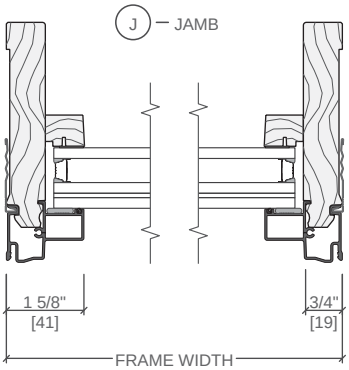
1" Impact IG



1-1/4" Impact IG







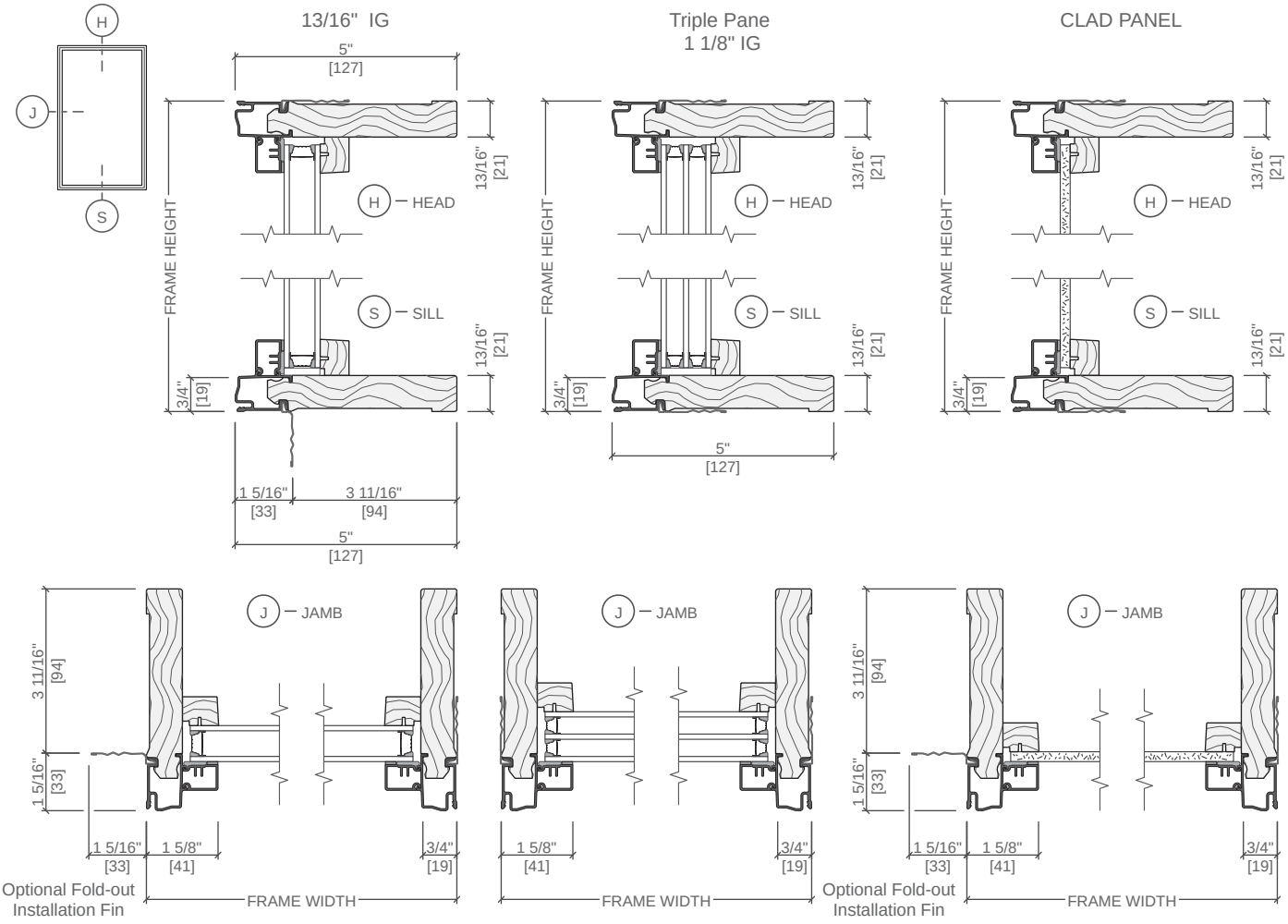
Scale 3" = 1' 0"

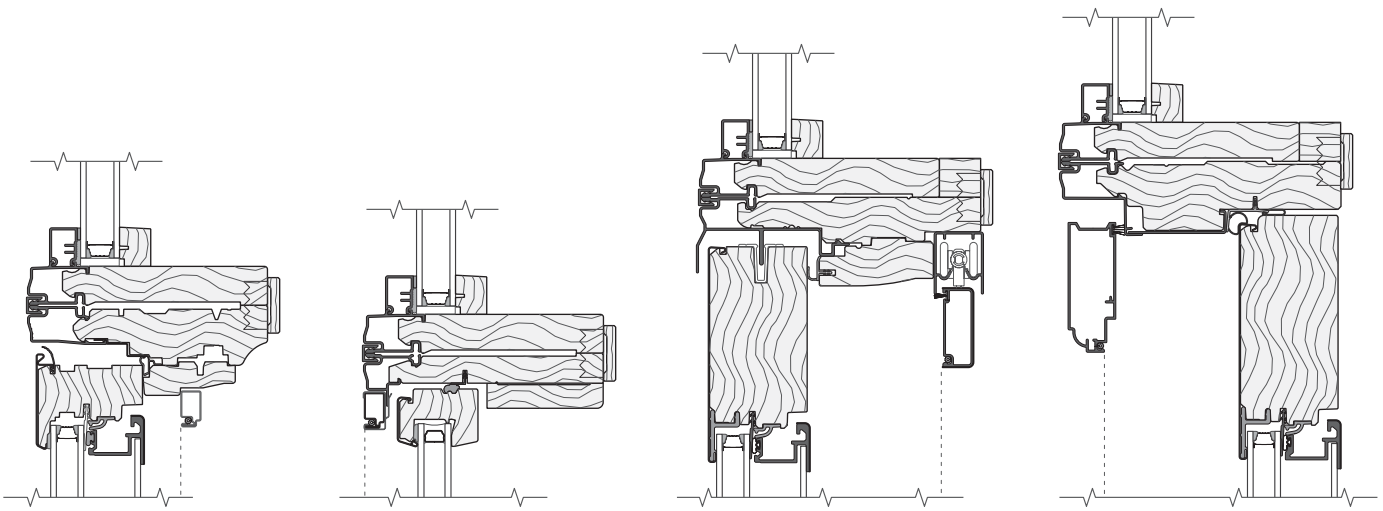
All dimensions are approximate.

Clad-Wood Fixed Frame Direct Set Windows

Unit Sections - Exterior Glazed Rectangular

Consult with your local Pella sales representative for current availability, limitations may apply.





HORIZONTAL JOINING MULLION
DIRECT SET / CASEMENT

HORIZONTAL JOINING MULLION
DIRECT SET / DOUBLE-HUNG

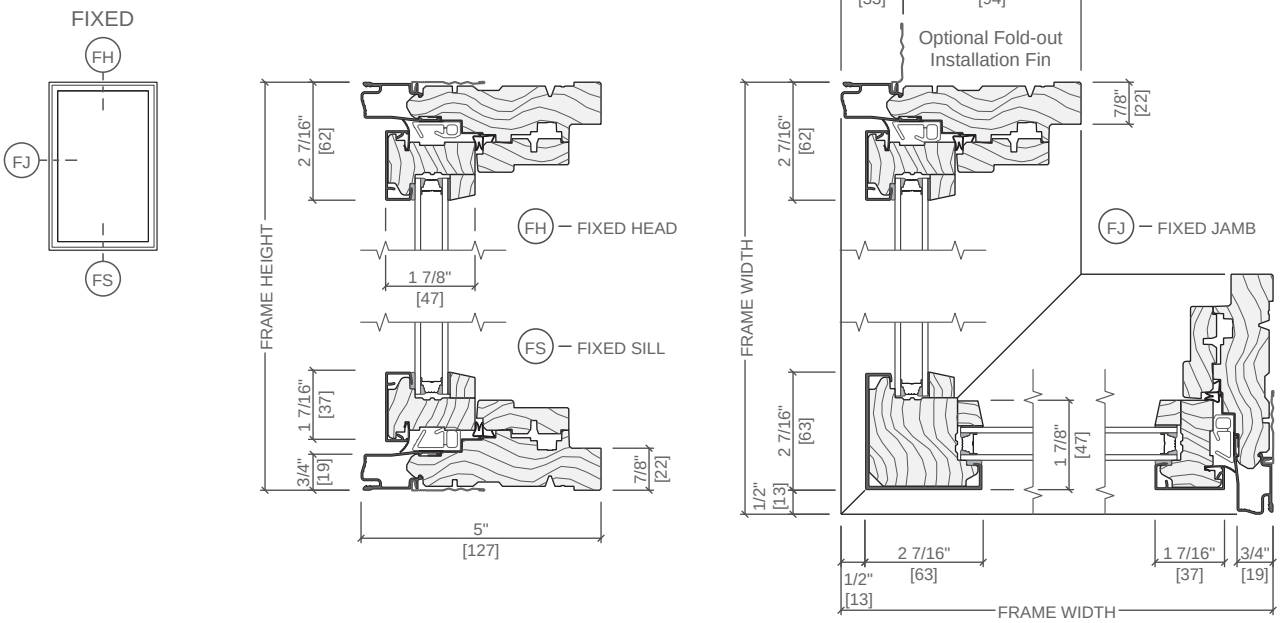
HORIZONTAL JOINING MULLION
DIRECT SET / SLIDING DOOR

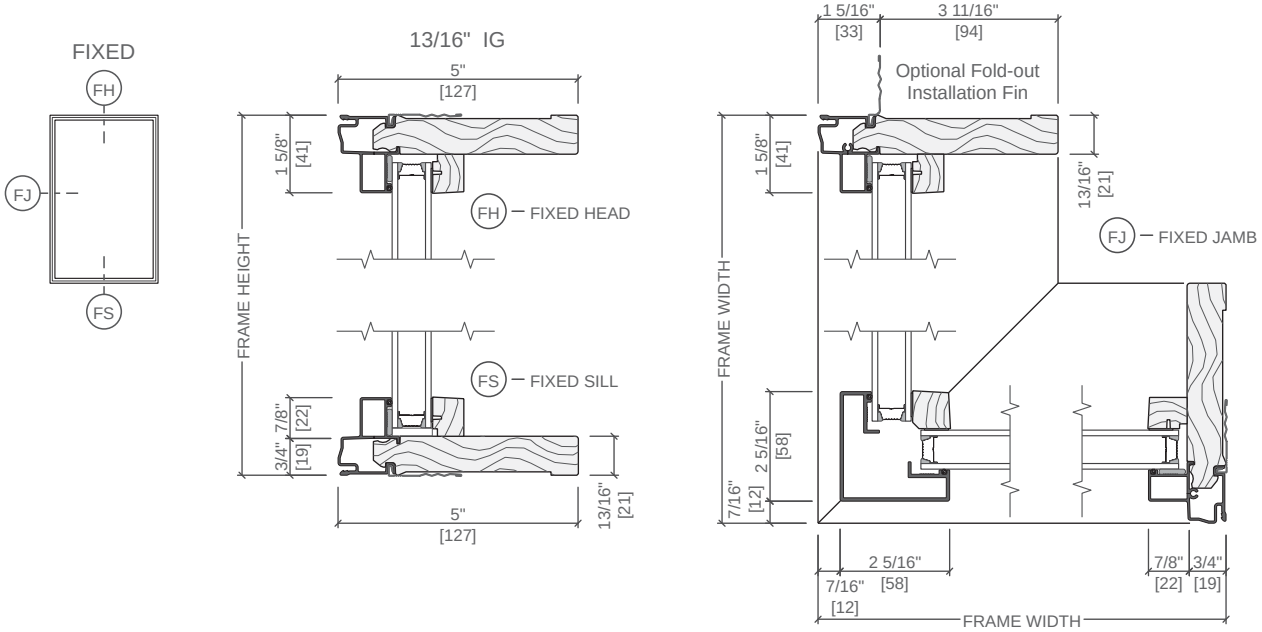
HORIZONTAL JOINING MULLION
DIRECT SET / HINGED DOOR

Scale 3" = 1' 0"

All dimensions are approximate.

Unit Sections - Mitered Corner





Reserve Contemporary fixed casement mitered corner shown for comparison purposes. See Casement section or contact your local Pella sales representative for product details

Scale 3" = 1' 0"

All dimensions are approximate.

Document Navigation Tips:

Items listed in the table of contents above are active links that will take you to the corresponding page.

The Pella logo on each page is a link back to this table of contents.

Bookmarks are also included in this PDF document and are available as an additional navigation option.

Supporting documents for this product:

Test Reports:
https://media.pella.com/professional/adm/CertificationReports/Test_Reports_AS-Clad.pdf

CSI Specs (readable using Microsoft Word or other text editing application):
https://media.pella.com/professional/adm/Wood-CSI_Specs/08556.rtf

AIA Masterspec (readable using Microsoft Word or other text editing application):
https://media.pella.com/professional/adm/Wood-CSI_Specs/Masterspec/085200_fl.doc

Detailed Product Description (readable using Microsoft Word or other text editing application):
Clad: https://media.pella.com/professional/adm/Clad-Wood/PR-MonumntlHung-C.rtf
Wood: https://media.pella.com/professional/adm/Clad-Wood/PR-MonumntlHung-W.rtf

CAD cross sections (requires appropriate CAD software to read and use):
https://media.pella.com/professional/adm/Clad-Wood/AS-RES-M6DH-Detail_D.dwg

3D & BIM (requires appropriate software to read and use):
https://media.pella.com/professional/adm/RevitFiles/PR-Revit/Window-Monumental_Hung-Pella-Reserve-Traditional.zip

Combination Recommendations:
https://media.pella.com/professional/adm/Clad-Wood/D_Combinations.pdf

Installation Details:
https://media.pella.com/professional/adm/Clad-Wood/F_InstallationDetails.pdf

Impact-Resistant Double-Hung, Complete Product Information:
https://media.pella.com/professional/adm/Clad-Wood/Pella-ImpactResistant_DoubleHung.pdf

Pella® Reserve™ Traditional Monumental-Hung Window

Size and Performance Data

	Clad	Wood
Sizes		
Special sizes only— Built-to-order in 1/8" increments (Includes transoms, egress sizes, arch heads, contemporary sash split, cottage sash split, variable sash split)	●	●
Performance[1]		
Meets or Exceeds AAMA/WDMA Ratings	H-LC25 - CW50 Hallmark Certified	H-LC25 - CW50 Hallmark Certified
Air Infiltration (cfm / ft² of frame @ 1.57 psf wind pressure)	0.11	0.11
Water Resistance	3.76 - 7.52 psf	3.76 - 7.52 psf
Design Pressure	25 - 50 psf	25 - 50 psf
Structural Test Pressure	37.5 - 75 psf	37.5 - 75 psf
Other Performance Criteria		
Forced Entry Resistance Level (Minimum Security Grade)[2]	Grade 10	Grade 10
Operating Force (lb) Maintain Motion (of Hallmark tested size and glazing)[3]		
CW	45	45
LC	40	40

Sound Transmission Class / Outdoor-Indoor Transmission Class

Product	Frame Size Tested[4]	Glazing System				STC Rating	OITC Rating
		Overall Glazing Thickness	Exterior Glass Thickness	Interior Glass Thickness	Third Pane Thickness		
Clad Monumental Single- and Double-Hung	WITHOUT GRILLES						
	48" x 60"	13/16"	3mm	3mm	–	29	24
	48" x 60"	1-1/16"	2.5mm	3mm	2.5mm	29	24
	47" x 59"	13/16"	5mm	3mm	–	32	27
	48" x 60"	13/16"	3mm	7.6mm PVB	–	33	29
	48" x 60"	13/16"	3mm	6mm laminated	–	33	28
Wood Monumental Single- and Double-Hung	WITHOUT GRILLES						
	48" x 60"	13/16"	3mm	3mm	—	32	28

(—) = Not Available

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

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

(3) Glazing configurations with sash weights over 121 lbs will result in operation forces over these values. Therefore, these units do not meet the operational force requirements for CW rated (45 lbs) or LC rated (40 lbs) hung windows.

(4) 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.

Features and Options

Standard	Options / Upgrades
Glazing	
Glazing Type	
Dual-Pane Insulating Glass	Triple-pane Insulating Glass
Insulated Glass Options/Low-E Types	
Advanced Low-E	SunDefense™ Low-E
	SunDefense+ Low-E
	AdvancedComfort Low-E
	NaturalSun Low-E
	NaturalSun+ Low-E
	Clear (no Low-E coating)
Additional Glass Options	
Annealed Glass	Tempered Glass
	Obscure Glass[1]
	Tinted Glass (Bronze, Gray and Green)
	Noise reduction glass (STC 3mm/5mm or 4mm/6mm combination)
	Noise reduction laminated glass (non-impact)
	Reflective Bronze, Reflective Grey
	Spandrel
Gas Fill/High Altitude	
Argon	High altitude
Wood types	
Pine	Mahogany (clad and wood), Douglas Fir (clad only)
Exterior[1]	
EnduraClad® protective finish	EnduraClad Plus protective finish
	Factory Primed Pine wood exterior
	Unfinished Mahogany wood exterior
Cladding Colors[1]	
Standard colors	Feature Colors, Custom Colors
Interior	
Unfinished Wood	Factory primed[1], Factory prefinished paint[1], Factory prefinished stain[1]
Hardware	
Hardware Finish	
Champagne, White, Brown or Matte Black	Satin Brass, Satin Nickel, Oil-Rubbed Bronze, Distressed Bronze, Distressed Nickel
Sash Locks	
Cam-action lock	Simulated lock, Air conditioner lock, Historical spoon-style lock (surface mounted), Head, sill, or stool mounted locks
Tilt-Wash Cleaning	
Tilt to interior on both sashes	—
Other Hardware	
—	Sash lifts
Grilles	
Integral Light Technology® Grilles	
—	Traditional, Prairie, Top Row, Cross, New England, Victorian, Diamond, Custom
Grilles-Between-the-Glass	
—	Traditional, Prairie, Top Row[1], Cross or Custom-Equally Divided
Screens[2]	
—	Full-Height or Half-Height InView™ screens, available with extruded aluminum screen frame

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

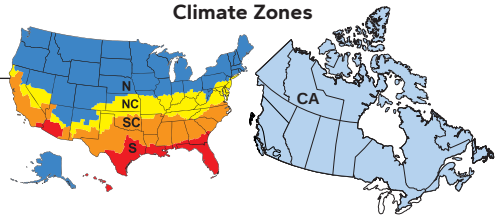
(2) Size/Weight restrictions apply, see Design Data pages for details.

Glazing Performance - Total Unit

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values[1]				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT	CR	U. S. Zone				Canada[2] ER	Canada[2] Zone
										N	NC	SC	S		CA
Clad Exterior, Dual-Pane Glazing															
13/16"	Clear IG with 3mm glass	PEL-N-235-02441-00001	3	3	Air	0.44	0.54	0.56	44						
	with grilles-between-the-glass	PEL-N-235-02442-00001				0.44	0.48	0.50	44						
	with integral grilles	PEL-N-235-02443-00001				0.44	0.48	0.50	44						
13/16"	Advanced Low-E IG	PEL-N-235-02469-00001	3	3	Argon	0.28	0.25	0.48	59						
	with grilles-between-the-glass	PEL-N-235-02470-00001				0.28	0.23	0.42	59			SC	S		
	with integral grilles	PEL-N-235-02471-00001				0.29	0.23	0.42	59				S		
13/16"	SunDefense™ Low-E IG	PEL-N-235-02565-00001	3	3	Argon	0.28	0.19	0.44	60			SC	S		
	with grilles-between-the-glass	PEL-N-235-02566-00001				0.28	0.17	0.39	60			SC	S		
	with integral grilles	PEL-N-235-02567-00001				0.29	0.17	0.39	60				S		
13/16"	SunDefense+ Low-E IG	PEL-N-235-04437-00001	3	3	Argon	0.24	0.19	0.43	49		NC	SC	S		
	with grilles-between-the-glass	PEL-N-235-04438-00001				0.24	0.17	0.38	49		NC	SC	S		
	with integral grilles	PEL-N-235-04439-00001				0.25	0.17	0.38	49		NC	SC	S		
13/16"	AdvancedComfort Low-E IG	PEL-N-235-02517-00001	3	3	Argon	0.25	0.25	0.47	48		NC				
	with grilles-between-the-glass	PEL-N-235-02518-00001				0.25	0.22	0.41	48		NC	SC	S		
	with integral grilles	PEL-N-235-02519-00001				0.25	0.22	0.41	48		NC	SC	S		
13/16"	NaturalSun Low-E IG	PEL-N-235-02613-00001	3	3	Argon	0.29	0.47	0.54	59						
	with grilles-between-the-glass	PEL-N-235-02614-00001				0.29	0.42	0.48	59						
	with integral grilles	PEL-N-235-02615-00001				0.30	0.42	0.48	59						
13/16"	NaturalSun+ Low-E IG	PEL-N-235-04389-00001	3	3	Argon	0.25	0.43	0.53	47	N					
	with grilles-between-the-glass	PEL-N-235-04390-00001				0.25	0.38	0.47	47		NC				
	with integral grilles	PEL-N-235-04391-00001				0.26	0.38	0.47	47						
Tinted Glazing															
13/16"	Bronze Advanced Low-E IG	PEL-N-235-02661-00001	5	3	Argon	0.28	0.23	0.31	59			SC	S		
	with grilles-between-the-glass	PEL-N-235-02662-00001				0.28	0.20	0.27	59			SC	S		
	with integral grilles	PEL-N-235-02663-00001				0.29	0.20	0.27	59				S		
13/16"	Gray Advanced Low-E IG	PEL-N-235-02677-00001	5	3	Argon	0.28	0.21	0.27	59			SC	S		
	with grilles-between-the-glass	PEL-N-235-02678-00001				0.28	0.19	0.24	59			SC	S		
	with integral grilles	PEL-N-235-02679-00001				0.29	0.19	0.24	59				S		
13/16"	Green Advanced Low-E IG	PEL-N-235-02693-00001	5	3	Argon	0.28	0.26	0.42	59						
	with grilles-between-the-glass	PEL-N-235-02694-00001				0.28	0.23	0.37	59			SC	S		
	with integral grilles	PEL-N-235-02695-00001				0.29	0.23	0.37	59				S		
High Altitude Glazing															
13/16"	Advanced Low-E IG	PEL-N-235-02465-00001	3	3	Air	0.31	0.26	0.48	56						
	with grilles-between-the-glass	PEL-N-235-02466-00001				0.31	0.23	0.42	56				S		
	with integral grilles	PEL-N-235-02467-00001				0.32	0.23	0.42	56				S		
13/16"	SunDefense™ Low-E IG	PEL-N-235-02561-00001	3	3	Air	0.31	0.19	0.44	56				S		
	with grilles-between-the-glass	PEL-N-235-02562-00001				0.31	0.17	0.39	56				S		
	with integral grilles	PEL-N-235-02563-00001				0.32	0.17	0.39	56				S		
13/16"	SunDefense+ Low-E IG	PEL-N-235-04433-00001	3	3	Air	0.27	0.19	0.43	45			SC	S		
	with grilles-between-the-glass	PEL-N-235-04434-00001				0.27	0.17	0.38	45			SC	S		
	with integral grilles	PEL-N-235-04435-00001				0.27	0.17	0.38	45			SC	S		
13/16"	AdvancedComfort Low-E IG	PEL-N-235-02513-00001	3	3	Air	0.27	0.25	0.47	44						
	with grilles-between-the-glass	PEL-N-235-02514-00001				0.27	0.23	0.41	44			SC	S		
	with integral grilles	PEL-N-235-02515-00001				0.28	0.23	0.41	44			SC	S		
13/16"	NaturalSun Low-E IG	PEL-N-235-02609-00001	3	3	Air	0.32	0.47	0.54	55						
	with grilles-between-the-glass	PEL-N-235-02610-00001				0.32	0.42	0.48	55						
	with integral grilles	PEL-N-235-02611-00001				0.33	0.42	0.48	55						
13/16"	NaturalSun+ Low-E IG	PEL-N-235-04385-00001	3	3	Air	0.27	0.43	0.53	38						
	with grilles-between-the-glass	PEL-N-235-04386-00001				0.27	0.38	0.47	38						
	with integral grilles	PEL-N-235-04387-00001				0.28	0.38	0.47	38						

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

Climate Zones



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Pella® Reserve™ Traditional Monumental-Hung Window

Glazing Performance - Total Unit

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)			Gap Fill	Performance Values[1]				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Mid.	Int.		U-Factor	SHGC	VLT	CR	U. S. Zone				Canada[2] ER	Canada[2] Zone
											N	NC	SC	S		CA
Clad Exterior, Triple-Pane Glazing																
1-1/16"	Advanced Low-E IG	PEL-N-235-02925-00001	2.5	3	2.5	Argon	0.21	0.23	0.43	72	N	NC	SC	S	27	CA
	with grilles-between-the-glass	PEL-N-235-02926-00001					0.21	0.21	0.38	72	N	NC	SC	S	25	CA
	with integral grilles	PEL-N-235-02927-00001					0.21	0.21	0.38	72	N	NC	SC	S	25	CA
1-1/16"	SunDefense™ Low-E IG	PEL-N-235-02961-00001	2.5	3	2.5	Argon	0.20	0.17	0.39	72	N	NC	SC	S	24	CA
	with grilles-between-the-glass	PEL-N-235-02962-00001					0.21	0.16	0.35	72		NC	SC	S		
	with integral grilles	PEL-N-235-02963-00001					0.21	0.16	0.35	72		NC	SC	S		
1-1/16"	NaturalSun Low-E IG	PEL-N-235-02889-00001	2.5	3	2.5	Argon	0.21	0.39	0.48	71	N	NC			36	CA
	with grilles-between-the-glass	PEL-N-235-02890-00001					0.21	0.35	0.43	71	N	NC			34	CA
	with integral grilles	PEL-N-235-02891-00001					0.21	0.35	0.43	71	N	NC			34	CA
High Altitude Glazing																
1-1/16"	Advanced Low-E IG	PEL-N-235-02921-00001	2.5	3	2.5	Air	0.23	0.23	0.43	68		NC	SC	S		
	with grilles-between-the-glass	PEL-N-235-02922-00001					0.24	0.21	0.38	68		NC	SC	S		
	with integral grilles	PEL-N-235-02923-00001					0.24	0.21	0.38	68		NC	SC	S		
1-1/16"	SunDefense Low-E IG	PEL-N-235-02957-00001	2.5	3	2.5	Air	0.23	0.18	0.39	68		NC	SC	S		
	with grilles-between-the-glass	PEL-N-235-02958-00001					0.24	0.16	0.35	68		NC	SC	S		
	with integral grilles	PEL-N-235-02959-00001					0.23	0.16	0.35	68		NC	SC	S		
1-1/16"	NaturalSun Low-E IG	PEL-N-235-02885-00001	2.5	3	2.5	Air	0.24	0.39	0.48	68	N	NC				
	with grilles-between-the-glass	PEL-N-235-02886-00001					0.24	0.35	0.43	68	N	NC				
	with integral grilles	PEL-N-235-02887-00001					0.24	0.35	0.43	68	N	NC				

R-Value = 1/U-Factor
SHGC = Solar Heat Gain Coefficient
VLT % = Visible Light Transmission
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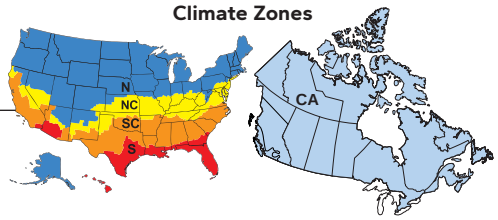
Climate Zones



Pella® Reserve™ Traditional Monumental-Hung Window

Glazing Performance - Total Unit

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values[1]				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT	CR	U. S. Zone				Canada[2] ER	Canada[2] Zone
										N	NC	SC	S		CA
Wood Exterior, Dual-Pane Glazing															
13/16"	Clear IG with 3mm glass	PEL-N-236-02433-00001	3	3	Air	0.43	0.54	0.57	44						
	with grilles-between-the-glass	PEL-N-236-02434-00001				0.43	0.48	0.50	44						
	with integral grilles	PEL-N-236-02435-00001				0.43	0.48	0.50	44						
13/16"	Advanced Low-E IG	PEL-N-236-02461-00001	3	3	Argon	0.28	0.26	0.48	59						
	with grilles-between-the-glass	PEL-N-236-02462-00001				0.28	0.23	0.43	59			SC	S		
	with integral grilles	PEL-N-236-02463-00001				0.28	0.23	0.43	59			SC	S		
13/16"	SunDefense™ Low-E IG	PEL-N-236-02557-00001	3	3	Argon	0.27	0.19	0.45	59			SC	S		
	with grilles-between-the-glass	PEL-N-236-02558-00001				0.27	0.17	0.40	59			SC	S		
	with integral grilles	PEL-N-236-02559-00001				0.28	0.17	0.40	59			SC	S		
13/16"	SunDefense+ Low-E IG	PEL-N-236-04429-00001	3	3	Argon	0.24	0.19	0.44	49		NC	SC	S		
	with grilles-between-the-glass	PEL-N-236-04430-00001				0.24	0.17	0.39	49		NC	SC	S		
	with integral grilles	PEL-N-236-04431-00001				0.24	0.17	0.39	49		NC	SC	S		
13/16"	AdvancedComfort Low-E IG	PEL-N-236-02509-00001	3	3	Argon	0.24	0.25	0.47	48		NC				
	with grilles-between-the-glass	PEL-N-236-02510-00001				0.24	0.23	0.42	48		NC	SC	S		
	with integral grilles	PEL-N-236-02511-00001				0.25	0.23	0.42	48		NC	SC	S		
13/16"	NaturalSun Low-E IG	PEL-N-236-02605-00001	3	3	Argon	0.28	0.48	0.55	58						
	with grilles-between-the-glass	PEL-N-236-02606-00001				0.28	0.43	0.48	58						
	with integral grilles	PEL-N-236-02607-00001				0.29	0.43	0.48	58						
13/16"	NaturalSun+ Low-E IG	PEL-N-236-04381-00001	3	3	Argon	0.25	0.43	0.53	47	N					
	with grilles-between-the-glass	PEL-N-236-04382-00001				0.25	0.39	0.47	47		NC				
	with integral grilles	PEL-N-236-04383-00001				0.25	0.39	0.47	47		NC				
Tinted Glazing															
13/16"	Bronze Advanced Low-E IG	PEL-N-236-02653-00001	5	3	Argon	0.27	0.23	0.31	59			SC	S		
	with grilles-between-the-glass	PEL-N-236-02654-00001				0.27	0.21	0.28	59			SC	S		
	with integral grilles	PEL-N-236-02655-00001				0.28	0.21	0.28	59			SC	S		
13/16"	Gray Advanced Low-E IG	PEL-N-236-02669-00001	5	3	Argon	0.27	0.21	0.27	59			SC	S		
	with grilles-between-the-glass	PEL-N-236-02670-00001				0.27	0.19	0.24	59			SC	S		
	with integral grilles	PEL-N-236-02671-00001				0.28	0.19	0.24	59			SC	S		
13/16"	Green Advanced Low-E IG	PEL-N-236-02685-00001	5	3	Argon	0.27	0.26	0.42	59						
	with grilles-between-the-glass	PEL-N-236-02686-00001				0.27	0.23	0.38	59			SC	S		
	with integral grilles	PEL-N-236-02687-00001				0.28	0.23	0.38	59			SC	S		
High Altitude Glazing															
13/16"	Advanced Low-E IG	PEL-N-236-02457-00001	3	3	Air	0.31	0.26	0.48	55						
	with grilles-between-the-glass	PEL-N-236-02458-00001				0.31	0.23	0.43	55				S		
	with integral grilles	PEL-N-236-02459-00001				0.31	0.23	0.43	55				S		
13/16"	SunDefense™ Low-E IG	PEL-N-236-02553-00001	3	3	Air	0.30	0.19	0.45	56				S		
	with grilles-between-the-glass	PEL-N-236-02554-00001				0.30	0.17	0.40	56				S		
	with integral grilles	PEL-N-236-02555-00001				0.31	0.17	0.40	56				S		
13/16"	SunDefense+ Low-E IG	PEL-N-236-04425-00001	3	3	Air	0.26	0.19	0.44	45			SC	S		
	with grilles-between-the-glass	PEL-N-236-04426-00001				0.26	0.17	0.39	45			SC	S		
	with integral grilles	PEL-N-236-04427-00001				0.27	0.17	0.39	45			SC	S		
13/16"	AdvancedComfort Low-E IG	PEL-N-236-02505-00001	3	3	Air	0.26	0.25	0.47	44						
	with grilles-between-the-glass	PEL-N-236-02506-00001				0.26	0.23	0.42	44			SC	S		
	with integral grilles	PEL-N-236-02507-00001				0.27	0.23	0.42	44			SC	S		
13/16"	NaturalSun Low-E IG	PEL-N-236-02601-00001	3	3	Air	0.31	0.48	0.55	55						
	with grilles-between-the-glass	PEL-N-236-02602-00001				0.31	0.42	0.48	55						
	with integral grilles	PEL-N-236-02603-00001				0.32	0.42	0.48	55						
13/16"	NaturalSun+ Low-E IG	PEL-N-236-04377-00001	3	3	Air	0.27	0.43	0.53	44						
	with grilles-between-the-glass	PEL-N-236-04378-00001				0.27	0.39	0.47	44						
	with integral grilles	PEL-N-236-04379-00001				0.27	0.39	0.47	44						

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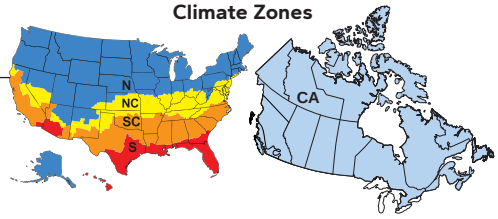
Climate Zones



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Glazing Performance - Total Unit

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)			Gap Fill	Performance Values[1]				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Mid.	Int.		U-Factor	SHGC	VLT	CR	U. S. Zone				Canada[2] ER	Canada[2] Zone
											N	NC	SC	S		CA
Wood Exterior, Triple-Pane Glazing																
1-1/16""	Advanced Low-E IG	PEL-N-236-02917-00001	2.5	3	2.5	Argon	0.20	0.24	0.43	71	N	NC			28	CA
	with grilles-between-the-glass	PEL-N-236-02918-00001					0.20	0.21	0.38	71	N	NC	SC	S	27	CA
	with integral grilles	PEL-N-236-02919-00001					0.20	0.21	0.38	71	N	NC	SC	S	27	CA
1-1/16"	SunDefense™ Low-E IG	PEL-N-236-02953-00001	2.5	3	2.5	Argon	0.20	0.17	0.40	72	N	NC	SC	S	24	CA
	with grilles-between-the-glass	PEL-N-236-02954-00001					0.20	0.16	0.35	71		NC	SC	S	24	CA
	with integral grilles	PEL-N-236-02955-00001					0.20	0.16	0.35	71		NC	SC	S	24	CA
1-1/16"	NaturalSun Low-E IG	PEL-N-236-02881-00001	2.5	3	2.5	Argon	0.20	0.40	0.49	71	N	NC			38	CA
	with grilles-between-the-glass	PEL-N-236-02882-00001					0.20	0.35	0.43	71	N	NC			35	CA
	with integral grilles	PEL-N-236-02883-00001					0.20	0.35	0.43	71	N	NC			35	CA
High Altitude Glazing																
1-1/16"	Advanced Low-E IG	PEL-N-236-02913-00001	2.5	3	2.5	Air	0.23	0.24	0.43	68		NC				
	with grilles-between-the-glass	PEL-N-236-02914-00001					0.23	0.21	0.38	68		NC	SC	S		
	with integral grilles	PEL-N-236-02915-00001					0.23	0.21	0.38	68		NC	SC	S		
1-1/16"	SunDefense Low-E IG	PEL-N-236-02949-00001	2.5	3	2.5	Air	0.22	0.18	0.40	68	N	NC	SC	S		
	with grilles-between-the-glass	PEL-N-236-02950-00001					0.23	0.16	0.35	68		NC	SC	S		
	with integral grilles	PEL-N-236-02951-00001					0.23	0.16	0.35	68		NC	SC	S		
1-1/16"	NaturalSun Low-E IG	PEL-N-236-02877-00001	2.5	3	2.5	Air	0.23	0.40	0.49	67	N	NC			34	CA
	with grilles-between-the-glass	PEL-N-236-02878-00001					0.23	0.35	0.43	67	N	NC				
	with integral grilles	PEL-N-236-02879-00001					0.23	0.35	0.43	67	N	NC				

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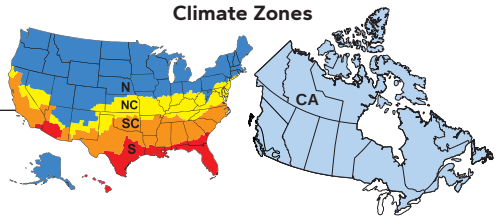
Climate Zones



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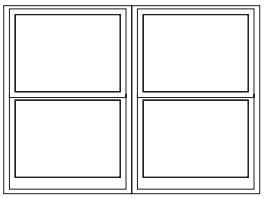
Combination Assemblies

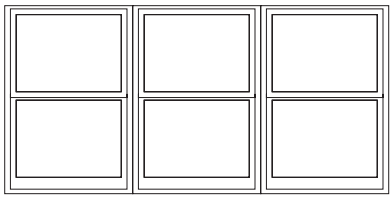
Combinations are a great way to create visual interest in any project. A combination is an assembly formed by two or more separate windows or doors whose frames are mulled together by a combination or reinforcing mullion.

Pella window combinations are available in an endless variety of arrangements. See the Combinations Recommendations document for typical mullions, requirements and limitations.

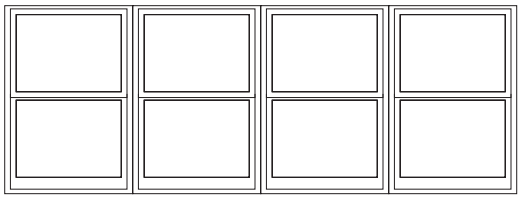
Contact your local Pella sales representative for more information.



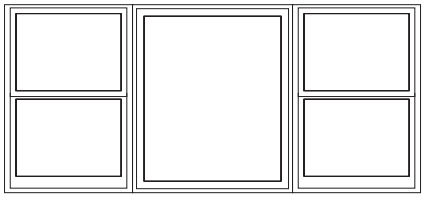
Two-Wide



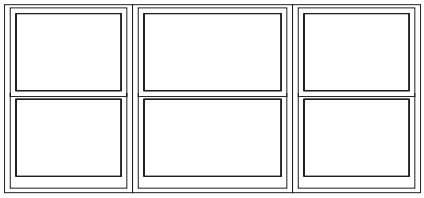
Three-Wide Equal



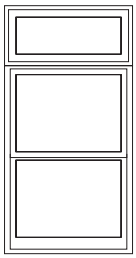
Four-Wide Equal



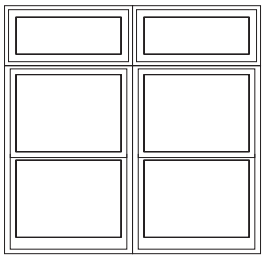
Center Fixed with Flankers



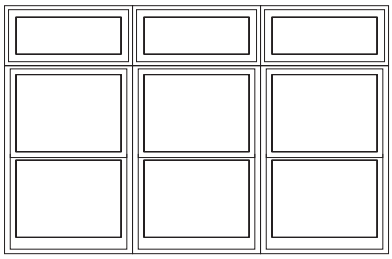
Three-Wide Unequal



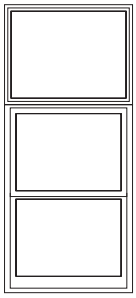
Transom over Single



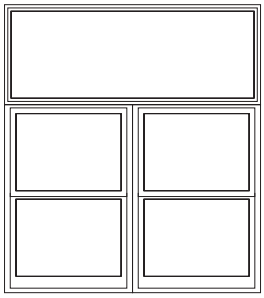
Two-Wide Transoms over Two-Wide



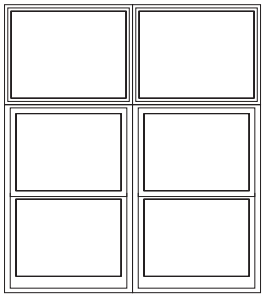
Three-Wide Transoms over Three-Wide



Clad Frame over Single



Single Clad Frame over Two-Wide



Two Wide Clad Frame over Two-Wide

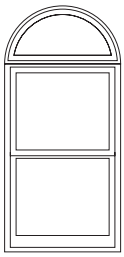
When Sash is Shipped Separate factory assembled combinations are not available.

Combination Assemblies

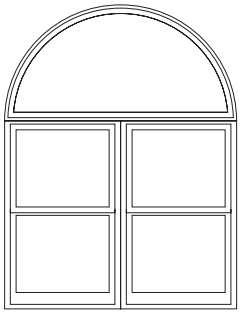
Combinations are a great way to create visual interest in any project. A combination is an assembly formed by two or more separate windows or doors whose frames are mulled together by a combination or reinforcing mullion.

Pella window combinations are available in an endless variety of arrangements. See the Combinations Recommendations document for typical mullions, requirements and limitations.

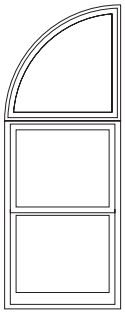
Contact your local Pella sales representative for more information.



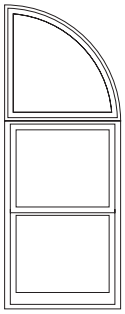
Half Circle over Single



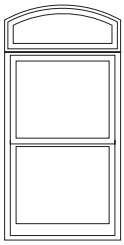
Half Circle over Two-Wide



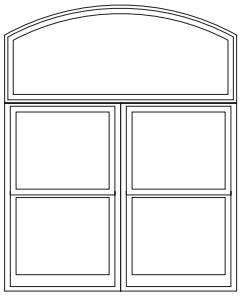
Left Quarter Circle over Single



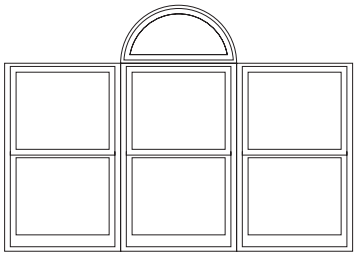
Right Quarter Circle over Single



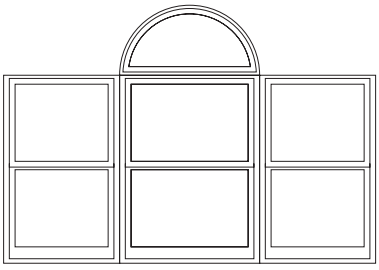
Arch Head over Single



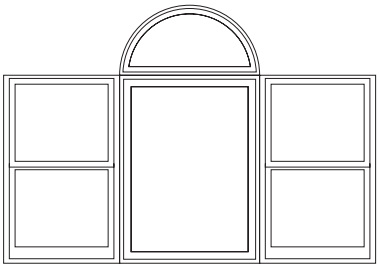
Arch Head over Two-Wide



Half Circle centered on Three-Wide Equal



Half Circle over Three-Wide Unequal



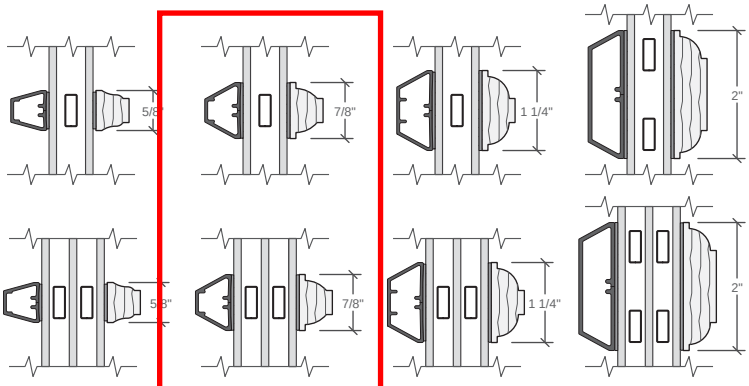
Half Circle over Center Fixed with Flankers

When Sash is Shipped Separate factory assembled combinations are not available.

Grille Profiles

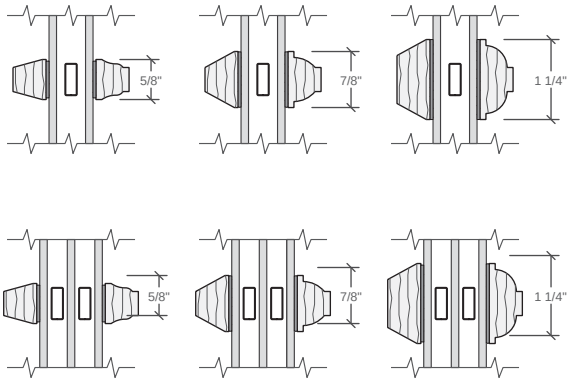
Traditional Style Collection - Integral Light Technology ®

Putty Glaze and Ogee Grilles
Clad Exterior - Wood Interior



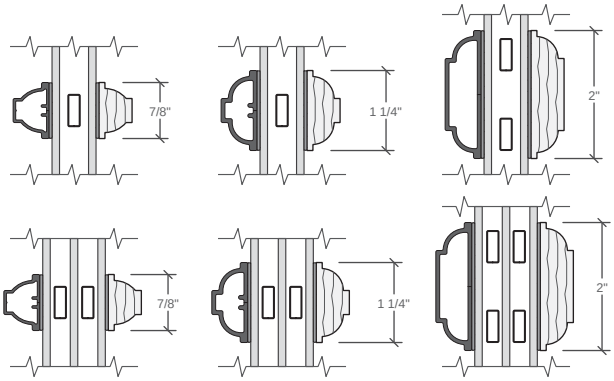
5/8" Regular | 7/8" Regular | 1 1/4" Regular | 2" Regular

Putty Glaze and Ogee Grilles
Wood Exterior - Wood Interior



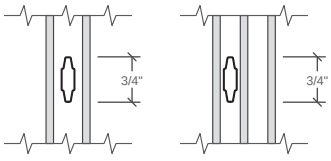
5/8" Regular | 7/8" Regular | 1 1/4" Regular

Ogee Grilles
Clad Exterior - Wood Interior



7/8" Regular | 1 1/4" Regular | 2" Regular

Grilles-Between-the-Glass



3/4" Contoured | 3/4" Contoured

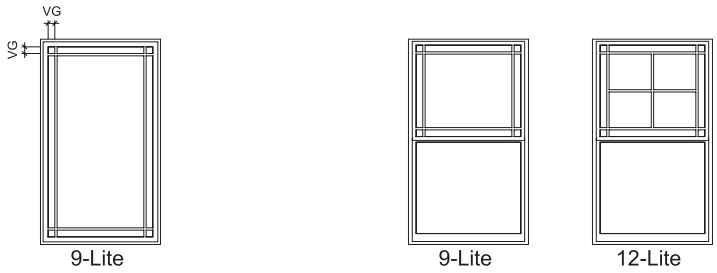
Interior wood ILT grilles available in Pine, Mahogany or Douglas Fir to match complete unit.

Exterior wood ILT grilles available in Pine or Mahogany to match complete unit.

Grille Patterns

Integral Light Technology® Grilles

Prairie Lite Patterns

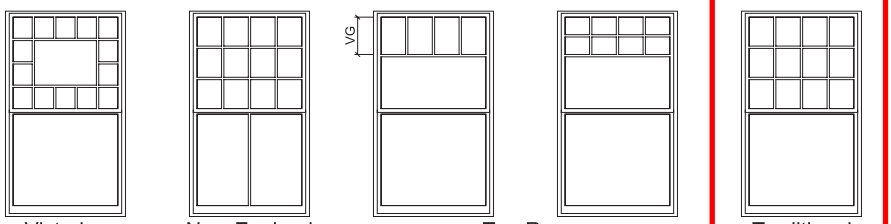


Standard corner lite dimension for Prairie patterns = 2-1/2" VG.

Available in transoms ≥ 1'3" height and width.

Available in all standard and special sizes.

Other Available Patterns

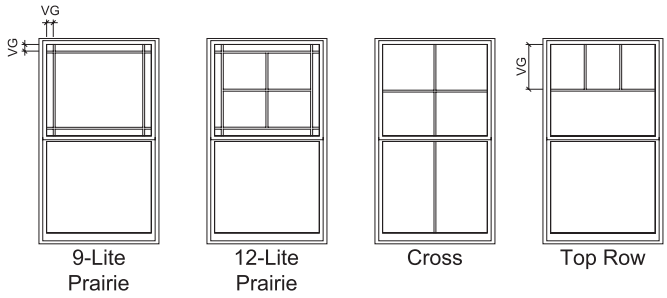


VG = Visible Glass

Lite dimensions noted can vary.

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

Grilles-Between-the-Glass



Prairie

- Standard corner lite dimension for Prairie patterns = 2-1/2" VG.
- Available in transoms ≥ 1'3" height and width.

Cross

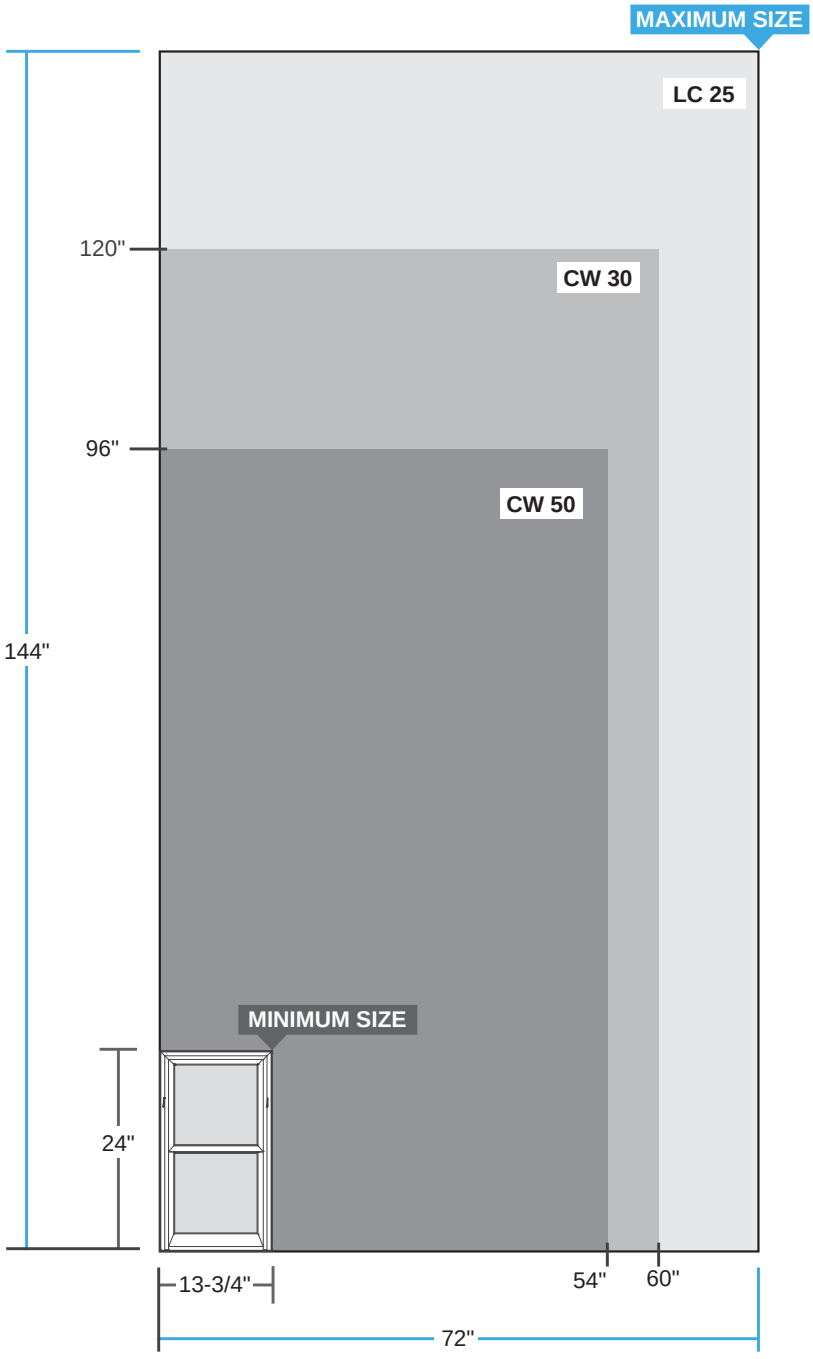
- Minimum DH frame height 35".
- Horizontal bar will be at 1/2" of the VG height of the top sash.

Top Row

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

For traditional patterns, see size tables.

Design Data and Performance Class



Maximum performance when glazed with the appropriate glass thickness.

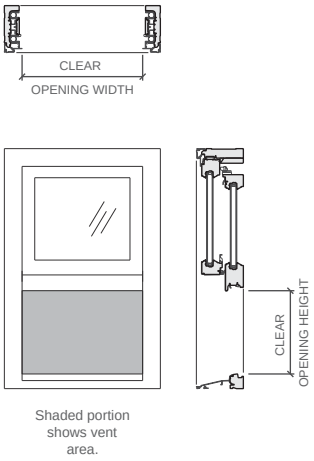
Sizes and Dimensions

Miscellaneous Formulas

Frame	Minimum	Maximum
Rectangular	13-3/4" W x 24" H (349 x 610 mm)	72" W x 144" H (1 829 x 3 658 mm)
Non-rectangular	13-3/4" W x 24" H (349 x 610 mm)	60" W x 120" H (1 524 x 3 048 mm)

Vent - Equal Sash Only

Visible Glass (inches)	Width = Frame - 7.594
	Height = (Frame - 10.572) ÷ 2
Actual Glass (inches)	Width = Frame - 6.245
	Height = (Frame - 7.874) ÷ 2
Clear Opening* (inches)	COW = Frame - 4.928
	Standard Balances: COH = AGH - 1.313
	Upgraded Balances: COH = AGH - 8.688
	If Frame Height is >120", then Clear Opening Height is limited to 24"
Vent area (ft^2)	(COW x COH) ÷ 144



* Addition of Sash Lug will reduce Clear Opening width and height by 1.25"

- Units > 120" will have limited sash travel.
- Sash is shipped out of unit when Frame Height > 106" or Individual Sash Weight > 92 lbs or Frame Width > 60".
- Units will be single hung only when frame height > 120".
- Maximum sash weight is 200 lbs.
- Standard balance not available when sash weight > 70 lbs or if Frame Height > 96".
- When sash weight > 92 lbs sash will not have tilt in cleaning feature.
- Full Screen not available when Frame Height > 120".
- Units with sash weights over 121 lbs will result in operation forces that do not meet the operational force requirements for CW rated (45 lbs) or LC rated (40 lbs) hung windows.

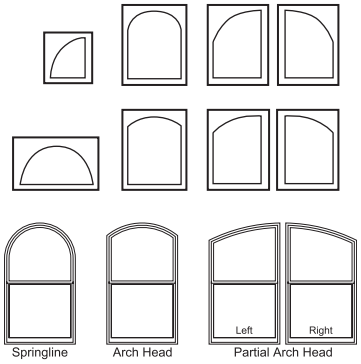
Custom Options

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.

The following additional options are available:

- Special Wood Types.
- Custom Grille Types and Patterns.
- Custom Glazing.
- Custom Width and height rectangular units.
- Custom Width sash stiles and rails.
- Curved Top Glass in rectangular sash.
- Shape vent and fixed windows.
- Specialty Windows - See the Specialty Windows section.

Glass Shapes



Pella® Reserve™ Traditional Monumental-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, curved members may have visible finger joints] [mahogany] [douglas fir].
- Exterior surfaces are clad with aluminum.
- Components are assembled with screws, staples and concealed corner locks.
- Vinyl Jamb liner includes wood/clad inserts.
- Overall frame depth is 5-7/8" (149mm) for a wall depth of 4-9/16" (116mm).
- Optional factory applied jamb extensions available from 4-9/16" (116mm) and 7-3/16" (183 mm) wall depths.
- Optional factory installed fold-out installation fins with flexible fin corners.
- Optional factory-applied EnduraClad® exterior trim.

Sash

- 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, curved members may have visible finger joints] [mahogany (not available if sash weight > 200 lbs.)] [douglas fir].
- Exterior surfaces are clad with extruded aluminum and sealed.
- Corners mortised and tenoned, glued and secured with metal fasteners.
- Sash thickness is 2-1/4" (57mm).
- Exterior sash profile is [ogee] [putty glaze], interior profile is ogee.
- Double-hung upper sash (if sash weight ≤ 92 lbs.) has surface-mounted wash locks for tilt-in cleaning.
- Double-hung and single-hung lower sash (if sash weight ≤ 92 lbs.) has concealed wash locks in lower check rail for tilt-in cleaning.

Weatherstripping

- Santoprene-wrapped foam at head and sill.
- Full length glass filled polypropylene interlocker with integrated slip-coated thermoplastic elastomer leaf.
- Secondary nylon bristle rainstrip on lower sash at sill.
- Vinyl-wrapped foam with secondary nylon bristle rainstrip 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] [SunDefense™] [SunDefense+] [NaturalSun] [NaturalSun+] [AdvancedComfort] Low-E [with argon]] [[bronze] [gray] [green] Advanced Low-E [with Argon]] [obscure] [Reflective Bronze] [Reflective Gray].

  – or –
- Silicone-glazed dual-pane 13/16" dual-seal tempered spandrel glass [Lava Bronze Amber] [Black] [Ford Blue] [Symmetry Bronze] [Symmetry Gray] [Symmetry Green].

  – or –
- Silicone-glazed dual-pane 13/16" dual-seal [[annealed] [tempered]] non-impact laminated glass [[clear] [[Advanced] [SunDefense] Low-E [with Argon]] [[bronze] [gray] [green] Advanced Low-E [with argon]].

  – or –
- Silicone-glazed triple-pane 1-1/16" dual-seal insulating glass (not available if sash weight > 200 lbs.) [[annealed] [tempered]] [[Advanced Low-E] [SunDefense™ Low-E] [NaturalSun Low-E] [with argon]] [Obscure [standard] [fern]].

Exterior

- Aluminum-clad exteriors shall be coated with EnduraClad® protective finish, in a multi-step, baked-on finish.
  - Color is [standard] [feature] [custom][1].

  – or –
- Aluminum-clad exteriors shall be coated with EnduraClad Plus protective finish with 70% fluoropolymer resin in a multi-step, baked-on finish.
  - Color is [standard] [feature] [custom][1].

Interior

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

Hardware

- Galvanized block-and-tackle balances are attached to self-locking balance shoes connected to the sashes using zinc die cast terminals concealed within the frame.

  – or –
- Class 5 hybrid balance attached to [locking] [non-locking] balance shoes connected to the sashes using zinc die cast terminals and concealed within the frame.

  – or –
- Galvanized block-and-tackle balances combined with a Class 5 hybrid balance attached to non-locking balance shoes connected to the sashes using zinc die cast terminals and concealed within the frame.
- All balances comply with AAMA 902 specification
- Lock hardware is [standard lock (cam-action)] [spoon-style lock] [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.
- Hardware Finish is [baked enamel [Champagne] [White] [Brown] [Matte Black]] [Satin Brass] [Satin Nickel] [Oil-Rubbed Bronze] [Distressed Bronze] [Distressed Nickel].

Optional Products

Sash

- Exterior sash lugs
  - Factory applied, color to match exterior cladding.

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 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 –
- Grilles-Between-the-Glass[2]
  - Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass (exterior air-space on triple-pane insulating glass)
  - Patterns are [Traditional] [Prairie] [Cross] [Top Row]
  - Interior color is [White] [Tan[3]] [Brown[3]] [Putty[3]] [Black] [Ivory] [Harvest] [Cordovan] [Brickstone].
  - Exterior color[4] is [standard[1]].

Screens

- InView™ Screens
  - [Full-screen (not available on units > 120" tall)] [half-screen] black Vinyl-coated 18/18 mesh fiberglass screen cloth complying with the performance requirements of SMA 1201, set in a [extruded (optional on clad exterior units < 84" height, standard on wood exterior units or clad exterior units >84")] [standard] 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], color to match window cladding.

Hardware

- Optional sash lift furnished for field installation. Finish matches lock hardware. Two lifts on units having frame width 37" or greater.
- Optional factory applied limited opening device for venting units; nominal 3-3/4" opening. Limiting device concealed from view.
- Optional factory applied window opening control device for venting units. Sash mounted device allows window to open less than 4" with normal operation, with a release mechanism that allows the sash to open completely. Finish matches lock hardware. Complies with ASTM F2090-10.
- Optional [head, sill, stool locks].

Sensors

- Optional factory installed integrated security sensors available in vent units.

(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.

Pella® Reserve™ Traditional Monumental-Hung Window

Detailed Product Description - Wood Exterior

Frame

- Select wood, 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] curved members may have visible finger joints.
- Exterior surfaces are [pine] [mahogany].
- Vinyl Jamb liner includes wood inserts.
- Overall frame depth is 5-5/8" (143mm) for a wall depth of 5-7/16" (138mm).
- Optional factory applied jamb extensions available from 5-7/16" (138mm) and 7-3/16" (183mm) wall depths.
- Optional factory installed fold-out installation fins with flexible fin corners.
- Optional factory-applied pine [1-7/8"] [3-1/2"] brickmould and [1-1/8"] [1-7/8"] subsill.

Sash

- Select wood, 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, curved members may have visible finger joints] [mahogany (not available if sash weight > 200 lbs.)].
- Exterior surfaces are [pine] [mahogany].
- Corners mortised and tenoned, glued and secured with metal fasteners.
- Sash thickness is 2-1/4" (57mm).
- Exterior sash profile is putty glaze, interior sash profile ogee.
- Double-hung upper sash (if sash weight ≤ 92 lbs.) has surface-mounted wash locks for tilt-in cleaning.
- Double-hung and single-hung lower sash (if sash weight ≤ 92 lbs.) has concealed wash locks in lower check rail for tilt-in cleaning.

Weatherstripping

- Santoprene-wrapped foam at head and sill.
- Full length glass filled polypropylene interlocker with integrated slip-coated thermoplastic elastomer leaf.
- Secondary nylon bristle rain strip on lower sash at sill.
- Vinyl-wrapped foam with secondary nylon bristle rain strip 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] [SunDefense™] [SunDefense+] [NaturalSun] [NaturalSun+] [AdvancedComfort] Low-E [with argon]] [[bronze] [gray] [green] Advanced Low-E [with Argon]] [obscure] [Reflective Bronze] [Reflective Gray].

  – or –
- Silicone-glazed dual-pane 13/16" dual-seal tempered spandrel glass [Lava Bronze Amber] [Black] [Ford Blue] [Symmetry Bronze] [Symmetry Gray] [Symmetry Green].

  – or –
- Silicone-glazed dual-pane 13/16" dual-seal [[annealed] [tempered]] non-impact laminated glass [[clear] [[Advanced] [SunDefense] Low-E [with Argon]] [[bronze] [gray] [green] Advanced Low-E [with argon]].

  – or –
- Silicone-glazed triple-pane 1-1/16" dual-seal insulating glass (not available if sash weight > 200 lbs.) [[annealed] [tempered]] [[Advanced Low-E] [SunDefense™ Low-E] [NaturalSun Low-E] [with argon]] [Obscure [standard] [fern]].

Exterior

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

Interior

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

Hardware

- Galvanized block-and-tackle balances are attached to self-locking balance shoes connected to the sashes using zinc die cast terminals concealed within the frame.

  – or –
- Class 5 hybrid balance attached to [locking] [non-locking] balance shoes connected to the sashes using zinc die cast terminals and concealed within the frame.

  – or –
- Galvanized block-and-tackle balances combined with a Class 5 hybrid balance attached to non-locking balance shoes connected to the sashes using zinc die cast terminals and concealed within the frame.
- All balances comply with AAMA 902 specification
- 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.
- Hardware finish is [baked enamel [Champagne] [White] [Brown] [Matte Black]] [Satin Brass] [Satin Nickel] [Oil-rubbed Bronze] [Distressed Bronze] [Distressed Nickel].

Optional Products

Grilles

- Integral Light Technology® grilles
  - Interior grilles are [5/8"] [7/8"] [1-1/4"] [2"] 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"] [2"] 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] [Cross] [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 –
- Grilles-Between-the-Glass [2]
  - Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass (exterior air-space on triple-pane insulating glass).
  - Patterns are [Traditional] [Prairie] [Cross] [Top Row]
  - Interior color is [White] [Tan [3]] [Brown [3]] [Putty [3]] [Black] [Ivory] [Harvest] [Cordovan] [Brickstone].
  - Exterior color [4] is [standard [1]].

Screens

- InView™ Screens
  - [Full-screen (not available on units > 120" tall)] [half-screen] black Vinyl-coated 18/18 mesh fiberglass screen cloth complying with the performance requirements of SMA 1201, set in 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], color to match window cladding.

Hardware

- Optional sash lift furnished for field installation. Finish matches lock hardware. Two lifts on units having frame width 37" or greater.
- Optional factory applied limited opening device available for venting units; nominal 3-3/4" opening. Limiting device concealed from view.
- Optional factory applied window opening control device for venting units. Sash mounted device allows window to open less than 4" with normal operation, with a release mechanism that allows the sash to open completely. Finish matches lock hardware. Complies with ASTM F2090-10.
- Optional [head, sill, stool locks].

Sensors

- Optional factory installed integrated security sensors available in vent units.

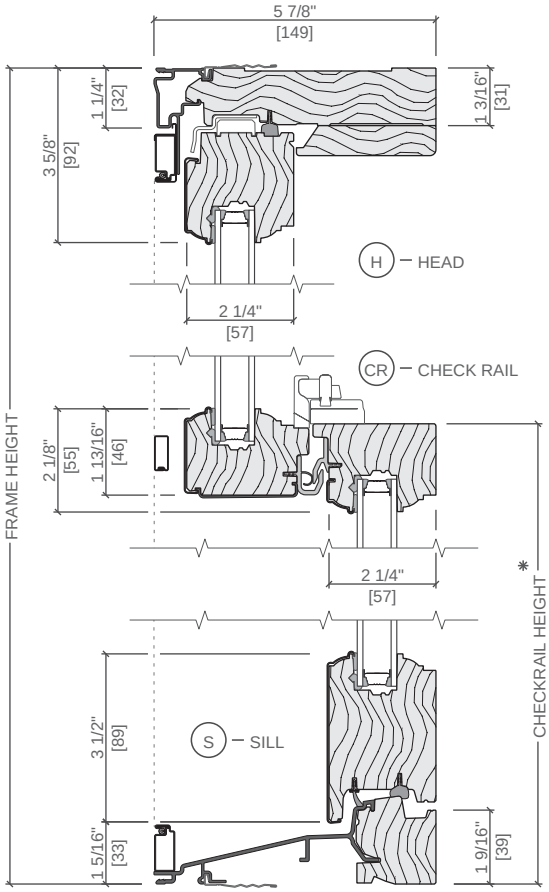
(1) Contact your local Pella sales representative for current color options.

(2) Available in clear or Low-E Insulating Glass only.

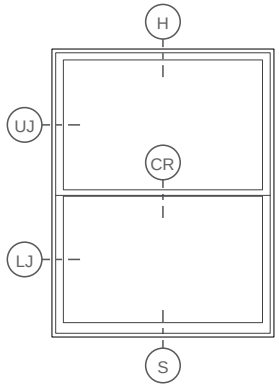
(3) Tan, Brown and Putty Interior GBG colors are available in single-tone (Brown/Brown, Tan/Tan or Putty/Putty). Other interior colors are also available with Tan or Brown exterior.

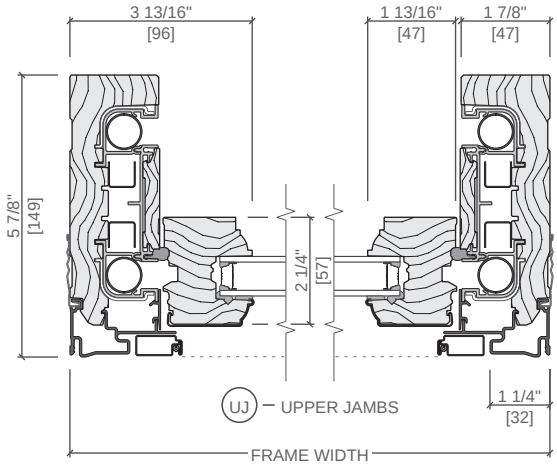
(4) Appearance of exterior grille color will vary depending on Low-E coating on glass.

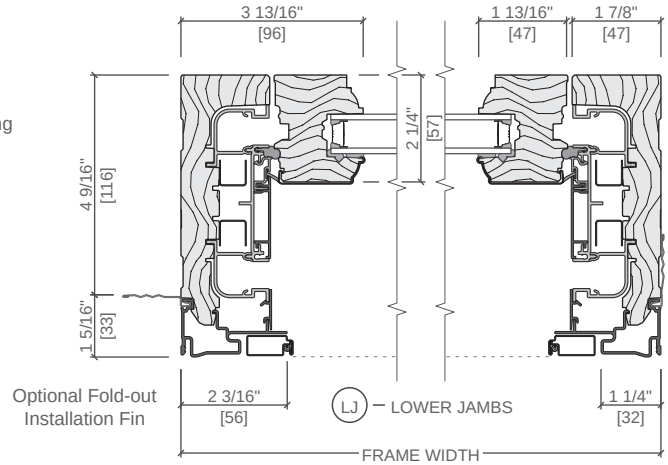
Unit Sections - Aluminum-Clad Exterior, Dual-Pane Double-Hung



* Dimension required for ordering units with unequal sash.



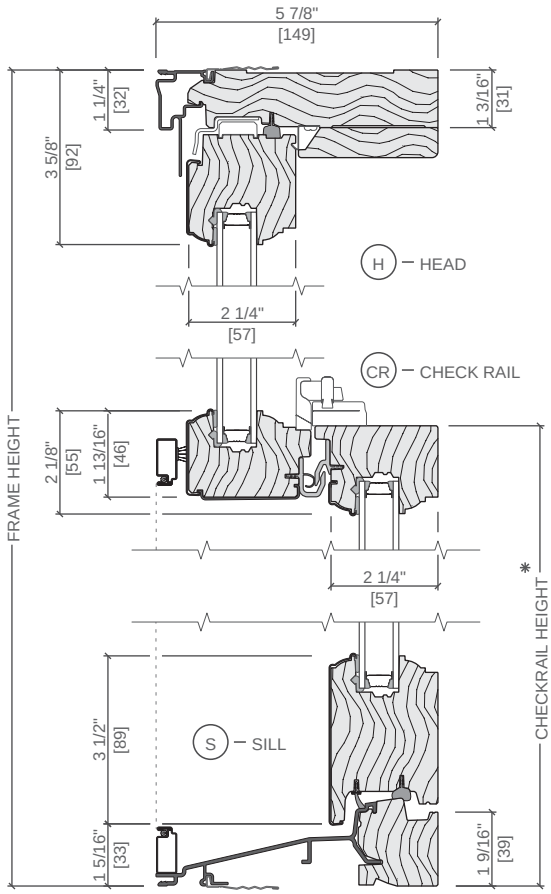




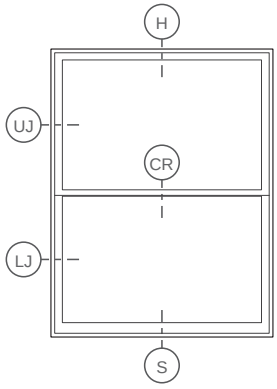
Scale 3" = 1' 0"

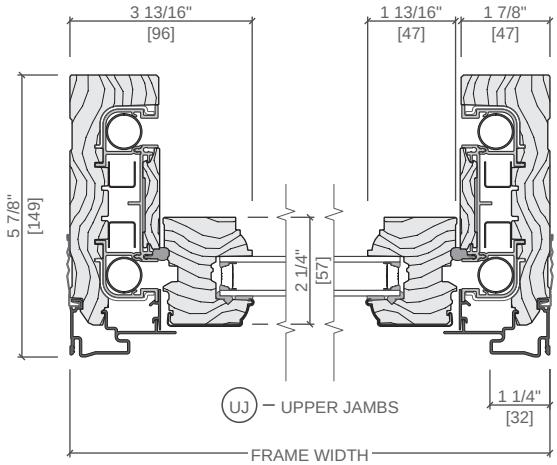
All dimensions are approximate.

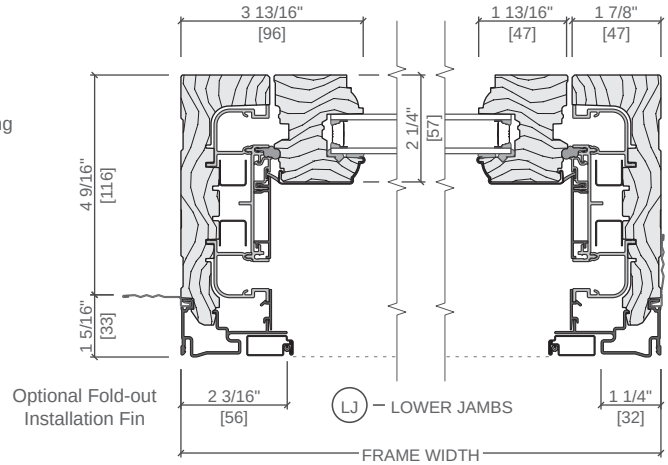
Unit Sections - Aluminum-Clad Exterior, Dual-Pane Single-Hung



* Dimension required for ordering units with unequal sash.





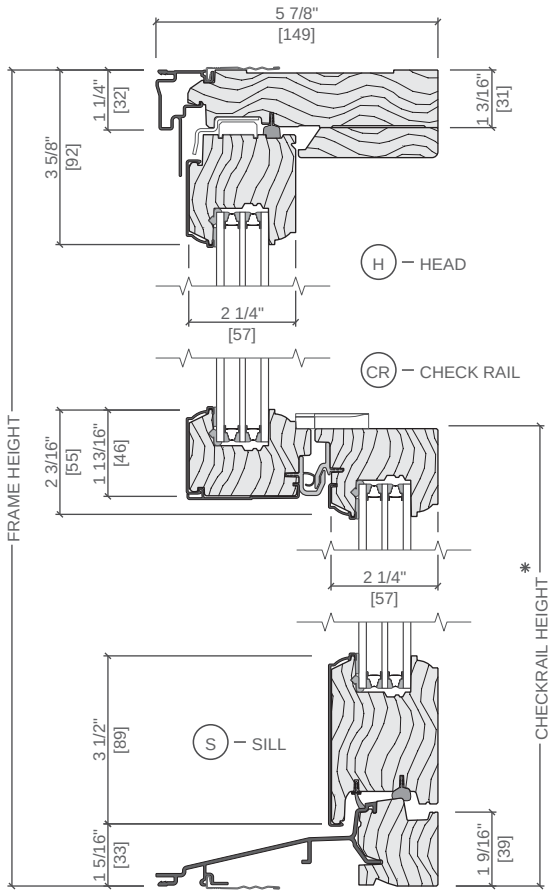


Scale 3" = 1' 0"

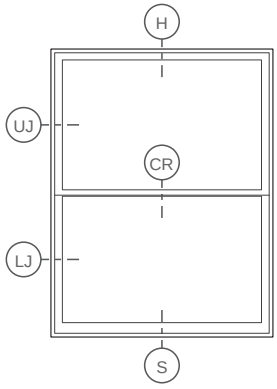
All dimensions are approximate.

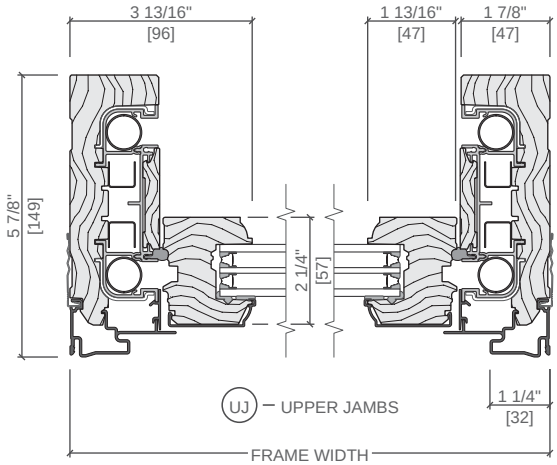
Pella® Reserve™ Traditional Monumental-Hung Window

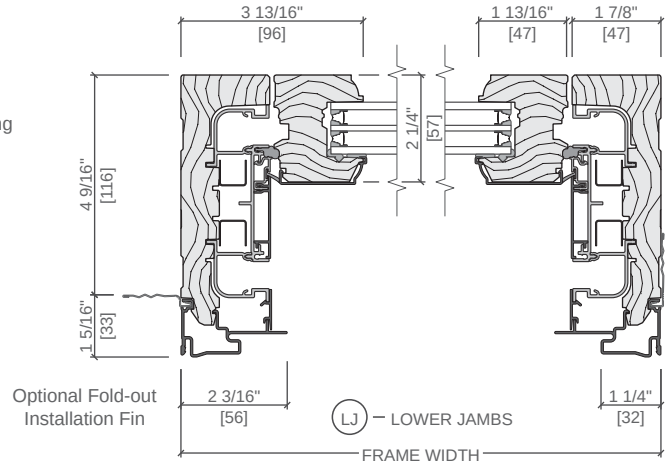
Unit Sections - Aluminum-Clad Exterior, Triple-Pane Simulated-Hung



* Dimension required for ordering units with unequal sash.



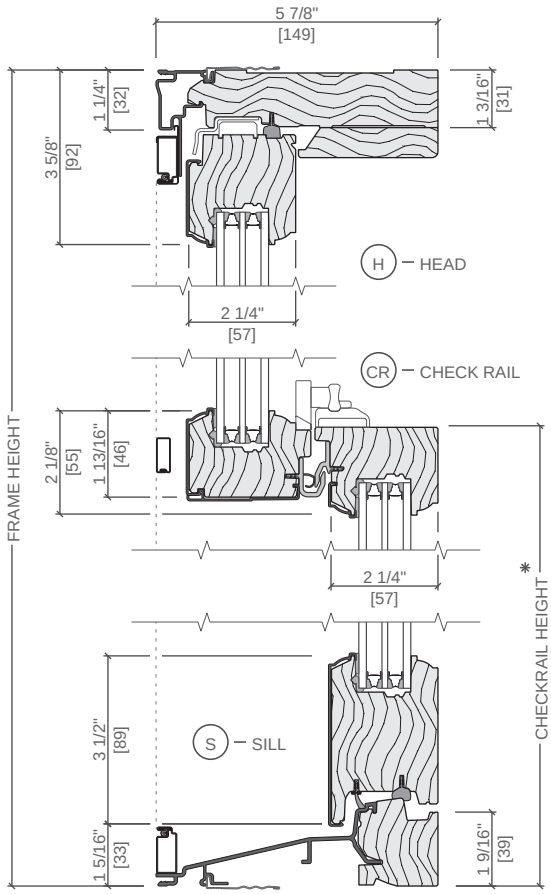




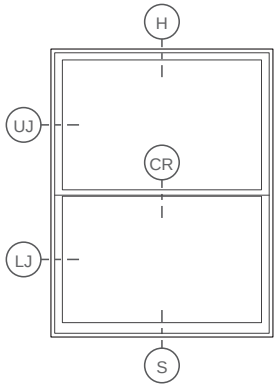
Scale 3" = 1' 0"

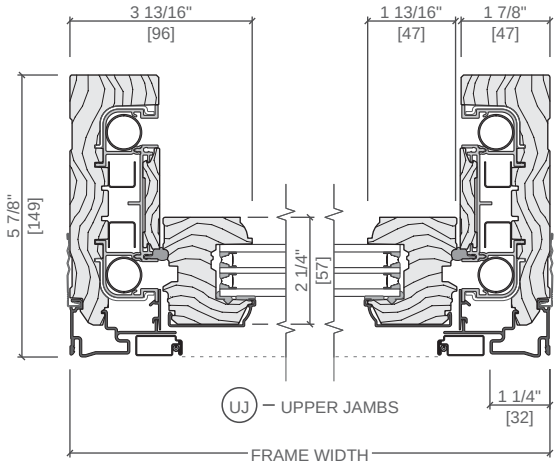
All dimensions are approximate.

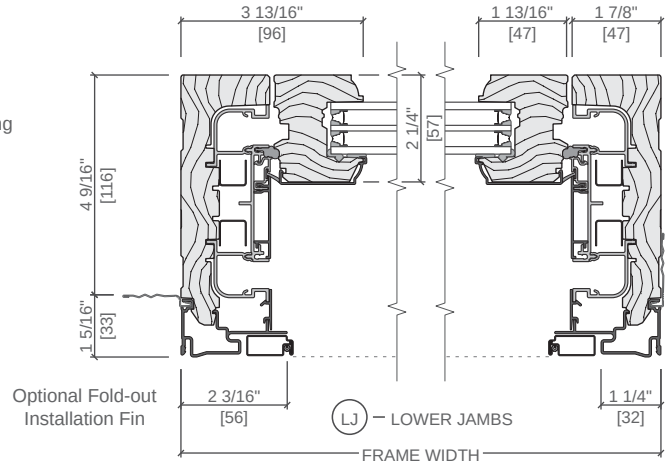
Unit Sections - Aluminum-Clad Exterior, Triple-Pane Double-Hung



* Dimension required for ordering units with unequal sash.





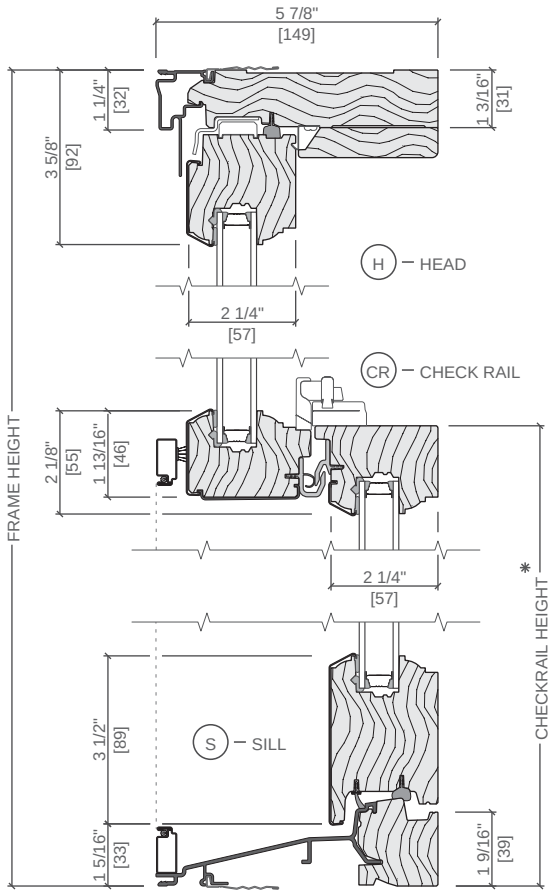


Scale 3" = 1' 0"

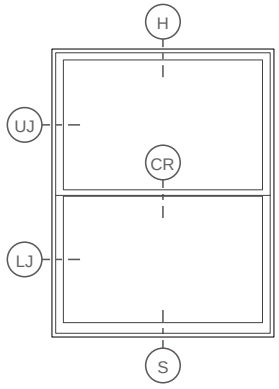
All dimensions are approximate.

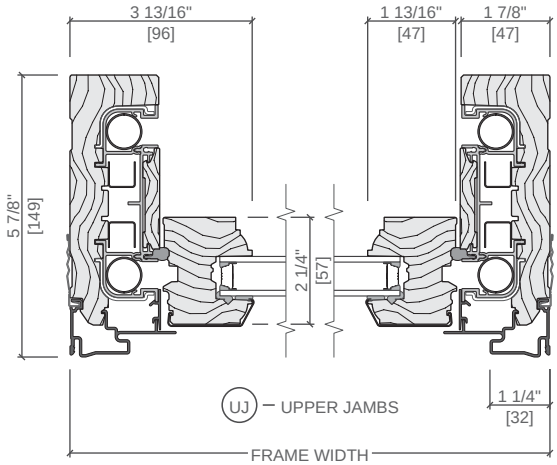
Pella® Reserve™ Traditional Monumental-Hung Window

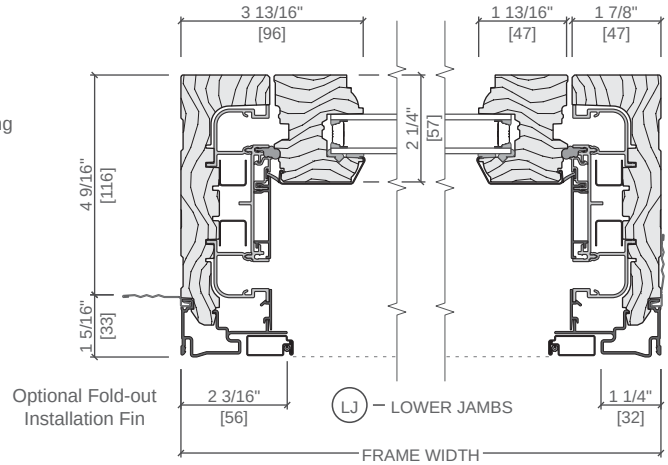
Unit Sections - Aluminum-Clad Exterior, Dual-Pane Putty Glaze Profile



* Dimension required for ordering units with unequal sash.







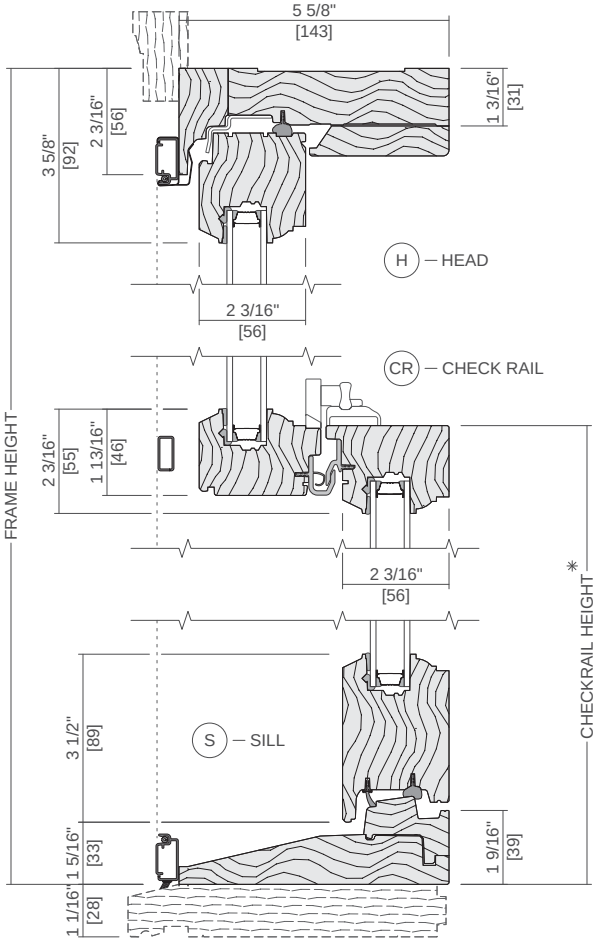
Scale 3" = 1' 0"

All dimensions are approximate.

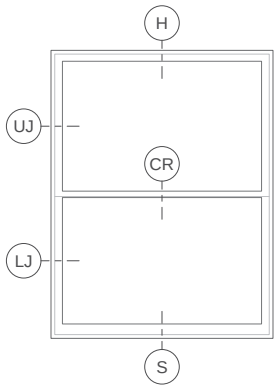
Pella® Reserve™ Traditional Monumental-Hung Window

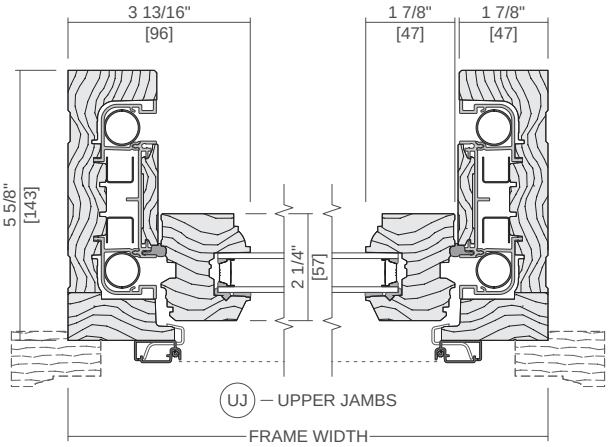
Unit Sections - Wood Exterior, Dual-Pane Double-Hung

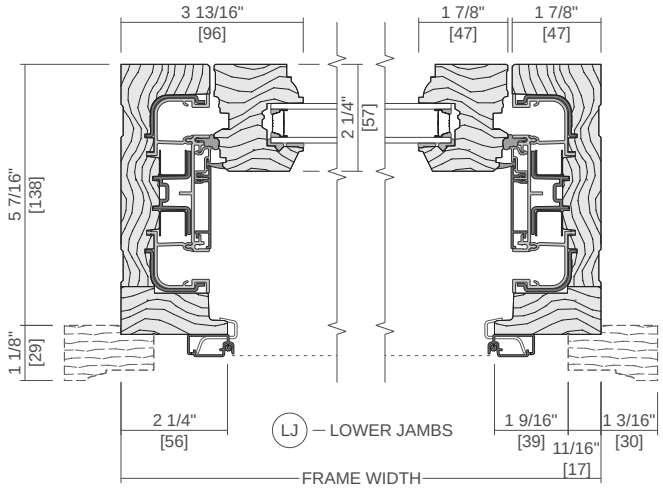
Optional
1-7/8" Brickmould #3443
1-1/8" Subsill #3544
Shown

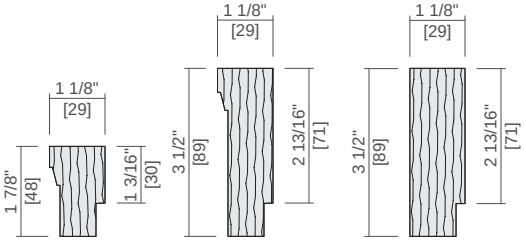


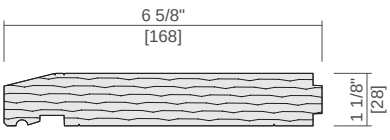
* Dimension required for ordering units with unequal sash.

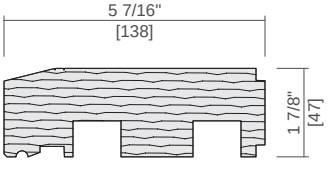










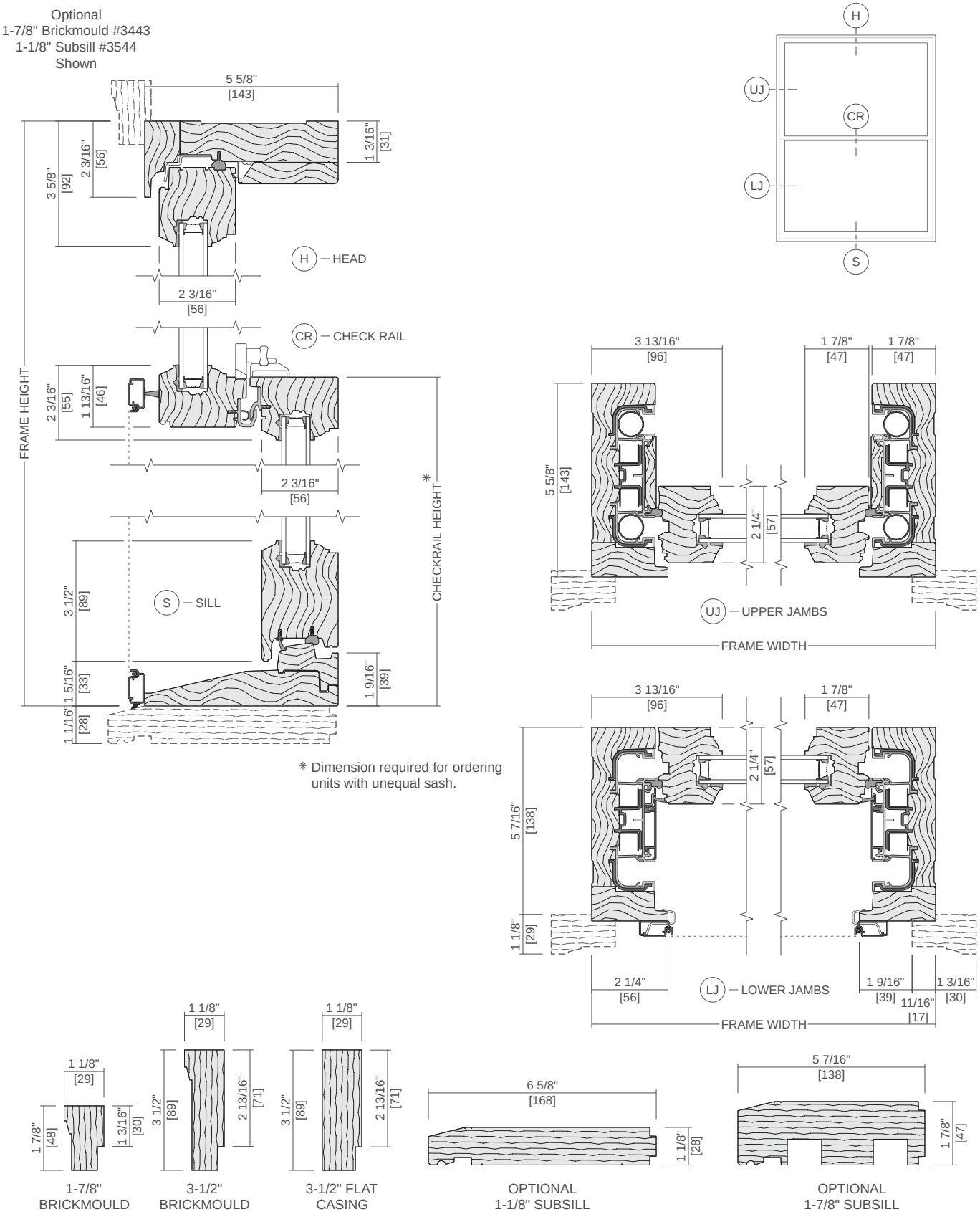


Scale 3" = 1' 0"

All dimensions are approximate.

Pella® Reserve™ Traditional Monumental-Hung Window

Unit Sections - Wood Exterior, Dual-Pane Single-Hung

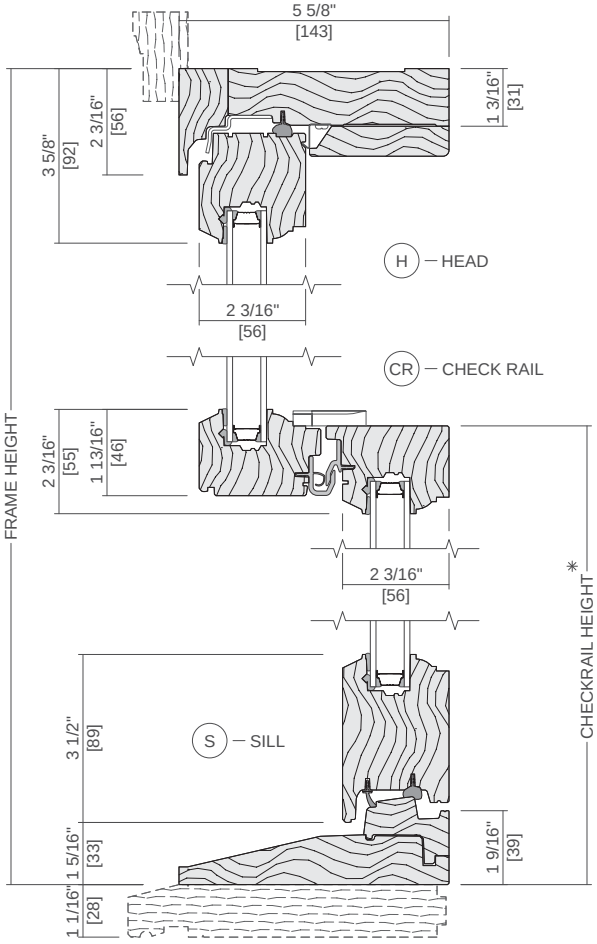


Scale 3" = 1' 0"

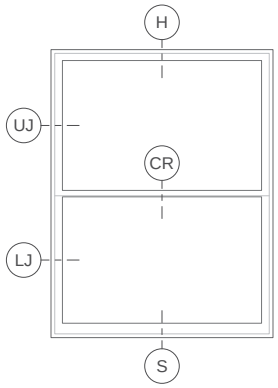
All dimensions are approximate.

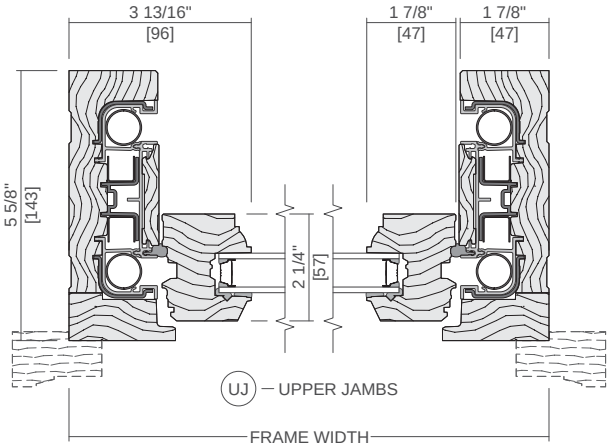
Unit Sections - Wood Exterior, Dual-Pane Simulated-Hung

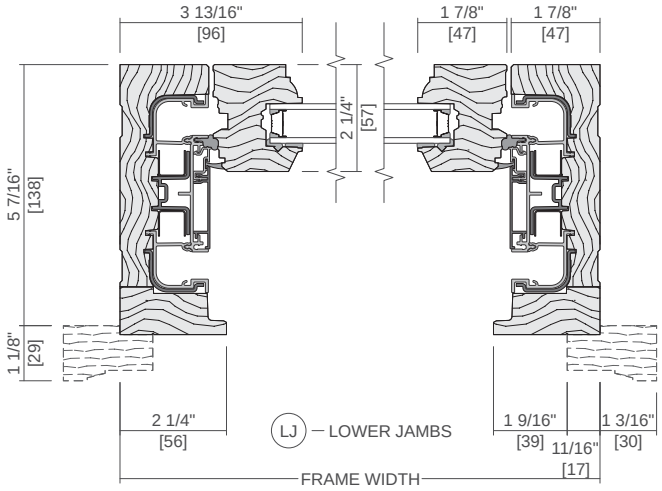
Optional
1-7/8" Brickmould #3443
1-1/8" Subsill #3544
Shown

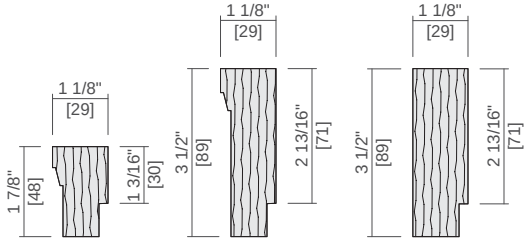


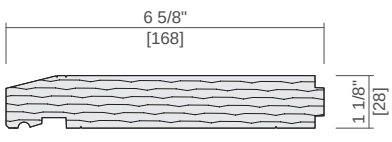
* Dimension required for ordering units with unequal sash.

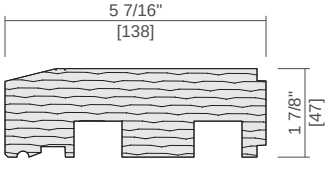










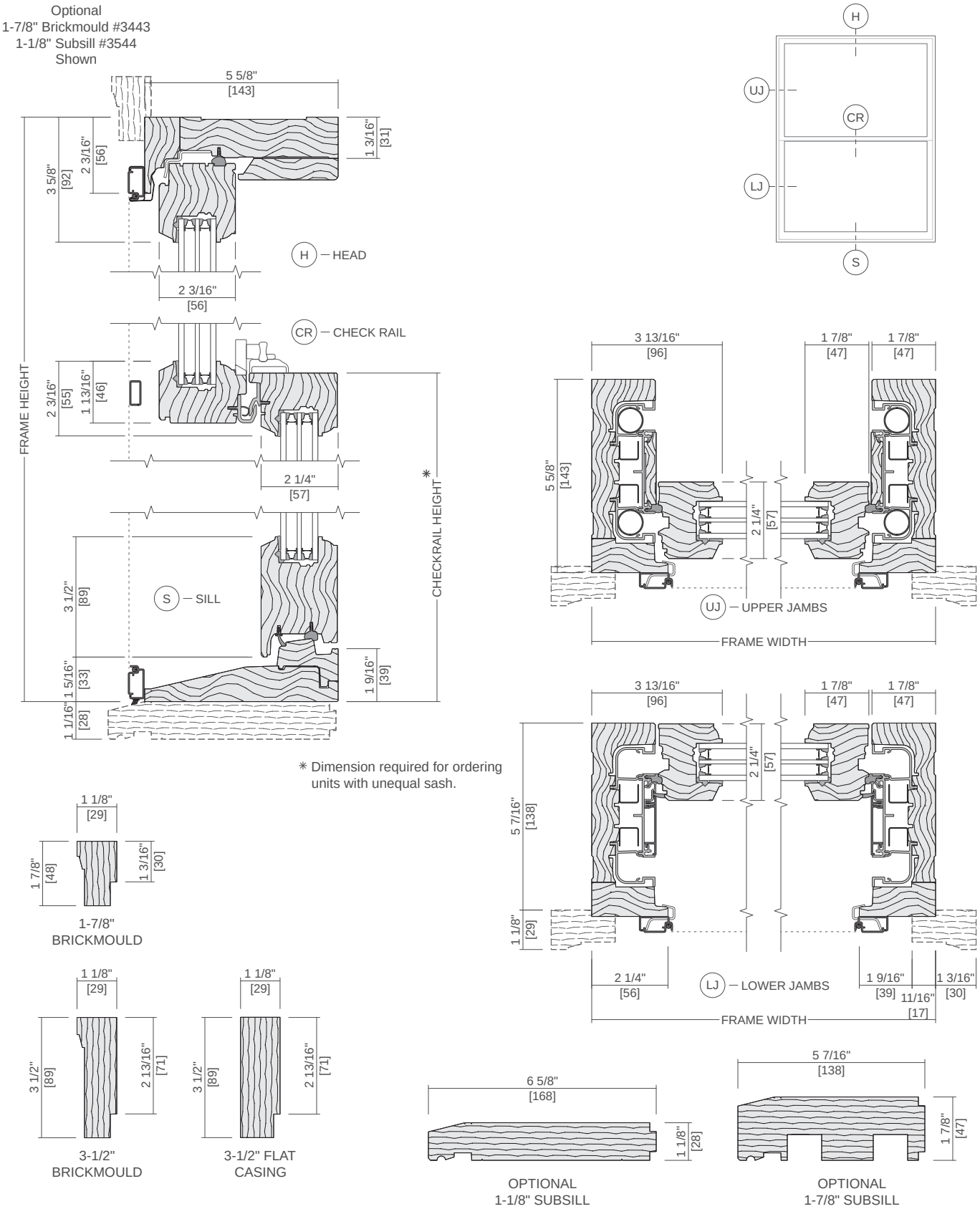


Scale 3" = 1' 0"

All dimensions are approximate.

Pella® Reserve™ Traditional Monumental-Hung Window

Unit Sections - Wood Exterior, Triple-Pane Double-Hung



Scale 3" = 1' 0"

All dimensions are approximate.

WINDOW SCHEDULE

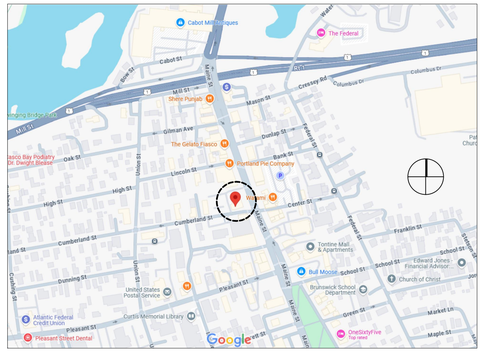
ASSEMBLY		WINDOW						FRAME					REMARKS
NUMBER	STYLE	SASH OPENING DIMENSIONS*				MATERIAL	FINISH	MATERIAL	FINISH	DETAILS			
		WIDTH	HEIGHT	THICKNESS	MUNTIN					HEAD	JAMB	SILL	
101	DOUBLE-HUNG	57 1/2"	78 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA MONUMENTAL CLAD DOUBLE HUNG OR EQUAL
102	DOUBLE-HUNG	57 1/2"	78 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA MONUMENTAL CLAD DOUBLE HUNG OR EQUAL
103	DOUBLE-HUNG	57 1/2"	78 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA MONUMENTAL CLAD DOUBLE HUNG OR EQUAL
104	DOUBLE-HUNG	57 1/2"	78 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA MONUMENTAL CLAD DOUBLE HUNG OR EQUAL
105	DOUBLE-HUNG	57 1/2"	78 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA MONUMENTAL CLAD DOUBLE HUNG OR EQUAL
106	DOUBLE-HUNG	57 1/2"	78 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA MONUMENTAL CLAD DOUBLE HUNG OR EQUAL
107	DOUBLE-HUNG	57 1/2"	78 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA MONUMENTAL CLAD DOUBLE HUNG OR EQUAL
108	DOUBLE-HUNG	57 1/2"	78 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA MONUMENTAL CLAD DOUBLE HUNG OR EQUAL
109	DOUBLE-HUNG	57"	80 3/4"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA MONUMENTAL CLAD DOUBLE HUNG OR EQUAL
110	DOUBLE-HUNG	35 1/4"	80 3/4"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA MONUMENTAL CLAD DOUBLE HUNG OR EQUAL
111	DOUBLE-HUNG	57"	80 3/4"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA MONUMENTAL CLAD DOUBLE HUNG OR EQUAL
112	DOUBLE-HUNG	57"	80 3/4"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA MONUMENTAL CLAD DOUBLE HUNG OR EQUAL
113	FIXED	62 1/2"	62 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA RESERVE CLAD FIXED WINDOW OR EQUAL
114	FIXED	62 1/2"	62 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA RESERVE CLAD FIXED WINDOW OR EQUAL
115	FIXED	62 1/2"	62 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA RESERVE CLAD FIXED WINDOW OR EQUAL
116	FIXED	62 1/2"	62 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA RESERVE CLAD FIXED WINDOW OR EQUAL
117	FIXED	62 1/2"	62 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA RESERVE CLAD FIXED WINDOW OR EQUAL
118	FIXED	62 1/2"	62 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA RESERVE CLAD FIXED WINDOW OR EQUAL
119	FIXED	62 1/2"	62 1/2"	2 1/4"	7/8"	WOOD	ALUM CLAD	WOOD	PAINTED				PELLA RESERVE CLAD FIXED WINDOW OR EQUAL

* DIMENSIONS PROVIDED ARE FOR PRICING ONLY AND ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING.

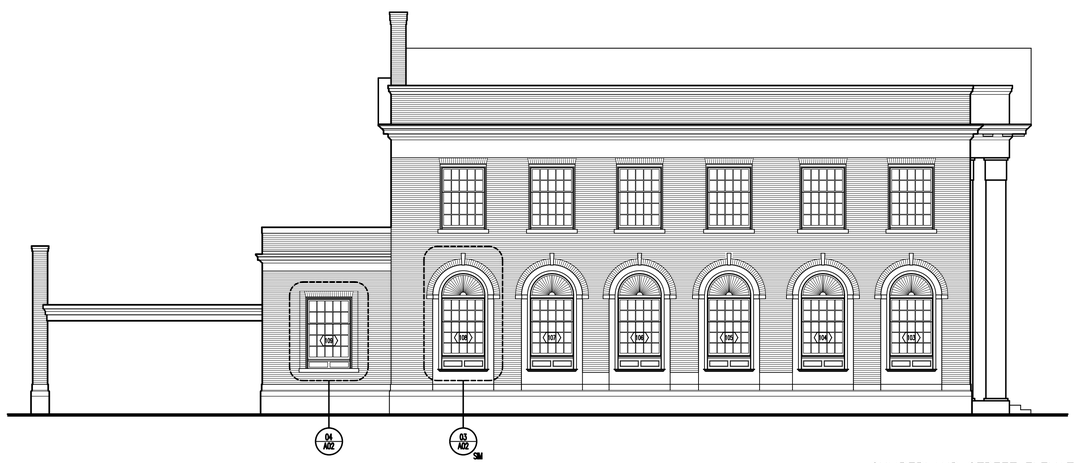
IECC 2021 SUMMARY

MAINE (IECC 2021)	
COMMERCIAL CONSTRUCTION	
BUILDING ENVELOPE REQUIREMENTS	
CLIMATE ZONE	6A
Vertical fenestration - Fixed	
U-factor	0.34
SHGC	0.38
Vertical fenestration - Operable	
U-factor	0.42
SHGC	0.34
Insulation	
Ceiling R-Value	49
Wood Frame Wall R-Value	20+3.8ci, or 13+7.5ci
Mass Wall R-Value	13.3ci
Floor R-Value	38
Basement Wall R-Value	10ci
Slab R-Value	20ci, 2 ft min.

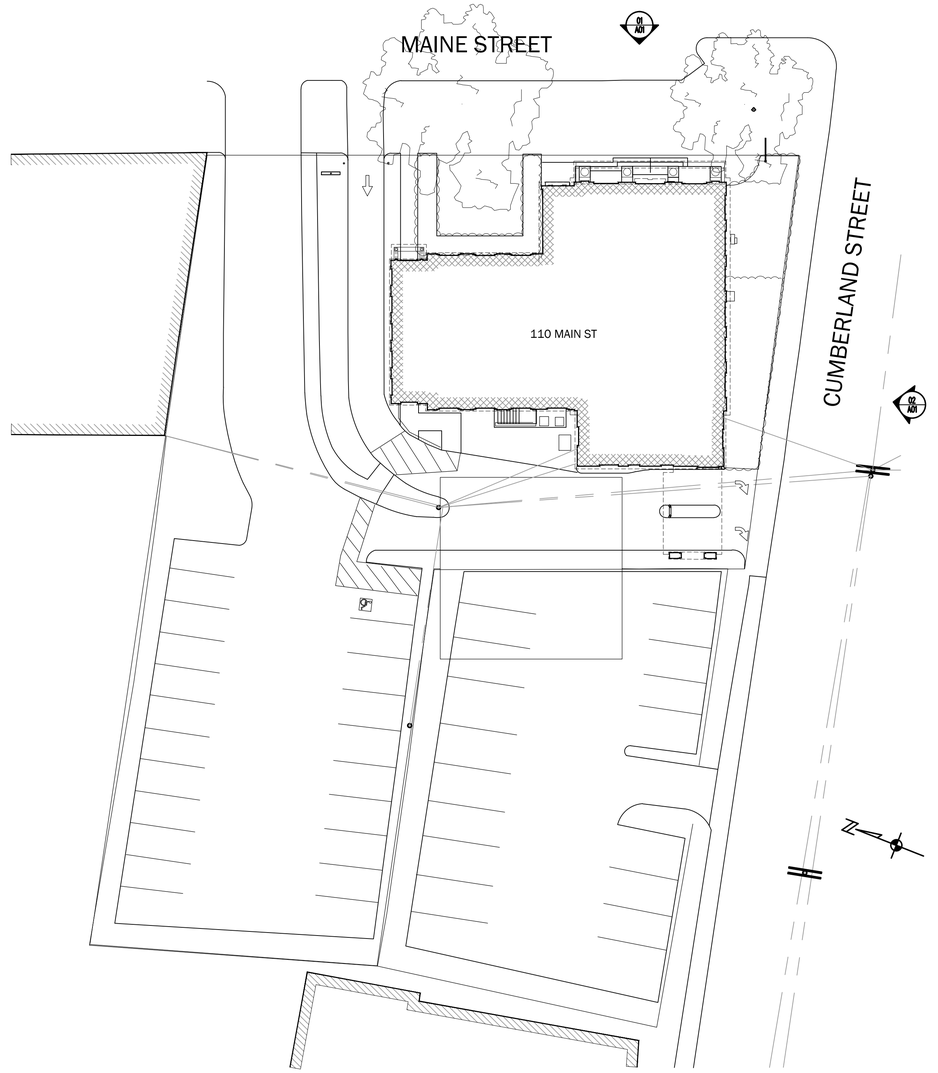
AREA MAP



MAINE STREET ELEVATION 01
1/8" = 1'-0"



CUMBERLAND STREET ELEVATION 02
1/8" = 1'-0"



SCHEMATIC SITE PLAN 03
1" = 20'-0"

BANK OF AMERICA

Brunswick, ME
BAU-Windows

108-110 MAINE STREET
BRUNSWICK, ME 04011

MHID: ME1-115
FCID:
ONEVIEW: 02819P4D71CC
KAHUA: K1011479

APPROACH3
ARCHITECTURE & CONSULTING & REAL ESTATE

A: 50 PINECLIFF DRIVE
MARBLEHEAD, MA 01945
O: 617.688.2407
T: WWW.APPROACH3.COM

△	Date & Issue Description	By	Check
--	05/27/25 SCOPE REVIEW	CMK	--
--	06/02/25 RELEASED FOR HEARING	CMK	BDP

Architect Project Number
2505

Architect
CMK

Seal/Signature

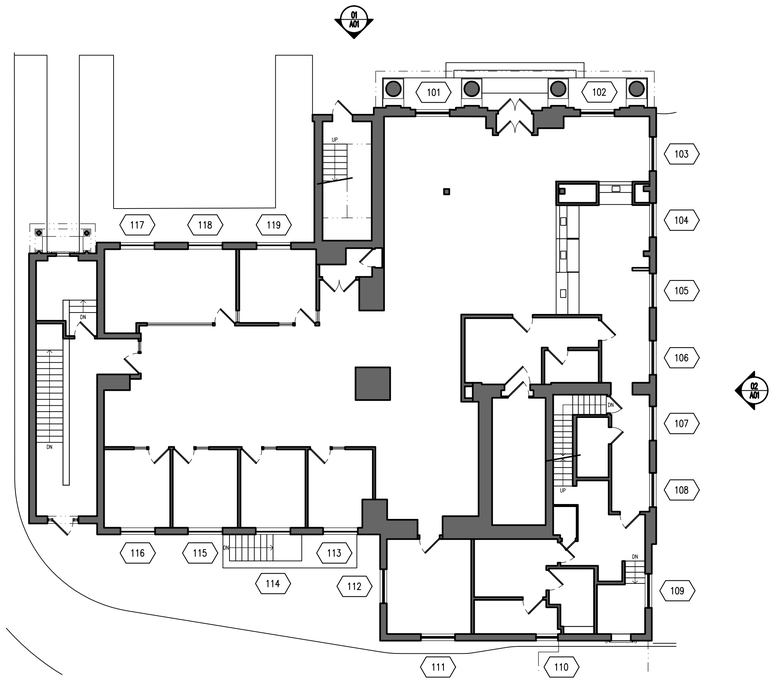
Project Name
BANK OF AMERICA
BRUNSWICK WINDOW REPLACEMENT

CAD File Name
/2505/Drawings/Brunswick-Windows

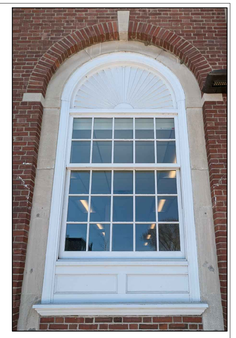
Description
SITE PLAN
BUILDING EXTERIOR ELEVATIONS

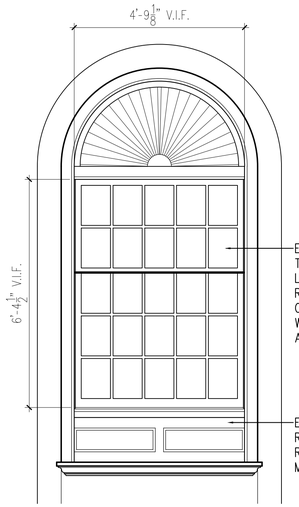
Scale
AS SHOWN

A01



KEY PLAN
3/32" = 1'-0"

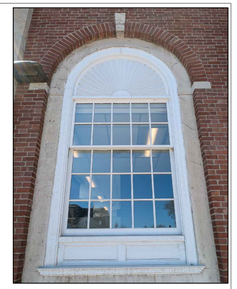


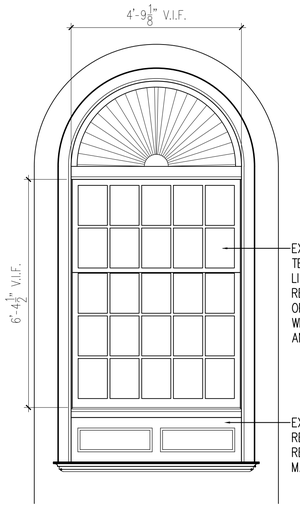


EXISTING DOUBLE-HUNG WINDOW WITH TEN LIGHT TOP SASH AND FIFTEEN LIGHT BOTTOM SASH TO BE REMOVED. REMEDIATE THE EXISTING OPENING. PROVIDE NEW CLAD WOOD WINDOW WITH SAME MUNTIN PROFILE AND PATTERN.

EXISTING PAINTED WOOD TRIM TO BE REMEDIATED AND HAVE LOOSE PAINT REMOVED. PRIME AND PAINT TO MATCH EXISTING COLOR, TYP.

WINDOW 101 01
1/2" = 1'-0"

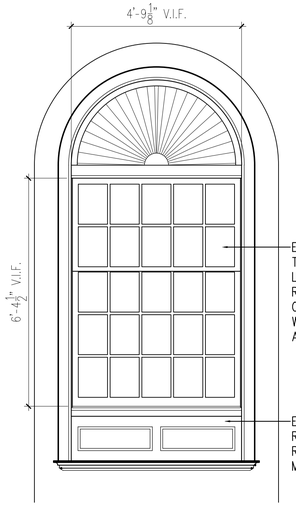




EXISTING DOUBLE-HUNG WINDOW WITH TEN LIGHT TOP SASH AND FIFTEEN LIGHT BOTTOM SASH TO BE REMOVED. REMEDIATE THE EXISTING OPENING. PROVIDE NEW CLAD WOOD WINDOW WITH SAME MUNTIN PROFILE AND PATTERN.

EXISTING PAINTED WOOD TRIM TO BE REMEDIATED AND HAVE LOOSE PAINT REMOVED. PRIME AND PAINT TO MATCH EXISTING COLOR, TYP.

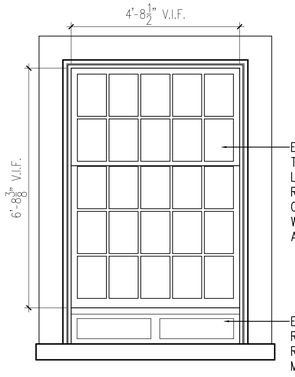
WINDOW 102 02
1/2" = 1'-0"



EXISTING DOUBLE-HUNG WINDOW WITH TEN LIGHT TOP SASH AND FIFTEEN LIGHT BOTTOM SASH TO BE REMOVED. REMEDIATE THE EXISTING OPENING. PROVIDE NEW CLAD WOOD WINDOW WITH SAME MUNTIN PROFILE AND PATTERN.

EXISTING PAINTED WOOD TRIM TO BE REMEDIATED AND HAVE LOOSE PAINT REMOVED. PRIME AND PAINT TO MATCH EXISTING COLOR, TYP.

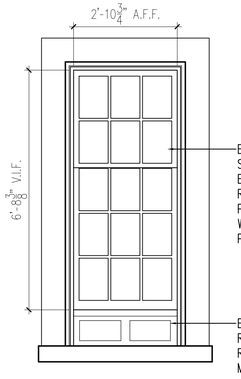
WINDOWS 103-108 03
1/2" = 1'-0"



EXISTING DOUBLE-HUNG WINDOW WITH TEN LIGHT TOP SASH AND FIFTEEN LIGHT BOTTOM SASH TO BE REMOVED. REMEDIATE THE EXISTING OPENING. PROVIDE NEW CLAD WOOD WINDOW WITH SAME MUNTIN PROFILE AND PATTERN.

EXISTING PAINTED WOOD TRIM TO BE REMEDIATED AND HAVE LOOSE PAINT REMOVED. PRIME AND PAINT TO MATCH EXISTING COLOR, TYP.

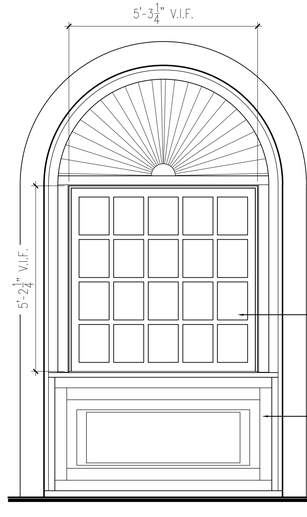
WINDOWS 109, 111, & 112 04
1/2" = 1'-0"



EXISTING DOUBLE-HUNG WINDOW WITH SIX LIGHT TOP SASH AND NINE LIGHT BOTTOM SASH TO BE REMOVED. REMEDIATE THE EXISTING OPENING. PROVIDE NEW CLAD WOOD WINDOW WITH SAME MUNTIN PROFILE AND PATTERN.

EXISTING PAINTED WOOD TRIM TO BE REMEDIATED AND HAVE LOOSE PAINT REMOVED. PRIME AND PAINT TO MATCH EXISTING COLOR, TYP.

WINDOW 110 05
1/2" = 1'-0"



EXISTING TWENTY LIGHT FIXED WINDOW TO BE REMOVED. REMEDIATE THE EXISTING OPENING. PROVIDE NEW CLAD WOOD TWENTY LIGHT WINDOW WITH 7/8" MUNTIN BARS.

EXISTING PAINTED WOOD TRIM TO BE REMEDIATED AND HAVE LOOSE PAINT REMOVED. PRIME AND PAINT TO MATCH EXISTING COLOR, TYP.

WINDOWS 113-119 06
1/2" = 1'-0"

BANK OF AMERICA

Brunswick, ME
BAU-Windows

108-110 MAINE STREET
BRUNSWICK, ME 04011

MHID: ME1-115
FCID:
ONEVIEW: 02819P4D71CC
KAHUA: K1011479

APPROACH3
ARCHITECTURE & CONSULTING & REAL ESTATE

A: 50 PINECLIFF DRIVE
MARBLEHEAD, MA 01945
O: 617.688.2407
T: WWW.APPROACH3.COM

Date & Issue Description	By	Check
-- 05/27/25 SCOPE REVIEW	CMK	--
-- 06/02/25 RELEASED FOR HEARING	CMK	BDP

Architect Project Number
2505

Architect
CMK

Seal/Signature

Project Name
BANK OF AMERICA
BRUNSWICK WINDOW REPLACEMENT

CAD File Name
/2505/Drawings/Brunswick-Windows

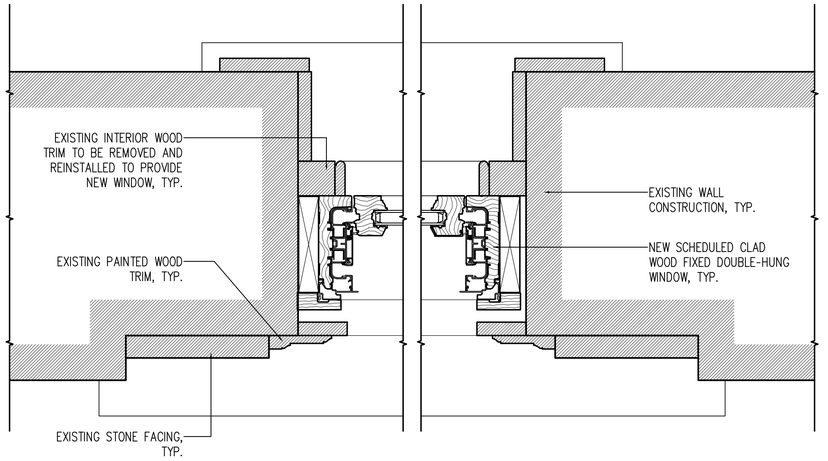
Description
KEY PLAN
WINDOW DETAILS

Scale
AS SHOWN

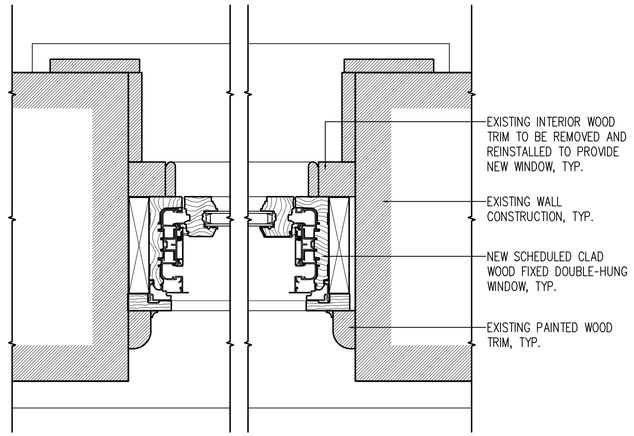
A02

ENVIRONMENTAL REPORT SUMMARY

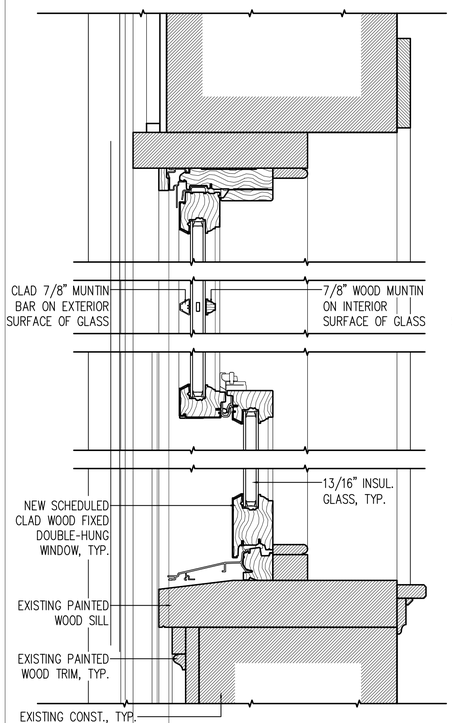
Material Type	Primary Color	Texture	Material Description	Asbestos Result	Floor	Rooms	Location	Condition
M - Window Glazing/Putty (Interior)	White	Smooth	Window Glazing	ACCM (California only), <=1% or Trace	B...2	Throughout	Other	Good
M - Exterior - Window Caulk	White	Smooth	Window Caulk	ACM Non-Friable (>1%)	E	Throughout	Other	Good
M - Exterior - Window Caulk	White	Smooth	Exterior Window Caulk	ACM Non-Friable (>1%)	E	Exterior	Wall	Good
M - Exterior - Window Glazing Compound	White	Smooth	Exterior Window Glazing	ACM Non-Friable (>1%)	E	Exterior	Wall	Good



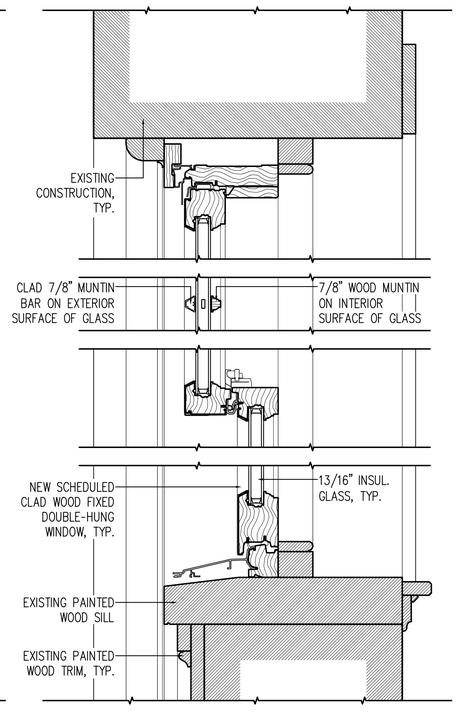
MONUMENTAL DOUBLE HUNG PLAN SECTION – STONE FRAMED OPENINGS 01
3" = 1'-0"



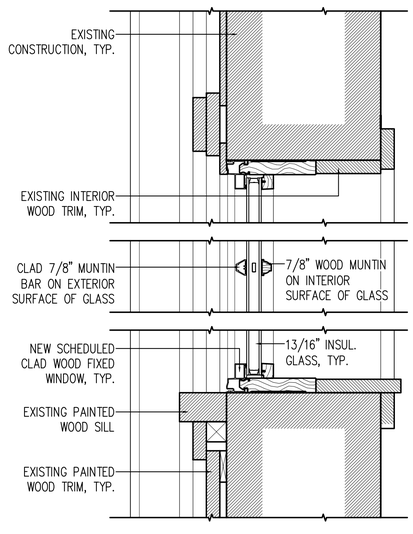
MONUMENTAL DOUBLE HUNG PLAN SECTION – BRICK MASONRY OPENINGS 02
3" = 1'-0"



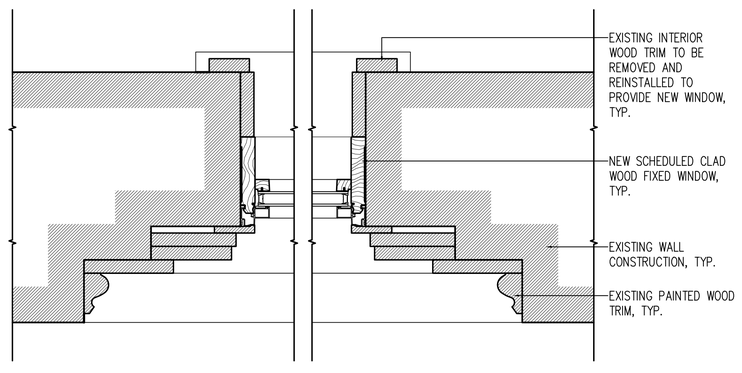
MONUMENTAL DOUBLE HUNG PLAN SECTION
STONE FRAMED OPENINGS 06
3" = 1'-0"



MONUMENTAL DOUBLE HUNG PLAN SECTION
BRICK MASONRY OPENINGS 05
3" = 1'-0"



FIXED WINDOW SECTION 04
3" = 1'-0"



FIXED WINDOW PLAN SECTION 03
3" = 1'-0"

BANK OF AMERICA

Brunswick, ME
BAU-Windows

108-110 MAINE STREET
BRUNSWICK, ME 04011

MHID: ME1-115
FCID:
ONEVIEW: 02819P4D71CC
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	Date & Issue Description	By	Check
--	05/27/25 SCOPE REVIEW	CMK	--
--	06/02/25 RELEASED FOR HEARING	CMK	BDP

Architect Project Number
2505

Architect
CMK

Seal/Signature

Project Name
BANK OF AMERICA
BRUNSWICK WINDOW REPLACEMENT

CAD File Name
/2505/Drawings/Brunswick-Windows

Description
CONSTRUCTION DETAILS

Scale
AS SHOWN

A03

Town of Brunswick, Maine

DEPARTMENT OF PLANNING AND DEVELOPMENT

DRAFT FINDINGS OF FACT
REQUEST FOR CERTIFICATE OF APPROPRIATENESS FOR ADDITIONS AND ALTERATIONS VILLAGE REVIEW BOARD

PROJECT NAME: 9 Cleaveland Street; Pilgrim House Rooftop Solar

CASE NUMBER: VRB 25-014

LOCATION: Map U08, Lot 112; 9 Cleaveland Street

OWNER/ APPLICANT: First Parish Church
9 Cleaveland Street
Brunswick, ME 04011

REVIEW DATE: June 17, 2025

PROJECT SUMMARY

The applicant is requesting a Certificate of Appropriateness for Alterations to add insulation and solar panels to the roof of the Pilgrim House building located at 9 Cleaveland Street. The added insulation will raise the height of the existing roof by nine inches therefore requiring an extension of the fascia boards. This method will ensure that the church can keep the wood vaulted ceilings on the interior of the building. The existing asphalt roof shingles will be replaced and roof-top solar panels will be added, mounted flush, and covering approximately 80% of the south-facing (Cleaveland Street side) roof surface. The neo-colonial chapel building, known today as the Pilgrim House, is a contributing structure located in the nationally registered Federal Street Historic District and it was constructed in 1955.

REVIEW STANDARDS, SECTION 5.2.8.C, TOWN OF BRUNSWICK ZONING ORDINANCE

(1) General Standard

a. All Certificates of Appropriateness for new construction, additions, alterations, relocations or demolition shall be in accordance with applicable requirements of this Ordinance.

The proposed modifications will require building and electrical permits in addition to a Certificate of Appropriateness.

b. In meeting the standards of this Ordinance, the applicant may obtain additional guidance from the *U.S. Secretary of Interior's Standards for Rehabilitating Historic Buildings* and the *Village Review Zone Design Guidelines*.

The Village Review Overlay District Design Guidelines state that, "roof-mounted solar panels should be located on the upper roof and laid as flat as possible. Installing roof-

mounted solar panels on the front of the roof, or installing solar panels with a high degree of tilt is not recommended."

(2) New Construction and Additions and Alterations to Existing Structures

a. In approving applications for a Certificate of Appropriateness for new construction, additions or alterations to contributing resources, the reviewing entity shall make findings that the following standards have been satisfied:

i. Any additions or alterations shall be designed in a manner to minimize the overall effect on the historic integrity of the contributing resource.

The applicant's proposal to raise the roof slightly will require minimal change to the appearance of the existing fascia. The rooftop solar panels must make use of the southern facing side of the building which also happens to be the most visible roof surface. While the panels will cover the majority (80%) of the south-facing roof, the will be mounted flush to the building. They are also an appendage that is easily removed with no effect on the original structure.

ii. Alterations shall remain visually compatible with the existing streetscape.

While highly visible, rooftop solar panels are a common element on today's streetscapes and are not perceived as out of context.

iii. Concealing of distinctive historic or architectural character-defining features is prohibited. If needed, the applicant may replace any significant features with in-kind replacement and/or accurate reproductions.

No significant features are to be concealed. The solar panels are also a modification that is easily removed with no effect on the original structure.

iv. New construction or additions shall be visually compatible with existing mass, scale and materials of the surrounding contributing resources.

Not applicable.

v. When constructing additions, the applicant shall maintain the structural integrity of existing structures.

Not applicable.

b. In approving applications for a Certificate of Appropriateness for new construction of, or additions to commercial, multi-family and other non-residential structures, the Village Review Board shall make findings that the following additional standards have been satisfied.

i. Where practicable, new off-street parking shall be located to the rear of the principal building and shall be accessed from a secondary street. In cases where off-street parking currently exists in a front or side yard, the parking area shall be screened from the public right-of-way with landscaping or

fencing.

Not applicable.

ii. **Site plans shall identify pedestrian ways and connections from parking areas to public rights-of-way.**

Not applicable.

iii. **All dumpsters and mechanical equipment shall be located no less than 25 feet away from a public right-of-way, unless required by a public utility, and shall be screened from public view.**

Not applicable.

iv. **Roof-top mounted heating, ventilation, air conditioning and energy producing equipment shall be screened from the view of any public right-of-way or incorporated into the structural design to the extent that either method does not impede functionality. Parapets, projecting cornices, awnings or decorative roof hangs are encouraged. Flat roofs without cornices are prohibited.**

Not applicable.

v. **The use of cinder block, concrete and concrete block is prohibited on any portion of a structure that is visible from the building's exterior, with the exception of use in the building's foundation.**

Not applicable.

vi. **The use of vinyl, aluminum or other non-wood siding is permitted as illustrated in the Village Review Board Design Guidelines. Asphalt and asbestos siding are prohibited.**

Not applicable.

vii. **Buildings with advertising icon images built into their design ("trademark buildings") are prohibited.**

Not applicable.

viii. **No building on Maine Street shall have a horizontal expanse of more than 40 feet without a pedestrian entry.**

Not applicable.

ix. **No building on Maine Street shall have more than 15 feet horizontally of windowless wall.**

Not applicable.

x. All new buildings and additions on Maine Street shall be built to the front property line. This may be waived if at least 60 percent of the building's front facade is on the property line, and the area in front of the setback is developed as a pedestrian space.

Not applicable.

xi. If adding more than 50 percent new floor area to a structure located on Maine Street, the addition shall be at least two (2) stories high and/or not less than 20 feet tall at the front property line.

Not applicable.

xii. The first-floor facade of any portion of a building that is visible from Maine Street shall include a minimum of 50 percent glass. Upper floors shall have a higher percentage of solid wall, between 15 percent and 40 percent glass.

Not applicable.

c. Proposed additions or alterations to noncontributing resources shall be designed to enhance or improve the structure's compatibility with nearby contributing resources as compared to the existing noncontributing resources.

The building is a contributing structure and therefore this standard is not applicable.

(3) Signs

Signs shall comply with the requirements of Section 4.13 (Signs) with consideration given to the Village Review Zone Design Guidelines.

No new signage is proposed as part of this project; not applicable

(4) Demolition and Relocation

a. Demolition or partial demolition or relocation of a contributing or, if visible from a public right-of-way, a noncontributing resource, excluding incidental or noncontributing accessory buildings and structures located on the same property, shall be prohibited unless the application satisfies at least one of the following criteria.

i. The structure poses an imminent threat to public health or safety. An application must be accompanied by a report from a qualified structural engineer for review by the Codes Enforcement Officer and photographs depicting the current condition of the building.

There is no demolition proposed and therefore this standard is not applicable.

ii. The condition of the structure is such that it cannot be adapted for any other permitted use, whether by the current owner or by a purchaser, resulting in a reasonable economic return, regardless of whether that return represents the

most profitable return possible, provided that the applicant can document he/she has not contributed significantly to the deterioration of the structure. An opinion shall be provided from an architect, licensed engineer, developer, real estate consultant or appraiser or from a professional experienced in historic rehabilitation, as to the economic feasibility for restoration, renovation, or rehabilitation of the contributing resource versus demolition or relocation of same.

Not applicable.

b. Demo, partial demolition or relocation of a noncontributing resource visible from a public right-of-way, shall be approved by the Village Review Board if it is determined that the proposed replacement structure or reuse of the property is deemed more appropriate and compatible with the surrounding contributing resources than the resource proposed for demolition.

Not applicable.

DRAFT MOTIONS
MAP U08 LOT 112 (9 CLEAVELAND STREET)
REQUEST FOR A CERTIFICATE OF APPROPRIATENESS FOR ALTERATIONS
VILLAGE REVIEW BOARD
REVIEW DATE: JUNE 17, 2025

Draft Motion 1: That the Certificate of Appropriateness application is deemed complete.

Motion: Second: Vote:

Draft Motion 2: That the Board approves the **Certificate of Appropriateness for Alterations** to insulate/raise the roof, replace roof shingles and add roof-top solar panels to the structure located at Map U08, Lot 112; 9 Cleaveland Street, as outlined in the application and as satisfied by Subsection 5.2.8.C with the following condition:

1. That the Board's review and approval does hereby refer to these findings of fact, the plans and materials submitted by the applicant and the written and oral comments of the applicant, his representatives, reviewing officials, and members of the public as reflected in the public record. Any changes to the approved plan not called for in these conditions of approval or otherwise approved by the Director of Planning and Development as a minor modification, shall require further review and approval in accordance with the Brunswick Zoning Ordinance.

Motion: Second: Vote:

U8-112

HISTORIC PRESERVATION SURVEY

1980 photos J. Goff

Cumberland (County) Brunswick (City/Town) 9 Cleaveland (Street Address and Number)

Name of Building/site: common: 1955 chapel
Common and/or Historic

Approximate Date: ca. 1955 Style: Neo-Colonial

Type of Structure:
☐ Residential ☐ Commercial ☐ Industrial ☒ Other: Religious

Condition: ☒ Good ☐ Fair ☐ Poor

Endangered: ☐ No ☐ Yes

Surveyor: J. Goff Organization: Pejepscot Regional Survey Date: 1980; Aug. '83

Rating:

Historic Significance to the Community: Earlier building on site was late 19th c. mansard roofed structure (1874 Ridley & Stanwood store?). See photo on reverse. Another structure on site previously was early Greek Revival double house 9/11 Cleaveland (see photos).
(For Additional Information — Use Reverse Side)

Cleaveland St.

Re present building: see Brunswick Record 11/24/1955, cornerstone laid.
Brunswick Record 5/17/1956 "nears completion"

Cover Page

First Parish Church
BRUNSWICK, MAINE

Village Review Overlay
Certificate of Appropriateness Application
First Parish Church - Brunswick
Rep: Tyler Spillane

Document Number:

1) Village Review Overlay - Certificate of Appropriateness Application
2) Response to question 8 from application
3) Roof extension designs from G.M.Wild Construction
4) Roof condition report from Licoln/Hanney detailing need to replace roof
5) Energy audit from UpCountry detailing need from insulation (see page 9)
6) Proposed solar panel materials used from Maine Solar Solution
7) Computer render of proposed solar panel array
8) Drone photos of the roof and and surrounding area

Received:_____ VRB Case #:_____
By:_____

VILLAGE REVIEW OVERLAY
CERTIFICATE OF APPROPRIATENESS
APPLICATION

1. Project Applicant:

   Name: First Parish Church - Brunswick
   Address: 9 Cleaveland St

   Phone Number: (207) 729-7331
   Email Address: office@firstparish.net

2. Project Property Owner:

   Name: First Parish Church - Brunswick
   Address: _____

   Phone Number: _____
   Email Address: _____

3. Authorized Representative: (If different than applicant)

   Name: Tyler Spillane
   Address: 55 Intrepid St

   Phone Number: 207-319-2222
   Email Address: spillanetyler@gmail.com

4. Physical Location of Property Being Affected:

   Address: 9 Cleaveland Street

5. Tax Assessor's Map #U08 Lot #112 of subject property.

6. Underlying Zoning District GM6

7. Type of Activity (check all that apply):

   - ☐ Additions and New Construction
   - ■ Structural Alteration
   - ☐ Demolition/Moving of Structure
   - ☐ Sign Permit

8. Describe the location and nature of the proposed change(s), including a brief description of the proposed construction, reconstruction, alteration, demolition, proposed re-use, or other change (use separate sheet if necessary): See attached

Applicant Name (printed): Tyler Spillane

Applicant Signature: Tyler Spillane

Property Owner Name (printed): First Parish Church - John Allen

Property Owner Signature: John Allen

VILLAGE REVIEW OVERLAY
APPLICATION FOR CERTIFICATE OF COMPLIANCE
APPLICATION CHECK-LIST

This checklist will be completed by the Department of Planning and Development. The Department requires that all application materials be submitted in BOTH hard copy and digital format. In addition, for Major Review applications, EIGHT (8) HARD COPIES are required after your application is considered complete by Department staff. Your project will not be placed on the Village Review Board's agenda until this determination is made. For assistance, please contact the Department of Planning and Development at (207)725-6660.

- ☒ Completed application form
- ☒ A copy of the building survey prepared by the Pejepscot Historical Society pertaining to the structure under review (*provided by Department Staff).*
- ☒ A drawing showing the design, texture, and location of any construction, alteration, demolition for which a certificate is required. The drawing shall include plans and exterior elevations drawn to scale, with sufficient detail to show their relations to exterior appearances and the architectural design of the building. Drawings need not be prepared by an architect or engineer, but shall be clear, complete, and specific.
- ☒ A site plan or photographs showing the relationship of the changes to the surroundings.
- ☒ If architectural features are to be removed or replaced (including but not limited to original windows, siding, roofing material and other design elements), provide photographic documentation or a written assessment from a preservation professional or contractor explaining the condition of the material and reason for removal/replacement.
- ☒ Photographs of the building(s) involved, its context, and detailed photos of immediate area.
- ☒ List all proposed materials and products, and clearly identify their location on the drawings. Indicate texture of material, if applicable.
- ☒ Provide manufacturer's product information and, if possible, bring material samples to the meeting.
- N/A ☐ Provide information such as dimensions, photographs or source for salvaged or reused materials.
- N/A ☐ For demolition applications, provide detailed information addressing standards contained in Subsections 5.2.8.C (4) of the Brunswick Zoning Ordinance.

This application was certified as being complete on 6/3/25 **(date) by** JULIE EGONAN **of the Department of Planning and Development.**

THIS APPLICATION WAS:

- ☐ **Granted**
- ☐ **Granted With Conditions**
- ☐ **Denied**
- ☒ **Forwarded to Village Review Board**
- ☒ **Building Permit Required**
- ☐ **Building Permit NOT Required**

Applicable Comments: _____

_____

_____

_____

_____
Signature of Department Staff Reviewing Application

COMPLIANCE WITH ZONING STANDARDS

Notice: ***This form is to be completed by the Codes Enforcement Officer and filed with the application.***

This is to certify that the application for Certificate of Appropriateness submitted by First Parish Church, relating to property designated on Assessors Tax Map # 108 and Lot # 112 has been reviewed by the Codes Enforcement Officer and has been found to be in compliance with all applicable zoning standards:

Comments: _____

Signed: _____ Date: 6-12-25

Print: Taylor Rundin

Code Enforcement Officer

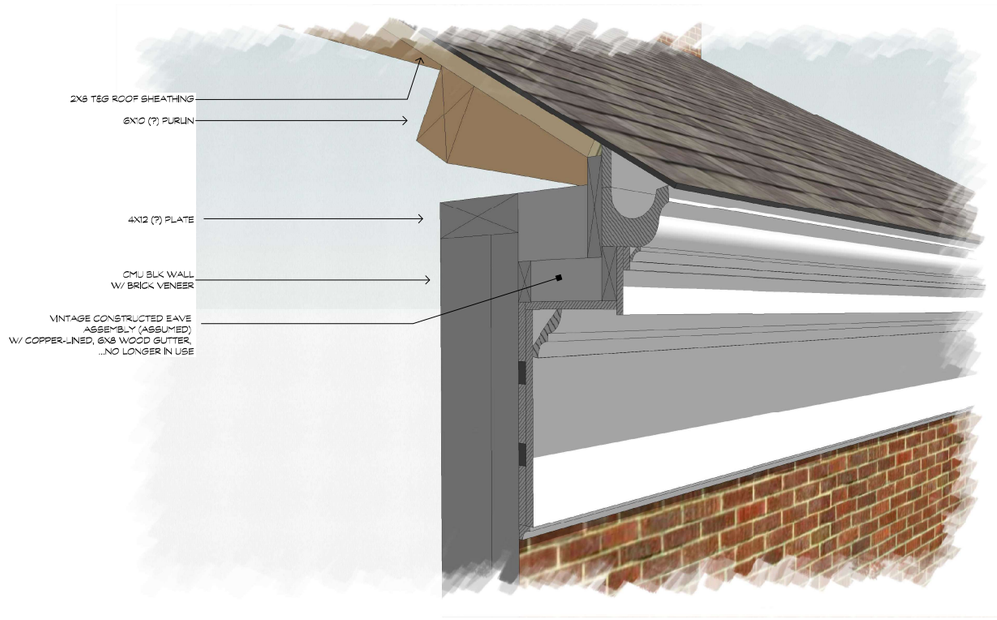
Document 2

8) *Describe the location and nature of the proposed change(s), including a brief description of the proposed construction, reconstruction, alteration, demolition, proposed re-use, or other change (use separate sheet if necessary)*

The proposed changes are to First Parish Church's Pilgrim House building located at 9 Cleveland. The aim of the project is to increase the energy efficiency of the building with insulation and add solar panels to offset our energy usage. The existing asphalt shingle roof will be removed, a layer of 3" rigid insulation will be added, secured to the existing roof decking by 5/8 " plywood, and new asphalt shingles will be installed. This will raise the overall roof 9 inches and the facia will be extended with minimal aesthetic changes. This insulation strategy is required to maintain the wood vaulted ceiling of the building. Additionally, black frame solar panels (REC 460 Watt) will be placed flush on the south facing side of the roof, covering approximately 80% of the roof area.

EXISTING, TYP.

PROPOSED



EXISTING, TYP.

EXISTING, TYP.

PROPOSED

G.M.Wild Construction

Building quality and customer satisfaction

>CONCEPT<

NOT FOR CONSTRUCTION

02-JUN-2025

NOTES:

1. PERSPECTIVES SHOW ADDITIONAL ROOF TRIM REQD. TO ACCOMMODATE THE ADDITION OF 5-6" POLYISO INSULATION APPLIED TO ROOF EXTERIOR SURFACE IN CONJUCTION WITH ROOFING REPLACEMENT, AND PRIOR TO ROOF-MOUNT SOLAR PANEL INSTALLATION.

2. PERSPECTIVES ARE NOT SCALABLE.

ROOF TRIM

SCALE: N/A

PROJECT:
GMWC-25-024-PCS-FPC

MUBEC 2021:
INSULATION/ ROOFING

LOCATION/ DELIVERY:
FIRST PARISH CHURCH
PILGRIM HOUSE
9 CLEAVELAND STREET
BRUNSWICK, ME 04011

MBLU: U08//112/000 000/

ZONE: GMB

OWNER:
FIRST PARISH CHURCH

CONTRACTOR:
GM WILD CONSTRUCTION, INC.
PO BOX 926
BRUNSWICK, ME 04011-0926
207-723-8184

PERSPECTIVE

A-901

GMWC-25-024-PCS-FPC Layout | 24x36 | GMWC-25-024-PCS-FPC.zip

Document 4

Lincoln/Haney Engineering Associates, Inc.
Structural Engineering Consultants
Michael A. Cunningham, P.E., LEED AP
Thad Gabryszewski, P.E., S.E.

August 03, 2022

William Stoy
First Parish Church
9 Cleveland Street
Brunswick, Maine 04011

Re: Pilgrim House roof analysis

Dear Bill:

As requested, Lincoln/Haney Engineering has completed our analysis of the existing roof structure. Of interest is the existing timber trusses and steel rod assemblies that run the entire length of the roof. This letter is provided to document the results of the analysis. We understand that there is a plan to add insulation and potentially add solar panels on the roof.

Existing Conditions

The Pilgrim House roof is framed with timber wood trusses placed at 12 ft. on center in the middle of the roof structure and varying spacings of 16ft. 6in. and 18ft. 8in. on the ends. There are two types of trusses as specified in the original design drawings: Truss A which is comprised of (2) 6x14 timbers bolted together in the plane of the roof and a 1 1/4in. horizontal rod; and Truss B, which is comprised of (2) 8x14 timbers bolted together in the plane of the roof and a 1 1/2in. horizontal rod. The placement of the horizontal rods, which are elevated above the eaves, has a significant impact on the stresses applied to the timber rafters. The species of the wood utilized is identified on the drawings as pine – select structural grade. The purlins that tie the trusses together are 6x8, 6x10 and 6x12 timbers, and the species is fir. Based on the age of this structure, the existing timber sizes are not consistent with planed lumber that would be purchased locally today. Hence our analysis is based on the true rough-cut dimension of the lumber as specified in the original design drawings. In past experiences with grading of historic lumber in place, we have found wide variations in quality. Limited observations of the lumber on this project appear to indicate that this is likely the case here. Hence our analysis is based on assumed values for select structural grade southern pine for the trusses, and douglas fir-larch (north) grade no. 1 for the purlins. Current building code references the National Design Specification by the American Wood Council for allowable stresses. Select structural grade of southern pine has an allowable bending stress of 1500 psi before applying appropriate modifiers identified in the code. Those modification factors increase the allowable bending stress to nearly 1700 psi for the roof trusses supporting snow loads. Number 1 grade of Douglas Fir-Larch has an allowable bending stress of 1200 psi before applying appropriate modifiers identified in the code. Those modification factors increase the allowable bending stress to nearly 1400 psi for the roof purlins supporting snow loads. The trusses span approximately 37 feet, and the gable roof slopes 7:12 on both sides.

The steel rods and connector plates were assumed to be grade A36 steel for this analysis.

Current Code Requirements

The current Maine Uniform Building and Energy Code (MUBEC) references the 2015 edition of the International Building Code (IBC), which references the 2010 edition of the American Society of Civil Engineers' publication "Minimum Design Loads for Buildings and Other Structures", ASCE 7-10. That

document identifies ground snow load for Brunswick as 50 psf, which translates to a flat roof snow load of 35 psf. At the time of the Pilgrim House original construction, there was no state-wide building code in effect and many communities had not adopted a code. The first snow load maps were published in the early 1970's. The first snow drifting provisions appeared in the Appendix of the 1975 BOCA Building Code. Hence it is not known what snow load was considered for the existing design for the original, 1955 Pilgrim House construction. Also, current code requires consideration of unbalanced snow loads, which can occur when snow blows from one side of the ridge to accumulate on the other side. This phenomenon was not understood in 1955.

Modifications to existing buildings are regulated by the International Existing Building Code (IEBC). The IEBC requires that a structure be evaluated if alterations increase loading. In this case, the addition of insulation will increase snow accumulation, and the addition of solar collectors will add 2 to 3 psf in dead load.

The differences in snow load design requirements in the current code from earlier editions relate to the consideration for non-uniform snow distributions. There are two such load cases that apply to the roofs being considered:

1. Snow can drift from one side of the gable roof surface over the ridge to the other side of the roof, resulting in an increased snow load for one side of the roof structure.
2. An equally distributed snow load is applied to both surfaces of the gable roof structure.

We analyzed the existing roof framing system for the two load cases as described above, and the worst-case scenario was used.

Results of Analysis

The analysis of this roof structure assumed a risk category II building per ASCE7-10.

Our analysis indicates that the existing wood trusses and purlins are over-stressed by the snow loading required under the current code, with the greatest overstress at the rod tie connections. The attached diagram shows the proposed modifications that are needed to bring the existing wood framing structure into compliance. The proposed modifications must be done to all the wood trusses, with special attention to the ones that are labeled "Truss A" and "Truss B" per the original design drawings. The purlins and ridge beams must also be modified throughout the entire length of the roof structure. The proposed alterations combined will increase the capacity to support the design snow loads prescribed by code and the proposed solar panel installation.

Attached is a diagram showing the proposed structural alterations needed for the roof structure to comply with current building codes. After the modifications are complete, the roof structure strength capacity will be at 111% of the demand per current code.

I trust that the information provided in this letter provides clear resolution to the proposed installation. If we may be of any further assistance in this matter, perhaps for consideration of an alternative support arrangement, please call or email.

Sincerely,

Eric Anderson, P.E.
Structural Engineer

Lincoln/Haney Engineering Associates, Inc.
(207) 729-1061 mail@lincolnhaney.com

Up-Country Building Inspectors, Inc.
475 US Route One Suite 10, PO Box D, Freeport ME, 04032 | www.uchi.com | 800-244-9876

Energy Evaluation

Prepared for:	The First Parish Church
Address:	Pilgrim House
	9 Cleavland Street
	Brunswick, ME 04011
Report Date:	May 25, 2023
Prepared by:	Aaron Despres
Phone:	207-883-9876
Inspection Date:	April 28, 2023
Blower Door System:	TEC Minneapolis Blower Door
Imaging System:	FLIR ThermaCAM BX320
Weather Conditions:	Clear
Wind Conditions:	Calm
Outside Temperature:	55 °F
Inside Temperature:	65 °F
Client Present:	Yes

BPI CERTIFIED PROFESSIONAL

Observations and Recommendations

A list of observations and recommendations separated by floor is presented below. Following each recommendation, a level of priority is given as low (L), medium (M), or high (H) as evaluated by the auditor. **Please note:** It is critical that all health/safety and building durability issues outlined below be addressed before any efficiency improvement tasks are performed (noted as: **Safety/Durability**).

Roof assembly

- (H) Install rigid foam board insulation on the roof deck as part of the roofing replacement. Ideally, a minimum R-value of 49 would be achieved though this may not be realistic. Install either polyisocyanurate or polystyrene insulation with staggered horizontal and vertical joints if more than one layer of insulation is installed. An air barrier membrane must be installed between the existing tongue and groove roof deck and the insulation. Make sure all seams are sealed. The use of a fully-adhered membrane is recommended. For a good representation of the insulation detail, review Figure 5 in *BSI-046: Dam Ice Dam* written by Joseph Lstiburek.

- (H) An alternative to installing individual insulation and sheathing components described above would be to install roof insulation panels such as made by Hunter. Ideally, the thickest insulation panel available would be installed which is 4" thick with an R-value of 21.1. It is still recommended that an air barrier membrane be installed between the roof deck and the insulation panels.

Upper Floor

- (H) **Safety** At 145° F, domestic hot water temperature was above the safe maximum temperature of 120° F at the kitchen sink. Adjust the temperature using the thermostat at the top of the water heater.

- (H) If the upper floor is not typically occupied during the week, consider lowering the thermostat (approximately 5-8 degrees below its typical occupied set point) for this area (if it is not done so already).

- (H) Air leakage appeared to be occurring at the purlin/exterior wall junctures. Air seal the perimeter of the purlins using high quality flexible sealant. Also seal the vertical cracks observed in the exterior walls including below the kitchen sink and near roof juncture.

- (H) The attic space above the southwest entrance was not insulated. It is recommended that the underside of the roof deck be insulated using 6 inches of closed cell spray foam. Current standards may require that the insulation be covered with a thermal barrier such as intumescent paint. Insulate the gable wall with 3 inches of closed cell spray foam as well.

- (H) Cathedral ceilings were present. There was likely significant temperature stratification present with the warmest air near ceiling. Use ceiling fans (on a very low setting) to circulate warm air that rises to the ceiling down to the occupied space.

Main Floor

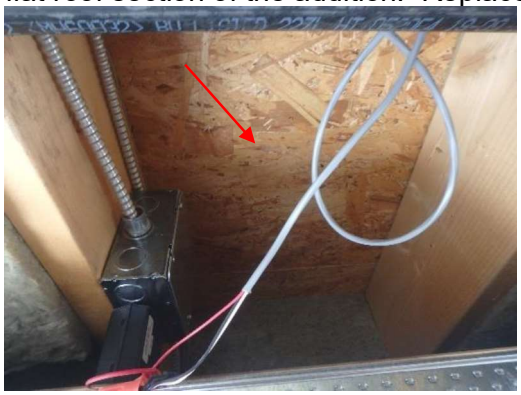
- (H) There was significant solar heat gain occurring at the east entrance addition during the site visit. Consider installing overhangs above the windows at the exterior to reduce solar heat gain during the warmer months. Click here for an explanation of the benefits of overhangs and here for potential products.

- (H) Sash locks were missing from a couple of windows. Replace. Will reduce air leakage.

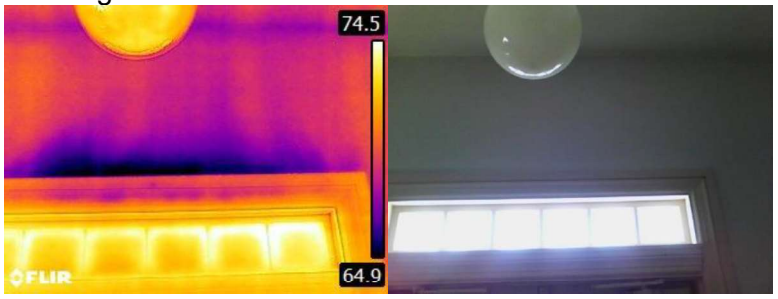
- (H) Make sure that all windows are shut and locked during the heating months (including on upper floor). Also make sure storm windows are shut.

- (H) Replace worn sweepers and weather-stripping at the original exterior wood doors to reduce air leakage.

- (H) Insulation was missing from between roof rafters beneath flat roof section of the addition. Replace.



- (M) Air leakage was observed above the transom window at the southeast entrance. Air seal the wall/trim juncture using caulking.



- (M) Air seal receptacles and switches by caulking between electrical box and drywall. Install gaskets behind receptacle and switch plates and use plug covers when receptacles are not in use.

- (L) Air leakage was likely occurring through each fireplace. Reduce heat loss through each fireplace by installing inflatable flue sealers or consider installing a top-mount damper that can be operated from the fireplace opening.

Basement

- (M) Consider insulating the heating supply and return pipes, and domestic hot water pipes where exposed in the basement using fiberglass pipe insulation. Make sure there are no gaps in the insulation and that the splits face downward.

Exterior

- (H) Make sure that the exterior of the building is kept in good repair. Repoint mortar joints as needed. Consider applying a siloxane sealer to the exterior to reduce moisture intrusion into the masonry.

- (H) The use of roof de-icing equipment may not be needed or at least diminished if roof insulation is installed.

Other Important Recommendations

Safety/Durability It is strongly recommended that a carbon monoxide (CO) detector be installed to ensure timely warning of a boiler or furnace vent malfunction.

Safety/Durability Lastly, if improvements are made on the building, we recommend having a radon in air test performed since making a building tighter may change radon concentrations within the structure.

Estimated Savings

Roof insulation upgrade

Assumptions

R-value of existing roof deck: 3.46
R-value of roof deck with proposed insulation upgrade (Hunter H-Sheild NB 4 inch): 24.46
Average heating degree days for Brunswick, ME: 7,353
Approximate area of roof deck: 4,300 square feet
Average cost per therm of natural gas: $1.83 (excluding service charge)
Anticipated cost (not including roofing materials): $52,000
Anticipated cost (including roofing materials): $77,400

Estimated savings

1,882 therms/year
$3,430/year
Simple payback excluding roofing: ~15 years
Simple payback including roofing: ~22.5 years
Savings to investment ratio (not including roofing materials and assuming a 40-year service life for the insulation panels): 2.64

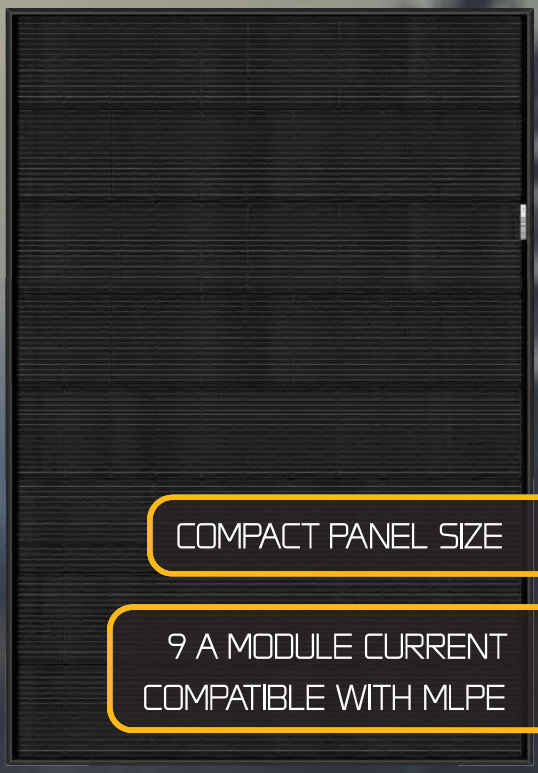
SOLAR'S MOST TRUSTED

REC

REC ALPHα®
PURE-RX SERIES

DATASHEET

470 Wp
22.6% EFFICIENCY
21 W/FT²



COMPACT PANEL SIZE

9 A MODULE CURRENT
COMPATIBLE WITH MLPE

PRODUCT
REC
25 YEAR
ProTrust
WARRANTY
PERFORMANCE
LABOR

ELIGIBLE

LEAD-FREE
ROHS COMPLIANT

EXPERIENCE
α
PERFORMANCE

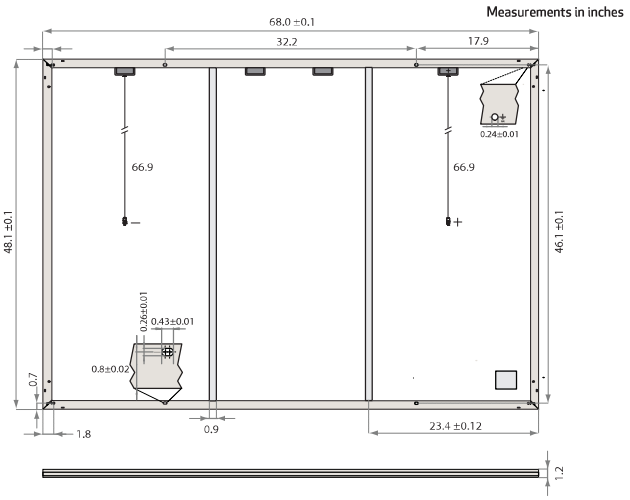
REC ALPHα® PURE-RX SERIES

DATASHEET

REC
SOLAR'S MOST TRUSTED

GENERAL DATA

Cell Type	88 half-cut bifacial REC heterojunction cells, with lead-free, gapless technology
Glass	0.13 in. solar glass with anti-reflective surface treatment in accordance with EN12150
Backsheet	Highly resistant polymer (Black)
Frame	Anodized aluminum (Black)
Junction Box	4-part, 4 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790
Connectors	Stäubli MC4 PV-KBT4/KST4 (12AWG) in accordance with IEC 62852, IP68 only when connected
Cable	12 AWG solar cable, 66.9 in. + 66.9 in. in accordance with EN50618
Dimensions	68 x 47.4 x 1.2 in. (22.4 ft²)
Weight	51.6 lbs
Origin	Made in Singapore



ELECTRICAL DATA

PRODUCT CODE*: RECxxxAA Pure-RX

STC	Power Output - P_{MAX} (W_P)	450	460	470
	Watt Class Sorting - (W)	0/+10	0/+10	0/+10
	Nominal Power Voltage - V_{MPP} (V)	54.3	54.9	55.4
	Nominal Power Current - I_{MPP} (A)	8.29	8.38	8.49
	Open Circuit Voltage - V_{OC} (V)	65.1	65.3	65.6
	Short Circuit Current - I_{SC} (A)	8.81	8.88	8.95
	Power Density (W/ft²)	20.1	20.5	21
	Panel Efficiency (%)	21.6	22.1	22.6
NMOT	Power Output - P_{MAX} (W_P)	343	350	358
	Nominal Power Voltage - V_{MPP} (V)	51.2	51.7	52.2
	Nominal Power Current - I_{MPP} (A)	6.70	6.77	6.86
	Open Circuit Voltage - V_{OC} (V)	61.3	61.6	61.8
	Short Circuit Current - I_{SC} (A)	7.11	7.17	7.23

Values at standard test conditions (STC: air mass AM 1.5, irradiance 1000 W/m², temperature 77°F (25°C)), based on a production spread with a tolerance of P_{MAX}, V_{OC} & I_{SC} ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM 1.5, irradiance 800 W/m², temperature 68°F (20°C), windspeed 3.3 ft/s (1 m/s)). *Where xxx indicates the nominal power class (P_{MAX}) at STC above.

MAXIMUM RATINGS

Operational Temperature	-40 °F - 185 °F
System Voltage	1000 V
Maximum Test Load (front)	+7000 Pa (146 lb/ft²)
Maximum Test Load (rear)	-4000 Pa (83.4 lb/ft²)
Max Series Fuse Rating	25 A
Max Reverse Current	25 A

* See installation manual for mounting instructions.
Design load = Test load / 1.5 (safety factor)

TEMPERATURE RATINGS*

Nominal Module Operating Temperature	44 °C ± 2°C
Temperature coefficient of P_{max}	-0.24% /K
Temperature coefficient of V_{OC}	-0.24% /K
Temperature coefficient of I_{SC}	0.04% /K

*The temperature coefficients stated are linear values

DELIVERY INFORMATION

Panels per Pallet	33
Panels per 40 ft GP/high cube container	594 (18 Pallets)
Panels per 53 ft truck	792 (24 Pallets)

CERTIFICATIONS

IEC 61215:2021; IEC61730:2016; UL61730	
IEC 62716	Ammonia Resistance
IEC 61701	Salt Mist (SM6)
IEC 61215:2016	Hailstone (35mm)
UL 61730	Fire Type 2
IEC 62321	Lead-free acc. to RoHS EU 863/2015
ISO 14001; ISO9001; IEC45001; IEC62941	

Lead-Free

take-e-way
for an easy way
Take-e-way WEEE-compliant scheme

Living building challenge compliant

Declare.

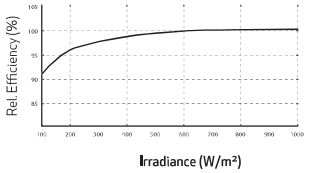
WARRANTY

	Standard	REC ProTrust	
Installed by an REC Certified Professional	No	Yes	Yes
System Size	All	<25 kW	25-500 kW
Product Warranty (yrs)	20	25	25
Power Warranty (yrs)	25	25	25
Labor Warranty (yrs)	0	25	10
Power in Year 1	98%	98%	98%
Annual Degradation	0.25%	0.25%	0.25%
Power in Year 25	92%	92%	92%

The REC ProTrust Warranty is only available on panels purchased through an REC Certified Solar Professional installer. Warranty conditions apply. See www.recgroup.com for more details

LOW LIGHT BEHAVIOR

Typical low irradiance performance of module at STC:



Specifications subject to change without notice.

Ref: PM-DS-12-06-Rev-4.2 3.2024

Available from:

Founded in 1996, REC Group is an international pioneering solar energy company dedicated to empowering consumers with clean, affordable solar power. As Solar's Most Trusted, REC is committed to high quality, innovation, and a low carbon footprint in the solar materials and solar panels it manufactures. Headquartered in Norway with operational headquarters in Singapore, REC also has regional hubs in North America, Europe, and Asia-Pacific.

REC Solar PTE. LTD.
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Singapore 637312
post@recgroup.com
www.recgroup.com

REC


Document 7

Document 8

Julie Erdman

From: Andrew Rudalevige <arudalev@bowdoin.edu>
Sent: Monday, June 16, 2025 10:30 AM
To: Julie Erdman
Subject: Comment for VRB meeting 6/17 (support for case 25-014 9)

Hi! As an abutter to First Parish Church's Pilgrim House building on the end of Cleaveland St, I received notification of the VRB meeting for Tuesday night where renovations to that building will be discussed. They plan to add insulation, re-shingle the roof, and add solar panels. (The agenda identifies this as Case no. VRB 25-014 9).

I won't be able to attend the meeting in person as I'll be traveling for work. But I wanted to express my support. The only meaningful change in appearance will be the addition of the solar panels, and while they are obviously not original to the structure they are an important part not just of our broader need for additional green energy but an important symbol of the church's mission to sustain our natural world. As one of the people who will look at those panels most often I have no objection to their installation - just the opposite - and very much hope the Board will approve the project. I'm happy to provide additional testimony to this effect when I am back in Brunswick later in the week if that's at all useful.

Thanks for your time and attention.

With all best wishes,

Andrew Rudalevige
76 Federal St, Brunswick
(207) 798-4273

Julie Erdman

From: Tricia Welsch <twelsch@bowdoin.edu>
Sent: Monday, June 16, 2025 1:24 PM
To: Julie Erdman
Cc: Rev. John Allen
Subject: 9 Cleaveland Street

Hi—

I am writing in support of the application by my neighbors at Pilgrim House (9 Cleaveland Street) to insulate the building's roof, replace the shingles, and add rooftop solar panels.

I live next door at 15 Cleaveland Street, in a house built in 1811. The solar panels Pilgrim House is proposing would not be appropriate on my house, alas (or even possible, given its roof construction). But they will be a positive addition to Pilgrim House and make the building both warmer and greener. Adding solar panels to this mid-century property will not diminish the historic character of the neighborhood or the surrounding buildings.

First Parish Church is an excellent neighbor in every way, and the town should support anything that makes its operations smoother and more sustainable.

I encourage the board to review this application favorably.

With thanks for the work you do to keep Brunswick beautiful—

Tricia Welsch
Professor of Cinema Studies
Bowdoin College
8100 College Station
Brunswick, Maine 04011-8481
207-725-3532
