

EXPEDITED

MONTGOMERY COUNTY HISTORIC PRESERVATION COMMISSION
STAFF REPORT

Address:	25 Primrose St., Chevy Chase	Meeting Date:	11/15/2017
Resource:	Contributing Resource (Chevy Chase Village Historic District)	Report Date:	11/8/2017
Applicant:	Joseph Faley	Public Notice:	11/1/2017
Review:	HAWP	Tax Credit:	N/A
Case Number:	35/13-17MM	Staff:	Michael Kyne
PROPOSAL: Window and door replacement			

STAFF RECOMMENDATION:

- Approve
 Approve with conditions

ARCHITECTURAL DESCRIPTION

SIGNIFICANCE: Contributing Resource within the Chevy Chase Village District
STYLE: Colonial Revival
DATE: 1916-1927

PROPOSAL

The applicant proposes the following work items at the subject property:

- Replace the vinyl siding on the rear elevations of existing rear additions with Hardie Plank siding.
- Replace the non-historic TDL and 1-over-1 wood windows on the rear elevations of existing rear additions with 1-over-1 aluminum-clad wood windows.
- Convert a non-historic 8-over-12 TDL window on the rear elevation of an existing rear addition to a French door.
- Convert a non-historic triple ganged window on the rear elevation of an existing rear addition to a paired window.
- Convert a non-historic sliding glass door on the rear elevation of an existing rear addition to a French door.
- Convert two non-historic square windows on the left side of an existing left side addition to a paired window.
- Replace the two skylights on the rear roof plane.
- Replace the metal railing on the second-floor balcony of an existing rear addition with a wrought iron railing.
- Replace the door at the second-floor balcony.
- Replace the brick pavers at the rear of the property with flagstone pavers.

Most of the proposed work is at the rear of the subject property and/or on rear elevations of existing rear

additions and will not be at all visible from the public right-of-way. The only proposed alteration that will be visible from the public right-of-way is the conversion of two non-historic square windows on the left side of an existing left side addition to a paired window, which will not alter or remove character defining features of the historic house.

APPLICABLE GUIDELINES:

Policy On Use of Expedited Staff Reports for Simple HAWP Cases

IV. The Expedited Staff Report format may be used on the following type of cases:

2. Modifications to a property, which do not significantly alter its visual character.
11. Construction or replacement of walkways, parking areas, patios, driveways or other paved areas that are not readily visible from the public right-of-way and/or are compatible in material, location, and design with the visual character of the historic site or district.

Montgomery County Code; Chapter 24A-8

- (a) The commission shall instruct the director to deny a permit if it finds, based on the evidence and information presented to or before the commission that the alteration for which the permit is sought would be inappropriate, inconsistent with or detrimental to the preservation, enhancement or ultimate protection of the historic site or historic resource within an historic district, and to the purposes of this chapter.
- (b) The commission shall instruct the director to issue a permit, or issue a permit subject to such conditions as are found to be necessary to insure conformity with the purposes and requirements of this chapter, if it finds that:
 - (1) The proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district; or
 - (2) The proposal is compatible in character and nature with the historical, archeological, architectural or cultural features of the historic site or the historic district in which an historic resource is located and would not be detrimental thereto or to the achievement of the purposes of this chapter; or
 - (3) The proposal would enhance or aid in the protection, preservation and public or private utilization of the historic site or historic resource located within an historic district in a manner compatible with the historical, archeological, architectural or cultural value of the historic site or historic district in which an historic resource is located; or
 - (4) The proposal is necessary in order that unsafe conditions or health hazards be remedied; or
 - (5) The proposal is necessary in order that the owner of the subject property not be deprived of reasonable use of the property or suffer undue hardship; or
 - (6) In balancing the interests of the public in preserving the historic site or historic resource located within an historic district, with the interests of the public from the use and benefit of the alternative proposal, the general public welfare is better served by granting the permit.

- (c) It is not the intent of this chapter to limit new construction, alteration or repairs to any 1 period or architectural style.
- (d) In the case of an application for work on an historic resource located within an historic district, the commission shall be lenient in its judgment of plans for structures of little historical or design significance or for plans involving new construction, unless such plans would seriously impair the historic or architectural value of surrounding historic resources or would impair the character of the historic district. (Ord. No. 9-4, § 1; Ord. No. 11-59.)

STAFF RECOMMENDATION:

Staff recommends that the Commission approve the HAWP application under the Criteria for Issuance in Chapter 24A-8(b), (1), (2) & (d) having found that the proposal is consistent with the *Chevy Chase Village Historic District Guidelines*, and therefore will not substantially alter the exterior features of the historic resource and is compatible in character with the district and the purposes of Chapter 24A;

and with the *Secretary of the Interior's Standards for Rehabilitation*;

and with the general condition that the applicant shall present the **3 permit sets of drawings, if applicable, to Historic Preservation Commission (HPC) staff for review and stamping** prior to submission for the Montgomery County Department of Permitting Services (DPS) building permits;

and with the general condition that the applicant shall notify the Historic Preservation Staff if they propose to make **any alterations** to the approved plans;

and with the general condition that final project design details, not specifically delineated by the Commission, shall be approved by HPC staff or brought back to the Commission as a revised HAWP application at staff's discretion.

Once the work is completed the applicant will contact the staff person assigned to this application at 301-563-3400 or michael.kyne@montgomeryplanning.org to schedule a follow-up site visit.



HISTORIC PRESERVATION COMMISSION
301/563-3400

**APPLICATION FOR
HISTORIC AREA WORK PERMIT**

Contact Email: JOSEPHABFALEY@COMCAST.NET Contact Person: JOSEPHABFALEY

Daytime Phone No.: 301-652-5875
(301) 240-888-8580

Tax Account No.: 00454231

Name of Property Owner: JOSEPHABFALEY Daytime Phone No.: 301-652-5875

Address: 25 Primrose Street Chevy Chase Street Number: 25 City: Chevy Chase State: MD Zip Code: 20815

Contractor: _____ Phone No.: _____

Contractor Registration No.: _____

Agent for Owner: _____ Daytime Phone No.: _____

LOCATION OF BUILDING/PREMISE

House Number: 25 Street: Primrose Street

Town/City: Chevy Chase Nearest Cross Street: Brockville Road

Lot: _____ Block: _____ Subdivision: _____

Liber: _____ Folio: _____ Parcel: _____

PART ONE: TYPE OF PERMIT/ ACTION AND USE

1A. CHECK ALL APPLICABLE:

- | | | | | | | | | |
|------------------------------------|--|--|--|---------------------------------------|--|--|-------------------------------|-------------------------------|
| <input type="checkbox"/> Construct | <input type="checkbox"/> Extend | <input checked="" type="checkbox"/> Alter/Renovate | <input type="checkbox"/> A/C | <input type="checkbox"/> Slab | <input type="checkbox"/> Room Addition | <input type="checkbox"/> Porch | <input type="checkbox"/> Deck | <input type="checkbox"/> Shed |
| <input type="checkbox"/> Move | <input type="checkbox"/> Install | <input type="checkbox"/> Wreck/Raze | <input type="checkbox"/> Solar | <input type="checkbox"/> Fireplace | <input type="checkbox"/> Woodburning Stove | <input type="checkbox"/> Single Family | | |
| <input type="checkbox"/> Revision | <input checked="" type="checkbox"/> Repair | <input type="checkbox"/> Revocable | <input type="checkbox"/> Fence/Wall (complete Section 4) | <input type="checkbox"/> Other: _____ | | | | |

1B. Construction cost estimate: \$ 80,000

1C. If this is a revision of a previously approved active permit, see Permit # _____

CHECK ALL APPLICABLE

2A. Type of sewage disposal: 01 WSSC 02 Septic 03 Other: _____

2B. Type of water supply: 01 WSSC 02 Well 03 Other: _____

PART THREE: COMPLETE ONLY FOR FENCE/RETAINING WALL

3A. Height _____ feet _____ inches

3B. Indicate whether the fence or retaining wall is to be constructed on one of the following locations:

- On party line/property line Entirely on land of owner On public right of way/ easement

I hereby certify that I have the authority to make the foregoing application, that the application is correct, and that the construction will comply with plans approved by all agencies listed and I hereby acknowledge and accept this to be a condition for the issuance of this permit.

Josephab Faley
Signature of owner or authorized agent

10-20-17
Date

Approved: _____ For Chairperson, Historic Preservation Commission

Disapproved: _____ Signature: _____ Date: _____

Application/Permit No.: _____ Date Filed: _____ Date Issued: _____

**THE FOLLOWING ITEMS MUST BE COMPLETED AND THE
REQUIRED DOCUMENTS MUST ACCOMPANY THIS APPLICATION.**

1. WRITTEN DESCRIPTION OF PROJECT

- a. Description of existing structure(s) and environmental setting, including their historical features and significance:

Front portion of existing property has No significant historical significance due to the multiple additions done throughout its history. There are also multiple different finish materials that are randomly placed which detract from its historical significance.

- b. General description of project and its effect on the historic resource(s), the environmental setting, and, where applicable, the historic district:

Project will include replacement of multiple windows and doors on rear of property to tie together fenestration with same size elements. Also, the replacement of multiple siding types will help tie together entire facade.

2. SITE PLAN

Site and environmental setting, drawn to scale. You may use your plat. Your site plan must include:

- the scale, north arrow, and date;
- dimensions of all existing and proposed structures; and
- site features such as walkways, driveways, fences, ponds, streams, trash dumpsters, mechanical equipment, and landscaping.

3. PLANS AND ELEVATIONS

You must submit 2 copies of plans and elevations in a format no larger than 11" x 17". Plans on 8 1/2" x 11" paper are preferred.

- Schematic construction plans, with marked dimensions, indicating location, size and general type of walls, window and door openings, and other fixed features of both the existing resource(s) and the proposed work.
- Elevations (façades), with marked dimensions, clearly indicating proposed work in relation to existing construction and, when appropriate, context. All materials and fixtures proposed for the exterior must be noted on the elevations drawings. An existing and a proposed elevation drawing of each facade affected by the proposed work is required.

4. MATERIALS SPECIFICATIONS

General description of materials and manufactured items proposed for incorporation in the work of the project. This information may be included on your design drawings.

5. PHOTOGRAPHS

- Clearly labeled photographic prints of each facade of existing resource, including details of the affected portions. All labels should be placed on the front of photographs.
- Clearly label photographic prints of the resource as viewed from the public right-of-way and of the adjoining properties. All labels should be placed on the front of photographs.

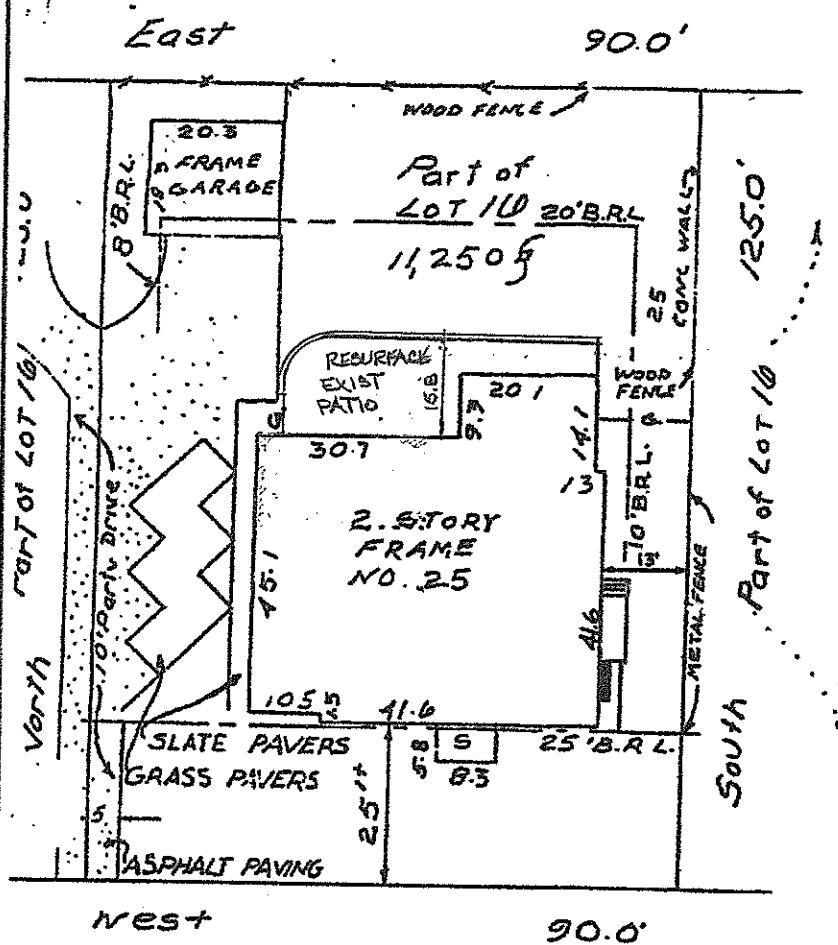
6. TREE SURVEY

If you are proposing construction adjacent to or within the dripline of any tree 6" or larger in diameter (at approximately 4 feet above the ground), you must file an accurate tree survey identifying the size, location, and species of each tree of at least that dimension.

7. ADDRESSES OF ADJACENT AND CONFRONTING PROPERTY OWNERS

For ALL projects, provide an accurate list of adjacent and confronting property owners (not tenants), including names, addresses, and zip codes. This list should include the owners of all lots or parcels which adjoin the parcel in question, as well as the owner(s) of lot(s) or parcel(s) which lie directly across the street/highway from the parcel in question.

PLEASE PRINT (IN BLUE OR BLACK INK) OR TYPE THIS INFORMATION ON THE FOLLOWING PAGE.
PLEASE STAY WITHIN THE GUIDES OF THE TEMPLATE, AS THIS WILL BE PHOTOCOPIED DIRECTLY ONTO MAILING LABELS.



NOTE
S = STOOP

PRIMROSE STREET

SCALE: 1" = 30'

DATE: 10-19-17

Location House
PART OF LOT 10, BLOCK 58
SECTION NO. 2
CHEVY CHASE
Montgomery County, Md.

MR. & MRS. R. SCOTT FALEY
25 PRIMROSE STREET
CHEVY CHASE, MD 20815

JOB SITE LOCATION:
25 PRIMROSE STREET
CHEVY CHASE, MD 20815
DATE: 10-19-2017

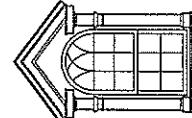
GENERAL NOTES

Category	Notes	Reference	Subject to change from	Notes	Notes	Notes	Notes	Notes	Notes
1) All construction to be in accordance with A.S.T.M. C-216 Deedling Code & all MONTGOMERY COUNTY Building and Safety Codes.				15) All masonry shall be type "S" conforming to A.S.T.M. C-210	20) All roof, floor and exterior, trusses to be designed by truss manufacturer to carry required loads and to be fastened according to manufacturer's specifications.	25) Flashings, gutters to project 20° from front of facing and 12° to side of chimney.	30) Firestopping shall be provided according to I.R.C. Sec. R - 602.8. The integrity of oil firestopping shall be matched.	35) Provide radon mitigation according to I.R.C. Sec. R - 202.12.	40) Provide interlocked smoke detector, carbon monoxide detector, automatic sprinkler system to protect oil floors, bedrooms, and basements according to I.R.C. Sec. R-313 & R-314.
2) Design live loads:				16) Stone and masonry veneer shall conform to I.R.C. Sec. R-702.7.	21) Contractor to provide architect with shop drawings for all roof and floor surfacing in place and top of reinforced concrete was broached open.	26) Provide solid blocking under oil joist studs not bearing directly on joists or I.A.J.'s.	31) Provide radon mitigation according to I.R.C. Sec. R-311 & Appendix F.	36) Provide steel, corrugated, bearing on oil joists, plates, maximum height to be 7 1/4".	41) Handrails & guardrails shall comply to I.R.C. Sec. R-311 & 312.
- Steeple room load - 30 psf. - Rice load 40 p.s.f. - Root load 30 p.s.f. - Garage load 50 p.s.f.				17) Backfilling against basement walls shall not be performed until first floor surfacing is in place.	22) Contractor to provide architect with shop drawings for approval prior to ordering trusses.	27) Provide solid blocking under oil joist studs not bearing directly over the studs of the top plate that occur only over the studs.	32) Sloping room windows shall comply with I.R.C. Sec. R-310	37) Other considerations, including, but not limited to, other plans, recesses, cutting of 1/8" thick sheathing and 1 1/2" wide shall be reported to the plans owners and to each side of the opening with not less than 1/2" nailing.	42) Handrails & guardrails shall comply to I.R.C. Sec. R-311 & 312.
3) Soil bearing to be 2000 psf. minimum.				18) Maximum allowable lateral pressure on basement walls 60 psf.	23) All exterior steel to be grade 50 and conform to A.S.T.M. Spec. A-615 unless otherwise noted. Provide center bars of all web covers. Submit reinforcing steel shop drawings for approval.	28) In those cases where floor trusses are not centered directly over the studs, splices of the top plate shall occur only over the studs.	33) Sloping room windows shall comply with I.R.C. Sec. R-310	38) Other considerations, including, but not limited to, other plans, recesses, cutting of 1/8" thick sheathing and 1 1/2" wide shall be reported to the plans owners and to each side of the opening with not less than 1/2" nailing.	43) All walls shall comply to I.R.C. Sec. R-311.
4) Decking and load 115 mph.				19) All exterior steel to be grade 50 and conform to A.S.T.M. Spec. A-615 unless otherwise noted. Provide center bars of all web covers. Submit reinforcing steel shop drawings for approval.	24) Steel columns to be 2015, R.C. Spec. A-36, Fy = 35,000 psi.	29) In those cases where floor trusses are not centered directly over the studs, splices of the top plate shall occur only over the studs.	34) Sloping room windows shall comply with I.R.C. Sec. R-310	39) Other considerations, including, but not limited to, other plans, recesses, cutting of 1/8" thick sheathing and 1 1/2" wide shall be reported to the plans owners and to each side of the opening with not less than 1/2" nailing.	44) Sloping room windows shall comply with I.R.C. Sec. R-310
5) Bottom of all concrete footings to be 30° minimum below finished grade.				20) Steel and S.C. shall conform to A.S.T.M. Spec. A-307 or later.	25) Steel columns in basement to be adjustable STD. All columns unless specified otherwise, shall be standard steel such meet A.S.T.M. standards. All connections to be A.I.C. standard.	30) Other considerations, including, but not limited to, other plans, recesses, cutting of 1/8" thick sheathing and 1 1/2" wide shall be reported to the plans owners and to each side of the opening with not less than 1/2" nailing.	40) Sloping room windows shall comply with I.R.C. Sec. R-310	41) Sloping room windows shall comply with I.R.C. Sec. R-310	45) Sloping room windows shall comply with I.R.C. Sec. R-310
6) Foundation walls shall comply to I.R.C. Sec. R-401, thru 404.				21) Foundation walls to be 100 p.s.f. and conform to I.R.C. Sec. R-406.	26) Bottom of all concrete footings to be 30° minimum below finished grade.	31) Double beams, double joists and valleys shall be notched acutely, together to ensure that the two members will engage and stay together in the applied load.	42) Foundation walls shall conform to I.R.C. Sec. R-401, thru 404.	43) Foundation walls shall conform to I.R.C. Sec. R-401, thru 404.	46) Foundation walls shall conform to I.R.C. Sec. R-401, thru 404.
7) Foundation drainage shall comply to I.R.C. Sec. R-405.				22) All structural wood framing, including roof and floor sheathing, to be in accordance with the "National Design Specification for Wood Construction". Framing further shall be in accordance with the "National Design Specification for Wood Construction" or other.	27) Attached garages shall comply to I.R.C. Sec. R-506.	32) Unless specified otherwise, provide the following limit over respiratory openings:	47) Foundation drainage shall conform to I.R.C. Sec. R-405.	48) Foundation walls shall conform to I.R.C. Sec. R-401, thru 404.	49) Foundation walls shall conform to I.R.C. Sec. R-401, thru 404.
8) Foundation waterproofing shall comply to I.R.C. Sec. R-406.				23) All concrete to be 150 p.s.f. and conform to I.R.C. Sec. R-309.	28) Attached garages shall comply to I.R.C. Sec. R-506.	33) Sloping room windows shall conform to I.R.C. Sec. R-310	50) Foundation walls shall conform to I.R.C. Sec. R-401, thru 404.	51) Steel joists to be in accordance with S.J.L. specifications. Provide single bridging top and bottom per S.J.L.	52) Steel joists shall conform to S.J.L. specifications.
9) Attached Garages shall comply to I.R.C. Sec. R-406.				24) All concrete to be 150 p.s.f. and conform to I.R.C. Sec. R-309.	29) Foundation walls shall conform to I.R.C. Sec. R-401, thru 404.	34) Sloping room windows shall conform to I.R.C. Sec. R-310	53) Shear studs shall provide roof framing plans signed and sealed by truss manufacturer and shop drawing for fiber joints of framing inspection.	54) Shear studs shall conform to S.J.L. specifications.	55) Shear studs shall conform to S.J.L. specifications.
10) Concrete floors shall comply to I.R.C. Sec. R-506.				30) All concrete to be 150 p.s.f. and conform to I.R.C. Sec. R-309.	31) All concrete to be 150 p.s.f. and conform to I.R.C. Sec. R-309.	35) Shear studs shall conform to I.R.C. Sec. R-310	56) Note: Builders shall provide roof framing plans signed and sealed by truss manufacturer and shop drawing for fiber joints of framing inspection.	57) Shear studs shall conform to S.J.L. specifications.	58) Shear studs shall conform to S.J.L. specifications.
11) All concrete to be 150 p.s.f. and conform to I.R.C. Sec. R-506.				32) All concrete to be 150 p.s.f. and conform to I.R.C. Sec. R-309.	33) All concrete to be 150 p.s.f. and conform to I.R.C. Sec. R-309.	36) Shear studs shall conform to I.R.C. Sec. R-310	59) Note: Builders shall provide roof framing plans signed and sealed by truss manufacturer and shop drawing for fiber joints of framing inspection.	60) Shear studs shall conform to S.J.L. specifications.	61) Shear studs shall conform to S.J.L. specifications.
12) All concrete used in foundation walls shall be load bearing without bearing locations on cants, wall cells shall be filled solid with grout or mortar for top two courses minimum.				34) All concrete to be 150 p.s.f. and conform to I.R.C. Sec. R-309.	35) All concrete to be 150 p.s.f. and conform to I.R.C. Sec. R-309.	37) Shear studs shall conform to I.R.C. Sec. R-310	62) Shear studs shall conform to S.J.L. specifications.	63) Shear studs shall conform to S.J.L. specifications.	64) Shear studs shall conform to S.J.L. specifications.
13) All concrete, walls shall have standard truss type DUR-O-WALL, bed joint reinforcement at maximum 16" vertical spacing				36) All concrete to be 150 p.s.f. and conform to I.R.C. Sec. R-309.	37) All concrete to be 150 p.s.f. and conform to I.R.C. Sec. R-309.	38) Shear studs shall conform to I.R.C. Sec. R-310	65) Shear studs shall conform to S.J.L. specifications.	66) Shear studs shall conform to S.J.L. specifications.	67) Shear studs shall conform to S.J.L. specifications.
14) All brick units used in exterior shall conform to A.S.T.M. C-92 or A.S.T.M. C-216.				38) Splices of the bottom and top portion of a double top plate must be staggered at minimum of 4'-0".	39) All concrete to be 150 p.s.f. and conform to I.R.C. Sec. R-309.	39) All concrete to be 150 p.s.f. and conform to I.R.C. Sec. R-309.	68) Splices of the bottom and top portion of a double top plate must be staggered at minimum of 4'-0".	69) Splices of the bottom and top portion of a double top plate must be staggered at minimum of 4'-0".	70) Splices of the bottom and top portion of a double top plate must be staggered at minimum of 4'-0".

INDEX

000	COVER SHEET
A100	FIRST FLOOR PLAN SECTION A
A200	SECOND FLOOR PLAN
A300	FRONT & REAR ELEVATIONS
E100	FIRST FLOOR ELECTRIC PLAN
E101	SECOND FLOOR ELECTRIC PLAN

CLAUDE C. LAPP
 — ARCHITECTS, LLC —



11820 PARKLAWN DRIVE, SUITE 100
 ROCKVILLE, MD 20852
 TEL. 301-881-6856 FAX. 301-770-9163
 WWW.CLAUDECLAPPARCHITECTS.COM
 INFO@CLAUDECLAPPARCHITECTS.COM

PROFESSIONAL CERTIFICATION

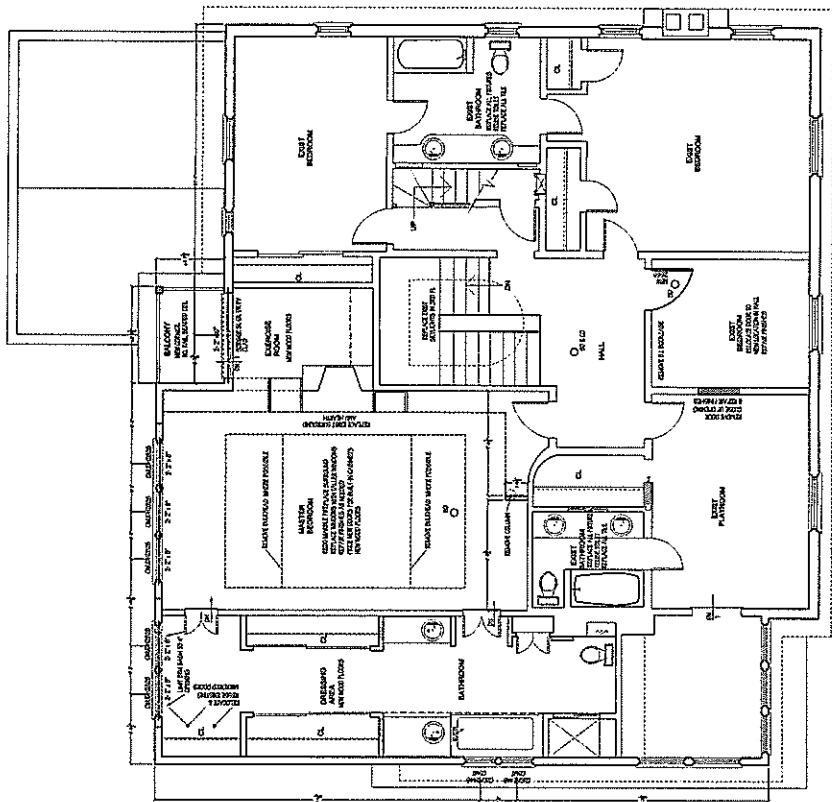
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE #7633-R, EXPIRATION DATE 04-26-2019



INDEX

REVISIONS

APPROVED		DATE	
CONTRACTOR OR OWNER AGREE THAT THE CONDITIONS IN THIS PLAN DO NOT CONSTITUTE AN INSTRUMENT OF CONSTRUCTION AND THAT NO INSPECTION BY ANY INSPECTOR OF THE BUILDING AND STRUCTURES IS REQUIRED. ALL DEFECTS IN WALL, DOORS, DRAINS, ETC., TO BE REPORTED AS NOTED OTHERWISE.			
CLAUDETTE CLAPP REPRESENTATIVE OF CONTRACTOR OR OWNER FOR THIS PROJECT I HEREBY CERTIFY THAT THE PLANS AND SPECIFICATIONS HEREIN CONTAIN NO FALSE STATEMENTS AND ARE ACCURATE AS TO THE REQUIREMENTS OF THE CONTRACT AND THE EXTERIOR APPEARANCE OF THE BUILDING AND STRUCTURES AS SHOWN ON THE PLANS AND SPECIFICATIONS HEREIN.			
 CLAUDETTE CLAPP CLAUDIO CLAPP ARCHITECTURAL DESIGN INC. 111 N. 100 E. SUITE 100 RIVERDALE, UTAH 84065 (801) 265-1140 FAX: (801) 265-1141 E-MAIL: CLAUDETTE@CLAUDETTECLAPP.COM WEBSITE: CLAUDETTECLAPP.COM			
SECOND FLOOR PLAN MR. & MRS. R. SCOTT FALEY 25 PRIMROSE STREET, CHEVY CHASE 20815 DATE DRAWN: 04-26-2019 DRAWN BY: CLAUDETTE CLAPP APPROVED BY: CLAUDETTE CLAPP CHECKED BY: CLAUDETTE CLAPP RECORDED BY: CLAUDETTE CLAPP FILED BY: CLAUDETTE CLAPP INDEXED BY: CLAUDETTE CLAPP FOR: CLAUDETTE CLAPP ARCHITECTURAL DESIGN INC. 111 N. 100 E. SUITE 100 RIVERDALE, UTAH 84065 (801) 265-1140 FAX: (801) 265-1141 E-MAIL: CLAUDETTE@CLAUDETTECLAPP.COM WEBSITE: CLAUDETTECLAPP.COM			

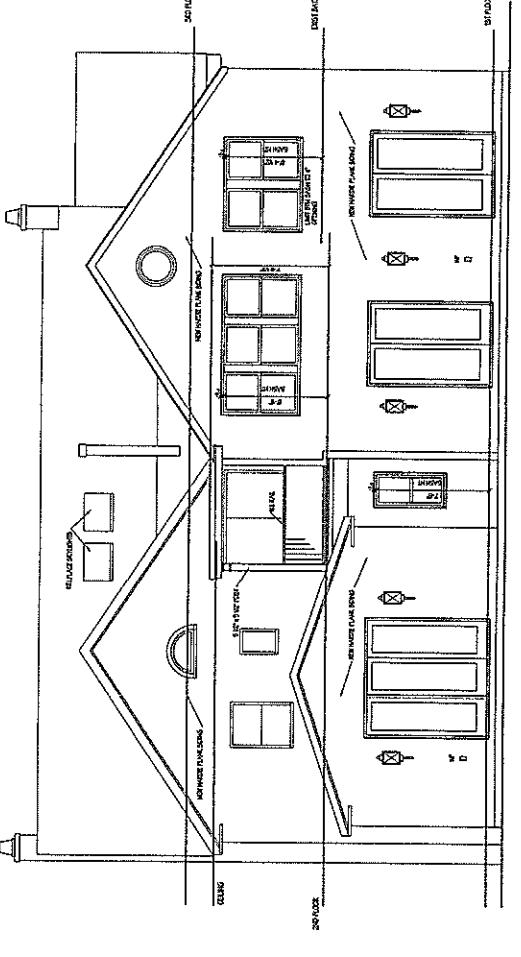
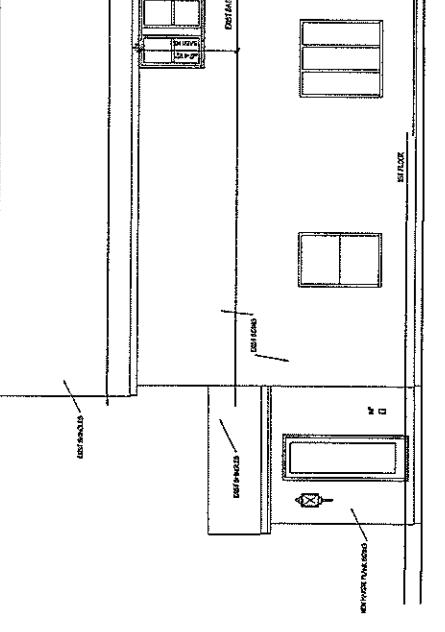


SECOND FLOOR PLAN

SECOND FLOOR PLAN
 04-26-2019
 CLAUDETTE CLAPP
 CLAUDIO CLAPP
 ARCHITECTURAL DESIGN INC.
 111 N. 100 E.
 SUITE 100
 RIVERDALE, UTAH
 84065
 (801) 265-1140
 FAX: (801) 265-1141
 E-MAIL: CLAUDETTE@CLAUDETTECLAPP.COM
 WEBSITE: CLAUDETTECLAPP.COM



PRINTED ON RECYCLED PAPER

DATE:	
BOARDS:	
CLERK'S CERTIFICATE OF ACCURACY I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED AS AGREED TO BY ME AND THAT I AM A DUE LICENSED PROFESSIONAL DESIGNER. DESIGN # 263-R, DESIGNATION DATE 04-20-2019	
MR. & MRS. R. SCOTT CHERRY CHASE 20815	
PROFESSIONAL CERTIFICATION	
<p style="text-align: center;">CLAUDE C. LAPP CLAUDE C. LAPP CERTIFIED ARCHITECT EXAMINER FOR THE STATE OF PENNSYLVANIA PROPERTY RIGHTS IN THESE PLANS ARE OWNED BY THE DESIGNER AND NOT TRANSFERABLE NOT FOR RESALE OR REBURNISHING AND NOT FOR RESALE OR REBURNISHING WITHOUT THE EXPRESS WRITTEN CONSENT OF THE DESIGNER.</p>  <p style="text-align: center;">CLAUDE C. LAPP CERTIFIED ARCHITECT EXAMINER FOR THE STATE OF PENNSYLVANIA PROPERTY RIGHTS IN THESE PLANS ARE OWNED BY THE DESIGNER AND NOT TRANSFERABLE NOT FOR RESALE OR REBURNISHING AND NOT FOR RESALE OR REBURNISHING WITHOUT THE EXPRESS WRITTEN CONSENT OF THE DESIGNER.</p>	
<p style="text-align: right;">LEFT & REAR ELEVATIONS</p> <p style="text-align: center;">25 PRINTERS STREET CHERRY CHASE 20815</p>	
 <p style="text-align: center;">REAR ELEVATION</p> <p style="text-align: right;">PRINTED ON RECYCLED PAPER</p>	
 <p style="text-align: center;">LEFT ELEVATION</p> <p style="text-align: right;">PRINTED ON RECYCLED PAPER</p>	

FIRST FLOOR ELECTRIC PLAN

MR & MRS R SCOTT LALLY 25 PRIMROSE STREET, CHEVY CHASE 20815

PROFESSIONAL CERTIFICATION: I HEREBE CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. INDIANAPOLIS, INDIANA, ISSUE# 9607-R. EXPIRATION DATE 01-26-2019

DATE: 10/02/19
FIRMS: CLAUDE CLAPP ASSOCIATES LLC

CONTRACTOR TO CHECK ALL DIMENSIONS AND CONDITIONS IN FIELD FROM DATE OF CONTRACT. NO ACCEPTANCE OF ANY DOCUMENTS.

ALL INTERIOR WALL TO BE DUG AND SHOT BLASTED AS NOTED OTHERWISE.

CLAUDE CLAPP ASSOCIATES LLC
SUBSTANTIATE THAT THE CONTRACTOR HAS BEEN ADVISED THAT THESE PLANS ARE AN AUTOMATIC PART OF THE CONTRACT AND THAT THEY ARE NOT TO BE DISCUSSED IN ANY PUBLIC FORUM. MAINTAIN CONFIDENTIALITY OF THESE PLANS.

THE EXPLANATION OF THE CONTRACTOR'S WORK IS THE PROPERTY OF CLAUDE CLAPP ASSOCIATES LLC.

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The electrical plan shows the layout of a first-floor residence. The plan includes a large living room, a dining room, a kitchen, a breakfast room, a sunroom, a bathroom, and a central hall. Various electrical fixtures are indicated throughout the rooms, such as outlets, recessed lights, and wall switches. A detailed legend at the top right defines symbols for different types of outlets and fixtures. A central panel box contains several circuit breakers. A note on the plan specifies that it includes a security system, control, and security panel.

LEGEND:

- OUTLET
- WATERPOWER OUTLET
- RECO OUTLET
- RECESSED LIGHT
- SWITCHED LIGHT
- WALL SWITCH
- RECESSED LIGHT
- LIGHT SWITCH
- TOURIST PLATE
- TELEPHONE OUTLET
- TELEVISION OUTLET

EXPLANATION:

THIS PLAN INCLUDES SECURITY SYSTEM, CONTROL, AND SECURITY PANEL.

FIRST FLOOR ELECTRIC PLAN

PROFESSIONAL CERTIFICATION: I HEREBE CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. DRAFTING DATE 04-26-2019

MR. & MRS. R. SCOTT PALLEY
27 PRIMROSE STREET, CHEVY CHASE 20815

SECOND FLOOR ELECTRIC PLAN

DATE	REVISIONS
CONTRACTOR TO CHECK ALL CONNECTIONS & CONNECTIONS OF FIELD WORK NOTIFY ARCHITECT OF ANY DEFECTS OR DAMAGE.	
ALL ATTIC/RIDGE, WALL, CEILINGS, BASEMENT, ETC. ARE TO BE DRIED OUT AS NEEDED	
CLIMATE CONTROL SYSTEMS ADDITIONAL LAMP EXPOSED RECEPTACLES FAN, BATH, KITCHEN, AND OTHER TRANSFORMERS TABLE LAMP AND NOT TO BE PLACED IN ANY FLAMMABLE MATERI THE EXISTING CONCEALED OR CLIMATE LAMP ARCHITECTURE LLC	
1100 PARLAVILLE DRIVE ROCKVILLE, MD 20850 PHONE: 301-467-1111 FAX: 301-467-1112 E-MAIL: info@architecturallc.com WEBSITE: www.architecturallc.com	
CLAUDE C. LAPY Architectural Contractor CLAUDE C. LAPY Architectural Contractor CLAUDE C. LAPY Architectural Contractor	

LEGEND:

- OUTLET
- ON/OFF
- RECESSED LIGHT
- RUSH CLEANER
- WALL SCONCE
- LIGHT SWITCH
- SMOKE DETECTOR/CO/COMBINATION DETECTOR
- EXHAUST FAN
- FLOOR LIGHTS
- DOOR
- UPGRADE DOOR
- PLUG DOTS

SECOND FLOOR ELECTRIC PLAN



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ESR-1844

Reissued 11/2015

This report is subject to renewal 11/2017.

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES

SECTION: 06 16 00—SHEATHING

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

SECTION: 07 46 46—FIBER-CEMENT SIDING

REPORT HOLDER:

JAMES HARDIE BUILDING PRODUCTS, INC.

10901 ELM AVENUE
FONTANA, CALIFORNIA 92337

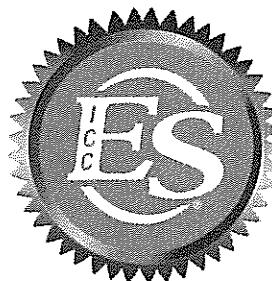
EVALUATION SUBJECT:

HARDIEPANEL® (PREVAILTM, CEMPANEL®) SIDING, HARDIFLEX® SIDING AND
HARDITEX® BASEBOARD



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ICC-ES Evaluation Report

ESR-1844 CBC and CRC Supplement

Reissued November 2015

Revised November 2016

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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES

Section: 06 16 00—Sheathing

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

Section: 07 46 46—Fiber-Cement Panels

REPORT HOLDER:

JAMES HARDIE BUILDING PRODUCTS, INC.

10901 ELM AVENUE

FONTANA, CALIFORNIA 92337

(909) 356-6300

www.jameshardie.cominfo@jhresearchusa.com

EVALUATION SUBJECT:

HARDIEPANEL® (PREVAIL™, CEMPANEL®) SIDING, HARDIFLEX® SIDING AND HARDITEX® BASEBOARD

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that HardiePanel® (Prevail™, Cempanel®) siding, HardiFlex® siding and Harditex® baseboard, recognized in ICC-ES master evaluation report ESR-1844, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2016 California Building Code® (CBC)
- 2016 California Residential Code® (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The HardiePanel® (Prevail™, Cempanel®) siding, HardiFlex® siding and Harditex® baseboard, described in Sections 2.0 through 7.0 of the master evaluation report ESR-1844, comply with CBC Chapter 14, provided the design and installation are in accordance with the 2015 International Building Code® (IBC) provisions noted in the master report and the additional requirements of CBC Chapters 14, 17, and 17A, as applicable.

The use of the products in construction of noncombustible or ignition-resistant exterior walls of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Area requires installation in accordance with the 2015 International Building Code® (IBC) provisions of the master report and the additional requirements of CBC Sections 701A.3, 704A.3, 707A.3 as applicable.

2.2 CRC:

The HardiePanel® (Prevail™, Cempanel®) siding, HardiFlex® siding and Harditex® baseboard, described in Sections 2.0 through 7.0 of the master evaluation report ESR-1844, comply with CRC Chapter 7, provided the design and installation are in accordance with the 2015 International Residential Code® (IRC) provisions noted in the master report.

The use of the products in construction of noncombustible or ignition-resistant exterior walls of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Area requires installation in accordance with the 2015 International Residential Code® (IRC) provisions of the master report and the additional requirements of CRC Sections R337.1.3.1 and R337.7 as applicable.

The products recognized in this supplement have not been evaluated for compliance with the International Wildland-Urban Interface Code®.

This supplement expires concurrently with the master report, reissued November 2015 and revised November 2016.

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph)² (Continued)

Product	Minimum Product Thickness (in.)	Fastener Type	Fastener Spacing (in.)	Frame Type	Furring Spacing (in.)	Building Height (ft.)	2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}^{1,5,6}$)			2012 IBC, 2015 IBC/IRC (Ultimate Design Wind Speed, $V_{ult}^{6,7}$)		
							EXPOSURE CATEGORY			EXPOSURE CATEGORY		
							B	C	D	B	C	D
HardiePanel®	5/16	No. 8 X 1.25" long X 0.323" HD ribbed bugle head screws	6" O.C. into furring only	2X4 wood or 20 ga. (33 mil) steel framing, $\frac{3}{4}$ " thick by 3.5" wide wood furring ^{9,10,11}	16	15 20 40 60	149	135	123	193	175	159
							149	132	120	193	170	155
							143	122	113	185	158	146
							135	117	109	175	152	141
HardiePanel®	5/16	No. 8 X 1.25" long X 0.323" HD ribbed bugle head screws	8" O.C. into furring only	2X4 wood or 20 ga. (33 mil) steel framing, $\frac{3}{4}$ " thick by 3.5" wide wood furring ^{9,10,11}	16	0-15 20 40 60	135	122	111	174	158	144
							135	119	109	174	154	140
							129	111	102	167	143	132
							122	106	99	158	137	127
HardiePanel®	5/16	No. 8 X 1.25" long X 0.323" HD ribbed bugle head screws	10" O.C. into furring only	2X4 wood or 20 ga. (33 mil) steel framing, $\frac{3}{4}$ " thick by 3.5" wide wood furring ^{9,10,11}	16	0-15 20 40 60	127	115	105	164	149	135
							127	112	102	164	145	132
							122	104	96	157	134	124
							115	100	93	149	129	120
HardiePanel®	5/16	No. 8 X 1.25" long X 0.323" HD ribbed bugle head screws	12" O.C. into furring only	2X4 wood or 20 ga. (33 mil) steel framing, $\frac{3}{4}$ " thick by 3.5" wide wood furring ^{9,10,11}	16	0-15 20 40 60	121	110	100	157	142	129
							121	107	98	157	138	126
							116	100	92	150	128	119
							110	95	89	142	123	114
HardiePanel®	5/16	No. 8 X 1.25" long X 0.323" HD ribbed bugle head screws	8" O.C. into furring only	2X4 wood or 20 ga. (33 mil) steel framing, $\frac{3}{4}$ " thick by 3.5" wide wood furring ^{9,10,11}	24	0-15 20 40 60	107	97	88	138	125	114
							107	94	86	138	122	111
							103	88	81	133	113	105
							97	84	78	125	109	101
HardiePanel®	5/16	0.090" shank X 0.215" HD x 1.5" long ring shank nail	6" O.C. into furring only	2X4 wood or 20 ga. (33 mil) steel framing, $\frac{3}{4}$ " thick by 3.5" wide wood furring ^{9,10,11}	16	0-15 20 40 60	143	130	118	185	168	152
							143	126	115	185	163	149
							137	117	108	177	151	140
							130	113	105	168	145	135

For SI: 1 ft = 305 mm, 1 inch = 25.4 mm, 1 mph = 0.44 m/s.

¹ Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: I = 1.0, K_d = 1, K_d = 0.85, GCpi = 0.18, GCp = -1.4.² Installation must be in accordance with Section 4.2 of this report.³ Values are for species of wood having a specific gravity of 0.42 or greater.⁴ Values are for species of wood having a specific gravity of 0.36 or greater.⁵ V_{asd} = nominal design wind speed.⁶ V_{ult} = ultimate design wind speed.⁷ Wind speed design assumptions per Section 30.4, of ASCE 7-10: K_d = 1, K_d = 0.85, GCpi = 0.18, GCp = -1.4.⁸ 2012 IBC Section 1609.3.1, Eqn. 16-33, V_{asd} = V_{ult} $\sqrt{0.6}$.⁹ Furring attachment to structural members (framing) or alternative furring width shall be designed by the project engineer.¹⁰ Wood furring shall be preservative treated per AWPA.¹¹ Wood furring shall be specific gravity of 0.42 or greater per AFPA/NDS, or wood structural panel, conforming to DOC PS-1 or DOC PS-2 or APA PRP-108.

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph)² (Continued)

Product	Minimum Product Thickness (in.)	Fastener Type	Fastener Spacing (in.)	Frame Type	Stud Spacing (in.)	Building Height (ft.)	2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}^{15,8}$)			2012 IBC, 2015 IBC/IRC (Ultimate Design Wind Speed, $V_{ult}^{6,7}$)		
							EXPOSURE CATEGORY			EXPOSURE CATEGORY		
							B	C	D	B	C	D
Hardiflex® HardiePanel™	$\frac{5}{16}$	6d common, 2 in. long	6 edge, 12 field	2 x 4 wood ³	16	40	137	105	-	177	136	-
						60	126	100	-	163	129	-
Hardiflex® HardiePanel™	$\frac{5}{16}$	0.091-in. shank x .225-in HD x 1½-in. long ring shank nail	3 edge, 8 field	2 x 4 wood ⁴	16	20	126	95	-	163	123	-
						40	110	90	-	142	116	-
						60	100	85	-	129	110	-
HardiePanel™	$\frac{5}{16}$	No. 8 X 1-5/8 in. long X 0.375 in. HD ribbed buglehead screw	6" OC vertically / 12" OC horizontally	Attached to $\frac{7}{16}$ " wood structural panel sheathing only	7/16" WSP attached per code	0-15	150	136	123	194	176	159
						20	150	132	120	194	170	155
						40	143	123	113	185	159	146
						60	136	118	109	176	152	141
Hardiflex® HardiePanel™	$\frac{1}{4}$	Min. No. 8 x 1-in. long x 0.323-in. HD ribbed buglehead screw	6	Min. No. 20 ga. (33 mil) X 3 $\frac{5}{8}$ in. x 1 $\frac{3}{8}$ in. metal C-stud	16	20	137	105	-	177	136	-
						40	126	105	-	163	136	-
						60	116	95	-	150	123	-
Hardiflex® HardiePanel™	$\frac{1}{4}$	Min. No. 8 x 1-in. long x 0.323-in. HD ribbed buglehead screw	6	Min. No. 20 ga. (33 mil) X 3 $\frac{5}{8}$ in. x 1 $\frac{3}{8}$ in. metal C-stud	24	20	105	85	-	136	110	-
						40	95	-	-	123	-	-
Hardiflex® HardiePanel™	$\frac{5}{16}$	ET & F 0.10-in. knurled shank x 1½-in. long x 0.25-in. HD pin fastener (AKN100-0150NA)	4 edge, 8 field	Min. No. 20 ga. (33 mil) X 3 $\frac{5}{8}$ in. x 1 $\frac{3}{8}$ in. metal C-stud	16	15	153	139	127	198	179	164
						20	153	135	124	198	174	160
						40	147	126	116	190	163	150
						60	139	121	112	179	156	145
Hardiflex® HardiePanel™	$\frac{5}{16}$	ET & F 0.10-in. knurled shank x 1½-in. long x 0.25-in. HD pin fastener (AKN100-0150NA)	4 edge, 8 field	Min. No. 20 ga. (33 mil) X 3 $\frac{5}{8}$ in. x 1 $\frac{3}{8}$ in. metal C-stud	24	15	118	107	98	152	138	127
						20	118	104	95	152	134	123
						40	114	97	90	147	125	116
						60	107	93	87	138	120	112

For SI: 1 ft = 305 mm, 1 inch = 25.4 mm, 1 mph = 0.44 m/s.

¹ Wind speed design assumptions per Section 6.5, Method 2, of ASCE 7-05: I = 1.0, Kzt = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.² Installation must be in accordance with Section 4.2 of this report.³ Values are for species of wood having a specific gravity of 0.42 or greater.⁴ Values are for species of wood having a specific gravity of 0.36 or greater.⁵ Vasd = nominal design wind speed.⁶ Vult = ultimate design wind speed.⁷ Wind speed design assumptions per Section 30.4, of ASCE 7-10: Kzt = 1, Kd = 0.85, GCpi = 0.18, GCp = -1.4.⁸ 2012 IBC Section 1609.3.1, Eqn. 16-33, $V_{asd} = V_{ult} \sqrt{0.6}$

TABLE 4—MAXIMUM WIND SPEEDS FOR EXPOSURE CATEGORY (mph)²

Product	Minimum Product Thickness (in.)	Fastener Type	Fastener Spacing (in.)	Frame Type	Stud Spacing (in.)	Building Height (ft.)	2012 IRC, 2009 IBC/IRC, 2006 IBC/IRC (Basic Wind Speed, $V_{asd}^{1.5,6}$)			2012 IBC, 2015 IBC/IRC (Ultimate Design Wind Speed, $V_{ult}^{6,7}$)		
							B	C	D	B	C	D
Hardiflex® HardiePanel™	$\frac{1}{4}$	4d common, 1½-in long	8	2 x 4 wood ³	16	20	105	-	-	136	-	-
						40	95	-	-	123	-	-
						60	85	-	-	110	-	-
Hardiflex® HardiePanel™	$\frac{1}{4}$	4d common, 1½-in long	8	2 x 4 wood ³	24	20	85	-	-	110	-	-
Hardiflex® HardiePanel™	$\frac{1}{4}$	6d common, 2 in. long	6	2 x 4 wood ³	16	20	137	116	-	177	150	-
						40	137	105	-	177	136	-
						60	137	105	-	177	136	-
Hardiflex® HardiePanel™	$\frac{1}{4}$	No. 11 ga. x 1½-in. long galvanized roofing nail	6	2 x 4 wood ³	16	20	126	95	-	163	123	-
						40	121	95	-	156	123	-
Hardiflex® HardiePanel™ Harditex®	$\frac{1}{4}$	No. 11 ga. x 1¼-in. long galvanized roofing nail	6	2 x 4 wood ³	24	20	95	-	-	123	-	-
						40	95	-	-	123	-	-
Hardiflex® HardiePanel™ Harditex®	$\frac{1}{4}$	No. 11 ga. x 1¼-in. long galvanized roofing nail	4 edge, 12 field	2 x 4 wood ³	16	20	137	105	-	177	136	-
						40	137	105	-	177	136	-
						60	126	95	-	163	123	-
Hardiflex® HardiePanel™	$\frac{5}{16}$	0.091-in. shank x .225-in HD x 1½-in. long ring shank nail	4 edge, 8 field	2 x 4 wood ³	16	20	112	98	90	145	127	116
						40	107	92	85	138	119	110
						60	101	88	-	130	114	-
Hardiflex® HardiePanel™	$\frac{5}{16}$	4d common, 1½-in long	8	2 x 4 wood ³	16	40	126	95	-	163	123	-
Hardiflex® HardiePanel™	$\frac{5}{16}$	4d common, 1½-in long	8	2 x 4 wood ³	24	20	105	-	-	136	-	-
						40	95	-	-	123	-	-
						60	164	142	132	212	183	170
Hardiflex® HardiePanel™	$\frac{5}{16}$	6d common, 2 in. long	4	2 x 4 wood ³	16	0-15	181	164	149	234	212	192
						20	181	159	146	234	205	188
						40	174	148	137	225	191	177
						60	164	142	132	212	183	170
Hardiflex® HardiePanel™	$\frac{5}{16}$	6d common, 2 in. long	4	2 x 4 wood ³	24	0-15	141	128	116	182	165	150
						20	141	124	113	182	160	146
						40	135	116	107	174	150	138
						60	128	111	103	165	143	133
Hardiflex® HardiePanel™	$\frac{5}{16}$	6d common, 2 in. long	6	2 x 4 wood ³	16	0-15	144	130	118	186	168	152
						20	144	127	116	186	164	150
						40	138	118	109	178	152	141
						60	130	113	105	168	146	136
Hardiflex® HardiePanel™	$\frac{5}{16}$	6d common, 2 in. long	6	2 x 4 wood ³	24	0-15	114	103	94	147	133	121
						20	114	101	92	147	130	119
						40	109	94	86	141	121	111
						60	103	90	-	133	116	-

- 5.2** Design wind loads applied to the siding panels must be determined in accordance with the applicable code and must be equal to, or less than, the allowable loads shown in Table 4.
- 5.3** Use of the products listed in this report as a lateral-force-resisting element of a shear wall that resists wind or seismic forces is beyond the scope of this report. Walls must be braced by other means as required by the applicable code.
- 5.4** The exterior plank and panel products installed on exterior walls must be installed over a weather-resistant barrier in accordance with applicable codes.

In jurisdictions adopting the 2015 and 2012 IBC, vertical and lateral flame propagation IBC Section 1403.5, exterior walls on buildings of Type I, II, III or IV construction that are greater than 40 feet (12 192 mm) in height above grade plane and that contain a combustible water-resistive barrier must be shown to comply with NFPA 285.

- 5.5** Flashing must be installed at all penetrations and terminations in accordance with the applicable code and the manufacturer's instructions.
- 5.6** The products are manufactured at the following locations under a quality-control program with inspections by ICC-ES:

- Cleburne, Texas
- Plant City, Florida
- Tacoma, Washington
- Waxahachie, Texas
- Peru, Illinois
- Pulaski, Virginia
- Sparks, Nevada
- Fontana, California

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Fiber Cement Siding Used as Exterior Wall Siding (AC90), dated June 2012 (revised September 2015).

7.0 IDENTIFICATION

For field identification, James Hardie Building Products, Inc., HardiePanel® (Prevail™, Cempanel®) and Hardiflex® panel sidings, and Harditex® baseboards, must bear a label with the manufacturer's name and telephone number, the product name, and the evaluation report number (ESR-1844).

TABLE 1—STANDARD NOMINAL PANEL DIMENSIONS^{1,2}

PRODUCT	WIDTH (Inches)	LENGTH (feet)	THICKNESSES (inch)
HardiePanel® siding	48	8, 9 & 10	1/4 & 5/16
Cempanel® siding	48	8, 9, 10, 12	5/16
Prevail™ siding	48	8, 10, & 12	5/16
Hardiflex® panel	48	8, 9 & 10	1/4 & 5/16
Harditex® baseboard	48	8, 9 & 10	1/4 & 5/16

For SI: 1 inch = 25.4 mm, 1 ft = 305 mm.

TABLE 2—"K" and "R" VALUES FOR FIBER-CEMENT PRODUCTS

PRODUCT THICKNESS ³ (inch)	THERMAL CONDUCTANCE ¹ $K_{eff} = \text{Btu}/\text{hr}\cdot\text{ft}^2\cdot{}^{\circ}\text{F}$	THERMAL RESISTANCE ¹ $R = 1/K_{eff}$	ACTUAL THERMAL CONDUCTANCE ² (K_{eff})	ACTUAL THERMAL RESISTANCE ² (R)
1/4	1.95	0.51	7.80	0.13
5/16	2.07	0.48	6.62	0.15

For SI: 1 inch = 25.4 mm, 1 Btu/h·ft²·°F = 5.678 W/m²·K.

¹Based on 1 inch of panel thickness.

²Actual value for panel thickness shown.

TABLE 3—PERMEANCE VALUES FOR FIBER-CEMENT PRODUCTS

PRODUCT THICKNESS ¹ (inch)	PERMEANCE (perms)
1/4	1.75
5/16	1.54

For SI: 1 inch = 25.4 mm, 1 perm = 57 mg/(s·m²·Pa).

4.2 Installation:

4.2.1 General: The manufacturer's published installation instructions and this report must be strictly adhered to and a copy of this report and the instructions must be available on the jobsite during construction. The panels must be installed in accordance with IBC Section 1405.15 and IRC Tables R703.4 and R703.10.2, and the manufacturer's installation instructions.

4.2.2 HardiePanel® (Prevail™, Cempanel®) Siding: The panels are applied with the long dimension either parallel or perpendicular to framing. Vertical joints are fastened at abutting sheet edges. Vertical joints must occur over framing or wood furring members except where the panels are installed and fastened to wood structural panel sheathing in accordance with Table 4. The vertical joints must be sealed with caulk covered with battens, or must be designed to comply with IBC Section 1403.2 and IRC Section R703.1. Horizontal joints must be flashed with Z-flashing. Fasteners must be installed with a minimum $\frac{3}{8}$ -inch (9.5 mm) edge distance and a minimum 2-inch (51 mm) clearance from corners. Where a specified level of wind resistance is required, the panel siding is attached to framing members, furring members, or wood structural panel sheathing, appropriately spaced, with fastener types, lengths, and spacing described in Table 4.

4.2.3 Hardiflex® Siding: The panels are applied with the long dimension either parallel or perpendicular to framing and with all panel edges supported by framing. Fasteners must be installed with a minimum $\frac{3}{8}$ -inch (9.5 mm) edge distance and a minimum 2-inch (51 mm) clearance from corners. Joints must be fastened at abutting sheet edges. Vertical joints must occur over framing members and must be protected by PVC joint treatment, lumber battens, or sealant. Horizontal joints must be flashed with metal Z-flashing and blocked with solid framing. Where a specified level of wind resistance is required, the panel siding is attached to framing members, appropriately spaced, with fastener types, lengths, and spacing as noted in Table 4.

4.2.4 Harditex® Baseboard: The panels are applied with the long dimension either parallel or perpendicular to framing and with all panel edges supported by framing. Vertical and horizontal joints must be sealed with a sealant or bedding compound, including any required joint reinforcing mesh or tape, specified by the coating or finish system manufacturer. Fasteners must be installed with a minimum $\frac{3}{8}$ -inch (9.5 mm) edge distance and a minimum 2-inch (51 mm) clearance from corners. Where a specified level of wind resistance is required, the baseboard is attached to framing members, appropriately spaced, with fastener types, lengths, and spacing as noted in Table 4.

4.3 Fire-resistance-rated Assemblies:

4.3.1 Assembly 1—One-hour Asymmetrical Nonload-bearing:

4.3.1.1 Interior Face: The asymmetrical, nonload-bearing, one-hour fire-resistance-rated wall assembly consists of minimum $3\frac{5}{8}$ -inch-deep (92 mm), No. 20 gage [0.0359-inch (0.91 mm)] steel "C" studs spaced at a maximum of 24 inches (610 mm) on center, with corresponding top and bottom tracks. One layer of $\frac{5}{8}$ -inch-thick (15.9 mm), Type X gypsum board complying with ASTM C1396, 48 inches (1219 mm) wide, is applied vertically to the interior side of the studs and secured with $1\frac{1}{4}$ -inch-long (32 mm), Type S, gypsum board screws, spaced 8 inches (203 mm) on center at board edges and 12 inches (305 mm) on center at intermediate framing

members. All board joints must be backed by framing members. The $\frac{5}{8}$ -inch-thick (15.9 mm) gypsum board joints and screw heads must be finished in accordance with ASTM C840.

4.3.1.2 Exterior Face: The exterior side of the studs must be covered with one layer of $\frac{1}{2}$ -inch-thick (12.7 mm), Type X, water-resistant gypsum board complying with ASTM C1396, followed by one layer of minimum $\frac{1}{4}$ -inch-thick (6.4 mm) HardiePanel® (Prevail™, Cempanel®), or Hardiflex® siding or Harditex® Baseboard. The Type X gypsum boards must be applied vertically to framing members with vertical edges staggered 24 inches (610 mm). The $\frac{1}{2}$ -inch-thick (12.7 mm), Type X gypsum board must be fastened to the framing members with $1\frac{1}{4}$ -inch-long (32 mm), Type S, gypsum board screws spaced 24 inches (610 mm) on center. All gypsum board joints must be backed by framing members. HardiePanel® (Prevail™, Cempanel®), or Hardiflex® siding and Harditex® Baseboards, must be fastened through the gypsum board to the framing members with minimum $1\frac{5}{8}$ -inch-long (41 mm) by minimum 0.323-inch (8.2 mm) HD self-drilling, corrosion-resistant, ribbed buglehead or ribbed waferhead screws located a maximum of 8 inches (203 mm) on center. HardiePanel® (Prevail™, Cempanel®), Hardiflex® siding and Harditex® Baseboard joints require treatment similar to that described in Sections 4.2.2, 4.2.3 and 3.2.3, respectively.

4.3.2 Assembly 2—One-hour Nonload-bearing: The nonload-bearing, one-hour, fire-resistance-rated wall assembly consists of minimum $3\frac{5}{8}$ -inch-deep (92 mm), No. 20 gage [0.0359 inch (0.91 mm)], steel "C" studs spaced at a maximum of 24 inches (610 mm) on center, with corresponding top and bottom tracks. Both sides of the wall must be covered with one layer of $\frac{1}{2}$ -inch-thick (12.7 mm), Type X gypsum board (interior side)/gypsum sheathing (exterior side) complying with ASTM C1396, followed by one layer of minimum $\frac{1}{4}$ -inch-thick (6.4 mm) HardiePanel® (Prevail™, Cempanel®), or Hardiflex® siding, or Harditex® Baseboard. The panels must be applied either perpendicular (horizontally) or parallel (vertically) to framing members. All board joints must be backed by framing. Base layer and face layer board joints of both wall sides must be offset by 24 inches (610 mm). The $\frac{1}{2}$ -inch-thick (12.7 mm), Type X gypsum board/sheathing must be fastened to the framing members with minimum 1-inch-long (25.4 mm), Type S, gypsum board screws spaced a maximum of 24 inches (610 mm) on center. The panels must be fastened through the gypsum board to the framing members with minimum $1\frac{5}{8}$ -inch-long (41 mm) by minimum 0.323-inch (8.2 mm) HD self-drilling, corrosion-resistant, ribbed, buglehead or ribbed waferhead screws located a maximum of 8 inches (203 mm) on center. Panel joints and fasteners require treatment similar to that described in Section 4.2.2, 4.2.3 or 4.2.4, of this report.

5.0 CONDITIONS OF USE

The HardiePanel® (Prevail™, Cempanel®) and Hardiflex® panel sidings, and Harditex® baseboard products, described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 The panels must be installed in accordance with the applicable code, this report and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's instructions, this report governs.



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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES

Section: 06 16 00—Sheathing

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

Section: 07 46 46—Fiber-Cement Siding

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EVALUATION SUBJECT:

HARDIEPANEL® (PREVAIL™, CEMPANEL®) SIDING,
HARDIFLEX® SIDING AND HARDITEX® BASEBOARD

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2015, 2012, 2009 and 2006 *International Building Code®* (IBC)
- 2015, 2012, 2009 and 2006 *International Residential Code®* (IRC)
- 2006 *International Energy Conservation Code®* (IECC)
- 2013 Abu Dhabi International Building Code (ADIBC)[†]

[†]The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

- Weather protection
- Structural
- Noncombustible (Types I, II, III and IV) construction
- Fire-resistance-rated construction
- Thermal resistance

2.0 USES

The James Hardie fiber-cement panels described in this report are used as exterior wall coverings. The panels may be used in fire-resistance-rated construction as set forth in Section 4.3 and may be used on exterior walls of Types I, II, III, IV and V construction.

3.0 DESCRIPTION

3.1 General:

The panels are single-faced, cellulose fiber-reinforced cement (fiber-cement) products identified as HardiePanel® (Prevail™, Cempanel®) panel siding, Hardiflex® panel siding and Harditex® Baseboard; and are supplied either unprimed or primed for subsequent application of a compatible primer and/or exterior-grade top coat(s).

The panels comply with ASTM C1186, Grade II, Type A. They have a nominal density of 83 lbs/ft³ (1332 kg/m³); a flame-spread index of 0 or less and a smoke-developed index of 5 or less when tested in accordance with ASTM E84; and are classified as noncombustible when tested in accordance with ASTM E136. Thermal conductance (K) and thermal resistance (R) values for the panels are as shown in Table 2. When tested in accordance with ASTM E96, products with a thickness of 1/4 inch (6.4 mm) and 5/16 inch (7.5 mm) have permeance values given in Table 3.

3.2 Materials:

3.2.1 HardiePanel® (Prevail™, Cempanel®) Siding: HardiePanel® Prevail™, Cempanel® siding is available with various surface textures including smooth. Nominal product dimensions are noted in Table 1 of this report.

3.2.2 Hardiflex® Siding: Hardiflex® siding is available in various textures including smooth. Nominal product dimensions are noted in Table 1 of this report.

3.2.3 Harditex® Baseboard: Harditex® Baseboard is used as a starter strip for exterior applications of walls and soffits. Harditex® Baseboard has an untextured finish and is available with either tapered or trough edges on the two long sides for joint treatment or all square edges. Harditex® Baseboard is supplied either sealed or unsealed for the subsequent application of a primer or sealer by the end user as a component in a direct-applied exterior coating or finish system. Nominal dimensions are noted in Table 1 of this report.

3.3 Fasteners:

Fastener type, size and spacing must be as shown in Table 4.

4.0 DESIGN AND INSTALLATION

4.1 Design:

The maximum basic wind speeds for positive and negative transverse load resistance are presented in Table 4.

Clad Ultimate Double Hung - Next Generation 2.0

Unit Features

Clad Ultimate Double Hung Collection:

- Clad Ultimate Single Hung - Next Generation 2.0: CUSH-NG 2.0
- Clad Ultimate Double Hung - Next Generation 2.0: CUDH-NG 2.0
- Clad Ultimate Double Hung Picture - Next Generation 2.0: CUDHP-NG 2.0
- Clad Ultimate Double Hung Transom - Next Generation 2.0: CUDHT-NG 2.0
- Clad Ultimate Double Hung Bows and Bays - Next Generation 2.0: CUDHBB-NG 2.0
- Clad Ultimate Double Hung - Next Generation 2.0 IZ3: CUDH-NG 2.0 IZ3
- Clad Ultimate Double Hung Picture - Next Generation 2.0 IZ3: CUDHP-NG 2.0 IZ3
- Clad Ultimate Double Hung Transom - Next Generation 2.0 IZ3: CUDHT-NG 2.0 IZ3

NOTE: Clad Ultimate Double Hung Bows and Bays - Next Generation 2.0, Clad Ultimate Double Hung - Next Generation 2.0 IZ3, Clad Ultimate Double Hung Picture - Next Generation 2.0 IZ3, and Clad Ultimate Double Hung Transom - Next Generation 2.0 IZ3 are not available with CE mark.

Frame:

- Frame thickness:
 - 11/16" (17) thick at head and jambs
 - 1 13/32" (36) thick at sill
- Frame Width: 4 9/16" (116)

Sash:

- Operating / Stationary Sash (Single Hung, Double Hung, Transom):
 - Sash thickness: 1 3/4" (44), corner slot and tenoned
 - Top rail height: 2 13/32" (61)
 - Stiles width: 1 21/32" (42)
 - Bottom rail height (operating and stationary): 3 1/4" (83)
 - Bottom rail height (transom): 2 3/4" (70)
- Stationary Picture Sash:
 - Sash thickness: 1 3/4" (44), corner slot and tenoned
 - Top rail height: 2 13/32" (61)
 - Stile width: 2 13/32" (61)
 - Bottom rail height: 3 1/4" (83)
- Standard exterior cope profile: Putty
- Standard interior wood cope sticking: Ogee
- Optional interior wood cope sticking: Square

Glass and Glazing:

- Glazing method: Insulating
- Glazing seal: Silicone glazed
- Standard glass is 7/8" (22) insulating Low E2 Argon or air
- Optional glass types: Low E3 Argon or air, Low E1 Argon or air, Laminated, Tempered, Obscure, Bronze tint, Gray tint, Green tint, Reflective Bronze and decorative glass options
- Optional Tripane glass types: Low E1/E1 Argon or Krypton-Argon, Low E2/E2 Argon or Krypton-Argon, Low E3/E1 Argon or Krypton-Argon
- Glazing will be altitude adjusted for higher elevations, Argon, Argon-Krypton, and Krypton gas not included
- StormPlus IZ3 has annealed exterior pane is default with the option to temper
- CUDHP-NG 2.0 IZ3 product requires tempered glass on units above a glass square footage of 33.1.

NOTE: Egress may be affected when selecting specialty glass, please contact your Marvin representative



Unit Features

CE Optional Glazing:

- Glazing method: Insulating
- Glazing seal: Silicone glazed
- Standard glass is 7/8" (22) insulating Low E2 Argon or air
- Optional dual glazing available: Low E1 Argon or air, Low E3 Argon or air, Low E2/ERS argon or air, Low E3/ERS Argon or air, clear, laminated clear and tints, tempered, sandblasted
- Optional Tripane glass types: Low E1/E1 Argon or Krypton-Argon, Low E2/E2 Argon or Krypton-Argon, Low E3/E1 Argon or Krypton-Argon
- Glass panes available in 3, 4, and 6 mm thicknesses
- Laminated panes available in 7.0 and 7.8 mm thicknesses
- Glazing will be altitude adjusted for higher elevations, Argon, Argon-Krypton, and Krypton gas not included

Weather Strip:

- Operating units:
 - Jambs: Foam-filled bulb
 - Color: beige, black, and white
 - Head Jamb: Continuous dual leaf
 - Color: beige, black, and white
 - Check rail: Hollow bulb
 - Color: beige, black, and white
 - Bottom rail: Hollow bulb
 - Color: black
- Picture units:
 - Jambs: Foam
 - Header and bottom rail: Hollow bulb

Hardware:

- Locking system that provides locking, unlocking, balancing, and tilting of the sash members. Lock automatically locks when both sash are closed.
- Lock Actuator Assembly:
 - Material
 - Zinc die cast
 - Standard finish: Satin Taupe
 - Optional finish: White, Bronze, Matte Black, Brass, Antique Brass, Polished Chrome, Satin Chrome, Oil Rubbed Bronze, or Satin Nickel
 - Design features or components
 - To unlock the unit, turn the handle 135°
 - To lock the unit, both sash must be moved to the closed position
 - To tilt the bottom sash for wash-mode, the bottom sash must be open; push the button on top of lock handle and rotate the handle 180°
 - To tilt the top sash for wash-mode, the bottom sash must be tilted and/or removed from frame; lower the top sash to a good working height, retract the tilt latches on the top rail and tilt sash out of the frame
 - Options
 - Non-tilt hardware is standard on units with performance brackets
 - Custodial hardware colors: satin taupe, white, bronze
- Latches
 - Bottom sash latch, top sash tilt latch
 - Latches accommodate locking/un-locking, travel of sash in frame, and tilting into wash-mode
 - Injection-molded plastic
 - Color: beige

Unit Features

- Cord guide assembly
 - Injection-molded plastic and die-cast zinc
 - One cord guide inserted into bottom check rail
 - Cord guide is driven by lock handle, accounts for cord travel to retract latches
 - Plunger drives auto-lock feature to lock position when both sash are closed
- Strike Assembly
 - Zinc die-cast strike plate and injection-molded Acetal housing and button
 - Strike assembly accommodates locking/unlocking
- Balance system
 - Block & tackle balance
 - Hybrid spiral balance

NOTE: Balance type is dependent on sash weight. Unit size, glass type, and options can all impact sash weight. General balance selection is as follows (some exceptions exist based on unit size):

Sash	Sash Weight	Balance Tube Type
Top	up to 35 lbs	Block and Tackle
	>35 lbs	Hybrid Spiral
Bottom	up to 30.6 lbs	Block and Tackle
	>30.6 lbs	Hybrid Spiral

- Sash Limiter
 - Bottom sash limiter:
 - Available on all operator configurations, and StormPlus IZ3
 - Selectable bottom sash locations, 4", 6" or 8" Net Clear Opening (NCO)
 - Non-tilt hardware is default, and a sash removal tool is required in order to by-pass the Sash limiter for sash removal (tilt wash mode)
 - Standard application is factory applied. Available for retrofit applications.
 - Color: Will align with the Interior Weather Strip Package selection
 - Top Sash Limiter
 - Available on all operator configurations, with the exception Single Hung configurations. This includes StormPlus IZ3
 - Selectable bottom sash locations, 4", 6" or 8" Net Clear Opening (NCO)
 - Standard application is factory applied. Available for field applications
 - Color: Will align with the Exterior Weather Strip Package selection
- Optional factory applied Window Opening Control Device is available on operating units.
 - Two devices will be applied to each window and will default color match the lock handle color.
 - WOCD is a device consisting of a zinc lever housed in a zinc shell on the lower meeting rail of the secondary sash and an acetal stop on the bottom check rail of the primary sash.
 - Color: Satin Taupe, White, Bronze, Matte Black, Brass, Antique Brass, Polished Chrome, Satin Chrome, Oil Rubbed Bronze, and Satin Nickel.
 - This device works in accordance to ASTM F2090-10 standard specification for window fall prevention devices with emergency escape.
- Exterior Sash Lugs - Standard Option
 - Standard Profile: Ogee
 - Available on Top Sash
 - Color: Available in all exterior clad color options
 - Color shall be the same as top sash clad color
 - Standard application is factory applied. Available for field applications
- Optional Finger Pull
 - Single or double (not available on units less than CN26: Frame OM 31 1/4" (794))
- Performance Rating Option
 - Option to eliminate performance brackets on specific size units to allow for standard tilt hardware. Reduces performance from an LC-PG50 to LC-PG35.



Unit Features

Insect Screens:

- Standard screen frame is roll formed aluminum
- Aluminum screen: Full screen standard, half screen optional
- Aluminum surround to match exterior frame clad color
- Units with a glass height of 20" (508) or greater will have a center cross bar
- Screen mesh:
 - Standard: Charcoal Fiberglass
 - Optional: Charcoal High Transparency Fiberglass Mesh, Charcoal Aluminum Wire, Black Aluminum Wire, Bright Aluminum Wire, or Bright Bronze Aluminum Wire
 - Optional Double Hung Magnum screen, extruded aluminum

Retractable Screen:

- Screen and its associated hardware shall fit within a 4 9/16" frame, minimal exposure and shall not interfere with common window dressings
- Pull bar will protrude beyond the interior 4 9/16" plane of the window
- Standard screen mesh: stiffened high transparency mesh
- Optional pull bar latch hardware shall be available in beige, white, or black
 - Standard for Bare/Non Finger-Jointed Pine shall be beige
 - Standard for Prime and Painted Interior Finish shall be white
 - Standard for Mahogany and Cherry wood species shall be black
 - Standard for stained finish of Wheat or Honey shall be beige
 - Standard for stained finish of Hazelnut, Leather, Espresso, Cabernet shall be black
 - Pull bar fin is available in beige or black
 - Mesh retention pile is available in white or black
 - The standard is black unless PIF, Prime or Bare is chosen

Combination Storm Sash and Screen:

- Frame: Extruded aluminum frame,.045"(1.1) thick. Color: Stone White, Bahama Brown, Pebble Gray and Evergreen
- Insect screen:
 - Standard Screen mesh: Charcoal Aluminum Wire
 - Optional screen material: Charcoal Fiberglass Mesh, Black Aluminum Wire, Bright Aluminum Wire, Bright Bronze Wire Optional Charcoal High Transparency Fiberglass Mesh (CH Hi-Tran)
- Weather strip: Pile weather strip between operating panels and at stiles of main frame
- Hardware: Spring-loaded latches to secure storm panel
- Max size: 45 1/4" x 79 1/2" frame size

Unit Features

Interior Shade:

- Cellular shade is attached to the window with a removable surround system that houses the cellular shade system
 - Minimum jamb depth required 5 13/16" (148)
 - Shade cartridge is removable and replaceable
 - Shade control: Top down, bottom up
 - Retractable screen option can be used in conjunction with the interior shade with 6 9/16" minimum jamb depth
- Wood wrapped extruded aluminum cellular shade
 - Single non-fire rated hexagonal honeycomb (cellular) 3/4" (19)
 - Semi-opaque fabric (light filtering)
 - Colors: Driftwood, Marigold, Almond, Rose, Denim, Biscuit, Champagne, Moss, Cinnamon, Silver, White, Stone, Tan, Ivory, Eggshell
 - Opaque fabric (blackout)
 - Colors: White, Stone, Tan, Ivory, Eggshell
- Order options:
 - Ship separate: Shade system packages separate and ships same time as the unit
 - Ship later: Shade system at a later date chosen by the customer
 - Shade option must be chosen at the time of unit order
 - Fabric opacity and color can be chosen at later date
 - Retro fit: Ordered as a complete shade system through configured parts

Cottage Unit:

The following formula will properly size a standard cottage style double hung:

Formula

1. Select the standard size double hung that will fit the rough opening
2. Subtract 7 1/2" (191) from the frame size height to get total glass height
3. Multiply the total glass height by the desired top sash ratio, this is the top sash glass height
4. Subtract the top sash height from the total glass height, this is the bottom sash glass height

Example

1. CUDH-NG 2.0 with a 0.400 top sash ratio (2/5 - 3/5) cottage style. If the rough opening is 2'-4 1/4" x 4' (RO for a CUDH-NG 2.0 2020) the frame size will be 25 1/4" x 47 1/2"
2. 47 1/2" - 7 1/2" = 40"
3. 40" multiplied by 0.400 (2/5) = 16"
4. 40" - 16" = 24"
5. The top sash will be a 2016 and the bottom sash will be a 2024. The call number for the example is: CUDH-NG 2.0 2016/24.

CE Mulling Options

- Mulled assemblies up to 120" (3048) x 79 1/2" (2019) as a 1H x multi-width assembly
- Mulled assemblies up to 59 1/4" (1505) x 119 1/2" (3035) as a multi-high x 1W assembly
- Mulled assemblies with 1" (25) LVL or 3/8" (10) aluminum mull reinforcement up to 120" (3048) x 100 3/8" (2550) as a multi-wide or multi-high assembly

Egress/Vent and Daylight Openings: Operable

CN	Opening Width		Opening Height		Egress Opening		Daylight Opening Width		Daylight Opening Height		Daylight Opening	
	ft - in	mm	ft - in	mm	ft ²	m ²	ft-in	mm	ft-in	mm	sq. ft.	m ²
1612	1-5 21/32	(449)	0-10 11/16	(271)	1.31	(0.12)	1-2 47/64	(374)	0-10 3/4	(273)	1.10	(0.10)
1614	1-5 21/32	(449)	1-0 11/16	(322)	1.55	(0.14)	1-2 47/64	(374)	1-0 3/4	(324)	1.30	(0.12)
1616	1-5 21/32	(449)	1-2 11/16	(373)	1.80	(0.17)	1-2 47/64	(374)	1-2 3/4	(375)	1.51	(0.14)
1618	1-5 21/32	(449)	1-4 11/16	(424)	2.05	(0.19)	1-2 47/64	(374)	1-4 3/4	(425)	1.71	(0.16)
1620	1-5 21/32	(449)	1-6 11/16	(475)	2.29	(0.21)	1-2 47/64	(374)	1-6 3/4	(476)	1.92	(0.18)
1622	1-5 21/32	(449)	1-8 11/16	(525)	2.54	(0.24)	1-2 47/64	(374)	1-8 3/4	(527)	2.12	(0.20)
1624	1-5 21/32	(449)	1-10 11/16	(576)	2.78	(0.26)	1-2 47/64	(374)	1-10 3/4	(578)	2.33	(0.22)
1626	1-5 21/32	(449)	2-0 11/16	(627)	3.03	(0.28)	1-2 47/64	(374)	2-0 3/4	(629)	2.53	(0.24)
1628	1-5 21/32	(449)	2-2 11/16	(678)	3.27	(0.30)	1-2 47/64	(374)	2-2 3/4	(679)	2.74	(0.25)
1630	1-5 21/32	(449)	2-4 11/16	(729)	3.52	(0.33)	1-2 47/64	(374)	2-4 3/4	(730)	2.94	(0.27)
1632	1-5 21/32	(449)	2-6 11/16	(779)	3.76	(0.35)	1-2 47/64	(374)	2-6 3/4	(781)	3.15	(0.29)
1634	1-5 21/32	(449)	2-8 11/16	(830)	4.01	(0.37)	1-2 47/64	(374)	2-8 3/4	(832)	3.35	(0.31)
1636	1-5 21/32	(449)	2-10 11/16	(881)	4.25	(0.40)	1-2 47/64	(374)	2-10 3/4	(883)	3.56	(0.33)
1640	1-5 21/32	(449)	3-2 11/16	(983)	4.74	(0.44)	1-2 47/64	(374)	3-2 3/4	(984)	3.97	(0.37)
1642	1-5 21/32	(449)	3-4 25/64	(1026)	4.95	(0.46)	1-2 47/64	(374)	3-4 3/4	(1035)	4.17	(0.39)
1650	1-5 21/32	(449)	4-0 25/64	(1229)	5.93	(0.55)	1-2 47/64	(374)	4-0 3/4	(1238)	4.99	(0.46)
1656	1-5 21/32	(449)	4-6 25/64	(1381)	6.67	(0.62)	1-2 47/64	(374)	4-6 3/4	(1391)	5.60	(0.52)
2012	1-9 21/32	(550)	0-10 11/16	(271)	1.61	(0.15)	1-6 47/64	(476)	0-10 3/4	(273)	1.40	(0.13)
2014	1-9 21/32	(550)	1-0 11/16	(322)	1.91	(0.18)	1-6 47/64	(476)	1-0 3/4	(324)	1.66	(0.15)
2016	1-9 21/32	(550)	1-2 11/16	(373)	2.21	(0.21)	1-6 47/64	(476)	1-2 3/4	(375)	1.92	(0.18)
2018	1-9 21/32	(550)	1-4 11/16	(424)	2.51	(0.23)	1-6 47/64	(476)	1-4 3/4	(425)	2.18	(0.20)
2020	1-9 21/32	(550)	1-6 11/16	(475)	2.81	(0.26)	1-6 47/64	(476)	1-6 3/4	(476)	2.44	(0.23)
2024	1-9 21/32	(550)	1-10 11/16	(576)	3.41	(0.32)	1-6 47/64	(476)	1-10 3/4	(578)	2.96	(0.27)
2026	1-9 21/32	(550)	2-0 11/16	(627)	3.71	(0.34)	1-6 47/64	(476)	2-0 3/4	(629)	3.22	(0.30)
2028	1-9 21/32	(550)	2-2 11/16	(678)	4.01	(0.37)	1-6 47/64	(476)	2-2 3/4	(679)	3.48	(0.32)
2030	1-9 21/32	(550)	2-4 11/16	(729)	4.32	(0.40)	1-6 47/64	(476)	2-4 3/4	(730)	3.74	(0.35)
2032	1-9 21/32	(550)	2-6 11/16	(779)	4.62	(0.43)	1-6 47/64	(476)	2-6 3/4	(781)	4.00	(0.37)
2034	1-9 21/32	(550)	2-8 11/16	(830)	4.92	(0.46)	1-6 47/64	(476)	2-8 3/4	(832)	4.26	(0.40)
2036	1-9 21/32	(550)	2-10 11/16	(881)	5.22	(0.48)	1-6 47/64	(476)	2-10 3/4	(883)	4.52	(0.42)
2040 E	1-9 21/32	(550)	3-2 11/16	(983)	5.82	(0.54)	1-6 47/64	(476)	3-2 3/4	(984)	5.04	(0.47)
2042 E	1-9 21/32	(550)	3-4 11/16	(1033)	6.12	(0.57)	1-6 47/64	(476)	3-4 3/4	(1035)	5.30	(0.49)
2050 E	1-9 21/32	(550)	4-0 25/64	(1229)	7.28	(0.68)	1-6 47/64	(476)	4-0 3/4	(1238)	6.34	(0.59)
2056 E	1-9 21/32	(550)	4-6 25/64	(1381)	8.18	(0.76)	1-6 47/64	(476)	4-6 3/4	(1391)	7.12	(0.66)

NOTE: Refer to Product Performance Chapter for International Building Code. Net Clear Opening drawings are pictured with the conversion tables.

Sizes designated with "E" meet egress requirements based on standard and optional Glass and Glazing. All other glass options, please contact a Marvin representative.



Clad Ultimate Double Hung - Next Generation 2.0

Egress/Vent and Daylight Opening: Operable

CN	Opening Width		Opening Height		Egress Opening		Daylight Opening Width		Daylight Opening Height		Daylight Opening	
	ft - in	mm	ft - in	mm	ft ²	m ²	ft-in	mm	ft-in	mm	sq. ft.	m ²
2412	2-1 21/32	(652)	0-10 11/16	(271)	1.90	(0.18)	1-10 47/64	(577)	0-10 3/4	(273)	1.70	(0.16)
2414	2-1 21/32	(652)	1-0 11/16	(322)	2.26	(0.21)	1-10 47/64	(577)	1-0 3/4	(324)	2.01	(0.19)
2416	2-1 21/32	(652)	1-2 11/16	(373)	2.62	(0.24)	1-10 47/64	(577)	1-2 3/4	(375)	2.33	(0.22)
2418	2-1 21/32	(652)	1-4 11/16	(424)	2.97	(0.28)	1-10 47/64	(577)	1-4 3/4	(425)	2.64	(0.25)
2420	2-1 21/32	(652)	1-6 11/16	(475)	3.33	(0.31)	1-10 47/64	(577)	1-6 3/4	(476)	2.96	(0.28)
2422	2-1 21/32	(652)	1-8 11/16	(525)	3.69	(0.34)	1-10 47/64	(577)	1-8 3/4	(527)	3.28	(0.30)
2424	2-1 21/32	(652)	1-10 11/16	(576)	4.04	(0.38)	1-10 47/64	(577)	1-10 3/4	(578)	3.59	(0.33)
2426	2-1 21/32	(652)	2-0 11/16	(627)	4.40	(0.41)	1-10 47/64	(577)	2-0 3/4	(629)	3.91	(0.36)
2428	2-1 21/32	(652)	2-2 11/16	(678)	4.76	(0.44)	1-10 47/64	(577)	2-2 3/4	(679)	4.22	(0.39)
2430	2-1 21/32	(652)	2-4 11/16	(729)	5.11	(0.47)	1-10 47/64	(577)	2-4 3/4	(730)	4.54	(0.42)
2432	2-1 21/32	(652)	2-6 11/16	(779)	5.47	(0.51)	1-10 47/64	(577)	2-6 3/4	(781)	4.86	(0.45)
2434 E	2-1 21/32	(652)	2-8 11/16	(830)	5.82	(0.54)	1-10 47/64	(577)	2-8 3/4	(832)	5.17	(0.48)
2436 E	2-1 21/32	(652)	2-10 11/16	(881)	6.18	(0.57)	1-10 47/64	(577)	2-10 3/4	(883)	5.49	(0.51)
2440 E	2-1 21/32	(652)	3-2 11/16	(983)	6.89	(0.64)	1-10 47/64	(577)	3-2 3/4	(984)	6.12	(0.57)
2442 E	2-1 21/32	(652)	3-4 25/64	(1026)	7.20	(0.67)	1-10 47/64	(577)	3-4 3/4	(1035)	6.43	(0.60)
2450 E	2-1 21/32	(652)	4-0 25/64	(1229)	8.62	(0.80)	1-10 47/64	(577)	4-0 3/4	(1238)	7.70	(0.72)
2456 E	2-1 21/32	(652)	4-6 25/64	(1381)	9.69	(0.90)	1-10 47/64	(577)	4-6 3/4	(1391)	8.64	(0.80)
2612	2-3 21/32	(703)	0-10 11/16	(271)	2.05	(0.19)	2-0 47/64	(628)	0-10 3/4	(273)	1.85	(0.17)
2614	2-3 21/32	(703)	1-0 11/16	(322)	2.44	(0.23)	2-0 47/64	(628)	1-0 3/4	(324)	2.19	(0.20)
2616	2-3 21/32	(703)	1-2 11/16	(373)	2.82	(0.26)	2-0 47/64	(628)	1-2 3/4	(375)	2.53	(0.24)
2618	2-3 21/32	(703)	1-4 11/16	(424)	3.21	(0.30)	2-0 47/64	(628)	1-4 3/4	(425)	2.88	(0.27)
2620	2-3 21/32	(703)	1-6 11/16	(475)	3.59	(0.33)	2-0 47/64	(628)	1-6 3/4	(476)	3.22	(0.30)
2622	2-3 21/32	(703)	1-8 11/16	(525)	3.97	(0.37)	2-0 47/64	(628)	1-8 3/4	(527)	3.56	(0.33)
2624	2-3 21/32	(703)	1-10 11/16	(576)	4.36	(0.40)	2-0 47/64	(628)	1-10 3/4	(578)	3.91	(0.36)
2626	2-3 21/32	(703)	2-0 11/16	(627)	4.74	(0.44)	2-0 47/64	(628)	2-0 3/4	(629)	4.25	(0.39)
2628	2-3 21/32	(703)	2-2 11/16	(678)	5.13	(0.48)	2-0 47/64	(628)	2-2 3/4	(679)	4.60	(0.43)
2630	2-3 21/32	(703)	2-4 11/16	(729)	5.51	(0.51)	2-0 47/64	(628)	2-4 3/4	(730)	4.94	(0.46)
2632 E	2-3 21/32	(703)	2-6 11/16	(779)	5.89	(0.55)	2-0 47/64	(628)	2-6 3/4	(781)	5.28	(0.49)
2634 E	2-3 21/32	(703)	2-8 11/16	(830)	6.28	(0.58)	2-0 47/64	(628)	2-8 3/4	(832)	5.63	(0.52)
2636 E	2-3 21/32	(703)	2-10 11/16	(881)	6.66	(0.62)	2-0 47/64	(628)	2-10 3/4	(883)	5.97	(0.55)
2640 E	2-3 21/32	(703)	3-2 25/64	(975)	7.37	(0.69)	2-0 47/64	(628)	3-2 3/4	(984)	6.66	(0.62)
2642 E	2-3 21/32	(703)	3-4 25/64	(1026)	7.76	(0.72)	2-0 47/64	(628)	3-4 3/4	(1035)	7.00	(0.65)
2650 E	2-3 21/32	(703)	4-0 25/64	(1229)	9.29	(0.86)	2-0 47/64	(628)	4-0 3/4	(1238)	8.37	(0.78)
2656 E	2-3 21/32	(703)	4-6 25/64	(1381)	10.45	(0.97)	2-0 47/64	(628)	4-6 3/4	(1391)	9.40	(0.87)

NOTE: Refer to Product Performance Chapter for International Building Code. Net Clear Opening drawings are pictured with the conversion tables.

Sizes designated with "E" meet egress requirements based on standard and optional Glass and Glazing; All other glass options, please contact a Marvin representative.

Clad Ultimate Double Hung - Next Generation 2.0

Egress/Vent and Daylight Opening: Operable

CN	Opening Width		Opening Height		Egress Opening		Daylight Opening Width		Daylight Opening Height		Daylight Opening		
	ft - in	mm	ft - in	mm	ft ²	m ²	ft - in	mm	ft - in	mm	sq. ft.	m ²	
2812	2-5 21/32	(753)	0-10 11/16	(271)	2.20	(0.20)	2-2 47/64	(679)	0-10 3/4	(273)	2.00	(0.19)	
2814	2-5 21/32	(753)	1-0 11/16	(322)	2.61	(0.24)	2-2 47/64	(679)	1-0 3/4	(324)	2.37	(0.22)	
2816	2-5 21/32	(753)	1-2 11/16	(373)	3.03	(0.28)	2-2 47/64	(679)	1-2 3/4	(375)	2.74	(0.25)	
2818	2-5 21/32	(753)	1-4 11/16	(424)	3.44	(0.32)	2-2 47/64	(679)	1-4 3/4	(425)	3.11	(0.29)	
2820	2-5 21/32	(753)	1-6 11/16	(475)	3.85	(0.36)	2-2 47/64	(679)	1-6 3/4	(476)	3.48	(0.32)	
2822	2-5 21/32	(753)	1-8 11/16	(525)	4.26	(0.40)	2-2 47/64	(679)	1-8 3/4	(527)	3.85	(0.36)	
2824	2-5 21/32	(753)	1-10 11/16	(576)	4.67	(0.43)	2-2 47/64	(679)	1-10 3/4	(578)	4.22	(0.39)	
2826	2-5 21/32	(753)	2-0 11/16	(627)	5.08	(0.47)	2-2 47/64	(679)	2-0 3/4	(629)	4.60	(0.43)	
2828	2-5 21/32	(753)	2-2 11/16	(678)	5.50	(0.51)	2-2 47/64	(679)	2-2 3/4	(679)	4.97	(0.46)	
2830	E	2-5 21/32	(753)	2-4 11/16	(729)	5.91	(0.56)	2-2 47/64	(679)	2-4 3/4	(730)	5.34	(0.50)
2832	E	2-5 21/32	(753)	2-6 11/16	(779)	6.32	(0.59)	2-2 47/64	(679)	2-6 3/4	(781)	5.71	(0.53)
2834	E	2-5 21/32	(753)	2-8 11/16	(830)	6.73	(0.63)	2-2 47/64	(679)	2-8 3/4	(832)	6.08	(0.56)
2836	E	2-5 21/32	(753)	2-10 25/64	(873)	7.08	(0.66)	2-2 47/64	(679)	2-10 3/4	(883)	6.45	(0.60)
2840	E	2-5 21/32	(753)	3-2 25/64	(975)	7.91	(0.73)	2-2 47/64	(679)	3-2 3/4	(984)	7.19	(0.67)
2842	E	2-5 21/32	(753)	3-4 25/64	(1026)	8.32	(0.77)	2-2 47/64	(679)	3-4 3/4	(1035)	7.57	(0.70)
2850	E	2-5 21/32	(753)	4-0 25/64	(1229)	9.97	(0.93)	2-2 47/64	(679)	4-0 3/4	(1238)	9.05	(0.84)
2856	E	2-5 21/32	(753)	4-6 25/64	(1381)	11.20	(1.04)	2-2 47/64	(679)	4-6 3/4	(1391)	10.17	(0.94)
3012	2-7 21/32	(804)	0-10 11/16	(271)	2.35	(0.22)	2-4 47/64	(730)	0-10 3/4	(273)	2.15	(0.20)	
3014	2-7 21/32	(804)	1-0 11/16	(322)	2.79	(0.26)	2-4 47/64	(730)	1-0 3/4	(324)	2.54	(0.24)	
3016	2-7 21/32	(804)	1-2 25/64	(365)	3.16	(0.29)	2-4 47/64	(730)	1-2 3/4	(375)	2.94	(0.27)	
3018	2-7 21/32	(804)	1-4 25/64	(416)	3.60	(0.33)	2-4 47/64	(730)	1-4 3/4	(425)	3.34	(0.31)	
3020	2-7 21/32	(804)	1-6 25/64	(467)	4.04	(0.38)	2-4 47/64	(730)	1-6 3/4	(476)	3.74	(0.35)	
3022	2-7 21/32	(804)	1-8 25/64	(518)	4.48	(0.42)	2-4 47/64	(730)	1-8 3/4	(527)	4.14	(0.38)	
3024	2-7 21/32	(804)	1-10 25/64	(569)	4.92	(0.46)	2-4 47/64	(730)	1-10 3/4	(578)	4.54	(0.42)	
3026	2-7 21/32	(804)	2-0 25/64	(619)	5.36	(0.50)	2-4 47/64	(730)	2-0 3/4	(629)	4.94	(0.46)	
3028	E	2-7 21/32	(804)	2-2 25/64	(670)	5.80	(0.54)	2-4 47/64	(730)	2-2 3/4	(679)	5.34	(0.50)
3030	E	2-7 21/32	(804)	2-4 25/64	(721)	6.24	(0.58)	2-4 47/64	(730)	2-4 3/4	(730)	5.74	(0.53)
3032	E	2-7 21/32	(804)	2-6 25/64	(772)	6.68	(0.62)	2-4 47/64	(730)	2-6 3/4	(781)	6.14	(0.57)
3034	E	2-7 21/32	(804)	2-8 25/64	(823)	7.12	(0.66)	2-4 47/64	(730)	2-8 3/4	(832)	6.54	(0.61)
3036	E	2-7 21/32	(804)	2-10 25/64	(873)	7.56	(0.70)	2-4 47/64	(730)	2-10 3/4	(883)	6.93	(0.64)
3040	E	2-7 21/32	(804)	3-2 25/64	(975)	8.44	(0.78)	2-4 47/64	(730)	3-2 3/4	(984)	7.73	(0.72)
3042	E	2-7 21/32	(804)	3-4 25/64	(1026)	8.88	(0.82)	2-4 47/64	(730)	3-4 3/4	(1035)	8.13	(0.76)
3050	E	2-7 21/32	(804)	4-0 25/64	(1229)	10.64	(0.99)	2-4 47/64	(730)	4-0 3/4	(1238)	9.73	(0.90)
3056	E	2-7 21/32	(804)	4-6 25/64	(1381)	11.96	(1.11)	2-4 47/64	(730)	4-6 3/4	(1391)	10.93	(1.02)

NOTE: Refer to Product Performance Chapter for International Building Code. Net Clear Opening drawings are pictured with the conversion tables.

Sizes designated with "E" meet egress requirements based on standard and optional Glass and Glazing. All other glass options, please contact a Marvin representative.

Clad Ultimate Double Hung - Next Generation 2.0

Egress/Vent and Daylight Opening: Operable

CN	Opening Width		Opening Height		Egress Opening		Daylight Opening Width		Daylight Opening Height		Daylight Opening		
	ft - in	mm	ft - in	mm	ft ²	m ²	ft-in	mm	ft-in	mm	sq. ft.	m ²	
3212	2-9 21/32	(855)	0-10 11/16	(271)	2.50	(0.23)	2-6 47/64	(781)	0-10 3/4	(273)	2.29	(0.21)	
3214	2-9 21/32	(855)	1-0 11/16	(322)	2.97	(0.28)	2-6 47/64	(781)	1-0 3/4	(324)	2.72	(0.25)	
3216	2-9 21/32	(855)	1-2 11/16	(373)	3.43	(0.32)	2-6 47/64	(781)	1-2 3/4	(375)	3.15	(0.29)	
3218	2-9 21/32	(855)	1-4 11/16	(424)	3.90	(0.36)	2-6 47/64	(781)	1-4 3/4	(425)	3.58	(0.33)	
3220	2-9 21/32	(855)	1-6 11/16	(475)	4.37	(0.41)	2-6 47/64	(781)	1-6 3/4	(476)	4.00	(0.37)	
3222	2-9 21/32	(855)	1-8 11/16	(525)	4.84	(0.45)	2-6 47/64	(781)	1-8 3/4	(527)	4.43	(0.41)	
3224	2-9 21/32	(855)	1-10 11/16	(576)	5.30	(0.49)	2-6 47/64	(781)	1-10 3/4	(578)	4.86	(0.45)	
3226	E	2-9 21/32	(855)	2-0 11/16	(627)	5.77	(0.54)	2-6 47/64	(781)	2-0 3/4	(629)	5.28	(0.49)
3228	E	2-9 21/32	(855)	2-2 11/16	(678)	6.24	(0.58)	2-6 47/64	(781)	2-2 3/4	(679)	5.71	(0.53)
3230	E	2-9 21/32	(855)	2-4 11/16	(729)	6.71	(0.62)	2-6 47/64	(781)	2-4 3/4	(730)	6.14	(0.57)
3232	E	2-9 21/32	(855)	2-6 25/64	(772)	7.10	(0.66)	2-6 47/64	(781)	2-6 3/4	(781)	6.56	(0.61)
3234	E	2-9 21/32	(855)	2-8 25/64	(823)	7.57	(0.70)	2-6 47/64	(781)	2-8 3/4	(832)	6.99	(0.65)
3236	E	2-9 21/32	(855)	2-10 25/64	(873)	8.04	(0.75)	2-6 47/64	(781)	2-10 3/4	(883)	7.42	(0.69)
3240	E	2-9 21/32	(855)	3-2 25/64	(975)	8.97	(0.83)	2-6 47/64	(781)	3-2 3/4	(984)	8.27	(0.77)
3242	E	2-9 21/32	(855)	3-4 25/64	(1026)	9.44	(0.88)	2-6 47/64	(781)	3-4 3/4	(1035)	8.70	(0.81)
3250	E	2-9 21/32	(855)	4-0 25/64	(1229)	11.31	(1.05)	2-6 47/64	(781)	4-0 3/4	(1238)	10.41	(0.97)
3256	E	2-9 21/32	(855)	4-6 25/64	(1381)	12.71	(1.18)	2-6 47/64	(781)	4-6 3/4	(1391)	11.69	(1.09)
3612	3-1 21/32	(957)	0-10 11/16	(271)	2.79	(0.26)	2-10 47/64	(882)	0-10 3/4	(273)	2.59	(0.24)	
3614	3-1 21/32	(957)	1-0 11/16	(322)	3.32	(0.31)	2-10 47/64	(882)	1-0 3/4	(324)	3.08	(0.29)	
3616	3-1 21/32	(957)	1-2 11/16	(373)	3.84	(0.36)	2-10 47/64	(882)	1-2 3/4	(375)	3.56	(0.33)	
3618	3-1 21/32	(957)	1-4 11/16	(424)	4.36	(0.41)	2-10 47/64	(882)	1-4 3/4	(425)	4.04	(0.38)	
3620	3-1 21/32	(957)	1-6 11/16	(475)	4.89	(0.45)	2-10 47/64	(882)	1-6 3/4	(476)	4.52	(0.42)	
3622	3-1 21/32	(957)	1-8 11/16	(525)	5.41	(0.50)	2-10 47/64	(882)	1-8 3/4	(527)	5.01	(0.47)	
3624	3-1 21/32	(957)	1-10 11/16	(576)	5.93	(0.55)	2-10 47/64	(882)	1-10 3/4	(578)	5.49	(0.51)	
3626	E	3-1 21/32	(957)	2-0 11/16	(627)	6.46	(0.60)	2-10 47/64	(882)	2-0 3/4	(629)	5.97	(0.55)
3628	E	3-1 21/32	(957)	2-2 25/64	(670)	6.90	(0.64)	2-10 47/64	(882)	2-2 3/4	(679)	6.45	(0.60)
3630	E	3-1 21/32	(957)	2-4 25/64	(721)	7.42	(0.69)	2-10 47/64	(882)	2-4 3/4	(730)	6.94	(0.64)
3632	E	3-1 21/32	(957)	2-6 25/64	(772)	7.95	(0.74)	2-10 47/64	(882)	2-6 3/4	(781)	7.42	(0.69)
3634	E	3-1 21/32	(957)	2-8 25/64	(823)	8.47	(0.79)	2-10 47/64	(882)	2-8 3/4	(832)	7.90	(0.73)
3636	E	3-1 21/32	(957)	2-10 25/64	(873)	8.99	(0.84)	2-10 47/64	(882)	2-10 3/4	(883)	8.38	(0.78)
3640	E	3-1 21/32	(957)	3-2 25/64	(975)	10.04	(0.93)	2-10 47/64	(882)	3-2 3/4	(984)	9.35	(0.87)
3642	E	3-1 21/32	(957)	3-4 25/64	(1026)	10.56	(0.98)	2-10 47/64	(882)	3-4 3/4	(1035)	9.83	(0.91)
3650	E	3-1 21/32	(957)	4-0 25/64	(1229)	12.65	(1.18)	2-10 47/64	(882)	4-0 3/4	(1238)	11.76	(1.09)
3656	E	3-1 21/32	(957)	4-6 25/64	(1381)	14.22	(1.32)	2-10 47/64	(882)	4-6 3/4	(1391)	13.21	(1.23)

NOTE: Refer to Product Performance Chapter for International Building Code. Net Clear Opening drawings are pictured with the conversion tables.

Sizes designated with "E" meet egress requirements based on standard and optional Glass and Glazing. All other glass options, please contact a Marvin representative.



Clad Ultimate Double Hung - Next Generation 2.0



Egress/Vent and Daylight Openings: Operable

CN	Opening Width		Opening Height		Egress Opening		Daylight Opening Width		Daylight Opening Height		Daylight Opening	
	ft - in	mm	ft - in	mm	ft ²	m ²	ft-in	mm	ft-in	mm	sq. ft.	m ²
4012	3-5 21/32	(1058)	0-10 11/16	(271)	3.09	(0.29)	3-2 47/64	(984)	0-10 3/4	(273)	2.89	(0.27)
4014	3-5 21/32	(1058)	1-0 11/16	(322)	3.67	(0.34)	3-2 47/64	(984)	1-0 3/4	(324)	3.43	(0.32)
4016	3-5 21/32	(1058)	1-2 11/16	(373)	4.25	(0.39)	3-2 47/64	(984)	1-2 3/4	(375)	3.97	(0.37)
4018	3-5 21/32	(1058)	1-4 11/16	(424)	4.83	(0.45)	3-2 47/64	(984)	1-4 3/4	(425)	4.51	(0.42)
4020	3-5 21/32	(1058)	1-6 11/16	(475)	5.41	(0.50)	3-2 47/64	(984)	1-6 3/4	(476)	5.04	(0.47)
4022	3-5 21/32	(1058)	1-8 11/16	(525)	5.98	(0.56)	3-2 47/64	(984)	1-8 3/4	(527)	5.58	(0.52)
4024	3-5 21/32	(1058)	1-10 11/16	(576)	6.56	(0.61)	3-2 47/64	(984)	1-10 3/4	(578)	6.12	(0.57)
4026 E	3-5 21/32	(1058)	2-0 25/64	(619)	7.06	(0.66)	3-2 47/64	(984)	2-0 3/4	(629)	6.66	(0.62)
4028 E	3-5 21/32	(1058)	2-2 25/64	(670)	7.63	(0.71)	3-2 47/64	(984)	2-2 3/4	(679)	7.20	(0.67)
4030 E	3-5 21/32	(1058)	2-4 25/64	(721)	8.21	(0.76)	3-2 47/64	(984)	2-4 3/4	(730)	7.73	(0.72)
4032 E	3-5 21/32	(1058)	2-6 25/64	(772)	8.79	(0.82)	3-2 47/64	(984)	2-6 3/4	(781)	8.27	(0.77)
4034 E	3-5 21/32	(1058)	2-8 25/64	(823)	9.37	(0.87)	3-2 47/64	(984)	2-8 3/4	(832)	8.81	(0.82)
4036 E	3-5 21/32	(1058)	2-10 25/64	(873)	9.95	(0.92)	3-2 47/64	(984)	2-10 3/4	(883)	9.35	(0.87)
4040 E	3-5 21/32	(1058)	3-2 25/64	(975)	11.11	(1.03)	3-2 47/64	(984)	3-2 3/4	(984)	10.42	(0.97)
4042 E	3-5 21/32	(1058)	3-4 25/64	(1026)	11.68	(1.09)	3-2 47/64	(984)	3-4 3/4	(1035)	10.96	(1.02)
4050 E	3-5 21/32	(1058)	4-0 25/64	(1229)	14. 0	(1.30)	3-2 47/64	(984)	4-0 3/4	(1238)	13.11	(1.22)
4056 E	3-5 21/32	(1058)	4-6 25/64	(1381)	15.73	(1.46)	3-2 47/64	(984)	4-6 3/4	(1391)	14.73	(1.37)
4412	3-9 21/32	(1160)	0-10 11/16	(271)	3.39	(0.31)	3-6 47/64	(1085)	0-10 3/4	(273)	3.19	(0.30)
4414	3-9 21/32	(1160)	1-0 11/16	(322)	4.02	(0.37)	3-6 47/64	(1085)	1-0 3/4	(324)	3.78	(0.35)
4416	3-9 21/32	(1160)	1-2 11/16	(373)	4.66	(0.43)	3-6 47/64	(1085)	1-2 3/4	(375)	4.38	(0.41)
4418	3-9 21/32	(1160)	1-4 11/16	(424)	5.29	(0.49)	3-6 47/64	(1085)	1-4 3/4	(425)	4.97	(0.46)
4420	3-9 21/32	(1160)	1-6 11/16	(475)	5.93	(0.55)	3-6 47/64	(1085)	1-6 3/4	(476)	5.56	(0.52)
4422	3-9 21/32	(1160)	1-8 11/16	(525)	6.56	(0.61)	3-6 47/64	(1085)	1-8 3/4	(527)	6.16	(0.57)
4424	3-9 21/32	(1160)	1-10 25/64	(569)	7.10	(0.66)	3-6 47/64	(1085)	1-10 3/4	(578)	6.75	(0.63)
4426 E	3-9 21/32	(1160)	2-0 25/64	(619)	7.73	(0.72)	3-6 47/64	(1085)	2-0 3/4	(629)	7.35	(0.68)
4428 E	3-9 21/32	(1160)	2-2 25/64	(670)	8.37	(0.78)	3-6 47/64	(1085)	2-2 3/4	(679)	7.94	(0.74)
4430 E	3-9 21/32	(1160)	2-4 25/64	(721)	9. 0	(0.84)	3-6 47/64	(1085)	2-4 3/4	(730)	8.53	(0.79)
4432 E	3-9 21/32	(1160)	2-6 25/64	(772)	9.63	(0.90)	3-6 47/64	(1085)	2-6 3/4	(781)	9.13	(0.85)
4434 E	3-9 21/32	(1160)	2-8 25/64	(823)	10.27	(0.95)	3-6 47/64	(1085)	2-8 3/4	(832)	9.72	(0.90)
4436 E	3-9 21/32	(1160)	2-10 25/64	(873)	10.90	(1.01)	3-6 47/64	(1085)	2-10 3/4	(883)	10.31	(0.96)
4440 E	3-9 21/32	(1160)	3-2 25/64	(975)	12.17	(1.13)	3-6 47/64	(1085)	3-2 3/4	(984)	11.50	(1.07)
4442 E	3-9 21/32	(1160)	3-4 25/64	(1026)	12.81	(1.19)	3-6 47/64	(1085)	3-4 3/4	(1035)	12.09	(1.12)
4450 E	3-9 21/32	(1160)	4-0 25/64	(1229)	15.34	(1.43)	3-6 47/64	(1085)	4-0 3/4	(1238)	14.47	(1.34)
4456 E	3-9 21/32	(1160)	4-6 25/64	(1381)	17.24	(1.60)	3-6 47/64	(1085)	4-6 3/4	(1391)	16.25	(1.51)

NOTE: Refer to Product Performance Chapter for International Building Code. Net Clear Opening drawings are pictured with the conversion tables.

Sizes designated with "E" meet egress requirements based on standard and optional Glass and Glazing. All other glass options, please contact a Marvin representative.

Clad Ultimate Double Hung - Next Generation 2.0

MARVIN
Windows and Doors
Built around you.

Egress/Vent and Daylight Openings: Operable

CN	Opening Width		Opening Height		Egress Opening		Daylight Opening Width		Daylight Opening Height		Daylight Opening		
	ft - in	mm	ft - in	mm	ft ²	m ²	ft-in	mm	ft-in	mm	sq. ft.	m ²	
4812	4-1 21/32	(1261)	0-10 11/16	(271)	3.69	(0.34)	3-10 47/64	(1187)	0-10 3/4	(273)	3.49	(0.32)	
4814	4-1 21/32	(1261)	1-0 11/16	(322)	4.38	(0.41)	3-10 47/64	(1187)	1-0 3/4	(324)	4.14	(0.38)	
4816	4-1 21/32	(1261)	1-2 11/16	(373)	5.06	(0.47)	3-10 47/64	(1187)	1-2 3/4	(375)	4.79	(0.44)	
4818	4-1 21/32	(1261)	1-4 11/16	(424)	5.75	(0.53)	3-10 47/64	(1187)	1-4 3/4	(425)	5.44	(0.51)	
4820	4-1 21/32	(1261)	1-6 11/16	(475)	6.44	(0.60)	3-10 47/64	(1187)	1-6 3/4	(476)	6.09	(0.57)	
4822	4-1 21/32	(1261)	1-8 25/64	(518)	7.03	(0.65)	3-10 47/64	(1187)	1-8 3/4	(527)	6.73	(0.63)	
4824	4-1 21/32	(1261)	1-10 25/64	(569)	7.72	(0.72)	3-10 47/64	(1187)	1-10 3/4	(678)	7.38	(0.69)	
4826	E	4-1 21/32	(1261)	2-0 25/64	(619)	8.41	(0.78)	3-10 47/64	(1187)	2-0 3/4	(629)	8.03	(0.75)
4828	E	4-1 21/32	(1261)	2-2 25/64	(670)	9.10	(0.85)	3-10 47/64	(1187)	2-2 3/4	(679)	8.68	(0.81)
4830	E	4-1 21/32	(1261)	2-4 25/64	(721)	9.79	(0.91)	3-10 47/64	(1187)	2-4 3/4	(730)	9.33	(0.87)
4832	E	4-1 21/32	(1261)	2-6 25/64	(772)	10.48	(0.97)	3-10 47/64	(1187)	2-6 3/4	(781)	9.98	(0.93)
4834	E	4-1 21/32	(1261)	2-8 25/64	(823)	11.17	(1.04)	3-10 47/64	(1187)	2-8 3/4	(832)	10.63	(0.99)
4836	E	4-1 21/32	(1261)	2-10 25/64	(873)	11.86	(1.10)	3-10 47/64	(1187)	2-10 3/4	(883)	11.28	(1.05)
4840	E	4-1 21/32	(1261)	3-2 25/64	(975)	13.24	(1.23)	3-10 47/64	(1187)	3-2 3/4	(984)	12.58	(1.17)
4842	E	4-1 21/32	(1261)	3-4 25/64	(1026)	13.93	(1.29)	3-10 47/64	(1187)	3-4 3/4	(1035)	13.23	(1.23)
4850	E	4-1 21/32	(1261)	4-0 25/64	(1229)	16.69	(1.55)	3-10 47/64	(1187)	4-0 3/4	(1238)	15.82	(1.47)
4856	E	4-1 21/32	(1261)	4-6 25/64	(1381)	18.76	(1.74)	3-10 47/64	(1187)	4-6 3/4	(1391)	17.77	(1.65)
5412	4-7 21/32	(1414)	0-10 25/64	(264)	4.01	(0.37)	4-4 47/64	(1339)	0-10 3/4	(273)	3.94	(0.37)	
5414	4-7 21/32	(1414)	1-0 25/64	(315)	4.79	(0.44)	4-4 47/64	(1339)	1-0 3/4	(324)	4.67	(0.43)	
5416	4-7 21/32	(1414)	1-2 25/64	(365)	5.56	(0.52)	4-4 47/64	(1339)	1-2 3/4	(375)	5.40	(0.50)	
5418	4-7 21/32	(1414)	1-4 25/64	(416)	6.33	(0.59)	4-4 47/64	(1339)	1-4 3/4	(425)	6.13	(0.57)	
5420	4-7 21/32	(1414)	1-6 25/64	(467)	7.11	(0.66)	4-4 47/64	(1339)	1-6 3/4	(476)	6.87	(0.64)	
5422	4-7 21/32	(1414)	1-8 25/64	(518)	7.88	(0.73)	4-4 47/64	(1339)	1-8 3/4	(527)	7.60	(0.71)	
5424	4-7 21/32	(1414)	1-10 25/64	(569)	8.65	(0.80)	4-4 47/64	(1339)	1-10 3/4	(578)	8.33	(0.77)	
5426	E	4-7 21/32	(1414)	2-0 25/64	(619)	9.43	(0.88)	4-4 47/64	(1339)	2-0 3/4	(629)	9.06	(0.84)
5428	E	4-7 21/32	(1414)	2-2 25/64	(670)	10.20	(0.95)	4-4 47/64	(1339)	2-2 3/4	(679)	9.80	(0.91)
5430	E	4-7 21/32	(1414)	2-4 25/64	(721)	10.97	(1.02)	4-4 47/64	(1339)	2-4 3/4	(730)	10.53	(0.98)
5432	E	4-7 21/32	(1414)	2-6 25/64	(772)	11.75	(1.09)	4-4 47/64	(1339)	2-6 3/4	(781)	11.26	(1.05)
5434	E	4-7 21/32	(1414)	2-8 25/64	(823)	12.52	(1.16)	4-4 47/64	(1339)	2-8 3/4	(832)	11.99	(1.11)
5436	E	4-7 21/32	(1414)	2-10 25/64	(873)	13.29	(1.23)	4-4 47/64	(1339)	2-10 3/4	(883)	12.73	(1.18)
5440	E	4-7 21/32	(1414)	3-2 25/64	(975)	14.84	(1.38)	4-4 47/64	(1339)	3-2 3/4	(984)	14.19	(1.32)
5442	E	4-7 21/32	(1414)	3-4 25/64	(1026)	15.61	(1.45)	4-4 47/64	(1339)	3-4 3/4	(1035)	14.92	(1.39)
5450	E	4-7 21/32	(1414)	4-0 25/64	(1229)	18.70	(1.74)	4-4 47/64	(1339)	4-0 3/4	(1238)	17.85	(1.66)
5456	E	4-7 21/32	(1414)	4-6 25/64	(1381)	21.02	(1.95)	4-4 47/64	(1339)	4-6 3/4	(1391)	20.05	(1.86)

NOTE: Refer to Product Performance Chapter for International Building Code. Net Clear Opening drawings are pictured with the conversion tables.

Sizes designated with "E" meet egress requirements based on standard and optional Glass and Glazing. All other glass options, please contact a Marvin representative.

Clad Ultimate Double Hung - Next Generation 2.0

Certified Sizes and Ratings

Product	Air Test to PSF	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure	Overall Width		Overall Height	
						In	mm	In	mm
Clad Ultimate Double Hung Next Generation 2.0 (4040)	1.57	7.5	75	LC-PG50	DP50	45 1/4	(1149)	87 1/2	(2223)
Clad Ultimate Double Hung Next Generation 2.0 (4044)	1.57	7.5	75	LC-PG50	DP50	45 1/4	(1149)	95 1/2	(2426)
Clad Ultimate Double Hung Next Generation 2.0 (4450)	1.57	7.5	75	LC-PG50	DP50	49 1/4	(1251)	107 1/2	(2731)
Clad Ultimate Double Hung Next Generation 2.0 (5044)*	1.57	6	60	LC-PG35	DP35	55 1/4	(1403)	95 1/2	(2426)
Clad Ultimate Double Hung Next Generation 2.0 (5456)	1.57	6	60	LC-PG35	DP35	59 1/4	(1505)	119 1/2	(3035)
Clad Ultimate Double Hung Picture Next Generation 2.0 (6668)	1.57	7.5	75	CW-PG50	DP50	67 1/4	(1708)	69 1/2	(1765)
Clad Ultimate Double Hung Picture Next Generation 2.0 (60102)	1.57	7.5	75	CW-PG50	DP50	61 1/4	(1556)	103 1/2	(2629)
Clad Ultimate Double Hung Transom Next Generation 2.0 (4020)	1.57	7.5	75	LC-PG50	DP50	45 1/4	(1149)	27 11/16	(703)
Clad Ultimate Double Hung Transom Next Generation 2.0 (6820)	1.57	7.5	75	LC-PG50	DP50	73 1/4	(1861)	27 11/16	(703)
Clad Ultimate Double Hung Transom Next Generation 2.0 (6820)	1.57	7.5	75	LC-PG50	DP50	73 1/4	(1861)	27 11/16	(703)
Clad Ultimate Double Hung Next Generation 2.0 (4036 - IZ3)	1.57	9.75	97.5	LC-PG65	DP65	45 1/4	(1149)	79 1/2	(2019)
Clad Ultimate Double Hung Next Generation 2.0 (4450 - IZ3)	1.57	9.75	97.5	LC-PG65	DP65	49 1/4	(1251)	107 1/2	(2731)
Clad Ultimate Double Hung Picture Next Generation 2.0 (60102-IZ3)	1.57	9.75	97.5	CW-PG65	DP65	61 1/4	(1556)	103 1/2	(2629)

NOTE: For CE ratings, please refer to CE Performance Section.

CE mark is not available on Impact units.

*Tested with the Performance Bracket removed



Measurement Conversions

Egress Formulas with Standard Screen

Clear Opening Width:

- Clear Opening Width = Frame OM Width - 3 19/32" (91)

Clear Opening Height:

- Clear Opening Height = Glass Size Height - 1 5/16" (33)
- Clear Opening Area (ft²) = (clear Opening Width x Clear Opening Height) / 144

NOTE: Clear Opening Height conversions are for units using block and tackle balances. Hybrid Spiral balanced units will exhibit reduced sash travel. Contact a Marvin representative for additional information.

Egress Formulas with Retractable Screen

Clear Opening Width:

- Clear Opening Width = Frame OM Width - 3 19/32" (91)

Clear Opening Height:

- Clear Opening Height = (Frame OM Height - 7 1/2" (191)) / 2 - 3 3/8" (85)
- Clear Opening Area (ft²) = (Clear Opening Width x Clear Opening Height) / 144

Egress Formulas with Interior Shade

Clear Opening Width:

- Clear Opening Width = Frame OM Width - 3 15/16" (100)

Clear Opening Height:

- Clear Opening Height = (Frame OM Height - 7 1/2" (191)) / 2 - 2 3/16" (55)
- Clear Opening Area (ft²) = (Clear Opening Width x Clear Opening Height) / 144

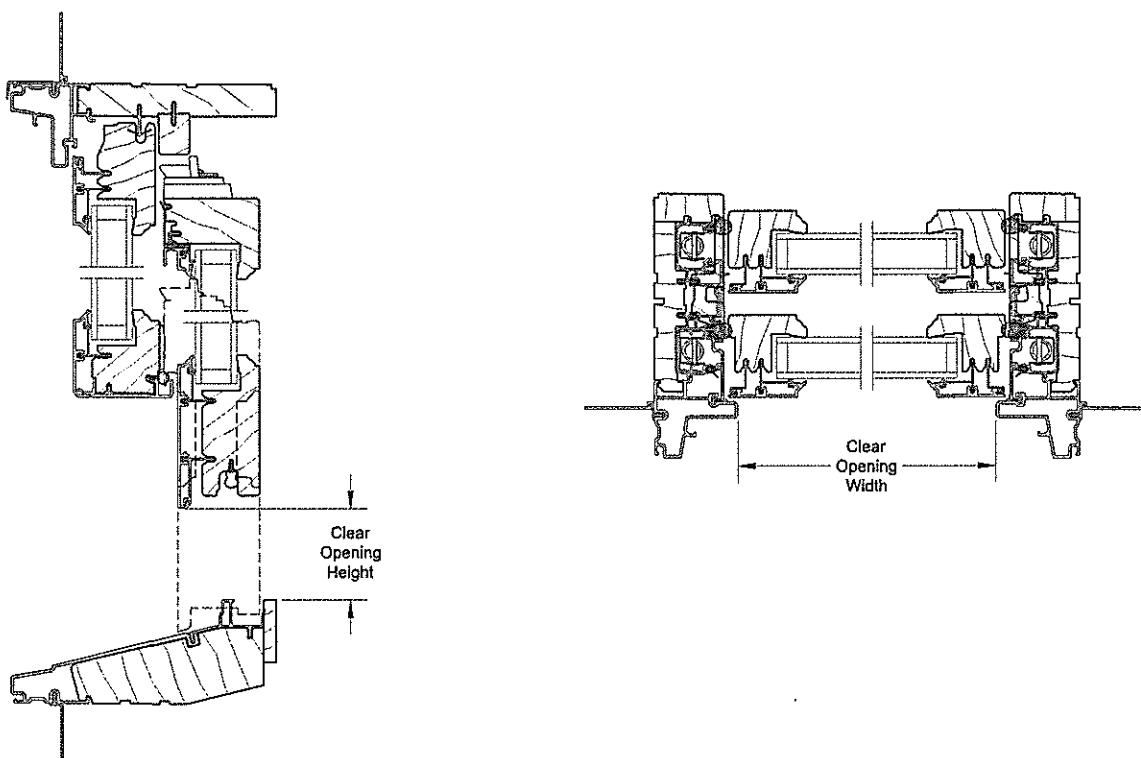
Egress Formulas with Interior Shade and Retractable Screen

Clear Opening Width:

- Clear Opening Width = Frame OM Width - 3 15/16" (100)

Clear Opening Height:

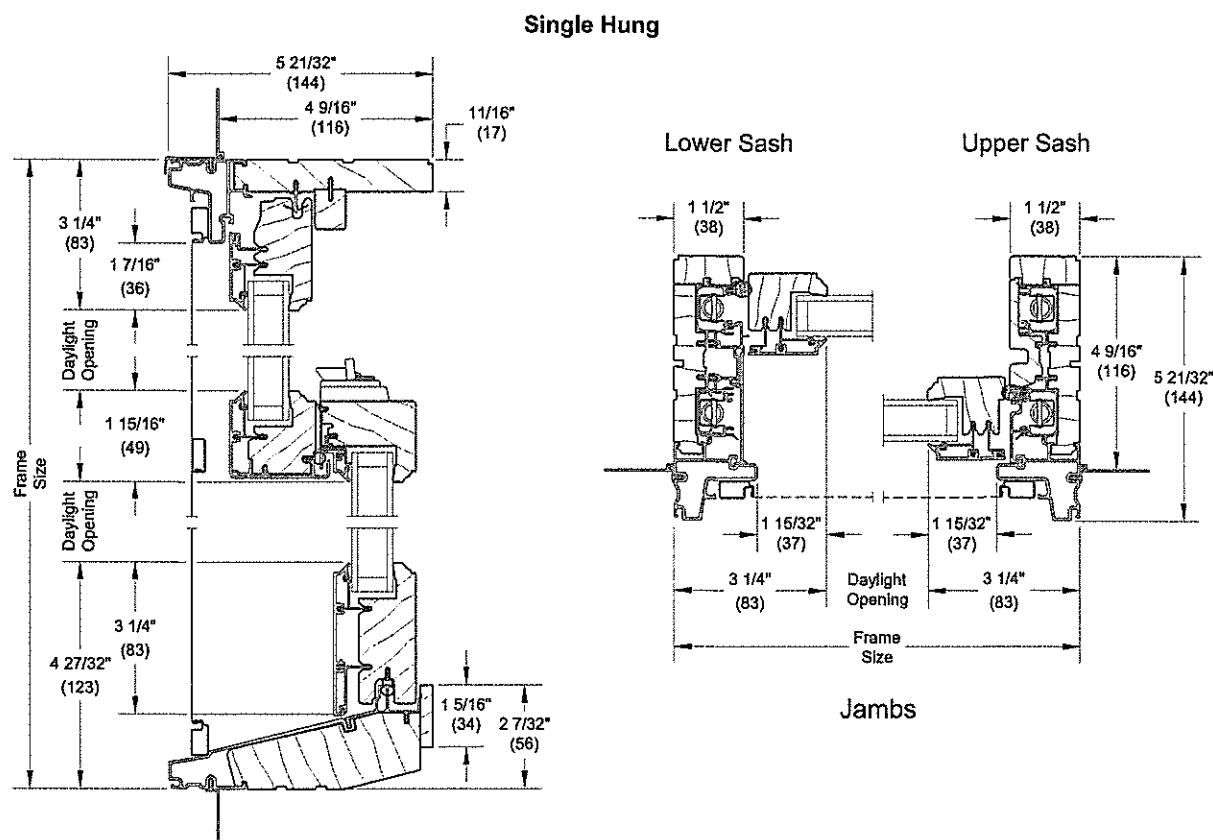
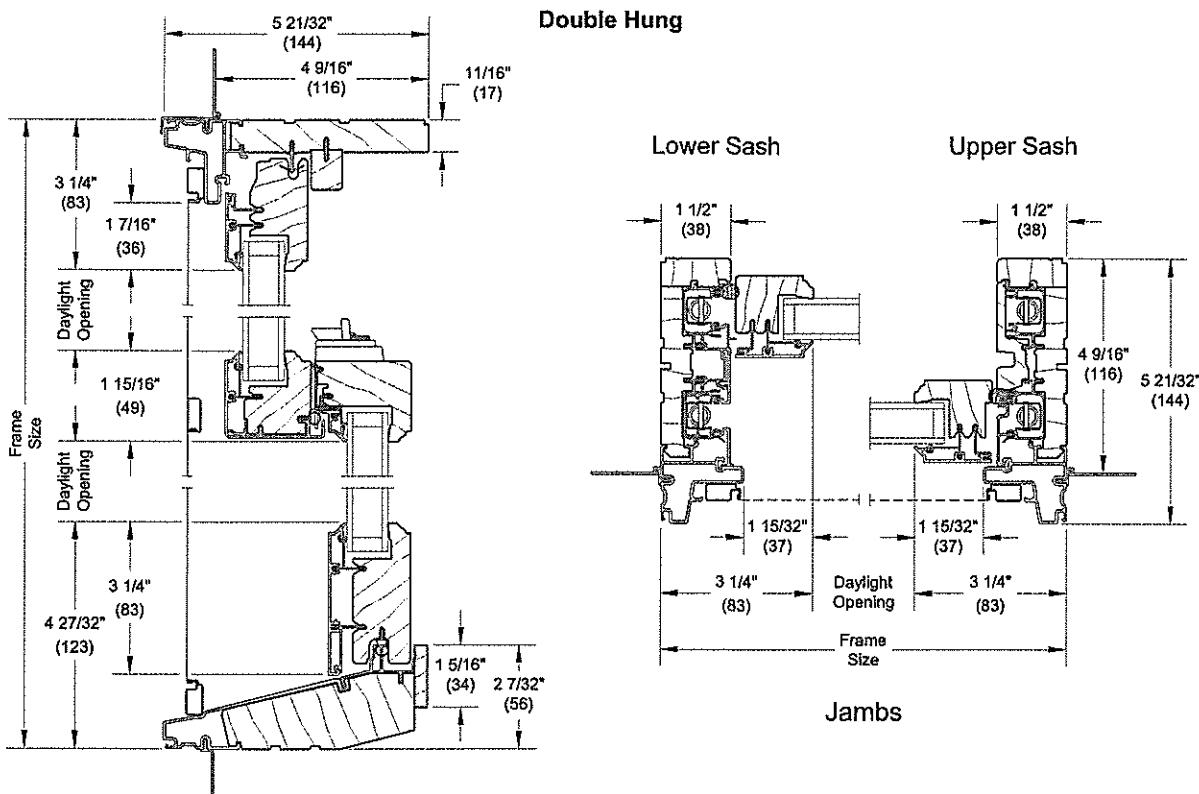
- Clear Opening Height = (Frame OM Height - 7 1/2" (191)) / 2 - 4 1/4" (108)
- Clear Opening Area (ft²) = (Clear Opening Width x Clear Opening Height) / 144



Clad Ultimate Double Hung - Next Generation 2.0

Section Details: Operating

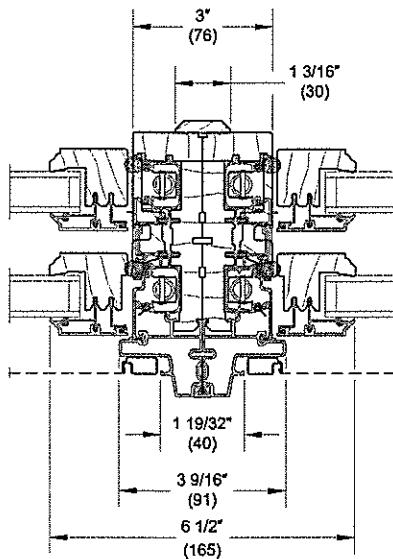
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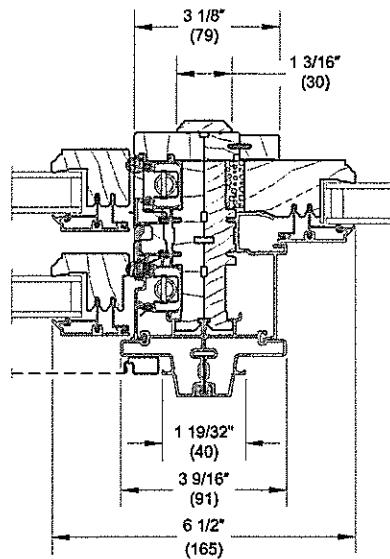
Clad Ultimate Double Hung - Next Generation 2.0

Section Details: Mullions

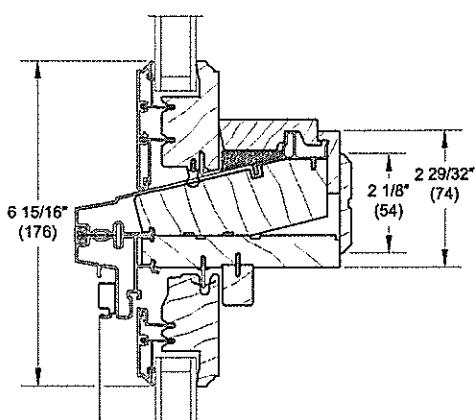
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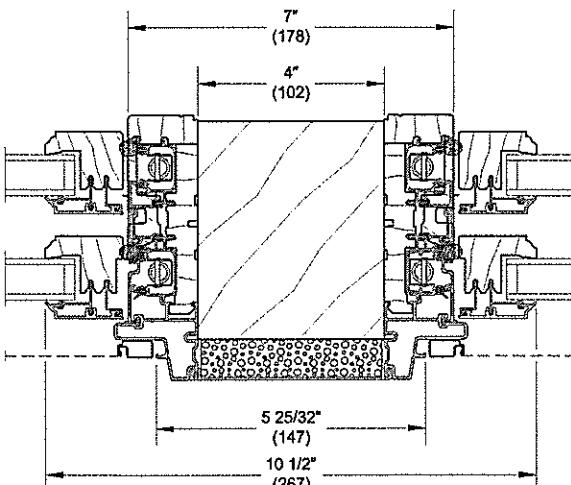
Vertical Mullion
Operator/Operator



Vertical Mullion
Operator/Picture



Horizontal Mullion
Transom/Operator



4" Space Mull

Certified Mull Limitations			
Product	Max Mull Span	Max Tributary Width	Max DP
CUDH-NG 2.0 2W1H	71 1/2 (1818)	45 1/4 (1149)	DP-50
CUDH-NG 2.0 1W2H	69 1/4 (1759)	53 19/32 (1361)	DP-50
CUDH-NG 2.0 IZ3 2W1H	63 1/2 (1613)	45 1/4 (1149)	DP-65
CUDH-NG 2.0 IZ3 1W2H	49 1/4 (1251)	53 19/32 (1361)	DP-65
CUDH-NG 2.0 IZ3 2W1H 3/8" MRF	79 1/2 (2019)	45 1/4 (1149)	DP-65
CUDH-NG 2.0 2W2H 1" LVL	75 11/16 (1922)	45 1/4 (1149)	DP-50
CUDH-NG 2.0 2W2H 3/8" MRF	83 2/3 (2126)	45 1/4 (1149)	DP-65

NOTE: 2W1H or 1W2H assemblies CUDH-NG 2.0 mullied to CUDH-NG 2.0 only

If an individual unit in the assembly has a lower design pressure than the mull then the entire assembly is rated at the lower design pressure

Not included in the certified mulls – Space Mulls, Stud pockets, unreinforced multi-wide/multi-high assemblies and assemblies without continuous header or sills (stepped mulls)

For CE mull limitations, refer to CE Performance Section.

Wood Ultimate Sliding French Door and Sliding Patio Door

Unit Features

Frame:

- Frame thickness: 1 1/16" (27)
- Frame width: 4 9/16" (116)
- Fiberglass reinforced pultruded sill with water shed and weep system
 - Color: beige
 - Optional color: bronze
- Interior sill liner of Oak, Mahogany, or Cherry
- Polycarbonate roller track
 - Thickness: .1" (2.5)
- Optional Low Profile Sill: industry exclusive meeting ADA specifications and provides the same performance ratings as standard sill

NOTE: Low profile option is not CE marked

Panel:

- Panel thickness: 1 3/4" (44)
- Sliding French Door assembly:
 - Top rail width: 4 3/4" (121)
 - Stave core: Pine and Douglas Fir
 - Solid wood: Mahogany
 - Bottom rail height: 8 1/8" (206)
 - Stave core: Pine, Douglas Fir, and Mahogany
 - Operating/Stationary panel: stiles and meeting stile: 4 3/4" (121)
 - LVL: Mahogany
 - Stave core: Pine and Douglas Fir
 - Standard interior wood cope: ogee
 - Optional interior wood cope: square sticking
 - Panels are interior glazed
 - Raised/Flat panel option: (not available with CE mark)
 - Core is medium density fiberboard (MDF) core with laminate veneer to interior and exterior
- Sliding Patio Door assembly:
 - Bottom and top rail is 3" (76) solid face laminated
 - Stiles are 3" (76) laminated veneer lumber (LVL) core with non finger-jointed pine veneers
 - Standard interior wood cope: ogee
 - Optional interior wood cope: square sticking
 - Removable interior vinyl glazing bead with wood glazing cap

Hardware:

- Ultimate Sliding French Door:
 - Multi-point lock with two engagement points is standard (non-keyed)
 - Inactive panel on an OXXO - manual head bolt is standard
 - Operating hardware options:
 - 3 point multi-point for active panel
 - Keyed (keyed alike available)
 - Auxiliary foot bolt
 - Handle set no handle set is standard
 - Traditional handle set finish options:
 - Powder coat finishes: Satin Taupe, White, Dark Bronze, Matte Black
 - Metal finishes: Satin Chrome, Polished Chrome, Antique Brass, Oil Rubbed Bronze, Brass PVD, Oil Rubbed Bronze PVD, Satin Nickel PVD
 - Contemporary handle set finish options:
 - Painted finishes: Matte Black, Dark Bronze, Oil Rubbed Bronze PVD, Satin Nickel PVD
 - Rollers: two adjustable steel roller assemblies per operating panel with two ball bearing wheels per assembly
 - Maximum vertical adjustment: 5/16" (8).
 - Optional: stainless steel rollers available

Wood Ultimate Sliding French Door and Sliding Patio Door

Unit Features

- Sliding Patio Door:
 - Multi-point lock with two engagement points is standard (non-keyed)
 - Inactive panel - manual head bolt is standard
 - Operating hardware options:
 - Keyed (keyed alike available)
 - Auxiliary foot bolt
 - Handle set: no handle set is standard
 - Traditional handle set finish options:
 - Powder coat finishes: Satin Taupe, White, Dark Bronze, Matte Black
 - Metal finishes: Satin Chrome, Polished Chrome, Antique Brass, Oil Rubbed Bronze, Brass PVD, Oil Rubbed Bronze PVD, Satin Nickel PVD
 - Contemporary handle set finish options:
 - Painted finishes: Matte Black, Dark Bronze, Oil Rubbed Bronze PVD, Satin Nickel PVD
 - Rollers: two adjustable steel roller assemblies per operating panel with two ball bearing wheels per assembly
 - Maximum vertical adjustment: 5/16" (8)
 - Optional: stainless steel rollers available

Weather Strip:

- Interlock weather strip at meeting stiles
- Side jamb to have two sets of bulb weather strip maintaining contact with door panels
- Continuous slip coat weather strip along sill, head jamb, and meeting stiles
 - Color: beige or black

Glass and Glazing:

- Door Panels: tempered insulating glass, hermetically sealed
- Glazing seal: silicone beading, exterior
- Standard glazing: Low E2 Argon
- Optional glazing: Low E3 Argon, Low E1 Argon, Bronze, Green, Gray, Reflective Bronze, Obscure, Laminated, Decorative glass options
- Insulating glass will be altitude adjusted with capillary tubes for higher elevations
- Argon gas is not available for elevations that require capillary tubes
- ADL glazing options not available with Argon

CE Glass and Glazing:

- Door Panels: tempered insulating glass, hermetically sealed
- Glazing seal: silicone beading, exterior
- Standard glazing: Low E2 Argon
- Optional glazing: Low E1 Argon, Low E3 Argon, clear, laminated clear & tints, sandblasted
- Glass panes available in 3 and 4 mm thicknesses
- Laminated panes available in 7.8 mm thickness
- Laminated tints available in clear, white, bronze, gray and green
- Insulating glass will be altitude adjusted with capillary tubes for higher elevations
- Argon gas is not available for elevations that require capillary tubes

Screens:

- Optional Standard Sliding Screen: extruded aluminum top hung
 - Colors: Stone White, Bahama Brown, Bronze, Pebble Gray, and Evergreen
- Optional Ultimate Sliding Screen: heavier extruded aluminum top hung and has a roller bar and integral handle
 - Screen will match exterior frame clad color of clad units
- Sliding screen for XO, OX, OOX, XOO, OXO, OXXO operation
- Standard mesh: Fiberglass
 - Optional material: Bronze, Charcoal Aluminum, Silver Aluminum, Black Aluminum, or Charcoal High Transparency
- Screens adjustable to 1/4" (6)

Interior Sliding French Door:

Same as the Sliding French Door features with the following exceptions:

- No exterior casing
- 4 13/16" (122) jamb
- Low-profile flat oak sill, no screen option
- Not available in 3-wide configurations
- Interior door unit height is 7/8" (22) less than height of values shown for exterior doors

Wood Ultimate Sliding French Door and Sliding Patio Door

Unit Features

- Not rated for air/water/structure/performance
- Intended for interior wall installation only with no exterior exposure
- Not available with CE mark

Interior Shades:

- A cellular shade is attached to the door via a removable surround system that houses the cellular shade.
 - The shade moves independent of the door panels
 - Shade stacks are hidden when the shades are open
 - Operation is side to side
 - Only available with standard sill
 - Minimum jamb depth 6 9/16" (167)
 - Sill extender provides a track for the shade system to travel in
 - Color: will default to color of the door sill
 - Pull bar: wood wrapped extruded aluminum
 - Species: Pine, Mahogany, Vertical Grain Douglas Fir, Mixed Grain Douglas Fir, Cherry, White Oak
- Cellular shade
 - Single non-fire rates hexagonal honeycomb (cellular) 3/4" (19)
 - Semi-opaque fabric (light filtering)
 - Colors: Driftwood, Marigold, Almond, Rose, Denim, Biscuit, Champagne, Moss, Cinnamon, Silver, White, Stone, Tan, Ivory, or Eggshell
 - Opaque fabric (Blackout)
 - Colors: White, Stone, Tan, Ivory, or Eggshell
- Order options
 - Ship separate: shade system packaged separately and ships same time as the unit
 - Ship later: shade system shipped at a later date chosen by the customer
 - Fabric opacity and color can be chosen at later date
 - Retro fit: ordered as a complete shade system through configured parts

CE Mulling

- Available with CE marked mulled assemblies 1W2H with one in-sash or direct glaze over operable door up to 127" (3226) x 100" (2540) maximum size



Wood Ultimate Sliding French Door and Sliding Patio Door

Ultimate Sliding French Standard Unit Measurements

Standard Sliding French Door Unit Measurements													
Unit Type	Call Number	Masonry Opening		Rough Opening		Frame Size		Panel OM		Daylight Opening		Glass Size	
		Width		ft - in mm		ft - in mm		ft - in mm		ft - in mm		in mm	
		ft	-in	ft	-in	ft	-in	ft	-in	ft	-in	in	mm
Stationary O	2-6R	2-9 3/4	(857)	2-7 5/8	(803)	2-6 5/8	(778)	2-4 1/4	(718)	1-6 25/32	(477)	20 3/32	(510)
	3-0R	3-3 3/4	(1010)	3-1 5/8	(956)	3-0 5/8	(930)	2-10 1/4	(870)	2-0 25/32	(629)	26 3/32	(663)
	4-0R	4-3 3/4	(1314)	4-1 5/8	(1260)	4-0 5/8	(1235)	3-10 1/4	(1175)	3-0 25/32	(934)	38 3/32	(968)
	2-6	2-10 9/16	(878)	2-8 7/16	(824)	2-7 7/16	(799)	2-5 1/16	(738)	1-7 19/32	(498)	20 29/32	(531)
	3-0	3-4 9/16	(1030)	3-2 7/16	(976)	3-1 7/16	(951)	2-11 1/16	(891)	2-1 19/32	(650)	26 29/32	(683)
	4-0	4-4 9/16	(1335)	4-2 7/16	(1281)	4-1 7/16	(1256)	3-11 1/16	(1195)	3-1 19/32	(955)	38 29/32	(988)
XO, OX	5-0R*	5-2 1/8	(1578)	5-0	(1524)	4-11	(1499)	2-6 13/32	(772)	1-8 15/16	(532)	22 1/4	(565)
	6-0R*	6-2 1/8	(1883)	6-0	(1829)	5-11	(1803)	3-0 13/32	(925)	2-2 15/16	(684)	28 1/4	(718)
	8-0R*	8-2 1/8	(2492)	8-0	(2438)	7-11	(2413)	4-0 13/32	(1230)	3-2 15/16	(989)	40 1/4	(1022)
	5-0	5-3 3/4	(1619)	5-1 5/8	(1565)	5-0 5/8	(1540)	2-7 7/32	(793)	1-9 3/4	(552)	23 1/16	(586)
	6-0	6-3 3/4	(1924)	6-1 5/8	(1870)	6-0 5/8	(1845)	3-1 7/32	(945)	2-3 3/4	(705)	29 1/16	(738)
	8-0	8-3 3/4	(2534)	8-1 5/8	(2480)	8-0 5/8	(2454)	4-1 7/32	(1250)	3-3 3/4	(1010)	41 1/16	(1043)
OOX, XOO OXO	7-6R	7-9 3/8	(2373)	7-7 1/4	(2319)	7-6 1/4	(2293)	2-6 13/32	(772)	1-8 15/16	(532)	22 1/4	(565)
	9-0R	8-9 3/8	(2677)	8-7 1/4	(2623)	8-6 1/4	(2598)	2-10 13/32	(874)	2-0 15/16	(633)	26 1/4	(667)
	12-0R	12-3 3/8	(3744)	12-1 1/4	(3690)	12-0 1/4	(3665)	4-0 13/32	(1230)	3-2 15/16	(989)	40 1/4	(1022)
	7-6	7-11 7/8	(2434)	7-9 3/4	(2380)	7-8 3/4	(2355)	2-7 7/32	(793)	1-9 3/4	(552)	23 1/16	(586)
	9-0	9-5 7/8	(2892)	9-3 3/4	(2838)	9-2 3/4	(2812)	3-1 7/32	(945)	2-3 3/4	(705)	29 1/16	(738)
	12-0	12-5 7/8	(3806)	12-3 3/4	(3752)	12-2 3/4	(3727)	4-1 7/32	(1250)	3-3 3/4	(1010)	41 1/16	(1043)
OXO	10-0	10-2 1/8	(3102)	10-0	(3048)	9-11	(3023)	2-7 7/32	(793)	1-9 3/4	(552)	23 1/16	(586)
	12-0	12-2 1/8	(3712)	12-0	(3658)	11-11	(3632)	3-1 7/32	(945)	2-3 3/4	(705)	29 1/16	(738)
	16-0	16-2 1/8	(4931)	16-0	(4877)	15-11	(4851)	4-1 7/32	(1250)	3-3 3/4	(1010)	41 1/16	(1043)
Height													
Unit Type	Call Number	Masonry Opening		Rough Opening		Frame Size		Panel OM		Daylight Opening		Glass Size	
		Width		ft - in mm		ft - in mm		ft - in mm		ft - in mm		in mm	
		ft	-in	ft	-in	ft	-in	ft	-in	ft	-in	in	mm
All Configurations	6-6R	6-9 1/16	(2059)	6-8	(2032)	6-7 1/2	(2019)	6-4 1/2	(1943)	5-3 5/8	(1616)	64 15/16	(1649)
	6-8	6-11 9/16	(2122)	6-10 1/2	(2096)	6-10	(2083)	6-7	(2007)	5-6 1/8	(1680)	67 7/16	(1713)
	7-0	7-3 9/16	(2224)	7-2 1/2	(2197)	7-2	(2184)	6-11	(2108)	5-10 1/8	(1781)	71 7/16	(1815)
	8-0	8-1 1/16	(2465)	8-0	(2438)	7-11 1/2	(2426)	7-8 1/2	(2350)	6-7 5/8	(2022)	80 15/16	(2056)

NOTE: All retro widths are available with 6-6R heights. The retro units with an asterisk are also available in standard heights.

Sliding French Door Elevations can be found on Marvin.com under the professional tab, Architectural Detail Manual

Wood Ultimate Sliding French Door and Sliding Patio Door

Ultimate Sliding French Standard Unit Measurements: In-Sash Transom

Standard Sliding French Door In-Sash Transom Unit Measurements													
Unit Type	Call Number	Masonry Opening		Rough Opening		Frame Size		Panel OM		Daylight Opening		Glass Size	
		ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm	in	mm
1 Frame 1 Sash	2-6	2-10 9/16	(878)	2-8 7/16	(824)	2-7 7/16	(799)	2-5 1/16	(738)	1-7 19/32	(498)	20 29/32	(531)
	3-0	3-4 9/16	(1030)	3-2 7/16	(976)	3-1 7/16	(951)	2-11 1/16	(891)	2-1 19/32	(650)	26 29/32	(683)
	4-0	4-3 3/4	(1314)	4-1 5/8	(1260)	4-0 5/8	(1235)	3-10 1/4	(1175)	3-0 25/32	(934)	38 3/32	(968)
	5-0	5-3 3/4	(1619)	5-1 5/8	(1565)	5-0 5/8	(1540)	4-10 1/4	(1480)	4-0 25/32	(1239)	50 3/32	(1272)
	6-0	6-3 3/4	(1924)	6-1 5/8	(1870)	6-0 5/8	(1845)	5-10 1/4	(1784)	5-0 25/32	(1544)	62 3/32	(1577)
	8-0	8-3 3/4	(2534)	8-1 5/8	(2480)	8-0 5/8	(2454)	7-10 1/4	(2394)	7-0 25/32	(2153)	86 3/32	(2187)
1 Frame 1 Sash Center Stile	5-0	5-3 3/4	(1619)	5-1 5/8	(1565)	5-0 5/8	(1540)	4-10 11/32	(1482)	1-9 3/4	(552)	23 1/16	(586)
	6-0	6-3 3/4	(1924)	6-1 5/8	(1870)	6-0 5/8	(1845)	5-10 11/32	(1787)	2-3 3/4	(705)	29 1/16	(738)
	8-0	8-3 3/4	(2534)	8-1 5/8	(2480)	8-0 5/8	(2454)	7-10 11/32	(2396)	3-3 3/4	(1010)	41 1/16	(1043)
1 Frame 2 Sash Center Stile	7-6	7-11 7/8	(2434)	7-9 3/4	(2380)	7-8 3/4	(2355)	2-7 7/32	(793)	1-9 3/4	(552)	23 1/16	(586)
	9-0	9-5 7/8	(2892)	9-3 3/4	(2838)	9-2 3/4	(2812)	3-1 7/32	(945)	2-3 3/4	(705)	29 1/16	(738)
	12-0	12-5 7/8	(3806)	12-3 3/4	(3752)	12-2 3/4	(3727)	4-1 7/32	(1250)	3-3 3/4	(1010)	41 1/16	(1043)
1 Frame 2 Sash 2 Center Stiles	10-0	10-2 1/8	(3102)	10-0	(3048)	9-11	(3023)	4-10 11/32	(1482)	1-9 3/4	(552)	23 1/16	(586)
	12-0	12-2 1/8	(3712)	12-0	(3658)	11-11	(3632)	5-10 11/32	(1787)	2-3 3/4	(705)	29 1/16	(738)
	16-0	16-2 1/8	(4931)	16-0	(4877)	15-11	(4851)	7-10 11/32	(2396)	3-3 3/4	(1010)	41 1/16	(1043)
Height													
Unit Type	Call Number	Masonry Opening		Rough Opening		Frame Size		Panel OM		Daylight Opening		Glass Size	
		ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm	in	mm
All Configurations	1-6	1-8 1/4	(514)	1-6 1/2	(470)	1-6	(457)	1-3 5/16	(389)	0-9 5/16	(237)	10 5/8	(270)
	2-0	2-2 1/4	(667)	2-0 1/2	(622)	2-0	(610)	1-9 5/16	(541)	1-3 5/16	(389)	16 5/8	(422)
	2-6	2-8 1/4	(819)	2-6 1/2	(775)	2-6	(762)	2-3 5/16	(694)	1-9 5/16	(541)	22 5/8	(575)

NOTE: Sliding French Door In-Sash Transom Elevations can be found on Marvin.com under the professional tab, Architectural Detail Manual.



Wood Ultimate Sliding French Door and Sliding Patio Door

Ultimate Sliding French Standard Unit Measurements: Direct Glaze Rectangle / Transom

Wood Ultimate Sliding French Direct Glaze Transom											
Unit Type	Call Number	Width									
		Masonry Opening		Rough Opening		Frame Size		Daylight Opening		Glass Size	
		ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm	in	mm
1 Lite Direct Glaze Transom Sliding French Door	2-6	2-10 9/16	(878)	2-8 7/16	(824)	2-7 7/16	(799)	2-3 1/2	(699)	28 7/8	(733)
	3-0	3-4 9/16	(1030)	3-2 7/16	(976)	3-1 7/16	(951)	2-9 1/2	(851)	34 7/8	(886)
	4-0	4-4 9/16	(1335)	4-2 7/16	(1281)	4-1 7/16	(1256)	3-9 1/2	(1156)	46 7/8	(1191)
	5-0	5-3 3/4	(1619)	5-1 5/8	(1565)	5-0 5/8	(1540)	4-8 11/16	(1440)	58 1/16	(1475)
	6-0	6-3 3/4	(1924)	6-1 5/8	(1870)	6-0 5/8	(1845)	5-8 11/16	(1745)	70 1/16	(1780)
	8-0	8-3 3/4	(2534)	8-1 5/8	(2480)	8-0 5/8	(2454)	7-8 11/16	(2354)	94 1/16	(2389)
Height											
Unit Type	Call Number	Masonry Opening		Rough Opening		Frame Size		Daylight Opening		Glass Size	
		ft-in	mm	ft-in	mm	ft-in	mm	ft-in	mm	in	mm
	1-0	1-2 1/4	(362)	1-0 1/2	(318)	1-0	(305)	0-8 1/16	(205)	9 7/16	(240)
All Configurations	1-2	1-4 1/4	(413)	1-2 1/2	(368)	1-2	(356)	0-10 1/16	(256)	11 7/16	(291)
	1-6	1-8 1/4	(514)	1-6 1/2	(470)	1-6	(457)	1-2 1/16	(357)	15 7/16	(392)

NOTE: Direct Glaze Door Transom Elevations can be found on Marvin.com under the professional tab, Architectural Detail Manual



Wood Ultimate Sliding French Door and Sliding Patio Door

Ultimate Sliding French Certified Sizes and Ratings: Standard and Impact Products

Standard Units

Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure (DP)	Overall Width		Overall Height		# of Panels
						In	mm	in	mm	
Wood Ultimate Sliding French Door 12080 (OXO)	1.57	6.0 psf	60 psf	LC-PG40-SD	40	146	(3708)	95 1/2	(2426)	3
Wood Ultimate Sliding French Door 12080 (OXO) Low Profile Sill	1.57	6.0 psf	60 psf	LC-PG40-SD	40	146 3/4	(3727)	95 1/2	(2426)	3
Wood Ultimate Sliding French Door 4080 (O)	1.57	6.0 psf	60 psf	CW-PG40-FD	40	50 3/4	(1289)	95 1/2	(2426)	1
Wood Ultimate Sliding French Door 16080 (OXO)	1.57	6.0 psf	52.5	LC-PG35-SD	35	191	(4851)	95 1/2	(2426)	4

Impact Units

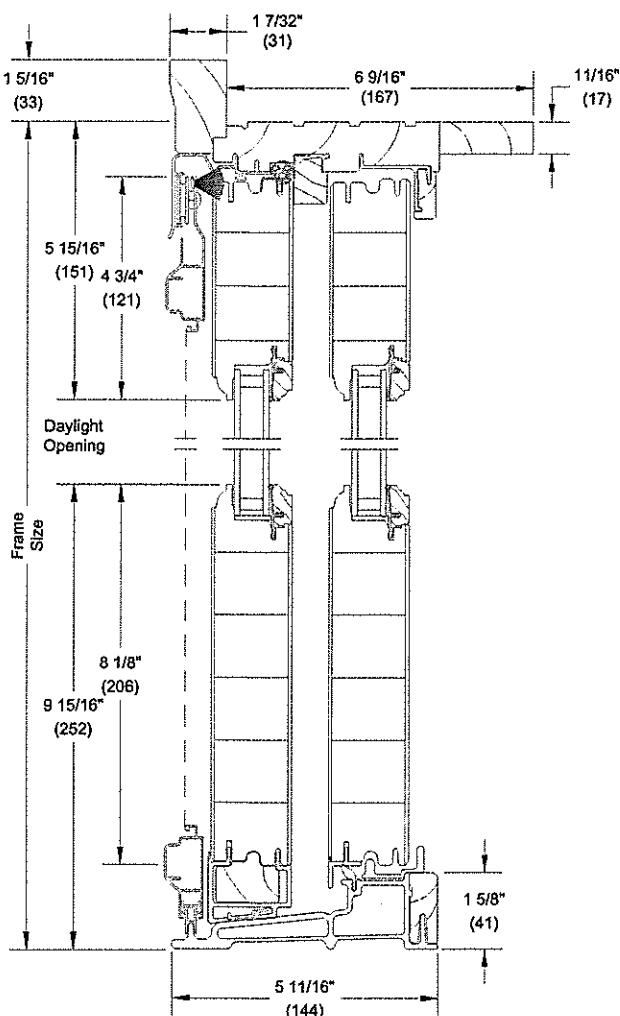
Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure (DP)	Overall Width		Overall Height		# of Panels
						In	mm	in	mm	
Wood Ultimate Sliding French Door 8080 (OXO)	1.57	8.35 psf	82 psf	LC-PG55-SD	+55/-65	96 5/8	(2454)	95 1/2	(2426)	2

NOTE: For CE ratings, please refer to CE Performance Section. CE mark is not available on Impact units.

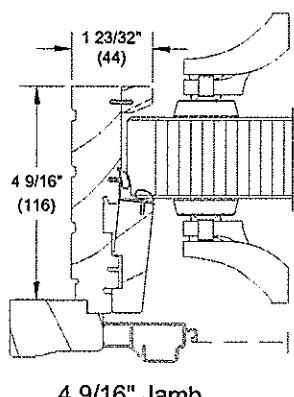


Ultimate Sliding French Section Details: Operating

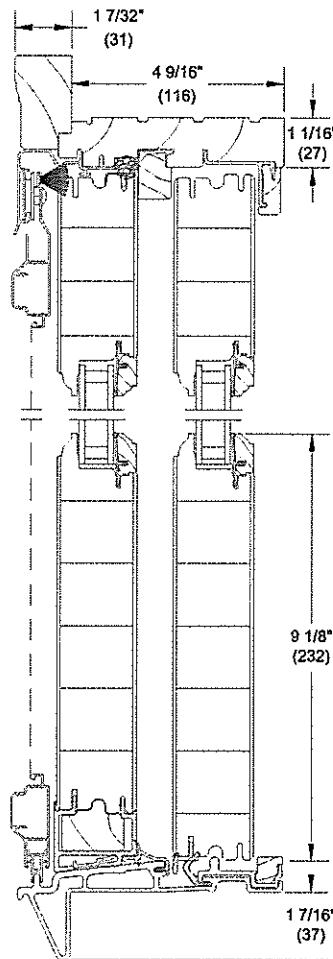
Scale: 3" = 1' 0"



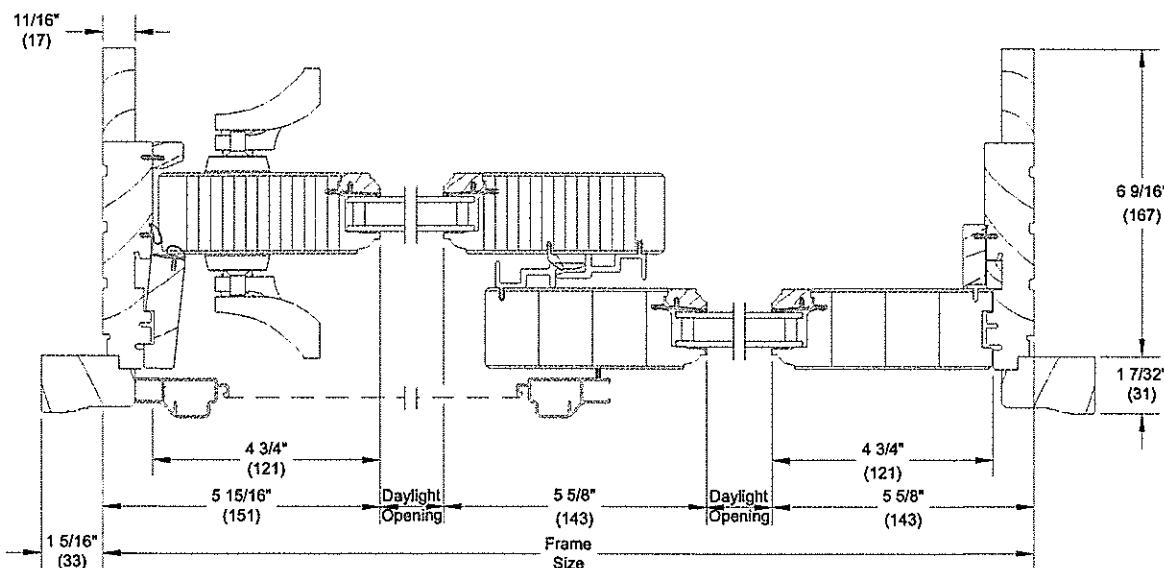
Head Jamb and Sill



4 9/16" Jamb



High Performance
Low Profile Sill
4 9/16" Head Jamb and Sill

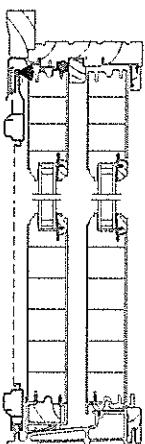


XO - Jamb

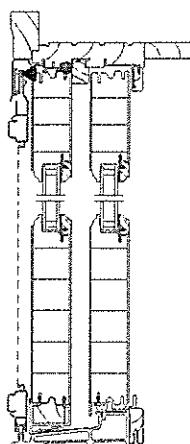
NOTE: CE mark is not available with low profile sill

Wood Ultimate Sliding French Door and Sliding Patio Door

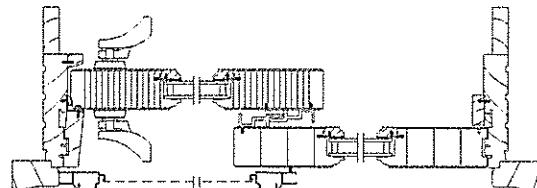
Ultimate Sliding French Section Details: Sliding Screens



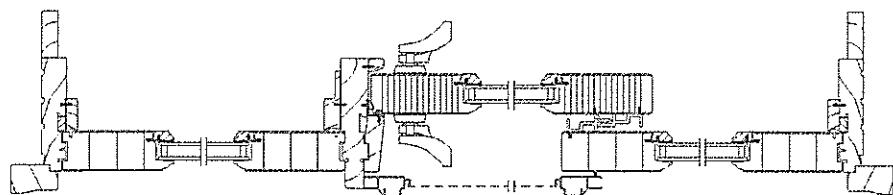
4 9/16" Head
Jamb and Sill



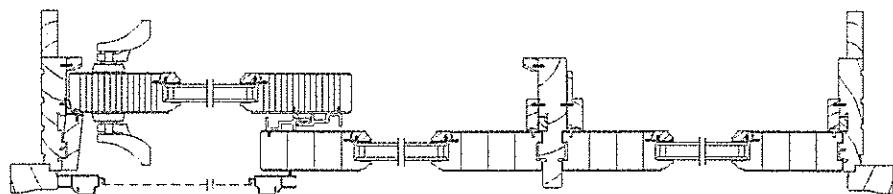
6 9/16" Head
Jamb and Sill



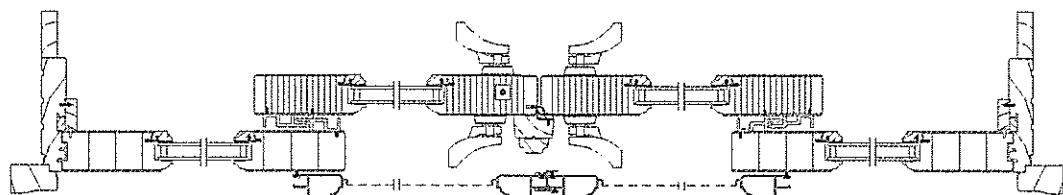
XO Jamb



OXO RH Jamb



XOO Jamb

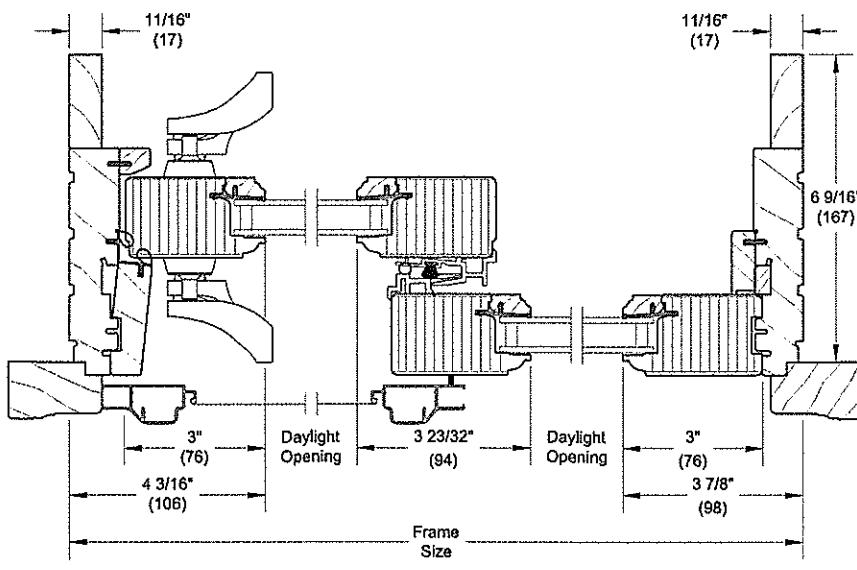
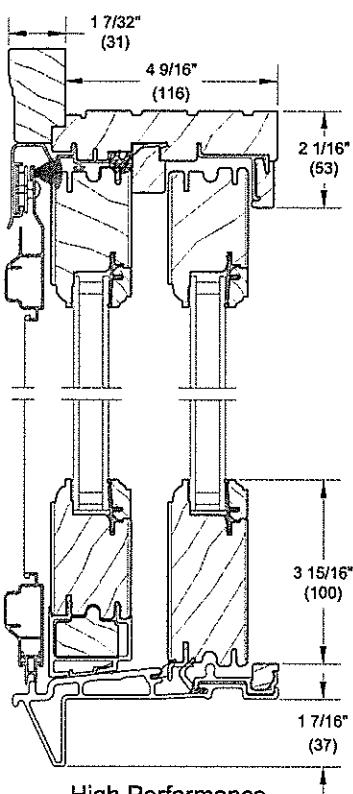
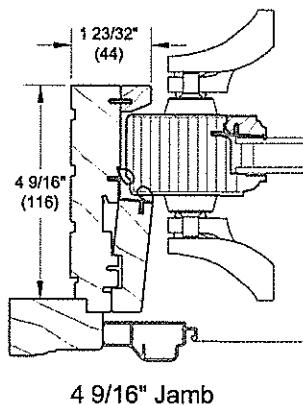
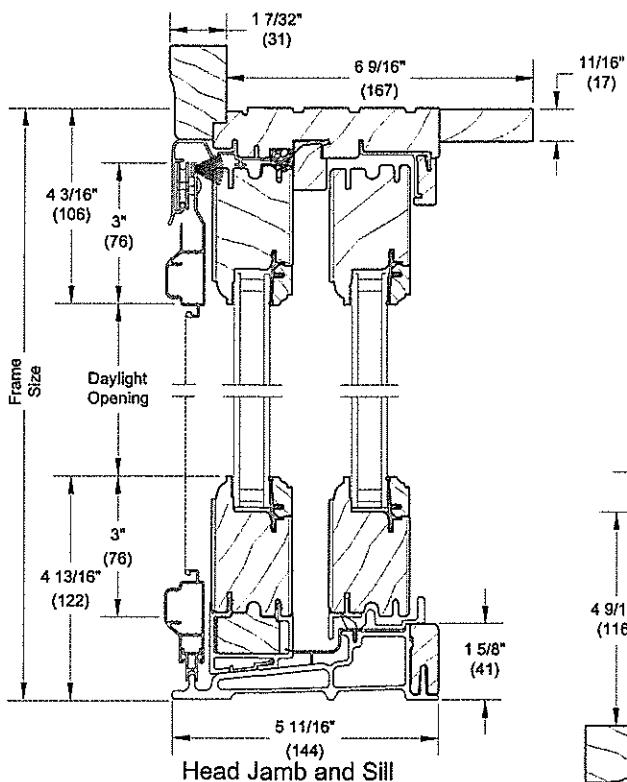


OXXO RH Jamb

Wood Ultimate Sliding French Door and Sliding Patio Door

Sliding Patio Section Details: Operating

Scale: 3" = 1' 0"



NOTE: CE mark is not available with profile sill

1 3/4" Wood Ultimate Swinging French Doors

Standard Unit Measurements

Standard Inswing and Outswing Unit Measurements											
Unit Type	Call Number	Masonry Opening		Rough Opening		Frame Size		Panel OM	Daylight Opening	Glass Size	
		ft - in	mm	ft - in	mm	ft - in	mm				
Sidelite	1-6	1-10 31/32	(583)	1-8 27/32	(529)	1-7 27/32	(504)	1-5 15/32 (444)	0-11 1/2 (292)	12 13/16 (325)	
1 Panel	2-6R	2-9 3/4	(857)	2-7 5/8	(803)	2-6 5/8	(778)	2-4 1/4 (718)	1-6 25/32 (477)	20 3/32 (510)	
	3-0R	3-3 3/4	(1010)	3-1 5/8	(958)	3-0 5/8	(930)	2-10 1/4 (870)	2-0 25/32 (629)	26 3/32 (663)	
	2-0	2-4 9/16	(726)	2-2 7/16	(672)	2-1 7/16	(646)	1-11 1/16 (586)	1-1 19/32 (345)	14 29/32 (379)	
	2-6	2-10 9/16	(878)	2-8 7/16	(824)	2-7 7/16	(799)	2-5 1/16 (738)	1-7 19/32 (498)	20 29/32 (531)	
	2-8	3-0 9/16	(929)	2-10 7/16	(875)	2-9 7/16	(849)	2-7 1/16 (789)	1-9 19/32 (548)	22 29/32 (582)	
	3-0	3-4 9/16	(1030)	3-2 7/16	(976)	3-1 7/16	(951)	2-11 1/16 (891)	2-1 19/32 (650)	26 29/32 (683)	
	3-6	3-10 9/16	(1183)	3-8 7/16	(1129)	3-7 7/16	(1103)	3-5 1/16 (1043)	2-7 19/32 (802)	32 29/32 (836)	
2 Panel	5-0R*	5-2 1/8	(1578)	5-0	(1524)	4-11	(1499)	2-4 1/4 (718)	1-6 25/32 (477)	20 3/32 (510)	
	6-0R*	6-2 1/8	(1883)	6-0	(1829)	5-11	(1803)	2-10 1/4 (870)	2-0 25/32 (629)	26 3/32 (663)	
	4-0	4-3 3/4	(1314)	4-1 5/8	(1260)	4-0 5/8	(1235)	1-11 1/16 (586)	1-1 19/32 (345)	14 29/32 (379)	
	5-0	5-3 3/4	(1619)	5-1 5/8	(1565)	5-0 5/8	(1540)	2-5 1/16 (738)	1-7 19/32 (498)	20 29/32 (531)	
	5-4	5-7 3/4	(1721)	5-5 5/8	(1667)	5-4 5/8	(1641)	2-7 1/16 (789)	1-9 19/32 (548)	22 29/32 (582)	
	6-0	6-3 3/4	(1924)	6-1 5/8	(1870)	6-0 5/8	(1845)	2-11 1/16 (891)	2-1 19/32 (650)	26 29/32 (683)	
	7-0	7-3 3/4	(2229)	7-1 5/8	(2175)	7-0 5/8	(2149)	3-5 1/16 (1043)	2-7 19/32 (802)	32 29/32 (836)	
3 Panel	9-0R	9-0 1/2	(2756)	8-10 3/8	(2702)	8-9 3/8	(2677)	2-10 1/4 (870)	2-0 25/32 (629)	26 3/32 (663)	
	6-0	6-2 15/16	(1903)	6-0 13/16	(1849)	5-11 13/16	(1824)	1-11 1/16 (586)	1-1 19/32 (345)	14 29/32 (379)	
	7-6	7-8 15/16	(2361)	7-6 13/16	(2307)	7-5 13/16	(2281)	2-5 1/16 (738)	1-7 19/32 (498)	20 29/32 (531)	
	8-0	8-2 15/16	(2513)	8-0 13/16	(2459)	7-11 13/16	(2434)	2-7 1/16 (789)	1-9 19/32 (548)	22 29/32 (582)	
	9-0	9-2 15/16	(2818)	9-0 13/16	(2764)	8-11 13/16	(2738)	2-11 1/16 (891)	2-1 19/32 (650)	26 29/32 (683)	
	10-6	10-8 15/16	(3275)	10-6 13/16	(3221)	10-5 13/16	(3196)	3-5 1/16 (1043)	2-7 19/32 (802)	32 29/32 (836)	
4 Panel	8-0	8-2 1/8	(2492)	8-0	(2438)	7-11	(2413)	1-11 1/16 (586)	1-1 19/32 (345)	14 29/32 (379)	
	10-0	10-2 1/8	(3102)	10-0	(3048)	9-11	(3023)	2-5 1/16 (738)	1-7 19/32 (498)	20 29/32 (531)	
	10-8	10-10 1/8	(3305)	10-8	(3251)	10-7	(3226)	2-7 1/16 (789)	1-9 19/32 (548)	22 29/32 (582)	
	12-0	12-2 1/8	(3712)	12-0	(3658)	11-11	(3632)	2-11 1/16 (891)	2-1 19/32 (650)	26 29/32 (683)	
	14-0	14-2 1/8	(4321)	14-0	(4267)	13-11	(4242)	3-5 1/16 (1043)	2-7 19/32 (802)	32 29/32 (836)	
1 Panel with 1 Sidelite	4-6	4-10 3/16	(1478)	4-8 1/16	(1424)	4-7 1/16	(1399)	2-11 1/16 (891)	2-1 19/32 (650)	26 29/32 (683)	
1 Panel with 2 Sidelite	6-2	6-3 3/4	(1924)	6-1 5/8	(1870)	6-0 5/8	(1845)	2-11 1/16 (891)	2-1 19/32 (650)	26 29/32 (683)	
2 Panel with 2 Sidelite	8-0R	8-1 5/16	(2472)	7-11 3/16	(2418)	7-10 3/16	(2392)	2-4 1/4 (718)	1-6 25/32 (477)	20 3/32 (510)	
	9-2	9-2 15/16	(2818)	9-0 13/16	(2764)	8-11 13/16	(2738)	2-11 1/16 (891)	2-1 19/32 (650)	26 29/32 (683)	
Height											
Unit Type	Call Number	Masonry Opening		Rough Opening		Frame Size		Panel OM	Daylight Opening	Glass Size	
		ft - in	mm	ft - in	mm	ft - in	mm				ft-in
All Configurations	6-6R	6-9 1/16	(2059)	6-8	(2032)	6-7 1/2	(2019)	6-4 1/2 (1943)	5-3 5/8 (1616)	64 15/16 (1649)	
	6-8	6-11 9/16	(2122)	6-10 1/2	(2096)	6-10	(2083)	6-7 (2007)	5-6 1/8 (1680)	67 7/16 (1713)	
	7-0	7-3 9/16	(2224)	7-2 1/2	(2197)	7-2	(2184)	6-11 (2108)	5-10 1/8 (1781)	71 7/16 (1815)	
	8-0	8-1 1/16	(2465)	8-0	(2438)	7-11 1/2	(2426)	7-8 1/2 (2350)	6-7 5/8 (2022)	80 15/16 (2056)	

NOTE: All retro widths are available with 6-6R heights. The retro units with an asterisk are also available in standard heights.

1 3/4" Wood Ultimate Swinging French Doors

Inswing and Outswing Certified Sizes and Ratings

Inswing Doors

Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure (DP)	Overall Width		Overall Height		# of Panels
						in	mm	in	mm	
Wood 1 3/4" Inswing French Door 12080 (OXO)	1.57	7.75	77.5	LC-PG40-SHD	40	143	(3632)	95 1/2	(2426)	4
Wood 1 3/4" Inswing French Door 14080 (OXO)	1.57	4.5	45	LC-PG30-SHD	30	167	(4242)	95 1/2	(2426)	4

Impact Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure (DP)	Overall Width		Overall Height		# of Panels
						in	mm	in	mm	
Wood 1 3/4" Inswing French Door Storm Plus 6080 (XX)	1.57	8.25	82.5	LC-PG55-SHD	+55/-65	72 5/8	(1845)	95 1/2	(2426)	2
Wood 1 3/4" Inswing French Door Sidelite Storm Plus 3080 (O)	1.57	8.25	82.5	LC-PG55-FD	+55/-65	37 7/16	(951)	95 1/2	(2426)	1
Wood 1 3/4" Inswing French Door Transom Storm Plus 3080 (O)	1.57	8.25	82.5	LC-PG55-TR	+55/-65	96 5/8	(2454)	30	(762)	1

Outswing Doors

Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure (DP)	Overall Width		Overall Height		# of Panels
						in	mm	in	mm	
Wood 1 3/4" Outswing French Door 6080 (XX)	1.57	7.5	75	LC-PG50-SHD	50	72 5/8	(1845)	95 1/2	(2426)	2
Wood 1 3/4" Outswing French Door 14080 (OXO)	1.57	4.5	45	LC-PG30-SHD	30	167	(4242)	95 1/2	(2426)	4

Impact Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure (DP)	Overall Width		Overall Height		# of Panels
						in	mm	in	mm	
Wood 1 3/4" Outswing French Door Storm Plus 6080 (XX)	1.57	8.25	82.5	LC-PG55-SHD	+55/-65	72 5/8	(1845)	95 1/2	(2426)	2
Wood 1 3/4" Inswing French Door Sidelite Storm Plus 3080 (O)	1.57	8.25	82.5	LC-PG55-FD	+55/-65	37 7/16	(951)	95 1/2	(2426)	1
Wood 1 3/4" Inswing French Door Transom Storm Plus 3080 (O)	1.57	8.25	82.5	LC-PG55-TR	+55/-65	96 5/8	(2454)	30	(762)	1

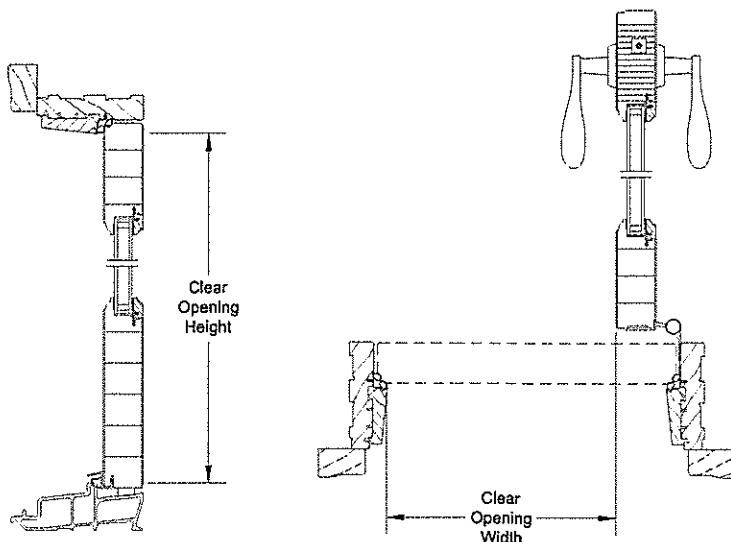
NOTE: For CE ratings, refer to CE Performance Chapter.



1 3/4" Wood Ultimate Swinging French Doors

Net Clear Openings: Inswing

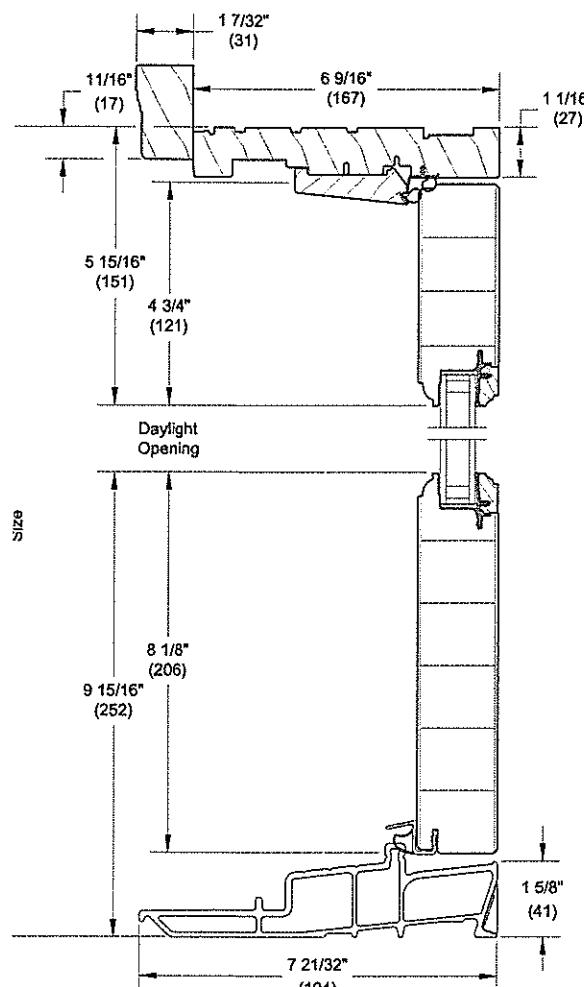
Net Clear Opening Ultimate InSwing French Door			
Width			
Unit Type	Call Number	Net Clear Openings	
		ft-in	mm
1 Panel Operator	2-6R	2-1 17/64	(642)
	3-0R	2-7 17/64	(794)
	2-0	1-8 1/16	(510)
	2-6	2-2 1/16	(662)
	2-8	2-4 1/16	(713)
	3-0	2-8 5/64	(815)
	3-6	3-2 1/16	(967)
2 Panel Operator	5-0R*	4-3 9/16	(1310)
	6-0R*	5-3 9/16	(1614)
	4-0	3-5 3/16	(1046)
	5-0	4-5 3/16	(1351)
	5-4	4-9 3/16	(1453)
	6-0	5-5 3/16	(1656)
	7-0	6-5 3/16	(1961)
Height			
Unit Type	Call Number	Net Clear Openings	
		ft - in	mm
All Configurations	6-6R	6-3 27/32	(1927)
	6-8	6-6 11/32	(1990)
	7-0	6-10 11/32	(2092)
	8-0	7-7 27/32	(2333)



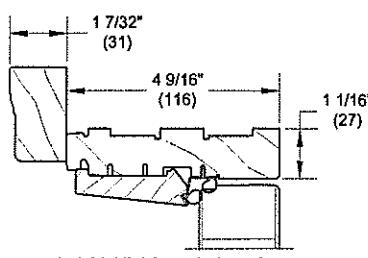
1 3/4" Wood Ultimate Swinging French Doors

Inswing Section Details: Operating

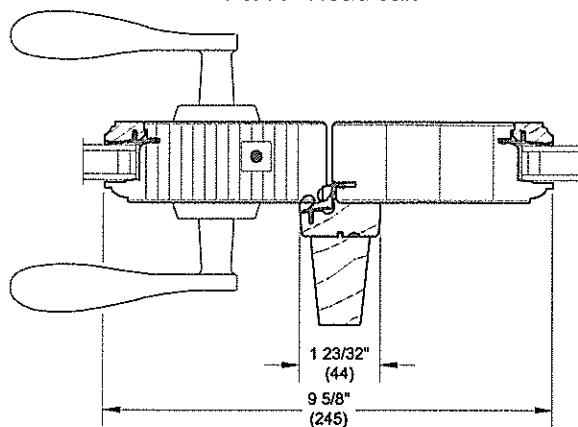
Scale: 3" = 1' 0"



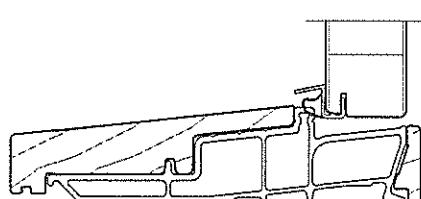
Head Jamb and Sill



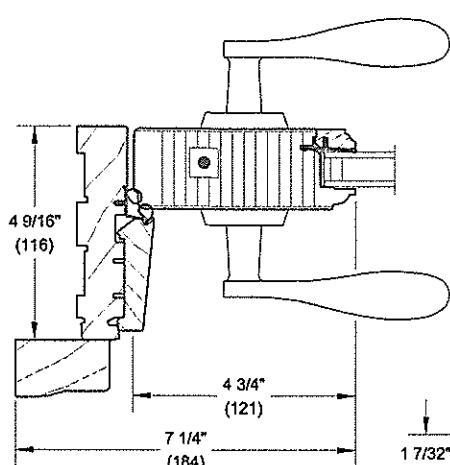
4 9/16" Head Jamb



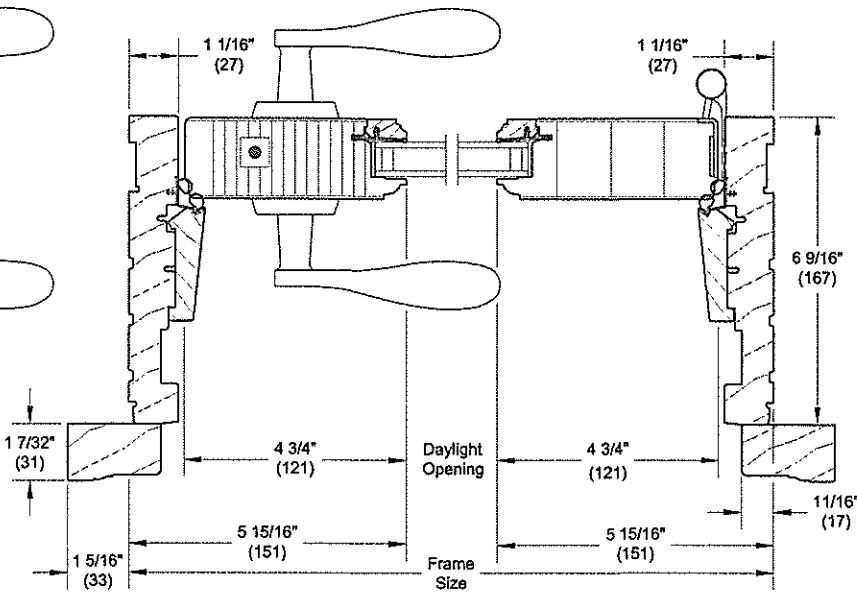
XO L - Meeting Stiles



Optional Ext. Sill Cover
Optional Oak Sill Liner



4 9/16" Jamb

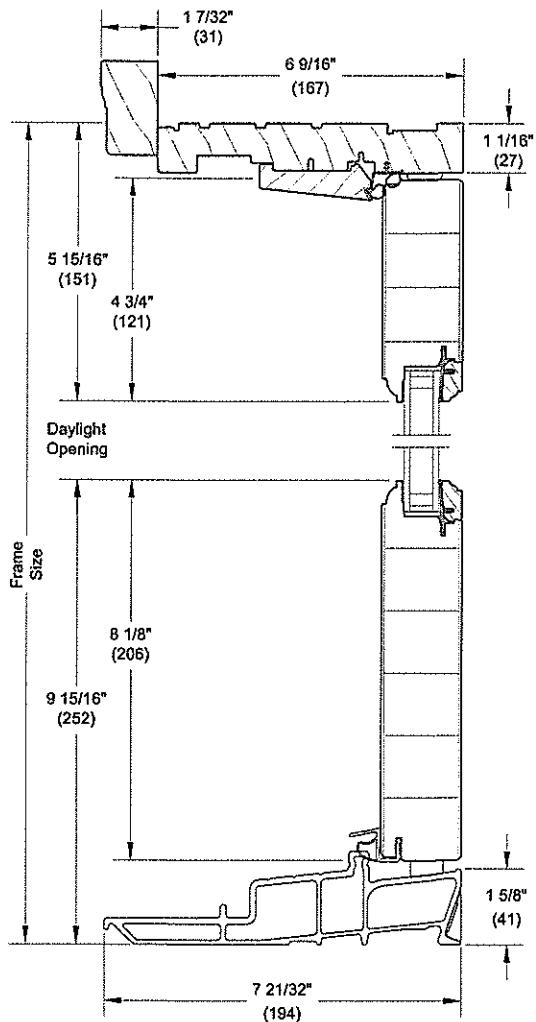


X R Jambs

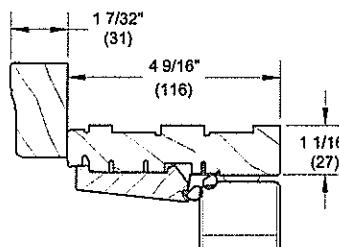
1 3/4" Wood Ultimate Swinging French Doors

Inswing Section Details: Stationary and Sidelite

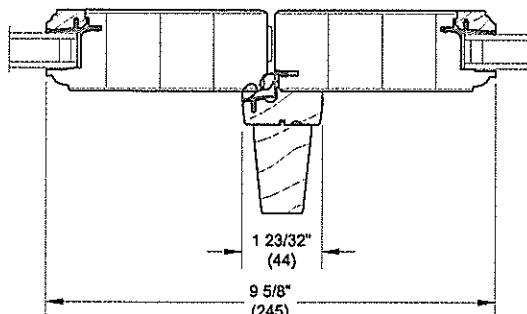
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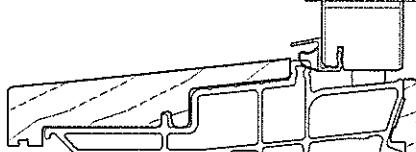
Head Jamb and Sill



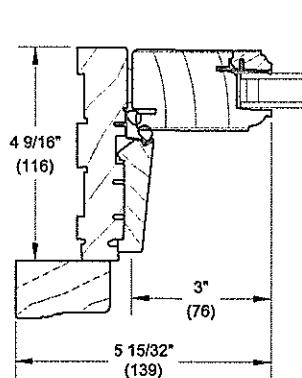
4 9/16" Head Jamb



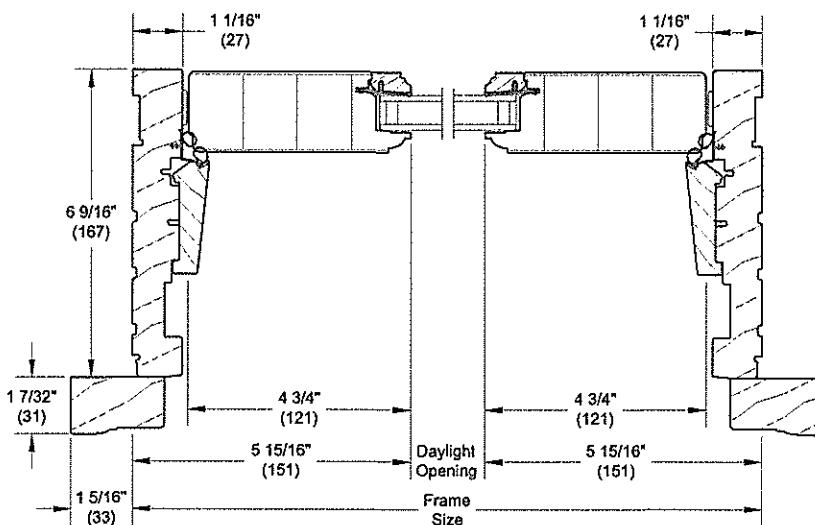
OO - Meeting Stiles



Optional Ext. Sill Cover
Optional Oak Sill Liner



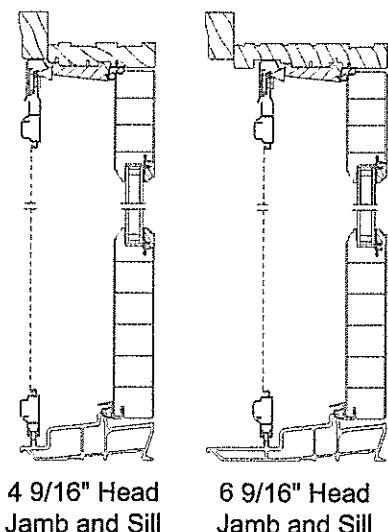
4 9/16" Sidelite Jamb



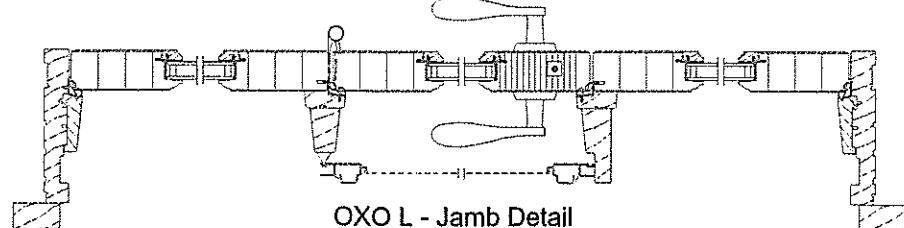
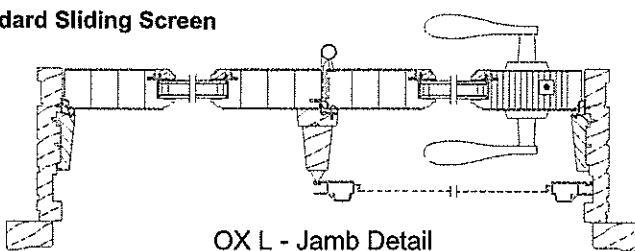
O Jambs

1 3/4" Wood Ultimate Swinging French Doors

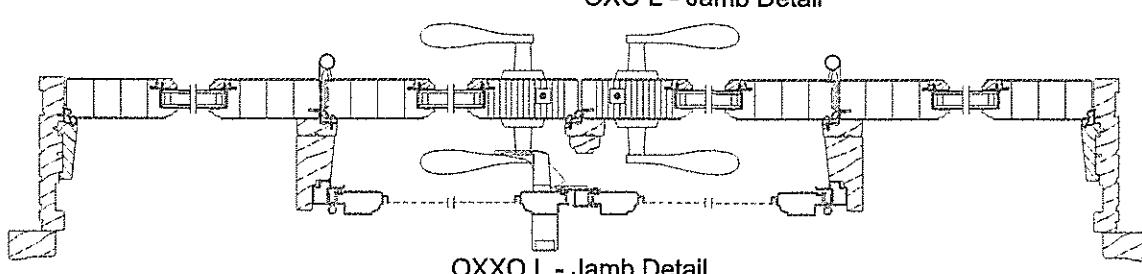
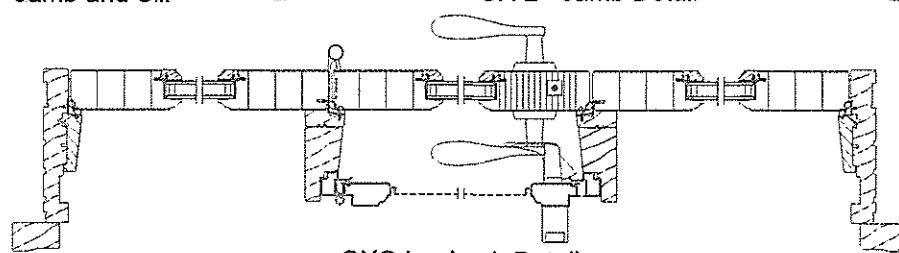
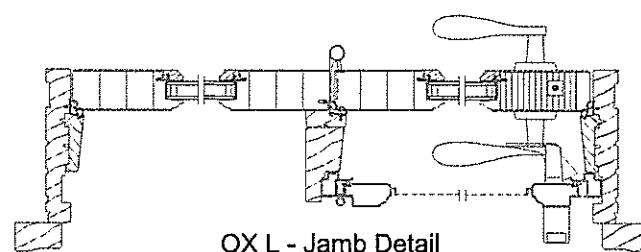
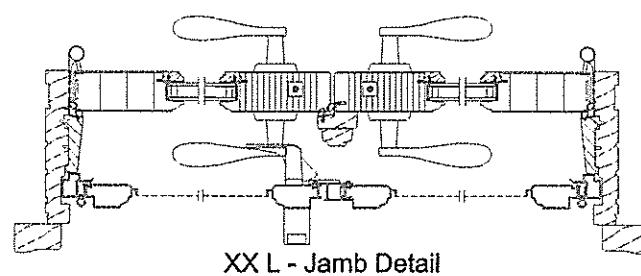
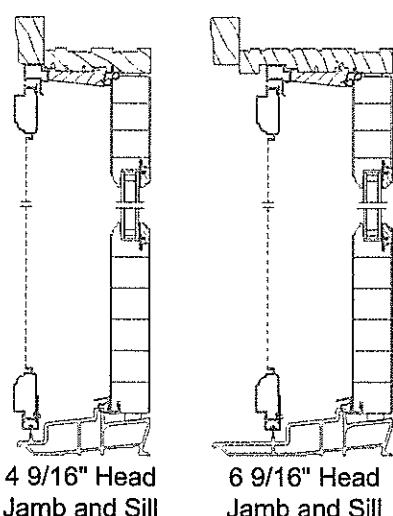
Inswing Section Details: Standard Sliding and Standard Swinging Screens



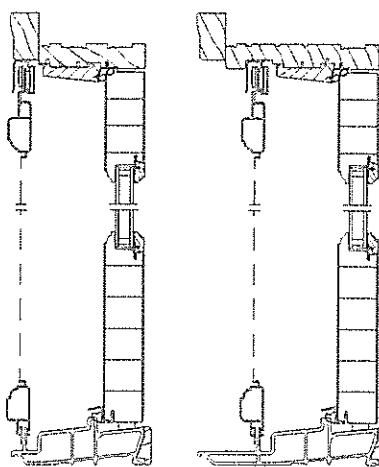
Standard Sliding Screen



Standard Swinging Screen

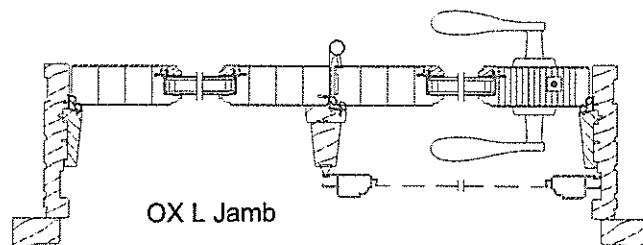


Inswing Section Details: Ultimate Sliding Screen

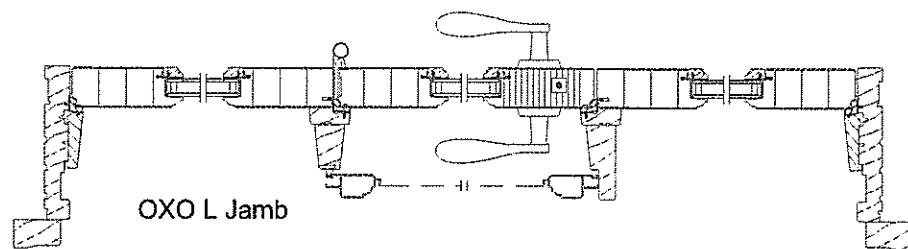


4 9/16" Head
Jamb and Sill

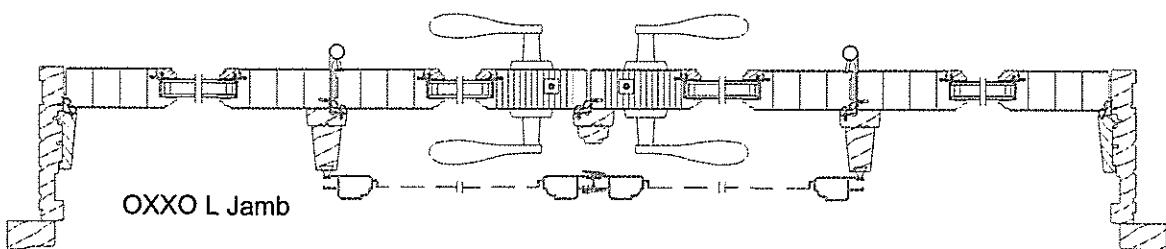
6 9/16" Head
Jamb and Sill



OX L Jamb

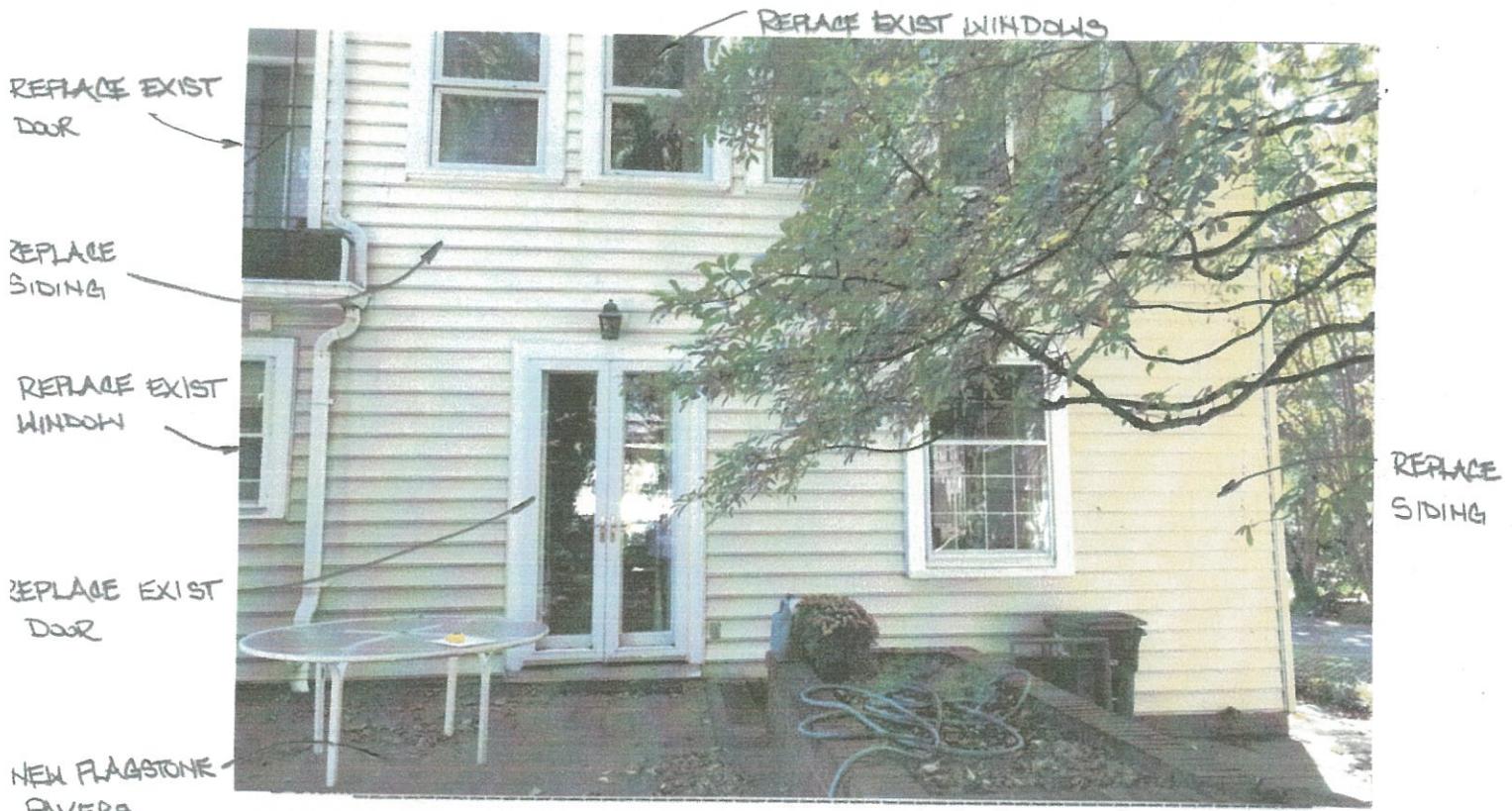


OXO L Jamb



OXXO L Jamb

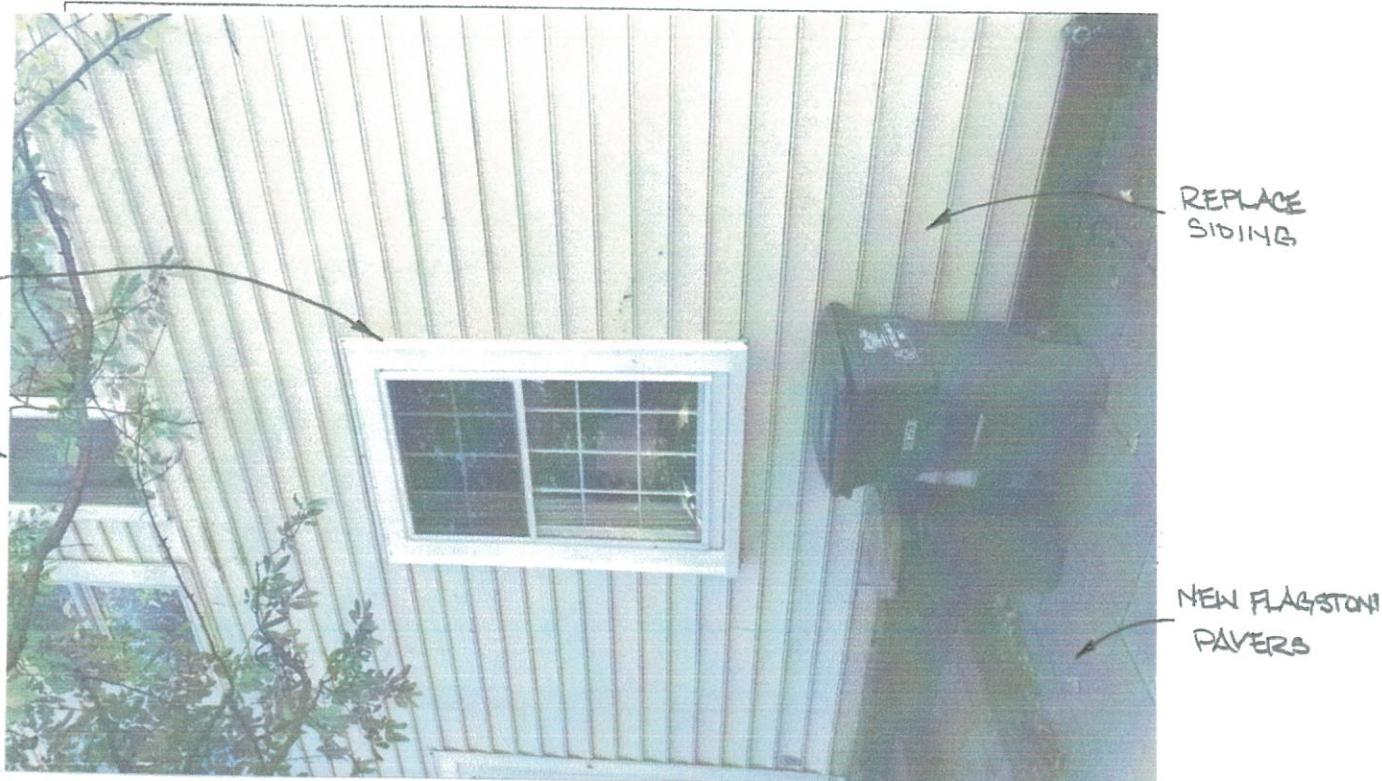
Existing Property Condition Photographs (duplicate as needed)



Applicant: Josephine B. Faley

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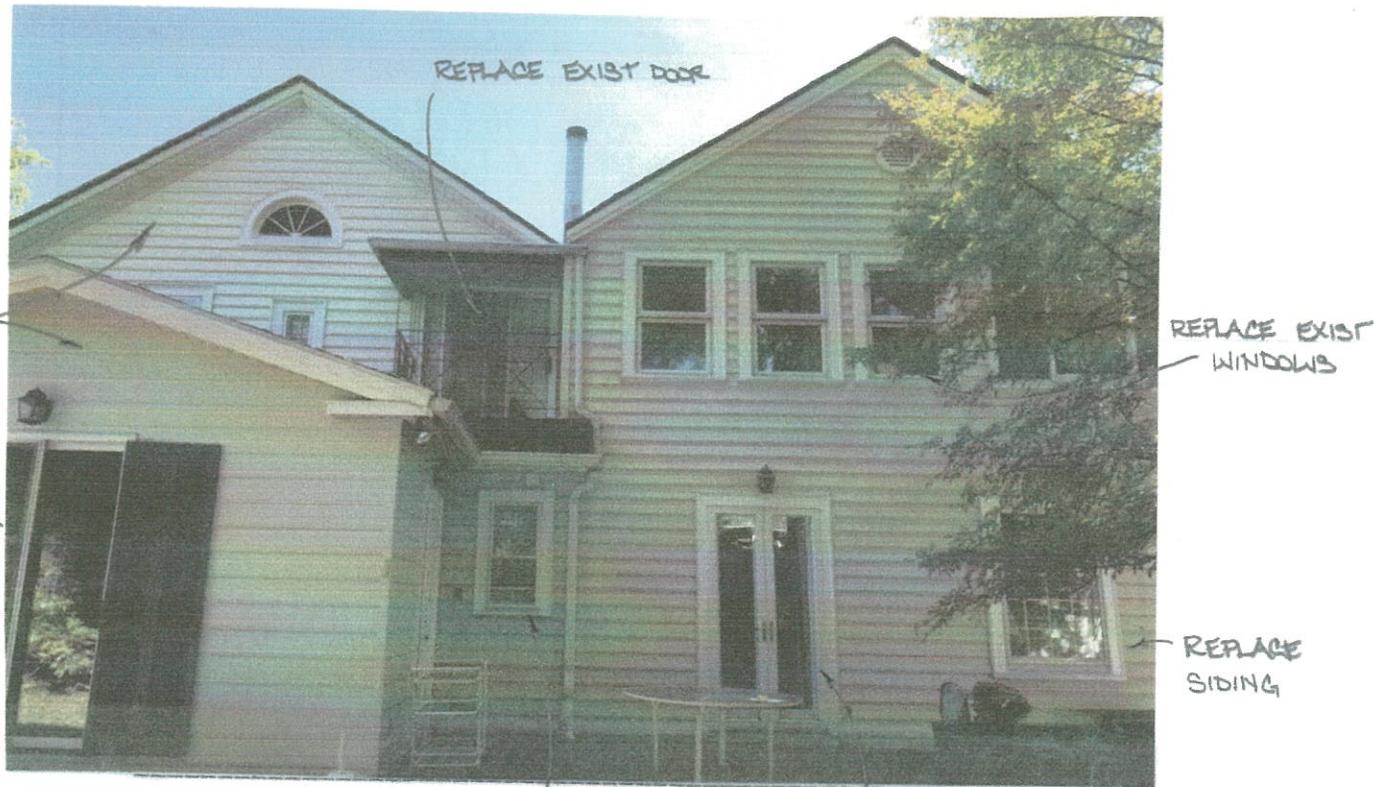
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Applicant: Josephine B. Faley

Page:

Existing Property Condition Photographs (duplicate as needed)



Applicant: Josephine B. Faley

REPLACE EXIST WINDOW

REPLACE EXIST DOOR

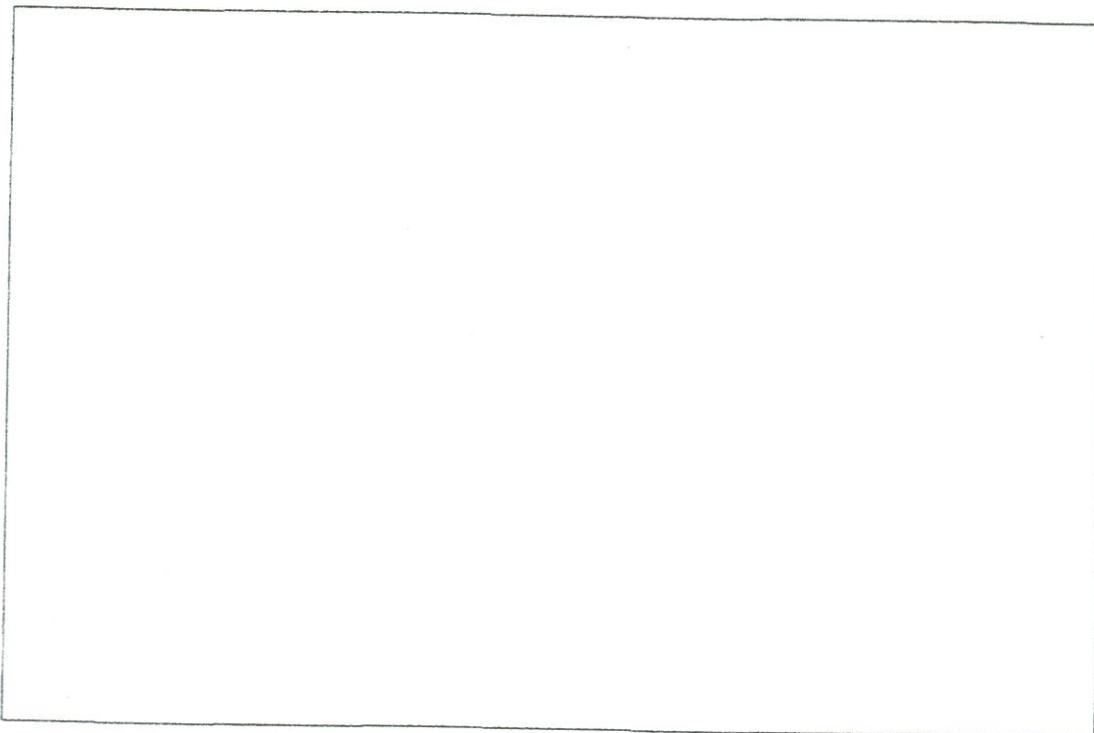
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REPLACE WINDOWS

Existing Property Condition Photographs (duplicate as needed)



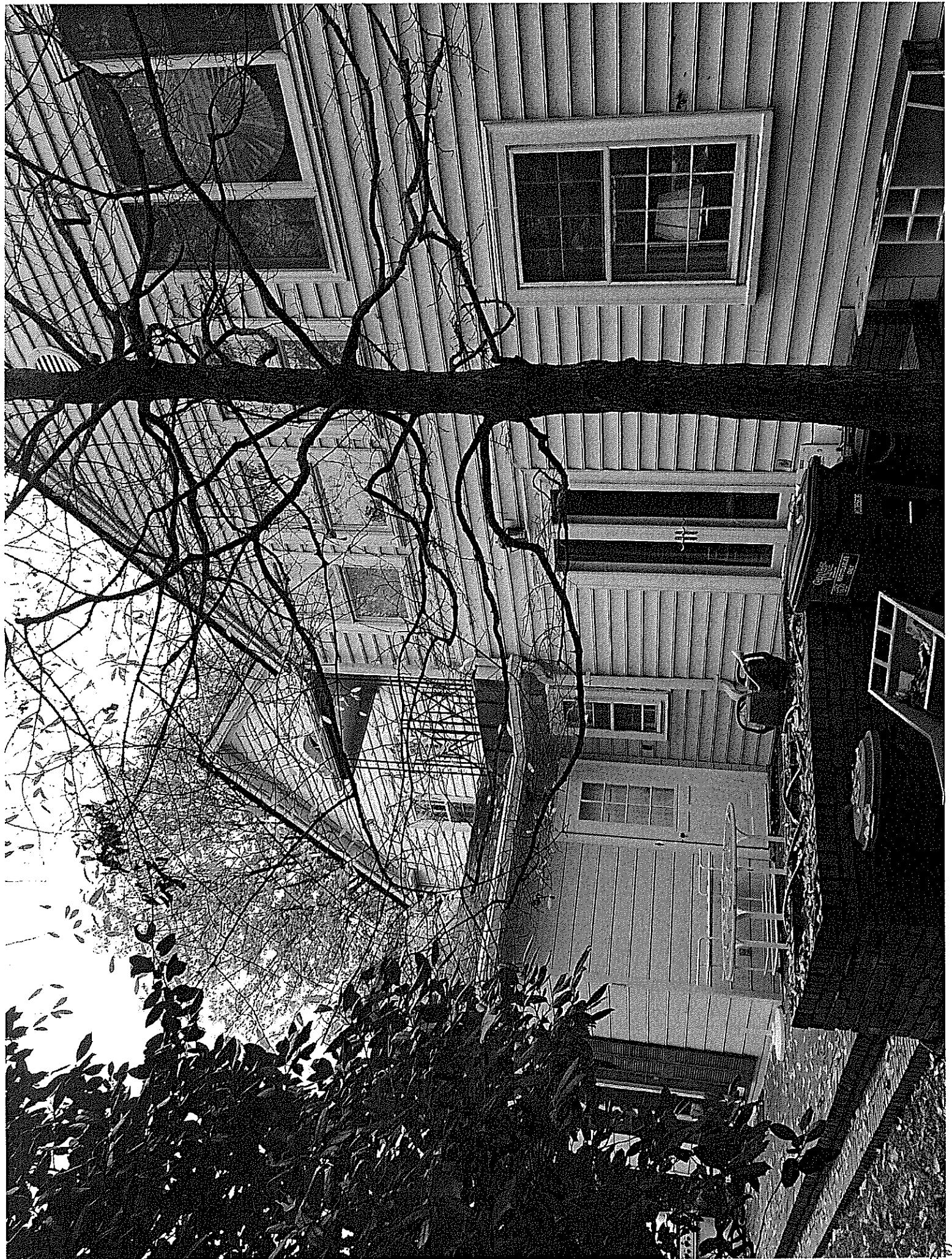
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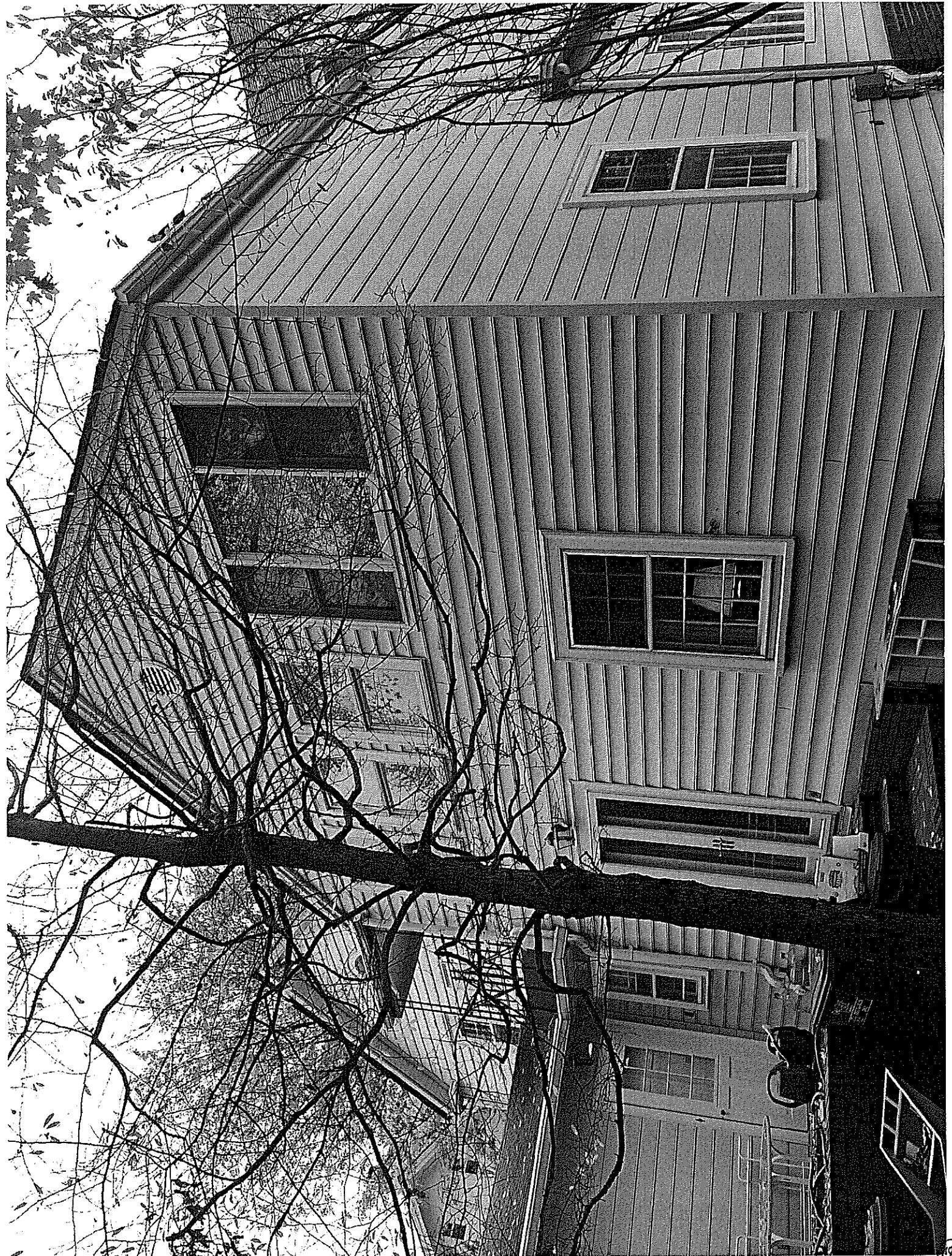


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Applicant: Josephine B. Faleey

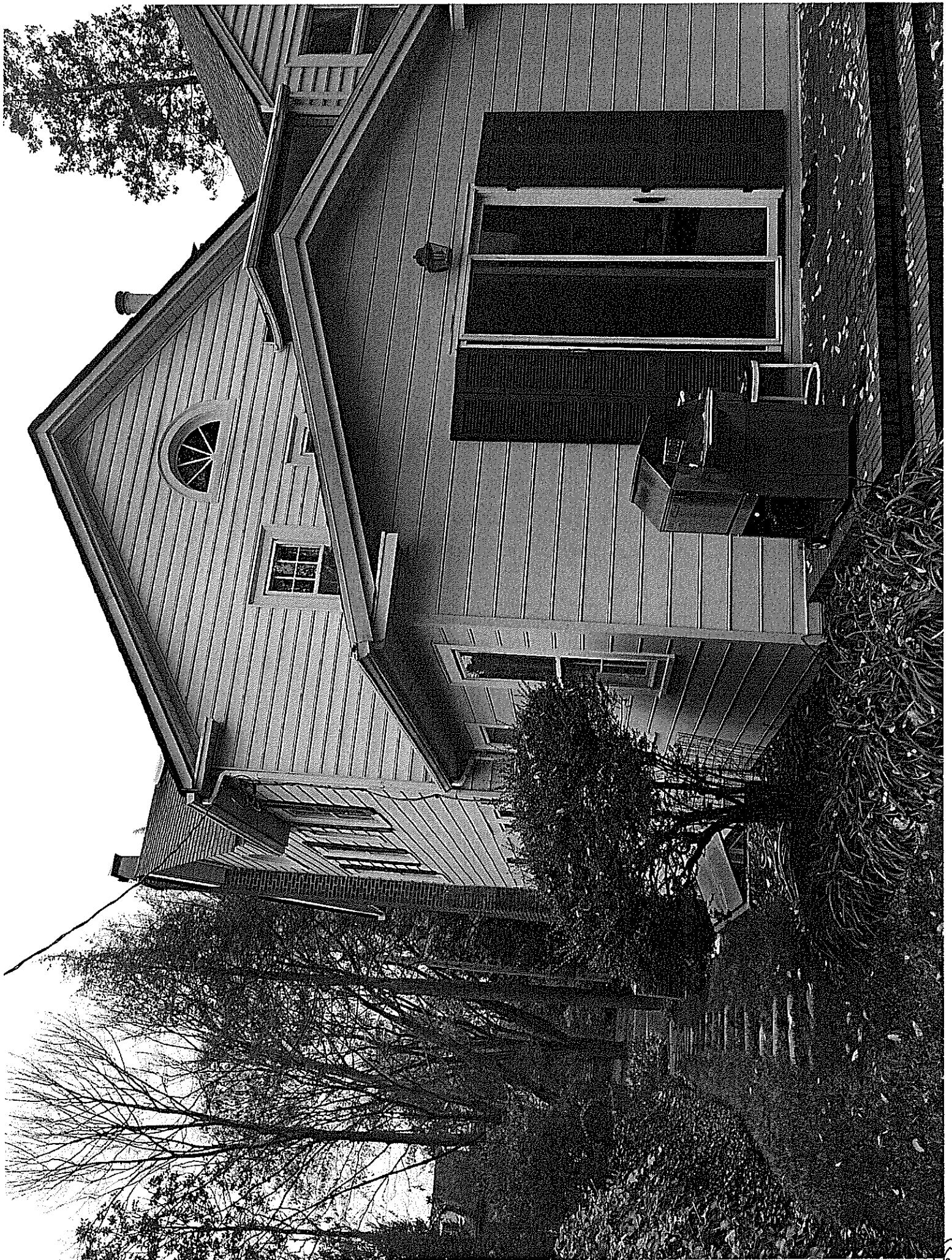
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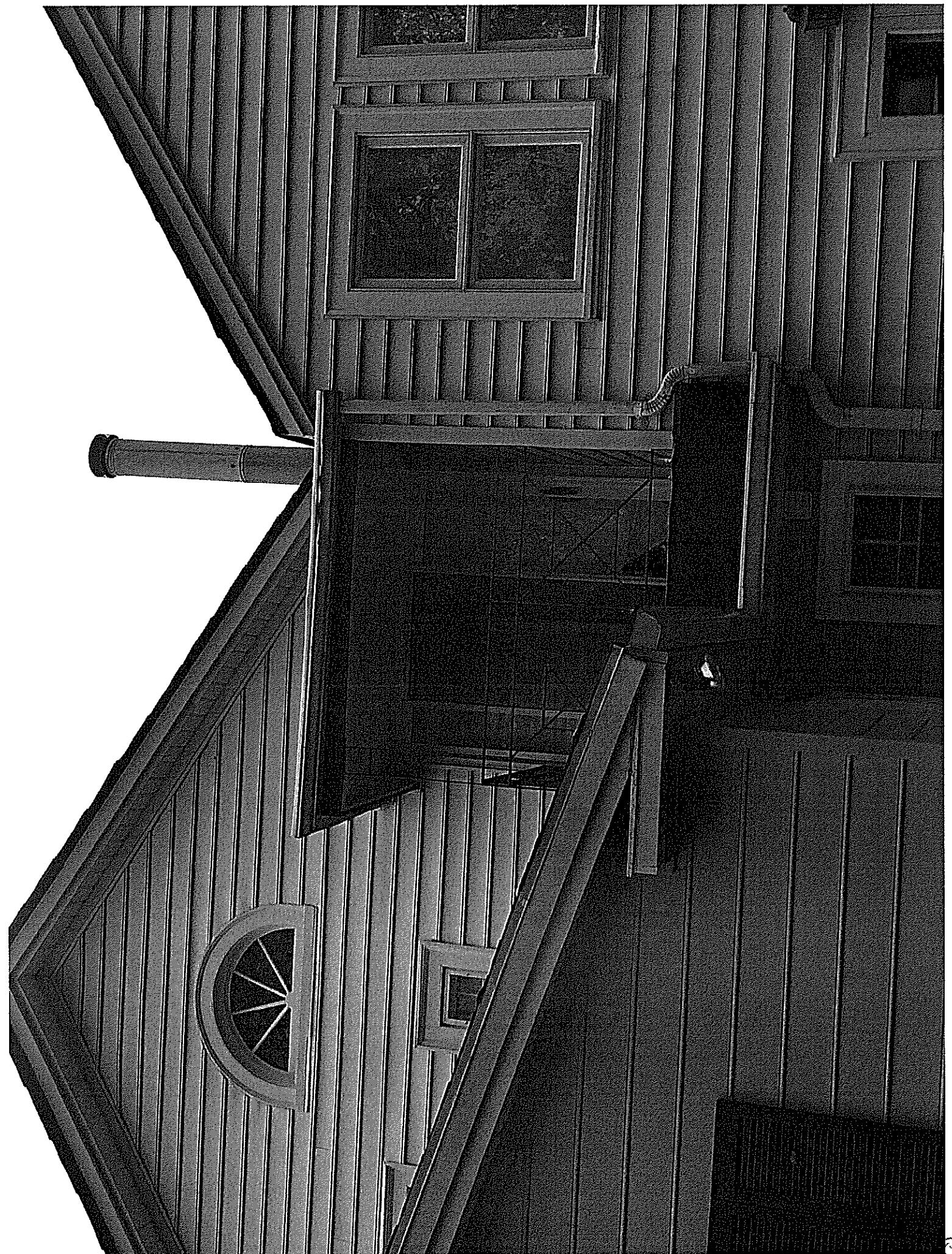


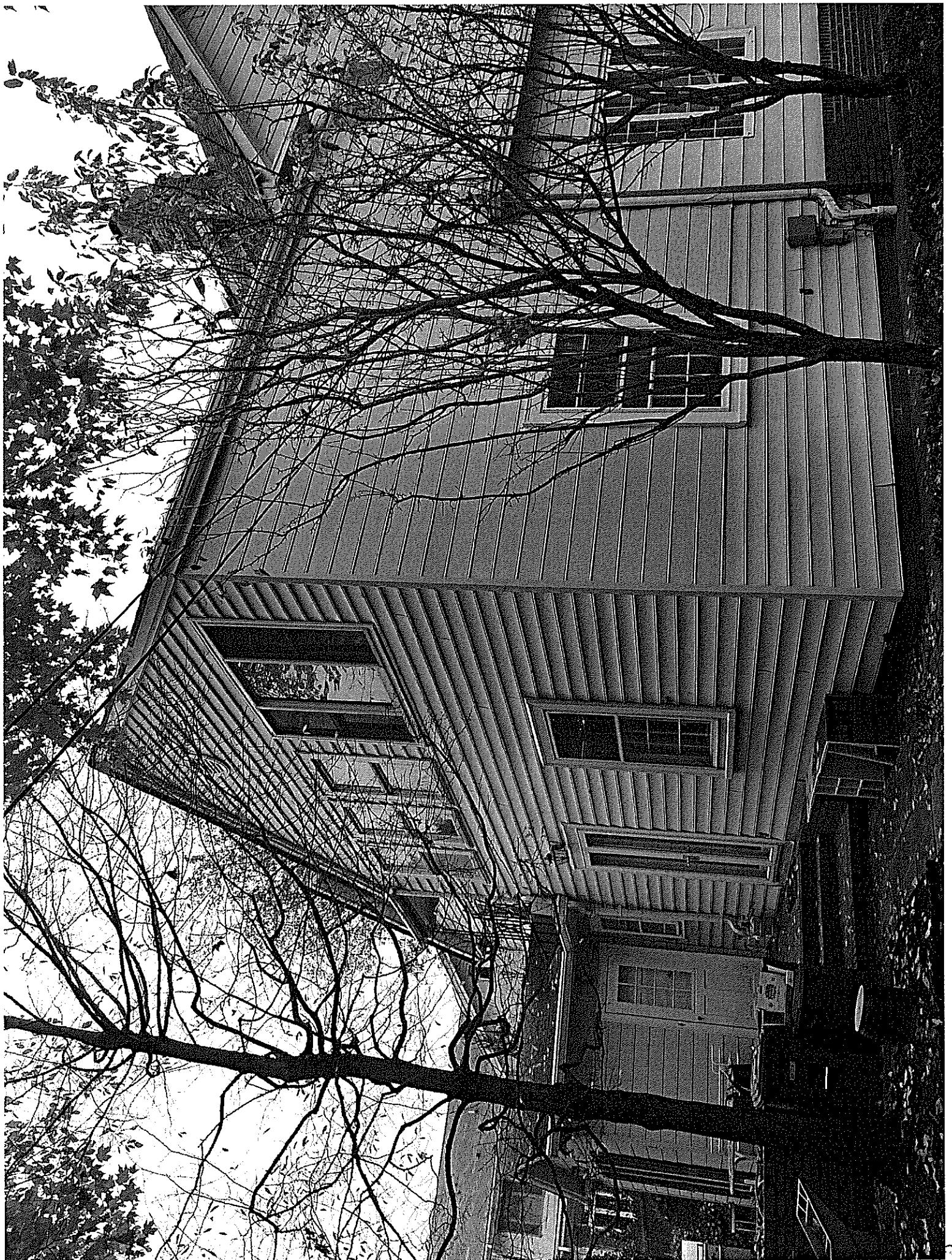


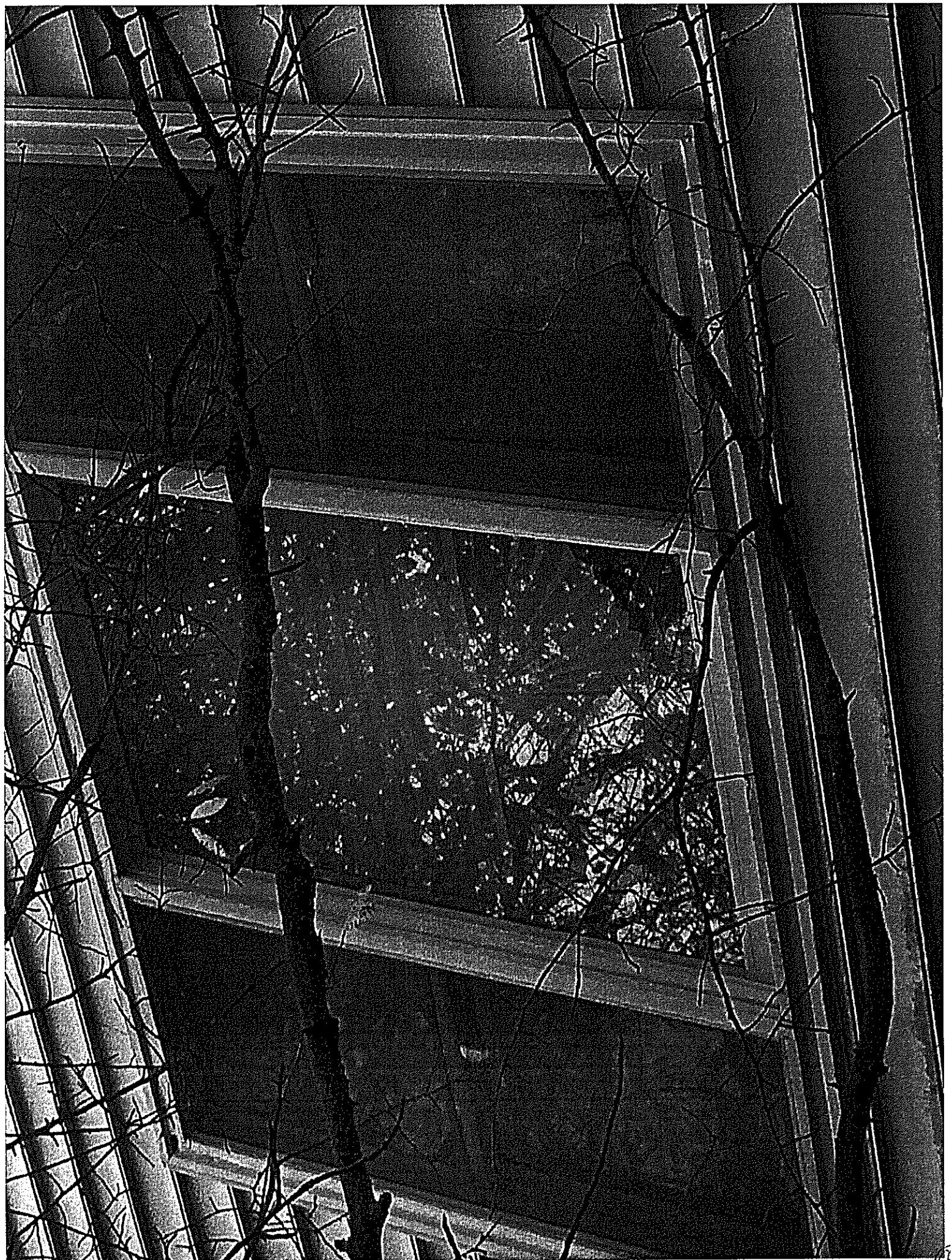














HAWP APPLICATION: MAILING ADDRESSES FOR NOTIFYING
[Owner, Owner's Agent, Adjacent and Confronting Property Owners]

Owner's mailing address 25 Primrose Street Chevy Chase, MD, 20815	Owner's Agent's mailing address
Adjacent and confronting Property Owners mailing addresses	