PLANNING & DEVELOPMENT DEPARTMENT
2 WOODWARD AVE SUITE 808, DETROIT, MI 48226

HISTORIC DISTRICT COMMISSION

CERTIFICATE OF APPROPRIATENESS

Application Number: HDC2026-00106

Effective Date: 04/15/26

Project Address: 264 Watson

Issued to: John Biggar
350 MADISON ST FL 4TH
DETROIT, MI 48226

Historic District: Brush Park

Description of Work:

Replace remaining double-hung wood windows with new aluminum-clad windows per submitted application

Note that this approval only pertains to the window proposal outlined in the attached/submitted application documents

With the Conditions that:

N/A

COA

Pursuant to Section 5(10) of the Michigan Local Historic District Act, as amended, being MCL 399.205 (10) and Sections 21-2-57 and 21-2-73 of the 2019 Detroit City Code, and Detroit Historic District Commission ("DHDC") delegation of administrative authority via Resolutions 97-01, 97-02, 98-01, 20-03, 21-04, and/or 21-07, as applicable, the staff of the DHDC has reviewed the above referenced application and hereby issues a Certificate of Appropriateness ("COA") for the description of work, effective date above, as it meets the Secretary of the Interior's Standards for Rehabilitation and the district's Elements of Design

For the Commission:

Garrick Landsberg
Director of Staff, Historic District Commission

PSR: Jennifer 260415JR

Post this COA at the subject property until work is complete. It is important to note that approval by the DHDC does not waive the applicant's responsibility to comply with any other applicable ordinances or statutes.

HISTORIC DISTRICT COMMISSION
APPLICATION FOR WORK APPROVAL

City of Detroit - Planning & Development Department
2 Woodward Avenue, Suite 808
Detroit, Michigan 48226

APPLICATION ID
HDC2026-00106

PROPERTY INFORMATION

ADDRESS(ES): 264 Watson

HISTORIC DISTRICT: Brush Park

SCOPE OF WORK: **(Check ALL that apply)**

- [x] Windows/ Doors
- [ ] Walls/ Siding
- [ ] Painting
- [ ] Roof/Gutters/ Chimney
- [ ] Porch/Deck/Balcony
- [ ] Other
- [x] Demolition
- [ ] Signage
- [ ] New Building
- [ ] Addition
- [ ] Site Improvements (landscape, trees, fences, patios, etc.)

BRIEF PROJECT DESCRIPTION:
Request to modify COA for reusing and repairing existing wood windows with new aluminum clad wood windows.

APPLICANT IDENTIFICATION

TYPE OF APPLICANT: Architect/Engineer/Consultant

NAME: John Biggar	**COMPANY NAME:** studiozONE		
ADDRESS: 350 MADISON ST FL 4TH	**CITY:** DETROIT	**STATE:** MI	**ZIP:** 48226
PHONE: +1 (313) 549-2790	**EMAIL:** jpb@ware-house.com		

I AGREE TO AND AFFIRM THE FOLLOWING:

[x]	I understand that the failure to upload all required documentation may result in extended review times for my project and/or a denied application.
[x]	I understand that the review of this application by the Historic District Commission does not waive my responsibility to comply with any other applicable ordinances including obtaining appropriate permits (building, sign, etc.) or other department approvals prior to beginning the work.
[x]	I hereby certify that the information on this application is true and correct. I certify that the proposed work is authorized by the owner of record and I have been authorized to make this application as the property owner(s) authorized agent.
[x]	As required by the state Local Historic Districts Act, Act 169 of 1970 (MCL399.205), I hereby certify that the property where work will be undertaken has, or will have before the proposed project completion date, a fire alarm system or a smoke alarm complying with the requirements of the Stille-DeRossett-Hale single state construction code act, 1972 PA 230, MCL 125.1501 to 125.1531

DocuSigned by:
John Biggar
817F1A42B12D40D...

SIGNATURE

03/14/2026
DATE

NOTE: Based on the scope of work, additional documentation may be required. See www/detroitmi.gov/hdc **for scope-specific requirements.**

PROJECT DETAILS – TELL US ABOUT YOUR PROJECT

Instructions: Add project details using the text box in each section. If your details exceed the space provided, attach the details via the attachment icon for that section.

ePLANS PERMIT NUMBER:
(only applicable if you've already applied for permits through ePLANS) BLD2025-01627

GENERAL

1. DESCRIPTION OF EXISTING CONDITION

Please tell us about the current appearance and conditions of the areas you want to change. You may use a few sentences or attach a separate prepared document on the right. (For example, "existing roof on my garage is covered in gray asphalt shingles in poor condition.")

Under the previous COA, we identified a number of wood windows which were to be repaired. After an exhaustive and extensive investigation by a window contractor, it has been determined many of these windows are beyond repair. The windows beyond repair are 7, 8, 9, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 30, 31.

Our intent is to remove these existing wood windows which have been destroyed and replace with new aluminum clad wood windows.

2. PHOTOGRAPHS

Help us understand your project. Please attach photographs of all areas where work is proposed.

3. DESCRIPTION OF PROJECT

In this box, tell us about what you want to do at the areas described above in box #1. (For example, Install new asphalt shingle roofing at garage.)

This is an alteration request to the previous COA to remove the existing wood windows and replace with the new aluminum clad wood windows The window proposed for the replacement of the wood windows is the Marvin Ultimate Series G2 Double Hung window which is the same window being used for the replacement of the vinyl and aluminum windows currently on the house.

4. DETAILED SCOPE OF WORK

In this box, please describe all steps necessary to complete the work described in box #3. (For example, "remove existing shingles, replace wood deck as necessary, replace wood eaves, install roof vents, replace rotted fascia boards, paint, clean worksite.")

The Contractor has indicated none of the existing wood windows identified in his survey can be restored and he has provided a detailed documentation of their condition. The window proposed for the replacement of the wood windows is the Marvin Ultimate Series G2 Double Hung window which is the same window being used for the replacement of the vinyl and aluminum windows currently on the house. I have identified the particular windows on the Elevation A5.10 and updated the window Schedule A9.00 by highlighting the windows which are badly damaged.

5. BROCHURES/CUT SHEETS

Please provide information on the products or materials you are proposing to install. For example, a brochure on the brand and color of the shingles proposed.

ADDITIONAL DETAILS

6. WINDOWS/DOORS *Detailed photographs of window(s) and/or door(s) proposed for replacement showing the condition of the interior and exterior of the window(s) and/or door(s)*	
7. DEMOLITION *If demolition is proposed for reasons of structural failure or catastrophic damage, please provide illustrated report from structural engineer or licensed architect.*	

Project: Contractor: Holcomb Development

Fenestrationpro@gmail.com

313-757-1226

Project Inspection Report

Date: 3-12-2026

PROJECT: 264 Watson , Detroit MI

1

Window condition report for existing wood windows that were requested to be rehabilitation.

Inspector : Paul Bekemeyer

Location and/ or line (mark) #	Frame and Exterior casing Integrity, Water tight condition	Sash Integrity / Glass condition	Recommendation
Windows 14 and 15 at the kitchen	Frames and exterior casings are dry-rotted to a point where any repair will not be a lasting repair.	Structurally the sash have lost their structural integrity; any repair attempt is unlikely to have lasting effect.	Recommend repair of framing, blocking up the opening to accept a new insert window. Replace rotted casing.
Window 18 @ Office	This frame and exterior flat casing is rotted at the bottom corners, which is allowing water, animals, and insects to penetrate the home.	Structurally the sash is bro-ken/damaged—and—is missing part of its divided lite component. Even with the storm it is unlikely this window will have lasting effect.	Recommend repair of framing, blocking up the opening to accept a new insert window. Replace rotted casing.
Window 21 in stairs	This frame and exterior flat casing is rotted at the bottom corners, which is allowing water, animals, and insects to penetrate the home. The sill itself is gone was repaired with a piece of brake metal.	These sashes are in the best condition in entire home—however the due to frame and casing being literally dry rotted—recommend replace.	Recommend repair of framing, blocking up the opening to accept a new insert window. Replace rotted casing.
Window 7, 8, and 9	The center window has no existing sashes; the frame and exterior casing has been somewhat protected and isn't as bad as all the others. But since there is nothing to repair/restore @ 8.	Window #8 is missing sashes. Nothing to repair/restore.	Recommend repair of framing, blocking up the opening to accept a new insert window for all 3 openings.
Widow 23B @ Dining	This window is badly damaged — frames and cas-ings. It is well beyond repair—and will directly adjacent to a window replacement @ 29 (currentl a vinyl window).	Structurally the sash have lost their structural integrity; any repair attempt is unlikely to have lasting effect, plus the missing sash (currently plywood-ed over.	Recommend repair of framing, blocking up the opening to accept a new insert window for all 3 openings.

Project: Contractor: Holcomb Development

Fenestrationpro@gmail.com

313-757-1226

Project Inspection Report

Date: 3-12-2026

PROJECT: 264 Watson , Detroit MI

Window condition report for existing wood windows that were requested to be rehabilitation.

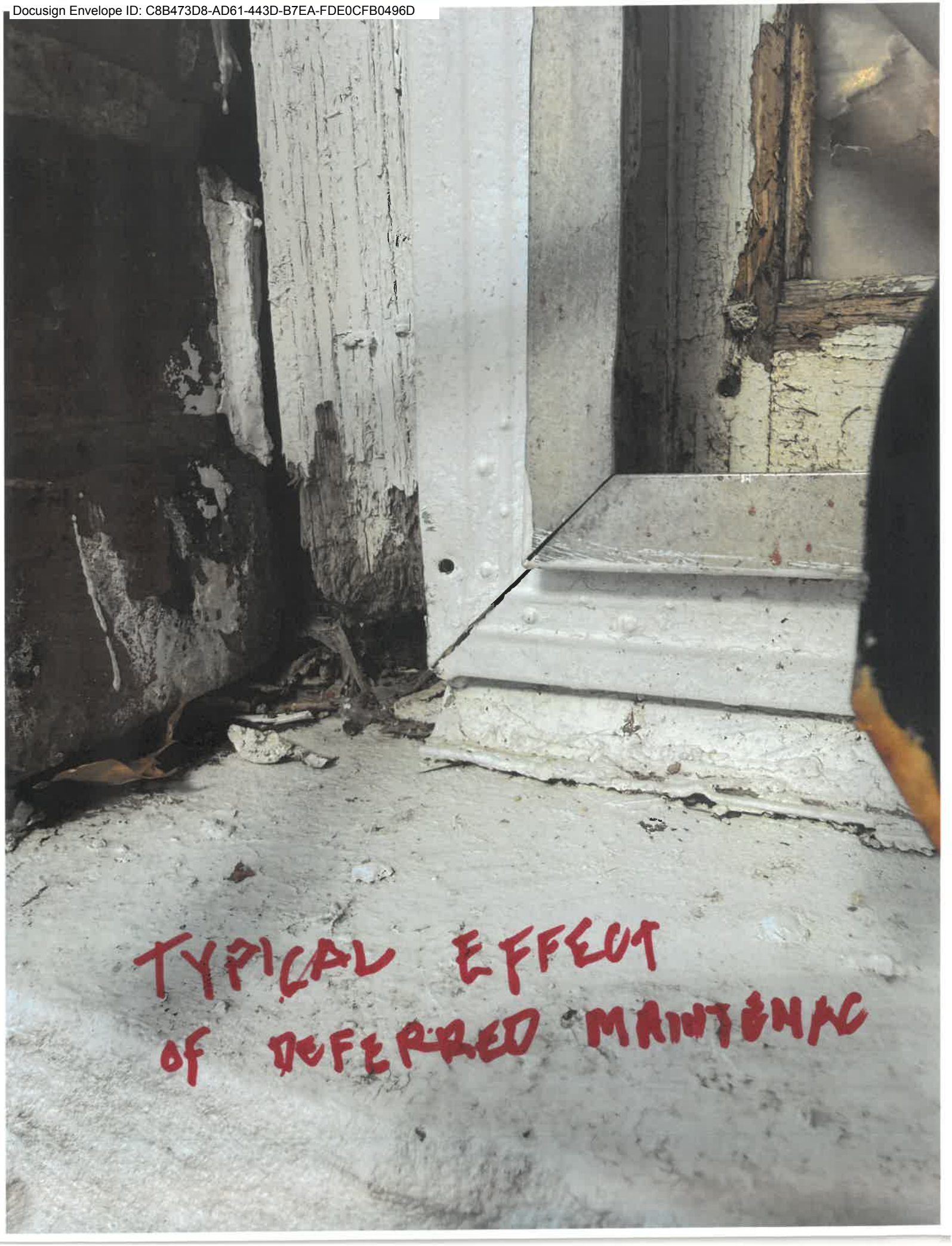
Inspector : Paul Bekemeyer

Location and/ or line (mark) #	Frame and Exterior casing Integrity, Water tight condition	Sash Integrity / Glass condition	Recommendation
Windows 19 and 20 in E BR	Frames and casings are dry-rotted to a point where any repair will not be a lasting repair. The sills are literally gone.	Structurally the sash have lost their structural integrity; the jointery is failed—any repair attempt is unlikely to have lasting effect.	Recommend repair of framing, blocking up the opening to accept a new insert window. Replace rotted casing.
Window s 16 and 17	These rames and exterior flat casing is rotted at the bottom corners, which is allowing water, animals, and insects to penetrate the home. The sill itself is gone was repaired with a piece of brake metal. Sills are also dry rotted/failed.	These sashes are in the best condition in entire home—however the due to frame and casing being literally dry rotted—recommend replace.	Recommend repair of framing, blocking up the opening to accept a new insert window. Replace rotted casing.
Windows 10,11,12,13,28, 23A, 27 in basement	Appears that these units haven't been painted in decades. Due to being grade they are in a failed condition, completely dry rotted.	Appears that these units haven't been painted in decades. Due to being grade they are in a failed condition, completely dry rotted.	Recommend repair of framing, blocking up the opening to accept a new insert window for all 7 openings.

As part of this general condition report, other findings about the windows in this historic home is that all of these windows were likely painted with lead paint many times over—the toxic dust of which we all know not to consume - however, the owner does have small children.

Thus—the absolute failed state of the window frames and other issues—is why the owner is requesting the courtesy to fix all of these things with insert replacement and labor to waterproof the exterior casings.

There is precedent for allowing these to be replaced; the commercial building at 110 E Ferry Street virtually had the entire building got new insert windows a few years back for its repurposed use.

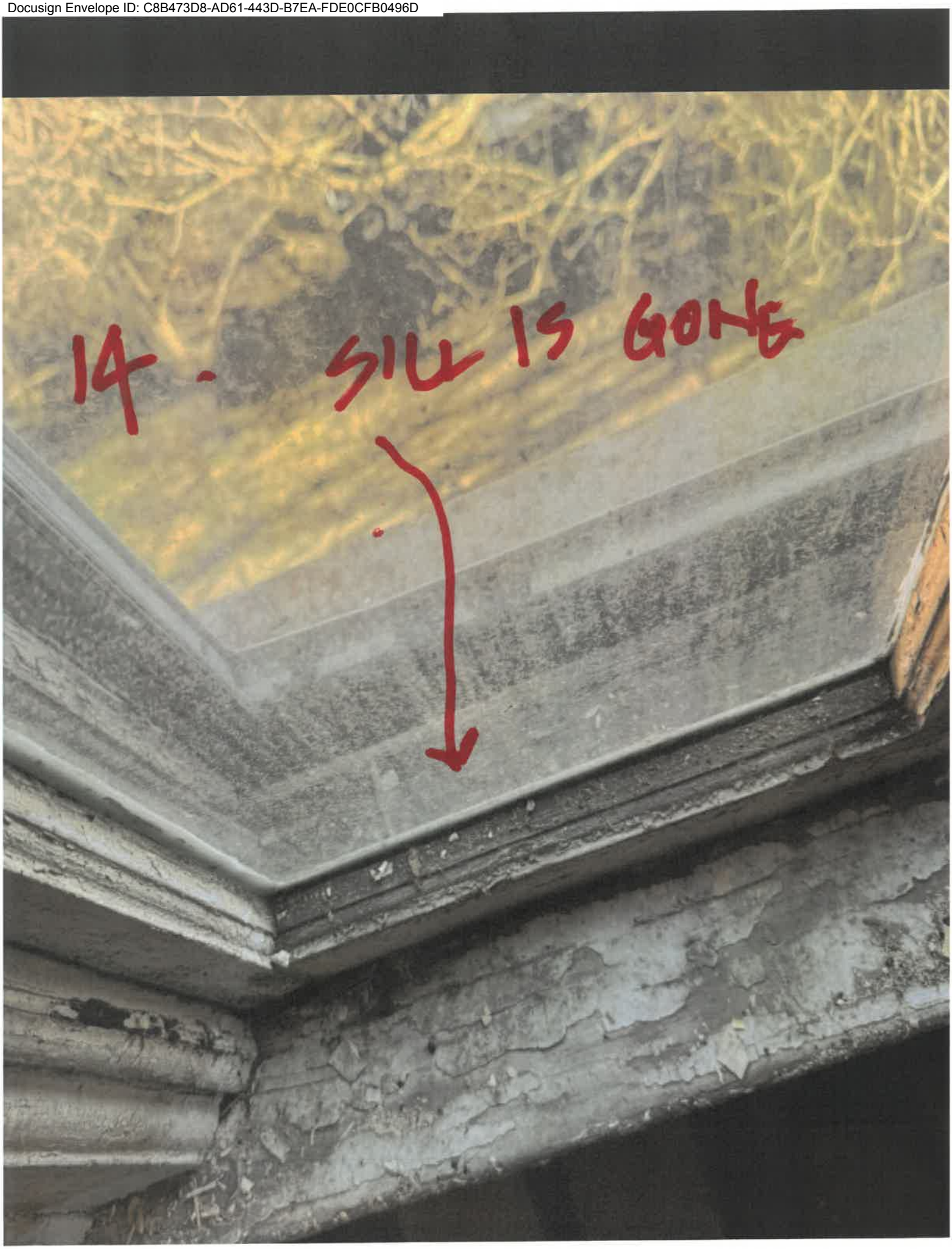


30

SILL IS GONE

15

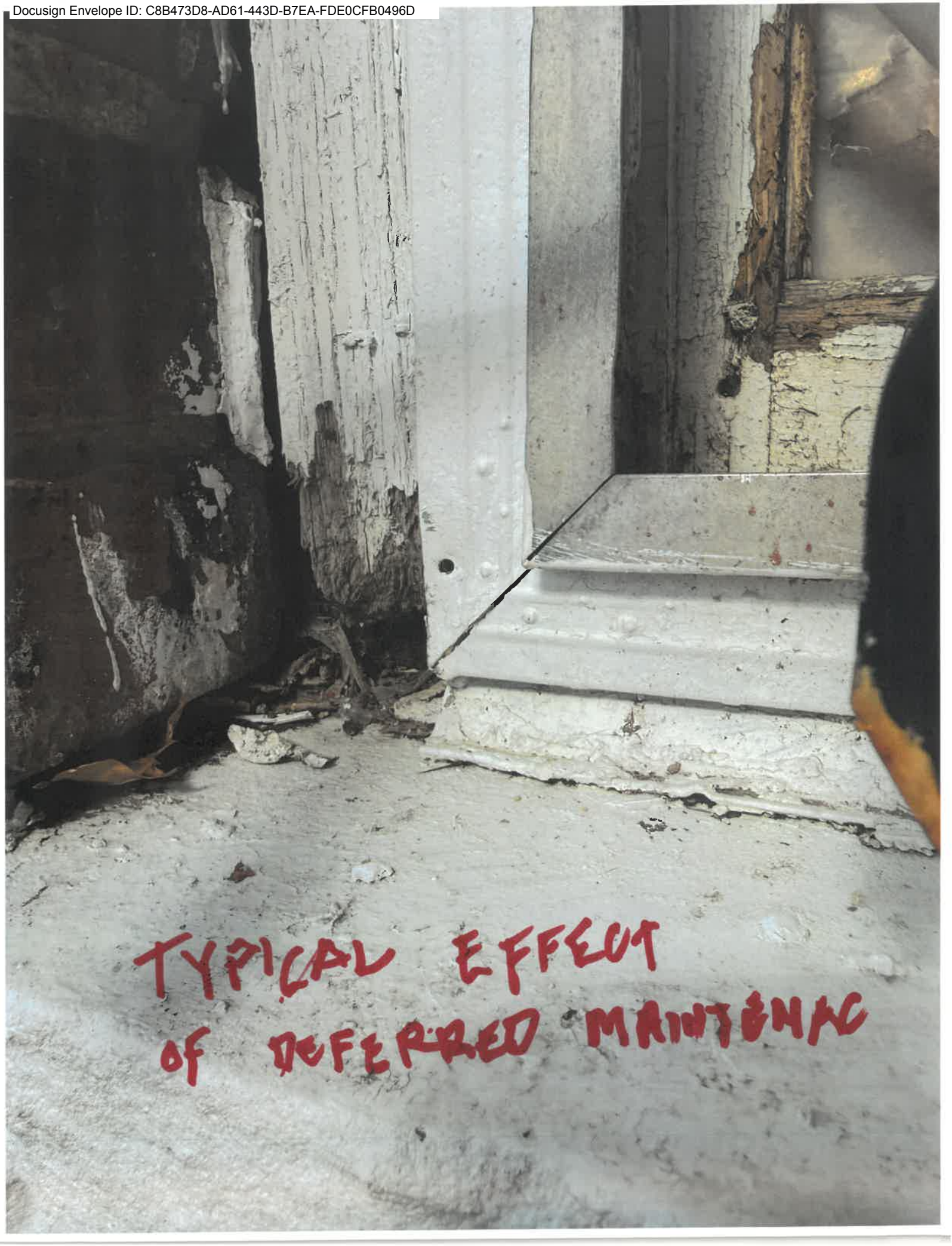
14



5

82

12

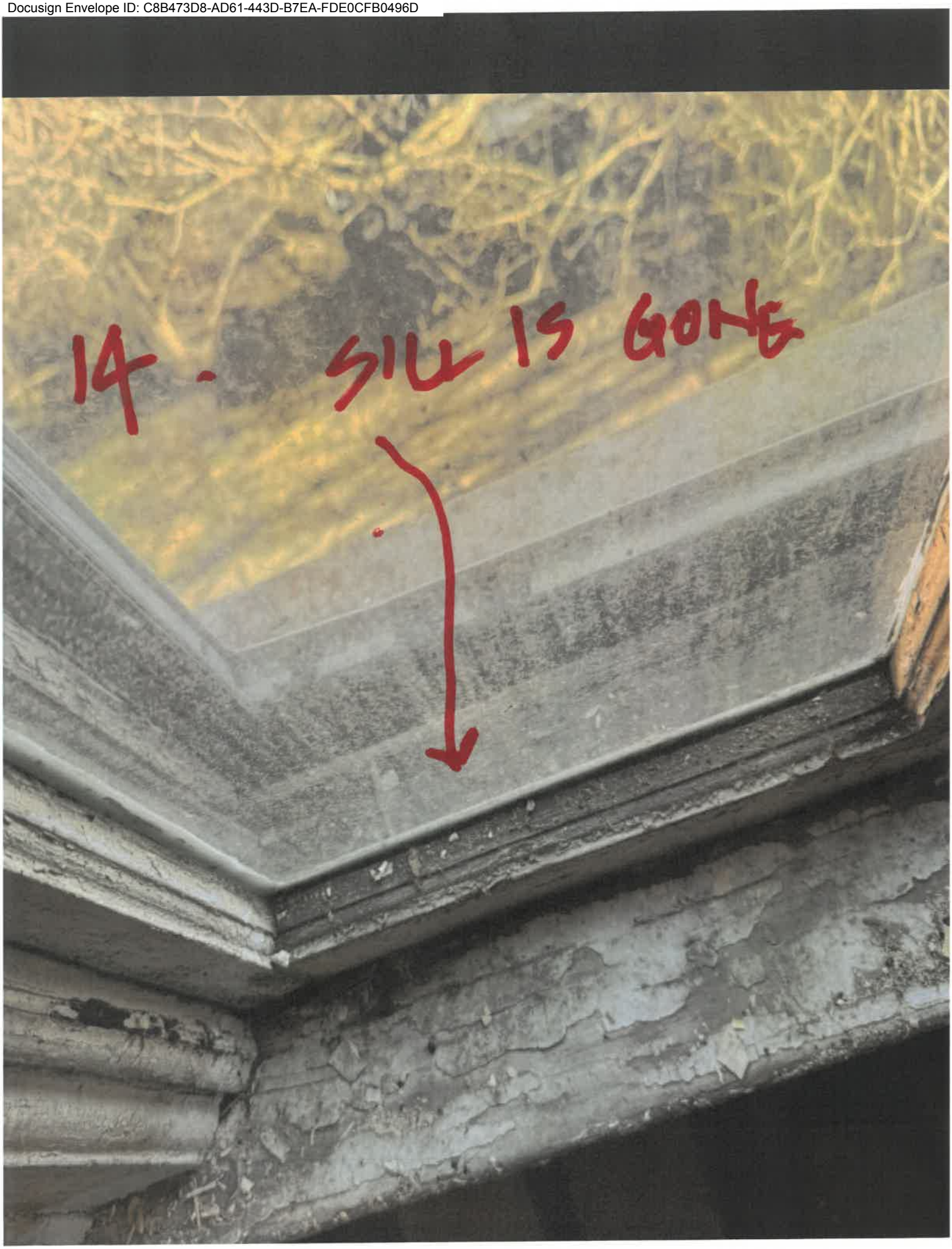


30

SILL IS GONE

15

14



5

82

12

WINDOW SCHEDULE

WINDOW No.	SIZE	TYPE	EXISTING MATERIAL	NEW WINDOW MATERIAL	NOTES
1	24" x 72"	DOUBLE-HUNG	ALUMINUM	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
2	24" x 72"	DOUBLE-HUNG	ALUMINUM	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
3	24" x 72"	DOUBLE-HUNG	ALUMINUM	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
4	24" x 72"	DOUBLE-HUNG	ALUMINUM	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
5	24" x 72"	DOUBLE-HUNG	ALUMINUM	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
6	24" x 72"	DOUBLE-HUNG	ALUMINUM	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
7	12" x 24"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
8	12" x 24"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
9	12" x 24"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
10	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW
11	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW
12	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW
13	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW
14	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
15	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
16	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
17	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
18	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
19	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
20	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
21	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
22	12" x 24"	FIXED	NO WINDOW	ALUMINUM CLAD WOOD	NEW ALUMINIUM CLAD WOOD WINDOW IN NEW MASONRY OPENING
23	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
24	30" x 80"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
25	30" x 80"	DOUBLE-HUNG	NO WINDOW	ALUMINUM CLAD WOOD	NEW ALUMINUM CLADD WOOD, FIXED WINDOW IN NEW OPENING
26	SEE ELEVATION	FIXED	NO WINDOW	WOOD	NEW WOOD, FIXED TRANSOM & SIDELITES AT FRONT DOOR
27	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW
28	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW
29	24" x 68"	DOUBLE-HUNG	VINYL	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
30	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
31	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
32	24" x 68"	DOUBLE-HUNG	VINYL	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
33	24" X 56"	DOUBLE-HUNG	NO WINDOW	ALUMINUM CLAD WOOD	NEW FIXED ALUMINUM CLAD WOOD WINDOW IN NEW OPENING
34	24" X 56"	DOUBLE-HUNG	NO WINDOW	ALUMINUM CLAD WOOD	NEW FIXED ALUMINUM CLAD WOOD WINDOW IN NEW OPENING
35	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW

SIDE PORCH OPTION A:
1 EXISTING SIDE PORCH REMAINS AS IS KEEPING HISTORIC ELEMENTS.
2. UNSAFE STRUCTURAL ELEMENTS AT THE FLOOR STRUCTURE AND SUPPORT PIERS ARE CORRECTED
3. THE EXISTING STEPS ARE REMOVED AND A NEW STAIR WITH HANDRAIL ARE INSTALLED. STAIR HANDRAIL PROFILE/APPEARANCE TO MATCH THE EXISTING HANDRAIL

GENERAL NOTES:

9. MASONRY REPAIR - THOROUGHLY INSPECT THE MASONRY SURFACE PRIOR TO PROVIDING A PRICE DETAILING THE AMOUNT OF JOINTS TO BE TUCKED AND POINTED. REMOVE ANY LOOSE MORTAR OR DAMAGED MORTAR. REPLACE ANY CRACKED OR DAMAGED BRICKS W/ BRICKS SALVAGED FROM OTHER LOCATIONS. TUCKPOINT THE EXISTING BRICK WHERE REQUIRED. MATCH THE EXISTING MORTAR COLOR AND TEXTURE W/ THE NEW MORTAL MIX. USE A "TRADITIONAL" MORTAR MIX OF SAND AND LIME PUTTY OR HYRDRATED LIME. ALTERNATIVELY A MIX OF PORTLAND CEMENT, HYDRATED LIME AND SAND CAN BE USED. ANY "BAG" MIXES OF HIGH-STRENGTH PORTLAND CEMENT IS NOT TO BE USED AS IT IS TOO HARD AND BRITTLE FOR THE EXISTING MASONRY.

7. THE FINAL COLOR SCHEME IS TO TO BE PROVIDED BY THE OWNER/DESIGN TEAM. ALL COLORS SELECTED ARE TO COLOR MATCH THE DETROIT HISTORIC COMMISSION COLOR INDEX SYSTEM. ONLY APPROVED HISTORIC COLORS ARE PERMITTED.

8. ALL EXISTING WOOD WINDOWS ARE TO REMAIN AND BE REFURBISHED / REPAIRED. ALL SASHES ARE TO BE MADE OPERABLE AGAIN. ANY HISTORIC BRICK MOLD AND DECORATIVE ELEMENTS ARE THE EXTERIOR ARE TO REMAIN. IF MISSING, REPLACE W/ LIKE KIND. INTERIOR COLOR OF SASH AND FRAME TO BE SELECTED BY OWNER. ALL VINYL AND ALUMINUM WINDOWS ARE TO BE REPLACED W/ NEW ALUMINUM CLAD WOOD WINDOWS, ANDERSEN E SERIES. SEE DRAWING A.900 FOR WINDOW SCHEDULE DEPICTING WINDOW TO REMAIN AND BE REFURBISHED AND WHICH OPENINGS HAVE VINYL OR ALUMINUM TO BE REPLACED.

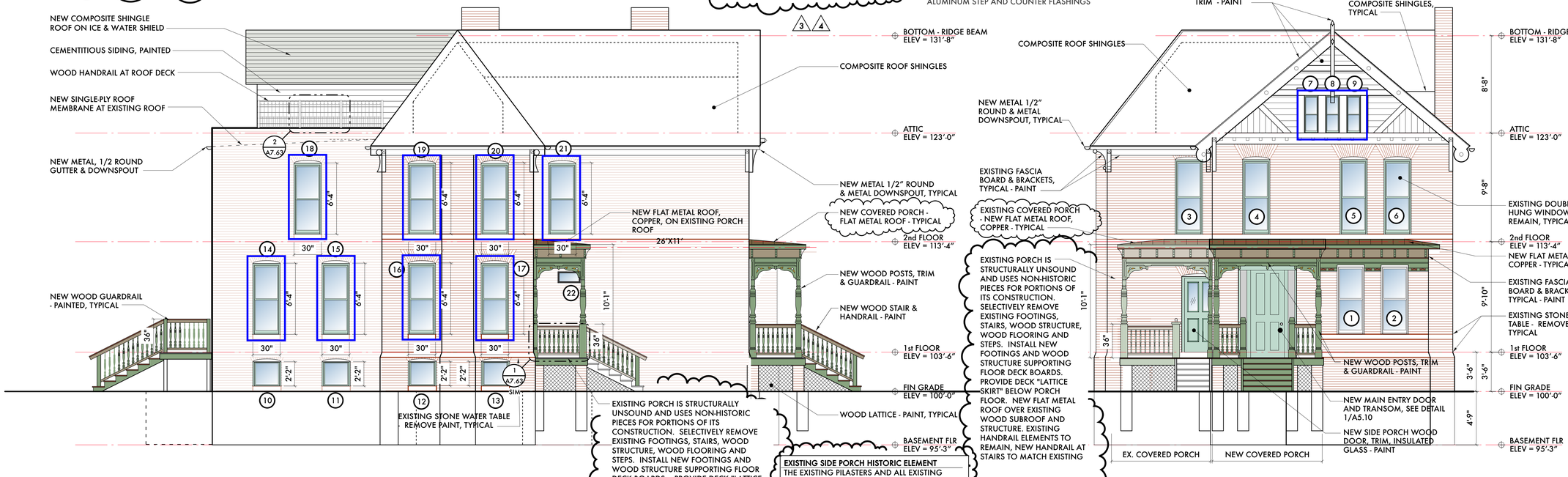
6. MAIN ROOF UPGRADE OPTION - IN LIEU OF ADDING TO AND PATCHING EXISTING ASPHALT SHINGLE ROOF, PROVIDE THE OWNER AN UPGRADE OPTION OF A DAVINCI COMPOSITE SHINGLE ROOF, "EUROPEAN COLOR", 12" SINGLE WIDTH W/ 8" EXPOSURE, RUNNING BOND PATTERN. WORK IS TO INCLUDE: REMOVE EXISTING SHINGLES DOWN TO DECK. RE-NAIL ANY LOOSE WOOD. IF BAD OR ROTTEN WOOD IS DISCOVERED, REPLACE WITH LIKE THICKNESS/ TYPE, PROVIDE UNIT COSTS FOR SUB-ROOF REPAIRS. INSTALL 1 1/2" WIDE FACED DRIP EDGE TO ALL EAVE AND RAKE EDGES. INSTALL 6' OF ICE & WATER SHIELD AT ALL EAVES , RAKE EDGES, AND VALLEYS. INSTALL SYNTHETIC UNDERLAYMENT TO REMAINDER OF EXPOSED ROOF DECK. INSTALL TILES W/ 1.75" HOT DIPPED ROOFING NAILS- INSTALL ALL HIP AND RIDGE SHINGLES WHERE APPLICABLE. INSTALL RIDGE VENT. INSTALL NEW PREFINISHED ALUMINUM PIPE AND CHIMNEY FLASHINGS. INSTALL NEW PREFINISHED ALUMINUM STEP AND COUNTER FLASHINGS

4. PORCH ROOF - STANDING SEAM METAL ROOF, MINIMUM 26 GAUGE METAL. SUBMIT INFORMATION ON MANUFACTURER SELECTED FOR REVIEW AND APPROVAL. COLOR TO BE SELECTED FROM MANUFACTURER'S STANDARD COLOR. INCLUDE DETAILS FROM MANUFACTURER FOR ROOF EDGE/GUTTER TRANSITION AND TRANSITION WHERE ROOF MEETS BRICK MASONRY.

5. MAIN ROOF BASE PRICE - INCLUDE IN THE BASE PRICE NEW SHINGLES TO MATCH EXISTING SHINGLE COLOR AND STYLE AT THE NEW ROOF AREAS. PROVIDE ICE AND WATER SHIELD AT THE 6' AT THE ROOF EDGE, 20# ASPHALT PAPER OR OTHER APPROVED UNDERLAYMENT FOR THE BALANCE OF THE ROOF AREAS. PROVIDE HALF-ROUND, PREFINISHED ALUMINUM GUTTERS AND DOWNSPOUTS FOR THE ENTIRE ROOF.
ROOF UPGRADE:

2. ALL WOOD WINDOWS
ANY DAMAGED SASHES.
NEW 1/2" INSULATED GLA
REPAIR. REMOVE EXISTINC
WOOD. RECONDITION W
AND EPOXY TO PROVIDE "
REPAINTING.
3. ALL NEW WOOD PORCH
BASED ON THE EXISTING S
WHERE REMAINING, E.G.
POSTS/COLUMNS, THE DE
BEAMS" BETWEEN THE CO
ROOF EDGE. PROVIDE EX/
HANDRAIL AND SPINDLES
PROFILE APPROPRIATE TO T
STYLE OF ARCHITECTURE FOR SELECTION.

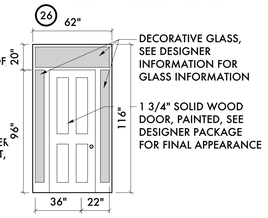
Approved
ePlan
PLAN REVIEW
Buildings, Safety Engineering & Environmental Department
CITY OF DETROIT
Date: 10/8/2025
Permit Number: BLD2025-01627



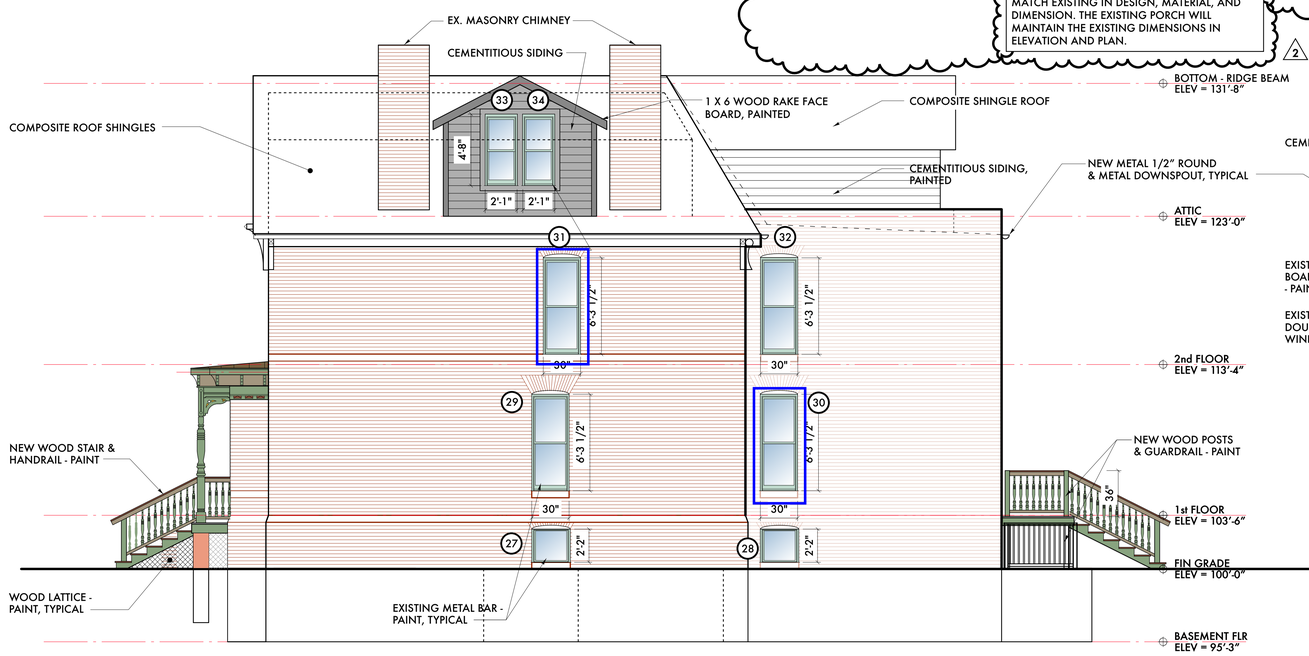
B EAST ELEVATION
1/4" = 1'-0"

A NORTH (WATSON STREET) ELEVATION
SCALE: 1/4" = 1'-0"

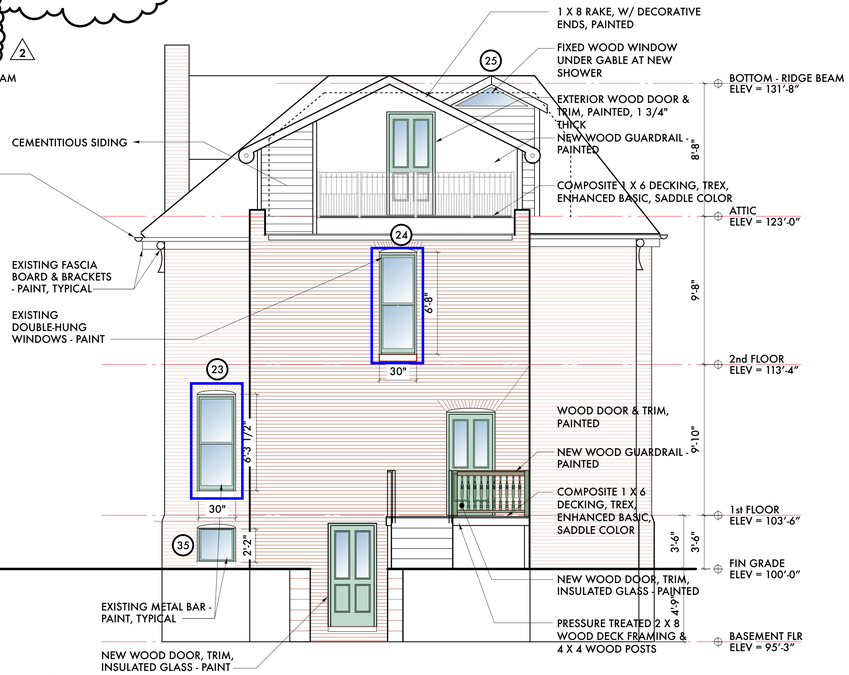
NOTE: DIMENSIONS SHOWN FOR DOOR OPENING ARE FOR PRICING AND ARE NOT FINAL. CONTRACTOR TO COMPLETE DEMOLITION AND SUBMIT FINAL DIMENSIONS TO DESIGN TEAM FOR FINAL ADJUSTMENTS TO THE DOOR ASSEMBLY.



FRONT DOOR DETAIL
1/A5.10
SCALE: 1/4" = 1'-0"



D WEST ELEVATION
1/4" = 1'-0"



C SOUTH (ALLEY) ELEVATION
1/4" = 1'-0"

SEE DRAWING A.900 FOR WINDOW SCHEDULE INFORMATION

STATE OF MICHIGAN
JOHN BIGGAR
ARCHITECT
No. 0301041902
LICENSED ARCHITECT

4	10/03/25	Permit Revisions - HDC
3	09/29/25	Permit Revisions - HDC
	09/29/25	Permit Revisions
2	07/31/25	Permit Revisions
	07/23/25	Owner/Designers Review
	07/08/25	Owner/Designers Review
	07/08/25	Permits
	07/01/25	Window Updates
1	05/29/25	Window Updates
	05/13/25	Owner/Designers Review
	04/07/25	Preliminary Pricing
	11/20/24	Historic Commission
	11/16/24	Historic Commission
	11/08/24	Owner Review

Date: Issued For:

Watson Residence
Historic Home

264 East Watson
Detroit, Michigan 48201

studioZONE : DETROIT
architectural | urban | interior DESIGN
350 Madison Avenue
4th Floor
Detroit, Michigan 48226
studiozonedetroit.com
313 549 2790 [o]
jgb@ware-house.com

Project Number: 2024 - 07

Sheet Title:
PROPOSED EXTERIOR BUILDING ELEVATIONS

Sheet Number:
A5.10

Section 08560 – Premium Clad Wood Windows for Historic Homes

1. GENERAL

1.1 SUMMARY
A. This section includes factory-fabricated, high-performance wood windows with durable composite or metal-clad exteriors, suitable for use in historic residential applications.

B. Work includes:
- Window units (casement, double-hung, fixed, or shaped windows)
- Divided lite grille configurations
- Screens
- Interior/exterior trim accessories
- Installation components

1.2 REFERENCES
- ASTM E283 – Air Infiltration
- ASTM E330 – Structural Performance
- ASTM E547 – Water Penetration
- NFRC 100/200 – Thermal Performance
- ENERGY STAR® – Northern Climate Zone
- NPS Preservation Brief #9 – Historic Windows
- Michigan Residential Code
- Detroit Historic District Commission (HDC) Guidelines

1.3 SUBMITTALS
A. Product data for each specified window.
B. Shop drawings indicating operation, size, frame profile, and grille configuration.
C. Color and finish samples for interior and exterior.
D. Certification of compliance with applicable historic district guidelines.
E. Sample window or corner mock-up upon request.

1.4 QUALITY ASSURANCE
A. Manufacturer must have minimum (20) years experience producing premium fenestration systems.
B. Installer must be licensed and experienced with historic home retrofits.
C. Units must meet the requirements of the Detroit Historic District Commission (HDC) as applicable.

2. PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS
Subject to compliance with specifications, the following manufacturers are acceptable:

1. **Andersen Windows & Doors**
   - **E-Series** (Aluminum-clad wood)

No substitutions allowed without prior written approval.

2.2 MATERIALS AND CONSTRUCTION
A. Frame and Sash
- **Interior**: Solid wood (pine, maple, oak, or species as approved)
- **Exterior Cladding**:
  - **Andersen A-Series**: Fibrex® composite and fiberglass
  - **Andersen E-Series**: Extruded aluminum
  - **Marvin Ultimate**: Extruded aluminum
- **Cladding Finish**: High-performance baked-on coating (AAMA 2605 for aluminum)

B. Glazing
- Dual-pane insulating glass with **Low-E coating and argon gas fill**
- **U-Factor**: ≤ 0.29
- **SHGC**: ≤ 0.30
- Laminated or tempered glass as required

C. Grilles / Divided Lites
- Simulated Divided Lite (SDL) with spacer bars
- Optional: Full Divided Lite (FDL) or True Divided Lite (TDL) for strict historic compliance where divided lites are required.
- Grille patterns, where indicated, must replicate original window configuration

D. Insect Screens
- Aluminum frame with fiberglass mesh
- Wood-framed screens optional for visible elevations, if required by HDC

2.3 COLORS AND FINISHES
Exterior
- Andersen E-Series and Marvin Ultimate: Kynar®-based fluoropolymer coatings (AAMA 2605 compliant)
- Andersen A-Series: UV-stable composite finish
- Colors must match HDC-approved historic palette (e.g., terratone, black, bronze, forest green)

Interior
- Factory-primed, stained, or natural finish available
- Match to historic trim/millwork color or finish

3. EXECUTION

3.1 PREPARATION
- Dimensions provided on the drawings and in the schedule are for pricing information only.
- Complete the demolition of the existing windows and openings. Field-verify window dimensions for each opening after demolition, before ordering.
- Protect existing interior and exterior finishes during installation
- Coordinate with preservation architect where applicable

3.2 INSTALLATION
- Install per manufacturer's instructions and best practices
- Do not alter existing opening size unless approved by HDC
- Install level, plumb, and square with appropriate shims and sealants
- Use concealed fasteners when possible
- Provide all necessary components for a complete window installation
  - Brick molding
  - Window casing
  - Window sills
  - Jamb extensions
- Caulk all gaps between window frame assembly and surrounding rough opening
- Caulk all windows with an approved sealant for the use

3.3 CLEANING AND PROTECTION
- Clean glazing and frame materials per manufacturer's recommendation
- Remove labels and construction residue
- Protect finished surfaces during remaining construction activities

4. HISTORIC COMPLIANCE REQUIREMENTS
- Match original sash dimensions, grille configurations where occuring, and profiles
- Nail fins, flange extensions, or modern detailing must not be visible on primary façades
- Submit final selections and shop drawings to the Owner for pre-approval

END OF SECTION

WE HAVE HIGHLIGHTED THE WOOD WINDOWS BEING PROPOSED TO BE REPLACED WITH ALUMINUM CLAD WOOD WINDOWS

WINDOW SCHEDULE

WINDOW No.	SIZE	TYPE	EXISTING MATERIAL	NEW WINDOW MATERIAL	NOTES
1	24" x 72"	DOUBLE-HUNG	ALUMINUM	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
2	24" x 72"	DOUBLE-HUNG	ALUMINUM	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
3	24" x 72"	DOUBLE-HUNG	ALUMINUM	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
4	24" x 72"	DOUBLE-HUNG	ALUMINUM	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
5	24" x 72"	DOUBLE-HUNG	ALUMINUM	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
6	24" x 72"	DOUBLE-HUNG	ALUMINUM	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
7	12" x 24"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
8	12" x 24"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
9	12" x 24"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
10	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW
11	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW
12	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW
13	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW
14	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
15	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
16	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
17	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
18	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
19	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
20	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
21	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
22	12" x 24"	FIXED	NO WINDOW	ALUMINUM CLAD WOOD	NEW ALUMINIUM CLAD WOOD WINDOW IN NEW MASONRY OPENING
23	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
24	30" x 80"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
25	30" x 80"	DOUBLE-HUNG	NO WINDOW	ALUMINUM CLAD WOOD	NEW ALUMINUM CLADD WOOD, FIXED WINDOW IN NEW OPENING
26	SEE ELEVATION	FIXED	NO WINDOW	WOOD	NEW WOOD, FIXED TRANSOM & SIDELITES AT FRONT DOOR
27	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW
28	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW
29	24" x 68"	DOUBLE-HUNG	VINYL	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
30	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
31	24" x 68"	DOUBLE-HUNG	WOOD	ALUMINUM CLAD WOOD	REMOVE WOOD WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
32	24" x 68"	DOUBLE-HUNG	VINYL	ALUMINUM CLAD WOOD	REMOVE ALUMINUM WINDOW AND REPLACE W/ NEW ALUMINUM CLAD WINDOW
33	24" X 56"	DOUBLE-HUNG	NO WINDOW	ALUMINUM CLAD WOOD	NEW FIXED ALUMINUM CLAD WOOD WINDOW IN NEW OPENING
34	24" X 56"	DOUBLE-HUNG	NO WINDOW	ALUMINUM CLAD WOOD	NEW FIXED ALUMINUM CLAD WOOD WINDOW IN NEW OPENING
35	24" x 24"	FIXED	WOOD	WOOD	REFURBISH AND REPAIR EXISTING WOOD WINDOW

WINDOW GENERAL NOTES:

1. INTERIOR TRIM - SEE INTERIOR DESIGNER INFORMATION FOR CASING AND TRIM INFORMATION ON INTERIOR OF WINDOW.
2. NEW WINDOWS - REMOVE EXISTING WINDOWS AND REPLACE W/ ANDERSEN E-SERIES ALUMINUM CLAD WOOD WINDOW. EXTERIOR COLOR TO MATCH COLOR SYSTEM B, B19, BLACK OF THE DETROIT HISTORIC COMMISSION COLORS
3. EXTERIOR SURROUND - ANY EXISTING HISTORIC BRICK MOLD IS / EXTERIOR HISTORIC CASING IS TO REMAIN. IF A PORTION OF THE BRICK MOLD IS MISSING, PROVIDE NEW BRICK MOLD MATCHING EXISTING PROFILE.
4. WEATHERSTOPPING - PROVIDE CAULKING/SEALANTS TO MATCH THE WINDOW FRAME AND SASH COLOR AT EXTERIOR
5. PRESERVE EXISTING ARCHED WINDOW HEADS WHERE OCCURRING
6. WHERE OCCURING ON SELECT WINDOWS WHERE INDICATED, MATCH EXISTING MUNTIN PROFILES AND PATTERN

STATE OF MICHIGAN
JOHN BIGGAR
ARCHITECT
No. 0301041902
LICENSED ARCHITECT

3	03/13/25	HDC Revisions
2	09/29/25	Historic Commission
1	09/10/25	Permit Revisions
	05/29/25	Window Updates

Date: Issued For:

Watson Residence
Historic Home

264 East Watson
Detroit, Michigan 48201

studiozONE : DETROIT
architectural urban interior DESIGN
350 Madison Avenue
4th Floor
Detroit, Michigan 48226
studiozonedetroit.com
313 549 2790 [p]
jpb@ware-house.com

Project Number: 2024 - 02

Sheet Title:
WINDOW SCHEDULE

Sheet Number:
A9.00

Ultimate Wood Double Hung

Unit Features

Ultimate Double Hung: UWDH

Ultimate Double Hung Transom: UWDH TR

Ultimate Double Hung Picture: UWDH P

Operating Hardware:

- Sash lock and keeper: Open style crescent cam lock with sash release lever, surface mounted. Color: Satin Taupe.
  - Optional Colors: White, Brass, Satin chrome, Antique Brass, Bronze, Oil Rubbed Bronze, Satin Nickel, Matte Black.
- Balance System: Block and tackle balance system.
- Optional Sash lift: same colors as offered in locks.
- Optional window opening control device field applied.

Glass and Glazing:

- Glazing seal: Silicone glazed
- Standard glass is Insulating Low E2 Argon or air
- Dual-pane insulating glass thickness: 11/16"
- Triple-pane insulating glass thickness: 7/8"
- Insulating Glass Coatings:
  - Low E1
  - Low E2
  - Low E3
  - Low ERS
  - Low ELR
- Gas Fill: Air or Argon
- Available glass types:
  - Laminated
  - Tempered
  - Obscure
  - Clear
- Tints
  - Bronze
  - Gray
  - Green
  - Reflective Bronze
- Decorative glass options:
  - Frost
  - Reed
  - Narrow Reed
  - Rain
  - Sandblasted
  - Glue Chip
- Glazing will be altitude adjusted for higher elevations with capillary tubes. Argon gas not included
- IZ3 has annealed exterior pane is default with the option to temper
- Egress may be affected when selecting specialty glass, please contact your Marvin representative
- For additional specialty glazing options, please contact your Marvin representatives.

Egress and Vent Openings: Standard Sill

CN	Opening Width		Opening Height Std. Sill Liner		Egress Opening	
	ft - in	mm	ft - in	mm	ft^2	m^2
1612	1-5 55/64	(454)	0-10 9/64	(257)	1.26	(0.12)
1614	1-5 55/64	(454)	1-0 9/64	(308)	1.51	(0.14)
1616	1-5 55/64	(454)	1-2 9/64	(359)	1.75	(0.16)
1618	1-5 55/64	(454)	1-4 9/64	(410)	2.00	(0.19)
1620	1-5 55/64	(454)	1-6 9/64	(461)	2.25	(0.21)
1622	1-5 55/64	(454)	1-8 9/64	(511)	2.50	(0.23)
1624	1-5 55/64	(454)	1-10 9/64	(562)	2.75	(0.26)
1626	1-5 55/64	(454)	2-0 9/64	(613)	2.99	(0.28)
1628	1-5 55/64	(454)	2-2 9/64	(664)	3.24	(0.30)
1630	1-5 55/64	(454)	2-4 9/64	(715)	3.49	(0.32)
1632	1-5 55/64	(454)	2-6 9/64	(765)	3.74	(0.35)
1634	1-5 55/64	(454)	2-8 9/64	(816)	3.99	(0.37)
1636	1-5 55/64	(454)	2-10 9/64	(867)	4.24	(0.39)
1640	1-5 55/64	(454)	3-2 9/64	(969)	4.73	(0.44)
1642	1-5 55/64	(454)	3-4 9/64	(1019)	4.98	(0.46)
2012	1-9 55/64	(555)	0-10 9/64	(257)	1.54	(0.14)
2014	1-9 55/64	(555)	1-0 9/64	(308)	1.84	(0.17)
2016	1-9 55/64	(555)	1-2 9/64	(359)	2.15	(0.20)
2018	1-9 55/64	(555)	1-4 9/64	(410)	2.45	(0.23)
2020	1-9 55/64	(555)	1-6 9/64	(461)	2.75	(0.26)
2022	1-9 55/64	(555)	1-8 9/64	(511)	3.06	(0.28)
2024	1-9 55/64	(555)	1-10 9/64	(562)	3.36	(0.31)
2026	1-9 55/64	(555)	2-0 9/64	(613)	3.67	(0.34)
2028	1-9 55/64	(555)	2-2 9/64	(664)	3.97	(0.37)
2030	1-9 55/64	(555)	2-4 9/64	(715)	4.27	(0.40)
2032	1-9 55/64	(555)	2-6 9/64	(765)	4.58	(0.43)
2034	1-9 55/64	(555)	2-8 9/64	(816)	4.88	(0.45)
2036	1-9 55/64	(555)	2-10 9/64	(867)	5.18	(0.48)
2040 E	1-9 55/64	(555)	3-2 9/64	(969)	5.79	(0.54)
2042 E	1-9 55/64	(555)	3-4 9/64	(1019)	6.09	(0.57)
2412	2-1 55/64	(657)	0-10 9/64	(257)	1.82	(0.17)
2414	2-1 55/64	(657)	1-0 9/64	(308)	2.18	(0.20)
2416	2-1 55/64	(657)	1-2 9/64	(359)	2.54	(0.24)
2418	2-1 55/64	(657)	1-4 9/64	(410)	2.90	(0.27)
2420	2-1 55/64	(657)	1-6 9/64	(461)	3.26	(0.30)
2422	2-1 55/64	(657)	1-8 9/64	(511)	3.62	(0.34)
2424	2-1 55/64	(657)	1-10 9/64	(562)	3.98	(0.37)
2426	2-1 55/64	(657)	2-0 9/64	(613)	4.34	(0.40)
2428	2-1 55/64	(657)	2-2 9/64	(664)	4.69	(0.44)
2430	2-1 55/64	(657)	2-4 9/64	(715)	5.05	(0.47)
2432	2-1 55/64	(657)	2-6 9/64	(765)	5.41	(0.50)
2434 E	2-1 55/64	(657)	2-8 9/64	(816)	5.77	(0.54)
2436 E	2-1 55/64	(657)	2-10 9/64	(867)	6.13	(0.57)
2440 E	2-1 55/64	(657)	3-2 9/64	(969)	6.85	(0.64)
2442 E	2-1 55/64	(657)	3-4 9/64	(1019)	7.21	(0.67)

CN	Opening Width		Opening Height Std. Sill Liner		Egress Opening	
	ft - in	mm	ft - in	mm	ft^2	m^2
2612	2-3 55/64	(708)	0-10 9/64	(257)	1.96	(0.18)
2614	2-3 55/64	(708)	1-0 9/64	(308)	2.35	(0.22)
2616	2-3 55/64	(708)	1-2 9/64	(359)	2.74	(0.25)
2618	2-3 55/64	(708)	1-4 9/64	(410)	3.12	(0.29)
2620	2-3 55/64	(708)	1-6 9/64	(461)	3.51	(0.33)
2622	2-3 55/64	(708)	1-8 9/64	(511)	3.90	(0.36)
2624	2-3 55/64	(708)	1-10 9/64	(562)	4.28	(0.40)
2626	2-3 55/64	(708)	2-0 9/64	(613)	4.67	(0.43)
2628	2-3 55/64	(708)	2-2 9/64	(664)	5.06	(0.47)
2630	2-3 55/64	(708)	2-4 9/64	(715)	5.44	(0.51)
2632 E	2-3 55/64	(708)	2-6 9/64	(765)	5.83	(0.54)
2634 E	2-3 55/64	(708)	2-8 9/64	(816)	6.22	(0.58)
2636 E	2-3 55/64	(708)	2-10 9/64	(867)	6.61	(0.61)
2640 E	2-3 55/64	(708)	3-2 9/64	(969)	7.38	(0.69)
2642 E	2-3 55/64	(708)	3-4 9/64	(1019)	7.77	(0.72)
2812	2-5 55/64	(759)	0-10 9/64	(257)	2.10	(0.20)
2814	2-5 55/64	(759)	1-0 9/64	(308)	2.52	(0.23)
2816	2-5 55/64	(759)	1-2 9/64	(359)	2.93	(0.27)
2818	2-5 55/64	(759)	1-4 9/64	(410)	3.35	(0.31)
2820	2-5 55/64	(759)	1-6 9/64	(461)	3.76	(0.35)
2822	2-5 55/64	(759)	1-8 9/64	(511)	4.18	(0.39)
2824	2-5 55/64	(759)	1-10 9/64	(562)	4.59	(0.43)
2826	2-5 55/64	(759)	2-0 9/64	(613)	5.01	(0.47)
2828	2-5 55/64	(759)	2-2 9/64	(664)	5.42	(0.50)
2830 E	2-5 55/64	(759)	2-4 9/64	(715)	5.84	(0.54)
2832 E	2-5 55/64	(759)	2-6 9/64	(765)	6.25	(0.58)
2834 E	2-5 55/64	(759)	2-8 9/64	(816)	6.67	(0.62)
2836 E	2-5 55/64	(759)	2-10 9/64	(867)	7.08	(0.66)
2840 E	2-5 55/64	(759)	3-2 9/64	(969)	7.91	(0.73)
2842 E	2-5 55/64	(759)	3-4 9/64	(1019)	8.32	(0.77)
3012	2-7 55/64	(809)	0-10 9/64	(257)	2.24	(0.21)
3014	2-7 55/64	(809)	1-0 9/64	(308)	2.69	(0.25)
3016	2-7 55/64	(809)	1-2 9/64	(359)	3.13	(0.29)
3018	2-7 55/64	(809)	1-4 9/64	(410)	3.57	(0.33)
3020	2-7 55/64	(809)	1-6 9/64	(461)	4.01	(0.37)
3022	2-7 55/64	(809)	1-8 9/64	(511)	4.46	(0.41)
3024	2-7 55/64	(809)	1-10 9/64	(562)	4.90	(0.46)
3026	2-7 55/64	(809)	2-0 9/64	(613)	5.34	(0.50)
3028 E	2-7 55/64	(809)	2-2 9/64	(664)	5.78	(0.54)
3030 E	2-7 55/64	(809)	2-4 9/64	(715)	6.23	(0.58)
3032 E	2-7 55/64	(809)	2-6 9/64	(765)	6.67	(0.62)
3034 E	2-7 55/64	(809)	2-8 9/64	(816)	7.11	(0.66)
3036 E	2-7 55/64	(809)	2-10 9/64	(867)	7.55	(0.70)
3040 E	2-7 55/64	(809)	3-2 9/64	(969)	8.44	(0.78)
3042 E	2-7 55/64	(809)	3-4 9/64	(1019)	8.88	(0.83)

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

Egress and Vent Openings: Standard Sill Liner

CN	Opening Width		Opening Height Std. Sill Liner		Egress Opening	
	ft - in	mm	ft - in	mm	ft^2	m^2
3212	2-9 55/64	(860)	0-10 9/64	(257)	2.38	(0.22)
3214	2-9 55/64	(860)	1-0 9/64	(308)	2.85	(0.27)
3216	2-9 55/64	(860)	1-2 9/64	(359)	3.32	(0.31)
3218	2-9 55/64	(860)	1-4 9/64	(410)	3.79	(0.35)
3220	2-9 55/64	(860)	1-6 9/64	(461)	4.27	(0.40)
3222	2-9 55/64	(860)	1-8 9/64	(511)	4.74	(0.44)
3224	2-9 55/64	(860)	1-10 9/64	(562)	5.21	(0.48)
3226	2-9 55/64	(860)	2-0 9/64	(613)	5.68	(0.53)
3228 E	2-9 55/64	(860)	2-2 9/64	(664)	6.15	(0.57)
3230 E	2-9 55/64	(860)	2-4 9/64	(715)	6.62	(0.61)
3232 E	2-9 55/64	(860)	2-6 9/64	(765)	7.09	(0.66)
3234 E	2-9 55/64	(860)	2-8 9/64	(816)	7.56	(0.70)
3236 E	2-9 55/64	(860)	2-10 9/64	(867)	8.03	(0.75)
3240 E	2-9 55/64	(860)	3-2 9/64	(969)	8.97	(0.83)
3242 E	2-9 55/64	(860)	3-4 9/64	(1019)	9.44	(0.88)
3612	3-1 55/64	(962)	0-10 9/64	(257)	2.67	(0.25)
3614	3-1 55/64	(962)	1-0 9/64	(308)	3.19	(0.30)
3616	3-1 55/64	(962)	1-2 9/64	(359)	3.72	(0.35)
3618	3-1 55/64	(962)	1-4 9/64	(410)	4.24	(0.39)
3620	3-1 55/64	(962)	1-6 9/64	(461)	4.77	(0.44)
3622	3-1 55/64	(962)	1-8 9/64	(511)	5.30	(0.49)
3624	3-1 55/64	(962)	1-10 9/64	(562)	5.82	(0.54)
3626 E	3-1 55/64	(962)	2-0 9/64	(613)	6.35	(0.59)
3628 E	3-1 55/64	(962)	2-2 9/64	(664)	6.87	(0.64)
3630 E	3-1 55/64	(962)	2-4 9/64	(715)	7.40	(0.69)
3632 E	3-1 55/64	(962)	2-6 9/64	(765)	7.92	(0.74)
3634 E	3-1 55/64	(962)	2-8 9/64	(816)	8.45	(0.79)
3636 E	3-1 55/64	(962)	2-10 9/64	(867)	8.98	(0.83)
3640 E	3-1 55/64	(962)	3-2 9/64	(969)	10.03	(0.93)
3642 E	3-1 55/64	(962)	3-4 9/64	(1019)	10.55	(0.98)
4012	3-5 55/64	(1063)	0-10 9/64	(257)	2.95	(0.27)
4014	3-5 55/64	(1063)	1-0 9/64	(308)	3.53	(0.33)
4016	3-5 55/64	(1063)	1-2 9/64	(359)	4.11	(0.38)
4018	3-5 55/64	(1063)	1-4 9/64	(410)	4.69	(0.44)
4020	3-5 55/64	(1063)	1-6 9/64	(461)	5.27	(0.49)
4022	3-5 55/64	(1063)	1-8 9/64	(511)	5.85	(0.54)
4024	3-5 55/64	(1063)	1-10 9/64	(562)	6.44	(0.60)
4026 E	3-5 55/64	(1063)	2-0 9/64	(613)	7.02	(0.65)
4028 E	3-5 55/64	(1063)	2-2 9/64	(664)	7.60	(0.71)
4030 E	3-5 55/64	(1063)	2-4 9/64	(715)	8.18	(0.76)
4032 E	3-5 55/64	(1063)	2-6 9/64	(765)	8.76	(0.81)
4034 E	3-5 55/64	(1063)	2-8 9/64	(816)	9.34	(0.87)
4036 E	3-5 55/64	(1063)	2-10 9/64	(867)	9.92	(0.92)

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

Egress and Vent Openings: High Performance Sill Liner

CN	Opening Width		Opening Height HP Sill Liner		Egress Opening	
	ft - in	mm	ft - in	mm	ft^2	m^2
1612	1-5 55/64	(454)	0-9 17/64	(235)	1.15	(0.11)
1614	1-5 55/64	(454)	0-11 17/64	(286)	1.40	(0.13)
1616	1-5 55/64	(454)	1-1 17/64	(337)	1.65	(0.15)
1618	1-5 55/64	(454)	1-3 17/64	(388)	1.89	(0.18)
1620	1-5 55/64	(454)	1-5 17/64	(438)	2.14	(0.20)
1622	1-5 55/64	(454)	1-7 17/64	(489)	2.39	(0.22)
1624	1-5 55/64	(454)	1-9 17/64	(540)	2.64	(0.25)
1626	1-5 55/64	(454)	1-11 17/64	(591)	2.89	(0.27)
1628	1-5 55/64	(454)	2-1 17/64	(642)	3.13	(0.29)
1630	1-5 55/64	(454)	2-3 17/64	(692)	3.38	(0.31)
1632	1-5 55/64	(454)	2-5 17/64	(743)	3.63	(0.34)
1634	1-5 55/64	(454)	2-7 17/64	(794)	3.88	(0.36)
1636	1-5 55/64	(454)	2-9 17/64	(845)	4.13	(0.38)
1640	1-5 55/64	(454)	3-1 17/64	(946)	4.62	(0.43)
1642	1-5 55/64	(454)	3-3 17/64	(997)	4.87	(0.45)
2012	1-9 55/64	(555)	0-9 17/64	(235)	1.41	(0.13)
2014	1-9 55/64	(555)	0-11 17/64	(286)	1.71	(0.16)
2016	1-9 55/64	(555)	1-1 17/64	(337)	2.01	(0.19)
2018	1-9 55/64	(555)	1-3 17/64	(388)	2.32	(0.22)
2020	1-9 55/64	(555)	1-5 17/64	(438)	2.62	(0.24)
2022	1-9 55/64	(555)	1-7 17/64	(489)	2.92	(0.27)
2024	1-9 55/64	(555)	1-9 17/64	(540)	3.23	(0.30)
2026	1-9 55/64	(555)	1-11 17/64	(591)	3.53	(0.33)
2028	1-9 55/64	(555)	2-1 17/64	(642)	3.84	(0.36)
2030	1-9 55/64	(555)	2-3 17/64	(692)	4.14	(0.38)
2032	1-9 55/64	(555)	2-5 17/64	(743)	4.44	(0.41)
2034	1-9 55/64	(555)	2-7 17/64	(794)	4.75	(0.44)
2036	1-9 55/64	(555)	2-9 17/64	(845)	5.05	(0.47)
2040	1-9 55/64	(555)	3-1 17/64	(946)	5.66	(0.53)
2042 E	1-9 55/64	(555)	3-3 17/64	(997)	5.96	(0.55)
2412	2-1 55/64	(657)	0-9 17/64	(235)	1.66	(0.15)
2414	2-1 55/64	(657)	0-11 17/64	(286)	2.02	(0.19)
2416	2-1 55/64	(657)	1-1 17/64	(337)	2.38	(0.22)
2418	2-1 55/64	(657)	1-3 17/64	(388)	2.74	(0.25)
2420	2-1 55/64	(657)	1-5 17/64	(438)	3.10	(0.29)
2422	2-1 55/64	(657)	1-7 17/64	(489)	3.46	(0.32)
2424	2-1 55/64	(657)	1-9 17/64	(540)	3.82	(0.35)
2426	2-1 55/64	(657)	1-11 17/64	(591)	4.18	(0.39)
2428	2-1 55/64	(657)	2-1 17/64	(642)	4.54	(0.42)
2430	2-1 55/64	(657)	2-3 17/64	(692)	4.90	(0.45)
2432	2-1 55/64	(657)	2-5 17/64	(743)	5.26	(0.49)
2434	2-1 55/64	(657)	2-7 17/64	(794)	5.62	(0.52)
2436 E	2-1 55/64	(657)	2-9 17/64	(845)	5.97	(0.56)
2440 E	2-1 55/64	(657)	3-1 17/64	(946)	6.69	(0.62)
2442 E	2-1 55/64	(657)	3-3 17/64	(997)	7.05	(0.66)

CN	Opening Width		Opening Height HP Sill Liner		Egress Opening	
	ft - in	mm	ft - in	mm	ft^2	m^2
2612	2-3 55/64	(708)	0-9 17/64	(235)	1.79	(0.17)
2614	2-3 55/64	(708)	0-11 17/64	(286)	2.18	(0.20)
2616	2-3 55/64	(708)	1-1 17/64	(337)	2.57	(0.24)
2618	2-3 55/64	(708)	1-3 17/64	(388)	2.95	(0.27)
2620	2-3 55/64	(708)	1-5 17/64	(438)	3.34	(0.31)
2622	2-3 55/64	(708)	1-7 17/64	(489)	3.73	(0.35)
2624	2-3 55/64	(708)	1-9 17/64	(540)	4.11	(0.38)
2626	2-3 55/64	(708)	1-11 17/64	(591)	4.50	(0.42)
2628	2-3 55/64	(708)	2-1 17/64	(642)	4.89	(0.45)
2630	2-3 55/64	(708)	2-3 17/64	(692)	5.28	(0.49)
2632	2-3 55/64	(708)	2-5 17/64	(743)	5.66	(0.53)
2634 E	2-3 55/64	(708)	2-7 17/64	(794)	6.05	(0.56)
2636 E	2-3 55/64	(708)	2-9 17/64	(845)	6.44	(0.60)
2640 E	2-3 55/64	(708)	3-1 17/64	(946)	7.21	(0.67)
2642 E	2-3 55/64	(708)	3-3 17/64	(997)	7.60	(0.71)
2812	2-5 55/64	(759)	0-9 17/64	(235)	1.92	(0.18)
2814	2-5 55/64	(759)	0-11 17/64	(286)	2.34	(0.22)
2816	2-5 55/64	(759)	1-1 17/64	(337)	2.75	(0.26)
2818	2-5 55/64	(759)	1-3 17/64	(388)	3.17	(0.29)
2820	2-5 55/64	(759)	1-5 17/64	(438)	3.58	(0.33)
2822	2-5 55/64	(759)	1-7 17/64	(489)	3.99	(0.37)
2824	2-5 55/64	(759)	1-9 17/64	(540)	4.41	(0.41)
2826	2-5 55/64	(759)	1-11 17/64	(591)	4.82	(0.45)
2828	2-5 55/64	(759)	2-1 17/64	(642)	5.24	(0.49)
2830	2-5 55/64	(759)	2-3 17/64	(692)	5.65	(0.53)
2832 E	2-5 55/64	(759)	2-5 17/64	(743)	6.07	(0.56)
2834 E	2-5 55/64	(759)	2-7 17/64	(794)	6.48	(0.60)
2836 E	2-5 55/64	(759)	2-9 17/64	(845)	6.90	(0.64)
2840 E	2-5 55/64	(759)	3-1 17/64	(946)	7.73	(0.72)
2842 E	2-5 55/64	(759)	3-3 17/64	(997)	8.14	(0.76)
3012	2-7 55/64	(809)	0-9 17/64	(235)	2.05	(0.19)
3014	2-7 55/64	(809)	0-11 17/64	(286)	2.49	(0.23)
3016	2-7 55/64	(809)	1-1 17/64	(337)	2.93	(0.27)
3018	2-7 55/64	(809)	1-3 17/64	(388)	3.38	(0.31)
3020	2-7 55/64	(809)	1-5 17/64	(438)	3.82	(0.35)
3022	2-7 55/64	(809)	1-7 17/64	(489)	4.26	(0.40)
3024	2-7 55/64	(809)	1-9 17/64	(540)	4.70	(0.44)
3026	2-7 55/64	(809)	1-11 17/64	(591)	5.15	(0.48)
3028	2-7 55/64	(809)	2-1 17/64	(642)	5.59	(0.52)
3030 E	2-7 55/64	(809)	2-3 17/64	(692)	6.03	(0.56)
3032 E	2-7 55/64	(809)	2-5 17/64	(743)	6.48	(0.60)
3034 E	2-7 55/64	(809)	2-7 17/64	(794)	6.92	(0.64)
3036 E	2-7 55/64	(809)	2-9 17/64	(845)	7.36	(0.68)
3040 E	2-7 55/64	(809)	3-1 17/64	(946)	8.25	(0.77)
3042 E	2-7 55/64	(809)	3-3 17/64	(997)	8.69	(0.81)

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

Egress and Vent Openings: High Performance Sill Liner

CN	Opening Width		Opening Height HP Sill Liner		Egress Opening	
	ft - in	mm	ft - in	mm	ft^2	m^2
3212	2-9 55/64	(860)	0-9 17/64	(235)	2.18	(0.20)
3214	2-9 55/64	(860)	0-11 17/64	(286)	2.65	(0.25)
3216	2-9 55/64	(860)	1-1 17/64	(337)	3.12	(0.29)
3218	2-9 55/64	(860)	1-3 17/64	(388)	3.59	(0.33)
3220	2-9 55/64	(860)	1-5 17/64	(438)	4.06	(0.38)
3222	2-9 55/64	(860)	1-7 17/64	(489)	4.53	(0.42)
3224	2-9 55/64	(860)	1-9 17/64	(540)	5.00	(0.46)
3226	2-9 55/64	(860)	1-11 17/64	(591)	5.47	(0.51)
3228 E	2-9 55/64	(860)	2-1 17/64	(642)	5.94	(0.55)
3230 E	2-9 55/64	(860)	2-3 17/64	(692)	6.41	(0.60)
3232 E	2-9 55/64	(860)	2-5 17/64	(743)	6.88	(0.64)
3234 E	2-9 55/64	(860)	2-7 17/64	(794)	7.35	(0.68)
3236 E	2-9 55/64	(860)	2-9 17/64	(845)	7.82	(0.73)
3240 E	2-9 55/64	(860)	3-1 17/64	(946)	8.76	(0.81)
3242 E	2-9 55/64	(860)	3-3 17/64	(997)	9.23	(0.86)
3612	3-1 55/64	(962)	0-9 17/64	(235)	2.44	(0.23)
3614	3-1 55/64	(962)	0-11 17/64	(286)	2.96	(0.28)
3616	3-1 55/64	(962)	1-1 17/64	(337)	3.49	(0.32)
3618	3-1 55/64	(962)	1-3 17/64	(388)	4.01	(0.37)
3620	3-1 55/64	(962)	1-5 17/64	(438)	4.54	(0.42)
3622	3-1 55/64	(962)	1-7 17/64	(489)	5.06	(0.47)
3624	3-1 55/64	(962)	1-9 17/64	(540)	5.59	(0.52)
3626	3-1 55/64	(962)	1-11 17/64	(591)	6.12	(0.57)
3628 E	3-1 55/64	(962)	2-1 17/64	(642)	6.64	(0.62)
3630 E	3-1 55/64	(962)	2-3 17/64	(692)	7.17	(0.67)
3632 E	3-1 55/64	(962)	2-5 17/64	(743)	7.69	(0.71)
3634 E	3-1 55/64	(962)	2-7 17/64	(794)	8.22	(0.76)
3636 E	3-1 55/64	(962)	2-9 17/64	(845)	8.75	(0.81)
3640 E	3-1 55/64	(962)	3-1 17/64	(946)	9.80	(0.91)
3642 E	3-1 55/64	(962)	3-3 17/64	(997)	10.32	(0.96)
4012	3-5 55/64	(1063)	0-9 17/64	(235)	2.69	(0.25)
4014	3-5 55/64	(1063)	0-11 17/64	(286)	3.27	(0.30)
4016	3-5 55/64	(1063)	1-1 17/64	(337)	3.86	(0.36)
4018	3-5 55/64	(1063)	1-3 17/64	(388)	4.44	(0.41)
4020	3-5 55/64	(1063)	1-5 17/64	(438)	5.02	(0.47)
4022	3-5 55/64	(1063)	1-7 17/64	(489)	5.60	(0.52)
4024	3-5 55/64	(1063)	1-9 17/64	(540)	6.18	(0.57)
4026	3-5 55/64	(1063)	1-11 17/64	(591)	6.76	(0.63)
4028 E	3-5 55/64	(1063)	2-1 17/64	(642)	7.34	(0.68)
4030 E	3-5 55/64	(1063)	2-3 17/64	(692)	7.93	(0.74)
4032 E	3-5 55/64	(1063)	2-5 17/64	(743)	8.51	(0.79)
4034 E	3-5 55/64	(1063)	2-7 17/64	(794)	9.09	(0.84)
4036 E	3-5 55/64	(1063)	2-9 17/64	(845)	9.67	(0.90)

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

Daylight Measurements: Double Hung

Ultimate Wood Double Hung Daylight Measurements			Width									
		CN	16		20		24		26		28	
		DLO	1-2 15/16	(379)	1-6 15/16	(481)	1-10 15/16	(583)	2-0 15/16	(633)	2-2 15/16	(684)
CN	DLO Height		Square Feet (Square Meters)									
12	0-10 15/16	(278)	1.13	(0.11)	1.44	(0.13)	1.74	(0.16)	1.89	(0.18)	2.05	(0.19)
14	1-0 15/16	(329)	1.34	(0.12)	1.70	(0.16)	2.06	(0.19)	2.24	(0.21)	2.42	(0.22)
16	1-2 15/16	(379)	1.55	(0.14)	1.96	(0.18)	2.38	(0.22)	2.59	(0.24)	2.79	(0.26)
18	1-4 15/16	(430)	1.76	(0.16)	2.23	(0.21)	2.70	(0.25)	2.93	(0.27)	3.17	(0.29)
20	1-6 15/16	(481)	1.96	(0.18)	2.49	(0.23)	3.02	(0.28)	3.28	(0.30)	3.54	(0.33)
22	1-8 15/16	(532)	2.17	(0.20)	2.75	(0.26)	3.33	(0.31)	3.63	(0.34)	3.92	(0.36)
24	1-10 15/16	(583)	2.38	(0.22)	3.02	(0.28)	3.65	(0.34)	3.97	(0.37)	4.29	(0.40)
26	2-0 15/16	(633)	2.59	(0.24)	3.28	(0.30)	3.97	(0.37)	4.32	(0.40)	4.66	(0.43)
28	2-2 15/16	(684)	2.79	(0.26)	3.54	(0.33)	4.29	(0.40)	4.66	(0.43)	5.04	(0.47)
30	2-4 15/16	(735)	3.00	(0.28)	3.81	(0.35)	4.61	(0.43)	5.01	(0.47)	5.41	(0.50)
32	2-6 15/16	(786)	3.21	(0.30)	4.07	(0.38)	4.93	(0.46)	5.36	(0.50)	5.79	(0.54)
34	2-8 15/16	(837)	3.42	(0.32)	4.33	(0.40)	5.25	(0.49)	5.70	(0.53)	6.16	(0.57)
36	2-10 15/16	(887)	3.62	(0.34)	4.59	(0.43)	5.57	(0.52)	6.05	(0.56)	6.54	(0.61)
40	3-2 15/16	(989)	4.04	(0.38)	5.12	(0.48)	6.20	(0.58)	6.74	(0.63)	7.28	(0.68)
42	3-4 15/16	(1040)	4.25	(0.39)	5.38	(0.50)	6.52	(0.61)	7.09	(0.66)	7.66	(0.71)

Ultimate Wood Double Hung Daylight Measurements			Width							
		CN	30		32		36		40	
		DLO	2-4 15/16	(735)	2-6 15/16	(786)	2-10 15/16	(887)	3-2 15/16	(989)
CN	DLO Height		Square Feet (Square Meters)							
12	0-10 15/16	(278)	2.20	(0.20)	2.35	(0.22)	2.65	(0.25)	2.96	(0.27)
14	1-0 15/16	(329)	2.60	(0.24)	2.78	(0.26)	3.14	(0.29)	3.50	(0.32)
16	1-2 15/16	(379)	3.00	(0.28)	3.21	(0.30)	3.62	(0.34)	4.04	(0.38)
18	1-4 15/16	(430)	3.40	(0.32)	3.64	(0.34)	4.11	(0.38)	4.58	(0.43)
20	1-6 15/16	(481)	3.81	(0.35)	4.07	(0.38)	4.59	(0.43)	5.12	(0.48)
22	1-8 15/16	(532)	4.21	(0.39)	4.50	(0.42)	5.08	(0.47)	5.66	(0.53)
24	1-10 15/16	(583)	4.61	(0.43)	4.93	(0.46)	5.56	(0.52)	6.20	(0.58)
26	2-0 15/16	(633)	5.01	(0.47)	5.36	(0.50)	6.05	(0.56)	6.74	(0.63)
28	2-2 15/16	(684)	5.41	(0.50)	5.79	(0.54)	6.54	(0.61)	7.28	(0.68)
30	2-4 15/16	(735)	5.81	(0.54)	6.22	(0.58)	7.02	(0.65)	7.82	(0.73)
32	2-6 15/16	(786)	6.22	(0.58)	6.65	(0.62)	7.51	(0.70)	8.37	(0.78)
34	2-8 15/16	(837)	6.62	(0.61)	7.08	(0.66)	7.99	(0.74)	8.91	(0.83)
36	2-10 15/16	(887)	7.02	(0.65)	7.51	(0.70)	8.48	(0.79)	9.45	(0.88)
40	3-2 15/16	(989)	7.82	(0.73)	8.37	(0.78)	9.45	(0.88)	N/A	
42	3-4 15/16	(1040)	8.23	(0.76)	8.79	(0.82)	9.93	(0.92)	N/A	

NOTE: Daylight Opening square footage values are "per sash."

Daylight Measurements: Transom and Pictures

Ultimate Wood Double Hung Transom Daylight Measurements			Width					
		CN	16		20		24	
		DLO	1-2 15/16	(379)	1-6 15/16	(481)	1-10 15/16	(583)
CN	DLO Height		Square Feet (Square Meters)					
12	0-10 15/16	(278)	1.13	(0.11)	1.44	(0.13)	1.74	(0.16)
20	1-6 15/16	(481)	1.96	(0.18)	2.49	(0.23)	3.02	(0.28)

Ultimate Wood Double Double Hung Transom Daylight Measurements			Width					
		CN	26		28		30	
		DLO	2-0 15/16	(633)	2-2 15/16	(684)	2-4 15/16	(735)
CN	DLO Height		Square Feet (Square Meters)					
12	0-10 15/16	(278)	1.89	(0.18)	2.05	(0.19)	2.20	(0.20)
20	1-6 15/16	(481)	3.28	(0.30)	3.54	(0.33)	3.81	(0.35)

Ultimate Wood Double Double Hung Transom Daylight Measurements			Width					
		CN	32		36		40	
		DLO	2-6 15/16	(786)	2-10 15/16	(887)	3-2 15/16	(989)
CN	DLO Height		Square Feet (Square Meters)					
12	0-10 15/16	(278)	2.35	(0.22)	2.65	(0.25)	2.96	(0.27)
20	1-6 15/16	(481)	4.07	(0.38)	4.59	(0.43)	5.12	(0.48)

Ultimate Wood Double Hung Picture Daylight Measurements			Width									
		CN	40		48		52		60		68	
		DLO	2-10 15/16	(887)	3-6 15/16	(1091)	3-10 15/16	(1192)	4-6 15/16	(1395)	5-2 15/16	(1599)
CN	DLO Height		Square Feet (Square Meters)									
38	2-8 1/4	(819)	7.82	(0.73)	9.62	(0.89)	10.51	(0.98)	12.30	(1.14)	14.10	(1.31)
42	3-0 1/4	(921)	8.80	(0.82)	10.81	(1.00)	11.82	(1.10)	13.83	(1.28)	15.84	(1.47)
46	3-4 1/4	(1022)	9.77	(0.91)	12.00	(1.12)	13.12	(1.22)	15.36	(1.43)	17.59	(1.63)
50	3-8 1/4	(1124)	10.74	(1.00)	13.19	(1.23)	14.42	(1.34)	16.88	(1.57)	19.34	(1.80)
54	4-0 1/4	(1226)	11.71	(1.09)	14.39	(1.34)	15.73	(1.46)	18.41	(1.71)	21.09	(1.96)
58	4-4 1/4	(1327)	12.68	(1.18)	15.58	(1.45)	17.03	(1.58)	19.93	(1.85)	22.84	(2.12)
62	4-8 1/4	(1429)	13.65	(1.27)	16.77	(1.56)	18.34	(1.70)	21.46	(1.99)	24.59	(2.28)
66	5-0 1/4	(1530)	14.62	(1.36)	17.97	(1.67)	19.64	(1.82)	22.99	(2.14)	26.33	(2.45)
70	5-4 1/4	(1632)	15.59	(1.45)	19.16	(1.78)	20.94	(1.95)	24.51	(2.28)	28.08	(2.61)
74	5-8 1/4	(1734)	16.56	(1.54)	20.35	(1.89)	22.25	(2.07)	26.04	(2.42)	29.83	(2.77)
78	6-0 1/4	(1835)	17.53	(1.63)	21.54	(2.00)	23.55	(2.19)	27.56	(2.56)	31.58	(2.93)
86	6-8 1/4	(2038)	19.47	(1.81)	23.93	(2.22)	26.16	(2.43)	30.62	(2.84)	35.07	(3.26)
90	7-0 1/4	(2140)	20.44	(1.90)	25.12	(2.33)	27.46	(2.55)	32.14	(2.99)	36.82	(3.42)

Minimum and Maximum Guidelines: Double Hung Units

Minimum and Maximum Guidelines											
Unit Type		Min Frame Size				Max Frame Size				Max Glass Size	
		Width		Height		Width		Height			
		in	mm	in	mm	in	mm	in	mm	Sq. Feet	Sq. Meters
UWDH	11/16" (18) IG	13 3/8	(340)	25	(635)	45 3/8	(1153)	97	(2464)	11	1.022
UWDH	7/8" (22) Tripane	13 3/8	(340)	25	(635)	45 3/8	(1153)	97	(2464)	7	0.650
UWDHTR	11/16" (18) IG	13 3/8	(340)	13 3/8	(340)	104	(2642)	59 1/2	(1511)	25	2.323
UWDHP	1" (25) IG	13 3/8	(340)	15 9/16	(395)	120	(3048)	120	(3048)	49	4.552

Certified Sizes and Ratings: Double Hung Units

Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure (DP)	Overall Width		Overall Height	
						in	mm	in	mm
UWDH 3036	1.57	6	60	LC-PG40-H	40	35 3/8	(899)	81	(2057)
UWDH 3644	1.57	6	60	LC-PG40-H	40	41 3/8	(1051)	97	(2464)
UWDH HP3644	1.57	8.25	60	LC-PG40-H	40	41 3/8	(1051)	97	(2464)
UWDH 4026	1.57	6	60	LC-PG40-H	40	45 3/8	(1153)	61	(1549)
UWDH 4036	1.57	6	45	LC-PG40-H	40	45 3/8	(1153)	81	(2057)
UWDHHP 4036	1.57	8.25	60	LC-PG40-H	40	45 3/8	(1153)	81	(2057)
UWDHHP 2830	1.57	7.5	75	LC-PG50-H	50	33 3/8	(848)	69	(1753)

.

IZ3 - Minimum and Maximum Guidelines, Certified Sizes and Ratings

Product	Air Tested to psf	Water Tested to psf	Structural Tested to psf	Certification Rating	Design Pressure (DP)	Overall Width		Overall Height	
						in	mm	in	mm
UWDHIZ3 3234	1.57	8.25	82.5	LC-PG55-H	+55/-65	37 3/8	(949)	77	(1956)
UWDHIZ3 4026	1.57	8.25	82.5	LC-PG55-H	+55/-65	45 3/8	(1153)	61	(1549)
UWDHPIZ3	1.57	8.25	82.5	CW-PG55-FW	+55/-65	60	(1524)	106 15/16	(2716)

Impact Zone 3 - Minimum and Maximum Guidelines, Certified Sizes and Ratings

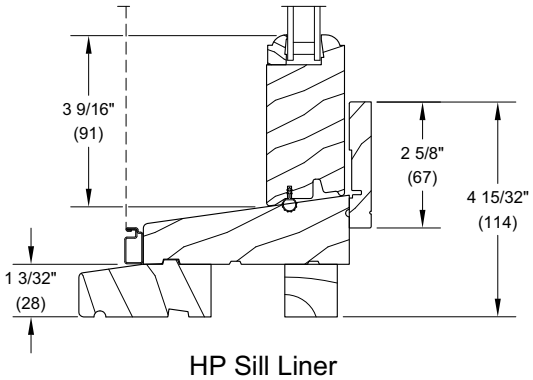
Impact Glazing Zone 3 (IZ3):

Frame:

- Sealant added at sill liner
- Sill brackets added for bottom sash retention
- Screws through the jamb liner to reinforce the frame

Sash:

- Top check rail has different profile for interlock
- Bottom check rail has profile for interlock
- Painted stainless steel stamped interlock for top sash for sash retention
- Mil finish stainless steel stamped interlock for bottom sash retention
- End plate with over molded stainless steel tilt latch blade
- Long cladding clip screws through it at check rail to reinforce stiles
- Stainless steel tilt pins for sash retention
- Different check rail cladding connector profile for interlock
- Keeper insert to keep lock from disengaging during impact



HP Sill Liner

Glazing:

- PVC tube in check rail to reinforce check rail and to protect tilt cord from sealant
- Backfilled with Dow 995 silicone sealant
- Interior glass used is laminated with a PVB inner layer
- Exterior glass is standard annealed. All CUDH operator sizes certified are OK with annealed glass. Optional tempered glass is available
- Simulated Divided Lites are available on IZ3 products
- Grilles Between the Glass are not available in IZ3 unit

Measurement Conversions

Double Hung Operating Unit						
Unit Measurements		Width		Height		
From	To					
Rough Opening		**in**	**mm**		**in**	**mm**
OM of Frame	Rough Opening	+ 1	(25)		+ 1/2	(13)
Masonry Opening w/BMC	Rough Opening	-2 1/8	(54)		-1 1/16	(27)
Top Sash		**in**	**mm**		**in**	**mm**
OM of Frame	OM of Top Sash	-2 29/32	(74)	÷ 2	-1 11/16	(43)
Bottom Sash		**in**	**mm**		**in**	**mm**
OM of Frame	OM of Bottom Sash	-2 29/32	(74)	÷ 2	+ 1/8	(03)
Glass		**in**	**mm**		**in**	**mm**
Daylight Opening	Glass	+ 1 1/16	(27)		+ 1 1/16	(27)
Screen		**in**	**mm**		**in**	**mm**
OM of Frame	OM of Screen	-1 1/2	(38)		-1 7/8	(48)
Daylight Opening	OM of Screen	+ 4 15/16	(125)	× 2	+ 9 9/32	(236)
Half Screen		**in**	**mm**		**in**	**mm**
OM of Frame	OM of Screen	-1 1/2	(38)	÷ 2	+ 1/4	(06)
Daylight Opening	OM of Screen	+ 4 15/16	(125)		+ 5 13/16	(148)
Combination		**in**	**mm**		**in**	**mm**
OM of Frame	OM of Combination	-1 1/2	(38)		-1 11/16	(43)
Daylight Opening	OM of Combination	+ 4 15/16	(125)	× 2	+ 9 7/16	(240)

NOTE: 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. Add the top and the bottom glass heights together
3. Divide the total glass height by the ration of the top sash
4. Round to the nearest standard glass height
5. Subtract from the total glass height

Example

1. UWDH with a 2/5 - 3/5 cottage style. If the rough opening is 2’-6 3/8" x 4’-8 7/8" (RO for a UWDH 2424)
2. 24" + 24" = 48"
3. 48" divide by 2/5 (0.4) = 19 13/64 (20)
4. 48" - 20" = 28"

The top sash will be a 2420 and the bottom sash will be a 2428. The call number for the example is: UWDH 2420/28.

Measurement Conversions

Double Hung Transoms with Subsill					
Unit Measurements		Width		Height	
From	To				
Rough Opening		**in**	**mm**	**in**	**mm**
OM of Frame	Rough Opening	+ 1	(25)	+ 1/2	(13)
Masonry Opening w/BMC	Rough Opening	-2 1/8	(54)	-1 1/16	(27)
Sash		**in**	**mm**	**in**	**mm**
OM of Frame	OM of Sash	-2 29/32	(74)	-2 1/8	(54)
Daylight Opening	OM of Sash	+ 3 17/32	(90)	+ 4 11/32	(110)
Glass		**in**	**mm**	**in**	**mm**
Daylight Opening	Glass	+ 1 1/16	(27)	+ 1 1/16	(27)

Double Hung Picture					
Unit Measurements		Width		Height	
From	To				
Rough Opening		**in**	**mm**	**in**	**mm**
OM of Frame	Rough Opening	+ 1	(25)	+ 1/2	(13)
Masonry Opening w/BMC	Rough Opening	-2 1/8	(54)	-1 1/16	(27)
Sash		**in**	**mm**	**in**	**mm**
OM of Frame	OM of Sash	-1 9/16	(40)	-3 3/32	(79)
Daylight Opening	OM of Sash	+ 4 7/8	(124)	+ 5 21/32	(144)
Glass		**in**	**mm**	**in**	**mm**
Daylight Opening	Glass	+ 1 1/16	(27)	+ 1 1/16	(27)

Egress Formulas for Double Hung

Clear Opening:

- Clear Opening Width = Frame OM Width - 5 1/2" (140)

Units with Standard Sill Liner

- Clear Opening Height = (Frame OM Height* / 2) - 6 3/8" (162)

Units with High Performance Sill Liner

- Clear Opening Height = (Frame OM Height* / 2) - 7 1/4" (184)

*including subsill

Vent Opening

- Vent Opening Width = Jamb to Jamb Width
- Vent Opening Height = Top of sill liner to btm of btm sash fully opened
- Vent Width * Vent Height / 144

Standard Unit Measurements: Double Hung

Standard Double Hung Unit Measurements								
Width								
CN	Masonry Opening		Rough Opening		Frame Size		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm
16	2-0 1/2	(622)	1-10 3/8	(568)	1-9 3/8	(543)	1-2 15/16	(379)
20	2-4 1/2	(724)	2-2 3/8	(670)	2-1 3/8	(645)	1-6 15/16	(481)
24	2-8 1/2	(826)	2-6 3/8	(772)	2-5 3/8	(746)	1-10 15/16	(583)
26	2-10 1/2	(876)	2-8 3/8	(822)	2-7 3/8	(797)	2-0 15/16	(633)
28	3-0 1/2	(927)	2-10 3/8	(873)	2-9 3/8	(848)	2-2 15/16	(684)
30	3-2 1/2	(978)	3-0 3/8	(924)	2-11 3/8	(899)	2-4 15/16	(735)
32	3-4 1/2	(1029)	3-2 3/8	(975)	3-1 3/8	(949)	2-6 15/16	(786)
36	3-8 1/2	(1130)	3-6 3/8	(1076)	3-5 3/8	(1051)	2-10 15/16	(887)
40	4-0 1/2	(1232)	3-10 3/8	(1178)	3-9 3/8	(1153)	3-2 15/16	(989)

Standard Double Hung Unit Measurements								
Height								
CN	Masonry Opening		Rough Opening		Frame Size (w/subsill)		Daylight Opening	
	ft - in	mm	ft - in	mm	ft-in	mm	ft - in	mm
12	2-10 9/16	(878)	2-9 1/2	(851)	2-9	(838)	0-10 15/16	(278)
14	3-2 9/16	(980)	3-1 1/2	(953)	3-1	(940)	1-0 15/16	(329)
16	3-6 9/16	(1081)	3-5 1/2	(1054)	3-5	(1041)	1-2 15/16	(379)
18	3-10 9/16	(1183)	3-9 1/2	(1156)	3-9	(1143)	1-4 15/16	(430)
20	4-2 9/16	(1284)	4-1 1/2	(1257)	4-1	(1245)	1-6 15/16	(481)
22	4-6 9/16	(1386)	4-5 1/2	(1359)	4-5	(1346)	1-8 15/16	(532)
24	4-10 9/16	(1488)	4-9 1/2	(1461)	4-9	(1448)	1-10 15/16	(583)
26	5-2 9/16	(1589)	5-1 1/2	(1562)	5-1	(1549)	2-0 15/16	(633)
28	5-6 9/16	(1691)	5-5 1/2	(1664)	5-5	(1651)	2-2 15/16	(684)
30	5-10 9/16	(1792)	5-9 1/2	(1765)	5-9	(1753)	2-4 15/16	(735)
32	6-2 9/16	(1894)	6-1 1/2	(1867)	6-1	(1854)	2-6 15/16	(786)
34	6-6 9/16	(1996)	6-5 1/2	(1969)	6-5	(1956)	2-8 15/16	(837)
36	6-10 9/16	(2097)	6-9 1/2	(2070)	6-9	(2057)	2-10 15/16	(887)
40	7-6 9/16	(2300)	7-5 1/2	(2273)	7-5	(2261)	3-2 15/16	(989)
42	7-10 9/16	(2402)	7-9 1/2	(2375)	7-9	(2362)	3-4 15/16	(1040)

Standard Unit Measurements: Transom/Picture

Standard Double Hung Transom Unit Measurements								
Width								
CN	Masonry Opening		Rough Opening		Frame Size		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm
16	2-0 1/2	(622)	1-10 3/8	(568)	1-9 3/8	(543)	1-2 15/16	(379)
20	2-4 1/2	(724)	2-2 3/8	(670)	2-1 3/8	(645)	1-6 15/16	(481)
24	2-8 1/2	(826)	2-6 3/8	(772)	2-5 3/8	(746)	1-10 15/16	(583)
26	2-10 1/2	(876)	2-8 3/8	(822)	2-7 3/8	(797)	2-0 15/16	(633)
28	3-0 1/2	(927)	2-10 3/8	(873)	2-9 3/8	(848)	2-2 15/16	(684)
30	3-2 1/2	(978)	3-0 3/8	(924)	2-11 3/8	(899)	2-4 15/16	(735)
32	3-4 1/2	(1029)	3-2 3/8	(975)	3-1 3/8	(949)	2-6 15/16	(786)
36	3-8 1/2	(1130)	3-6 3/8	(1076)	3-5 3/8	(1051)	2-10 15/16	(887)
40	4-0 1/2	(1232)	3-10 3/8	(1178)	3-9 3/8	(1153)	3-2 15/16	(989)

Standard Double Hung Transom Unit Measurements								
Height								
CN	Masonry Opening		Rough Opening		Frame Size (no subsill)		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm
12	1-6 15/16	(481)	1-5 7/8	(454)	1-5 3/8	(441)	0-10 15/16	(278)
20	2-2 15/16	(684)	2-1 7/8	(657)	2-1 3/8	(645)	1-6 15/16	(481)

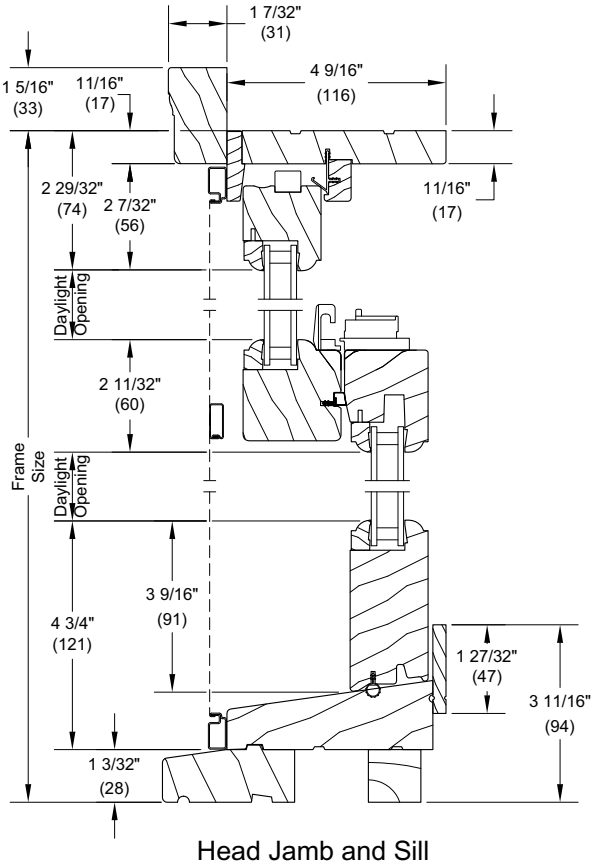
Standard Double Hung Picture Unit Measurements								
Width								
CN	Masonry Opening		Rough Opening		Frame Size		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm
40	3-8 1/2	(1130)	3-6 3/8	(1076)	3-5 3/8	(1051)	2-10 15/16	(887)
48	4-4 1/2	(1334)	4-2 3/8	(1280)	4-1 3/8	(1254)	3-6 15/16	(1091)
52	4-8 1/2	(1435)	4-6 3/8	(1381)	4-5 3/8	(1356)	3-10 15/16	(1192)
60	5-4 1/2	(1638)	5-2 3/8	(1584)	5-1 3/8	(1559)	4-6 15/16	(1395)
68	6-0 1/2	(1842)	5-10 3/8	(1788)	5-9 3/8	(1762)	5-2 15/16	(1599)

Standard Double Hung Picture Unit Measurements								
Height								
CN	Masonry Opening		Rough Opening		Frame Size (w/subsill)		Daylight Opening	
	ft - in	mm	ft - in	mm	ft - in	mm	ft - in	mm
38	3-6 9/16	(1081)	3-5 1/2	(1054)	3-5	(1041)	2-8 1/4	(819)
42	3-10 9/16	(1183)	3-9 1/2	(1156)	3-9	(1143)	3-0 1/4	(921)
46	4-2 9/16	(1284)	4-1 1/2	(1257)	4-1	(1245)	3-4 1/4	(1022)
50	4-6 9/16	(1386)	4-5 1/2	(1359)	4-5	(1346)	3-8 1/4	(1124)
54	4-10 9/16	(1488)	4-9 1/2	(1461)	4-9	(1448)	4-0 1/4	(1226)
58	5-2 9/16	(1589)	5-1 1/2	(1562)	5-1	(1549)	4-4 1/4	(1327)
62	5-6 9/16	(1691)	5-5 1/2	(1664)	5-5	(1651)	4-8 1/4	(1429)
66	5-10 9/16	(1792)	5-9 1/2	(1765)	5-9	(1753)	5-0 1/4	(1530)
70	6-2 9/16	(1894)	6-1 1/2	(1867)	6-1	(1854)	5-4 1/4	(1632)
74	6-6 9/16	(1996)	6-5 1/2	(1969)	6-5	(1956)	5-8 1/4	(1734)
78	6-10 9/16	(2097)	6-9 1/2	(2070)	6-9	(2057)	6-0 1/4	(1835)
86	7-6 9/16	(2300)	7-5 1/2	(2273)	7-5	(2261)	6-8 1/4	(2038)
90	7-10 9/16	(2402)	7-9 1/2	(2375)	7-9	(2362)	7-0 1/4	(2140)

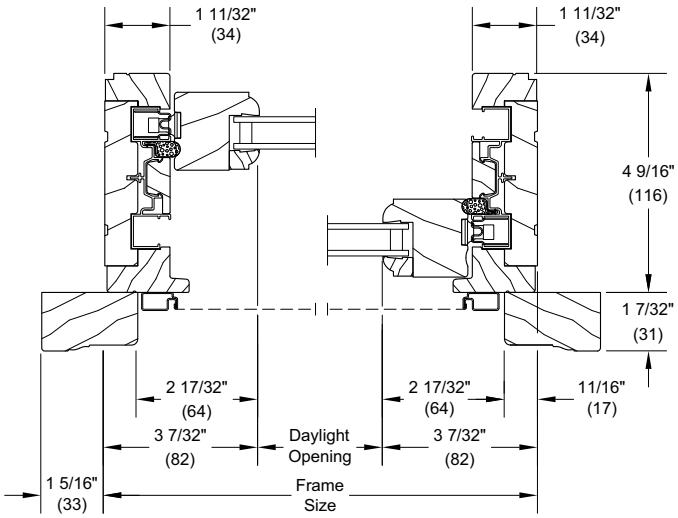
Section Details: Operating

Scale: 3" = 1' 0"

Double Hung

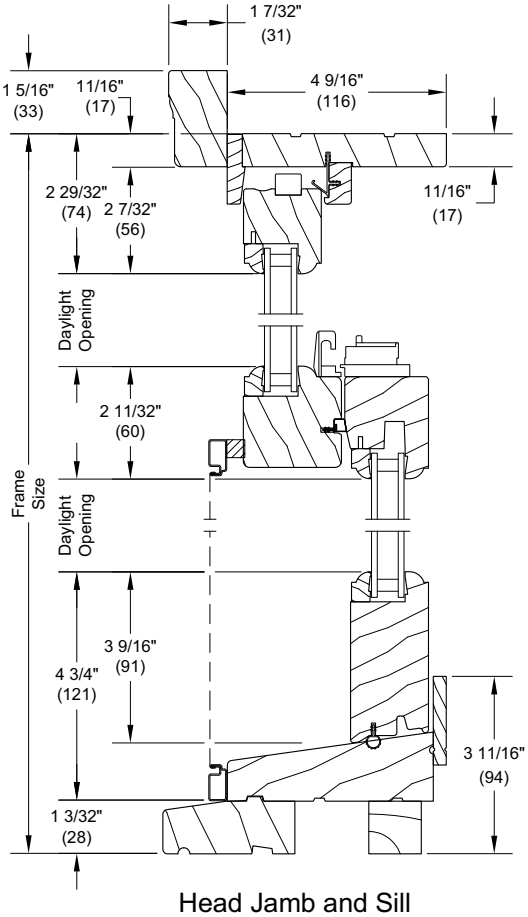


Head Jamb and Sill

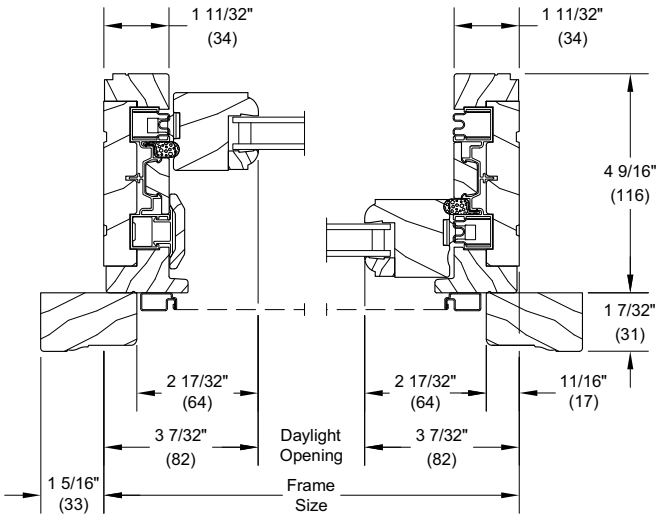


Jambs

Single Hung



Head Jamb and Sill

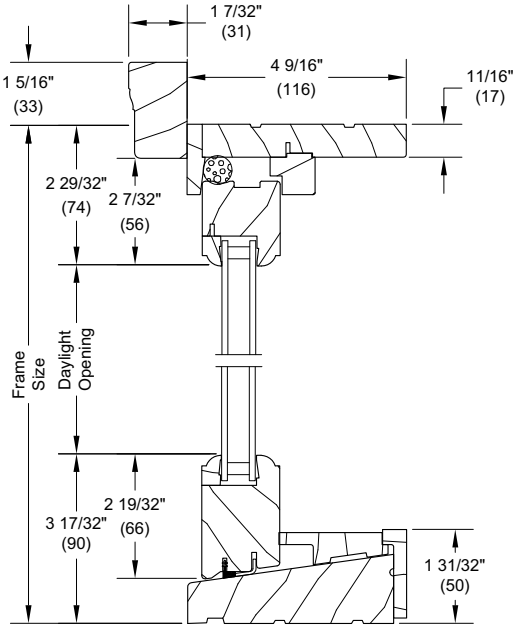


Jambs

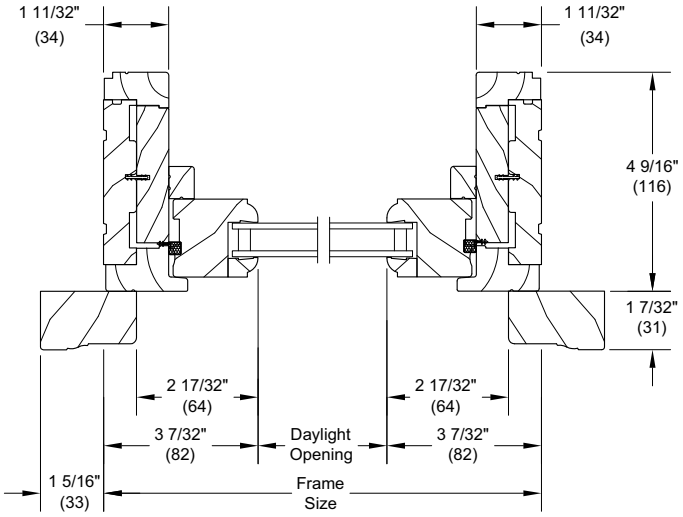
Section Details: 1 5/8" Transom/Picture

Scale: 3" = 1' 0"

1 5/8" Transom

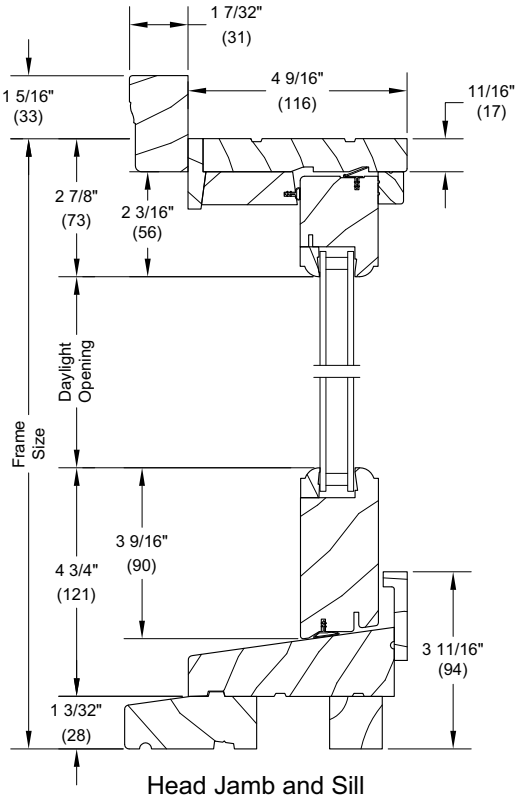


Head Jamb and Sill

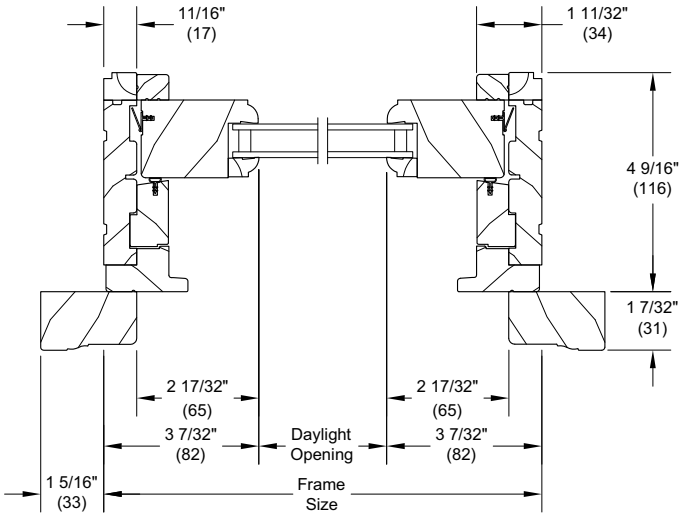


Jamb

1 5/8" Picture



Head Jamb and Sill

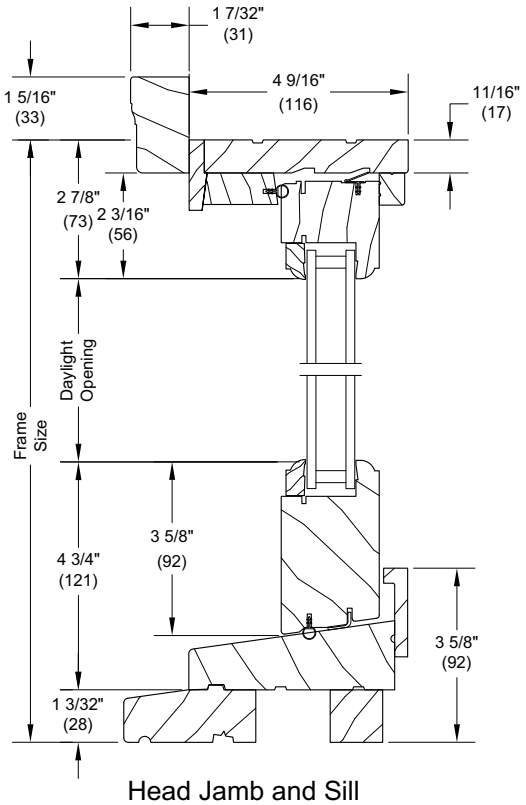


Jambs

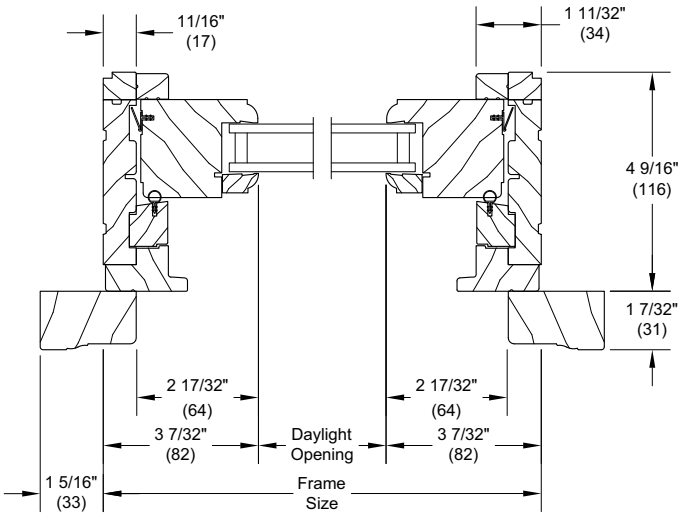
Section Details: 2" Picture

Scale: 3" = 1' 0"

2" Picture



Head Jamb and Sill

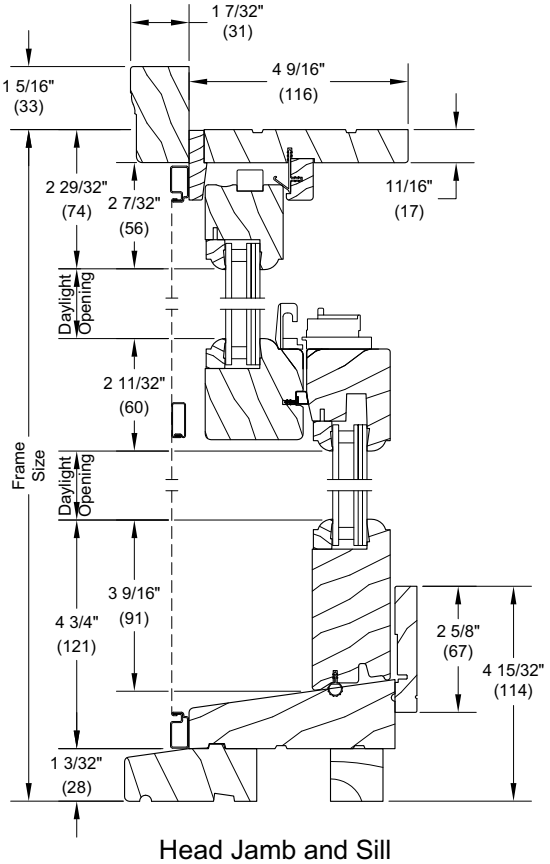


Jambs

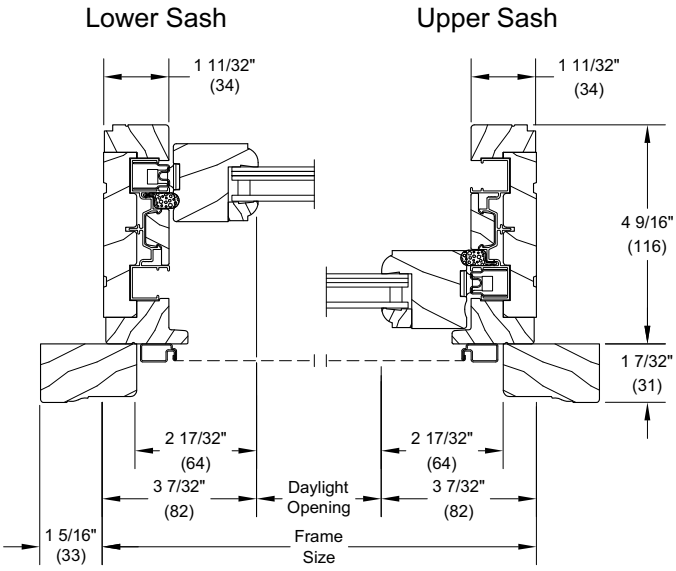
Section Details: Operating IZ3

Scale: 3" = 1' 0"

Double Hung

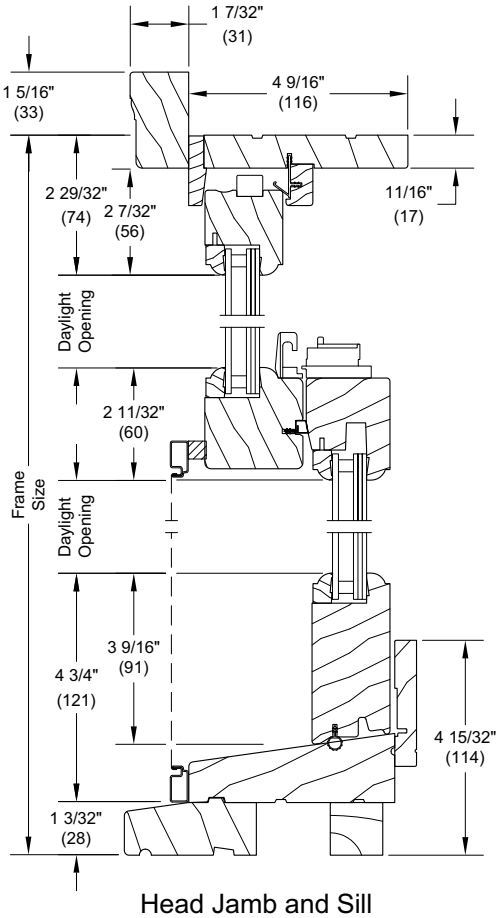


Head Jamb and Sill

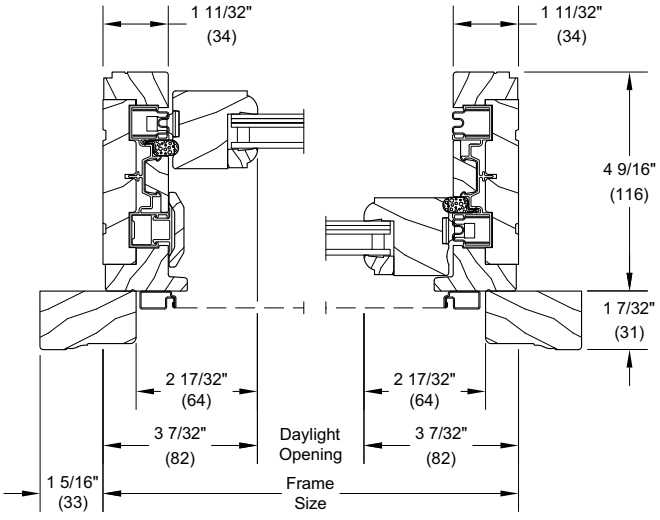


Jambs

Single Hung



Head Jamb and Sill

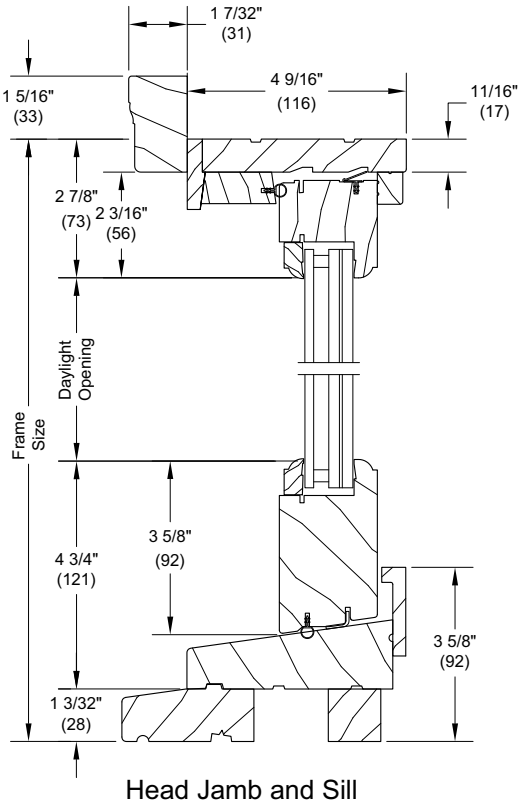


Jambs

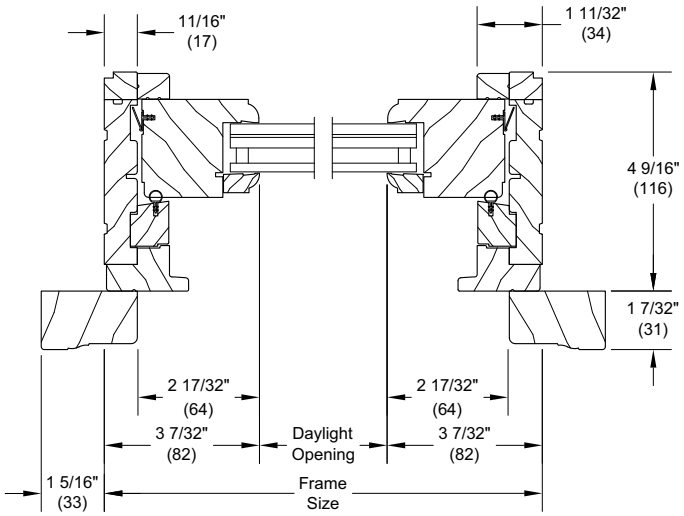
Section Details: Picture IZ3

Scale: 3" = 1' 0"

2" Picture



Head Jamb and Sill

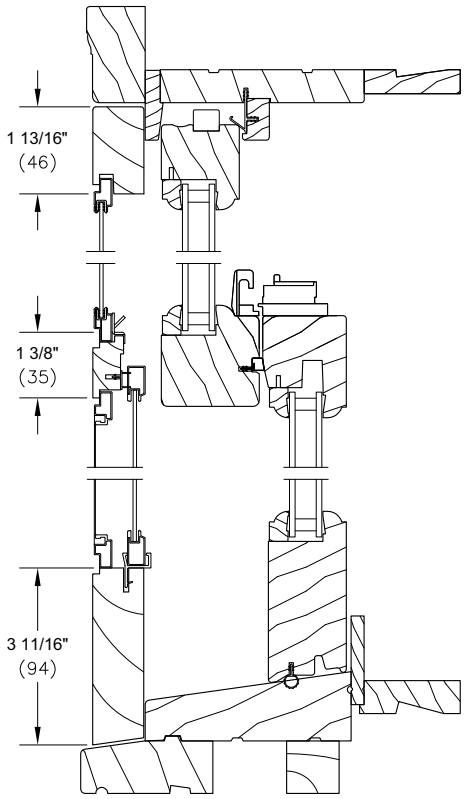


Jambs

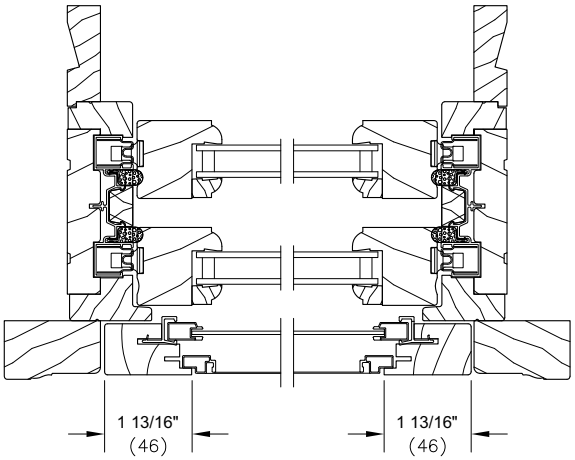
Section Details: Combination/Storm Sash

Scale: 3" = 1' 0"

Combination w/ 6 9/16"

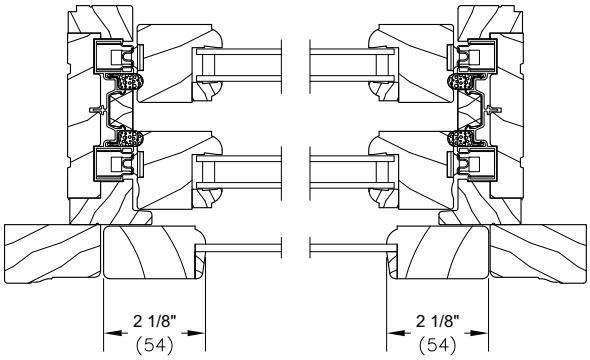


Head Jamb and Sill

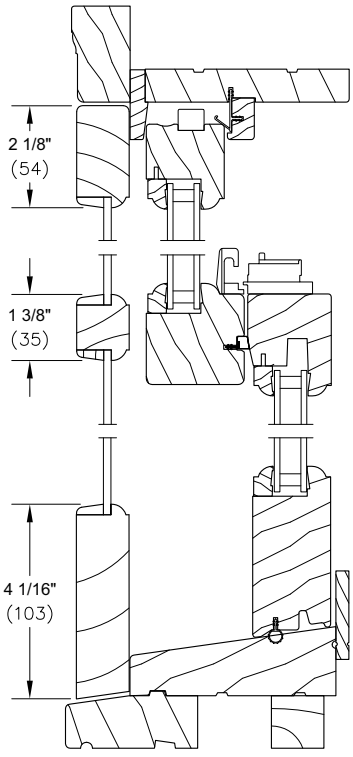


Jambs

Storm Sash



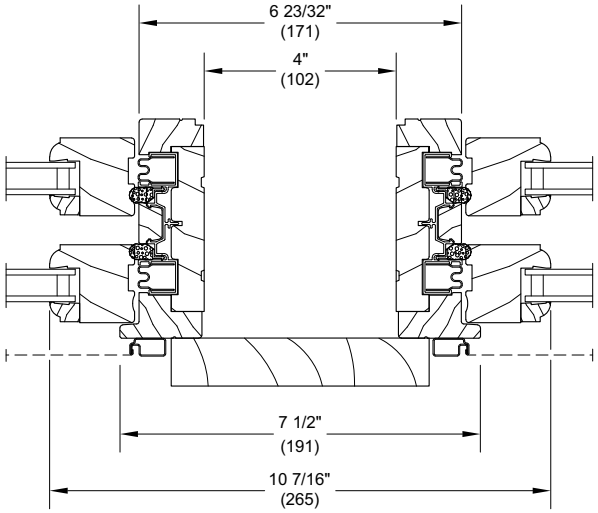
Jambs



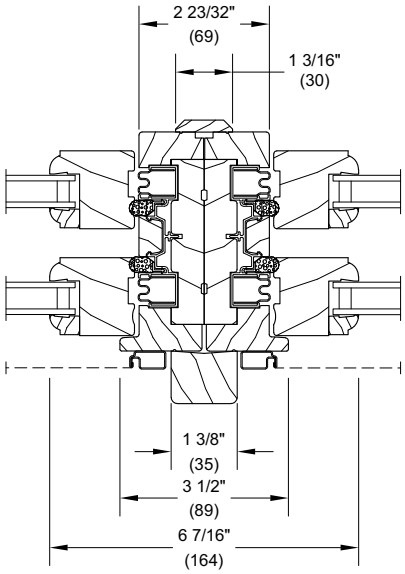
Head Jamb and Sill

Section Details: Mullions

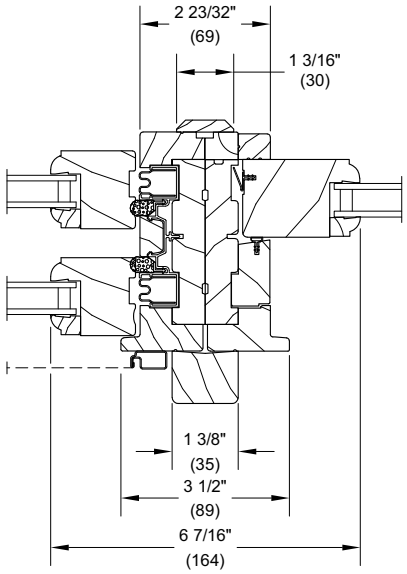
Scale: 3" - 1' 0"



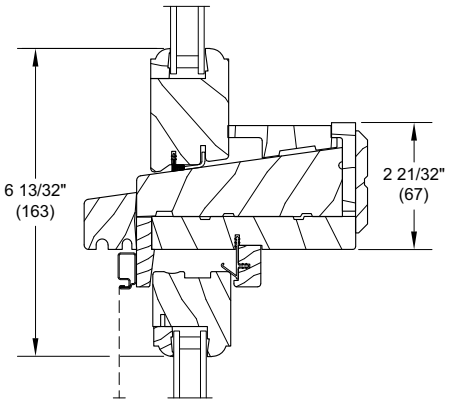
Vertical Mullion - with 4" Space Mull
Operator/Operator



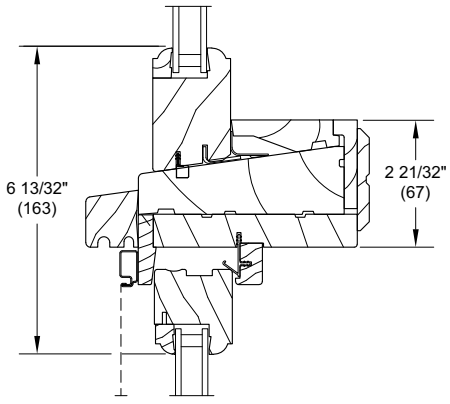
Vertical Mullion
Operator/Operator/Direct Mull



Vertical Mullion
Operator/Picture/Direct Mull



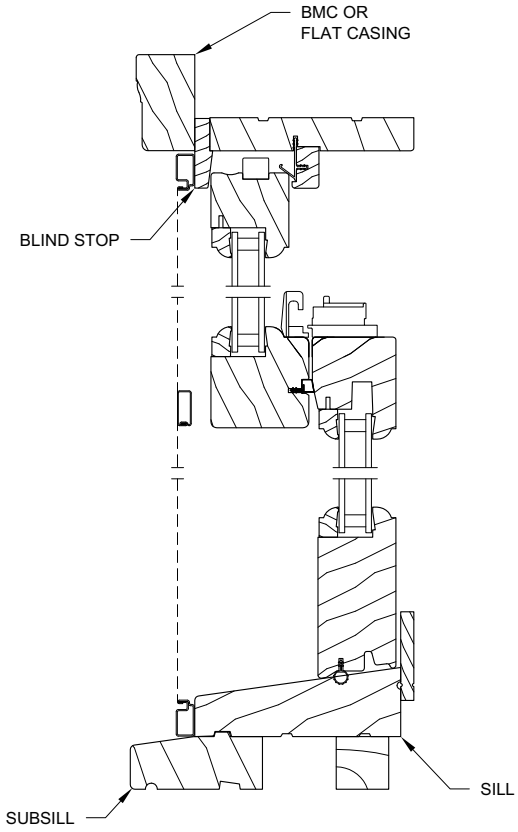
Transom mulled over UWDH



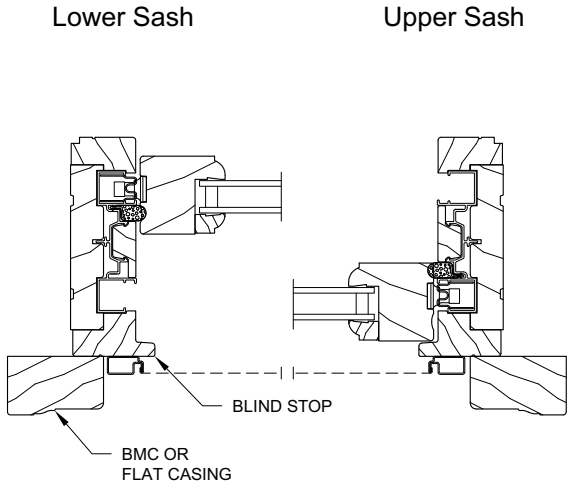
RT Transom mulled over UWDH

Section Details: Operator with Cedar Dress Option

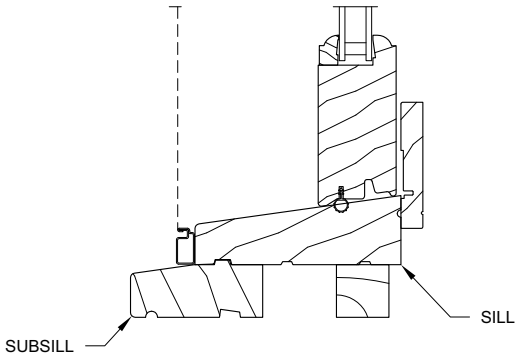
Scale: 3" - 1' 0"



Head Jamb and Sill



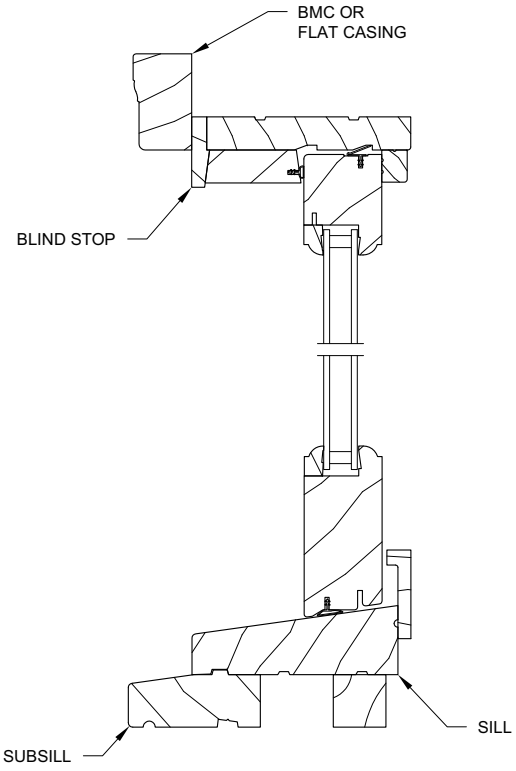
Jambs



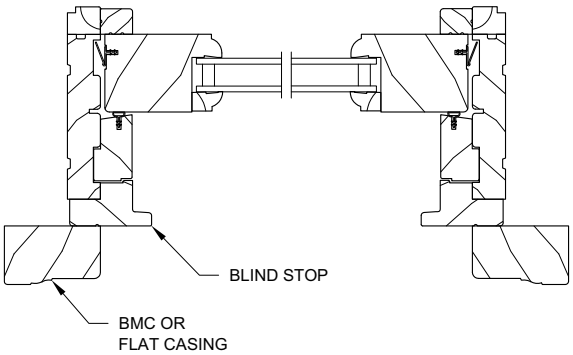
HP Sill Liner

Section Details: Picture with Cedar Dress Option

Scale: 3" - 1' 0"



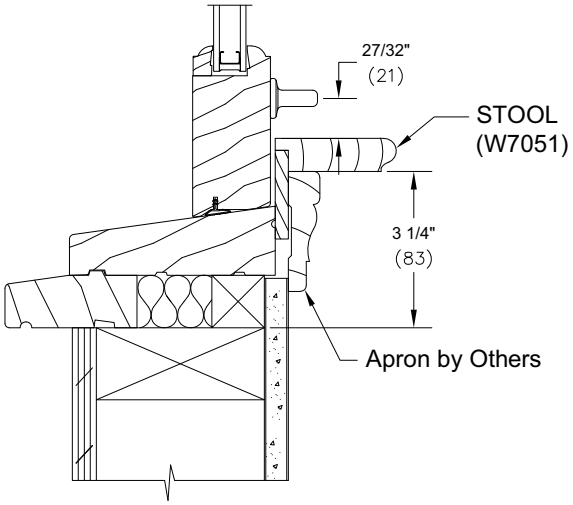
Head Jamb and Sill



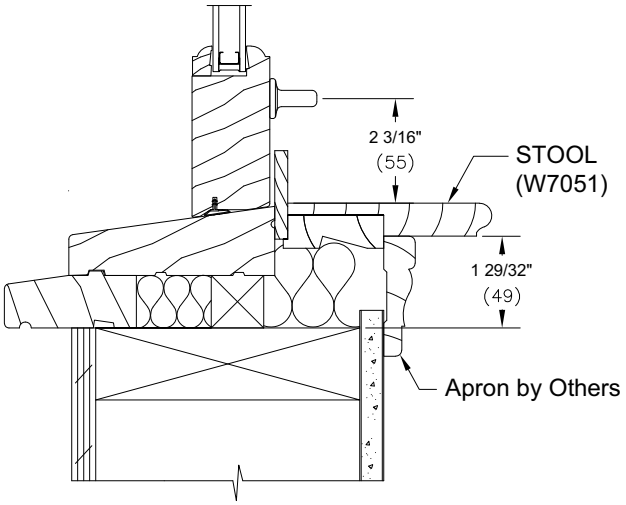
Jambs

Ultimate Wood Double Hung Stool and Apron Details

Scale: 3" = 1' 0"



UWDH W/4 9/16" Jambs



UWDH W/6 9/16" Jambs

NOTE: Stool is Field-Applied only.

MARVIN®

CATALOG

ULTIMATE

MARVIN SIGNATURE® COLLECTION

THE MARVIN PORTFOLIO

The Marvin portfolio consists of five product lines organized into three distinct collections defined by the degree of design detail and customization opportunities.

Marvin windows and doors offer exceptional performance, energy efficiency, low maintenance, and quality you can see, feel, and touch to help bring your vision to life.

ULTIMATE

Most extensive selection of features, options, and product types

MODERN

Design flexibility in a purely modern aesthetic available exclusively at Marvin Modern dealers

COASTLINE

Custom windows and doors for high velocity hurricane zones in the coastal Southeast

ELEVATE

Wide range of options and product types

ESSENTIAL

Curated options and product types

	MARVIN SIGNATURE® COLLECTION			MARVIN ELEVATE® COLLECTION	MARVIN ESSENTIAL™ COLLECTION
INTERIORS	WOOD 6 species options + custom 2 painted or primed options 6 stains + clear coat	EXTRUDED ALUMINUM 5 color options	EXTRUDED ALUMINUM 6 solid colors, 4 woodgrain finishes	WOOD Bare pine, painted Designer Black, painted White, or clear coat	FIBERGLASS 3 color options
EXTERIORS	EXTRUDED ALUMINUM 19 colors + custom OR WOOD 3 species + custom	FIBERGLASS 5 color options	EXTRUDED ALUMINUM 6 solid colors, 4 woodgrain finishes	FIBERGLASS 5 color options	FIBERGLASS 5 color options
SIZING	Standard + custom sizing for replacement, remodeling, or new construction	Custom sizing for remodeling or new construction	Custom sizing for replacement, remodeling, or new construction	Standard + custom sizing for replacement, remodeling, or new construction	Standard + custom sizing for replacement, remodeling, or new construction
HARDWARE	Extensive selection including Marvin Gallery Hardware	Minimalist hardware for modern design aesthetic	Available in multiple styles, sizes, and finishes to complement the window + door aesthetics	Available in 6 finish options with 2 door handle styles	Available in 6 finish options with 1 door handle style
COASTAL + WATERFRONT	Hurricane Impact Zones 3 and 4, + PG 50 Products		All products rated for High Velocity Hurricane Zone (IZ4)	Hurricane Impact Zone 3, + PG 50 Products	

Marvin Signature® collection

REDEFINING THE STANDARD

The Ultimate product line, part of the Marvin Signature collection, unites beautiful design with exceptional craftsmanship. Add character to almost any space with our most extensive selection of shapes, styles, sizes, and options—including wood interiors protected by tough wood or aluminum exteriors. With nearly limitless opportunities for customization, Ultimate can match your vision—and give it room to grow.

ULTIMATE DIRECT GLAZE WINDOW IN EBONY

About Us

At Marvin, we're driven to imagine and create better ways of living, helping people feel happier and healthier inside their homes. We believe that our work isn't just about designing better windows and doors—it's about opening new possibilities for the people who use them.

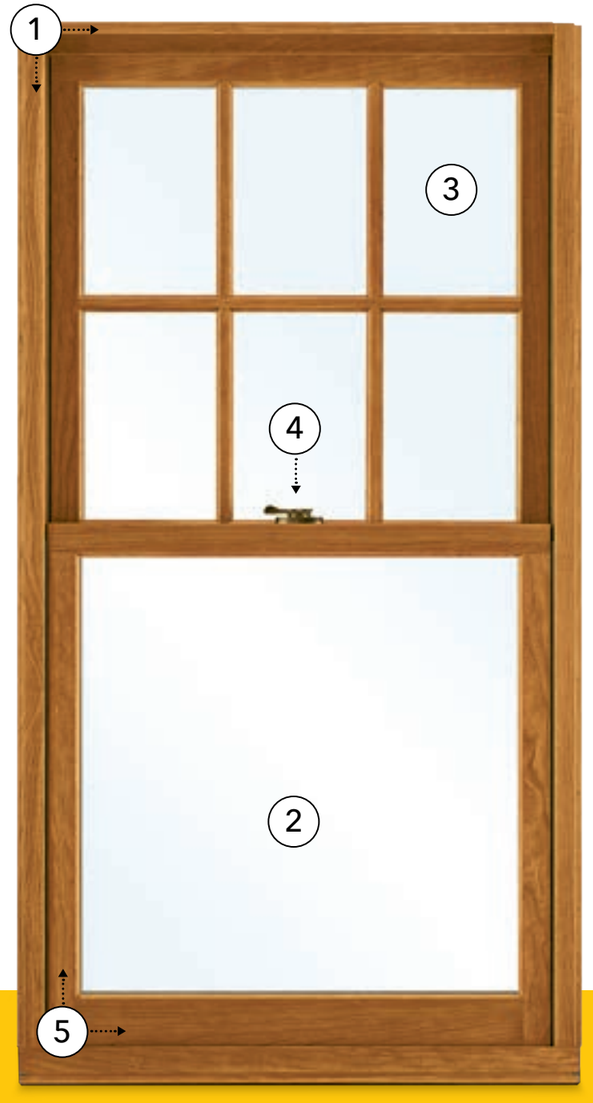
ULTIMATE PICTURE NARROW FRAME CORNER WINDOW IN EBONY

TABLE OF CONTENTS

WINDOWS

ULTIMATE CASEMENT WINDOW

WINDOW TERMS + DEFINITIONS



1. FRAME
There are three components to the frame: the header across the top, the jambs down each side, and the sill across the bottom. Marvin frames are built strong with a variety of high-quality wood species.

2. GLAZING
The glass in a window is called glazing. Marvin's broad range of glazing options can meet both high-performance and refined aesthetic requirements.

3. LITE
Each area of glass is called a lite. Marvin offers divided lite patterns for whatever look you wish to create.

4. HARDWARE
Marvin uses only the highest quality locks, handles, lifts, pulls, and hinges in a wide variety of durable finishes.

5. SASH
The sash–operating or stationary–is comprised of horizontal rails, vertical stiles, and glazing. Marvin's large solid sash offer precise fit and ease of operation.

WINDOW OPERATING STYLES

DOUBLE HUNG
Double hung windows have two movable sashes which operate vertically.

CASEMENT
A window that is hinged to its frame at the side and opens like a door.

AWNING
An awning is hinged to the frame at the top and opens outward. If hinged on the bottom, it's called a hopper.

GLIDER
A window with a sash that slides horizontally to open and close.

FIXED OR PICTURE
An inoperable window with direct glaze or in-sash configurations. Available in a wide range of polygon and radius shapes.

IN-SASH PICTURE

- Fixed window designed to match the profiles of operable windows like casement, awning, or double hung
- Available in large sizes up to 8' wide × 8' high

DIRECT GLAZE PICTURE

- Fixed window with no sash—the glass is glazed directly into the frame
- Available in stunningly large sizes with widths or heights up to 12'

MORE FLEXIBILITY TO MEET ANY DESIGN CHALLENGE.

Marvin has an extensive selection of styles, sizes, shapes, and options.

DOUBLE HUNG WINDOWS

Ultimate Double Hung windows combine state-of-the-art design with classic style. Advanced engineering and high-quality construction make our double hung windows incredibly durable, versatile, and easy to use.

ULTIMATE DOUBLE HUNG G2 WINDOW IN EBONY

ULTIMATE DOUBLE HUNG G2

ULTIMATE DOUBLE HUNG G2 WINDOW IN DESIGNER BLACK

Photo: Laurey W. Glenn

ULTIMATE DOUBLE HUNG G2 WINDOW IN WHITE WITH OIL RUBBED BRONZE HARDWARE

ULTIMATE DOUBLE HUNG G2

The Ultimate Double Hung G2 window is an embodiment of our dedication to the craft of creating windows and doors. Influenced by the rich, historical significance of this window style and inspired by innovative design, each feature is thoughtfully added and every detail is carefully considered. This is all in service of shaping a window that deserves to be in the unique homes our customers desire.

INTERIOR

EXTERIOR

UNIQUE WASH MODE ALLOWS CLEANING OF BOTH SIDES OF GLASS FROM INDOORS

ULTIMATE DOUBLE HUNG G2

Engineered for performance and designed to inspire, each aspect of the Ultimate Double Hung G2 window was made with purpose. Our engineers consider every detail from the most innovative features to the most minute subtleties, all because the windows in your home help illuminate the most important parts of your life.

INTERIOR FEATURES AND PERFORMANCE

RICH WOOD INTERIOR
Offers beauty and warmth with six wood species and ten interior finish options.

NARROW CHECKRAIL
Provides a sleek aesthetic at 1 15⁄16 inches to maximize daylight opening while maintaining historical accuracy.

TILT WASH MODE
Allows easy access to exterior glass for cleaning and maintenance.

EXCLUSIVE AUTOLOCK
Activates when the sashes are closed, locking the window.

ENERGY EFFICIENCY
Multiple glass options for meeting ENERGY STAR® standards in energy efficiency for various regions and climates.

SASH BALANCE SYSTEMS
Enables smooth operation at the largest sizes.

EXTERIOR FEATURES AND PERFORMANCE

DURABLE CLADDING
Extruded aluminum exterior cladding with an AAMA verified 2605 finish and backed by a 20-year warranty against chalking and fading.

EXPANSIVE SIZES
Larger than 5 feet wide by 10 feet high.

TRADITIONAL SILL BEVEL
The 14-degree bevel provides optimal water management while maintaining a classic look.

SUPERIOR WEATHER PERFORMANCE
LC-PG50 on most sizes. Optional commercial (CW) performance and IZ3 certified coastal performance on most sizes.

DESIGN VERSATILITY
An array of simulated divided lite patterns, interior and exterior color options, ten hardware finishes, and archtop models.

ALUMINUM INTER-LOCK
Eliminates drafts and improves the window's overall structural integrity.

ULTIMATE DOUBLE HUNG ROUND TOP G2

ULTIMATE DOUBLE HUNG ROUND TOP G2 WINDOW IN EBONY

EYEBROW RADIUS | HALF CIRCLE TRANSOM | EYEBROW TRANSOM | HALF CIRCLE RADIUS | HALF EYEBROW SINGLE HUNG*

ULTIMATE DOUBLE HUNG ROUND TOP G2

The Ultimate Double Hung Round Top G2 window will add traditional arching and elegant lines to your home or historic preservation project. With the same features and grace of the Ultimate Double Hung G2 window, this window offers design flexibility with numerous variations of radius shapes. Choose from multiple divided lite patterns to further enhance the arch of the window. These versatile windows–available in a wide range of sizes–can provide a subtle accent or a dramatic focal point to enhance your home design.

ROUND TOP VARIATIONS

EYEBROW AND HALF EYEBROW RADIUS OPERATING DOUBLE HUNG
A classic look with a gentle eyebrow radius. Beautiful as a stand alone window or as part of an assembly.

HALF CIRCLE TRANSOM
This simulated half circle transom window can be sized to stand alone or easily fit above a double hung window.

EYEBROW TRANSOM AND PICTURE
This stationary window is available as a transom or picture window. These windows are designed to complement the Ultimate Double Hung G2 window with correlating sizes and matching springline.

HALF CIRCLE RADIUS OPERATING DOUBLE HUNG
A dramatic window with a true half circle arch. The look gives a beautifully smooth transition from jamb to header. Both sashes are operable.

HALF EYEBROW SINGLE HUNG
This striking window style adds elegant curve to a two-wide window assembly (not shown)

.

*Available on Single Hung only.

ULTIMATE DOUBLE HUNG INSERT G2

ULTIMATE DOUBLE HUNG INSERT G2 WINDOW IN SATIN NICKEL

ULTIMATE DOUBLE HUNG INSERT G2 WINDOW IN SATIN NICKEL

ULTIMATE DOUBLE HUNG INSERT G2

The Ultimate Double Hung Insert G2 window adds quality craftsmanship, beauty, and energy efficiency to your home without compromising architectural integrity. Its frame-in-frame design is built precisely to seamlessly fit into your unique window opening, so there's no need to remove the existing frame or disturb the exterior or interior trim of your house.

INTERIOR

EXTERIOR

SASH LOCK IN SATIN NICKEL

ULTIMATE DOUBLE HUNG INSERT G2 WINDOW IN STONE WHITE WITH FULL SCREENS

SCREENS

Choose from an aluminum surround in three finishes or a wood interior surround that complements warm wood interiors. Marvin screens come standard with Marvin Bright View™ – a fiberglass screen mesh that provides improved airflow and more natural light while keeping insects out. Bright View repels water and resists dirt and grime for a sharp, vivid view.

CASEMENT SCREEN OPTIONS

WOOD SCREEN SURROUND

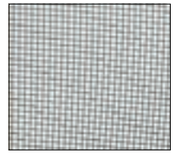
The patented wood screen surround with wood interior and aluminum exterior features Marvin Bright View™ screen mesh. Aluminum screen mesh options also available.

INSWING CASEMENT SCREEN

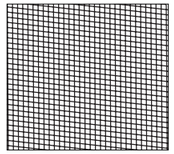
The beautifully crafted inswing screen adds a classic touch and allows access to operate push-out casement and awning windows.

SCREEN MESH OPTIONS

MARVIN BRIGHT VIEW™



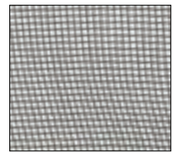
CHARCOAL ALUMINUM WIRE



BLACK ALUMINUM WIRE

BRIGHT ALUMINUM WIRE

BRIGHT BRONZE WIRE



CHARCOAL FIBERGLASS

DOUBLE HUNG SCREEN OPTIONS

FULL OR HALF SCREEN
Exterior aluminum screen with an aluminum surround. The full screen covers both the top and bottom sash. The half screen only covers the bottom sash.

DOUBLE HUNG STORM OPTIONS

TWO-LITE WOOD STORM SASH OR SCREEN
A wood frame containing non-removable glass. The storm sash can be removed during the summer and replaced with a wood-framed screen. Available only for wood windows.

STORM AND SCREEN COMBINATIONS
A combination unit is composed of two glass panels and one screen panel that can be easily removed from the interior for cleaning. Available with a wood (bare or primed) or aluminum surround, panels can be configured multiple ways, glass above screen, screen above glass, or glass above glass.

ENERGY PANEL
Often confused with storm windows, an energy panel is technically a glazing option. It is a removable, exterior glass panel finished on the edges by a surround. Energy panels cover the exposed glass surface of each sash and offer added energy efficiency for wood windows with single glazing.

DOOR SCREEN OPTIONS

SCENIC DOOR SLIDING SCREEN
The Marvin Ultimate Sliding Screen operates with ease and conceals when not in use. The screen is unobtrusive even in large sizes measuring up to 15 feet wide and up to 10 feet high uni-directional or up to 29.5 feet wide bi-parting.

ULTIMATE SWINGING SCREEN DOOR
With profiles that complement the aesthetics of the door, swinging door screens feature robust, durable extruded aluminum surrounds and concealed hinges.

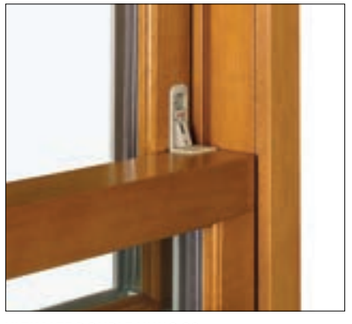
ULTIMATE SLIDING SCREEN DOOR
Aluminum top hung sliding screen with roller bar, adjustable rollers and unmatched sliding operation.

Marvin window and door screens come standard with Marvin Bright View™ – a fiberglass screen mesh that provides improved airflow and more natural light while keeping insects out. Bright View repels water and resists dirt and grime for a sharp, vivid view.

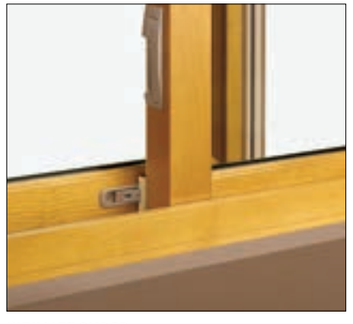
WINDOW OPENING CONTROL DEVICES

Marvin Window Opening Control Devices (WOCD) meet the ASTM F2090-21 standard, created to assist in the prevention of window falls. To meet the standard, our devices limit the window's net clear opening to less than 4 inches (when the sash is open) and have a release function allowing the window to open completely. In order to meet the safety standard, WOCD disengagement takes two independent actions, which helps prevent accidental release. Devices will then automatically reengage once the window is closed and again limit the window opening to less than 4 inches upon re-opening.

ULTIMATE CASEMENT



ULTIMATE DOUBLE HUNG G2



ULTIMATE GLIDER

WINDOW HARDWARE

ULTIMATE DOUBLE HUNG G2 WINDOW WITH AUTO-LOCKING SASH LOCK IN SATIN NICKEL

WINDOW HARDWARE

Ultimate's durable and elegant hardware is engineered for reliability and to harmonize with any décor. Choose a finish to complement your architectural style. Durable painted finishes in Matte Black, Satin Taupe, Bronze, and White mimic the look of metal. Satin Nickel, Brass, Antique Brass, Polished Chrome, Oil Rubbed Bronze, and Satin Chrome offer the rich appearance and durability of authentic metal finishes.

AUTO-LOCKING HARDWARE SYSTEM

PRODUCTS:
Ultimate Double Hung G2
Ultimate Single Hung G2

AVAILABLE FINISHES:
Matte Black • Brass • Satin Taupe
Satin Nickel • Bronze • White
Antique Brass • Oil Rubbed Bronze
Polished Chrome • Satin Chrome

TRADITIONAL LIFT LOCK

PRODUCTS:
Ultimate Single Hung G2

AVAILABLE FINISHES:
Matte Black • Brass • Satin Taupe
Satin Nickel • Bronze • White
Antique Brass • Oil Rubbed Bronze
Polished Chrome • Satin Chrome

CONTEMPORARY LIFT LOCK

PRODUCTS:
Ultimate Single Hung G2

AVAILABLE FINISHES:
Matte Black • Brass • Satin Taupe
Satin Nickel • Bronze • White
Antique Brass • Oil Rubbed Bronze
Polished Chrome • Satin Chrome

FOLDING HANDLE

PRODUCTS:
Ultimate Casement • Ultimate Awning
Ultimate Casement Narrow Frame
Ultimate Awning Narrow Frame

AVAILABLE FINISHES:
Matte Black • Brass • Satin Taupe
Satin Nickel • Bronze • White
Antique Brass • Oil Rubbed Bronze
Polished Chrome • Satin Chrome

PUSH OUT HANDLE

PRODUCTS:
Ultimate Casement • Ultimate Awning
Ultimate Casement Narrow Frame
Ultimate Awning Narrow Frame

AVAILABLE FINISHES:
Matte Black • Brass • White
Antique Brass • Oil Rubbed Bronze
Satin Nickel

FOLDING HANDLE

PRODUCTS:
Ultimate Glider

AVAILABLE FINISHES:
Matte Black • Brass • Satin Taupe
Satin Nickel • Bronze • White
Antique Brass • Oil Rubbed Bronze
Polished Chrome • Satin Chrome

FINISHES

- MATTE BLACK
- BRONZE
- OIL RUBBED BRONZE
- ANTIQUE BRASS
- SATIN TAUPE
- SATIN NICKEL
- BRASS
- POLISHED CHROME
- SATIN CHROME
- WHITE

Project: Contractor: Holcomb Development

Fenestrationpro@gmail.com

313-757-1226

Project Inspection Report

Date: 3-12-2026

PROJECT: 264 Watson , Detroit MI

1

Window condition report for existing wood windows that were requested to be rehabilitation.

Inspector : Paul Bekemeyer

Location and/ or line (mark) #	Frame and Exterior casing Integrity, Water tight condition	Sash Integrity / Glass condition	Recommendation
Windows 14 and 15 at the kitchen	Frames and exterior casings are dry-rotted to a point where any repair will not be a lasting repair.	Structurally the sash have lost their structural integrity; any repair attempt is unlikely to have lasting effect.	Recommend repair of framing, blocking up the opening to accept a new insert window. Replace rotted casing.
Window 18 @ Office	This frame and exterior flat casing is rotted at the bottom corners, which is allowing water, animals, and insects to penetrate the home.	Structurally the sash is bro-ken/damaged—and—is missing part of its divided lite component. Even with the storm it is unlikely this window will have lasting effect.	Recommend repair of framing, blocking up the opening to accept a new insert window. Replace rotted casing.
Window 21 in stairs	This frame and exterior flat casing is rotted at the bottom corners, which is allowing water, animals, and insects to penetrate the home. The sill itself is gone was repaired with a piece of brake metal.	These sashes are in the best condition in entire home—however the due to frame and casing being literally dry rotted—recommend replace.	Recommend repair of framing, blocking up the opening to accept a new insert window. Replace rotted casing.
Window 7, 8, and 9	The center window has no existing sashes; the frame and exterior casing has been somewhat protected and isn't as bad as all the others. But since there is nothing to repair/restore @ 8.	Window #8 is missing sashes. Nothing to repair/restore.	Recommend repair of framing, blocking up the opening to accept a new insert window for all 3 openings.
Widow 23B @ Dining	This window is badly damaged — frames and cas-ings. It is well beyond repair—and will directly adjacent to a window replacement @ 29 (currentl a vinyl window).	Structurally the sash have lost their structural integrity; any repair attempt is unlikely to have lasting effect, plus the missing sash (currently plywood-ed over.	Recommend repair of framing, blocking up the opening to accept a new insert window for all 3 openings.

Project: Contractor: Holcomb Development

Fenestrationpro@gmail.com

313-757-1226

Project Inspection Report

Date: 3-12-2026

PROJECT: 264 Watson , Detroit MI

Window condition report for existing wood windows that were requested to be rehabilitation.

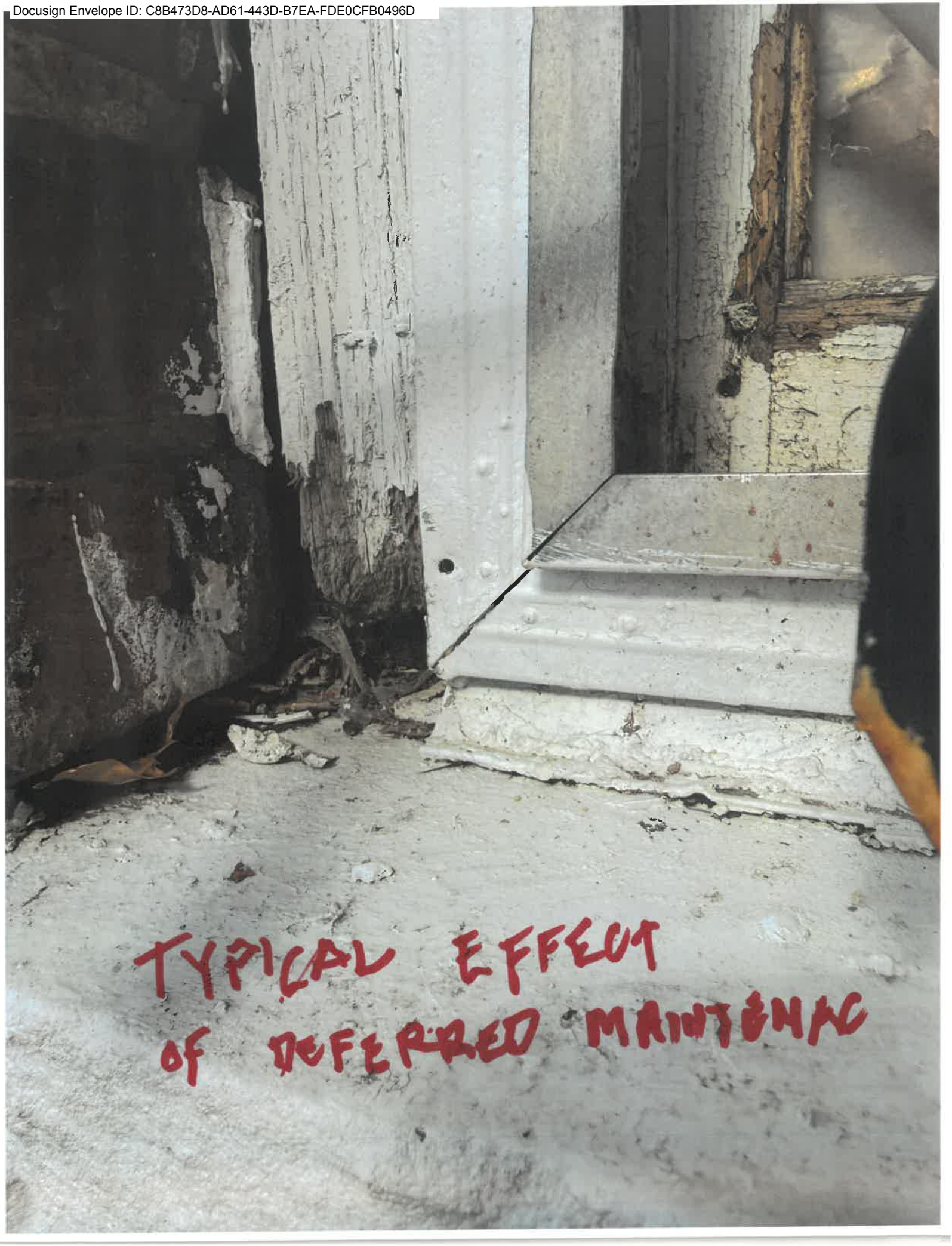
Inspector : Paul Bekemeyer

Location and/ or line (mark) #	Frame and Exterior casing Integrity, Water tight condition	Sash Integrity / Glass condition	Recommendation
Windows 19 and 20 in E BR	Frames and casings are dry-rotted to a point where any repair will not be a lasting repair. The sills are literally gone.	Structurally the sash have lost their structural integrity; the jointery is failed—any repair attempt is unlikely to have lasting effect.	Recommend repair of framing, blocking up the opening to accept a new insert window. Replace rotted casing.
Window s 16 and 17	These rames and exterior flat casing is rotted at the bottom corners, which is allowing water, animals, and insects to penetrate the home. The sill itself is gone was repaired with a piece of brake metal. Sills are also dry rotted/failed.	These sashes are in the best condition in entire home—however the due to frame and casing being literally dry rotted—recommend replace.	Recommend repair of framing, blocking up the opening to accept a new insert window. Replace rotted casing.
Windows 10,11,12,13,28, 23A, 27 in basement	Appears that these units haven't been painted in decades. Due to being grade they are in a failed condition, completely dry rotted.	Appears that these units haven't been painted in decades. Due to being grade they are in a failed condition, completely dry rotted.	Recommend repair of framing, blocking up the opening to accept a new insert window for all 7 openings.

As part of this general condition report, other findings about the windows in this historic home is that all of these windows were likely painted with lead paint many times over—the toxic dust of which we all know not to consume - however, the owner does have small children.

Thus—the absolute failed state of the window frames and other issues—is why the owner is requesting the courtesy to fix all of these things with insert replacement and labor to waterproof the exterior casings.

There is precedent for allowing these to be replaced; the commercial building at 110 E Ferry Street virtually had the entire building got new insert windows a few years back for its repurposed use.

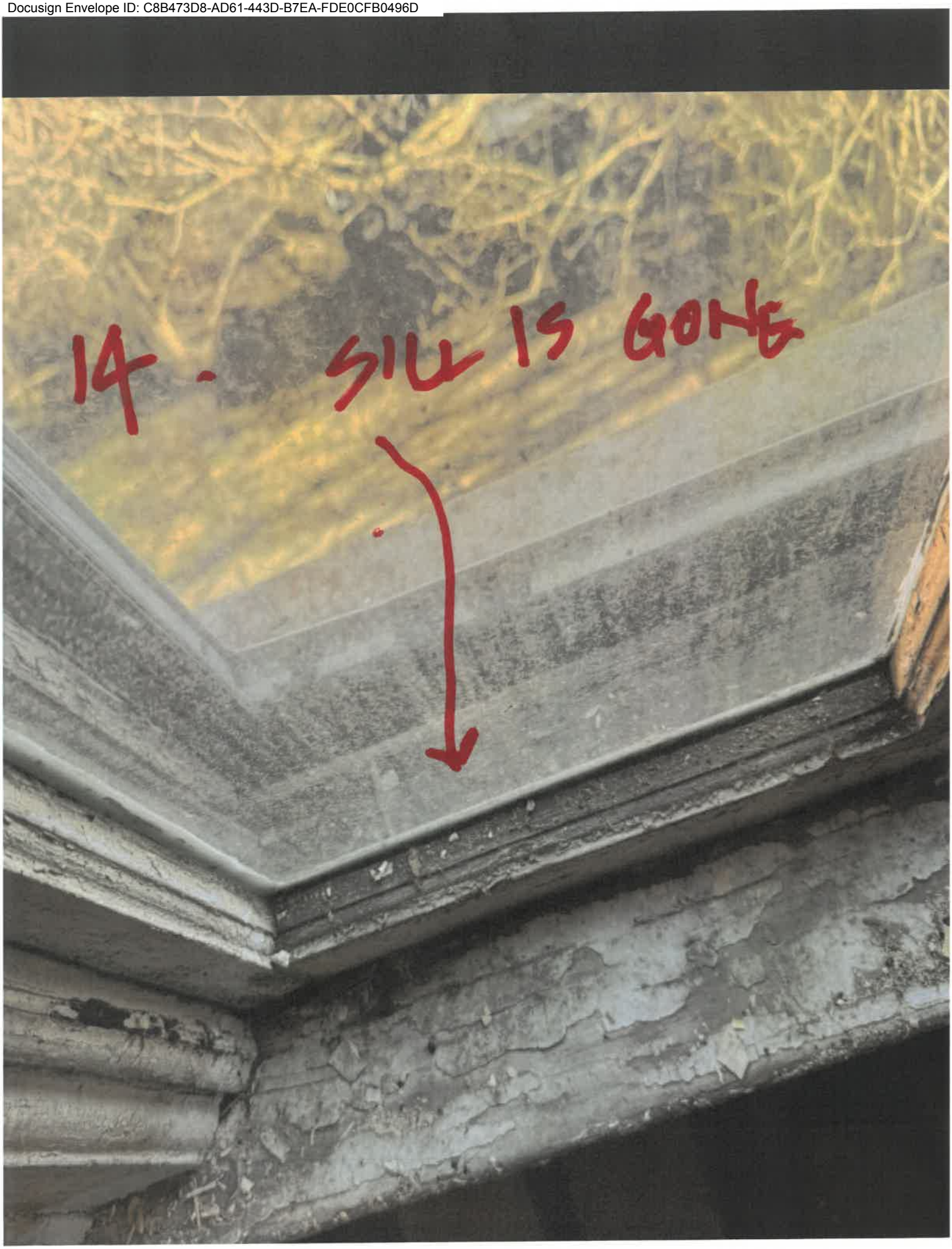


30

SILL IS GONE

15

14



5

82

12

INDICATES A WOOD WINDOW W/ SUCH EXTENSIVE DAMAGE IT CAN NOT BE REPAIRED

EXISTING WINDOW INVENTORY SYMBOL LEGEND

A = ALUMINUM
V = VINYL
W = WOOD

GENERAL NOTES:

1. ALL BRICK MASONRY SURFACES ARE TO BE CLEANED W/ SOAP AND WATER, LOW PRESSURE ONLY. DO NOT USE A PRESSURE WHICH DAMAGES THE SURFACE OF THE BRICK. APPLY PAINT REMOVING PRODUCT ON EXISTING PAINTED, BRICK MASONRY SURFACES TO INCREASE AMOUNT OF PAINT REMOVAL.

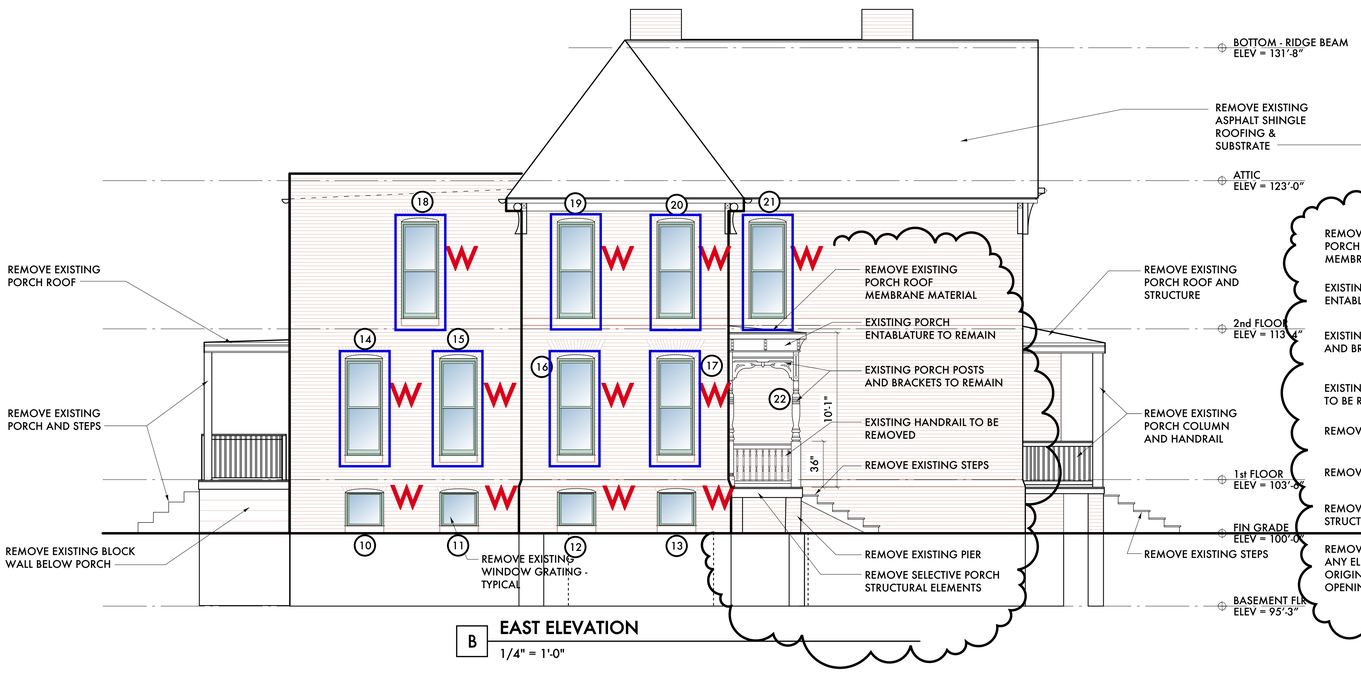
2. APPLY PAINT REMOVER TO ALL STONE "BAND COURSES" ON THE BUILDING. POWER WASH PAINT REMOVER MATERIAL OFF AND THEN POWERWASH CLEAN.

3. THE AREAS OF DEMOLTION ARE INTENDED TO SHOW THE GENERAL AREA AND SCOPE OF THE WORK. SEE THE PROPOSED FLOOR PLANS FOR THE FINAL CONDITION TO DETERMINE THE DEMOLITION ITEMS NEEDED.

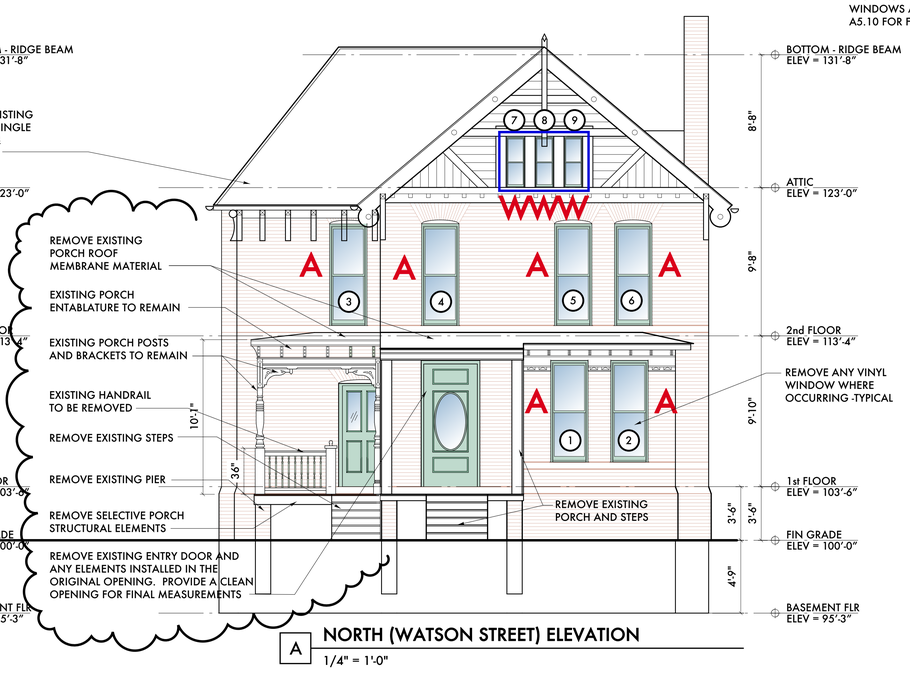
4. THE EXISTING WINDOWS SHOWN ARE OF (3) TYPES, WOOD, VINYL AND ALUMUINUM. ALL VINYL AND ALUMINUM WINDOWS ARE TO BE REMOVED. ALL WOOD WINDOWS ARE TO REMAIN. SEE THE FINAL ELEVATIONS A5.10 FOR FURTHER INFORMATION ON THE WINDOWS.

5. REMOVE ANY STEEL GRATINGS OR PROTECTION OVER WINDOWS AND DOORS. SAVE FOR POSSIBLE REUSE.

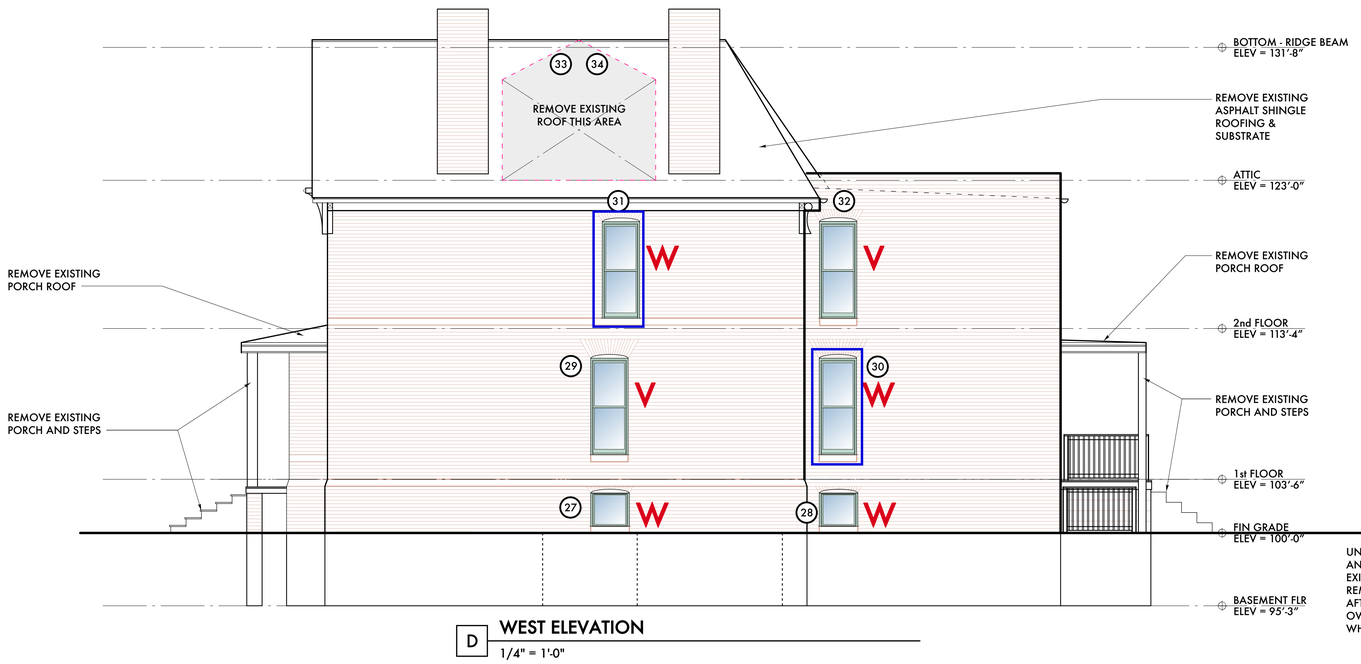
6. THE PIECES AND ELEMENTS OF THE HISTORIC SIDE PORCH ARE TO BECOME TEMPLATES FOR THE NEW FRONT PORCH ELEMENTS.



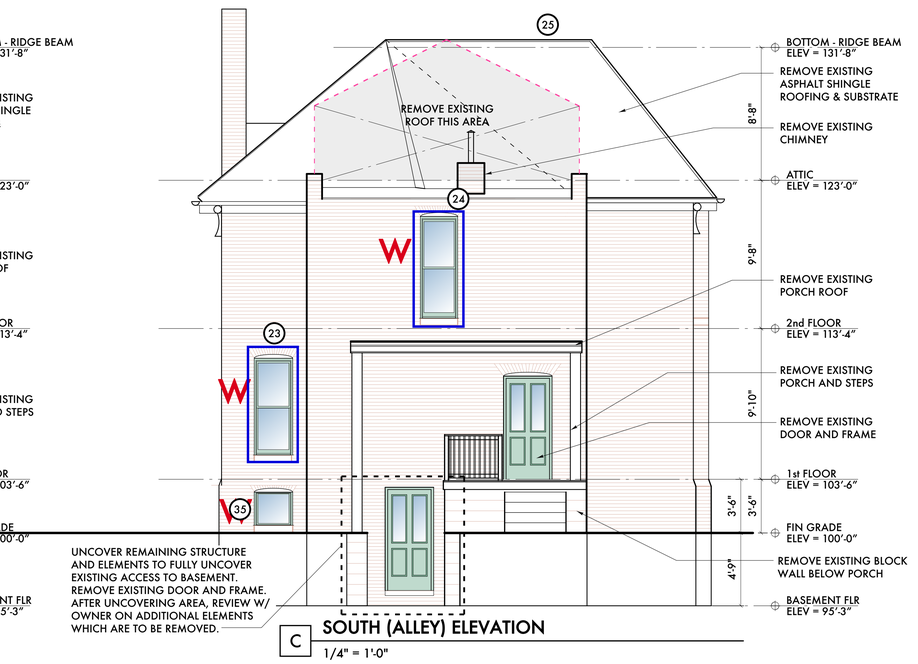
B **EAST ELEVATION**
1/4" = 1'-0"



A **NORTH (WATSON STREET) ELEVATION**
1/4" = 1'-0"



D **WEST ELEVATION**
1/4" = 1'-0"



C **SOUTH (ALLEY) ELEVATION**
1/4" = 1'-0"

STATE OF MICHIGAN
JOHN BIGGAR
ARCHITECT
No. 0301041962
LICENSED ARCHITECT

3	03/13/26	HDC Revisions
	09/29/25	Permit Revisions - HDC
	07/08/25	Permits
	05/13/25	Owner/Designer Review
	04/07/25	Preliminary Pricing
	11/08/24	Historic Commission
	Date:	Issued For:

Watson Residence
Historic Home

264 East Watson
Detroit, Michigan 48201

studiozONE : DETROIT
architectural urban interior DESIGN
350 Madison Avenue
4th Floor
Detroit, Michigan 48226
studiozonedetroit.com
313 549 2790 [p]
jb@ware-house.com

Project Number: 2024 - 07

Sheet Title:
EXTERIOR BUILDING ELEVATIONS

Sheet Number:
A5.00 (E)

HISTORIC DISTRICT COMMISSION
ADDITIONAL INFORMATION REQUEST

City of Detroit - Planning & Development Department
2 Woodward Avenue, Suite 808
Detroit, Michigan 48226

Date: 3/17/2026

Application Number: HDC2026-00106

APPLICANT & PROPERTY INFORMATION

NAME: John Biggar		**COMPANY NAME:** studiozONE	
ADDRESS: 350 MADISON ST FL 4TH	**CITY:** DETROIT	**STATE:** MI	**ZIP:** 48226
PROJECT ADDRESS: 264 Watson			
HISTORIC DISTRICT: Brush Park			

REQUESTED INFORMATION

We have received your application, but it is not yet complete for review. Please provide additional details based on the comments and questions listed below. Should you need to attach additional files per this request, use the paperclip icons at the end of this form. You may attach up to (5) files per icon up to 25MB:

The project must be reviewed by the Commission at one of their monthly meetings as the windows appear to be distinctive character-defining features of this resource and, in staff's opinion, are not demonstrably beyond reasonable repair.

Currently, this application is incomplete as it is missing the following:

-Current photos of all 4 sides of the house from the exterior
-Exterior photos of all of the windows proposed for replacement. Each photo/window depicted in each photo must be numbered to correspond with the numbers outlined in this application's (HDC2026-00106) submitted window schedule and window condition/assessment report.
- Elevation and horizontal and vertical sections for the existing wood windows (typical). Window sections must show the profiles and typical dimensions of muntins, meeting rails, sash, frames, moldings, and other features. Also, indicate the window's relationship to the existing wall plane.

This above-listed information is due in complete by 3/18/2026 by 12:00PM if you would like your application to be docketed to the upcoming April 8, 2026 meeting agenda. If any of the above-listed outstanding items are received after 3/18/2026, 12:00PM, the project will be added to the Commission's May 2026 meeting agenda for their review.

Finally, please see the attached Historic District Commission Guidelines on historic window repair. Consider submitting additional documentation of deterioration and/or a price quote for repair from an experienced window restorer if you wish to further define the condition of the windows proposed for replacement.

Thank you,

PSR: Jennifer 260317JR

APPLICANT RESPONSE

Response Date: 03/03/2026

I have provided the following information to address the response comments

1. Drawing A500 (P) Exterior Elevation Photos is photographs of the (4) existing elevations with the existing wood windows which are deteriorated identified on the elevation.

2. Drawings A762 Ex Window Details has horizontal and vertical sectional details showing all the components of the existing windows. Additionally the page includes the proposed window details for comparison

3. The pdf 264 Existing Windows - Individual Photos has photos of each window and are identified to the numbering system found on all the elevations.

Guidelines for Historic Wood Windows

Detroit Historic District Commission

Repair is the First Option for Historic Wood Windows

The Detroit Historic District Commission (HDC) follows the Secretary of Interior Standards for Rehabilitation for historic properties https://www.nps.gov/subjects/taxincentives/secretarys-standards-rehabilitation.htm.

For historic windows, Standard 6 is most directly applicable:

> *Standard 6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.*

The central message of the Standards is that historic windows will be repaired rather than replaced. Only when a window has severely deteriorated, and it cannot be repaired, may it be replaced. Generally, even badly deteriorated windows can be repaired by crafts persons who know about historic windows. The standard for replacement windows is strict.

> *"I've assessed the condition of more than a thousand [sashes], and never seen a sash that could not be repaired."* John Leeke (well-known window contractor), Historic Home Works

The Standards for Rehabilitation are from the Secretary of the Interior, National Park Service.[1] The HDC is required to follow these Standards by the Detroit City Ordinance for historic districts. [2]

Standard 2 also applies directly, because historic windows are a defining characteristic of historic buildings.

> Standard 2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.

Other Standards also relate to windows less directly.

---

[1] "The Secretary of the Interior's Standards for Rehabilitation." National Parks Service, U.S. Department of the Interior, https://www.nps.gov/subjects/taxincentives/secretarys-standards-rehabilitation.htm

[2] "2019 Detroit City Code, Sec. 21-2-73. - Issuance of Certificate of Appropriateness." https://library.municode.com/mi/detroit/codes/code_of_ordinances?nodeId=CICOCH21--43_CH21HI_ARTIIHIDILA_DIV4PEWOWIDI_S21-2-73ISCEAP

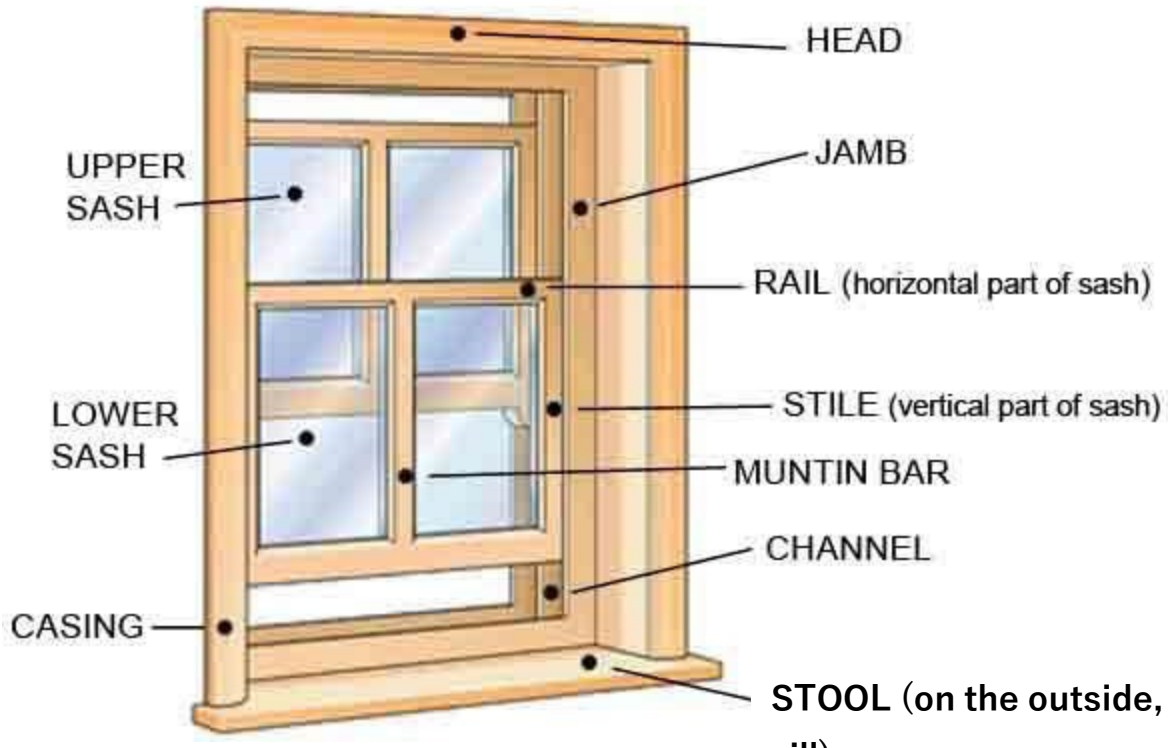
What Constitutes Repair of an Historic Wood Windows.

The principal objective of the Standards for Rehabilitation is to preserve historic properties and their features for the future. For historic windows to be preserved, they must be kept in good repair. Most of all, preservation requires regular maintenance. When a portion of a window has deteriorated, due to lack of maintenance or damage, it must be repaired sufficiently to assure its survival.

A historic window that is preserved for the future will have these characteristics:

1. No broken or cracked panes of glass.
2. Glazing putty on the exterior is intact and painted.
3. Paint is intact, with no flaking paint.
4. Wood windowsills are intact and painted.
5. All components of the window sash are intact and painted.
6. Any missing sash (upper, lower, or both) is replaced to match the originals closely.
7. The window jambs, brickmould, head, and casing are intact and painted.
8. Caulking in between brick molds and casings to prevent moisture incursion.
9. Any window that must be opened is operable: lower sash can move up and down; casement windows can swing open.

   Operability is not a required condition for a fully repaired window. For example, upper sash rarely are opened and do not need to be operable. Other windows that are not opened do not need to be operable.



Scope of Work for Repair of Historic Wood Windows

A historic wood window that lacks any of these characteristics will need to be repaired to preserve it into the future. Often the repairs are just elements of deferred maintenance.

The Scope of Work for repair is for individual windows. The Scope of Work will include just the minimum repairs necessary for the window to have all of the characteristics of a historic window preserved into the future.

On most buildings, many windows are likely to be in good repair and require little or no repair. For example, upper sash often need little repair. Some windows may need extensive repair work; lower sash and windowsills often need repair.

These repairs may be necessary to rehabilitate an individual window:

1. Broken or cracked panes of glass must be replaced.
2. Glazing putty at panes of glass on the exterior must be intact to protect the window. Intact glazing can be left in place; missing or deteriorated glazing must be replaced.
3. If there is flaking paint or bare wood, it must be scraped or sanded to prepare for primer and final coats of paint to protect the window.
4. Wood windowsills must be stabilized or repaired and sealed with primer and final coats of paint; if severely deteriorated, wood sills can be replaced in kind. Sills must slope away from the window to drain water.
5. If a sash has a deteriorated component (rail, stile, or muntin), that component must be stabilized or repaired sufficiently to preserve the window. Individual elements can be replaced in kind.
6. If a sash is missing or unrepairable, a new sash can replace the missing sash; the new sash must match the original sash closely.
7. If the window jambs, brickmould, head, and casing are deteriorated or damaged, they must be repaired or replaced in kind.

Prioritize Repairs

Some window repairs can have higher priorities than others. Spreading out the repair over time also spreads out the expense, which may be more manageable, if funds or financing are not available to do all repairs at one time.

1. Window Usage

In most buildings, occupants open some windows and not others. Windows that are the most important to be opened can have higher priority and be repaired first. For windows that are never opened, repairs can be deferred. Upper sash rarely are opened - only lower sash may need repair. Even if an unused window needs substantial repair, if it is covered by a storm window, that protection can allow deferral of the repair, perhaps for many years; in this way, a window is "mothballed" for future repair.

2. Window Conditions

For most buildings, the conditions of windows will vary. Some will be in good repair. Often upper sashes in double-hung windows get little wear and are in good condition. Some windows may need extensive repairs, including replacement of some components. And some will need small repairs. Windows that need the most repair can have higher priority to be repaired.

Beyond Repair

Full Restoration
Historic windows can be restored close to their original condition. While such a restoration to a "like new" condition is an ultimate goal, this goes beyond the repair necessary to preserve windows into the future, until a fuller restoration is possible.

A brief scope of work for a more extensive restoration is below. A full restoration may require that the window be disassembled.

1. Necessary repairs are, of course, the first step in a full restoration.
2. Paint or finish build-up (both exterior and interior) can be removed and replaced with fresh finishes. Interior finishes often are other than paint: they may not have as much build-up and can be refreshed rather than removed. As old paint may be lead-based, caution is required and safety steps must be implemented.
3. Glass can be fully reglazed.
    a. Most simply, all glazing putty can be removed and replaced.
    b. Further, glass panes can be removed from their beds (glazing rabbets), the beds cleaned, a thin layer of glazing compound applied to the beds, and the glass reset and reglazed.
4. Window hardware can be thoroughly cleaned and lubricated, or perhaps replaced to match the original.
5. On double-hung windows, sash ropes can be replaced, and pulleys can be lubricated or replaced.
6. New weather stripping can be added as needed.

Weatherization
A historic wood window that is in good repair also can be weatherized to reduce heat loss. Weatherization blocks cold air infiltration and prevents the escape of warm air. Energy also is lost through heat conduction through glass, which weatherization can reduce. In addition, weatherization measures also can reduce moisture infiltration that damages window structures.

The most effective weatherization is a tight-fitting storm window.

1. If exterior storms exist, they can be updated with new stripping and brush seals or rubber seals, and latches lubricated or replaced. Replace any broken glass.
2. Replace any missing glass and screen panels.
3. If there are no storms, there are both exterior and interior storm window options.

4. For exterior storms, caulking around the edges will reduce air infiltration and tighten the air space to reduce convection. However, do not caulk the bottom edge of storms, as this leaves a space for moisture to escape.
5. Exterior storms also protect windows from deterioration from weathering.

Storm windows and tightly weatherized sash create a large dead air pocket, which is an insulator. This is the same principle of insulation as a modern double-paned window sash, but with a much larger dead air space.

Several additional weatherization steps include:

1. Caulk around the exterior of windows where the jambs, brickmould and casing join the house. Heads and sills should not be caulked: open spaces allow moisture to escape.
2. On the interior, any space between interior casing and plaster walls can be sealed with spackling.
3. Weatherstripping on the interior between sash and jamb, using inexpensive weather stripping.
4. Sash locks in good repair (or replaced) keep the upper and lower sash tightly sealed.

Window Replacement

When a historic window is missing, it can be replaced. Also, when a window is so deteriorated or damaged that repair is either technically not feasible or economically not reasonable, it can be replaced.

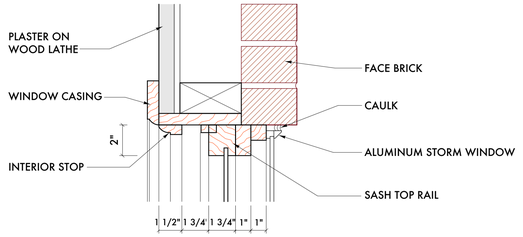
> For economic reasonableness, the cost of repair that is relevant is the cost of the scope of repair, as delineated above. While a full restoration will have higher cost, that is not the relevant cost to consider with respect to window replacement.
>
> What is a reasonable cost of repairing a window is contingent on the importance of the window. In a building, a window or set of windows may be so important to the architectural design of the building that they need to be repaired even at a fairly high cost rather than replaced. For example, a large leaded-glass window in a prominent location may be crucial to the character of a building.

Replacement windows must conform to conditions specified in Standard #6: *the new feature will match the old in design, color, texture and, where possible, materials.*

1. New windows must match the original windows in operation: most often windows are fixed panes, double-hung, or casement. There are other types.
2. The pattern of lites (panes) in the window must match that in the original window. For example, if an upper sash has 6 lites and the lower sash has only one, then the new windows must have the same configuration. There are many different configurations of lites observed in historic windows. Often these are highly distinctive configurations that are integral to the architecture of the building.
3. The dimensions of the window components (the rails, stiles, and muntins) should match or be very close to the dimensions of the components of the original window.

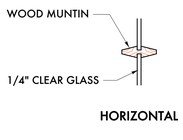
4. Multipaned windows must be replaced with either true divided lite windows or windows with simulated divided lites. Faux muntins between the glass panes of double-glazed window glass do not provide the same shadow lines and depth as historic windows and are inappropriate.
5. The color of the new windows must be within the color palette appropriate for the architectural style of the building.
6. The material of new windows should be the same as the original windows or be reasonably close in appearance.

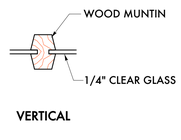
ADOPTED BY THE DETROIT HISTORIC DISTRICT COMMISSION MARCH 13, 2024



4 EXISTING WINDOW HEAD DETAIL

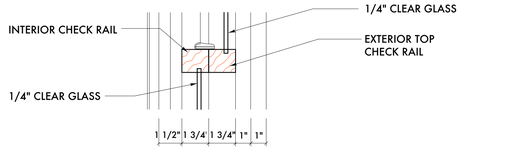
SCALE: 3" = 1'-0"





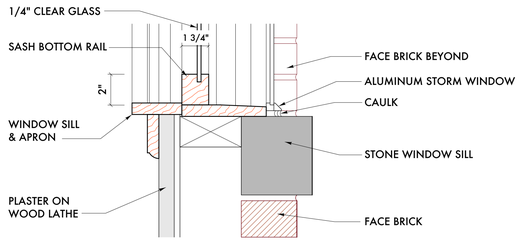
5 EXISTING WINDOW MUNTIN DETAILS

SCALE: 3" = 1'-0"



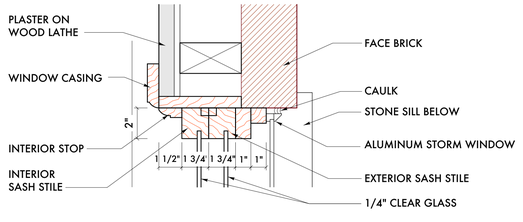
3 EXISTING WINDOW CHECK RAIL DETAIL

SCALE: 3" = 1'-0"



2 EXISTING WINDOW SILL DETAIL

SCALE: 3" = 1'-0"



1 EXISTING WINDOW JAMB DETAIL

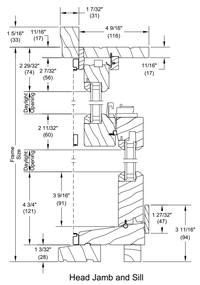
SCALE: 3" = 1'-0"

MARVIN *Ultimate Wood Double Hung*

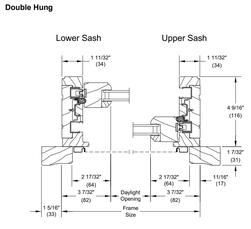
Section Details: Operating

Scale: 3" = 1' 0"

Double Hung

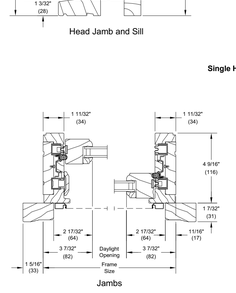


Head Jamb and Sill

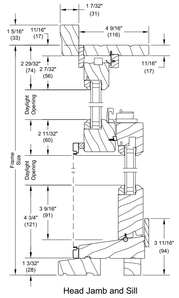


Jambs

Single Hung



Jambs



Head Jamb and Sill

Ver 2019.3 2019-06-24 UWDH-16 19972255
Marvin Architectural Detail Manual

6 PROPOSED MARVIN ULTIMATE SERIES WINDOW DETAILS

SCALE: 3" = 1'-0"

Date:	Issued For:
03/18/26	HDC Revisions

Watson Residence
Historic Home

264 East Watson
Detroit, Michigan 48201

studiozONE : DETROIT
architectural urban interior DESIGN
350 Madison Avenue
6th Floor
Detroit, Michigan 48226
studiozonedetroit.com
313 549 2790 [p]
jpb@ware-house.com

Project Number: 2024 - 02

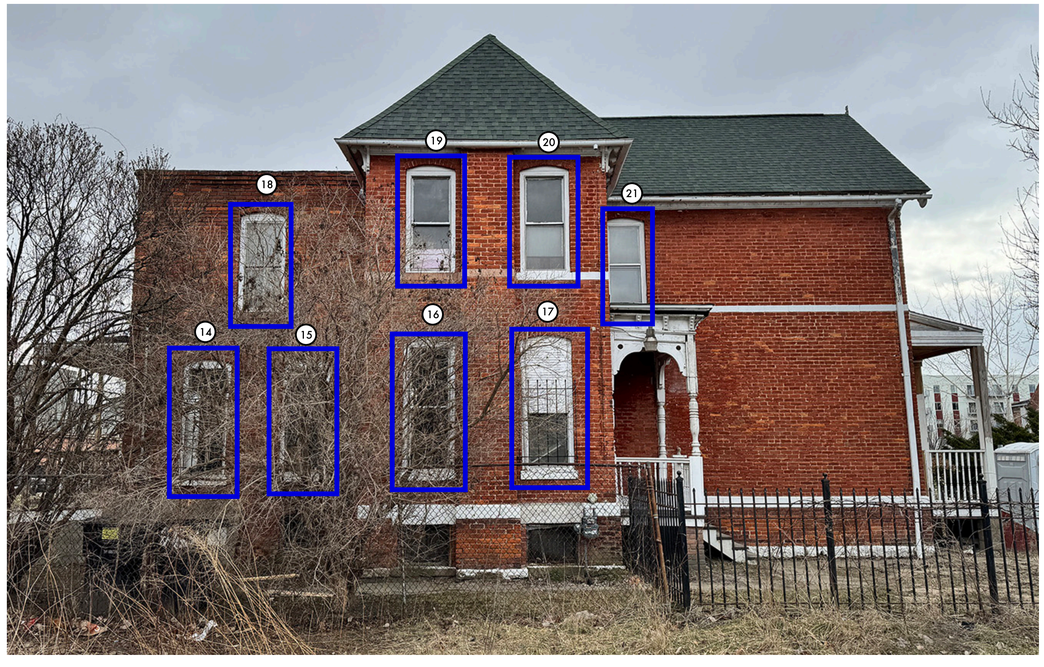
Sheet Title:

EXISTING & NEW WINDOW DETAILS

Sheet Number:

A7.62

INDICATES A WOOD WINDOW W/ SUCH EXTENSIVE DAMAGE IT CAN NOT BE REPAIRED



B EAST ELEVATION
NOT TO SCALE

A NORTH (WATSON STREET) ELEVATION
NOT TO SCALE

D WEST ELEVATION
NOT TO SCALE

C SOUTH (ALLEY) ELEVATION
NOT TO SCALE

STATE OF MICHIGAN
JOHN BIGGAR
ARCHITECT
No. 0301041902
LICENSED ARCHITECT

03/18/26 HDC Revisions
Date: Issued For:

Watson Residence
Historic Home

264 East Watson
Detroit, Michigan 48201

studiozONE : DETROIT
architectural | urban | interior DESIGN
350 Madison Avenue
4th Floor
Detroit, Michigan 48226
studiozonedetroit.com
313.549.2790 [o]
jab@ware-house.com

Project Number: 2024 - 07

Sheet Title:
EXTERIOR BUILDING PHOTOGRAPH ELEVATIONS

Sheet Number:
A5.00 (P)

Windows 7, 8 & 9

Window 14

Window 15

Window 16

Window 17

Window 18

Window 19

Window 20

Window 21

Window 23

Window 24

Window 30

Window 31