

**HISTORIC AND DESIGN REVIEW COMMISSION**  
**June 15, 2022**

**HDRC CASE NO:** 2022-253  
**ADDRESS:** 132 E MAGNOLIA AVE  
**LEGAL DESCRIPTION:** NCB 1704 BLK 12 LOT 9  
**ZONING:** R-4, H  
**CITY COUNCIL DIST.:** 7  
**HIST. DIST. NAME:** Monte Vista  
**APPLICANT:** Alan Neff  
**OWNER:** Ramon Flores  
**TYPE OF WORK:** Partial demolition, addition, demolition and new construction of accessory  
**APPLICATION RECEIVED:** April 27, 2022  
**60-DAY REVIEW:** Not applicable due to City Council Emergency Orders  
**CASE MANAGER:** Jessica Anderson

**REQUEST:**

The applicant requests a Certificate of Appropriateness for approval to:

1. Demolish a rear one-story porch on the house.
2. Construct a one-story rear addition.
3. Demolish the detached rear one-story carport and living quarters.
4. Construct a two-story rear detached building.

**APPLICABLE CITATIONS:**

*UDC Section 35-614. – Demolition*

Demolition of a historic landmark constitutes an irreplaceable loss to the quality and character of the City of San Antonio. Accordingly, these procedures provide criteria to prevent unnecessary damage to the quality and character of the city's historic districts and character while, at the same time, balancing these interests against the property rights of landowners.

a) Applicability. The provisions of this section apply to any application for demolition of a historic landmark (including those previously designated as historic exceptional or historic significant) or a historic district.

(3) Property Located in Historic District and Contributing to District Although Not Designated a Landmark. No certificate shall be issued for property located in a historic district and contributing to the district although not designated a landmark unless the applicant demonstrates clear and convincing evidence supporting an unreasonable economic hardship on the applicant if the application for a certificate is disapproved. When an applicant fails to prove unreasonable economic hardship in such cases, the applicant may provide additional information regarding loss of significance as provided in subsection (c)(3) in order to receive a certificate for demolition of the property.

b) Unreasonable Economic Hardship.

(1) Generally. The historic and design review commission shall be guided in its decision by balancing the historic, architectural, cultural and/or archaeological value of the particular landmark or eligible landmark against the special merit of the proposed replacement project. The historic and design review commission shall not consider or be persuaded to find unreasonable economic hardship based on the presentation of circumstances or items that are not unique to the property in question (i.e. the current economic climate).

(2) Burden of Proof. The historic and design review commission shall not consider or be persuaded to find unreasonable economic hardship based on the presentation of circumstances or items that are not unique to the property in question (i.e. the current economic climate). When a claim of unreasonable economic hardship is made, the owner must prove by a preponderance of the evidence that:

- A. The owner cannot make reasonable beneficial use of or realize a reasonable rate of return on a structure or site, regardless of whether that return represents the most profitable return possible, unless the highly significant endangered, historic and cultural landmark, historic and cultural landmarks district or demolition delay designation, as applicable, is removed or the proposed demolition or relocation is allowed;
- B. The structure and property cannot be reasonably adapted for any other feasible use, whether by the current owner or by a purchaser, which would result in a reasonable rate of return; and

- C. The owner has failed to find a purchaser or tenant for the property during the previous two (2) years, despite having made substantial ongoing efforts during that period to do so. The evidence of unreasonable economic hardship introduced by the owner may, where applicable, include proof that the owner's affirmative obligations to maintain the structure or property make it impossible for the owner to realize a reasonable rate of return on the structure or property.

c) Criteria. The public benefits obtained from retaining the cultural resource must be analyzed and duly considered by the historic and design review commission.

As evidence that an unreasonable economic hardship exists, the owner may submit the following information to the historic and design review commission by affidavit:

A. For all structures and property:

- i. The past and current use of the structures and property;
- ii. The name and legal status (e.g., partnership, corporation) of the owners;
- iii. The original purchase price of the structures and property;
- iv. The assessed value of the structures and property according to the two (2) most recent tax assessments;
- v. The amount of real estate taxes on the structures and property for the previous two (2) years;
- vi. The date of purchase or other acquisition of the structures and property;
- vii. Principal balance and interest rate on current mortgage and the annual debt service on the structures and property, if any, for the previous two (2) years;
- viii. All appraisals obtained by the owner or applicant within the previous two (2) years in connection with the owner's purchase, financing or ownership of the structures and property;
- ix. Any listing of the structures and property for sale or rent, price asked and offers received;
- x. Any consideration given by the owner to profitable adaptive uses for the structures and property;
- xi. Any replacement construction plans for proposed improvements on the site;
- xii. Financial proof of the owner's ability to complete any replacement project on the site, which may include but not be limited to a performance bond, a letter of credit, a trust for completion of improvements, or a letter of commitment from a financial institution; and
- xiii. The current fair market value of the structure and property as determined by a qualified appraiser.
- xiv. Any property tax exemptions claimed in the past five (5) years.

B. For income producing structures and property:

- i. Annual gross income from the structure and property for the previous two (2) years;
- ii. Itemized operating and maintenance expenses for the previous two (2) years; and
- iii. Annual cash flow, if any, for the previous two (2) years.

C. In the event that the historic and design review commission determines that any additional information described above is necessary in order to evaluate whether an unreasonable economic hardship exists, the historic and design review commission shall notify the owner. Failure by the owner to submit such information to the historic and design review commission within fifteen (15) days after receipt of such notice, which time may be extended by the historic and design review commission, may be grounds for denial of the owner's claim of unreasonable economic hardship.

When a low-income resident homeowner is unable to meet the requirements set forth in this section, then the historic and design review commission, at its own discretion, may waive some or all of the requested information and/or request substitute information that an indigent resident homeowner may obtain without incurring any costs. If the historic and design review commission cannot make a determination based on information submitted and an appraisal has not been provided, then the historic and design review commission may request that an appraisal be made by the city.

d) Documentation and Strategy.

- (1) Applicants that have received a recommendation for a certificate shall document buildings, objects, sites or structures which are intended to be demolished with 35mm slides or prints, preferably in black and white, and supply a set of slides or prints to the historic preservation officer.
- (2) Applicants shall also prepare for the historic preservation officer a salvage strategy for reuse of building materials deemed valuable by the historic preservation officer for other preservation and restoration activities.
- (3) Applicants that have received an approval of a certificate regarding demolition shall be permitted to receive a demolition permit without additional commission action on demolition, following the commission's recommendation of a certificate for new construction. Permits for demolition and construction shall be issued simultaneously if requirements of section 35-609, new construction, are met, and the property owner provides financial proof of his ability to complete the project.
- (4) When the commission recommends approval of a certificate for buildings, objects, sites, structures designated as landmarks, or structures in historic districts, permits shall not be issued until all plans for the site have received

approval from all appropriate city boards, commissions, departments and agencies. Permits for parking lots shall not be issued, nor shall an applicant be allowed to operate a parking lot on such property, unless such parking lot plan was approved as a replacement element for the demolished object or structure.

(e) Issuance of Permit. When the commission recommends approval of a certificate regarding demolition of buildings, objects, sites, or structures in historic districts or historic landmarks, permits shall not be issued until all plans for the site have received approval from all appropriate city boards, commissions, departments and agencies. Once the replacement plans are approved a fee shall be assessed for the demolition based on the approved replacement plan square footage. The fee must be paid in full prior to issuance of any permits and shall be deposited into an account as directed by the historic preservation officer for the benefit, rehabilitation or acquisition of local historic resources. Fees shall be as follows and are in addition to any fees charged by planning and development services:

0—2,500 square feet = \$2,000.00

2,501—10,000 square feet = \$5,000.00

10,001—25,000 square feet = \$10,000.00

25,001—50,000 square feet = \$20,000.00

Over 50,000 square feet = \$30,000.00

### *Historic Design Guidelines, Chapter 2, Exterior Maintenance and Alterations*

#### 7. Architectural Features: Porches, Balconies, and Porte-Cocheres

##### A. MAINTENANCE (PRESERVATION)

- i. *Existing porches, balconies, and porte-cocheres*—Preserve porches, balconies, and porte-cocheres. Do not add new porches, balconies, or porte-cocheres where not historically present.
- ii. *Balusters*—Preserve existing balusters. When replacement is necessary, replace in-kind when possible or with balusters that match the originals in terms of materials, spacing, profile, dimension, finish, and height of the railing.
- iii. *Floors*—Preserve original wood or concrete porch floors. Do not cover original porch floors of wood or concrete with carpet, tile, or other materials unless they were used historically.

##### B. ALTERATIONS (REHABILITATION, RESTORATION, AND RECONSTRUCTION)

- i. *Front porches*—Refrain from enclosing front porches. Approved screen panels should be simple in design as to not change the character of the structure or the historic fabric.
- ii. *Side and rear porches*—Refrain from enclosing side and rear porches, particularly when connected to the main porch or balcony. Original architectural details should not be obscured by any screening or enclosure materials. Alterations to side and rear porches should result in a space that functions, and is visually interpreted as, a porch.
- iii. *Replacement*—Replace in-kind porches, balconies, porte-cocheres, and related elements, such as ceilings, floors, and columns, when such features are deteriorated beyond repair. When in-kind replacement is not feasible, the design should be compatible in scale, massing, and detail while materials should match in color, texture, dimensions, and finish.
- iv. *Adding elements*—Design replacement elements, such as stairs, to be simple so as to not distract from the historic character of the building. Do not add new elements and details that create a false historic appearance.
- v. *Reconstruction*—Reconstruct porches, balconies, and porte-cocheres based on accurate evidence of the original, such as photographs. If no such evidence exists, the design should be based on the architectural style of the building and historic patterns.

#### 9. Outbuildings, Including Garages

##### A. MAINTENANCE (PRESERVATION)

- i. *Existing outbuildings*—Preserve existing historic outbuildings where they remain.
- ii. *Materials*—Repair outbuildings and their distinctive features in-kind. When new materials are needed, they should match existing materials in color, durability, and texture. Refer to maintenance and alteration of applicable materials above, for additional guidelines.

##### B. ALTERATIONS (REHABILITATION, RESTORATION, AND RECONSTRUCTION)

- i. *Garage doors*—Ensure that replacement garage doors are compatible with those found on historic garages in the district (e.g., wood paneled) as well as with the principal structure. When not visible from the public right-of-way, modern paneled garage doors may be acceptable.
- ii. *Replacement*—Replace historic outbuildings only if they are beyond repair. In-kind replacement is preferred; however, when it is not possible, ensure that they are reconstructed in the same location using similar scale, proportion, color, and materials as the original historic structure.

*Reconstruction*—Reconstruct outbuildings based on accurate evidence of the original, such as photographs. If no such evidence exists, the design should be based on the architectural style of the primary building and historic patterns in the district. Add permanent foundations to existing outbuildings where foundations did not historically exist only as a last resort.

### *Historic Design Guidelines, Chapter 3, Guidelines for Additions*

#### 1. Massing and Form of Residential Additions

##### A. GENERAL

- i. *Minimize visual impact*—Site residential additions at the side or rear of the building whenever possible to minimize views of the addition from the public right-of-way. An addition to the front of a building would be inappropriate.
- ii. *Historic context*—Design new residential additions to be in keeping with the existing, historic context of the block. For example, a large, two-story addition on a block comprised of single-story homes would not be appropriate.
- iii. *Similar roof form*—Utilize a similar roof pitch, form, overhang, and orientation as the historic structure for additions.
- iv. *Transitions between old and new*—Utilize a setback or recessed area and a small change in detailing at the seam of the historic structure and new addition to provide a clear visual distinction between old and new building forms.

##### B. SCALE, MASSING, AND FORM

- i. *Subordinate to principal facade*—Design residential additions, including porches and balconies, to be subordinate to the principal façade of the original structure in terms of their scale and mass.
- ii. *Rooftop additions*—Limit rooftop additions to rear facades to preserve the historic scale and form of the building from the street level and minimize visibility from the public right-of-way. Full-floor second story additions that obscure the form of the original structure are not appropriate.
- iii. *Dormers*—Ensure dormers are compatible in size, scale, proportion, placement, and detail with the style of the house. Locate dormers only on non-primary facades (those not facing the public right-of-way) if not historically found within the district.
- iv. *Footprint*—The building footprint should respond to the size of the lot. An appropriate yard to building ratio should be maintained for consistency within historic districts. Residential additions should not be so large as to double the existing building footprint, regardless of lot size.
- v. *Height*—Generally, the height of new additions should be consistent with the height of the existing structure. The maximum height of new additions should be determined by examining the line-of-sight or visibility from the street. Addition height should never be so contrasting as to overwhelm or distract from the existing structure.

#### 3. Materials and Textures

##### A. COMPLEMENTARY MATERIALS

- i. *Complementary materials*—Use materials that match in type, color, and texture and include an offset or reveal to distinguish the addition from the historic structure whenever possible. Any new materials introduced to the site as a result of an addition must be compatible with the architectural style and materials of the original structure.
- ii. *Metal roofs*—Construct new metal roofs in a similar fashion as historic metal roofs. Refer to the Guidelines for Alternations and Maintenance section for additional specifications regarding metal roofs.
- iii. *Other roofing materials*—Match original roofs in terms of form and materials. For example, when adding on to a building with a clay tile roof, the addition should have a roof that is clay tile, synthetic clay tile, or a material that appears similar in color and dimension to the existing clay tile.

##### B. INAPPROPRIATE MATERIALS

- i. *Imitation or synthetic materials*—Do not use imitation or synthetic materials, such as vinyl siding, brick or simulated stone veneer, plastic, or other materials not compatible with the architectural style and materials of the original structure.

##### C. REUSE OF HISTORIC MATERIALS

- ii. *Salvage*—Salvage and reuse historic materials, where possible, that will be covered or removed as a result of an addition.

#### 4. Architectural Details

##### A. GENERAL

- i. *Historic context*—Design additions to reflect their time while respecting the historic context. Consider character-defining features and details of the original structure in the design of additions. These architectural details include roof form, porches, porticos, cornices, lintels, arches, quoins, chimneys, projecting bays, and the shapes of window and door openings.
- ii. *Architectural details*—Incorporate architectural details that are in keeping with the architectural style of the original structure. Details should be simple in design and compliment the character of the original structure. Architectural details that are more ornate or elaborate than those found on the original structure should not be used to avoid drawing undue attention to the addition.
- iii. *Contemporary interpretations*—Consider integrating contemporary interpretations of traditional designs and details for additions. Use of contemporary window moldings and door surroundings, for example, can provide visual interest while helping to convey the fact that the addition is new.

## *Historic Design Guidelines, Chapter 4, Guidelines for New Construction*

### 2. Building Massing and Roof Form

#### A. SCALE AND MASS

- i. *Similar height and scale*—Design new construction so that its height and overall scale are consistent with nearby historic buildings. In residential districts, the height and scale of new construction should not exceed that of the majority of historic buildings by more than one-story. In commercial districts, building height shall conform to the established pattern. If there is no more than a 50% variation in the scale of buildings on the adjacent block faces, then the height of the new building shall not exceed the tallest building on the adjacent block face by more than 10%.
- ii. *Transitions*—Utilize step-downs in building height, wall-plane offsets, and other variations in building massing to provide a visual transition when the height of new construction exceeds that of adjacent historic buildings by more than one-half story.
- iii. *Foundation and floor heights*—Align foundation and floor-to-floor heights (including porches and balconies) within one foot of floor-to-floor heights on adjacent historic structures.

#### B. ROOF FORM

- i. *Similar roof forms*—Incorporate roof forms—pitch, overhangs, and orientation—that are consistent with those predominantly found on the block. Roof forms on residential building types are typically sloped, while roof forms on non-residential building types are more typically flat and screened by an ornamental parapet wall.

#### C. RELATIONSHIP OF SOLIDS TO VOIDS

- i. *Window and door openings*—Incorporate window and door openings with a similar proportion of wall to window space as typical with nearby historic facades. Windows, doors, porches, entryways, dormers, bays, and pediments shall be considered similar if they are no larger than 25% in size and vary no more than 10% in height to width ratio from adjacent historic facades.
- ii. *Façade configuration*—The primary façade of new commercial buildings should be in keeping with established patterns. Maintaining horizontal elements within adjacent cap, middle, and base precedents will establish a consistent street wall through the alignment of horizontal parts. Avoid blank walls, particularly on elevations visible from the street. No new façade should exceed 40 linear feet without being penetrated by windows, entryways, or other defined bays.

#### D. LOT COVERAGE

- i. *Building to lot ratio*—New construction should be consistent with adjacent historic buildings in terms of the building to lot ratio. Limit the building footprint for new construction to no more than 50 percent of the total lot area, unless adjacent historic buildings establish a precedent with a greater building to lot ratio.

### 5. Garages and Outbuildings

#### A. DESIGN AND CHARACTER

- i. *Massing and form*—Design new garages and outbuildings to be visually subordinate to the principal historic structure in terms of their height, massing, and form.
- ii. *Building size*—New outbuildings should be no larger in plan than 40 percent of the principal historic structure footprint.
- iii. *Character*—Relate new garages and outbuildings to the period of construction of the principal building on the lot through the use of complementary materials and simplified architectural details.
- iv. *Windows and doors*—Design window and door openings to be similar to those found on historic garages or outbuildings in the district or on the principal historic structure in terms of their spacing and proportions.

- v. *Garage doors*—Incorporate garage doors with similar proportions and materials as those traditionally found in the district.

## B. SETBACKS AND ORIENTATION

- i. *Orientation*—Match the predominant garage orientation found along the block. Do not introduce front-loaded garages or garages attached to the primary structure on blocks where rear or alley-loaded garages were historically used.
- ii. *Setbacks*—Follow historic setback pattern of similar structures along the streetscape or district for new garages and outbuildings. Historic garages and outbuildings are most typically located at the rear of the lot, behind the principal building. In some instances, historic setbacks are not consistent with UDC requirements and a variance may be required.

## Standard Specifications for Windows in Additions and New Construction

- **GENERAL:** New windows on additions should relate to the windows of the primary historic structure in terms of materiality and overall appearance. Windows used in new construction should be similar in appearance to those commonly found within the district in terms of size, profile, and configuration. While no material is expressly prohibited by the Historic Design Guidelines, a high-quality wood or aluminum-clad wood window product often meets the Guidelines with the stipulations listed below. Whole window systems should match the size of historic windows on property unless otherwise approved.
- **SIZE:** Windows should feature traditional dimensions and proportions as found within the district.
- **SASH:** Meeting rails must be no taller than 1.25". Stiles must be no wider than 2.25". Top and bottom sashes must be equal in size unless otherwise approved.
- **DEPTH:** There should be a minimum of 2" in depth between the front face of the window trim and the front face of the top window sash.
  - o This must be accomplished by recessing the window sufficiently within the opening or with the installation of additional window trim to add thickness.
- **TRIM:** Window trim must feature traditional dimensions and architecturally appropriate casing and sloped sill detail. Window track components such as jamb liners must be painted to match the window trim or concealed by a wood window screen set within the opening.
- **GLAZING:** Windows should feature clear glass. Low-e or reflective coatings are not recommended for replacements. The glazing should not feature faux divided lights with an interior grille. If approved to match a historic window configuration, the window should feature real exterior muntins.
- **COLOR:** Wood windows should feature a painted finished. If a clad product is approved, white or metallic manufacturer's color is not allowed, and color selection must be presented to staff.
- **INSTALLATION:** Wood windows should be supplied in a block frame and exclude nailing fins. Window opening sizes should not be altered to accommodate stock sizes prior to approval.
- **FINAL APPROVAL:** If the proposed window does not meet the aforementioned stipulations, then the applicant must submit updated window specifications to staff for review, prior to purchase and installation. For more assistance, the applicant may request the window supplier to coordinate with staff directly for verification.

## FINDINGS:

- a. The property at 132 E Magnolia includes a two-story Craftsman home with Neoclassical influences and detached rear one-story double carport with small living quarters, both built c. 1915. The property first appears on the 1931 Sanborn Fire Insurance map with the carport; an ad in the March 12, 1929, edition of the *San Antonio Express* describes the carport as it currently appears: "has double garage with servant's room." The house and carport are both clad in wood waterfall siding with composition shingle roofs; the house has a two-story porch across the primary elevation and a single-story rear porch. The house and carport contribute to the Monte Vista historic district.
- b. **DEMOLITION OF REAR ONE-STORY PORCH:** The applicant requests approval to demolish a one-story porch at the rear of the house. The house first appears on the 1931 Sanborn Fire Insurance map with a two-story rear porch. Staff finds the rear porch demolition appropriate since the existing one-story porch is not original to the structure.
- c. **REAR ADDITION:** The applicant requests approval to construct a one-story addition to the rear of the property, to include both interior space and a covered porch. Staff finds the proposed addition generally appropriate. The window removed near the east edge of the south elevation be retained and incorporated into the addition and that new windows match the historic windows in material and dimensions. The proposed new windows conform to

historic design guidelines. Additionally, staff suggests the applicant incorporate fenestration into the east elevation of the addition.

- d. FENESTRATION CHANGES: The applicant requests approval to include a small window immediately east of the existing rear left door. Staff finds the new window generally appropriate since it appears on a non-primary façade not visible from the public right-of-way. However, the existing door and window should be separated so that siding is visible between the door and window trim, and a more traditional configuration be used, such as one-over-one.
- e. DEMOLITION OF DETACHED CARPORT AND LIVING QUARTERS: The applicant requests approval to demolish the detached rear one-story double carport with small living quarters. In general, accessory structures contribute to the character of historic properties and the historic development pattern within an historic district.
- f. CONTRIBUTING STATUS: As noted in finding a, the carport appears to be original to the property; it is mentioned in a 1929 real estate ad and appears on the 1931 Sanborn Fire Insurance map, where it features a footprint consistent with the footprint presently found on site.
- g. UNREASONABLE ECONOMIC HARDSHIP: In accordance with UDC Section 35-614, no certificate shall be issued for demolition of a historic landmark unless the applicant provides sufficient evidence to support a finding by the commission of unreasonable economic hardship on the applicant. In the case of a historic landmark, if an applicant fails to prove unreasonable economic hardship, the applicant may provide to the historic and design review commission additional information regarding loss of significance. In order for unreasonable economic hardship to be met, the owner must provide sufficient evidence for the HDRC to support a finding in favor of demolition. The applicant has provided a cost estimate for renovation of the existing rear accessory structure between \$64,950 and \$86,600.
- h. LOSS OF SIGNIFICANCE: In accordance with UDC Section 35-614(c), demolition may be recommended if the owner has provided sufficient evidence to support a finding that the structure has undergone significant and irreversible changes which have caused it to lose the historic, cultural, architectural, or archaeological significance, qualities, or features which qualified the structure or property for such designation. The applicant has not provided information regarding the rear accessory structure's structural integrity.
- i. NEW CONSTRUCTION OF ACCESSORY STRUCTURE: The Guidelines for New Construction 5.A. notes that new garages and outbuildings should be visually subordinate to the primary historic structure in terms of their height, massing, and form, and should be no larger in plan than forty percent of the primary historic structure's footprint. The existing primary structure on the lot features a footprint of 1,611 square feet and two stories in height. The proposed two-story accessory structures feature a total footprint of approximately 770 square feet, or approximately 47% of the primary structure's footprint. Accessory structures on the block are predominately single story, though some two-story accessory structures are present in the neighborhood. Staff finds the proposed height and general massing do not conform to historic design guidelines.
- j. ORIENTATION & SETBACKS: The applicant has proposed both an orientation and setback for the new accessory structure that are consistent with the Guidelines for New Construction 5.B.
- k. ARCHITECTURAL DETAILS (Materials): The Guidelines for New Construction 5.A.iii. and iv. note that new accessory structures should relate to the period of construction of the primary historic structure on the lot through the use of complementary materials and simplified architectural details. Staff finds the proposed standing seam metal roof does not conform to historic design guidelines since the primary structure features a composition shingle roof. Guideline 2.B.i states that roof forms—pitch, overhangs, and orientation—consistent with those predominately found on the block should be incorporated. Staff finds the proposed rear eave on the accessory structure does not conform to guidelines.
- l. WINDOWS: The applicant proposes a single-lite fixed windows and clerestory windows on the north and south elevations of the proposed rear accessory structure and a large fixed window on the north elevation near the kitchen. Windows on the primary historic structure are predominately rectangular one-over-one operable wood windows that appear in ganged pairs or individually. Per Standard Specifications for Windows in Additions and New Construction, new windows on additions should relate to the windows of the primary historic structure in terms of materiality and overall appearance. Windows used in new construction should be similar in appearance to those commonly found within the district in terms of size, profile, and configuration. Staff finds the proposed window profiles are not consistent with these specifications.

**RECOMMENDATION:**

Staff recommends approval of item 1, demolition of the rear one-story porch, based on finding b.

Staff recommends approval of item 2, construction of a one-story rear addition, based on findings c and d, with the following stipulations:

- i. That the proposed siding match existing in material and dimensions.
- ii. That any windows removed be incorporated into the new addition.
- iii. That new windows match existing windows in material and dimensions.
- iv. That the applicant separate the rear door and window so that siding is visible between the door and window trim.
- v. That the applicant use a more traditional configuration such as one-over-one be used for the window next to the rear door.
- vi. That the new roof be clad in composition shingle.

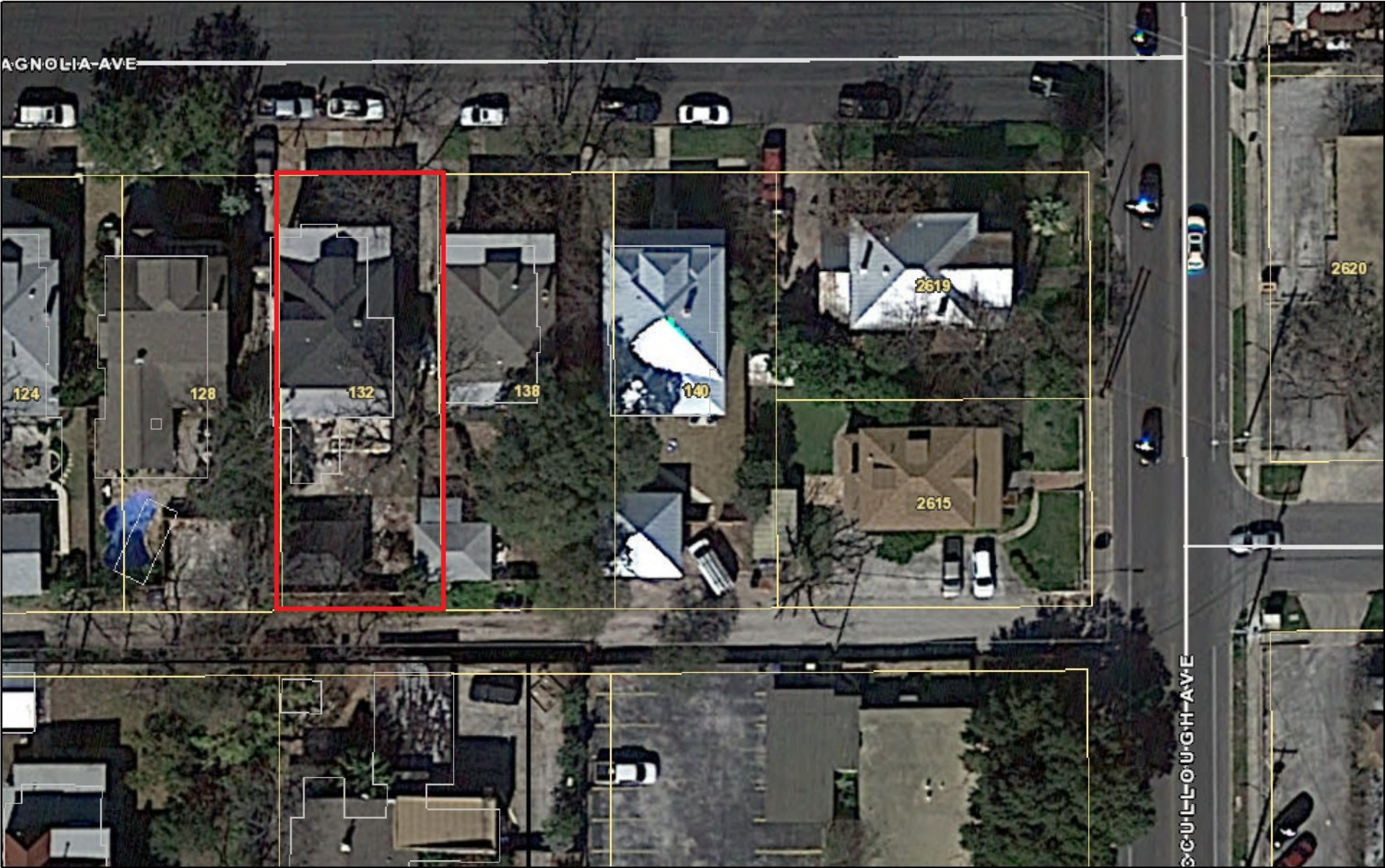
Staff does not recommend approval of item 3, demolition of the detached rear one-story carport and living quarters, based on findings e through h. The applicant has not made a case for loss of integrity or unreasonable economic hardship that would warrant full demolition of the feature. Staff recommends that the applicant further explore retention or incorporation of the existing structure into the proposed dwelling unit.

Should the commission find that the conditions required for approval of demolition have been met, staff recommends the following stipulations:

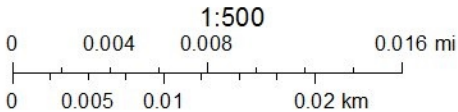
- I. That the applicant propose roof eaves consistent with those predominately found on the block consistent with the guidelines.
- II. That the applicant proposes window profiles for that have more traditional proportions otherwise meet the Standard Specifications for Windows in Additions and New Construction.
- III. That the applicant propose reduced areas of artificial turf for water permeability and opportunities for natural plantings consistent with the guidelines.



City of San Antonio One Stop



May 26, 2022























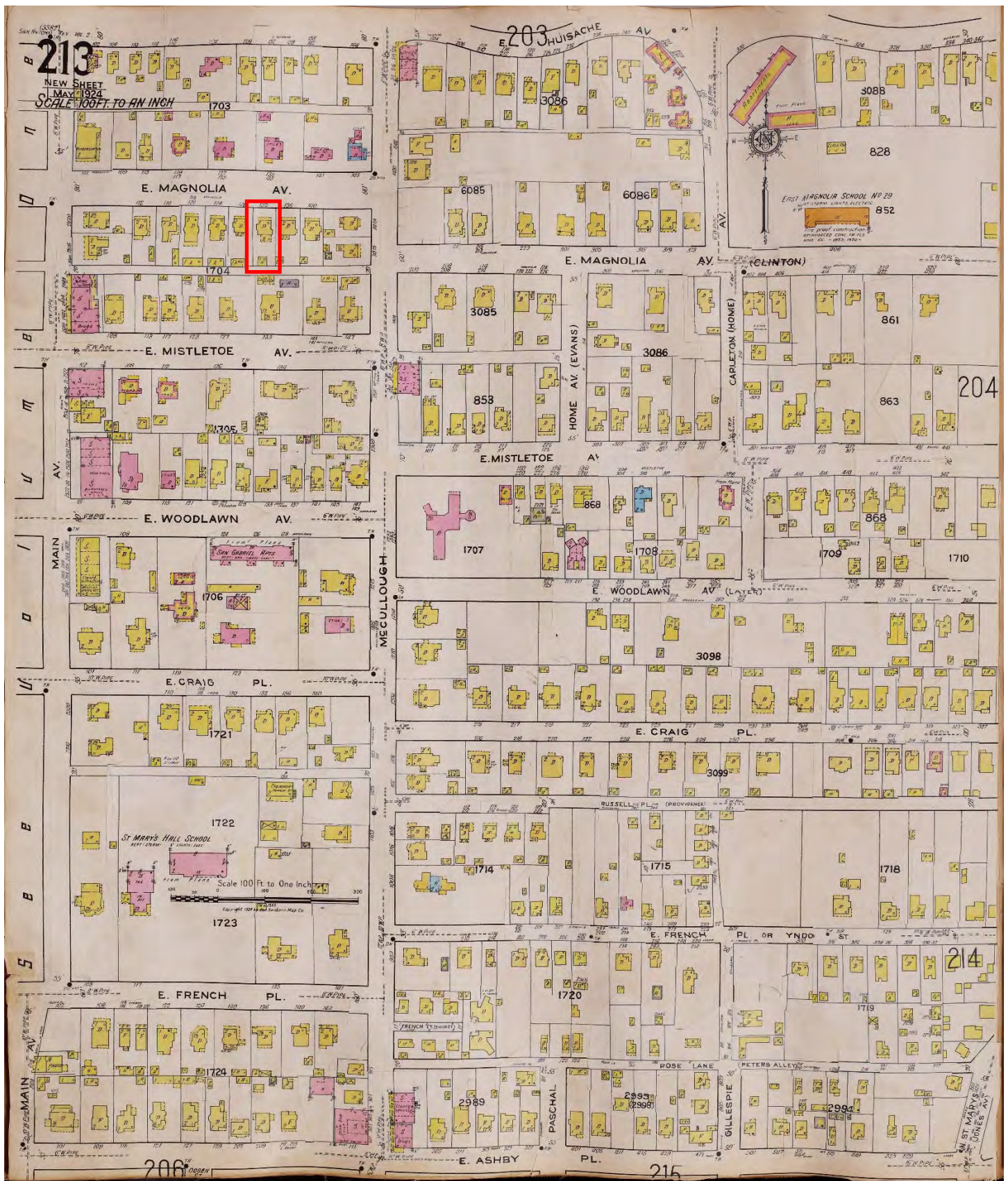




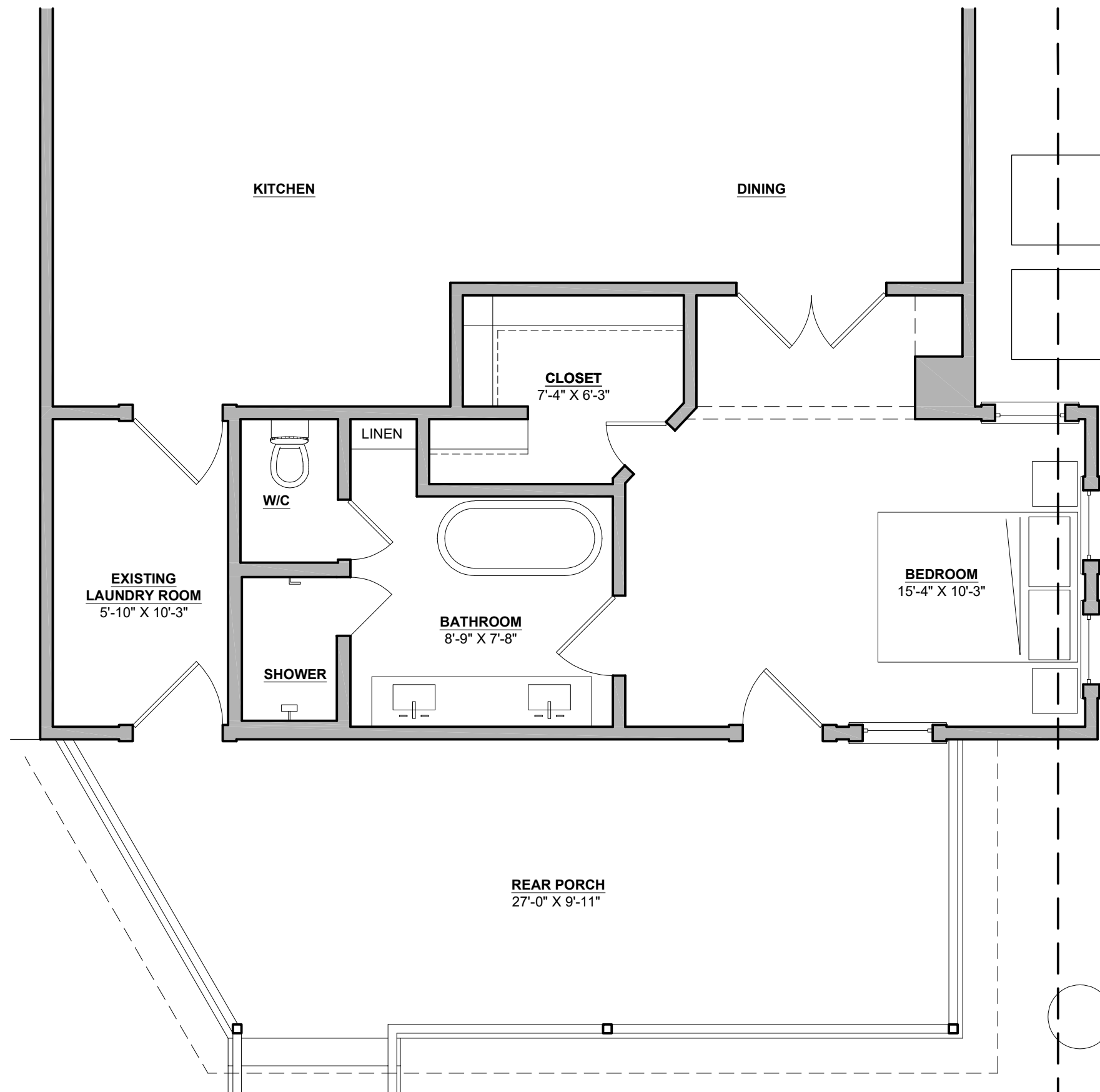




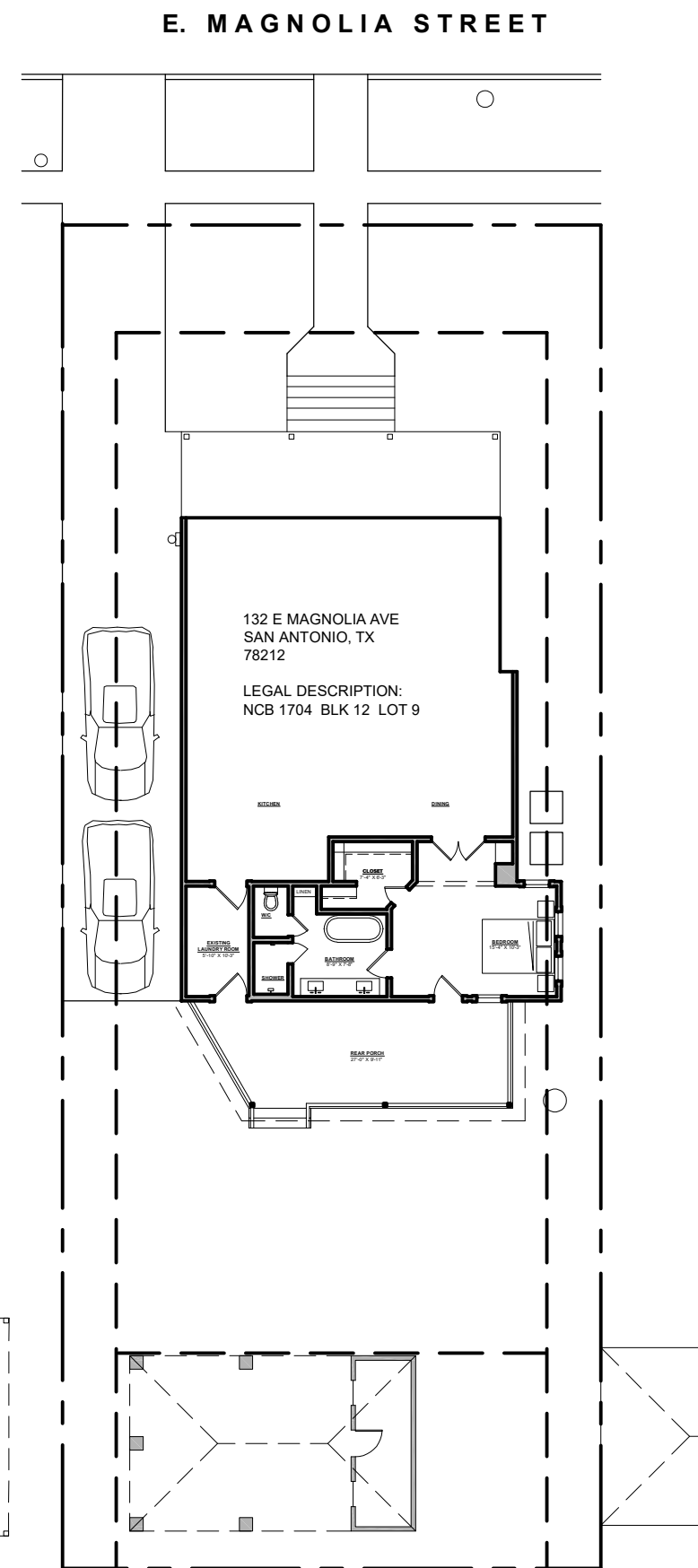




Original located at San Antonio Public Library Special Collections



**01 EXISTING FLOOR PLAN**  
SCALE 1/4" = 1'-0"



20' ALLEY

**02 EXISTING SITE PLAN**  
SCALE 1/16" = 1'-0"



**36 square**

ALAN NEFF, RA, LEED AP  
36SQUARE, LLC

210-416-2343  
ALAN@36SQUARE.ORG

NOT FOR CONSTRUCTION,  
BIDDING, OR REGULATORY  
APPROVAL  
ALAN NEFF, RA, LEED AP  
REGISTERED ARCHITECT STATE  
OF TEXAS #22140

January 19, 2022

CLIENT  
RAY AND JENNIFER FLORES

PROJECT

ADDITION AND NEW CASITA AT  
132 E MAGNOLIA ST  
SAN ANTONIO, TX 78212

DRAWN BY  
ALAN NEFF, RA, LEED AP

ISSUE  
MVNA/HDR REVIEW  
1-19-2022

**A1.0**



**01 EXISTING SIDE ELEVATION**  
SCALE 1/8" = 1'-0"



**02 EXISTING REAR ELEVATION**  
SCALE 1/8" = 1'-0"



ALAN NEFF ,RA, LEED AP  
36SQUARE, LLC

210-416-2343  
ALAN@36SQUARE.ORG

NOT FOR CONSTRUCTION,  
BIDDING, OR REGULATORY  
APPROVAL  
ALAN NEFF, RA, LEED AP  
REGISTERED ARCHITECT STATE  
OF TEXAS #22140

January 19, 2022

**CLIENT**  
RAY AND JENNIFER FLORES

**PROJECT**

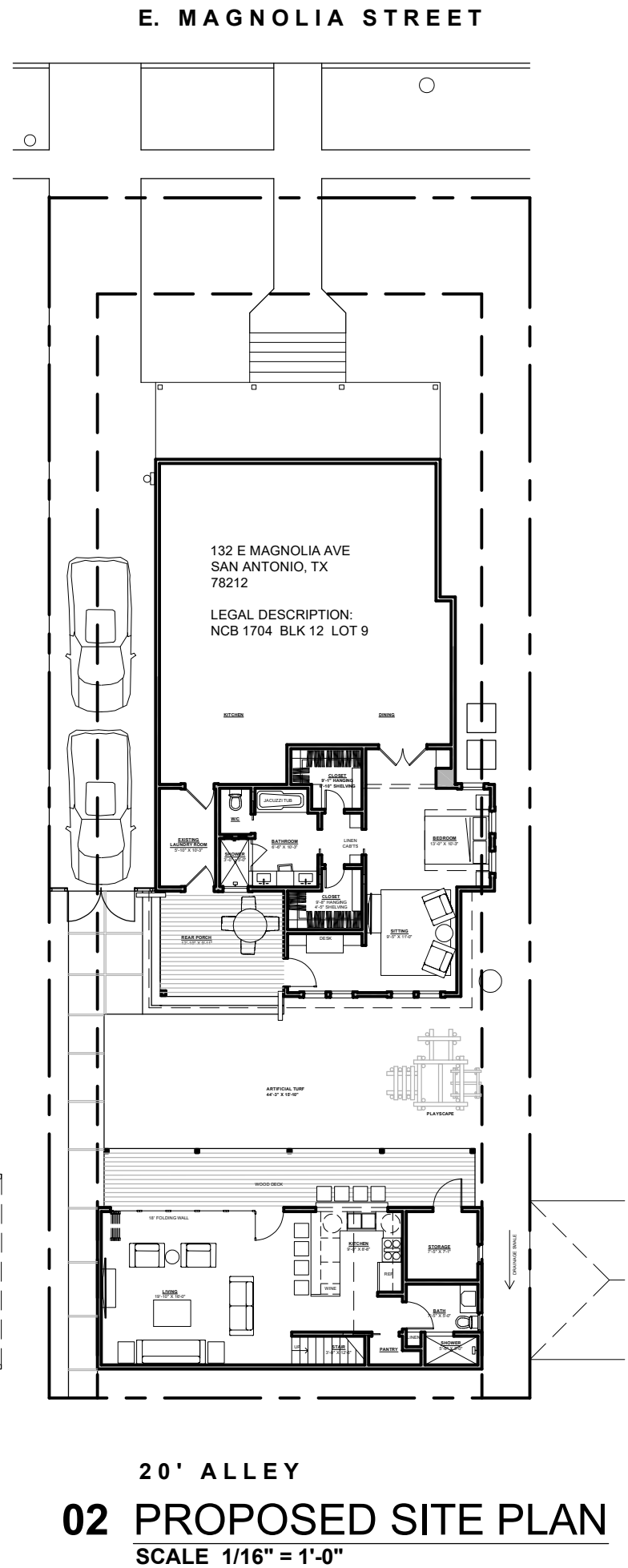
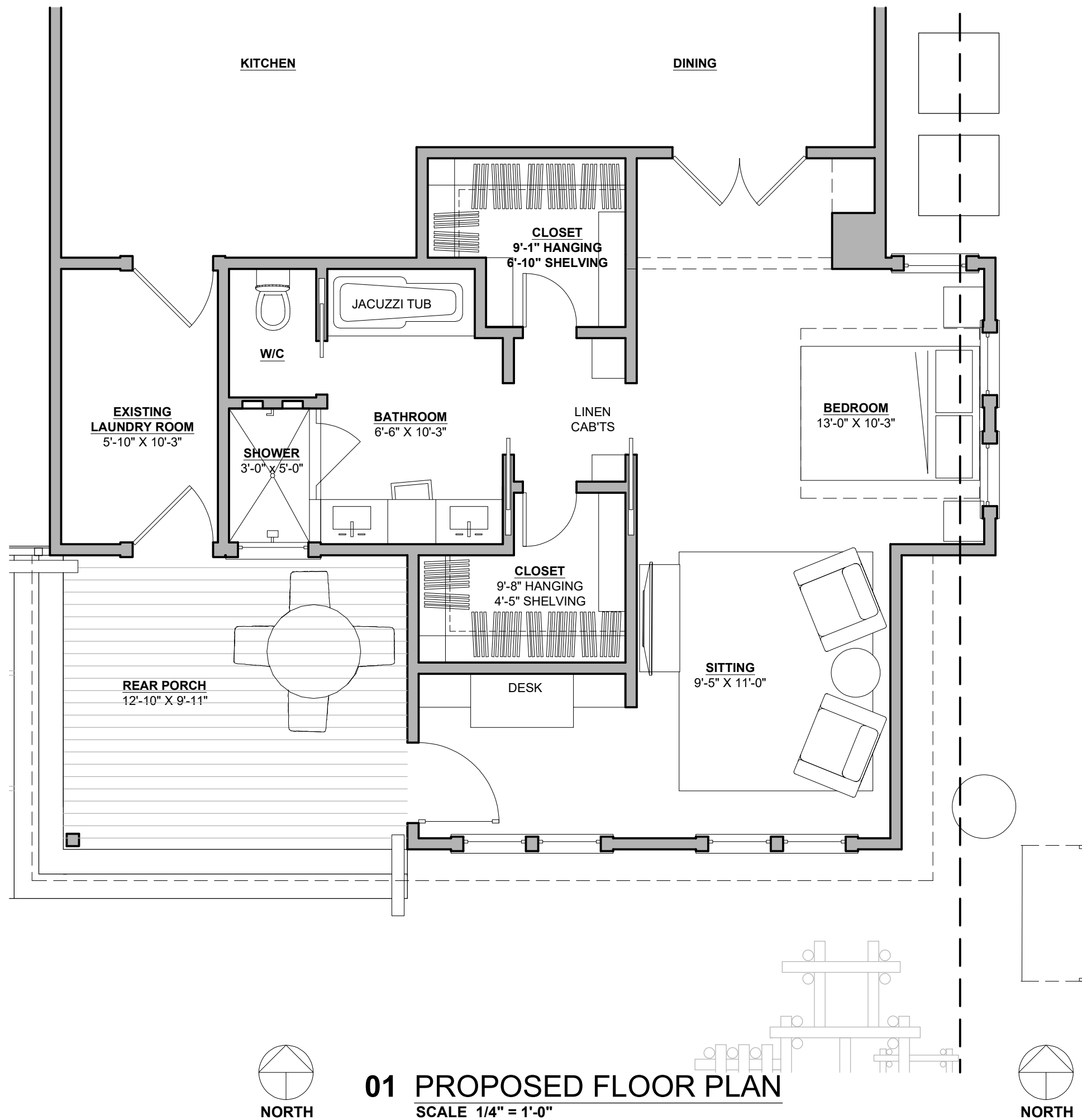
ADDITION AND NEW CASITA AT  
132 E MAGNOLIA ST  
SAN ANTONIO, TX 78212

**DRAWN BY**  
ALAN NEFF, RA, LEED AP

**ISSUE**  
MVNA/HDRC REVIEW  
1-19-2022

A1.1





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APPROVAL  
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REGISTERED ARCHITECT STATE  
OF TEXAS #22140

January 19, 2022

CLIENT  
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**01 PROPOSED SIDE ELEVATION**  
SCALE 1/8" = 1'-0"



**02 PROPOSED REAR ELEVATION**  
SCALE 1/8" = 1'-0"



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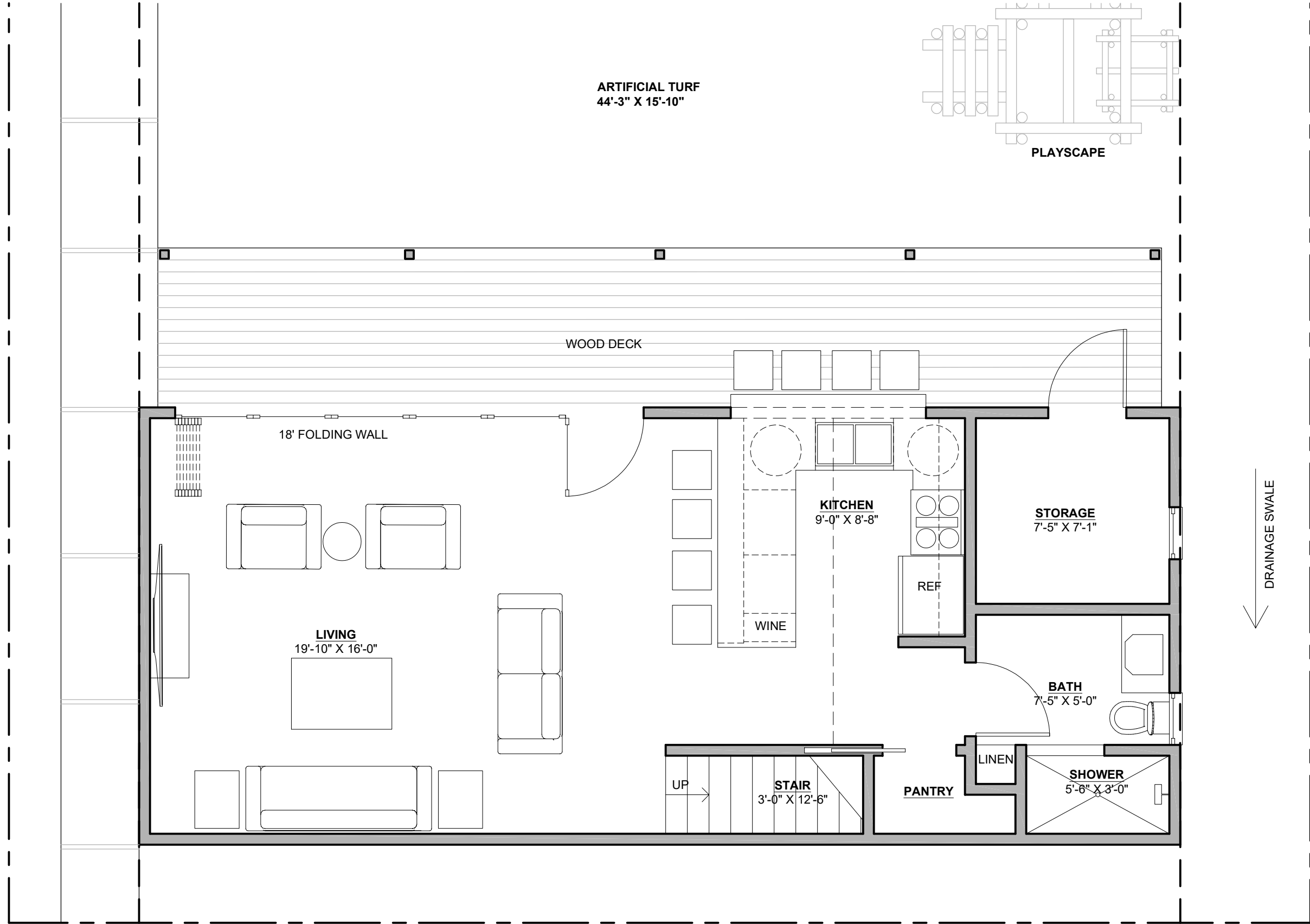
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01 FLOOR PLAN  
SCALE 1/8" = 1'-0"

A3.0



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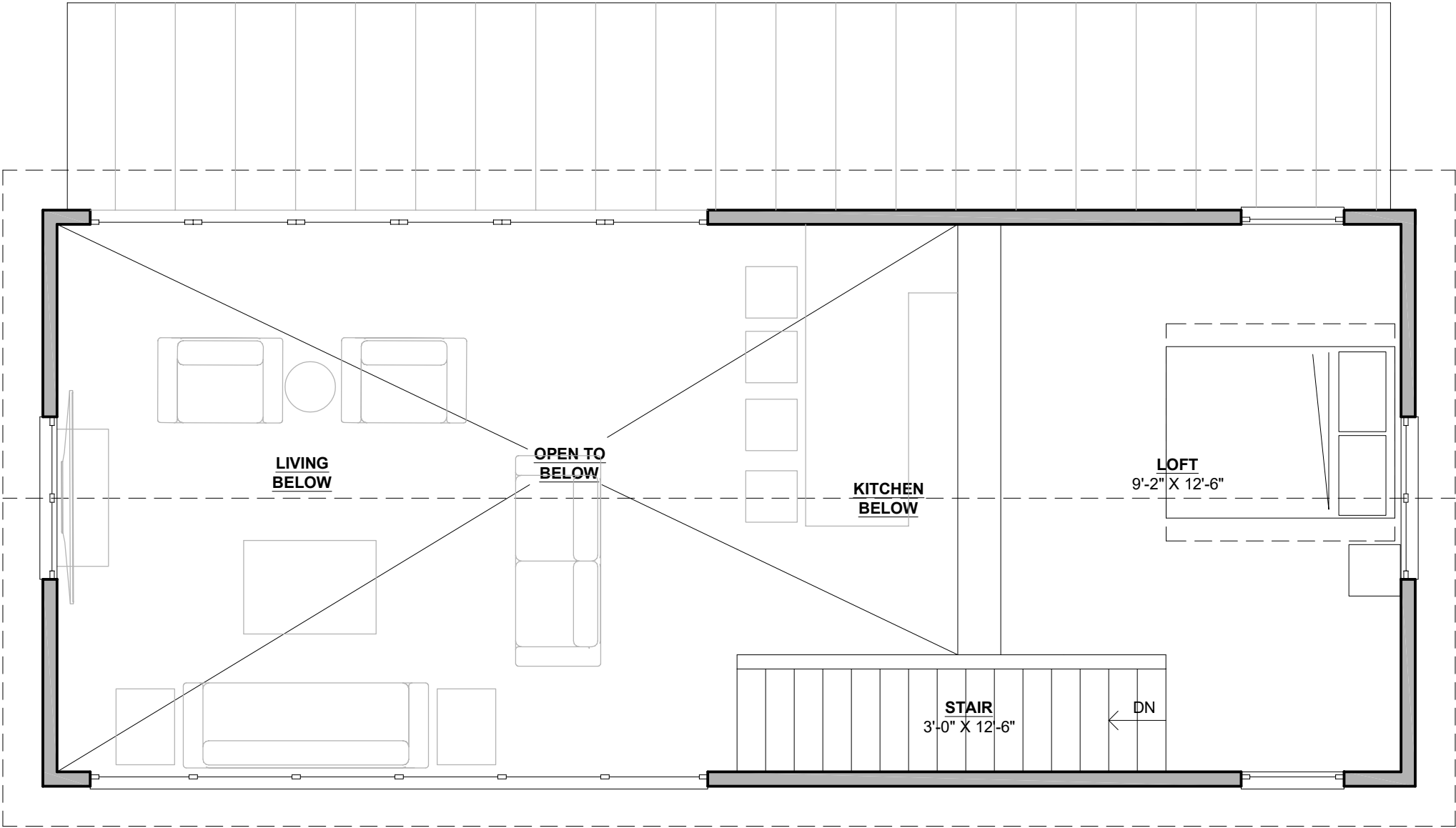
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PROJECT

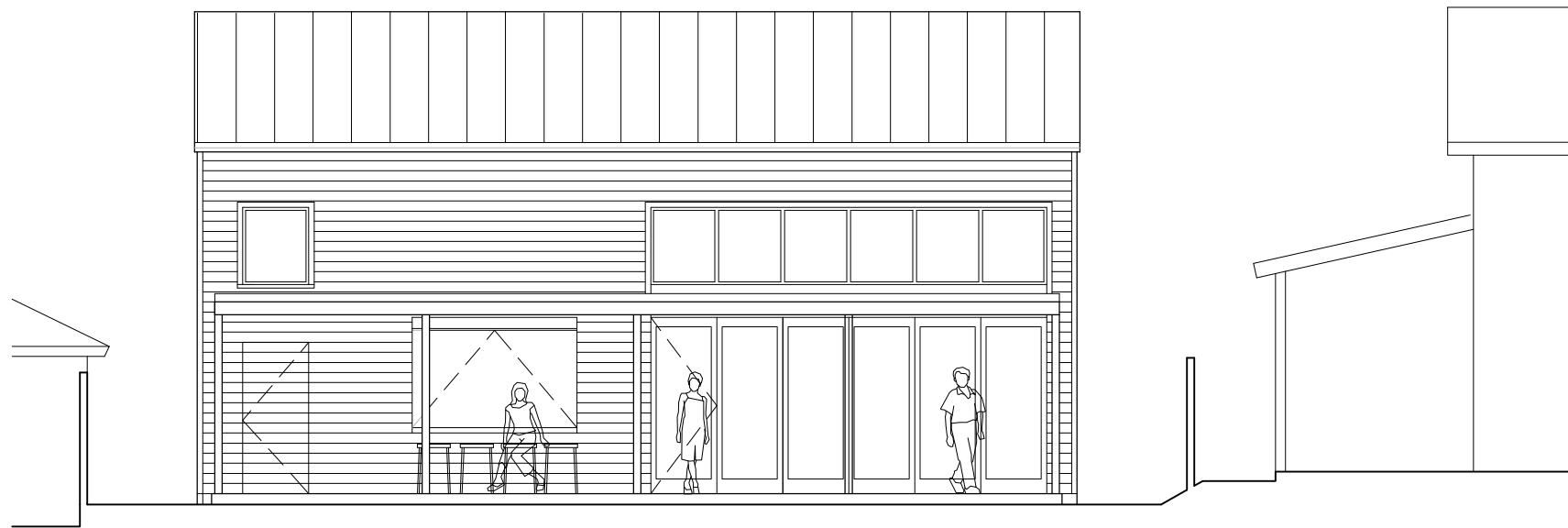
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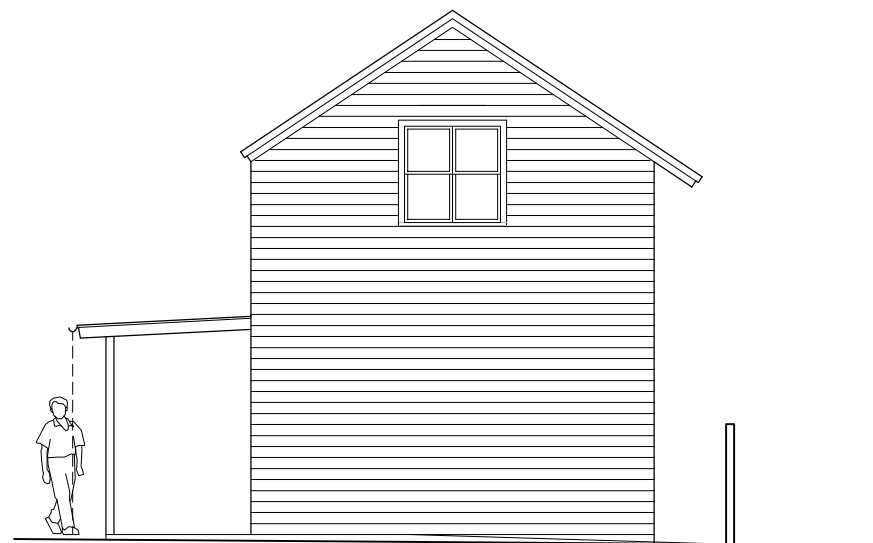
01 LOFT PLAN  
SCALE 1/8" = 1'-0"



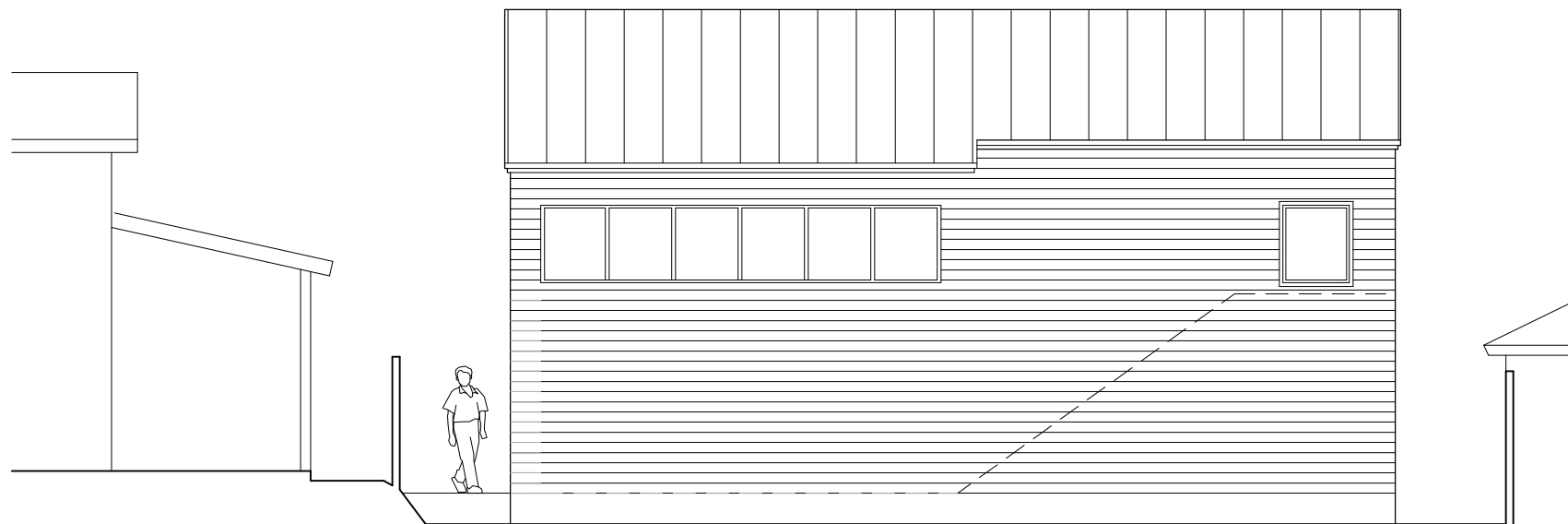
**01 NORTH ELEVATION**  
SCALE 1/8" = 1'-0"



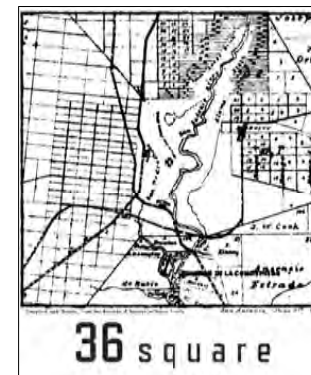
**02 EAST ELEVATION**  
SCALE 1/8" = 1'-0"



**03 WEST ELEVATION**  
SCALE 1/8" = 1'-0"



**04 SOUTH (ALLEY) ELEVATION**  
SCALE 1/8" = 1'-0"



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A3.2





**01 NORTH ELEVATION**

SCALE 1/8" = 1'-0"

STANDING SEAM  
METAL ROOF  
WITH GALVALUME  
FINISH

WOOD SIDING  
(PAINTED) TO MATCH  
MAIN HOUSE

ACCORDIAN GLASS  
WALL SYSTEM

STEEL POSTS, PTD.

WOOD OPERABLE  
WINDOW WITH  
INSULATED  
CLEAR GLAZING



**02 EAST ELEVATION**

SCALE 1/8" = 1'-0"



**36 square**

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**03 WEST ELEVATION**

SCALE 1/8" = 1'-0"

ROOF OF MAIN  
HOUSE BEYOND

STANDING SEAM  
METAL ROOF  
WITH GALVALUME  
FINISH

WOOD OPERABLE  
WINDOW WITH  
INSULATED  
CLEAR GLAZING

WOOD SIDING  
(PAINTED) TO MATCH  
MAIN HOUSE



**04 SOUTH (ALLEY) ELEVATION**

SCALE 1/8" = 1'-0"

**A3.2**





# Architectural Binder Section NW Wood 540

## NW Wood 540—Generation 4 Folding Glass Wall by NanaWall in Solid Wood

NW Wood 540, part of the Generation 4 Folding Glass Walls by NanaWall product family, provides the slimmest wood frame in the folding door industry. With a quadruple laminated cross-grained wood frame profile styled in a subtly rounded design, the intersection of two folding panels is a mere 5 11/16" (144 mm). Comprised of a host of proprietary and patented features, this floor supported system offers an extremely streamlined appearance with minimal exposed hardware, creating a new level of aesthetics.

With floor supported wood framed panels capable of reaching impressive system heights up to 9' 10" (3000 mm) and panel widths up to 3' 3" (1000 mm), this folding glass wall offers the possibility of wider opening sizes with the integration of FourFold and SixFold Panel Sets that move and stack to either side of the opening. NW Wood 540 provides the ultimate in layout flexibility. As a custom-built architectural solution, this system is available in inswing or outswing configurations and can accommodate open corner designs.

The best-in-class NW Wood 540 is designed for energy efficiency and strong weather performance. This system provides exceptional protection from outside elements and delivers comfort and security when closed. As a NanaWall product, the NW Wood 540 has been put through rigorous independent performance testing for air, water, structural, operation, and forced entry.

### Minimal Sightline for a Modern Aesthetic

Panel frames are slim and attractive with a total 5 11/16" (144 mm) junction where the two adjacent folding vertical stiles meet. The panel profiles offer a smooth and subtly rounded design. Top and bottom rails are a minimal 3 1/4" (82 mm), along with stiles as thin as 2 5/8" (67 mm), provide slim-line aesthetics. Panel depth is 3 3/8" (86 mm). To coordinate with design programs, simulated divided lites, horizontal and vertical mullions are possible.

### Quadruple Laminated Cross-Grained Wood for Added Strength

NW Wood 540 is built with quadruple laminated cross-grained solid premium wood to achieve the tall, slim-framed panel design of this fourth generation wood system. The quadruple-layer laminated wood allows for larger panel sizes, creates structural integrity, and provides long-term durability. Unlike other systems on the market, NanaWall wood framed systems are built on solid single-species wood

frames and are not veneered over inferior wood. This allows for maintenance sanding and refinishing down the road that will not compromise the beautiful wood finish. NW Wood 540 is manufactured with sustainably harvested wood. The wood options meet the international standards of FSC or PEFC.

### Unique Gothic Arch Roller Design Provides Frictionless Smooth Operation

The running carriage rolls on two stainless steel wheels with a unique Gothic arch design supported by a double row of encapsulated and self-lubricating ball bearings. With a 2-point contact of each wheel to the floor track, the system glides quietly and smoothly with less friction by providing an equal distribution of weight on the stainless steel track.

The rollers run above the water table, visible during operation and concealed between the panel profiles when the system is closed. This proprietary design allows for continued long-term smooth operation and has been (internally) tested to 20,000 opening and closing cycles in accordance with DIN/EN 1191.

### Floating Left/Right FourFold or SixFold Panel Sets for Wider Openings and Flexible Stacking Placement

NW Wood 540, along with the Generation 4 Folding Glass Walls by NanaWall product family, is the only floor supported, thermally broken folding system available that allows for larger opening sizes and flexible space management with the integration of FourFold or SixFold Panel Sets. These panel sets can move and stack either to the right, left, or center within the same track allowing the panels to be stacked in the most convenient location as needed. Additionally, the panels may be partially opened and located to control traffic flow or utilized to protect areas that are exposed to excessive wind.

### NW Wood 540 Floor Supported Technology Reduces Structural Requirements

Floor supported systems are ideal for applications where load-bearing capability of the header is a concern.

The benefits of floor supported are:

#### Reduced Structural Requirements

- Control construction costs. NanaWall Floor Supported Technology requires less header load and limits the need for extensive pre-cambering.

- Improves the likelihood of keeping existing header when retrofitting/remodeling thus reduced construction costs—as long as the maximum deflection is the lesser of a 1/4" or L/720.

#### **Long-term Durability and Smooth Operation**

- Floor supported systems are durable and offer smooth operation with stainless steel wheels on a stainless steel track.

#### **Four Sill Options with High Heel Resistant Feature**

NW Wood 540 has four sill options: Hybrid, Low Profile Saddle, Low Profile Saddle with UniverSILL®, and Flush. Standard to all sills is removable aluminum high heel resistant sill inserts. These inserts provide ADA compliance for the Low Profile Saddle and Flush sills and create a very barefoot-friendly transition. Furthermore, the inserts offer protection from dirt and debris collecting in the bottom track. A lighted option is possible; LED rope lights by others may be run under the sill insert to illuminate the way.

#### **Swing Doors for Traffic Management**

To accommodate traffic flow, swing panels can be added either to the end of a chain of panels for systems with an odd number of panels folding in one direction or hinged to the side jamb, depending on unit height and configuration.

Please reference the NW Wood 540 size charts.

NW Wood 540 allows for an up to 3' 3" (1000 mm) wide swing panel hinged to the side jamb. Swing panels have been tested and passed over 500,000 cycles and can be optionally outfitted with higher kickplates for ADA compliance. Panic hardware and top door closers by others are possible.

#### **Concealed Panel Alignment Means Less Exposed Panel Hinges**

The patented (Patent No. US10711510B2) TwinX mechanism aligns panels of over 7' (2150 mm) in height by adding a hidden spring-loaded structural reinforcement feature without the need for an additional exposed hinge in the middle of the system. Specifically engineered to meet higher wind loads, TwinX interlocks the panels together when the system is closed providing a consistent seal between the panels. This unique feature provides a clean-lined, sleek, and uniform appearance to the system.

#### **Multipurpose Frame Insert Provides Continuous Surface at Side Jamb and Head Track**

Standard to the system is a black polyamide clip-on multipurpose frame insert that conceals all visible frame-to-

structure attachment points and screw heads to create a clean, even appearance. Additionally, this frame cover piece creates a hollow space to run and guide concealed cabling for the NW Wood 540 to connect to a home security system by others.

#### **System Width Adjustment Feature for Long-term Tight, Consistent Sealing**

System width adjusts with ease. To allow for construction tolerance, a patented (Patent No. US10683688B2) lateral adjustment feature of +/- 3/16" (5 mm) is available at the side jamb. This allows for consistent seal compression within the system and can be adjusted should the need arise. This adjustment feature is located so that it doesn't interfere with the continuous perimeter seal of the frame.

#### **Anti-tilt Feature For Dynamic Stacking of Panel Sets**

Each floor supported FourFold or SixFold Panel Set is outfitted with a proprietary engineered anti-tilt feature in the head track. This feature assures that the floating panels stack neatly and securely when in open formation. Panels may stack either to the right side, left side, or anywhere within the opening.

#### **Installation Mounting Plate for Optimal Load Transfer**

Stainless steel installation plates provide optimal load transfer reducing the number of screws required for mounting the system's frame. Each installation plate is backed with a sealing cushion to avoid bridging the thermal break and spreads the load of the screw head over a larger surface area resulting in fewer fixing points needed. These plates create a clean, finished look.

#### **Optional Advanced Security Mechanism**

For applications requiring state-of-the-art-security, an optional lock monitoring system with Reed contacts is available located within the head track. A special concealed locking mechanism end cap, in combination with the concealed Reed contact, creates an open or closed loop for the home security system supplied by others. These optional locking features can be concealed cable routed through the frames to a home security system. Additionally, the Reed contact can be connected to a service/maintenance system by others that counts the number of opening and closing cycles of the unit advising when it may be time to contact a service technician for routine maintenance.

## Concealed Locking for Clean Appearance

Standard to the system is concealed locking between folding panels that operates with a 180° turn of a flat handle. The top and bottom locking bolts have approximately a 1" (24 mm) throw for maximum security engagement into the head and floor track.

### Standard and Tested Locking Option on Primary Swing Panels:

1. Multi-point locking operated by lever handles and with European profile cylinder. Locking is independently tested for acoustics, structural, air, water, and forced entry.

### Standard and Tested Locking Option for Secondary Swing Panels:

1. Concealed edge lock with top and bottom locking bolts have approximately a 1" (24 mm) throw for maximum security engagement into the head and floor track. Locking is independently tested for acoustics, structural, air, water, and forced entry.

For additional hardware options, contact NanaWall.

## Handles

### Stainless Steel Lever Handles

Stainless steel lever handles and escutcheon plates for the standard multi-point locking are available either in brushed satin, black titanium, or anti-viral/anti-microbial copper-nickel finish.

### Stainless Steel Flat Handles

Stainless steel flat handles are available either in brushed satin, black titanium, or anti-viral/anti-microbial copper-nickel finish.

### Spring-Loaded Pull Handle

For outswing units with larger panel sizes, a spring-loaded pull handle is supplied for ease of closing the system. The pull handle is located above the flat handle. When not in use, the handle lays flat against the adjacent panel and is supplied with bumpers to avoid metal-to-metal contact. Handles are either silver or black titanium stainless steel with the attachment to coordinate with the hinge hardware of the system.

## System Sizes

Depending on the desired glazing of the unit, maximum panel sizes range. For double or triple glazed systems, units can reach heights of 9' 10" (3000 mm) and panel widths up to 3' 3" (1000 mm). Unlimited system widths are possible with the addition of unhinged FourFold or SixFold Panel Sets.

## Thermal Efficiency and Glazing Options

A fundamental benefit of this Generation 4 folding glass wall is energy efficiency. The solid wood frames also offer the additional insulative and thermal advantage provided by natural wood. Depending on glass type selection, NW Wood 540 offers exceptional thermal performance values as low as ".19". The system comes standard with continuous seals along the face of each panel frame.

The glass pocket can accommodate glass from 1 1/8" (28 mm) to 1 7/8" (48 mm) insulated glass.

## Finishes







NW Wood 540 is available in FSC certified Sapeli Mahogany, and PEFC certified European Pine, Spruce, Meranti, and Western Hemlock. Other specialty wood options are available upon request. Market availability of quadruple laminated cross-grained wood may differ by wood species.

Eco-friendly water-based pre-treatment is applied to each solid wood framed folding system to be field finished by others. Please request our Wood Finish booklet to review the wood options.



## Hybrid Sill

### NW Wood 540

TYPE OF TEST	INWARD OPENING UNITS	OUTWARD OPENING UNITS
 <b>Air Infiltration</b> <sup>①</sup> ASTM E-283, ft³/min./ft. and NFRC 400	@ <b>1.57</b> psf (75 Pa): <b>0.06</b> (0.06 exfiltration) <b>A3</b> <sup>②</sup>	@ <b>1.57</b> psf (75 Pa): <b>0.06</b> (0.06 exfiltration) <b>A3</b> <sup>②</sup>
	@ <b>6.24</b> psf (300 Pa): <b>0.14</b>	@ <b>6.24</b> psf (300 Pa): <b>0.14</b>
 <b>Water Penetration</b> <sup>①*</sup> ASTM E-547 and E-331	<b>No uncontrolled water entry</b> <sup>①</sup> @ <b>9</b> psf (450 Pa) Please contact NanaWall for more information when higher water ratings are necessary.	
 <b>Structural Load</b> <sup>①</sup> ASTM E-330: pass <b>See design windload charts for other sized panels</b> <i>Note that the structural test pressures were 50% higher than the design pressures shown.</i>	<b>DESIGN PRESSURE</b>	
	Positive @ <b>39</b> psf (1850 Pa)	Negative @ <b>55</b> psf (2670 Pa)
	Positive @ <b>55</b> psf (2670 Pa)	Negative @ <b>39</b> psf (1850 Pa)
	Uniform Load Deflection, L/175 @ <b>45</b> psf (2150 Pa) Class CW-PG35 - FLD 4000 x 2600	
	Uniform Load Deflection, L/175 @ <b>45</b> psf (2150 Pa) Class CW-PG35 - FLD 4000 x 2600	
 <b>Forced Entry Resistance</b> <sup>①</sup> AAMA-1304	In accordance with AAMA-1304 requirements (European PAS24 Certified with optional security package)	
 <b>Operating Force</b> <sup>①</sup> ASTM E2068	The NW Wood 540 meets: <ul style="list-style-type: none"> <li>• Swing Panel: Open 1 lbf (2.8 N) &amp; Close 1 lbf (3.9 N)</li> <li>• Folding Panels: Initiate Motion - Open 4 lbf (20 N) &amp; Close 3 lbf (15 N)</li> <li>• Folding Panels: Maintain Motion - Open 1 lbf (3 N) &amp; Close 1 lbf (4 N)</li> </ul>	
 <b>Operation / Cycling Performance</b> AAMA 920 & DIN EN 1191 Windows and Pedestrian Doors - Mechanical Durability	The NW Wood 540 meets: <ul style="list-style-type: none"> <li>• "AAMA 920" requirement for swing panel attached to side jamb: 500,000 cycles - Pass</li> <li>• German "DIN EN 1191/12400 Classification," where a unit is tested after 20,000 opening and closing cycles and is still functional</li> </ul>	

① Excerpts of results of 13' 1" W x 8' 6" H (4000 mm x 2600 mm) 4 panel unit (1L3R configuration) specific or equivalent to lab tested by Intertek Building & Construction, an independent testing laboratory in March 2020 per AAMA/WDMA/CSA 101/1S.2/A440-17, NAFS-17 - North American Fenestration Standard

② For Canada, tested to NAFS-17 or equivalent and CSA A44051-09 (for drainage of standing water, weep hole in sill by others).

\* Water rating may not be applicable for configuration not tested, especially even panels plus even panels configurations.



### Thermal Performance

NW Wood 540<sup>③</sup> - Rated, certified and labeled in accordance with NFRC 100 + 200

TYPE OF GLASS (1 LITE) <sup>④</sup>	CENTER OF GLASS U-FACTOR	INWARD OPENING UNITS				OUTWARD OPENING UNITS			
		UNIT U-FACTOR	SHGC <sup>⑤</sup>	VT <sup>⑥</sup>	2015 ENERGY STAR	UNIT U-FACTOR	SHGC <sup>⑤</sup>	VT <sup>⑥</sup>	2015 ENERGY STAR
Double IG Clear (air filled)	.48	.44	.51	.55	–	.45	.51	.55	–
Double IG Standard Low E (argon filled)	.25	.29	.23	.47	*	.29	.23	.47	*
Double IG Standard Low E (air filled)	.30	.32	.23	.47	–	.33	.23	.47	–
Triple IG Low E x 2 (argon filled)	.12	.19	.20	.37	*	.20	.20	.37	*
Triple IG Low E x 2 (air filled)	.15	.21	.20	.37	*	.22	.20	.37	*
Double IG Alternate Higher SHGC Low E (argon filled)	.25	.29	.33	.48	**	.29	.32	.48	**
Double IG Alternate Higher SHGC Low E (air filled)	.29	.32	.33	.48	–	.33	.32	.48	–

#### NOTES

③ U-Factor, SHGC & VT for NW Wood 540 system unhinged panels will be about the same except in some cases variations of +/- .01 from what is shown.

④ NFRC simulated U factors of units with a horizontal mullion will have values of about .01 to .02 higher than units with no horizontal mullion. Please contact NanaWall for details.

⑤ SHGC = Solar Heat Gain Coefficient  
⑥ VT = Visible Transmittance

\* 2015 Energy Star Qualification Criteria: U-Factor for doors in all climate zones ≤.30, SHGC ≤.25 in South/South Central zones and ≤.40 in North/North Central zones. (For guidance only. NanaWall is not a participant of the Energy Star program.)




\*\* Meets SHGC Energy Star Qualification criteria for North/North Central zones only.

Shown above are thermal values for select glass options only. Thermal values for many other glass options are available. These may be able to meet specific requirements, such as Energy Star values for other zones, CA Title 24 prescriptive values, other state and local energy codes, etc. Thermal values for glass with other Low E coatings and Suntuitive dynamic glass are available. Please contact NanaWall for more information.



## Low Profile Saddle Sill

## NW Wood 540

TYPE OF TEST	INWARD OPENING UNITS		OUTWARD OPENING UNITS			
<div></div> <div><b>Air Infiltration</b> <sup>①</sup></div> <div>ASTM E-283, ft³/min./ft. and NFRC 400</div>	<div>@ <b>1.57</b> psf (75 Pa): <b>0.11</b></div> <div>(0.13 exfiltration)</div> <div><b>A2</b> <sup>①</sup></div>		<div>@ <b>1.57</b> psf (75 Pa): <b>0.13</b></div> <div>(0.11 exfiltration)</div> <div><b>A2</b> <sup>①</sup></div>			
	<div>@ <b>6.24</b> psf (300 Pa): <b>0.28</b></div>		<div>@ <b>6.24</b> psf (300 Pa): <b>0.25</b></div>			
<div></div> <div><b>Water Penetration</b> <sup>①*</sup></div> <div>ASTM E-547 and E-331</div>	<div><b>No uncontrolled water entry</b> <sup>①</sup></div> <div>@ <b>5.43</b> psf (260 Pa)</div> <div>Subject to the following adaptations of the sill in the field by others:</div> <div><div>1. Remove the gaskets covering the inner channel.</div><div>2. Drill weep holes through the bottom of the channel and drill weep holes from the middle channel to the exterior bottom hollow in sill (about one 5/16" weep hole per panel).</div><div>3. Drill weep holes through the lower front face of sill to the inner channel bottom (3/8" weep hole per panel).</div></div> <div>Please note that due to the varying site requirements and conditions, these sills will not be prepared for drainage by NanaWall. If this drainage system is desired, we recommend that qualified professionals construct this system on the project site strictly in accordance with instructions provided by NanaWall and in accordance with good waterproofing techniques, if drain connections are not made or not possible, unit may leak with wind driven rain.</div>					
<div></div> <div><b>Structural Load</b> <sup>①</sup></div> <div>ASTM E-330: pass</div> <div>See design windload charts for other sized panels</div> <div>Note that the structural test pressures were 50% higher than the design pressures shown.</div>	<b>DESIGN PRESSURE</b>		<b>DESIGN PRESSURE</b>			
	<div>Positive</div> <div>@ <b>40</b> psf</div> <div>(1945 Pa)</div>		<div>Negative</div> <div>@ <b>45</b> psf</div> <div>(2150 Pa)</div>		<div>Positive</div> <div>@ <b>45</b> psf</div> <div>(2150 Pa)</div>	
	<div>Uniform Load Deflection, L/175</div> <div>@ <b>49</b> psf</div> <div>(2380 Pa)</div> <div>Class CW-PG35 - FLD 4000 x 2600</div>		<div>Uniform Load Deflection, L/175</div> <div>@ <b>52</b> psf</div> <div>(2520 Pa)</div> <div>Class CW-PG35 - FLD 4000 x 2600</div>			
<div></div> <div><b>Forced Entry Resistance</b> <sup>①</sup></div> <div>AAMA-1304</div>	<div>In accordance with AAMA-1304 requirements (European PAS24 Certified with optional security package)</div>					
<div></div> <div><b>Operating Force</b> <sup>①</sup></div> <div>ASTM E2068</div>	<div>The NW Wood 540 meets:</div> <div><div>• Swing Panel: Open 1 lbf (2.8 N) &amp; Close 1 lbf (3.9 N)</div><div>• Folding Panels: Initiate Motion - Open 4 lbf (20 N) &amp; Close 3 lbf (15 N)</div><div>• Folding Panels: Maintain Motion - Open 1 lbf (3 N) &amp; Close 1 lbf (4 N)</div></div>					
<div></div> <div><b>Operation / Cycling Performance</b></div> <div>AAMA 920 &amp; DIN EN 1191</div> <div>Windows and Pedestrian Doors - Mechanical Durability</div>	<div>The NW Wood 540 meets:</div> <div><div>• "AAMA 920" requirement for swing panel attached to side jamb: 500,000 cycles - Pass</div><div>• German "DIN EN 1191/12400 Classification," where a unit is tested after 20,000 opening and closing cycles and is still functional</div></div>					

① Excerpts of results of 13' 1" W x 8' 6" H (4000 mm x 2600 mm) 4 panel unit (1L3R configuration) specific or equivalent to lab tested by Intertek Building & Construction, an independent testing laboratory in March 2020 per AAMA/WDMA/CSA 101/1S.2/A440-17, NAFS-17 - North American Fenestration Standard

② For Canada, tested to NAFS-17 or equivalent and CSA A44051-09 (for drainage of standing water, weep hole in sill by others).

\* Water rating may not be applicable for configuration not tested, especially even panels plus even panels configurations.





### Thermal Performance

NW Wood 540<sup>③</sup> - Rated, certified and labeled  
in accordance with NFRC 100 + 200

TYPE OF GLASS (1 LITE) <sup>④</sup>	CENTER OF GLASS U-FACTOR	INWARD OPENING UNITS				OUTWARD OPENING UNITS			
		UNIT U-FACTOR	SHGC <sup>⑤</sup>	VT <sup>⑥</sup>	2015 ENERGY STAR	UNIT U-FACTOR	SHGC <sup>⑤</sup>	VT <sup>⑥</sup>	2015 ENERGY STAR
Double IG Clear (air filled)	.48	.44	.51	.55	–	.45	.51	.55	–
Double IG Standard Low E (argon filled)	.25	.29	.23	.47	*	.30	.23	.47	*
Double IG Standard Low E (air filled)	.30	.33	.23	.47	–	.33	.23	.47	–
Triple IG Low E x 2 (argon filled)	.12	.20	.20	.37	*	.20	.20	.37	*
Triple IG Low E x 2 (air filled)	.15	.22	.20	.37	*	.22	.20	.37	*
Double IG Alternate Higher SHGC Low E (argon filled)	.25	.29	.32	.48	**	.30	.32	.48	**
Double IG Alternate Higher SHGC Low E (air filled)	.29	.32	.32	.48	–	.33	.32	.48	–

#### NOTES

③ U-Factor, SHGC & VT for NW Wood 540 system unhinged panels will be about the same except in some cases variations of +/- .01 from what is shown.

④ NFRC simulated U factors of units with a horizontal mullion will have values of about .01 to .02 higher than units with no horizontal mullion. Please contact NanaWall for details.

⑤ SHGC = Solar Heat Gain Coefficient  
⑥ VT = Visible Transmittance


\* 2015 Energy Star Qualification Criteria: U-Factor for doors in all climate zones ≤.30, SHGC ≤.25 in South/South Central zones and ≤.40 in North/North Central zones. (For guidance only. NanaWall is not a participant of the Energy Star program.)

\*\* Meets SHGC Energy Star Qualification criteria for North/North Central zones only.

Shown above are thermal values for select glass options only. Thermal values for many other glass options are available. These may be able to meet specific requirements, such as Energy Star values for other zones, CA Title 24 prescriptive values, other state and local energy codes, etc. Thermal values for glass with other Low E coatings and Suntuitive dynamic glass are available. Please contact NanaWall for more information.

## Low Profile Saddle Sill with UniverSILL Insert

### NW Wood 540

TYPE OF TEST	OUTWARD OPENING UNITS		
 <p><b>Air Infiltration</b> <sup>①</sup></p> <p>ASTM E-283, ft<sup>3</sup>/min./ft. and NFRC 400</p>	<p>@ <b>1.57</b> psf (75 Pa): <b>0.04</b> (0.02 exfiltration)</p> <p><b>A3</b> <sup>②</sup></p> <hr/> <p>@ <b>6.24</b> psf (300 Pa): <b>0.07</b></p>		
 <p><b>Water Penetration</b> <sup>①*</sup></p> <p>ASTM E-547 and E-331</p>	<p><b>No uncontrolled water entry</b> <sup>①</sup></p> <p>@ <b>7.5</b> psf (360 Pa)</p> <p>UniverSILL transforms Low Profile Saddle sill to obtain a better water rating when needed and to be easily removed when not required. To meet a water rating with the UniverSILL, the following needs to be done in the field by others:</p> <ol style="list-style-type: none"> <li>1. Weepholes and drainage as described for the low profile saddle sill (minimum needed are weepholes from the middle channel).</li> <li>2. Remove the gasket covering the inner channel and insert the UniverSILL.</li> <li>3. Seals at ends at the side jambs.</li> </ol>		
 <p><b>Structural Load</b> <sup>①</sup></p> <p>ASTM E-330: pass</p> <p><b>See design windload charts for other sized panels</b></p> <p><i>Note that the structural test pressures were 50% higher than the design pressures shown.</i></p>	<p><b>DESIGN PRESSURE</b></p> <table> <tr> <td>           Positive            @ <b>45</b> psf            (2150 Pa)         </td><td>           Negative            @ <b>40</b> psf            (1945 Pa)         </td></tr> </table> <hr/> <p>Uniform Load Deflection, L/175</p> <p>@ <b>52</b> psf (2520 Pa)</p> <p>Class CW-PG40 - FLD 4000 x 2600</p>	Positive @ <b>45</b> psf (2150 Pa)	Negative @ <b>40</b> psf (1945 Pa)
Positive @ <b>45</b> psf (2150 Pa)	Negative @ <b>40</b> psf (1945 Pa)		
 <p><b>Forced Entry Resistance</b> <sup>①</sup></p> <p>AAMA-1304</p>	<p>In accordance with AAMA-1304 requirements (European PAS24 Certified with optional security package)</p>		
 <p><b>Operating Force</b> <sup>①</sup></p> <p>ASTM E2068</p>	<p>The NW Wood 540 meets:</p> <ul style="list-style-type: none"> <li>• Swing Panel: Open 1 lbf (2.8 N) &amp; Close 1 lbf (3.9 N)</li> <li>• Folding Panels: Initiate Motion - Open 4 lbf (20 N) &amp; Close 3 lbf (15 N)</li> <li>• Folding Panels: Maintain Motion - Open 1 lbf (3 N) &amp; Close 1 lbf (4 N)</li> </ul>		
 <p><b>Operation / Cycling Performance</b></p> <p>AAMA 920 &amp; DIN EN 1191</p> <p>Windows and Pedestrian Doors - Mechanical Durability</p>	<p>The NW Wood 540 meets:</p> <ul style="list-style-type: none"> <li>• "AAMA 920" requirement for swing panel attached to side jamb: 500,000 cycles - Pass</li> <li>• German "DIN EN 1191/12400 Classification," where a unit is tested after 20,000 opening and closing cycles and is still functional</li> </ul>		

① Excerpts of results of 13' 1" W x 8' 6" H (4000 mm x 2600 mm) 4 panel unit (1L3R configuration) specific or equivalent to lab tested by Intertek Building & Construction, an independent testing laboratory in March 2020 per AAMA/WDMA/CSA 101/1.S.2/A440-17, NAFS-17 - North American Fenestration Standard

② For Canada, tested to NAFS-17 or equivalent and CSA A440051-09 (for drainage of standing water, weep hole in sill by others).

\* Water rating may not be applicable for configuration not tested, especially even panels plus even panels configurations.



### Thermal Performance

NW Wood 540<sup>③</sup> - Rated, certified and labeled  
in accordance with NFRC 100 + 200

TYPE OF GLASS (1 LITE) <sup>④</sup>	CENTER OF GLASS U-FACTOR	INWARD OPENING UNITS				OUTWARD OPENING UNITS			
		UNIT U-FACTOR	SHGC <sup>⑤</sup>	VT <sup>⑥</sup>	2015 ENERGY STAR	UNIT U-FACTOR	SHGC <sup>⑤</sup>	VT <sup>⑥</sup>	2015 ENERGY STAR
Double IG Clear (air filled)	.48	.44	.51	.55	–	.45	.51	.55	–
Double IG Standard Low E (argon filled)	.25	.29	.23	.47	*	.30	.23	.47	*
Double IG Standard Low E (air filled)	.30	.33	.23	.47	–	.33	.23	.47	–
Triple IG Low E x 2 (argon filled)	.12	.20	.20	.37	*	.20	.20	.37	*
Triple IG Low E x 2 (air filled)	.15	.22	.20	.37	*	.22	.20	.37	*
Double IG Alternate Higher SHGC Low E (argon filled)	.25	.29	.32	.48	**	.30	.32	.48	**
Double IG Alternate Higher SHGC Low E (air filled)	.29	.32	.32	.48	–	.33	.32	.48	–

#### NOTES

③ U-Factor, SHGC & VT for NW Wood 540 system unhinged panels will be about the same except in some cases variations of +/- .01 from what is shown.

④ NFRC simulated U factors of units with a horizontal mullion will have values of about .01 to .02 higher than units with no horizontal mullion. Please contact NanaWall for details.

⑤ SHGC = Solar Heat Gain Coefficient  
⑥ VT = Visible Transmittance

\* 2015 Energy Star Qualification Criteria: U-Factor for doors in all climate zones  $\leq .30$ , SHGC  $\leq .25$  in South/South Central zones and  $\leq .40$  in North/North Central zones. (For guidance only. NanaWall is not a participant of the Energy Star program.)

\*\* Meets SHGC Energy Star Qualification criteria for North/North Central zones only.

Shown above are thermal values for select glass options only. Thermal values for many other glass options are available. These may be able to meet specific requirements, such as Energy Star values for other zones, CA Title 24 prescriptive values, other state and local energy codes, etc. Thermal values for glass with other Low E coatings and Suntuitive dynamic glass are available. Please contact NanaWall for more information.

## Flush Sill

### NW Wood 540

TYPE OF TEST	INWARD OPENING UNITS		OUTWARD OPENING UNITS	
<div></div> <div><b>Air Infiltration</b> <sup>①</sup></div> <div>ASTM E-283, ft³/min./ft. and NFRC 400</div>	<div>@ <b>1.57</b> psf (75 Pa): <b>0.11</b></div> <div>(0.13 exfiltration)</div> <div><b>A2</b></div>		<div>@ <b>1.57</b> psf (75 Pa): <b>0.13</b></div> <div>(0.11 exfiltration)</div> <div><b>A2</b></div>	
	<div>@ <b>6.24</b> psf (300 Pa): <b>0.25</b></div>		<div>@ <b>6.24</b> psf (300 Pa): <b>0.28</b></div>	
<div></div> <div><b>Structural Load</b> <sup>①</sup></div> <div>ASTM E-330: pass</div> <div><b>See design windload charts for other sized panels</b></div> <div><i>Note that the structural test pressures were 50% higher than the design pressures shown.</i></div>	<b>DESIGN PRESSURE</b>		<b>DESIGN PRESSURE</b>	
	<div>Positive</div> <div>@ <b>40</b> psf</div> <div>(1945 Pa)</div>	<div>Negative</div> <div>@ <b>45</b> psf</div> <div>(2150 Pa)</div>	<div>Positive</div> <div>@ <b>45</b> psf</div> <div>(2150 Pa)</div>	<div>Negative</div> <div>@ <b>40</b> psf</div> <div>(1945 Pa)</div>
	<div>Uniform Load Deflection, L/175</div> <div>@ <b>49</b> psf</div> <div>(2380 Pa)</div>		<div>Uniform Load Deflection, L/175</div> <div>@ <b>52</b> psf</div> <div>(2520 Pa)</div>	
<div></div> <div><b>Forced Entry Resistance</b> <sup>①</sup></div> <div>AAMA-1304</div>	<div>In accordance with AAMA-1304 requirements <sup>①</sup></div> <div>(European PAS24 Certified with optional security package)</div>			
<div></div> <div><b>Operating Force</b> <sup>①</sup></div> <div>ASTM E2068</div>	<div>The NW Wood 540 meets:</div> <ul style="list-style-type: none"><li>• Swing Panel: Open 1 lbf (2.8 N) &amp; Close 1 lbf (3.9 N)</li><li>• Folding Panels: Initiate Motion - Open 4 lbf (20 N) &amp; Close 3 lbf (15 N)</li><li>• Folding Panels: Maintain Motion - Open 1 lbf (3 N) &amp; Close 1 lbf (4 N)</li></ul>			
<div></div> <div><b>Operation / Cycling Performance</b></div> <div>AAMA 920 &amp; DIN EN 1191</div> <div>Windows and Pedestrian Doors - Mechanical Durability</div>	<div>The NW Wood 540 meets:</div> <ul style="list-style-type: none"><li>• “AAMA 920” requirement for swing panel attached to side jamb: 500,000 cycles - Pass <sup>①</sup></li><li>• German “DIN EN 1191/12400 Classification,” where a unit is tested after 20,000 opening and closing cycles and is still functional</li></ul>			

① Derived from excerpts of results of 13' 1" W x 8' 6" H (4000 mm x 2600 mm) 4 panel unit (1L3R configuration) with low profile saddle sill specific or equivalent to lab tested by Intertek Building & Construction, an independent testing laboratory in March 2020 per AAMA/WDMA/CSA 101/1.S.2/A440-17, NAFS-17 - North American Fenestration Standard



### Thermal Performance

NW Wood 540<sup>②</sup> - Rated, certified and labeled  
in accordance with NFRC 100 + 200

TYPE OF GLASS (1 LITE) <sup>③</sup>	CENTER OF GLASS U-FACTOR	INWARD OPENING UNITS				OUTWARD OPENING UNITS			
		UNIT U-FACTOR	SHGC <sup>④</sup>	VT <sup>⑤</sup>	2015 ENERGY STAR	UNIT U-FACTOR	SHGC <sup>④</sup>	VT <sup>⑤</sup>	2015 ENERGY STAR
Double IG Clear (air filled)	.48	.44	.51	.55	-	.44	.51	.55	-
Double IG Standard Low E (argon filled)	.25	.29	.23	.47	*	.29	.23	.47	*
Double IG Standard Low E (air filled)	.30	.32	.23	.47	-	.32	.23	.47	-
Triple IG Low E x 2 (argon filled)	.12	.19	.20	.37	*	.20	.20	.37	*
Triple IG Low E x 2 (air filled)	.15	.22	.20	.37	*	.22	.20	.37	*
Double IG Alternate Higher SHGC Low E (argon filled)	.25	.29	.32	.48	**	.29	.32	.48	**
Double IG Alternate Higher SHGC Low E (air filled)	.29	.32	.32	.48	-	.32	.32	.48	-

#### NOTES

② U-Factor, SHGC & VT for NW Wood 540 system unhinged panels will be about the same except in some cases variations of +/- .01 from what is shown.

③ NFRC simulated U factors of units with a horizontal mullion will have values of about .01 to .02 higher than units with no horizontal mullion. Please contact NanaWall for details.

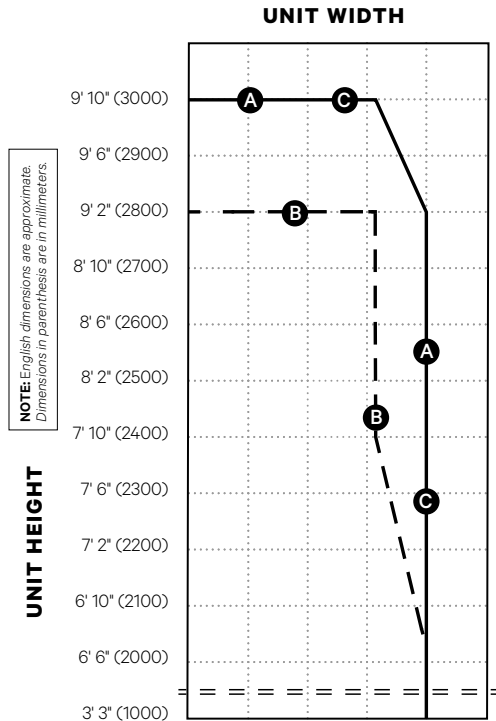
④ SHGC = Solar Heat Gain Coefficient  
⑤ VT = Visible Transmittance

\* 2015 Energy Star Qualification Criteria: U-Factor for doors in all climate zones ≤.30, SHGC ≤.25 in South/South Central zones and ≤.40 in North/North Central zones. (For guidance only. NanaWall is not a participant of the Energy Star program.)

\*\* Meets SHGC Energy Star Qualification criteria for North/North Central zones only.

Shown above are thermal values for select glass options only. Thermal values for many other glass options are available. These may be able to meet specific requirements, such as Energy Star values for other zones, CA Title 24 prescriptive values, other state and local energy codes, etc. Thermal values for glass with other Low E coatings and Suntuitive dynamic glass are available. Please contact NanaWall for more information.

# Maximum Size Chart NW Wood 540 (Double Glazed)



<b>Number of Panels in Unit</b>	1	1' 11" (600)	2' 3" (700)	2' 7" (800)	2' 11" (900)	3' 3" (1000)
	2	3' 11" (1200)	4' 7" (1400)	5' 3" (1600)	5' 10" (1800)	6' 6" (2000)
	3	5' 10" (1800)	6' 10" (2100)	7' 10" (2400)	8' 10" (2700)	9' 10" (3000)
	4	7' 10" (2400)	9' 2" (2800)	10' 6" (3200)	11' 9" (3600)	13' 1" (4000)
	5	9' 10" (3000)	11' 5" (3500)	13' 1" (4000)	14' 9" (4500)	16' 4" (5000)
	6	11' 9" (3600)	13' 10" (4200)	15' 8" (4800)	17' 8" (5400)	19' 8" (6000)
	7	13' 10" (4200)	16' 0" (4900)	18' 4" (5600)	20' 8" (6300)	22' 10" (7000)
	8	15' 8" (4800)	18' 4" (5600)	20' 11" (6400)	23' 7" (7200)	26' 1" (8000)
	9	17' 9" (5400)	20' 7" (6300)	23' 6" (7200)	26' 6" (8100)	29' 4" (9000)
	10	19' 8" (6000)	22' 10" (7000)	26' 1" (8000)	29' 6" (9000)	32' 9" (10000)
	11	21' 7" (6600)	25' 1" (7700)	28' 8" (8800)	32' 5" (9900)	36' 1" (11000)
	12	23' 6" (7200)	27' 4" (8400)	31' 5" (9600)	35' 5" (10800)	39' 4" (12000)

## Frame Width of Unit

(Wider widths possible with addition of Panel Sets.)

Any Custom Size is Possible Up to the Maximum Size Limit Lines Shown

## MAXIMUM SIZE LIMIT LINE OF:

### A CONFIGURATIONS

(Swing panel hinged at jamb only.)

#### Standard Configurations:

1L	1L 1R	1L 4R	2L 1R	4L 1R	6L 1R
1R	1L 2R	1L 6R			

#### Sample Configurations with Unhinged FourFold or SixFold Panel Sets:

1L 4L/R	1L 6L/R 1R	4L/R 1R
---------	------------	---------

Addition of Panel Sets to all A Configurations possible.

### C CONFIGURATIONS

(No swing panels.)

#### Standard Configurations:

2L	4L	6L	2L 2R	4L 2R	6L 2R
2R	4R	6R	2L 4R	4L 4R	6L 4R
			2L 6R	4L 6R	6L 6R

#### Sample Configurations with Unhinged FourFold or SixFold Panel Sets:

2L 4L/R	4L/R 4R	6L 6L/R	4L/R 4L/R	6L/R 4L/R
---------	---------	---------	-----------	-----------

Addition of Panel Sets to all C Configurations possible.

### B CONFIGURATIONS

(Swing panel as part of odd number of panels to one side.)

#### Standard Configurations:

1L 3R	3L 2R	5L 1R	4L 3R	3L 6R	5L 5R
3L 1R	3L 3R	2L 5R	5L 2R	6L 3R	5L 6R
2L 3R	1L 5R	3L 4R	3L 5R	5L 3R	6L 5R

#### Sample Configurations with Unhinged FourFold or SixFold Panel Sets:

3L 4L/R	3L 6L/R	3L 4L/R 3R
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Addition of Panel Sets to all B Configurations possible.

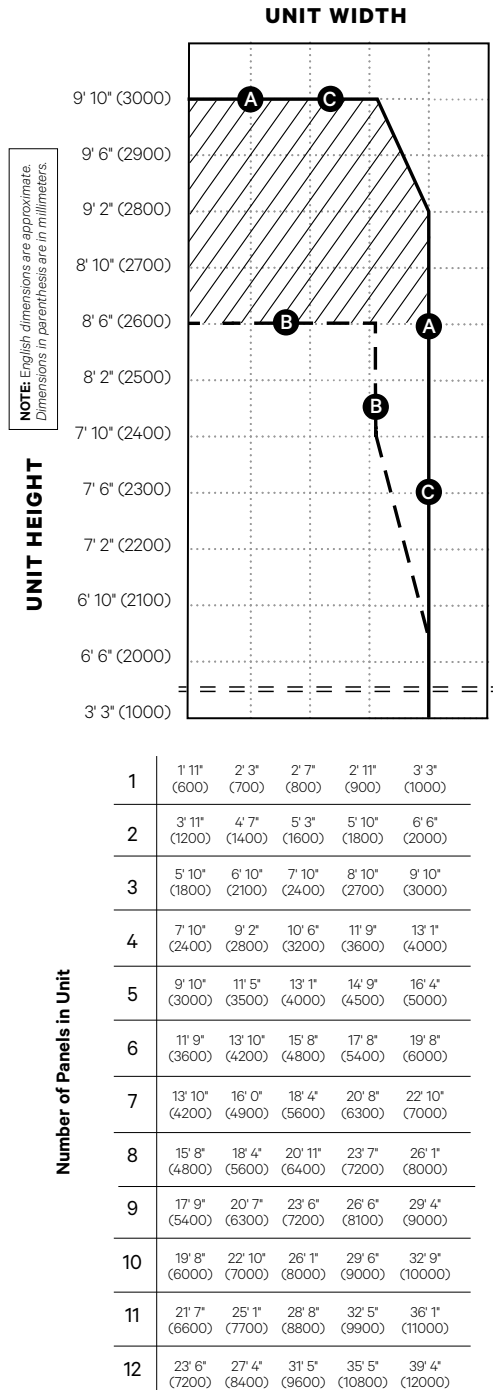
## GLAZING

- Total Glass thicknesses from 1 1/8" (28 mm) to 1 7/8" (48 mm) can be accommodated.
- Maximum size chart is based on maximum glass weight of 30kg/m<sup>2</sup> (6lbs/ft<sup>2</sup>).
- Dry glazing system.

## NOTES

- Max. panel width swing panel attached to side jamb 3' 3" (1000 mm).
- Min. panel width 31 1/2" (800 mm) for paired panels hinged to side jamb.
- Min. panel width 25 5/8" (650 mm) for Panel Sets 4L/R, 6L/R.
- Max. number of hinged panels to one side is 6.
- No limitation on number of unhinged panel sets in a unit. Additional adequate structural lateral support by others where panels stack.
- Configurations with even panels meeting even panels, including panel sets, provide lower weather resistant results from tested units.
- For other configurations contact NanaWall.

# Maximum Size Chart NW Wood 540 (Triple Glazed)



Any Custom Size is Possible Up to the Maximum Size Limit Lines Shown

## MAXIMUM SIZE LIMIT LINE OF:

### A CONFIGURATIONS

(Swing panel hinged at jamb only.)

#### Standard Configurations:

1L	1L 1R	1L 4R	2L 1R	4L 1R	6L 1R
1R	1L 2R	1L 6R			

#### Sample Configurations with Unhinged FourFold or SixFold Panel Sets:

1L 4L/R	1L 6L/R 1R	4L/R 1R
---------	------------	---------

Addition of Panel Sets to all A Configurations possible.

### C CONFIGURATIONS

(No swing panels.)

#### Standard Configurations:

2L	4L	6L	2L 2R	4L 2R	6L 2R
2R	4R	6R	2L 4R	4L 4R	6L 4R
			2L 6R	4L 6R	6L 6R

#### Sample Configurations with Unhinged FourFold or SixFold Panel Sets:

2L 4L/R	4L/R 4R	6L 6L/R	4L/R 4L/R	6L/R 4L/R
---------	---------	---------	-----------	-----------

Addition of Panel Sets to all C Configurations possible.

### B CONFIGURATIONS

(Swing panel as part of odd number of panels to one side.)

#### Standard Configurations:

1L 3R	3L 2R	5L 1R	4L 3R	3L 6R	5L 5R
3L 1R	3L 3R	2L 5R	5L 2R	6L 3R	5L 6R
2L 3R	1L 5R	3L 4R	3L 5R	5L 3R	6L 5R

#### Sample Configurations with Unhinged FourFold or SixFold Panel Sets:

3L 4L/R	3L 6L/R	3L 4L/R 3R
---------	---------	------------

Addition of Panel Sets to all B Configurations possible.



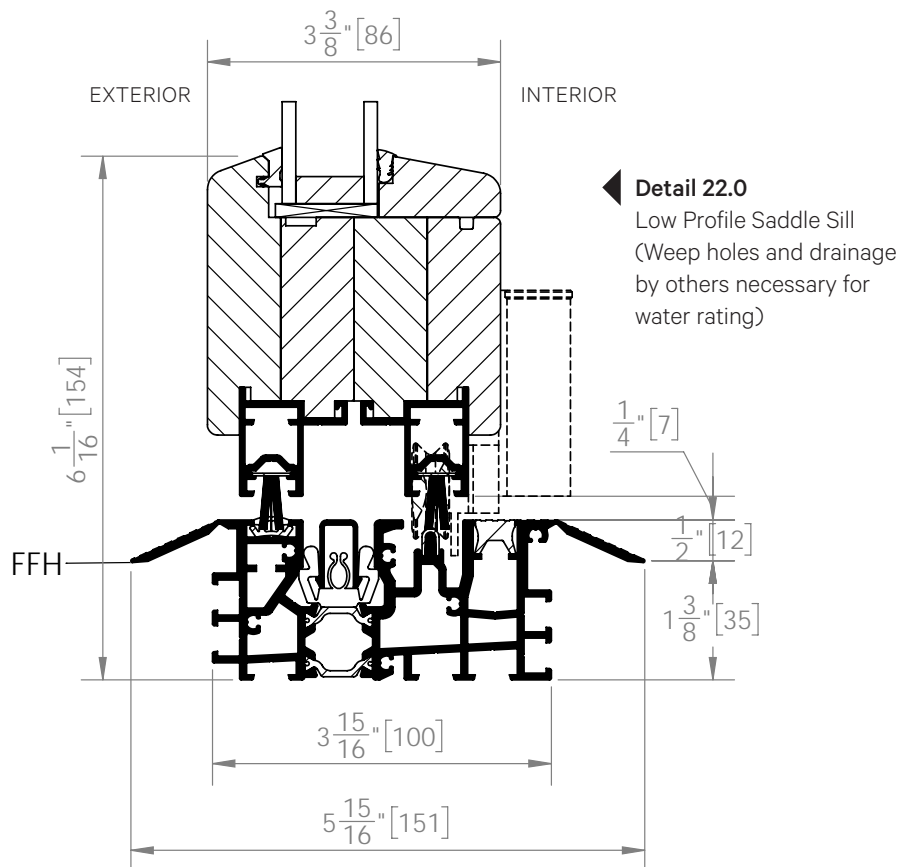
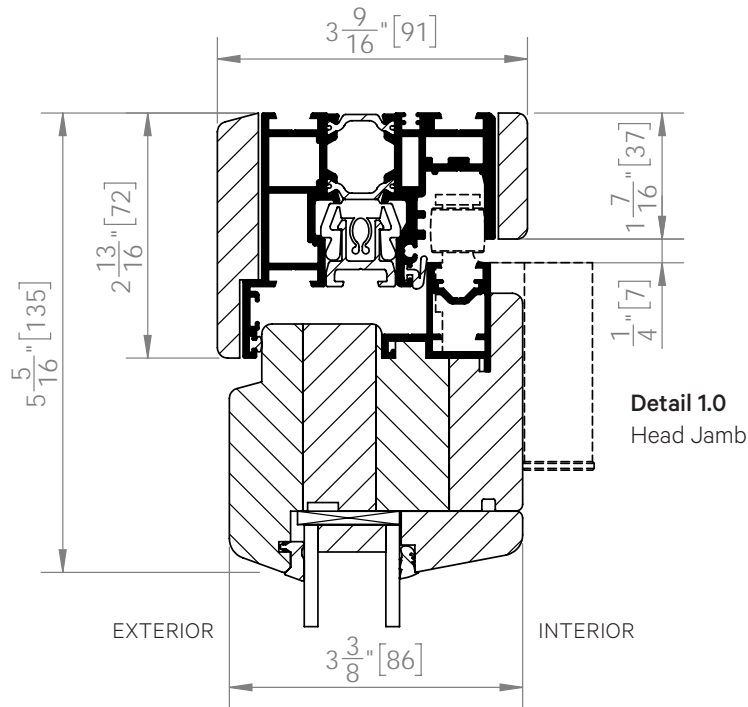
**Horizontal mullion required for unit height taller than 8' 6" (2600 mm) such that no glass pane is more than 7' 10" (2400 mm) tall.**

## GLAZING

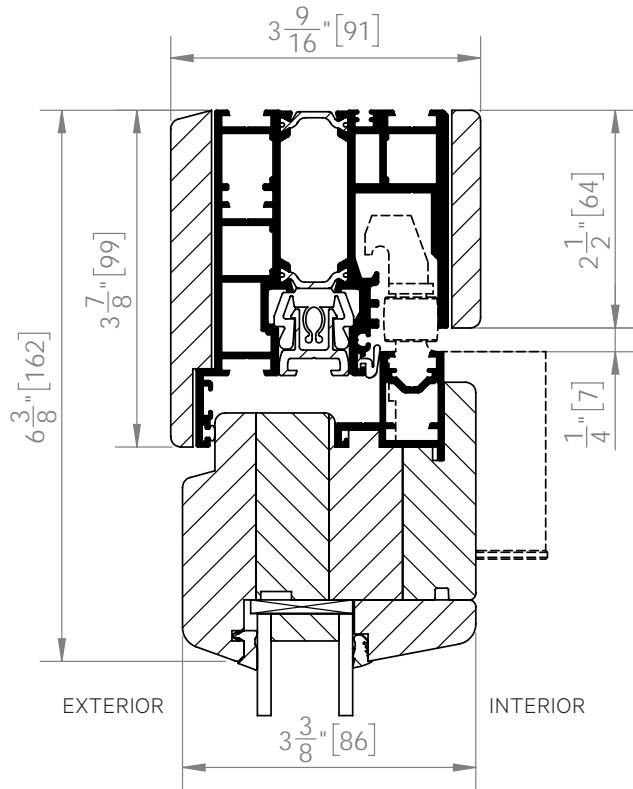
- Glass thicknesses from 1 7/16" (36 mm) to 1 7/8" (48 mm) can be accommodated.
- Maximum size chart is based on maximum glass weight of 30kg/m<sup>2</sup> (6lbs/ft<sup>2</sup>).
- Dry glazing system.

## NOTES

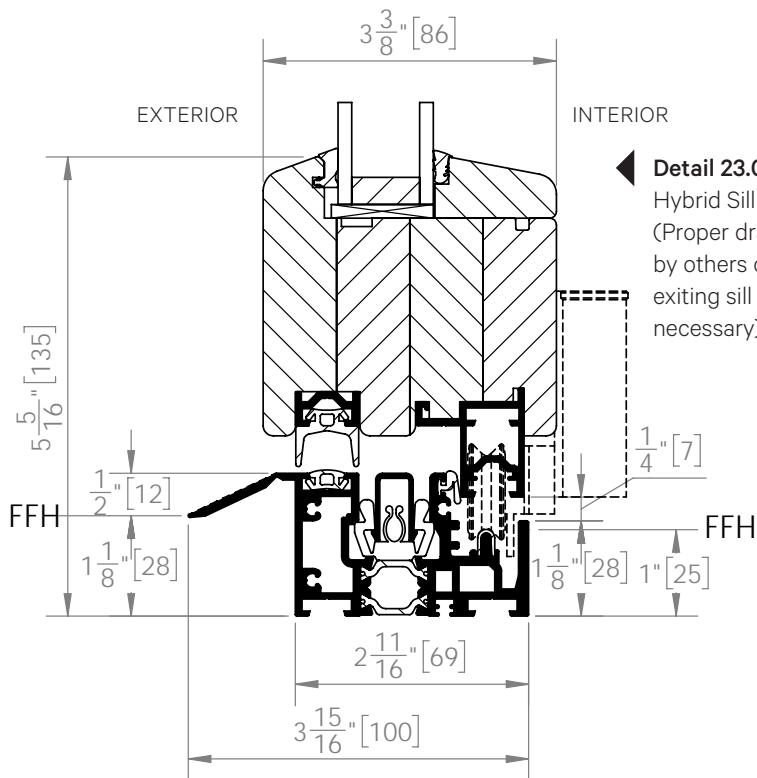
- Max. panel width swing panel attached to side jamb 3' 3" (1000 mm).
- Min. panel width 31 1/2" (800 mm) for paired panels hinged to side jamb.
- Min. panel width 25 5/8" (650 mm) for Panel Sets 4L/R, 6L/R.
- Max. number of hinged panels to one side is 6.
- No limitation on number of unhinged panel sets in a unit. Additional adequate structural lateral support by others where panels stack.
- Configurations with even panels meeting even panels, including panel sets, provide lower weather resistant results from tested units.
- For other configurations contact NanaWall.



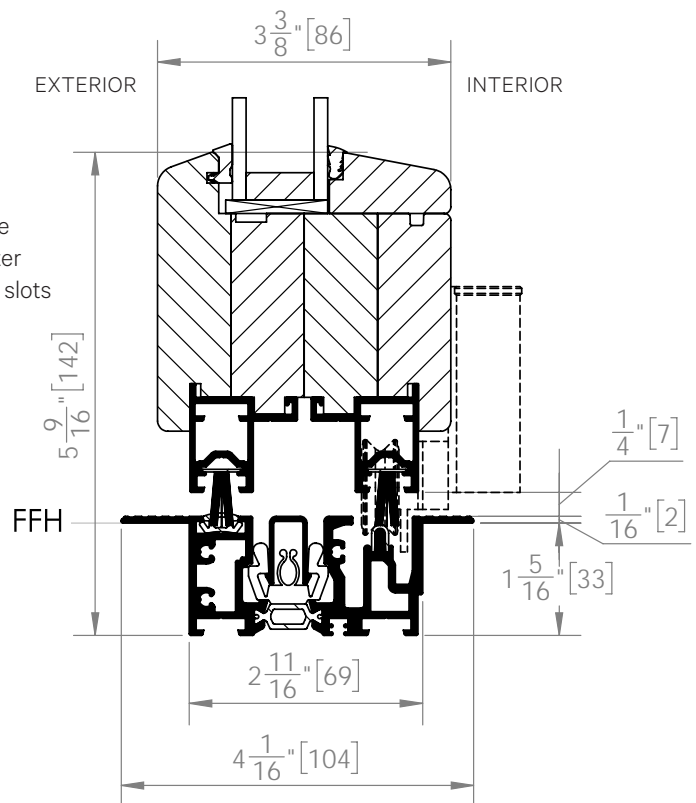




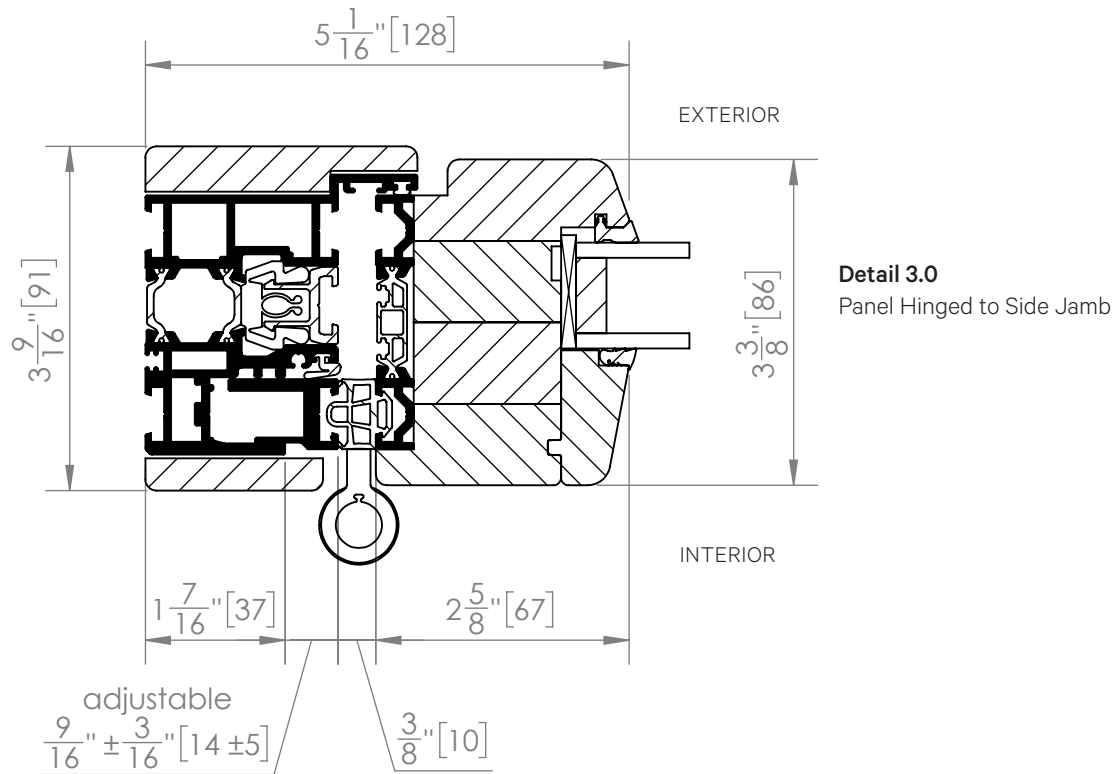
**Detail 12.0**  
Head Jamb for  
UnHINGED Panel Sets



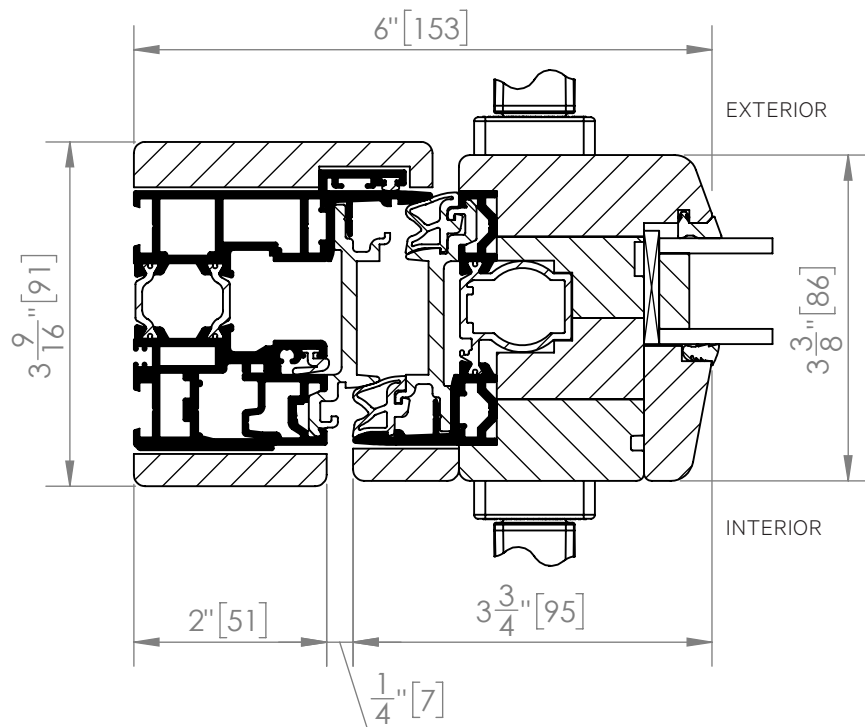
**Detail 23.0**  
Hybrid Sill  
(Proper drainage  
by others of water  
exiting sill weep slots  
necessary)

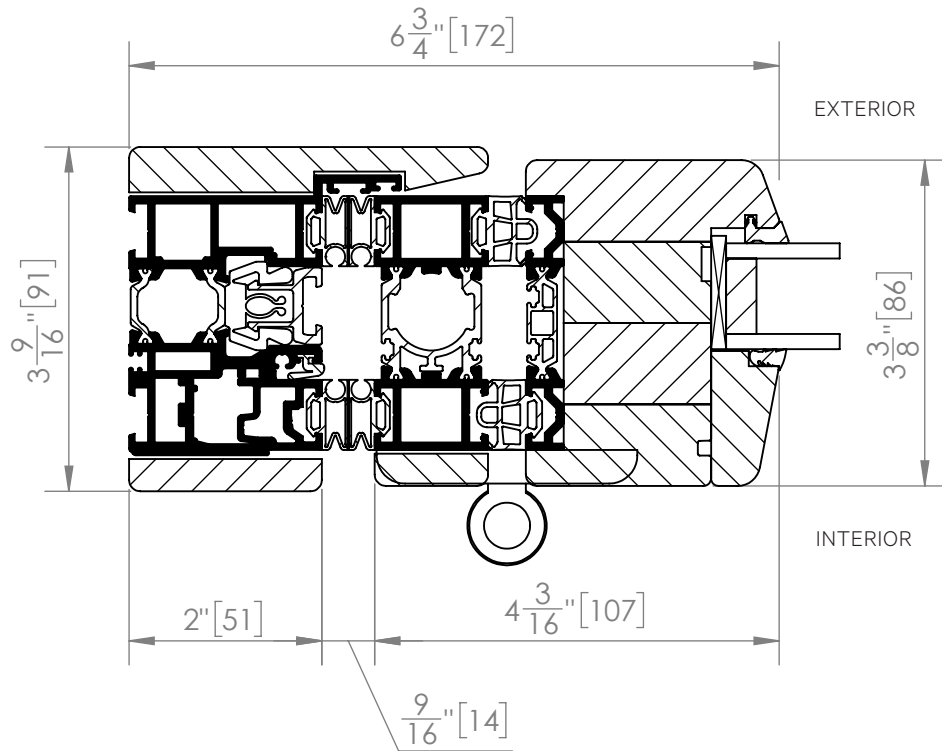


**Detail 24.0**  
Flush Sill (No water rating)

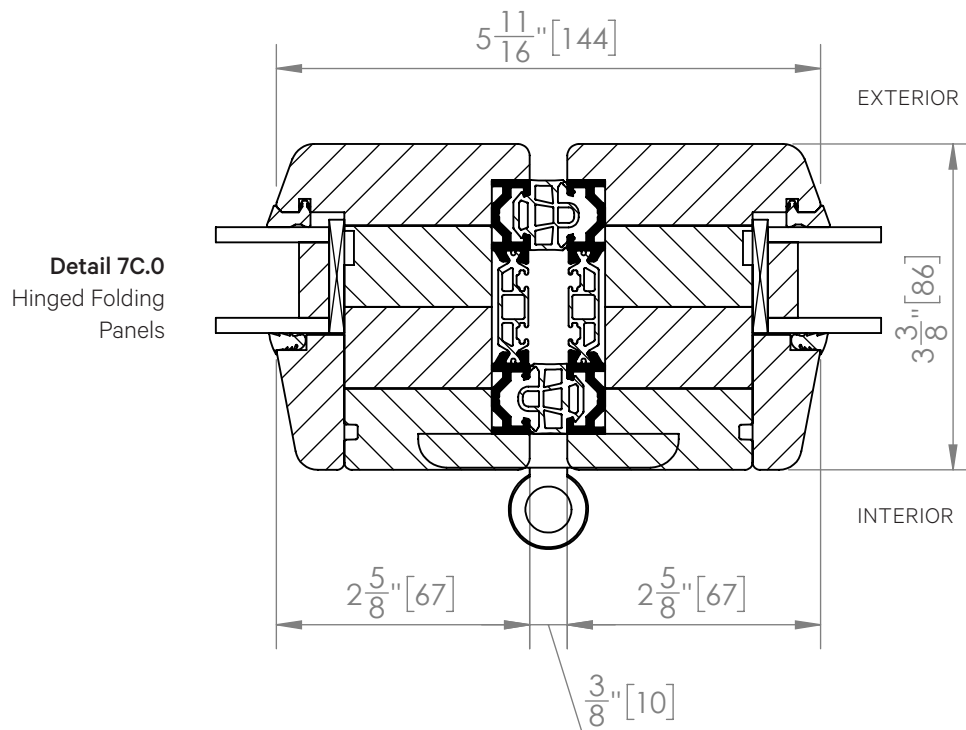


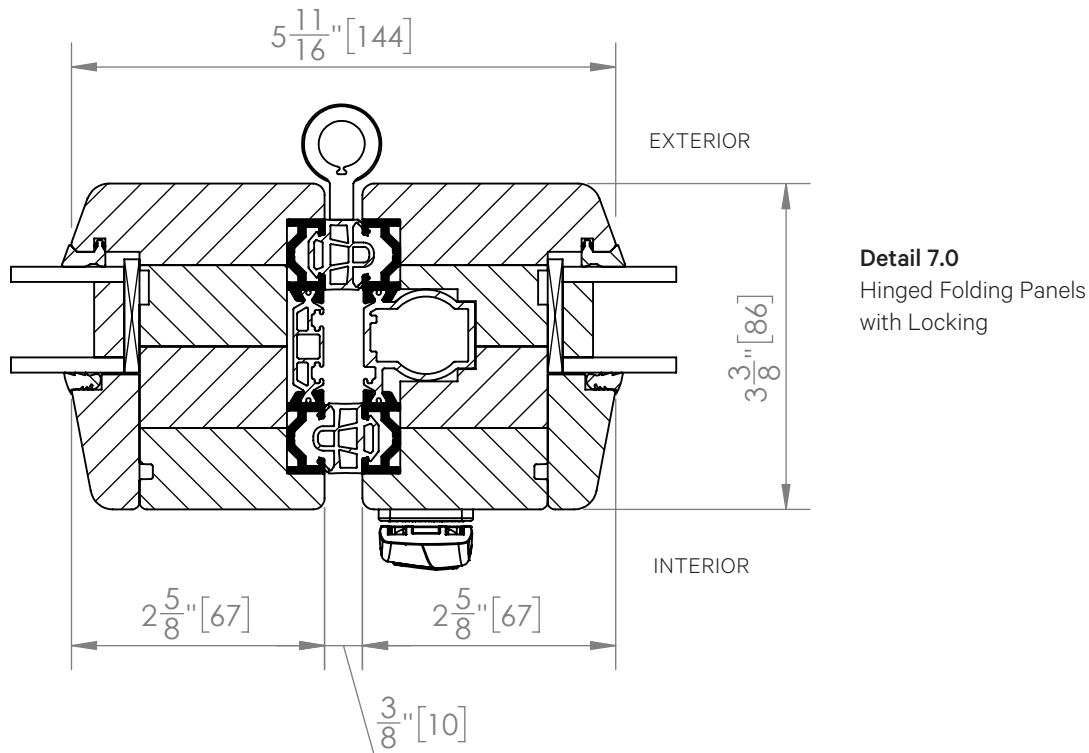
**Detail 4.0**  
Swing Panel with  
Locking at Side Jamb



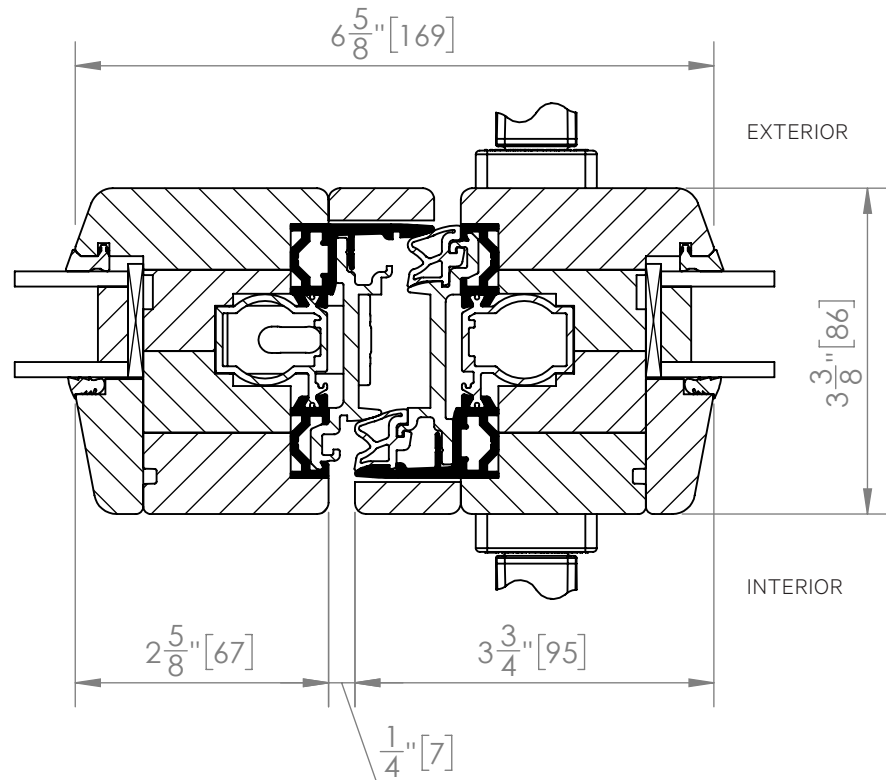
**Detail 5.0**

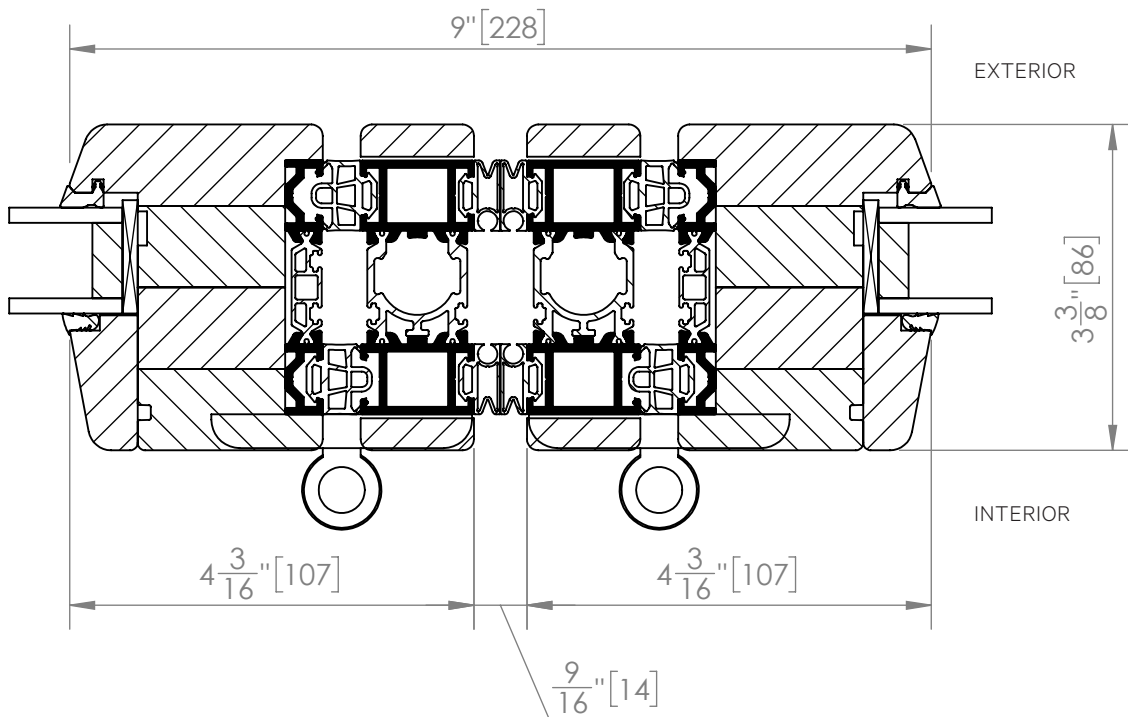
Panel with Running Carriage  
Meeting at Side Jamb

**Detail 7C.0**  
Hinged Folding  
Panels



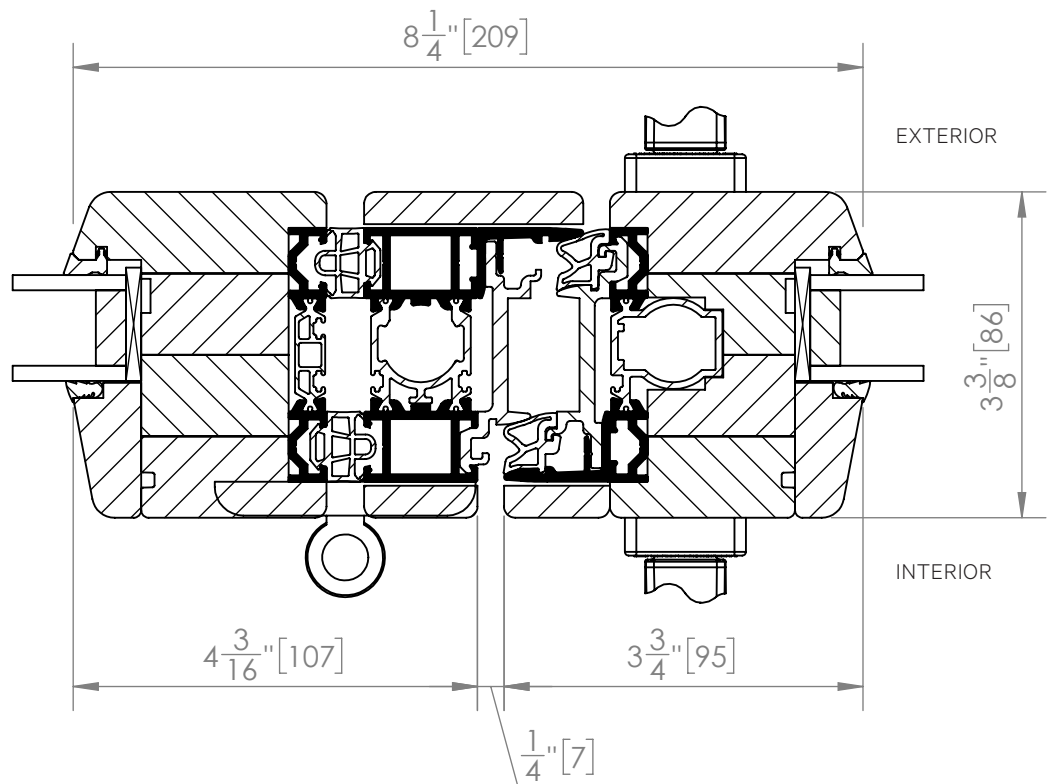
**Detail 8.0**  
Pair of Swing Panels  
with Primary Swing  
Panel with Lever Handle  
Locking on Right and  
Secondary Swing Panel  
with Concealed Edge  
Lock on Left

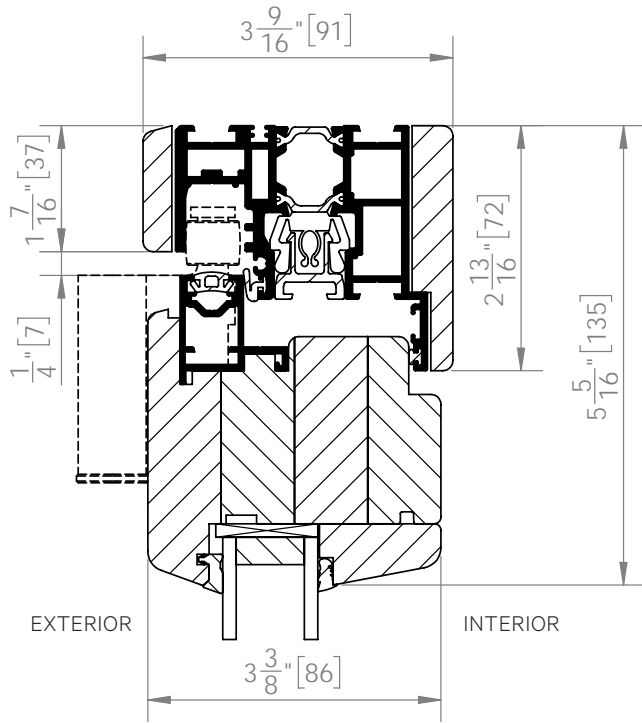




**Detail 9.0**  
Meeting of Folding  
Panels with Running  
Carriage Sets  
(no Swing Panel)

**Detail 10.0**  
Meeting of Swing  
Panel with Locking  
and Folding Panel with  
Running Carriage Set

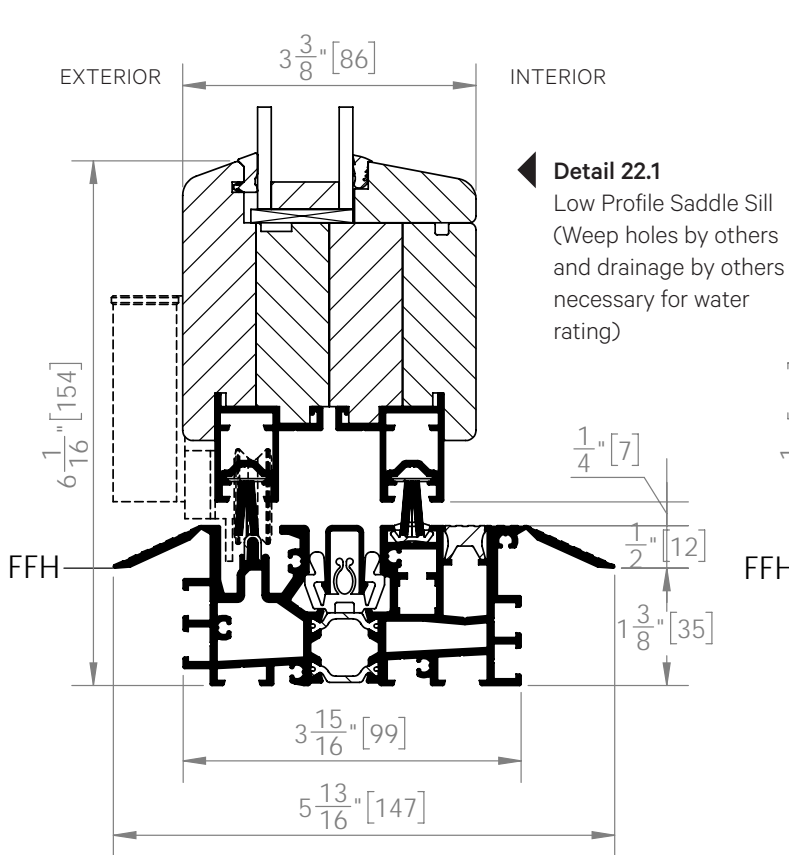




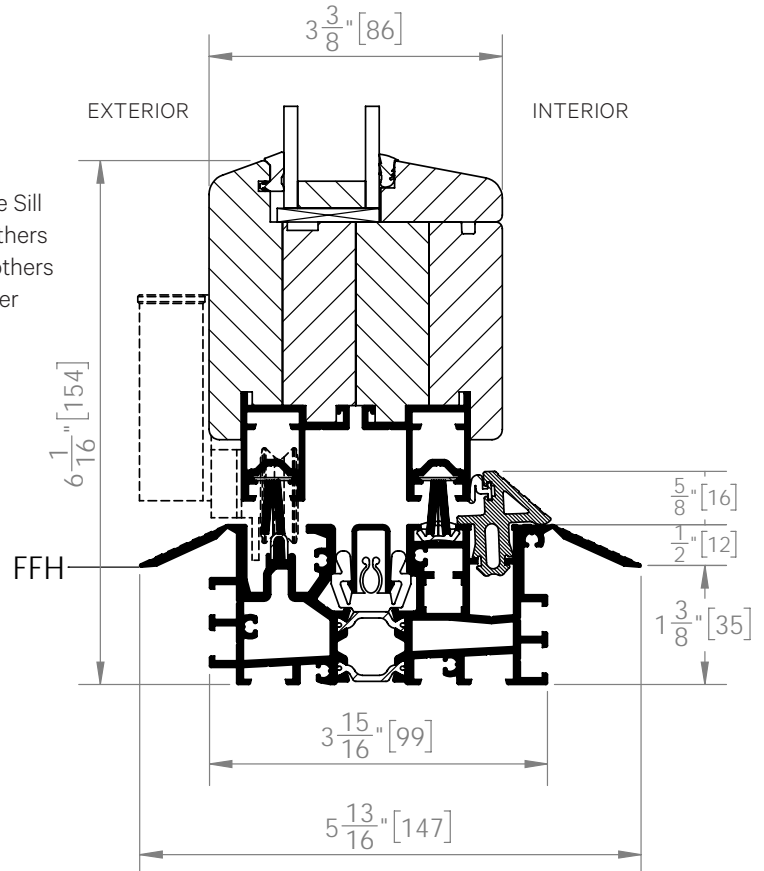
**Detail 1.1**  
Head Jamb

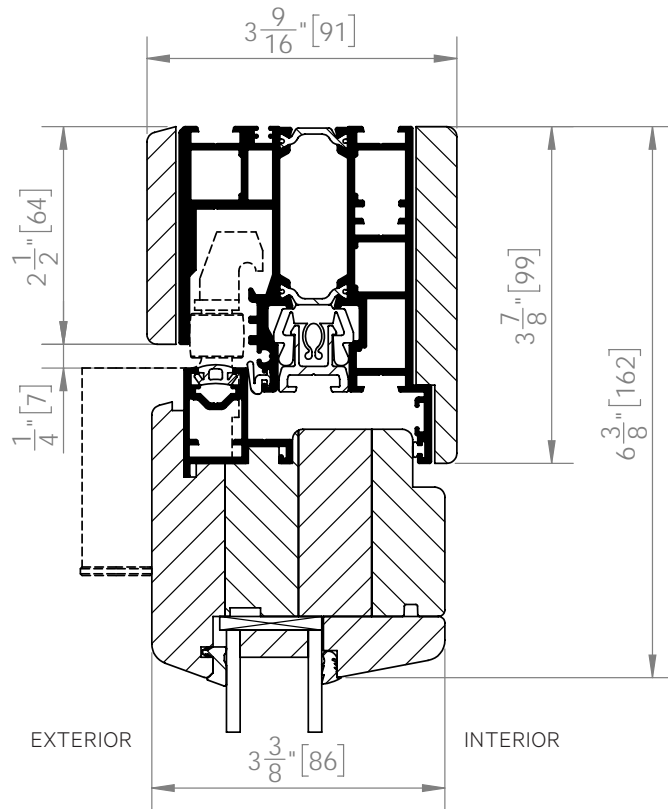
**Detail 22.1 UniverSILL®**

Low Profile Saddle Sill with UniverSILL®  
(Weep holes and drainage by others necessary for water rating)



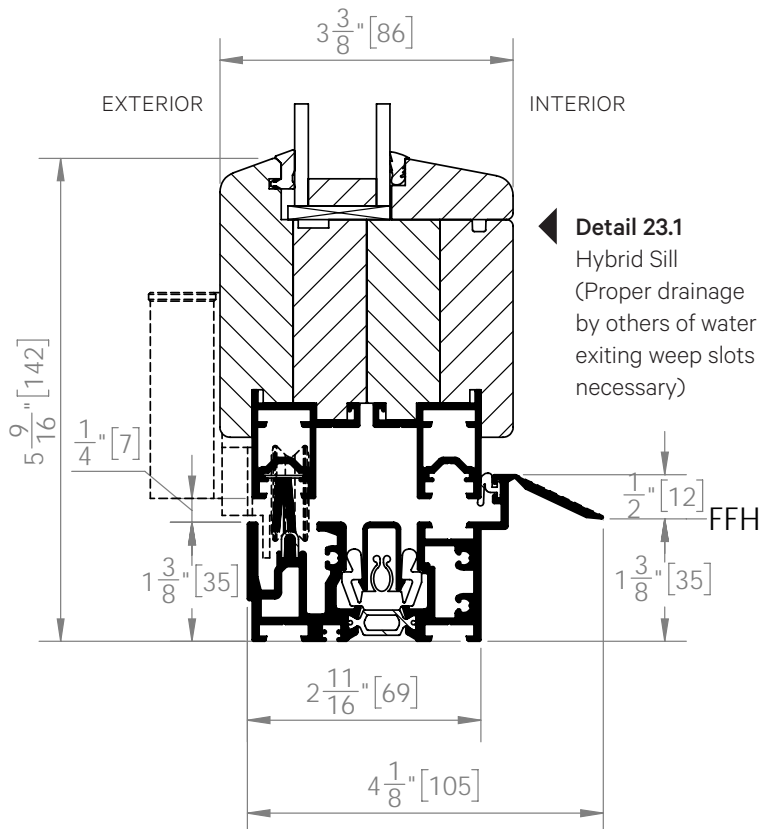
**Detail 22.1**  
Low Profile Saddle Sill  
(Weep holes by others  
and drainage by others  
necessary for water  
rating)



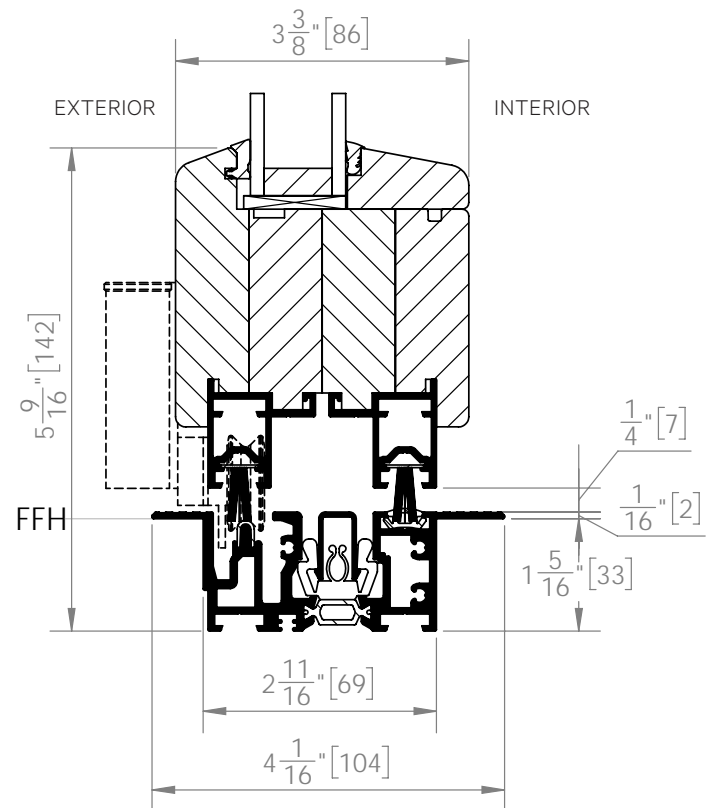


### Detail 12.1

#### Head Jamb for Unhinged Panel Sets

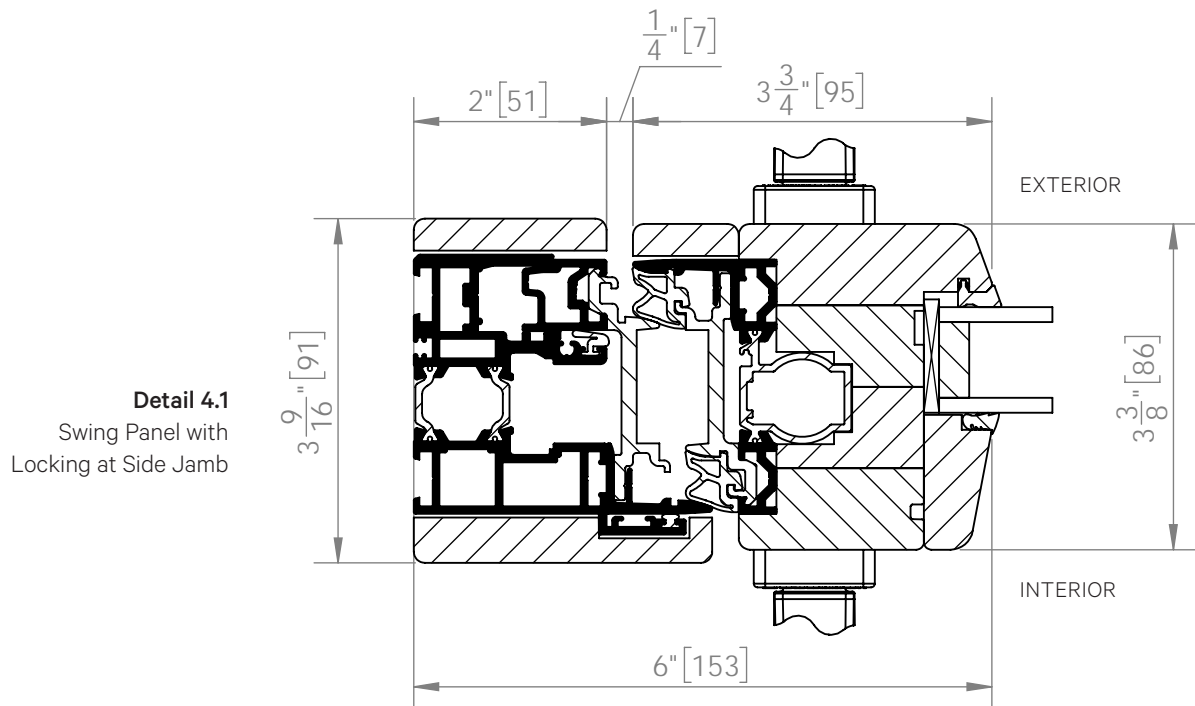
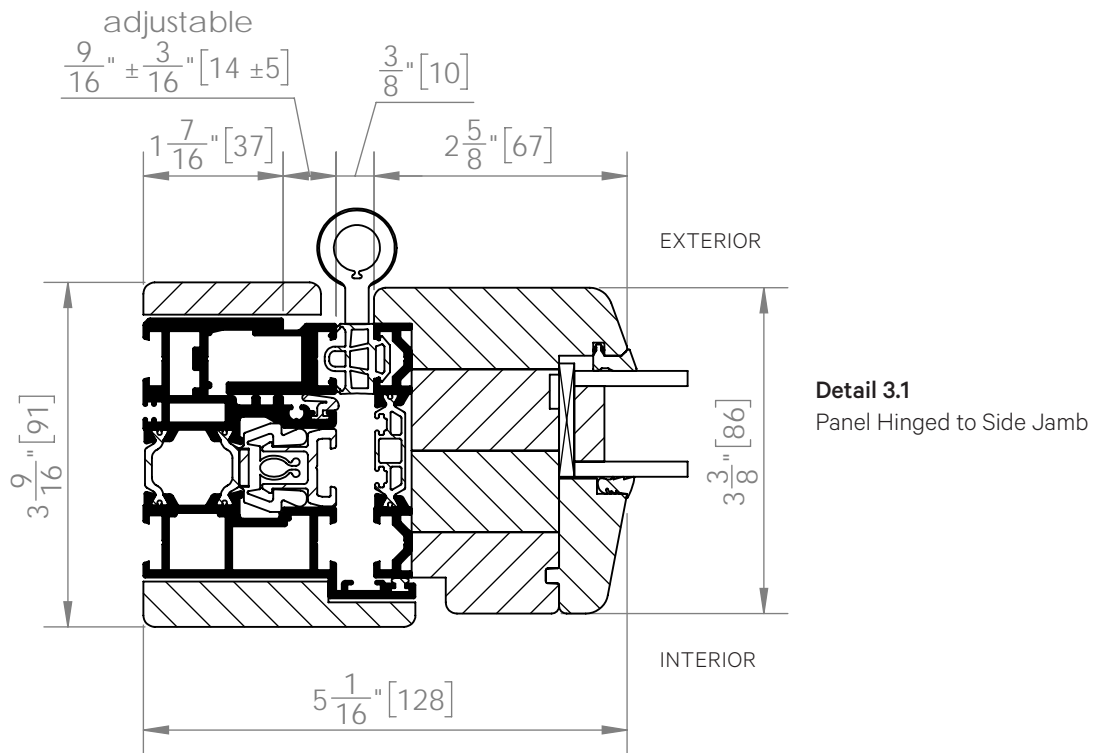


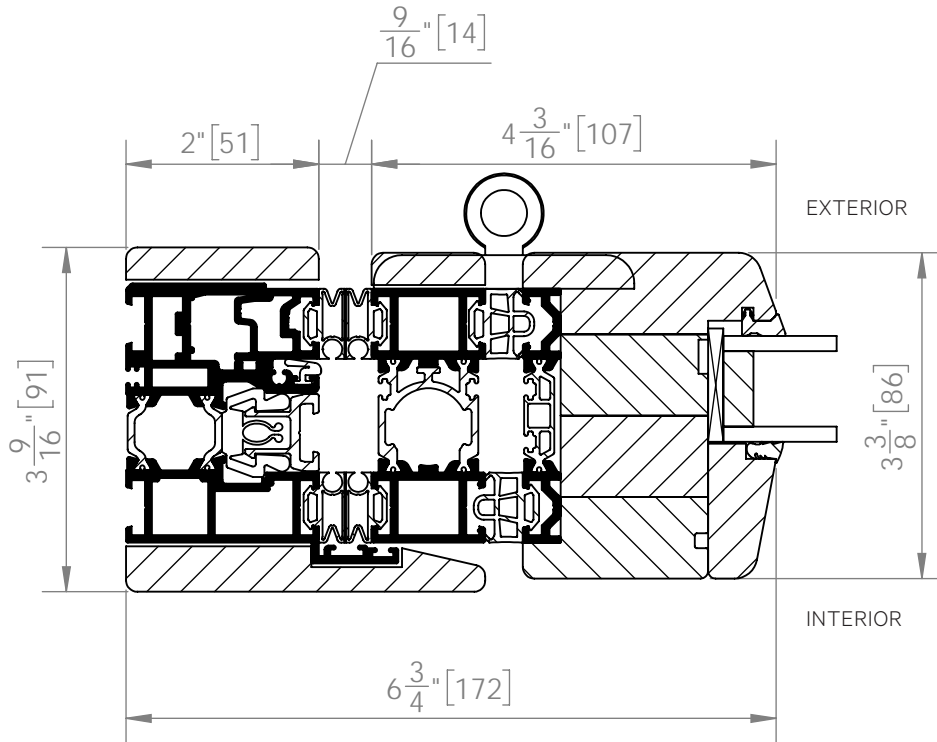
**Detail 23.1**  
Hybrid Sill  
(Proper drainage  
by others of water  
exiting weep slots  
necessary)



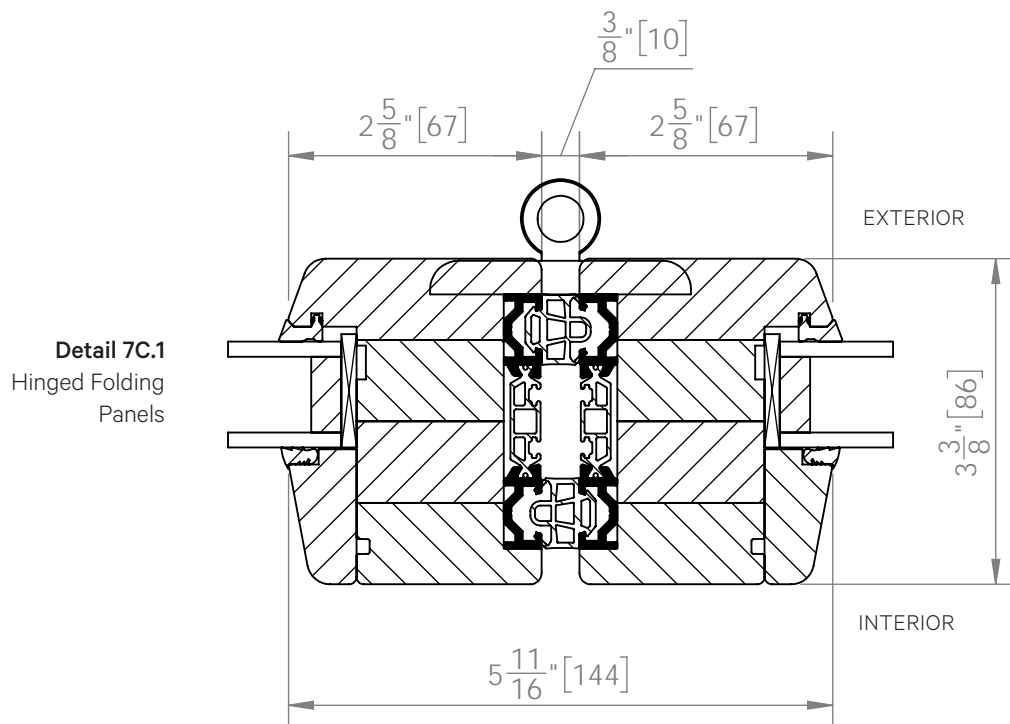
**Detail 24.1**  
Flush Sill (No water rating)



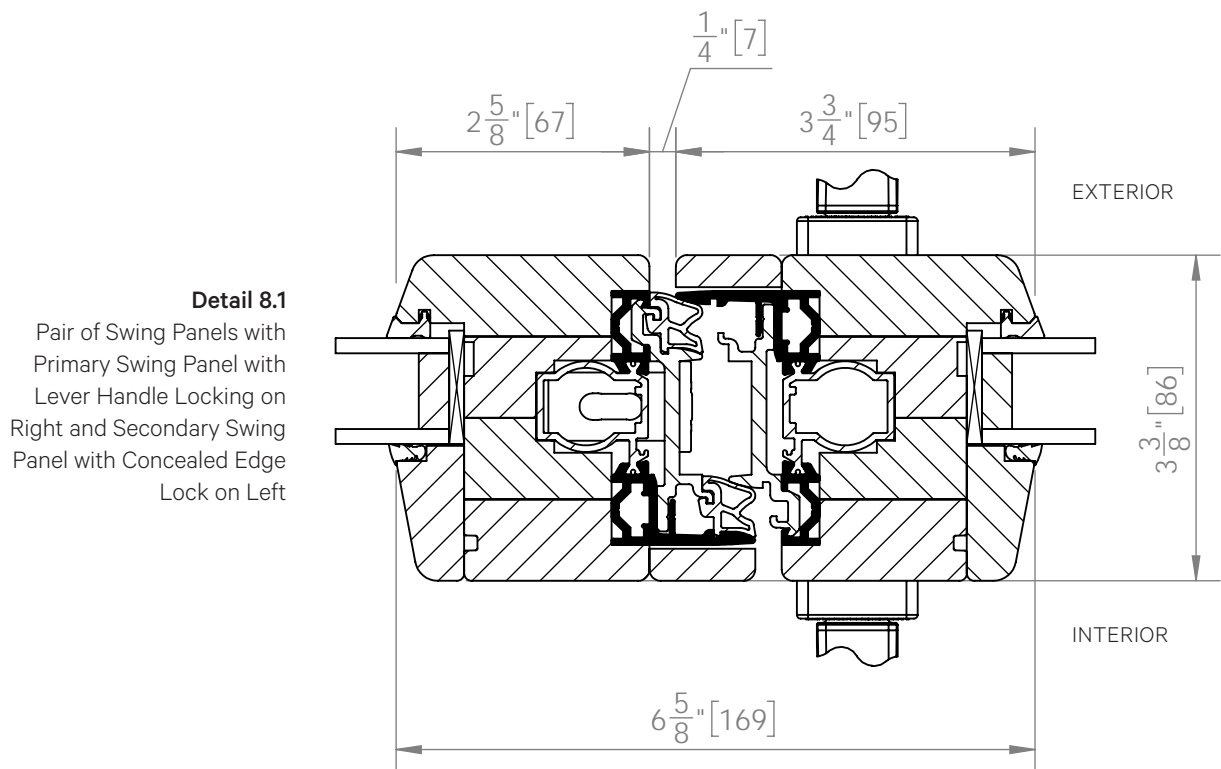
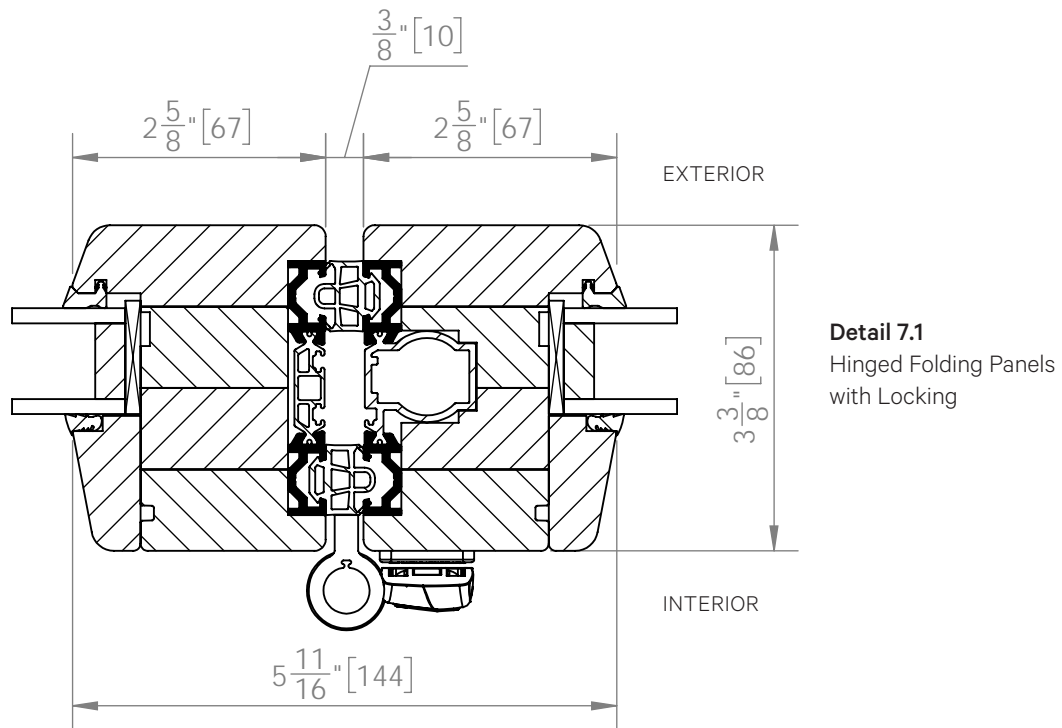


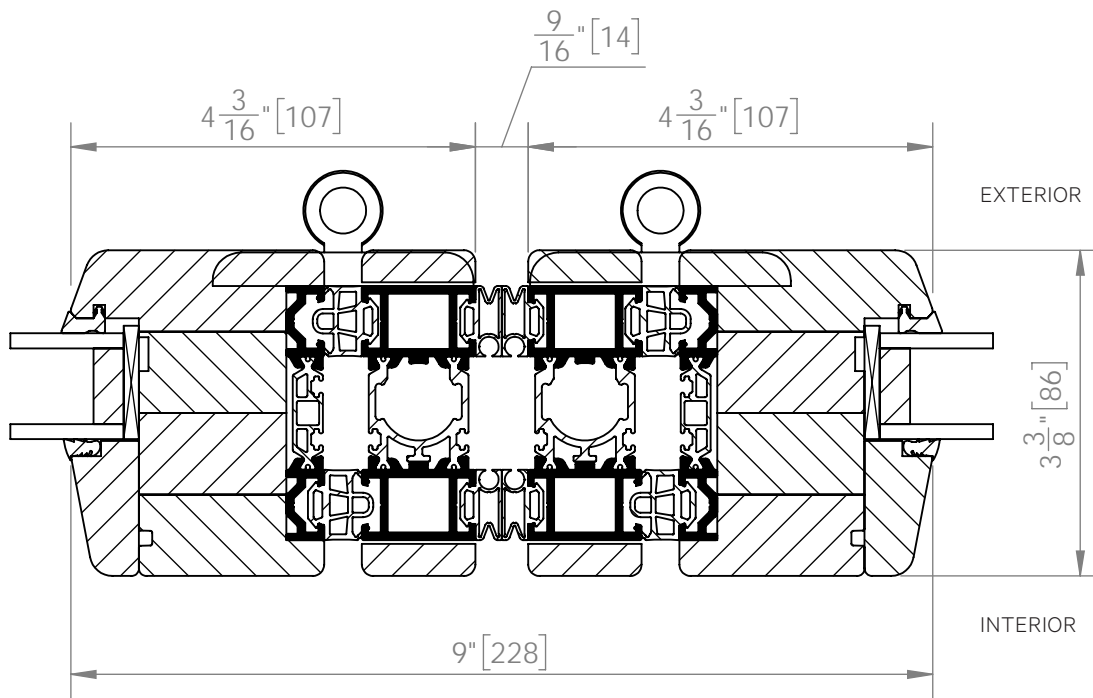


**Detail 5.1**  
Panel with Running Carriage  
Meeting at Side Jamb

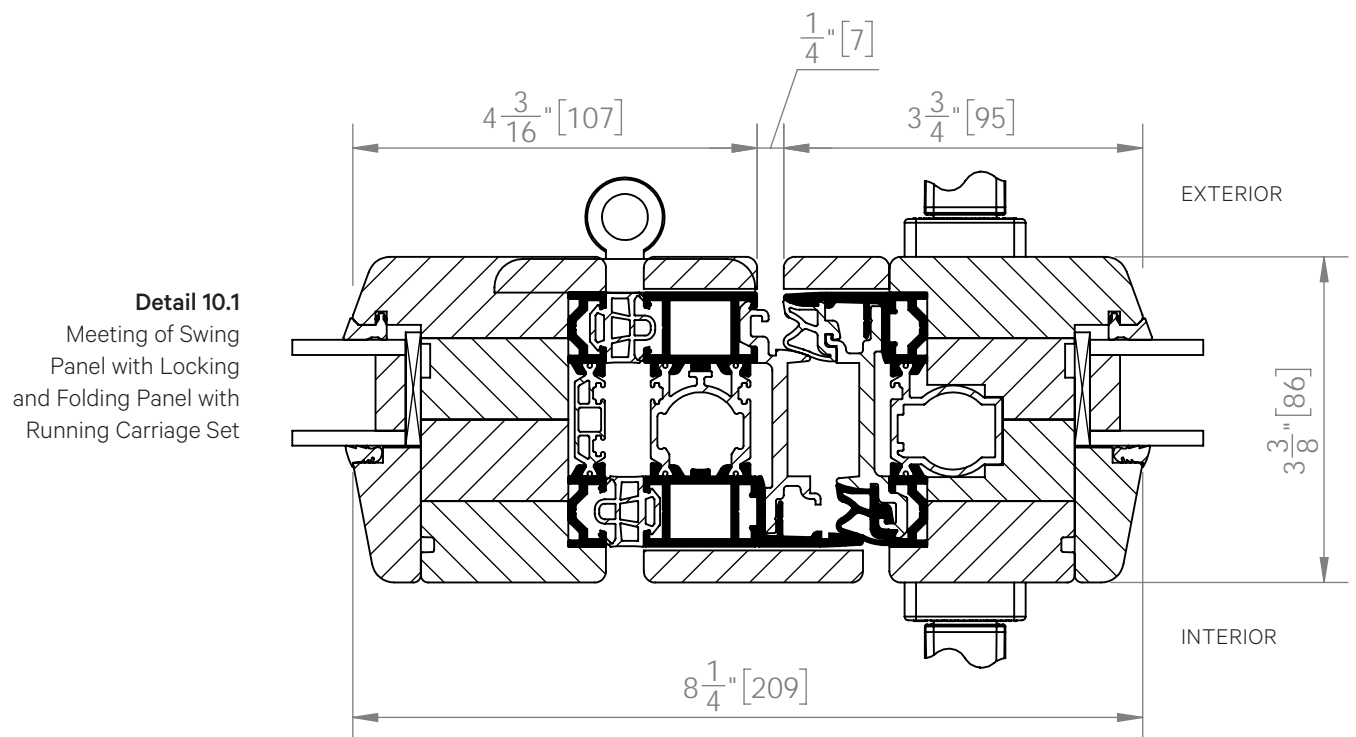


**Detail 7C.1**  
Hinged Folding  
Panels

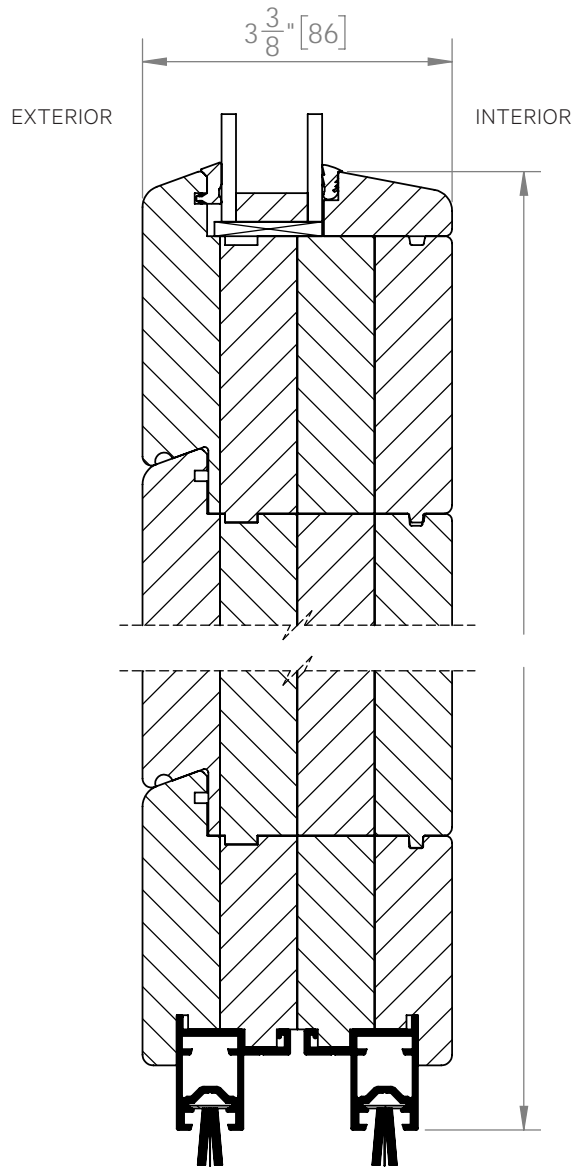




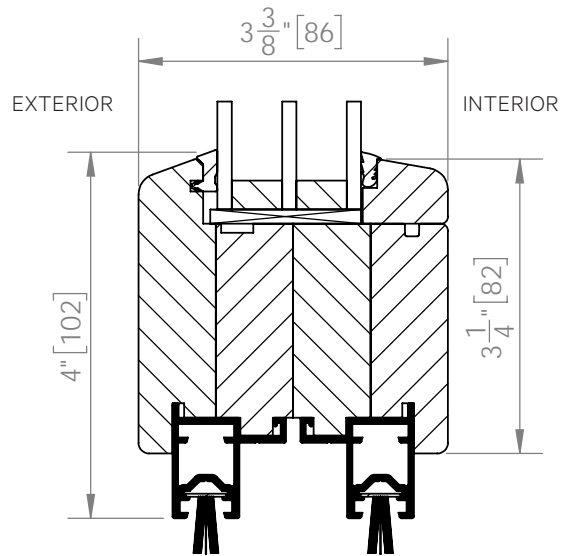
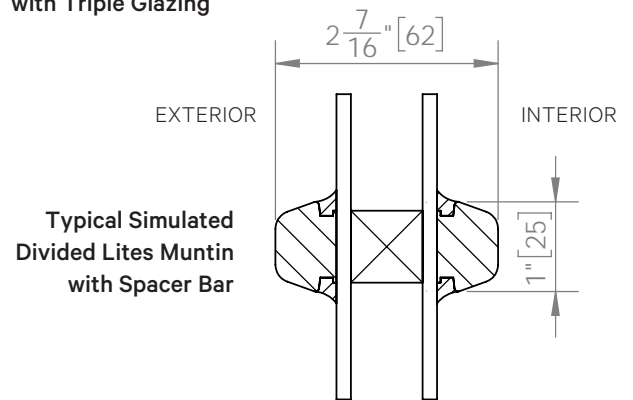
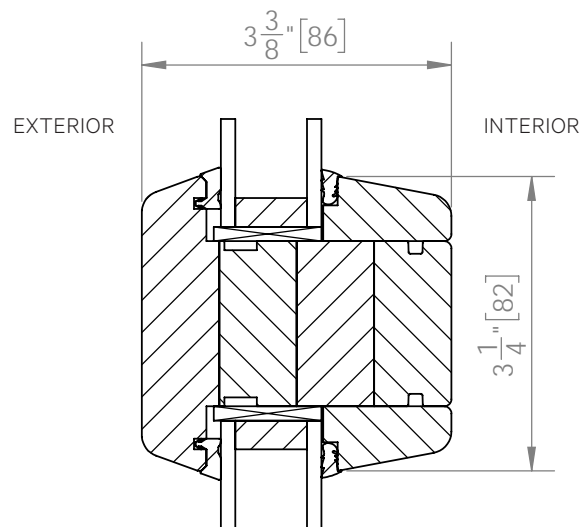
**Detail 9.1**  
Meeting of Folding  
Panels with Running  
Carriage Sets  
(no Swing Panel)



**Detail 10.1**  
Meeting of Swing  
Panel with Locking  
and Folding Panel with  
Running Carriage Set



Typical Higher Bottom Rail

Typical Glass Stop Profile  
with Triple GlazingTypical Simulated  
Divided Lites Muntin  
with Spacer Bar

Typical Mullion Profile

## Suggested Typical Installation

### INSTALLATION NOTES

Suggested Typical Installation drawings shown are very general and may not be suitable for any particular installation. Product placement, fasteners, flashing, waterproofing, sealant, trim, and other details for specific surrounding conditions must be properly designed and provided by others.

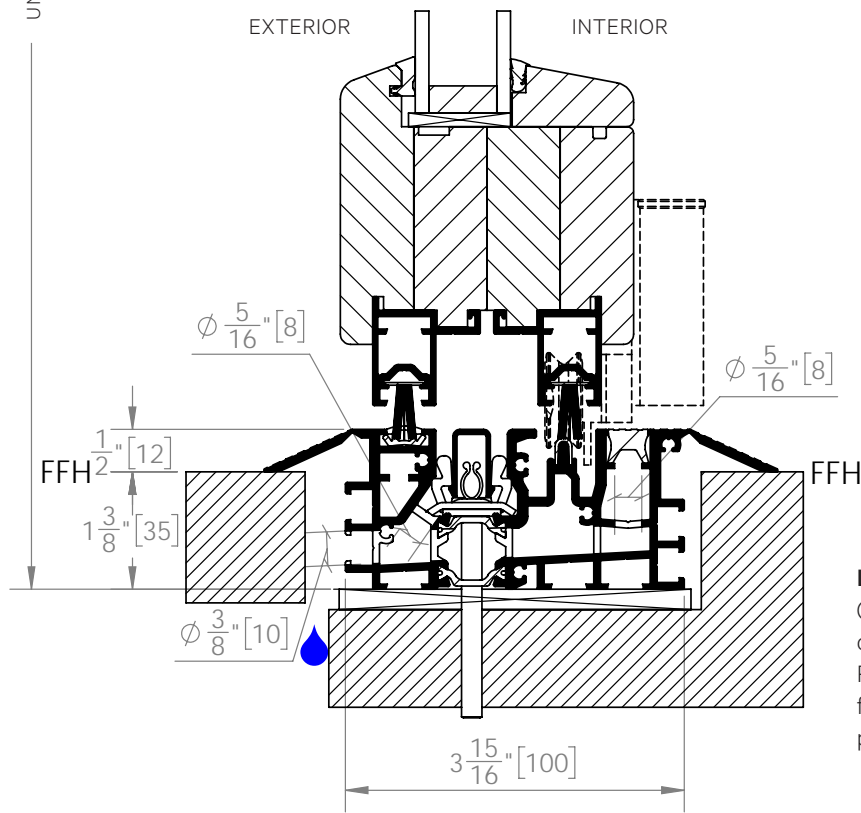
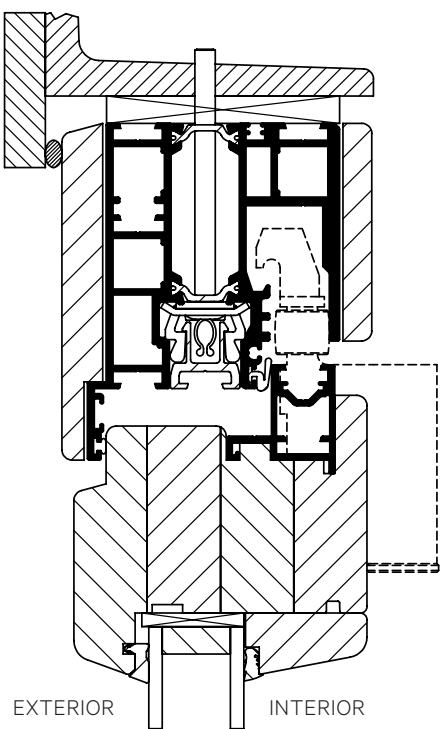
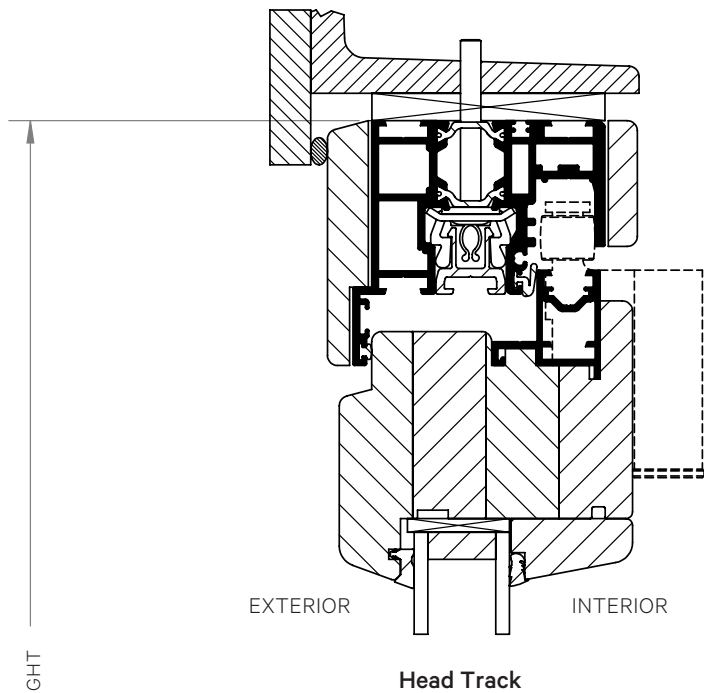
### INSTALLATION CONSIDERATIONS

The approximate weight of a panel with double-glazing is 5.5-7.5 lbs/ft<sup>2</sup> (27-37 kg/m<sup>2</sup>), and with triple glazing is 7-8 lbs/ft<sup>2</sup> (34-39 kg/m<sup>2</sup>). The vertical structural deflection of the header should be the lesser of L/720 of the span and ¼" (6 mm) under full loads. Although for Floor Supported systems, there is no vertical load on the header from the panels, structural support for lateral loads (both windload and when the panels are stacked open) must be provided. See "Pre-Installation Preparation and Installation Guidelines" in the General Introduction. An owner's manual with installation instructions is available upon request.

It is recommended that all building dead loads be applied to the header prior to installing the NanaWall. If so and if a reasonable amount of time has been allowed for the effect of this dead load on the header, then only the building's live load can be used to meet the above requirements of L/720 or ¼" (6 mm). If not, both the dead and live loads need to be considered. For the Floor Supported NW Wood 540, please note that there is no vertical load on the header.

Note: For some jurisdictions, any standing water in sill channels must be drained. Weep holes for this purpose are to be done by others in the field, including drain connections if sill is recessed.

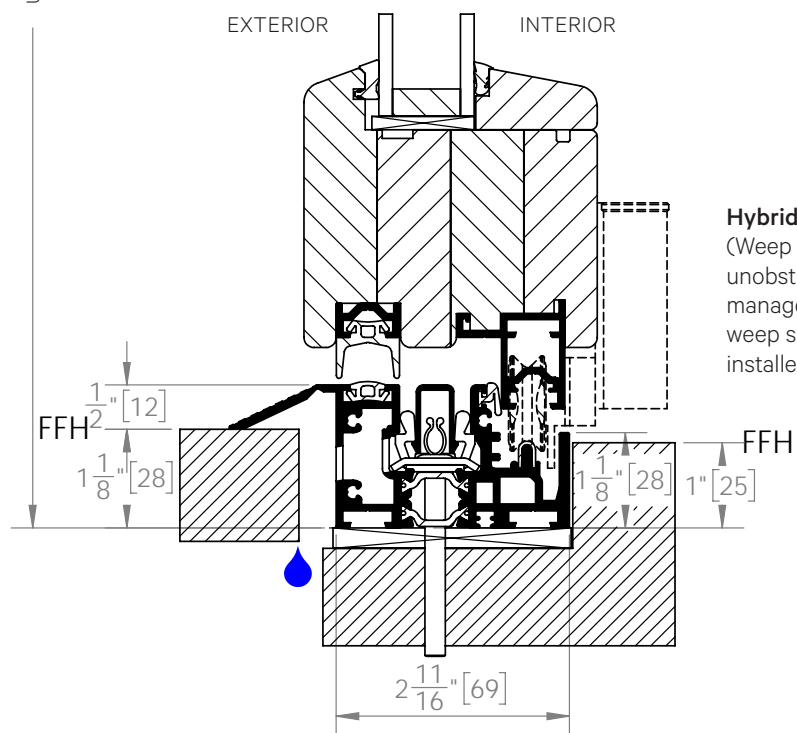
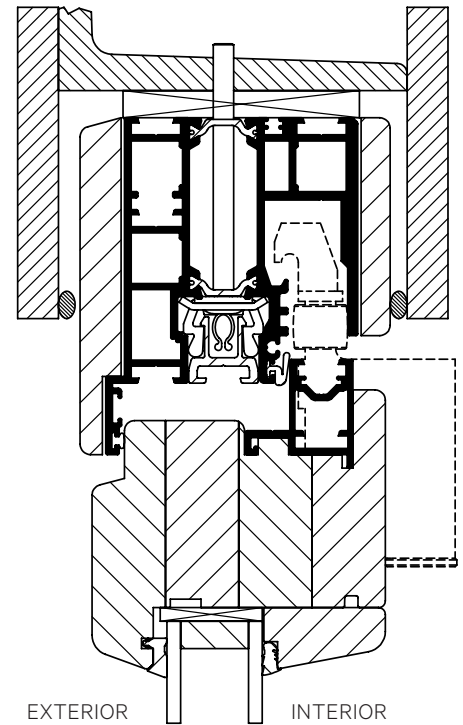
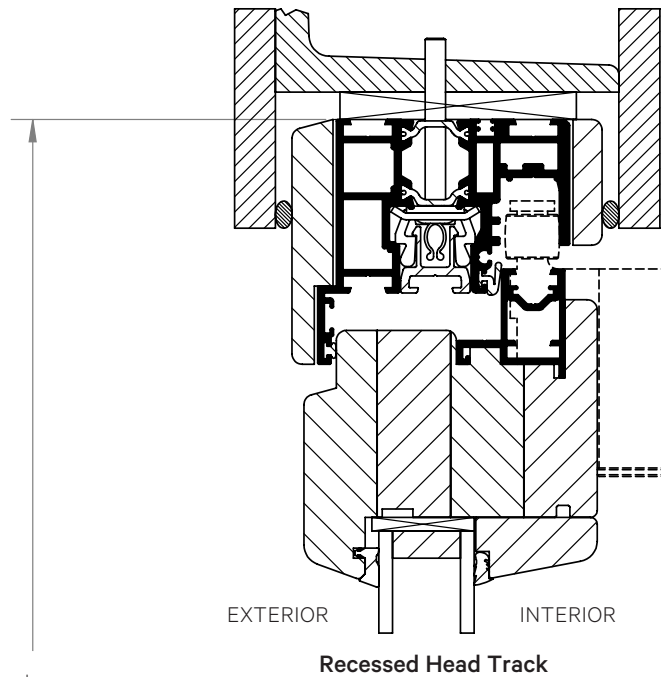
Inward Opening Details



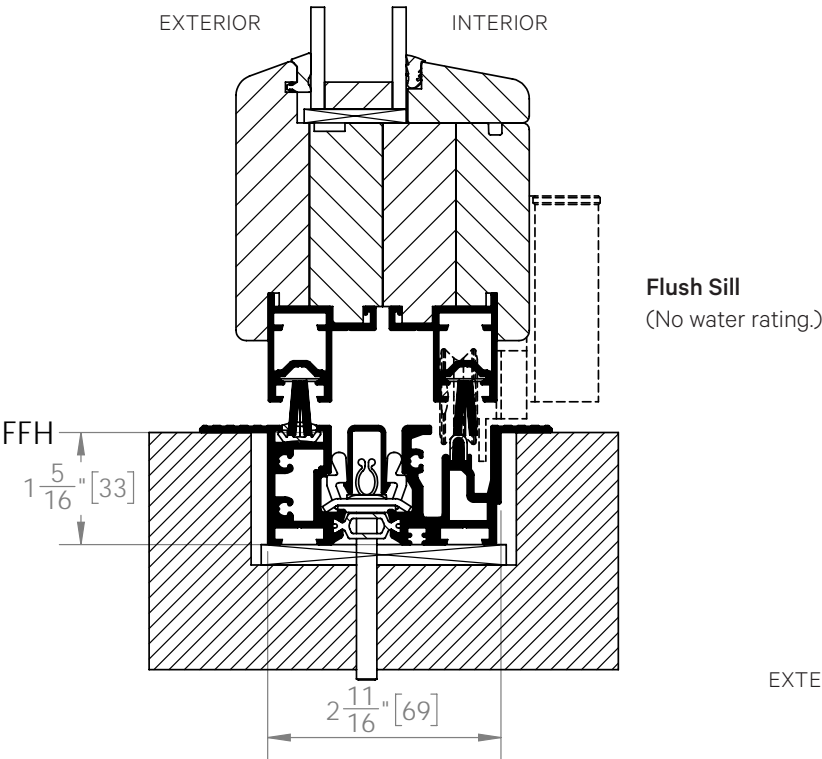
**Low Profile Saddle Sill - Option 1**  
(Weep holes and drainage by others necessary for water rating. Please see detail drawing available from NanaWall for weep hole sizes, pattern, and spacing.)



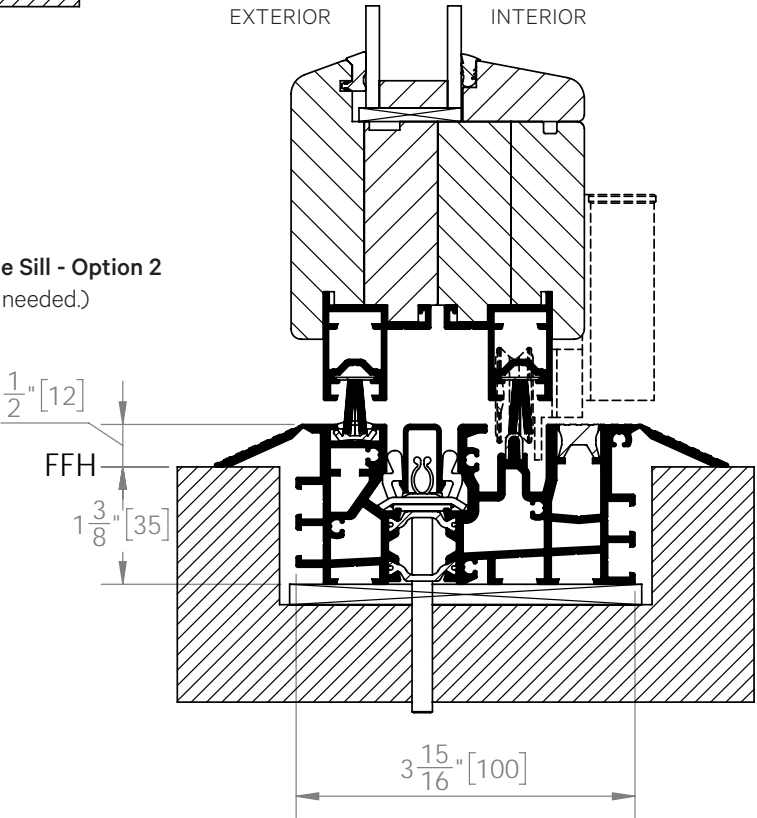
## Inward Opening Details



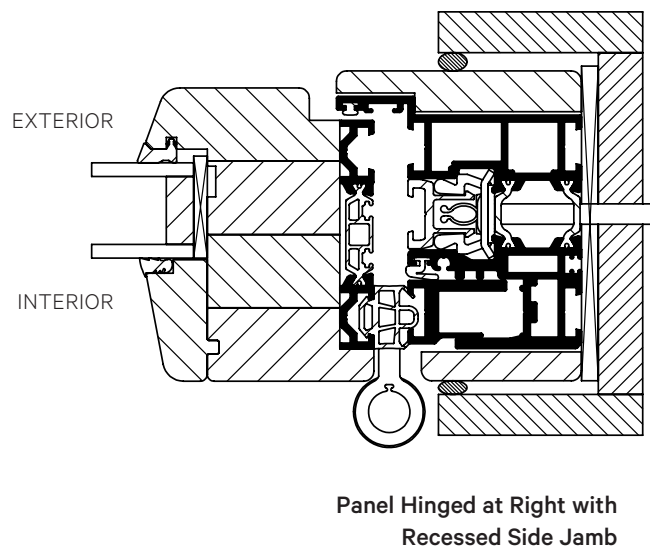
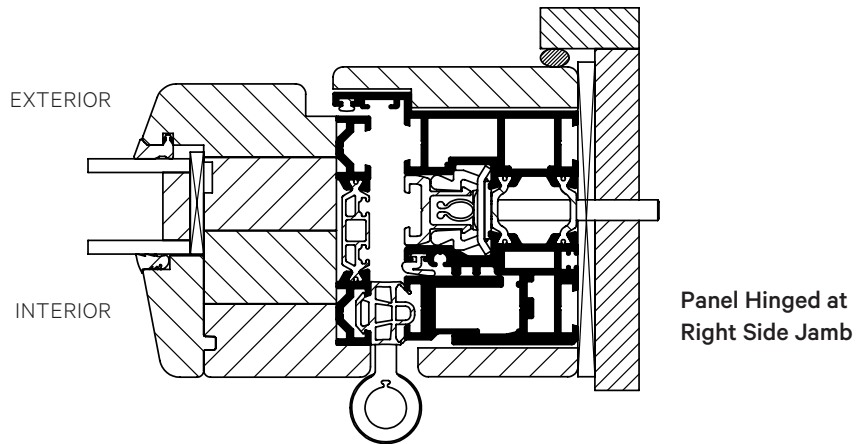
Inward Opening Details



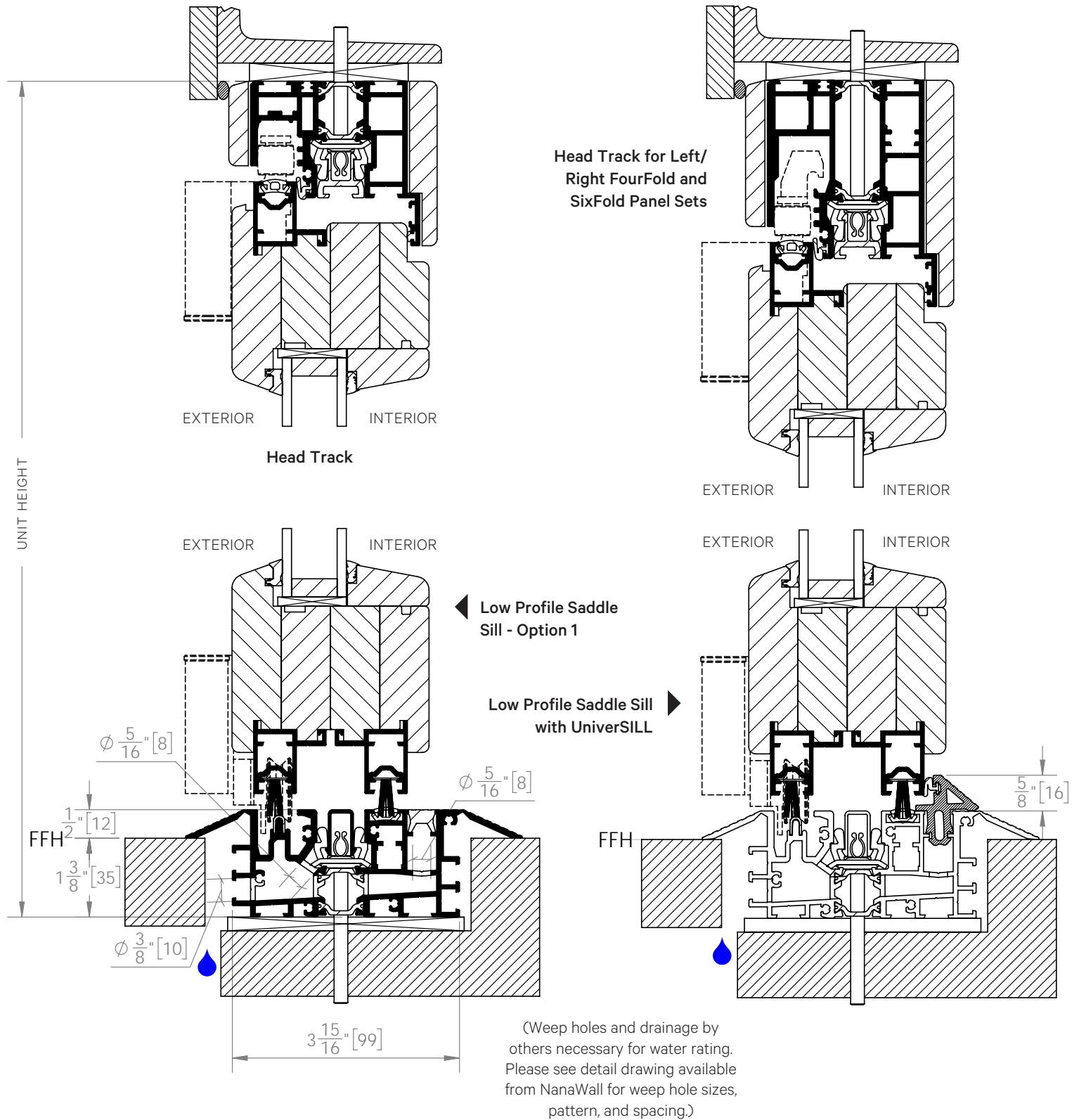
Low Profile Saddle Sill - Option 2  
(If no water rating needed.)



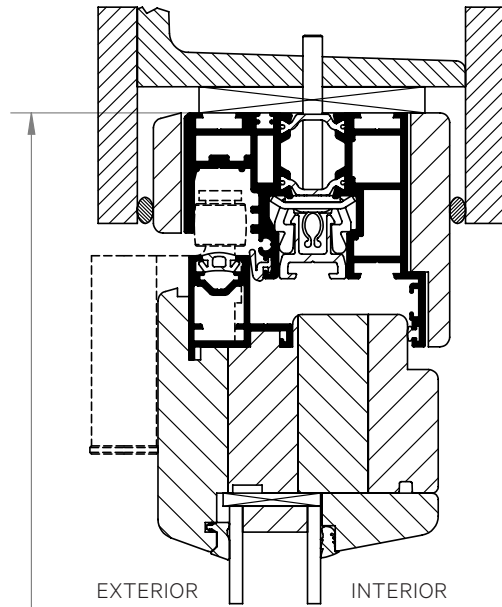
## Inward Opening Details



## Outward Opening Details

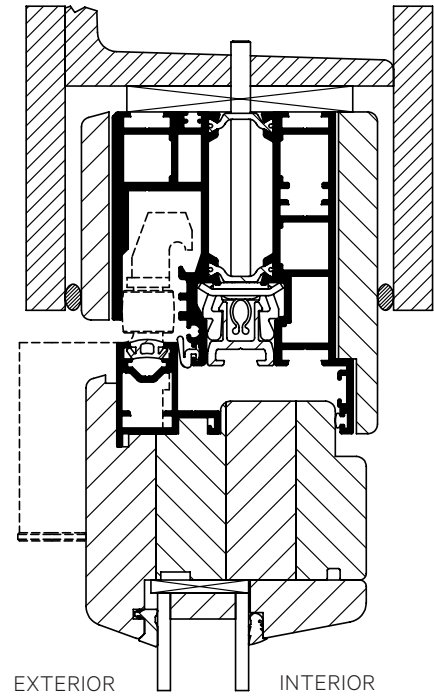


## Outward Opening Details



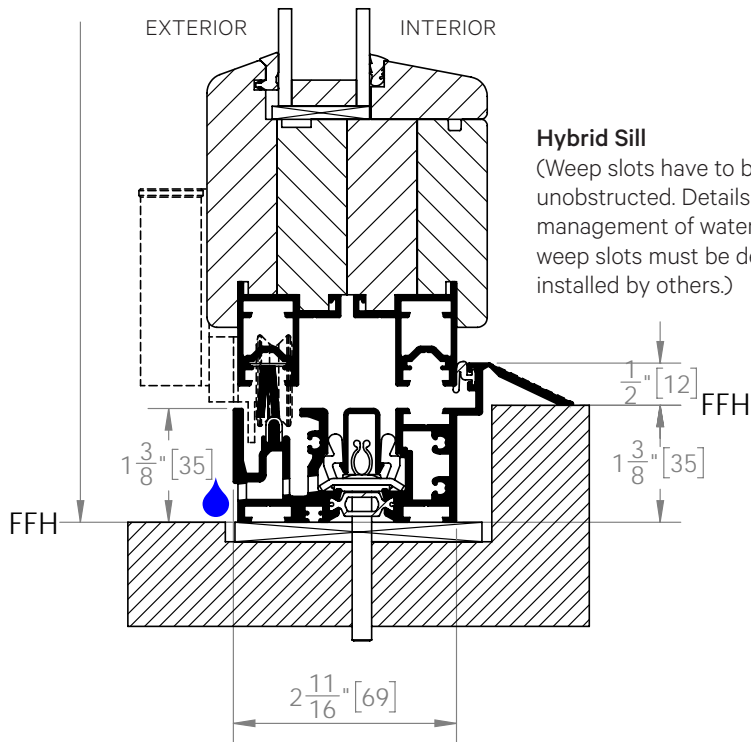
EXTERIOR INTERIOR

**Recessed Head Track**

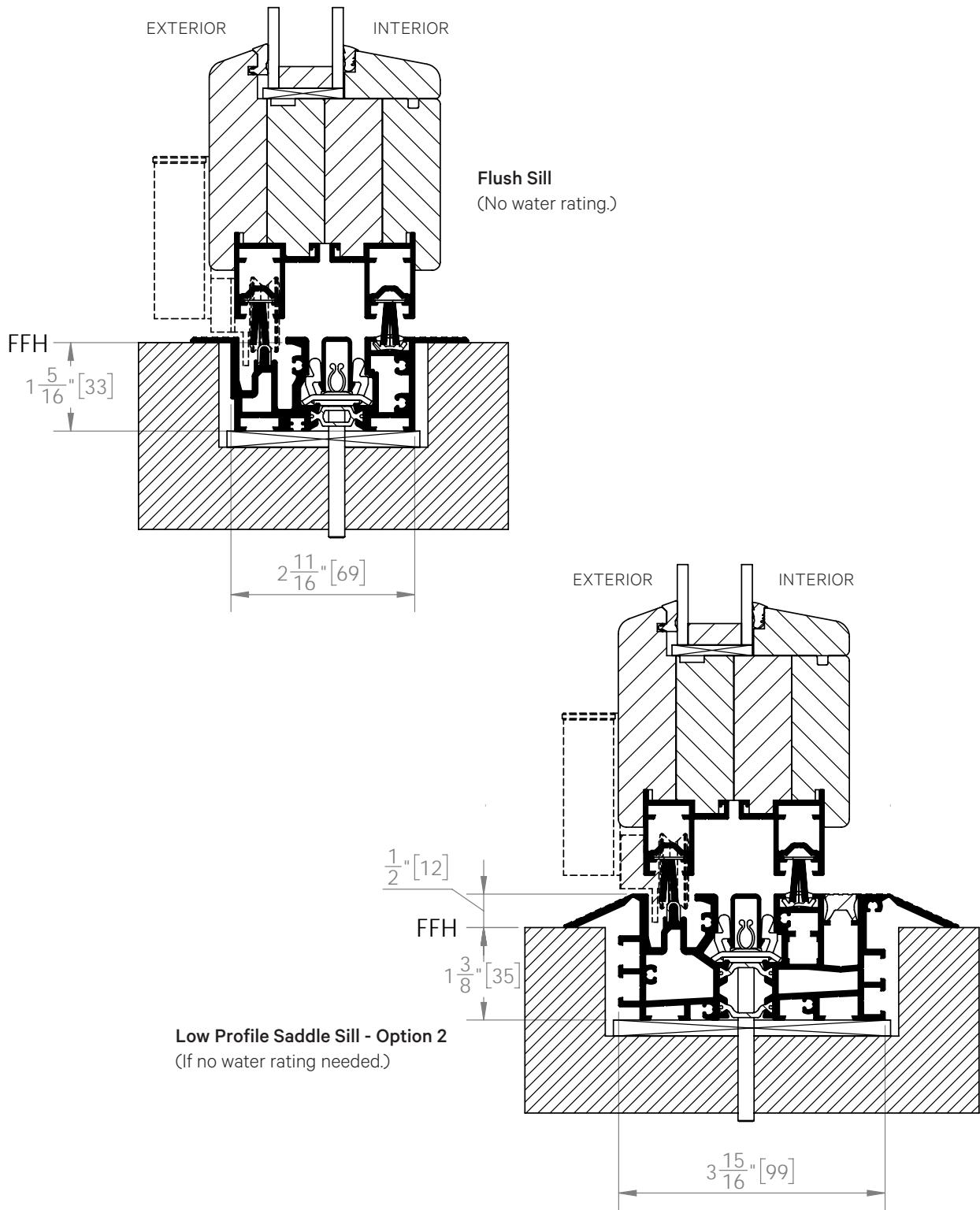


EXTERIOR INTERIOR

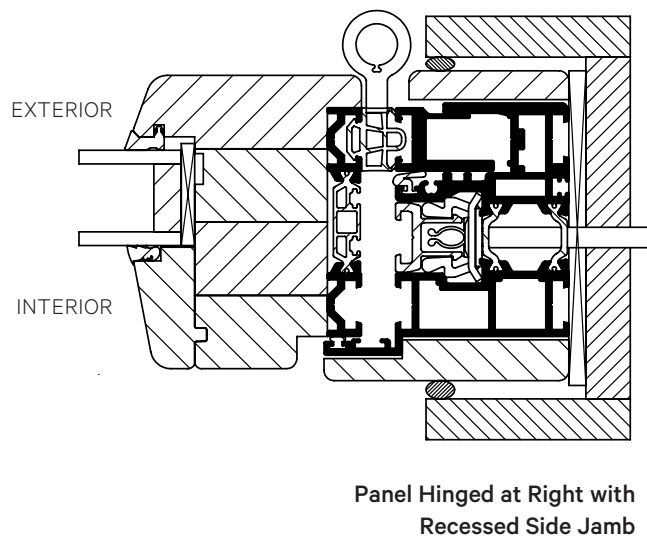
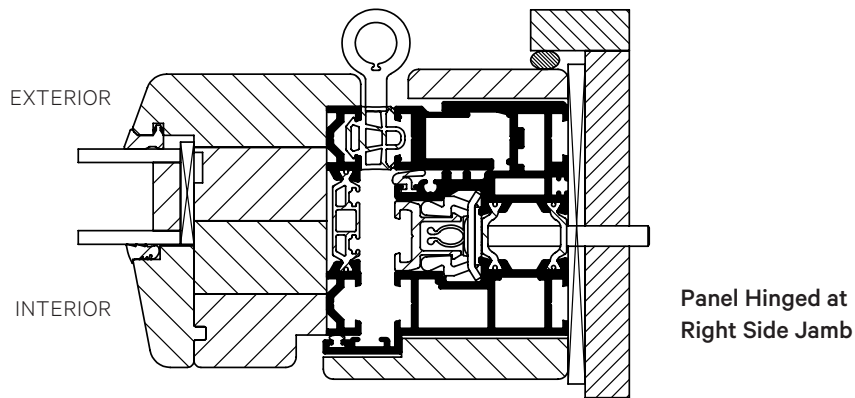
**Recessed Head Track for Left/Right  
FourFold and SixFold Panel Sets**



Outward Opening Details



## Outward Opening Details





# Pella® Reserve™ – Traditional Wood Awning Window

3.88 ★★★★★ (Based on 231 Reviews)

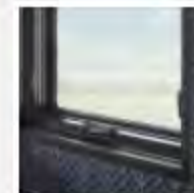
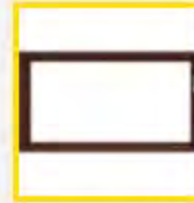
Pella Reserve – Traditional wood and aluminum-clad wood awning windows provide authentic historic charm and style. Hinged at the top and opened with rotating hardware, traditional Pella Reserve awning windows feature unparalleled historical detailing to add a stunning style to spaces where additional ventilation is required.

- Featuring intricate putty profiles and optional Integral Light Technology® grilles to create the authentic look of historic windows with individual windowpanes.
- Antiek fold-away crank inspired by period furniture, available in rich finishes, including distressed and polished.
- Designed for use in areas with some of the strictest building requirements, including those on the National Historic Registry.

\$\$\$\$-\$\$\$\$\$\$

Not available for online purchase

GET A QUOTE





# Pella® Reserve™ - Traditional Wood Double-Hung Window

3.88 ★★★★★ (Based on 231 Reviews)

Create the traditional look your historic renovation, new construction or replacement project requires with a traditional wood or aluminum-clad wood double-hung window. This Pella Reserve window proves our uncompromised attention to detail with historic putty profiles, through-stile construction, innovative grilles and authentic spoon-lock hardware.

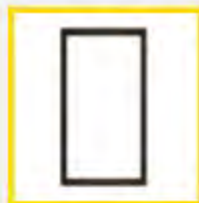
- Winner of 2019 Most Innovative Window from Window and Door Magazine with optional Integrated Rolscreen® retractable screen that appears when you open the window and rolls away when you close it.
- Pella Reserve products have been reviewed and approved on a case-by-case basis by the National Park Service for use on projects with historic tax credits.
- Innovative sash lugs can be added to the exterior to create the authentic look, while maintaining modern tilting functionality for easy cleaning.

\$\$\$\$-\$\$\$\$\$\$

Not available for online purchase

GET A QUOTE





# Pella® Reserve™ - Traditional Wood Picture Window

3.88   (Based on 231 Reviews)

Pella Reserve - Traditional aluminum-clad wood picture windows deliver authentic traditional style in a window that is fixed or does not open. Glass is glazed directly into the frame providing more visible glass. Available in rectangles, curved and angle-top shapes to best complement your design.

- Exceptional energy-efficiency with optional triple-pane glass and optional impact-resistant glass.
- Offering our largest window sizes to make the most of natural light. Available in more than two dozen unique shapes to match your style.
- Trusted by the National Historic Registry and historic areas with some of the strictest building requirements.

**\$\$\$\$-\$\$\$\$\$\$**

Not available for online purchase

[GET A QUOTE](#)