

*Promoting the use and conservation of historic properties for the education, inspiration,  
pleasure, and enrichment of the citizens of Sioux Falls*

**BOARD OF HISTORIC PRESERVATION**  
WEDNESDAY AUGUST 14, 2024  
4:00 PM City Center, Cooper Conference Room, 110  
Sioux Falls, SD

MEETING ASSISTANCE: UPON REQUEST, ACCOMMODATIONS FOR MEETINGS WILL BE PROVIDED FOR PERSONS WITH DISABILITIES. PLEASE CONTACT THE HUMAN RELATIONS OFFICE, FIRST FLOOR, CITY HALL, 224 WEST 9<sup>TH</sup> STREET, SIOUX FALLS, SD AT 367-8745 (VOICE) OR 367-7039 (TDD) 48 HOURS IN ADVANCE OF THE MEETING.

Adam Nyhaug, Board Chair  
Kathy Renken, Board Vice Chair  
Diane deKoeyer, Staff Liaison

**AGENDA**

- |   |                                   |
|---|-----------------------------------|
| <b>ITEM 1 CALL TO ORDER &amp; QUORUM DETERMINATION</b>  | Adam                              |
| <b>ITEM 2 WELCOME &amp; INTRODUCTIONS</b>   | Adam                              |
| <b>ITEM 3 APPROVAL OF REGULAR AGENDA</b>  | Adam                              |
| <b>ITEM 4 APPROVAL OF 6/12/2024 MEETING MINUTES</b>   | Adam                              |
| <b>ITEM 5 PUBLIC INPUT ON NON-AGENDA ITEMS</b><br>(5-minute comment period per individual)                                    | Adam                              |
| <b>ITEM 6 NEW BUSINESS</b><br>a. 423 N. Duluth Ave., Bishop's House<br>Cathedral Historic District<br>(board action required) | Lucas Fiegen, Fiegen Construction |
| <b>ITEM 7 OTHER BUSINESS</b><br>a. Vote for Board Chair and Vice Chair  | Diane                             |
| <b>ITEM 8 ANNOUNCEMENTS</b><br>a. Next meeting – September 11, 2024   |                                   |
| <b>ITEM 9. ADJOURNMENT</b>  |                                   |

*Promoting the use and conservation of historic properties for the education, inspiration,  
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**Regular Meeting Minutes for July 10, 2024  
City Center, Cooper Conference Room, 110**

**Members Present:**

Adam Nyhaug, Chair  
Kathy Renken, Vice Chair  
Nolan Hazard  
Gail Fossum Shea  
Alex Halbach  
Levi Pfeil  
Delia Druley  
Adam Weber  
Lynn Remmers

**Staff Present:**

Diane deKoeyer, Staff Liaison

**Public in Attendance:**

Herm Harms, JLG Architects  
David Locke, Stockwell Engineers  
Kristin Tinklenberg, Stockwell Engineers  
Mike Patten, City of Sioux Falls Parks  
Tyler Landry, City of Sioux Falls Parks  
Sandy & Doug Bervin, tre Ministries  
Paul Reynolds & Tyler Starr, RCM  
Brian Carlson & Jesse Hadley JLG Architects  
Jesse Hadley, JLG Architects  
Kathrine Schnabel, All Saints Neighbor  
Darrel Bartel, All Saints Neighbor  
Luke Urlacher, All Saints Neighbor

**ITEM 1. Call to Order and Quorum Determination**

- a. Board Chair Adam Nyhaug called the meeting to order at 4:03 p.m.

**ITEM 2. Welcome and Introductions**

- a. Board Chair Adam Nyhaug welcomed board members and guests.

**ITEM 3. Approval of Regular Agenda**

- a. Member Halbach made a motion to approve the regular agenda and Member Druley seconded the motion. The motion passed unanimously.

**ITEM 4. Approval of the June 12, 2024, Meeting Minutes**

- a. Board Chair Nyhaug requested a motion to approve the June 10, 2024, meeting minutes. Diane noted that Levi Pfeil should have been included for board attendance in the minutes. With this addition, Member Renken made the motion to approve the minutes and Member Fossum Shea seconded the motion. The motion passed unanimously.

**ITEM 5. Public Input on Non-Agenda Items (five-minute period)**

- a. None

**ITEM 6. New Business**

- a. **McKenna Park Bathhouse/Warming House, McKenna Park Historic District**  
David Locke presented the site plan for the project and noted the following:
- The fence enclosure will be located further away from the pool than it currently is.
  - The existing pool is 3,000 SF and the new pool will be 3,400 SF.

- Two existing, small trees located adjacent to the bath and warming house will be relocated with the new development.
- Two large trees will need to be removed due to their size and proximity to the location of the new buildings.

Herm Harms presented the updated elevations of the project and noted the following:

- Floor plans have not changed except to identify the 8'-2" overhang of the roof over the concessions area.
- A 2' overhang around the rest of the building has also been added.
- The updated design provides more of a residential feel to the project which complements the surrounding neighborhood.
- The standing seam metal roof has been replaced with an asphalt shingle.
- Cedar siding has replaced stucco.
- Board and batten is shown at the gable ends of the buildings.
- Natural stone veneer is identified for the base of the building and will complement the tennis court building.
- Single-hung residential windows have replaced the storefront windows in the first design.
- Soffit lighting will be incorporated to illuminate the buildings.
- Trim board running above the door and window headers were reviewed but the design team felt that it affected the overall scale of the building too much and did not include it.
- Windows are not included in the concessions area due to the need for storage/shelving.
- Roof height of the building is approximately 22'-24'.
- Wall height of the building is approximately 11'.

Member Halbach provided the following comments regarding the design:

- Consider exposing rafter tails to further express the craftsman vernacular.
- Half-timbering on the north, west and south facades will be removed and corbels will be added to the roof overhang.
- Exposed truss will be exposed at the north overhang of the concessions area.
- Dormers or cupolas similar to Terrace Park Bathhouse could be added to the roof structure.
- When asked about providing mitered corners on the buildings, Herm said due to the additional labor and cost, they would not miter the corners.

Member Remmers provided the following comment regarding the design:

- Extend the header trim at doors and windows beyond the jamb trim for a craftsman detail.

Member Hazard provided the following comments regarding the design:

- Match the stone height at the concessions columns to match the building wainscot.

Following discussion with the board, Member Pfeil made the motion that the design of the bath/warming house as proposed would not have an adverse effect on the historic district with the following amendments to the design:

- Column wainscot would match the wainscot height of the building.
- Craftsman trim detail to the door and window header.
- Corbel detail at the gable ends instead of the half-timbering.
- Provide landscape lighting to also illuminate the building on all facades.
- Provide a roof dormer or cupola similar to the Terrace Park bathhouse.

Member Druley seconded the motion and the motion passed unanimously.  
Member Remmers recused herself from the vote.

**b. Tre Living Apartment Review, Sherman Historic District**

Brian Carlson and Jesse Hadley with JLG Architects presented the design of the tre Living Apartments and noted the following since last month's informational meeting on the project:

- No changes have been made to the program.
- A neighborhood case study was submitted to identify elements of prairie style character of the historic district that is included in the apartment design. Elements include:
  - a. Hip roof
  - b. Window groupings, ribbon windows, picture windows and sidelights
  - c. A 3-over-1 window grid will be used to compliment residential windows in the district.
  - d. Half timbering
  - e. Brick base
  - f. Deep eaves
  - g. Horizontal emphasis
  - h. Scale
- Each of the three bays has a distinct character but also has uniformity to the overall apartment building.
- A lighter color is also included on each of the three bays.
- Updated FCP will have a board and batten design instead of a reveal system
- Lap siding will have a 4" exposure in lieu of a 7" exposure.
- Window placement has more variation.
- North elevation has a more pronounced entrance to the apartment lobby.
- Survey of residential properties to the east are shown relative to the proposed apartment building and are compatible in heights.

Member Pfeil commended JLG for the design updates since the June informational meeting.

Member Nyhaug commented that although he would prefer not to see the homes razed, he feels that the apartment design has improved since the June review. He also noted that he likes the increase of brick at the facades.

Member Hazard asked about the separation from the parking ramp and the south façade of the apartments. Brian responded that there is a slight separation. Dimension was not defined.

Member Halbach noted that the window grouping to the left of the entrance on the north elevation lacks some detail from the rest of the elevations. Member Remmers suggested modifying the window arrangement to include a picture window with smaller windows on each side would improve the layout.

Member Halbach requested that a hardi-board soffit should be used in lieu of the proposed steel soffit to be consistent with materials in the district.

All Saints Neighbor, Darrel Bartel asked where in the district the FCP exists. Diane explained and shared the Secretary of Interior Standards for New Construction where materials must complement materials present in the historic district. In this project, FCP provides a similar appearance to a board and batten siding.

All Saints Neighbor, Luke Urlacher asked how we confirm that the requests the board makes regarding the design is included in the final design. Diane confirmed that when plans are submitted for a building permit, she will confirm that the requests from the board are included in the design for conformance to approve the building permit.

Member Halbach asked if mitered corners for the lap siding would be used. Jesse responded that to do so would add quite a bit more time in labor and although not identified in the elevations, the corners would probably be finished with trim board.

Member Halbach made the motion that the proposed design of the tre Living apartments would not have an adverse effect on the Sherman Historic District contingent on the final review and approval of a building permit by Diane. The following amendments were included in the motion:

- a. Window grouping on the north elevation will be redesigned to include a picture window flanked by two smaller windows.
- b. Hardi-board soffit
- c. Mitered corners

Member Pfeil seconded the motion with the proposed amendments and the motion passed unanimously.

Members Druley and Remmers recused themselves from the vote.

#### **ITEM 7. Announcements**

- a. Next meeting of the board is scheduled for August 14, 2024.

#### **ITEM 9. Adjournment**

- a. The Board of Historic Preservation meeting adjourned at approximately 5:40 pm.

## **Secretary of Interior Standards for Historic Properties – New Construction**

**24:52:07:04. Standards for new construction and additions in historic districts.** New construction or additions within a historic district must comply with **The Secretary of the Interior's Standards for the Treatment of Historic Properties** as incorporated by reference in § 24:52:07:02. In addition the following standards apply:

- (1) Compatibility of design. Massing, size, and scale of new construction must be compatible with surrounding historic buildings. Overall architectural features of new construction must be of contemporary design which does not directly mimic historic buildings. Architectural elements such as windows, doors, and cornices must be similar in rhythm, pattern, and scale to comparable elements in adjacent historic buildings. The overall visual appearance of new construction may not dominate or be distracting to the surrounding historic landscape;
- (2) Height. The height of new buildings or additions to existing buildings may not exceed a standard variance of ten percent of the average height of historic buildings on both sides of the street where proposed new construction is to be located;
- (3) Width. The width of new buildings or additions to existing buildings must be similar to adjacent historic buildings;
- (4) Proportion. The relationship between the height and width of new buildings or additions to existing buildings must be similar in proportion to existing historic buildings. The proportion of openings in the facades of new construction or additions must be compatible with similar openings in adjacent historic buildings;
- (5) Rhythm and scale. The rhythm, placement, and scale of openings, prominent vertical and horizontal members, and separation of buildings which are present in adjacent historic buildings must be incorporated into the design of new buildings or additions to existing buildings;
- (6) Materials. Materials which make up new buildings or additions to existing buildings must complement materials present in nearby historic properties. New materials must be of similar color, texture, reflective qualities, and scale as historical materials present in the historic district;
- (7) Color. The colors of materials, trim, ornament, and details used in new construction must be similar to those colors on existing historic buildings or must match colors used in previous historical periods for identical features within the historic district;
- (8) Details and ornament. The details and ornament on new buildings or additions to existing buildings must be of contemporary design that is complementary to those features of similar physical or decorative function on adjacent historic buildings;
- (9) Roof shape and skyline. The roof shape and skyline of new construction must be similar to that of existing historic buildings;
- (10) Setting. The relationship of new buildings or additions to existing buildings must maintain the traditional placement of historic buildings in relation to streets, sidewalks, natural topography, and lot lines; and
- (11) Landscaping and ground cover. Retaining walls, fences, plants, and other landscaping elements that are part of new construction may not introduce elements which are out of character with the setting of the historic district.

**Source:** 16 SDR 239, effective July 9, 1990; 21 SDR 50, effective September 21, 1994; 24 SDR 73, effective December 4, 1997; 28 SDR 182, effective July 10, 2002.

**General Authority:** SDCL 1-19A-5, 1-19A-11, 1-19A-29.

**Law Implemented:** SDCL 1-19A-5, 1-19A-11.1.

## Secretary of the Interior's Standards for Rehabilitation

*The Standards for Rehabilitation, a section of the Secretary's Standards for Historic Preservation Projects, address the most prevalent preservation treatment today, rehabilitation. Rehabilitation is defined as the process of returning a property to state of utility, through repair or alteration which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural and cultural values.*

The Standards that follow were originally published in 1977 and revised in 1990 as part of the Department of the Interior regulations (36 CFR Part 67, Historic Preservation Certifications). They pertain to historic buildings of all materials, construction types, sizes, and occupancy and encompass the exterior and the interior of historic buildings. The Standards also encompass related landscape features and the building's site and environment as well as attached, adjacent or related new construction.

The Standards are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility.

- (1) A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
- (2) The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
- (3) Each property shall be recognized as a physical record of its time, place and use. Changes that create a false sense of historic development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
- (4) Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
- (5) Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.
- (6) Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
- (7) Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
- (8) Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
- (9) New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
- (10) New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

## SIoux FALLS BOARD OF HISTORIC PRESERVATION

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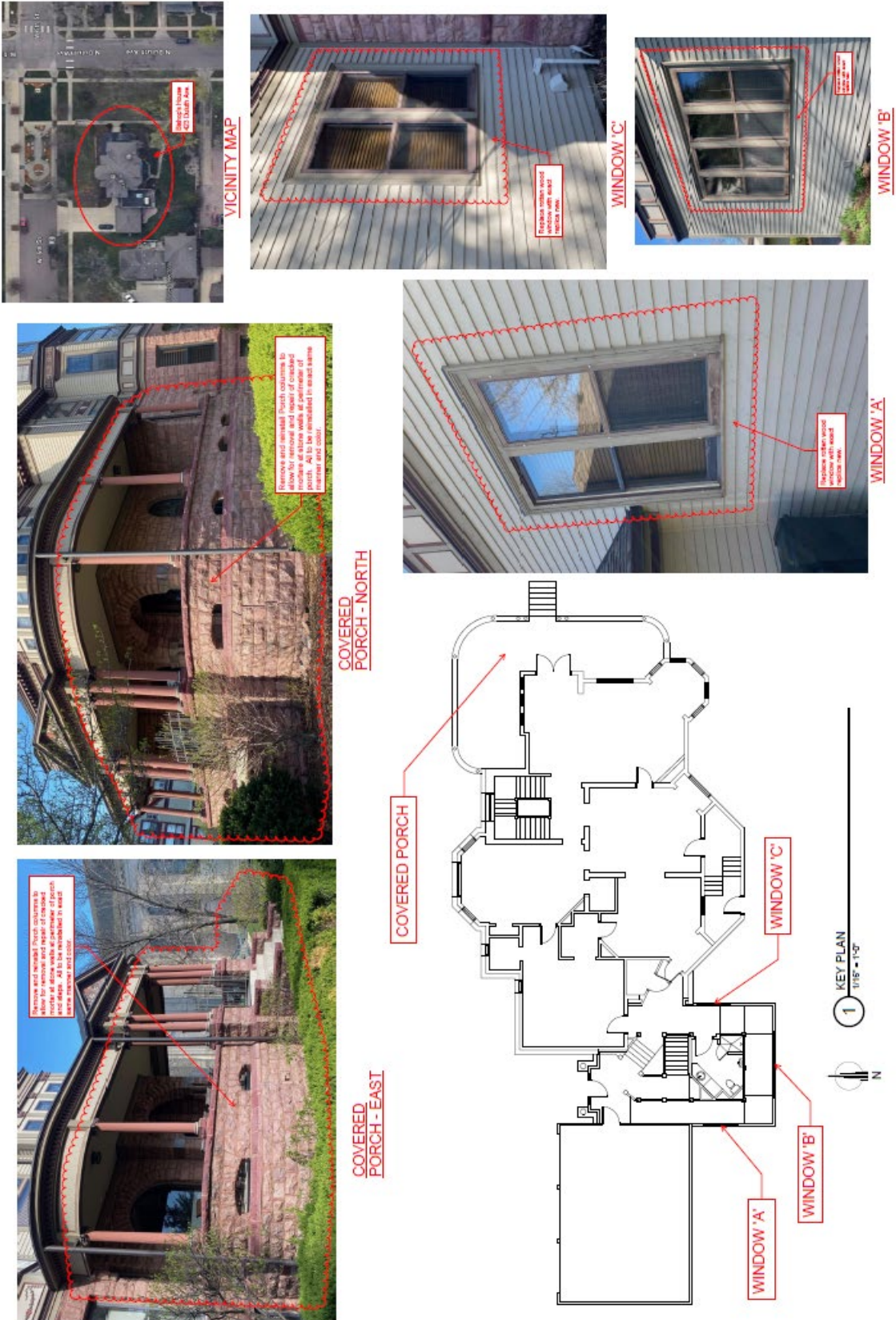
<b>Project Review</b>	August 14, 2024
<u>Property Address</u>	423 N. Duluth Avenue
<u>Property Owner</u>	Catholic Chancery Office
<u>Historic District</u>	Cathedral Historic District
<u>Year Built</u>	1890
<u>Project</u>	<p>Remove and reinstall porch columns to allow for removal and repair of cracked mortar at stone walls at the perimeter of the porch and steps. All are to be reinstalled in exact same manner and color.</p> <p>Existing wood windows in three locations of the house that are rotted will be replaced with the same one-over-one double-hung Sierra Pacific wood windows.</p>
<u>National Register</u>	Two-story Queen Anne with stone foundation employs many types of windows and other features of Queen Anne homes. John W. Tuthill Lived here. He was a prominent lumberman
<u>Project Representative</u>	Lucas Fiegen, Fiegen Construction
<u>Staff Recommendation</u>	Approval
<u>Neighbor Notification</u>	No
<u>Board Action</u>	Required
<u>Photos</u>	See attached



**CATHEDRAL HISTORIC DISTRICT**  
**423 N. DULUTH AVENUE**











Above: Southeast view  
Below: Northeast view







Above: Porch Columns  
Below: West Elevation (no work)







Above: Porch Columns  
Below: West Elevation (no work)







Above: Property to the north, Cathedral Church.  
Below: Structures to the west on the Bishop House property.







Above: Property to the south.  
Below: Properties to the east



— PREMIUM DOUBLE HUNG —

## A TIMELESS CLASSIC WITH TIMELY UPDATES.

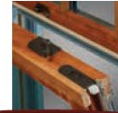
By themselves, they make a timeless statement. When configured with other Sierra Pacific windows, Sierra Pacific Premium Double Hung windows can turn an ordinary wall into an extraordinary vision.

Available in low maintenance aluminum clad exterior and a gorgeous all-wood version, our Premium Double Hungs have two easy-tilt sashes for easy cleaning.



**PREMIUM JAMBLINERS  
ARE STANDARD**

Many other windows use an ugly vinyl jambliner. By using real wood, our jambliners become a corrosion, fully-integrated part of the wood window interior.



**EXTERIOR TRIM**  
Group A on page 17  
Shown: 3" wide x 6" high

**PREMIUM SASH**  
Premium double hung windows feature easy tilt sash for even easier cleaning.



### HARDWARE

- Matte Black
- White
- 14 Karat Bronze Bronze
- Bronze
- Champagne
- Nickel
- Brushed Chrome
- Antique Brass
- Bright Brass
- \*Optional: Decorative hardware

Optional sash lift handle



Shown with custom simulated siding

© 2014 Sierra Pacific





## PRODUCT SUMMARY

### Wood Premium Double & Single Hung (WI)

Exact match to existing windows.

#### EXTERIOR/INTERIOR:

- Exterior: Exterior surface has **factory applied white latex acrylic primer**; Optional natural (unfinished) pine.
  - Interior: Exposed interior wood surfaces are unfinished pine; Optional primed interior, Ultra Coat or Ultra Stain finished.
  - Specify Interior Wood Species
 

<b>Ponderosa Pine (Standard)</b>	Mahogany
Vertical Grain Douglas Fir	Black Walnut
Other Species upon Request and Availability	White Oak
  - Specify Interior Finish
 

<b>Natural</b>	Primed - White or Black
Ultra Coat – 10 Colors	Ultra Coat – Custom Color Paint Match
Ultra Stain – Clear Coat	Ultra Stain - Espresso
Ultra Stain – Toffee	Ultra Stain – Custom Color Stain Match
- \*Ultra Coat is an interior paint finish utilizing a specially formulated two-part catalyzed polyurethane paint finish.
- \*Ultra Stain is a water-based interior stain finish formulated to provide intense, rich color tones while maintaining uniformity of color and appearance.

#### FRAME:

- Overall frame thickness is 11/16" (18mm).
- Basic jamb width is 4-9/16" (116mm) standard; additional jamb depths available include:
 

4-3/4" (121mm)	5" (127mm)	5-1/8" (130mm)
5-5/16" (135mm)	6-7/16" (164mm)	6-9/16" (167mm)
6-11/16" (170mm)	7" (178mm)	7-1/8" (181mm)
7-1/4" (184mm)	7-5/16" (186mm)	7-3/8" (187mm)
8-1/8" (206mm)		
- Overall frame depth is 5-11/16" (144mm).
- Interior wood for head, sill and jambs are select pine, solid or finger-jointed with veneer, kiln dried to a moisture content of 6-12% at time of fabrication. Additional wood species available as noted under INTERIOR FINISH above.
- Frame is completely assembled with concealed jamb liners and block and tackle balances with sash installed.

#### SASH:

- Sash thickness 1-7/16" (44mm)
- Sash corners mortised and tenoned and secured with nails.
- Select pine kiln dried to 6-12% moisture content at time of fabrication. Water repellent preservative, CoreGuard™ Plus, treated in accordance with WDMA I.S.4.
- Available in standard 50/50 vent with optional 60/40 or 40/60 vent.

#### GLAZING OPTIONS:

- Premium quality flat glass complying with ASTM C 1036.
- Glazed with silicone sealant to the exterior and removable interior glazing bead.
- Factory glazed fabrication complies with requirements of Section 088100 and AAMA/WDMA/CSA 101/I.S.2/NAFS
- Safety glass laminated and tempered glass complies with safety glazing requirements in accordance with 16 CFR 1201 for Category II materials.

**Standard Glazing Options include: (90% Argon Gas Fill Unless Capillary Tubes and/or No Coatings are required)**

Low-E (standard)	Clear (No Coatings)	Low-E 366
Low-E 366 w/i89 Surf #4 LE	Low-E 366 w/Preserve	Low-E 366 w/Neat & Preserve
Low-E 180 (Passive Solar)	Low-E 180 w/Preserve	Low-E 180 w/Neat & Preserve
Low-E 180 w/i89 Surf #4 LE	Laminated Insul (No Coatings)	Low-E Laminated Insul

Note: Warm Edge Spacer (Std), XL Edge Spacer (Optional), Neat and/or Preserve require XL Edge Spacer



## PRODUCT SUMMARY

### Wood Premium Double & Single Hung (WI)

**Specialty Glazing Options include: (90% Argon Gas Fill Unless Capillary Tubes are required)**

Bronze	Grey	Green
Solar Cool Bronze	Solar Cool Grey	Mirropane
Spandrel		

**Obscure Glazing Options include: (90% Argon Gas Fill Unless Capillary Tubes are required)**

Standard (Pattern 62)	Rain	
Narrow Reed	Satin Etched	Glue Chip
White Laminated	Custom	

#### **HARDWARE:**

- Dual action cam sweep flush mounted lock and keeper located at the meeting rail: 2 locks are provided with 32"(813mm) glass width and wider.
- Zinc die-cast and high impact nylon, spring loaded tilt latches located at the top rail of both sash.
- Hardware available in the following finishes:

Champagne	White (Standard)	Bronze	Bright Brass
Brushed Chrome	Antique Brass	Oil Rubbed Forever Bronze	Matte Black
Satin Nickel			
- Optional lift handles in matching finishes.
- Balance system is an extruded beige vinyl jamb liner track with wood covers color matched to the finishes to conceal the jamb liner.
- All wood sash kits have aluminum exterior jambliner covers.
- Sash are supported by a block and tackle system with adjustable nylon clutch shoe and steel tilt pin.
- Optional Window Opening Control Device (WOCD).

#### **WEATHERSTRIP:**

- Units constructed with pile weatherstripping w/center fin and a compressible bulb weatherstrip designed for tight seal when sash are closed.
- On Sash, closed-cell foam bulb weatherstrip with seamless TPE skin applied on top sash rail. Weatherstrip on the bottom sash is located on the bottom of the lower rail providing a seal at the sill. Pile weatherstrip w/fin applied to top and bottom sash stiles.
- On Frame, closed-cell foam bulb weatherstrip with seamless TPE skin at head.

#### **SCREEN:**

- .020" (.81mm) roll form aluminum screen, with choice of color, with plungers on each side for easy removal.
- Removable half and full screens available on double hung units. Half screens only on single hung units.
- Screen fabric is View Clear (18x18) fiberglass mesh. Optional View Clear Plus (20x20) fiberglass mesh, charcoal aluminum.
- Optional storm-screen combinations.

#### **GRILLE / DIVIDER OPTIONS:**

- Simulated Divided Lite (SDL) produced with exterior and interior wood grille to match wood species and exterior and interior wood finishes. SDL available as Interior/GIA/Exterior; Interior/Exterior; Interior Only, and Exterior Only. Standard bar widths include:

5/8" Traditional (16mm)	5/8" Putty (16mm)
7/8" Traditional (22mm)	7/8" Putty (22mm)
1" Traditional (25mm)	1" Putty (25mm)
1-1/4" Traditional (32mm)	
2" Traditional (51mm)	
- Grille in Air Space (GIA) available in flat or contour profiles with two-tone grille options available:
  - Flat profile - 5/8"x3/16" (16mmx5mm)
  - Contour profile - 11/16"x5/16" (18mmx8mm)
  - Contour profile - 1"x5/16" (25mmx8mm)



## PRODUCT SUMMARY

### Wood Premium Double & Single Hung (WI)

#### *Divider Patterns Include:*

Equal  
Craftsman  
Special

Prairie  
Cross

Ladder  
Cottage

#### WARRANTY:

- Workmanship and materials: 10-year limited warranty (Residential and Commercial application).
- Insulating glass: 20 year limited warranty on dual insul glass; 10-year limited warranty on triple insul glass; 5 years on Specialty glass (Residential and Commercial).
- Wood Deterioration: 20 years limited warranty (Residential); 10 year limited warranty (Commercial).
- Interior finish: 2-year limited warranty (Residential and Commercial).
- Warranty Labor: 2-year limited warranty (Residential and Commercial).

Please refer the Sierra Pacific Limited Warranties as found at [www.sierrapacificwindows.com](http://www.sierrapacificwindows.com) for full details and limitations.

#### MANUFACTURER:

- Sierra Pacific Windows, 11605 Reading Rd., Red Bluff, CA 96080. Toll Free Telephone: (800)824-7744.  
Web: [www.sierrapacificwindows.com](http://www.sierrapacificwindows.com)

#### ADDITIONAL GLASS SPECIFICATIONS:

- Low-E Insul (Standard): Dual insulated glass consisting of one lite of dual layered Cardinal 272 Low-E or Guardian 70/36 silver sputter coated on surface #2 and one lite of clear glass; Argon filled unless produced with capillary tubes. Produced with warm edge spacer standard. Cardinal XL™ Edge spacer optional.
- Clear Insul: dual insulating glass consisting of two lites of clear glass. Produced with warm edge spacer standard. Cardinal XL Edge spacer optional.
- ¼" Laminated Insul: Dual insulated glass consisting of one lite of ¼" laminated glass produced with .030" PVB interlayer (exterior lite) and one lite of clear glass. Argon filled unless produced with capillary tubes. Produced with Cardinal XL Edge™ spacer.
- ¼" Low-E Laminated Insul: Dual insulated glass consisting of one lite of ¼" laminated glass produced with .030" PVB interlayer (exterior lite) and one lite of dual layered Cardinal 272 Low-E on surface #5. Argon filled unless produced with capillary tubes. Produced with Cardinal XL Edge™ spacer.
- 366 Low-E: Dual insulated glass consisting of one lite of triple layered Cardinal 366 silver sputter coated on surface #2 and one lite of clear glass. Argon filled unless produced with capillary tubes. Produced with warm edge spacer standard. Cardinal XL Edge™ spacer optional.
- 366 Low-E with i89: Dual insulated glass consisting of one lite of triple layered Cardinal 366 silver sputter coated on surface #2 and one lite of Cardinal i89 Low-E coating on surface #4. Argon filled unless produced with capillary tubes. Produced with warm edge spacer standard. Cardinal XL Edge™ spacer optional.
- Low-E 366 with Neat & Preserve™: Dual insulated glass consisting of one lite of triple layered Cardinal 366 silver sputter coated on surface #2 and one lite of air-activated Neat™ coating applied to surface #1 & Preserve™ protective film applied to the #1 surface or #1 and #4 surface. Argon filled unless produced with capillary tubes. Produced with Cardinal XL Edge™ spacer.
- Low-E 366 with Preserve™: Dual insulated glass consisting of one lite of triple layered Cardinal 366 silver sputter coated on surface #2 and Preserve™ protective film applied to the #1 surface or #1 and #4 surface. Argon filled unless produced with capillary tubes. Produced with Cardinal XL Edge™ spacer.
- Low-E 180 Passive Solar: Dual insulated glass consisting of one lite of single layer Cardinal 180 silver sputter coated on surface #3 and one lite of clear glass. Argon filled unless produced with capillary tubes. Produced with warm edge spacer standard. Cardinal XL Edge™ spacer optional.
- Low-E 180 Passive Solar w/i89: Dual insulated glass consisting of one lite of single layer Cardinal 180 silver sputter coated on surface #2 and one lite of Cardinal i89 Low-E coating on surface #4. Argon filled unless produced with capillary tubes. Produced with warm edge spacer standard. Cardinal XL Edge™ spacer optional.