SECTION 08 53 13

VINYL WINDOWS AND PATIO DOORS

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\*\* NOTE TO SPECIFIER \*\* North Star Windows And Doors; vinyl windows and patio doors.  
This section is based on the products of North Star Windows And Doors, which is located at:40684 Talbot LineSt. Thomas, ON, Canada N5P 3T2Toll Free Tel: 800-265-5701Email: [request info (null)](https://arcat.com/rfi?action=email&company=North%252BStar%252BWindows%252BAnd%252BDoors&message=RE%253A%2520Spec%2520Question%2520(08565nsr)%253A%2520&coid=53553&spec=08565nsr&rep=&fax=)  
Web: <https://www.northstarwindows.com>   
 [ [Click Here](https://arcat.com/company/north-star-windows-and-doors-53553) ] for additional information.  
Quality Windows & Doors. Great Service. Exceptional Value.  
Since 1985 North Star has been an industry leader in the manufacture of attractive and energy-efficient vinyl windows and patio doors. Whether you're building a new home or upgrading to today's standards, North Star has an extensive range of quality, energy-efficient and full-featured windows that are not only beautiful but offer exceptional value.  
Take a tour of North Star and see how your Windows & Doors are made.  
We are committed to best-in-class manufacturing technology and ensure all our products consistently exceed industry standards.  
This is supported by a network of dealers with a reputation for providing quality workmanship and attentive customer service. For 36 years, North Star has been manufacturing quality windows and doors, delivering great service, and providing exceptional value.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Windows.
       1. 1071 Picture window, no sash.
       2. 1072 Picture window, sash.
       3. Architectural shaped windows.
       4. 1171 Casement windows.
       5. 1173 Awning windows.
       6. 1271 Double hung tilt windows with full screen.
       7. 1272 Double slider tilt windows with full screen.
       8. 1273 Double slider liftout windows with full screen.
       9. 1371 Single hung tilt windows with full screen.
       10. 1372 Single slider liftout windows, 1/2 screen. Left side operating, right side fixed.
       11. 1373 Single slider liftout windows, 1/2 screen. Right side operating, left side fixed.
       12. 1374 3-Lite (end vent) single slider liftout windows with full screen.
       13. 1377 Picture window (singles frame).
       14. Bay and Bow windows.
    2. Sliding Patio Doors:
       1. Single patio door sidelites.
       2. Two-panel patio doors.
       3. Three-panel doors (centre operable)
       4. Four-panel doors (two centre panels operable)
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 05 40 00 - Cold-Formed Metal Framing0 - Cold-Formed Metal Framing.
    2. Section 06 10 00 - Rough Carpentry0 - Rough Carpentry.
    3. Section 07 91 23 - Backer Rods0 - Joint Sealants.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. National Standard of Canada (CAN/CSA):
       1. CAN/CSA A440-00 - Windows/User Selection Guide to CSA Standard A440-00, Windows
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data:
        1. Manufacturer's data sheets on each product to be used.
        2. Preparation instructions and recommendations.
        3. Storage and handling requirements and recommendations.
        4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern, and color.
    2. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
     2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
     3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
       1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
       2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
       3. Retain mock-up during construction as a standard for comparison with completed work.
       4. Do not alter or remove mock-up until work is completed or removal is authorized.
  1. PRE-INSTALLATION CONFERENCE
     1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
     2. Protect from damage due to weather, excessive temperature, and construction operations.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  4. WARRANTY
     1. Manufacturer's standard limited warranty unless indicated otherwise.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: North Star Windows And Doors, which is located at:40684 Talbot LineSt. Thomas, ON, Canada N5P 3T2Toll Free Tel: 800-265-5701Email: [request info (null)](https://arcat.com/rfi?action=email&company=North%252BStar%252BWindows%252BAnd%252BDoors&message=RE%253A%2520Spec%2520Question%2520(08565nsr)%253A%2520&coid=53553&spec=08565nsr&rep=&fax=);Web: <https://www.northstarwindows.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Delete article in not required or delete basis of design paragraphs not required.

* 1. PICTURE WINDOWS
     1. Basis of Design: 1071 Picture Window, No Sash, as manufactured by North Star.
        1. Standards Compliance: CAN/CSA A440-00.
        2. Air: (A) Fixed Rating.
           1. Water: B7.
           2. Structural: C5.
           3. Forced Entry: N/A.
           4. DP Rating: CW-PG70-FW.
           5. Water Resistance: 730 psf (35 kPa).
           6. Air Infiltration/Exfiltration: Fixed.
        3. Window Type and Sizes:

\*\* NOTE TO SPECIFIER \*\* Delete window type not required.

* + - * 1. Double Glazed: Minimum: 10 x 10 inches (254 x 254 mm). Maximum one way: 128 inches (3251 mm); 30 sq ft (2.787 sq m).
        2. Triple Glazed: Maximum one way: 128 inches (3251 mm); 20 sq ft (1.858 sq m).
      1. Frames: Combined frame and stop profiles extruded virgin PVC powder material.
         1. Design: Multi-chamber for strength and energy efficiency.
         2. Joints: Fusion welded for a water and airtight seal, strength, and squareness.
         3. Frame Depth: 3-1/4 inch (83 mm).
      2. Insulated Glass:

\*\* NOTE TO SPECIFIER \*\* Delete panes options not required.

* + - * 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
        2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
        3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - * 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
        2. Glass: Cardinal LoC3-366, soft coat.
        3. Glass: Pilkington Activ Self-Cleaning.
        4. Glass: Laminated. 3/8 inch (9.5 mm) airspace. Two 1/8 inch (3 mm) glass panes with a 0.030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - * 1. Air Space: Heavy inert argon or krypton gas.
      1. Glazing:
         1. Neoprene Setting Blocks: Around perimeter of sash.
         2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
         3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
         4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
      2. Weather-Stripping: Co-extruded flexible vinyl fin. Seals against exterior and interior glass faces along profiled exterior frame edge and profiled interior glass stop.
      3. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - * 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
        2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.

Exterior Textured Color Finish: Ivory.

Exterior Textured Color Finish: Chestnut brown.

Exterior Textured Color Finish: Cocoa.

Exterior Textured Color Finish: Hickory.

Exterior Textured Color Finish: Sandalwood.

Exterior Textured Color Finish: Sable.

Exterior Textured Color Finish: Midnight Black.

Exterior Textured Color Finish: Anthracite Grey.

Exterior Textured Color Finish: Espresso.

Interior Wood Grains: Kolonial Oak

Interior Wood Grains: Light Oak

Interior Wood Grains: Walnut

Interior Wood Grains: Stainable/Paintable Pine.

Interior Textured Color Finishes: Espresso,

Interior Textured Color Finishes: Hickory

Interior Textured Color Finishes: Midnight Black.

Interior Color Finishes: Espresso

Interior Color Finishes: Midnight Black

Interior Color Finishes: Hickory

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + - 1. Grilles: Between glass panes.
         1. Grille Width: 5/16 inch (8 mm) narrow. Finish: White, pewter and brass.
         2. Grille Width: 5/8 inch (16 mm) flat rectangular.

Finish Interior: White or wood grain.

Finish Exterior: Color as determined by the Architect from manufacturer's standard color range.

* + - * 1. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.

Finish: Pewter all sides.

Finish: White all sides.

Finish: Black all sides.

* + - * 1. Contoured 3/4 inch (19 mm) wide grilles.

Finish Interior: White.

Finish Exterior: White or color as determined by the Architect from manufacturer's standard color range.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + - 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
         1. Grille Width: 7/8 inches (22 mm).
         2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - * 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + - 1. Accessories:
         1. Nailing fin.
         2. Installation clips

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - * 1. Brick Molds: For bay and bow windows without head and seat.
        2. Drywall/wood return.
        3. Couplers.
        4. Jamb extensions.
    1. Basis of Design: 1072 Picture Window with Sash, as manufactured by North Star.
       1. Standards Compliance: CAN/CSA A440-00.
          1. Air: (A) Fixed Rating.
          2. Water: B7.
          3. Structural: C5.
          4. Forced Entry: N/A.
          5. DP Rating: CW-PG70-FW.
          6. Water Resistance: 730 psf (35 kPa).
          7. Air Infiltration/Exfiltration: Fixed.
       2. Window Type and Sizes:

\*\* NOTE TO SPECIFIER \*\* Delete window type not required.

* + - * 1. Double Glazed: Minimum: 12 x 12 inches (305 x 305 mm). Maximum one way: 128 inches (3251 mm); 40 sq ft (3.716 sq m).
        2. Triple Glazed: Maximum one way: 128 inches (3251 mm); 30 sq ft (2.787 sq m).
      1. Frames: Frame and sash profiles extruded virgin PVC powder material.
         1. Design: Multi-chamber for strength and energy efficiency.
         2. Joints: Fusion welded for a water and airtight seal, strength, and squareness.
         3. Frame Depth: 3-1/4 inch (83 mm).
      2. Insulated Glass:

\*\* NOTE TO SPECIFIER \*\* Delete panes options not required.

* + - * 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
        2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
        3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - * 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
        2. Glass: Cardinal LoC3-366, soft coat.
        3. Glass: Pilkington Activ Self-Cleaning.
        4. Glass: Laminated. 3/8 inch (9.5 mm) airspace. Two 1/8 inch (3 mm) glass panes with a 0.030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - * 1. Air Space: Heavy inert argon or krypton gas.
      1. Glazing:
         1. Neoprene Setting Blocks: Around perimeter of sash.
         2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
         3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
         4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
      2. Weather-Stripping: Co-extruded flexible vinyl fin. Seals against exterior and interior glass faces along profiled exterior frame edge and profiled interior glass stop.
      3. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - * 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
        2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.

Exterior Textured Color Finish: Ivory.

Exterior Textured Color Finish: Chestnut brown.

Exterior Textured Color Finish: Cocoa.

Exterior Textured Color Finish: Hickory.

Exterior Textured Color Finish: Sandalwood.

Exterior Textured Color Finish: Sable.

Exterior Textured Color Finish: Midnight Black.

Exterior Textured Color Finish: Anthracite Grey.

Exterior Textured Color Finish: Espresso.

Interior Wood Grains: Kolonial Oak.

Interior Wood Grains: Light Oak.

Interior Wood Grains: Walnut.

Interior Wood Grains: Stainable/Paintable Pine.

Interior Textured Color Finishes: Espresso.

Interior Textured Color Finishes: Hickory.

Interior Textured Color Finishes: Midnight Black.

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + - 1. Grilles: Between glass panes.
         1. Grille Width: 5/16 inch (8 mm) narrow. Finish: White, pewter and brass.
         2. Grille Width: 5/8 inch (16 mm) flat rectangular.

Finish Interior: White or wood grain.

Finish Exterior: Color as determined by the Architect from manufacturer's standard color range.

* + - * 1. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.

Finish: Pewter all sides.

Finish: White all sides.

Finish: Black all sides.

* + - * 1. Contoured 3/4 inch (19 mm) wide grilles.

Finish Interior: White.

Finish Exterior: White or color as determined by the Architect from manufacturer's standard color range.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + - 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
         1. Grille Width: 7/8 inches (22 mm).
         2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - * 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + - 1. Accessories:
         1. Nailing fin.

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - * 1. Brick Molds: For bay and bow windows without head and seat.
        2. Drywall/wood return.
        3. Couplers.
        4. Jamb extensions.
    1. Basis of Design: 1071 Architectural Shaped Windows, as manufactured by North Star.
       1. Standards Compliance: CAN/CSA A440-00.
          1. Air: (A) Fixed Rating.
          2. Water: B7.
          3. Structural: C5.
          4. Forced Entry: N/A.
          5. DP Rating: CW-PG70-FW.
          6. Water Resistance: 730 psf (35 kPa).
          7. Air Infiltration/Exfiltration: Fixed.
       2. Frames: Combined frame and stop profiles extruded virgin PVC powder material.
          1. Design: Multi-chamber for strength and energy efficiency.
          2. Joints: Fusion welded for a water and airtight seal, strength, and squareness.
          3. Frame Depth: 3-1/4 inch (83 mm).
       3. Insulated Glass:

\*\* NOTE TO SPECIFIER \*\* Delete panes option not required.

* + - * 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
        2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
        3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - * 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
        2. Glass: Cardinal LoC3-366, soft coat.
        3. Glass: Pilkington Activ Self-Cleaning.
        4. Glass: Laminated. 3/8 inch (9.5 mm) airspace. Two 1/8 inch (3 mm) glass panes with a 0.030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - * 1. Air Space: Heavy inert argon or krypton gas.
      1. Glazing:
         1. Neoprene Setting Blocks: Around perimeter of sash.
         2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
         3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
         4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
      2. Weather-Stripping: Co-extruded flexible vinyl fin. Seals against exterior and interior glass faces along profiled exterior frame edge and profiled interior glass stop.
      3. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - * 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
        2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.

Exterior Textured Color Finish: Ivory.

Exterior Textured Color Finish: Chestnut brown.

Exterior Textured Color Finish: Cocoa.

Exterior Textured Color Finish: Hickory.

Exterior Textured Color Finish: Sandalwood.

Exterior Textured Color Finish: Sable.

Exterior Textured Color Finish: Midnight Black.

Exterior Textured Color Finish: Anthracite Grey.

Exterior Textured Color Finish: Espresso.

Interior Wood Grains: Kolonial Oak

Interior Wood Grains: Light Oak

Interior Wood Grains: Walnut

Interior Wood Grains: Stainable/Paintable Pine.

Interior Textured Color Finishes: Espresso,

Interior Textured Color Finishes: Hickory

Interior Textured Color Finishes: Midnight Black.

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + - 1. Grilles: Between glass panes.
         1. Grille Width: 5/16 inch (8 mm) narrow. Finish: White, pewter and brass.
         2. Grille Width: 5/8 inch (16 mm) flat rectangular.

Finish Interior: White or wood grain.

Finish Exterior: Color as determined by the Architect from manufacturer's standard color range.

* + - * 1. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.

Finish: Pewter all sides.

Finish: White all sides.

Finish: Black all sides.

* + - * 1. Contoured 3/4 inch (19 mm) wide grilles.

Finish Interior: White.

Finish Exterior: White or color as determined by the Architect from manufacturer's standard color range.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + - 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
         1. Grille Width: 7/8 inches (22 mm).
         2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - * 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + - 1. Accessories:
         1. Nailing fin.
         2. Installation clips

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - * 1. Brick Molds: For bay and bow windows without head and seat.
        2. Drywall/wood return.
        3. Couplers.
        4. Jamb extensions.

\*\* NOTE TO SPECIFIER \*\* Delete geometric shapes option not required and shape options not required.

* + - 1. Non-Bent Geometric Shapes:
         1. Triangle (WxH): \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ mm).
         2. Hexagon (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
         3. Trapezoid (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
         4. Octagon (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
         5. Pentagon (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
      2. Bent Geometric Shapes:
         1. Half Arch (WxH): \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ mm).
         2. Extended Quarter Arch (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
         3. Quarter Arch (WxH): \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ mm).
         4. Full Circle (Radius): \_\_\_ inches (\_\_\_ mm).
         5. Extended Arch (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
         6. Cord/Eyebrow (WxH): \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ mm).
         7. Cathedral (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
         8. Ellipse Top (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
         9. True Ellipse (WxH): \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ mm).
    1. Basis of Design: 1171 Casement Windows, as manufactured by North Star.
       1. Standards Compliance: CAN/CSA A440-00.
          1. Air: A3.
          2. Water: B7.
          3. Structural: C4.
          4. Screen: S2.
          5. Forced Entry: F20.
          6. DP Rating: R-PG65-C.
          7. Water Resistance: 730 psf (35 kPa).
          8. Air Infiltration/Exfiltration: A3.
       2. Window Type and Sizes:

\*\* NOTE TO SPECIFIER \*\* Delete window type not required.

* + - * 1. Double Glazed:

Minimum: 14-3/4 x 17 inches (375 x 432 mm).

Maximum Width and Height: 36 x 72 inches (914 and 1828 mm) or 30 x 78 (762mm x 1981mm)

Maximum Width + Height: 108 united inches (2743 mm).

* + - * 1. Triple Glazed:

Minimum: 14-3/4 x 17 inches (375mm x 432 mm).

Maximum Width + Height: 98 united inches (2489 mm)

Maximum Width 36 inches( 914mm). Maximum Height 78 inches (1981mm)

* + - 1. Frame and Sash: Profiles are extruded virgin PVC powder material.
         1. Design: Multi-chamber for strength and energy efficiency.
         2. Joints: Fusion welded for a water and airtight seal, strength, and squareness.
         3. Frame Depth: 3-1/4 inch (83 mm).
      2. Insulated Glass:

\*\* NOTE TO SPECIFIER \*\* Delete panes options not required.

* + - * 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
        2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
        3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - * 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
        2. Glass: Cardinal LoC3-366, soft coat.
        3. Glass: Pilkington Activ Self-Cleaning.
        4. Glass: Laminated. 3/8 inch (9.5 mm) airspace. Two 1/8 inch (3 mm) glass panes with a 0.030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - * 1. Air Space: Heavy inert argon or krypton gas.
      1. Glazing:
         1. Neoprene Setting Blocks: Around perimeter of sash.
         2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
         3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
         4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
      2. Triple Weather-Stripping: Two flexible dual durometer bulb type compression gaskets located around perimeter of window frame ensuring air and watertight seal and energy efficiency. One water repellant pile weather-strip with stiff fin type vapor barrier located around perimeter of sash increasing energy efficiency and reducing dust and dirt from accumulating around sash cavity.
      3. Hardware: Truth Maxim Hardware. Hinges: Concealed scissor.

\*\* NOTE TO SPECIFIER \*\* Delete operation option not required.

* + - * 1. Operation: Truth Maxim Heavy-Duty Roto Gear: Opens sash to 90 degrees and hold sash at any position. White with contour handle.
        2. Operation: Truth Encore Heavy-Duty Roto Gear: Folding handle with roto gear nesting cover. Finish: White, back, brushed antique chrome, satin nickel, and oil rubbed bronze finish.

\*\* NOTE TO SPECIFIER \*\* Limit sash opening hardware, safeguard casement window, or opening control devices are available. Delete sash lock not required.

* + - * 1. Sash Lock: Pulls weather-stripped sash against dual compression bulb weather gasket on frame. White with contour handle.
        2. Concealed Multipoint Sash Locks: For units more than 22 inches (559 mm) in height.
        3. Corrosion Protection: Truth E-Gard coating for steel components.
        4. Snubber Hardware on Frame and Sash: Ensures compression of bulb weather-strip opposite to the lock side.

\*\* NOTE TO SPECIFIER \*\* Special egress hardware is available for casement windows that enable narrow sizes to meet egress codes.

* + - 1. Egress: Verify windows meet local building code.
         1. Standard Hardware:
         2. Canadian egress is minimum clear opening of 15 inches (381 mm) and a minimum sq/ft opening of 3.77 sq/ft (0.35 m2)
         3. USA egress is minimum clear opening (WxH) 20x24 and a minimum sq/ft opening of 5.7 sq/ft (0.53m2). Grade floor 5.0 sq/ft (0.47 m2)

Canadian Min. Frame (WxH): 24-13/16 x 21 inches (630 x 533 mm).

USA Min. Frame (WxH): 30 x 29 inches (630 x 533 mm).

* + - * 1. Egress Hardware:

Canadian Min. Frame (WxH): 22-1/4 x 19-3/4 inches (565 x 502 mm).

USA Min. Frame (WxH): 27-1/2 x 29 inches (699 x 737 mm).

* + - 1. Screens: Heavy Duty EZ-Screens.
         1. Frame: Roll formed 0.025 inch aluminum. Mitered corners and spring loaded corner keys for removal and installation.
         2. Screen: Antiglare fiberglass cloth.
         3. Frame Finish: Painted white or black.
         4. Frame Finish: Laminated. Color: As determined by the Architect from Manufacturer's standard range.
      2. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - * 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
        2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.

Exterior Textured Color Finish: Ivory.

Exterior Textured Color Finish: Chestnut brown.

Exterior Textured Color Finish: Cocoa.

Exterior Textured Color Finish: Hickory.

Exterior Textured Color Finish: Sandalwood.

Exterior Textured Color Finish: Sable.

Exterior Textured Color Finish: Midnight black.

Exterior Textured Color Finish: Anthracite grey.

Exterior Textured Color Finish: Espresso.

Interior Wood Grains: Kolonial Oak.

Interior Wood Grains: Light Oak.

Interior Wood Grains: Walnut.

Interior Wood Grains: Stainable/Paintable Pine.

Interior Textured Color Finishes: Espresso.

Interior Textured Color Finishes: Hickory.

Interior Textured Color Finishes: Midnight Black.

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + - 1. Grilles: Between glass panes.
         1. Grille Width: 5/16 inch (8 mm) narrow. Finish: White, pewter and brass.
         2. Grille Width: 5/8 inch (16 mm) flat rectangular.

Finish Interior: White or wood grain.

Finish Exterior: Color as determined by the Architect from manufacturer's standard color range.

* + - * 1. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.

Finish: Pewter all sides.

Finish: White all sides.

Finish: Black all sides.

* + - * 1. Contoured 3/4 inch (19 mm) wide grilles.

Finish Interior: White.

Finish Exterior: White or color determined by the Architect from manufacturers standard color range.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + - 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
         1. Grille Width: 7/8 inches (22 mm).
         2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - * 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + - 1. Accessories:
         1. Nailing fin.
         2. Installation clips

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - * 1. Brick Molds: For bay and bow windows without head and seat.
        2. Drywall/wood return.
        3. Couplers.
        4. Jamb extensions.
    1. Basis of Design: 1173 Awning Windows, as manufactured by North Star.
       1. Standards Compliance: CAN/CSA A440-00.
          1. Air: A3.
          2. Water: B7.
          3. Structural: C4.
          4. Screen: S2.
          5. Forced Entry: F20.
          6. DP Rating: R-PG60-AP.
          7. Water Resistance: 730 psf (35 kPa).
          8. Air Infiltration/Exfiltration: A3.
       2. Window Type and Sizes:

\*\* NOTE TO SPECIFIER \*\* Delete window type not required.

* + - * 1. Double Glazed:

Minimum: 21 x 14-3/4 inches (533 x 375 mm).

Maximum Width and Height: 60 x 48 inches (1524 mm x 1219 mm) or 48 x 60 inches (1219 x 1524)

Maximum Width + Height: 108 united inches (2743 mm).

* + - * 1. Triple Glazed:

Minimum: 21 x 14-3/4 inches (533 x 375 mm).

Maximum Width + Height: 96 united inches (2438 mm).

Maximum Width: 60 inches (1524 mm) Maximum Height: 60 inches (1524 mm)

* + - 1. Frame and Sash: Profiles are extruded virgin PVC powder material.
         1. Design: Multi-chamber for strength and energy efficiency.
         2. Joints: Fusion welded for a water and airtight seal, strength, and squareness.
         3. Frame Depth: 3-1/4 inch (83 mm).
      2. Insulated Glass:

\*\* NOTE TO SPECIFIER \*\* Delete panes options not required.

* + - * 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
        2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
        3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - * 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
        2. Glass: Cardinal LoC3-366, soft coat.
        3. Glass: Pilkington Activ Self-Cleaning.
        4. Glass: Laminated. 3/8 inch (9.5 mm) airspace. Two 1/8 inch (3 mm) glass panes with a 0.030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - * 1. Air Space: Heavy inert argon or krypton gas.
      1. Glazing:
         1. Neoprene Setting Blocks: Around perimeter of sash.
         2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
         3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
         4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
      2. Triple Weather-Stripping: Two flexible dual durometer bulb type compression gaskets located around perimeter of window frame ensuring air and watertight seal and energy efficiency. One water repellant pile weather-strip with stiff fin type vapor barrier located around perimeter of sash increasing energy efficiency and reducing dust and dirt from accumulating around sash cavity.
      3. Hardware: Truth Maxim Hardware. Hinges: Concealed scissor.

\*\* NOTE TO SPECIFIER \*\* Delete operation option not required.

* + - * 1. Operation: Truth Maxim Heavy-Duty Roto Gear: Opens sash to 90 degrees and hold sash at any position. White with contour handle.
        2. Operation: Truth Encore Heavy-Duty Roto Gear: Folding handle with roto gear nesting cover. Finish: White, back, brushed antique chrome, satin nickel, and oil rubbed bronze finish.

\*\* NOTE TO SPECIFIER \*\* Limit sash opening hardware, safeguard casement window, or opening control devices are available.

* + - * 1. Sash Lock: Pulls weather-stripped sash against dual compression bulb weather gasket on frame. White with contour handle.

Dual sash locks located on window jamb.

* + - * 1. Corrosion Protection: Truth E-Gard coating for steel components.
        2. Snubber Hardware: On windows 42 inch (1067 mm) wide or larger applied to frame and sash to ensure compression of the bulb weather-strip opposite to sill hardware.
      1. Screens: Heavy Duty EZ-Screens.
         1. Frame: Roll formed 0.025 inch aluminum. Mitered corners and spring loaded corner keys for removal and installation.
         2. Screen: Antiglare fiberglass cloth.
         3. Frame Finish: Painted white or black.
         4. Frame Finish: Laminated. Color: As determined by the Architect from Manufacturer's standard range.
      2. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - * 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
        2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.

Exterior Textured Color Finish: Ivory.

Exterior Textured Color Finish: Chestnut brown.

Exterior Textured Color Finish: Cocoa.

Exterior Textured Color Finish: Hickory.

Exterior Textured Color Finish: Sandalwood.

Exterior Textured Color Finish: Sable.

Exterior Textured Color Finish: Midnight Black.

Exterior Textured Color Finish: Anthracite Grey.

Exterior Textured Color Finish: Espresso.

Interior Wood Grains: Kolonial Oak.

Interior Wood Grains: Light Oak.

Interior Wood Grains: Walnut.

Interior Wood Grains: Stainable/Paintable Pine.

Interior Textured Color Finishes: Espresso.

Interior Textured Color Finishes: Hickory.

Interior Textured Color Finishes: Midnight Black.

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + - 1. Grilles: Between glass panes.
         1. Grille Width: 5/16 inch (8 mm) narrow. Finish: White, pewter and brass.
         2. Grille Width: 5/8 inch (16 mm) flat rectangular.

Finish Interior: White or wood grain.

Finish Exterior: Color as determined by the Architect from manufacturer's standard color range.

* + - * 1. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.

Finish: Pewter all sides.

Finish: White all sides.

Finish: Black all sides.

* + - * 1. Contoured 3/4 inch (19 mm) wide grilles.

Finish Interior: White.

Finish Exterior: White or color as determined by the Architect from manufacturer's standard color range.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + - 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
         1. Grille Width: 7/8 inches (22 mm).
         2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - * 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + - 1. Accessories:
         1. Nailing fin.
         2. Installation clips.

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - * 1. Brick Molds: For bay and bow windows without head and seat.
        2. Drywall/wood return.
        3. Couplers.
        4. Jamb extensions.
    1. Basis of Design: 1271 Double Hung Tilt Window with full screen, as manufactured by North Star.
       1. Standards Compliance: CAN/CSA A440-00.
          1. Air: A2.
          2. Water: B6.
          3. Structural: C5.
          4. Screen: S1.
          5. Forced Entry: F10.
          6. DP Rating: R-PG40-H.
          7. Water Resistance: 730 psf (35 kPa).
          8. Air Infiltration/Exfiltration: A2.
       2. Window Sizes:
          1. Double Glazed:

Minimum: 12 x 22 inches (305 x 559 mm).

Maximum Width: 48 inches (1219 mm) Maximum Height: 78 inches (1981).

Maximum Width + Height: 120 united inches (3048 mm).

* + - * 1. Triple Glazed:

Minimum: 12 x 22 inches (305 x 559 mm).

Maximum Width: 42 inches (1067 mm). Maximum Height: 78 inches (1981 mm).

Maximum Width + Height: 104 united inches (2642 mm).

* + - 1. Frame and Sash: Profiles are extruded virgin PVC powder material.
         1. Design: Multi-chamber for strength and energy efficiency.
         2. Joints: Fusion welded for a water and airtight seal, strength, and squareness.
         3. Frame Depth: 3-1/4 inch (83 mm).
         4. Recessed Drain Covers: For frames. Reticulated foam to keep insects out.
      2. Insulated Glass:

\*\* NOTE TO SPECIFIER \*\* Delete panes options not required.

* + - * 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
        2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
        3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - * 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
        2. Glass: Cardinal LoC3-366, soft coat.
        3. Glass: Pilkington Activ Self-Cleaning.
        4. Glass: Laminated. 3/8 inch (9.5 mm) airspace. Two 1/8 inch (3 mm) glass panes with a 0.030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - * 1. Air Space: Heavy inert argon or krypton gas.
      1. Glazing:
         1. Neoprene Setting Blocks: Around perimeter of sash.
         2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
         3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
         4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
      2. Multiple Weather-Stripping:
         1. Water Repellant Pile Weather-Strips: Stiff fin type vapor barrier around perimeter of each operable window sash ensuring air and watertight seal.
         2. Two Pile Weather-Strip: Stiff fin type vapor barrier on inside of window frame at sill and jamb for additional protection.
      3. Hardware: Two Die-Cast Cam Locks and Keeper: Assembles onto each operable sash for weatherability and security.
         1. Window Width Less Than 27-1/4 inch (692 mm): One cam lock and keeper.

\*\* NOTE TO SPECIFIER \*\* Limit sash opening features are available. Consult manufacturer for more information. Delete sash operation options not required.

* + - * 1. Sash Operation:

Two constant force coil spring balance hardware.

Recessed Finger Latches: Release top and bottom sash to tilt sash.

Full Length Sash Pull Handles: Extruded into interior glazing stop profile.

Color: White.

Color: \_\_\_\_\_\_\_.

Self-latching locks, keepers, and tilt latches.

Color: White.

Color: Black.

\*\* NOTE TO SPECIFIER \*\* Special egress hardware is not available for double hung tilt windows that enable narrow sizes to meet egress codes.

* + - 1. Egress: Verify windows meet local building code.
         1. Canadian egress is minimum clear opening of 15 inches (381 mm) and a minimum sq/ft opening of 3.77sq/ft (0.35m2)
         2. USA egress is minimum clear opening (WxH) 20x24 and a minimum sq/ft opening of 5.7 sq/ft (0.53m2). Grade floor 5.0sq/ft (0.47m2)
         3. Canada: Min. Frame (WxH): 20-1/8 x 43-1/2 inches (511 x 1105 mm).
         4. United States: Min. Frame (WxH): 25-1/4 x 61-1/2 inches (641 x 1562 mm).
      2. Screens:
         1. Frame: Roll formed 0.021 inch (0.53 mm) aluminum. Nylon injection molded corner key with pull tab.
         2. Screen Material: Anti-glare fiberglass cloth.

\*\* NOTE TO SPECIFIER \*\* Screen frame is white or one of manufacturer's nine exterior colors

* + - * 1. Color: As determined by the Architect or detailed on the Drawings.
      1. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - * 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
        2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.

Exterior Textured Color Finish: Ivory.

Exterior Textured Color Finish: Chestnut brown.

Exterior Textured Color Finish: Cocoa.

Exterior Textured Color Finish: Hickory.

Exterior Textured Color Finish: Sandalwood.

Exterior Textured Color Finish: Sable.

Exterior Textured Color Finish: Midnight Black.

Exterior Textured Color Finish: Anthracite Grey.

Exterior Textured Color Finish: Espresso.

Interior Wood Grains: Kolonial Oak.

Interior Wood Grains: Light Oak

Interior Wood Grains: Walnut

Interior Wood Grains: Stainable/Paintable Pine.

Interior Textured Color Finishes: Espresso.

Interior Textured Color Finishes: Hickory.

Interior Textured Color Finishes: Midnight Black.

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + - 1. Grilles: Between glass panes.
         1. Grille Width: 5/16 inch (8 mm) narrow. Finish: White, pewter and brass.
         2. Grille Width: 5/8 inch (16 mm) flat rectangular.

Finish Interior: White or wood grain.

Finish Exterior: Color as determined by the Architect from manufacturer's standard color range.

* + - * 1. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.

Finish: Pewter all sides.

Finish: White all sides.

Finish: Black all sides.

* + - * 1. Contoured 3/4 inch (19 mm) wide grilles.

Finish Interior: White.

Finish Exterior: White or color as determined by manufacturers standard color range.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + - 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
         1. Grille Width: 7/8 inches (22 mm).
         2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - * 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + - 1. Accessories:
         1. Nailing fin.
         2. Installation clips

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - * 1. Brick Molds: For bay and bow windows without head and seat.
        2. Drywall/wood return.
        3. Couplers.
        4. Jamb extensions.
    1. Basis of Design: 1272 Double Slider Tilt Window with full screen, as manufactured by North Star. Both sash and slide tilt.
       1. Standards Compliance: CAN/CSA A440-00.
          1. Air: A2.
          2. Water: B2.
          3. Structural: C5.
          4. Screen: S1.
          5. Forced Entry: F10.
          6. DP Rating: R-PG30-HS.
          7. Water Resistance: 730 psf (35 kPa).
          8. Air Infiltration/Exfiltration: A2.
       2. Window Type and Sizes:

\*\* NOTE TO SPECIFIER \*\* Delete window type not required.

* + - * 1. Double Glazed:

Minimum: 22 x 12 inches (559 x 305 mm).

Maximum Width 78 inches (1981 mm): Maximum Height 54 inches (1371)

Maximum Width + Height: 126 united inches (3200 mm).

* + - * 1. Triple Glazed:

Minimum: 22 x 12 inches (559 x 305 mm).

Maximum Width 78 inches (1981 mm): Maximum Height 54 inches (1371).

Maximum Width + Height: 106 united inches (2692 mm).

* + - 1. Frame and Sash: Profiles are extruded virgin PVC powder material.
         1. Design: Multi-chamber for strength and energy efficiency.
         2. Joints: Fusion welded for a water and airtight seal, strength, and squareness.
         3. Frame Depth: 3-1/4 inch (83 mm).
         4. Recessed Drain Covers: For frames. Reticulated foam to keep insects out.
      2. Insulated Glass:

\*\* NOTE TO SPECIFIER \*\* Delete panes options not required.

* + - * 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
        2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
        3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - * 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
        2. Glass: Cardinal LoC3-366, soft coat.
        3. Glass: Pilkington Activ Self-Cleaning.
        4. Glass: Laminated. 3/8 inch (9.5 mm) airspace. Two 1/8 inch (3 mm) glass panes with a 0.030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - * 1. Air Space: Heavy inert argon or krypton gas.
      1. Glazing:
         1. Neoprene Setting Blocks: Around perimeter of sash.
         2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
         3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
         4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
      2. Multiple Weather-Stripping:
         1. Water Repellant Pile Weather-Strips: Stiff fin type vapor barrier around perimeter of each operable window sash ensuring air and watertight seal.
         2. Two Pile Weather-Strip: Stiff fin type vapor barrier on inside of window frame at sill and jamb for additional protection.
      3. Hardware: Two Die-Cast Cam Locks and Keeper: Assembles onto each operable sash for weatherability and security.
         1. Window Height Less Than 27-1/4 inch (692 mm): One cam lock and keeper.

\*\* NOTE TO SPECIFIER \*\* Limit sash opening features are available. Consult manufacturer for more information. Delete sash operation options not required.

* + - * 1. Sash Operation:

"Delrin" self-lubricating glide shoes on bottom of sash to allow for smooth opening and closing of sash.

Recessed Finger Latches: secured at top of sash to allow tilt in and lift out of sash for ease of cleaning.

Full Length Sash Pull Handles: Extruded into interior glazing stop profile.

Color: White.

Color: \_\_\_\_\_\_\_.

Self-latching locks, keepers, and tilt latches.

Color: White.

Color: Black.

\*\* NOTE TO SPECIFIER \*\* Special egress hardware is not available for double slider tilt windows that enable narrow sizes to meet egress codes.

* + - 1. Egress: Verify windows meet local building code.
         1. Canadian egress is minimum clear opening of 15 inches (381 mm) and a minimum sq/ft opening of 3.77sq/ft (0.35m2)
         2. USA egress is minimum clear opening (WxH) 20x24 and a minimum sq/ft opening of 5.7 sq/ft (0.53m2). Grade floor 5.0sq/ft (0.47m2)
         3. Canada: Minimum Frame (WxH): 43 x 20-1/4 inches (1092 x 515 mm).
         4. United States: Minimum Frame (WxH): 53 x 59-1/2 inches (1346 x 1511 mm).
      2. Screens:
         1. Frame: Roll formed 0.021 inch (0.53 mm) aluminum. Nylon injection molded corner key with pull tab.
         2. Screen Material: Anti-glare fiberglass cloth.

\*\* NOTE TO SPECIFIER \*\* Screen frame is white or one of manufacturer's nine exterior colors

* + - * 1. Color: As determined by the Architect or detailed on the Drawings.
      1. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - * 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
        2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.

Exterior Textured Color Finish: Ivory.

Exterior Textured Color Finish: Chestnut brown.

Exterior Textured Color Finish: Cocoa.

Exterior Textured Color Finish: Hickory.

Exterior Textured Color Finish: Sandalwood.

Exterior Textured Color Finish: Sable.

Exterior Textured Color Finish: Midnight Black.

Exterior Textured Color Finish: Anthracite Grey.

Exterior Textured Color Finish: Espresso.

Interior Wood Grains: Kolonial Oak

Interior Wood Grains: Light Oak.

Interior Wood Grains: Walnut.

Interior Wood Grains: Stainable/Paintable Pine.

Interior Textured Color Finishes: Espresso,

Interior Textured Color Finishes: Hickory.

Interior Textured Color Finishes: Midnight Black.

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + - 1. Grilles: Between glass panes.
         1. Grille Width: 5/16 inch (8 mm) narrow. Finish: White, pewter and brass.
         2. Grille Width: 5/8 inch (16 mm) flat rectangular.

Finish Interior: White or wood grain.

Finish Exterior: Color as determined by the Architect from manufacturer's standard range of colors.

* + - * 1. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.

Finish: Pewter all sides.

Finish: White all sides.

Finish: Black all sides.

* + - * 1. Contoured 3/4 inch (19 mm) wide grilles.

Finish Interior: White.

Finish Exterior: White or color as determined by the Architect from manufacturer's standard color range.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + - 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
         1. Grille Width: 7/8 inches (22 mm).
         2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - * 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + - 1. Accessories:
         1. Nailing fin.
         2. Installation clips.

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - * 1. Brick Molds: For bay and bow windows without head and seat.
        2. Drywall/wood return.
        3. Couplers.
        4. Jamb extensions.
    1. Basis of Design: 1273 Double Slider Liftout Window with full screen, as manufactured by North Star. Both sash slide.
       1. Standards Compliance: CAN/CSA A440-00.
          1. Air: A2.
          2. Water: B3.
          3. Structural: C3.
          4. Screen: S1.
          5. Forced Entry: F20.
          6. DP Rating: R-PG45-HS.
          7. Water Resistance: 730 psf (35 kPa).
          8. Air Infiltration/Exfiltration: A2.
       2. Window Type and Sizes:

\*\* NOTE TO SPECIFIER \*\* Delete window type not required.

* + - * 1. Double Glazed:

Minimum: 22 x 13 inches (559 x 330 mm).

Maximum Width 78 inches (1981 mm) Maximum Height: 60 inches (1524 mm).

Maximum Width + Height: 132 united inches (3353 mm).

* + - * 1. Triple Glazed:

Minimum: 22 x 13 inches (559 x 330 mm).

Maximum Width 78 inches (1981 mm) Maximum Height: 60 inches (1524 mm).

Maximum Width + Height: 132 united inches (2896 mm).

* + - 1. Frame and Sash: Profiles are extruded virgin PVC powder material.
         1. Design: Multi-chamber for strength and energy efficiency.
         2. Joints: Fusion welded for a water and airtight seal, strength, and squareness.
         3. Frame Depth: 3-1/4 inch (83 mm).
         4. Recessed Drain Covers: For frames. Reticulated foam to keep insects out.
      2. Insulated Glass:

\*\* NOTE TO SPECIFIER \*\* Delete panes options not required.

* + - * 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
        2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
        3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - * 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
        2. Glass: Cardinal LoC3-366, soft coat.
        3. Glass: Pilkington Activ Self-Cleaning.
        4. Glass: Laminated. 3/8 inch (9.5 mm) airspace. Two 1/8 inch (3 mm) glass panes with a 0.030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - * 1. Air Space: Heavy inert argon or krypton gas.
      1. Glazing:
         1. Neoprene Setting Blocks: Around perimeter of sash.
         2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
         3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
         4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
      2. Multiple Weather-Stripping:
         1. Water Repellant Pile Weather-Strips: Stiff fin type vapor barrier around perimeter of each operable window sash ensuring air and watertight seal.
         2. Two Pile Weather-Strip: Stiff fin type vapor barrier on inside of window frame at sill and jamb for additional protection.
      3. Hardware: Two Die-Cast Cam Locks and Keeper: Assembles onto each operable sash for weatherability and security.
         1. Window Height Less Than 27-1/4 inch (692 mm): One cam lock and keeper.

\*\* NOTE TO SPECIFIER \*\* Limit sash opening features are available. Consult manufacturer for more information. Delete sash operation options not required.

* + - * 1. Sash Operation:

"Delrin" self-lubricating glide shoes on bottom of sash to allow for smooth opening and closing of sash.

Recessed Finger Latches: Secured at top of sash to allow tilt in and lift out of sash for ease of cleaning.

Full Length Sash Pull Handles: Extruded into interior glazing stop profile

Color: White.

Color: \_\_\_\_\_\_\_.

Self-latching locks, keepers, and tilt latches.

Color: White.

Color: Black.

\*\* NOTE TO SPECIFIER \*\* Special egress hardware is not available for single slider lift windows that enable narrow sizes to meet egress codes.

* + - 1. Egress: Verify windows meet local building code.
         1. Canadian egress is minimum clear opening of 15 inches (381 mm) and a minimum sq/ft opening of 3.77sq/ft (0.35m2).
         2. USA egress is minimum clear opening (WxH) 20x24 and a minimum sq/ft opening of 5.7 sq/ft (0.53m2). Grade floor 5.0sq/ft (0.47m2).
         3. Canada: Minimum Frame (WxH): 43 x 20-1/4 inches (1092 x 515 mm).
         4. United States: Minimum Frame (WxH): 53 x 59-1/2 inches (1346 x 1511 mm).
      2. Screens:
         1. Frame: Roll formed 0.021 inch (0.53 mm) aluminum. Nylon injection molded corner key with pull tab.
         2. Screen Material: Anti-glare fiberglass cloth.

\*\* NOTE TO SPECIFIER \*\* Screen frame is white or one of manufacturer's nine exterior colors

* + - * 1. Color: As determined by the Architect or detailed on the Drawings.
      1. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - * 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
        2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.

Exterior Textured Color Finish: Ivory.

Exterior Textured Color Finish: Chestnut brown.

Exterior Textured Color Finish: Cocoa.

Exterior Textured Color Finish: Hickory.

Exterior Textured Color Finish: Sandalwood.

Exterior Textured Color Finish: Sable.

Exterior Textured Color Finish: Midnight Black.

Exterior Textured Color Finish: Anthracite Grey.

Exterior Textured Color Finish: Espresso.

Interior Wood Grains: Kolonial Oak.

Interior Wood Grains: Light Oak.

Interior Wood Grains: Walnut.

Interior Wood Grains: Stainable/Paintable Pine.

Interior Textured Color Finishes: Espresso.

Interior Textured Color Finishes: Hickory.

Interior Textured Color Finishes: Midnight Black.

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + - 1. Grilles: Between glass panes.
         1. Grille Width: 5/16 inch (8 mm) narrow. Finish: White, pewter and brass.
         2. Grille Width: 5/8 inch (16 mm) flat rectangular.

Finish Interior: White or wood grain.

Finish Exterior: Color as determined by the Architect from manufacturer's standard range or as detailed on the Drawings.

* + - * 1. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.

Finish: Pewter all sides.

Finish: White all sides.

Finish: Black all sides.

* + - * 1. Contoured 3/4 inch (19 mm) wide grilles.

Finish Interior: White.

Finish Exterior: White or color as determined by the Architect from manufacturer's standard color range.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + - 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
         1. Grille Width: 7/8 inches (22 mm).
         2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - * 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + - 1. Accessories:
         1. Nailing fin.
         2. Installation clip.

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - * 1. Brick Molds: For bay and bow windows without head and seat.
        2. Drywall/wood return.
        3. Couplers.
        4. Jamb extensions.
    1. Basis of Design: 1371 Single Hung Tilt Window, as manufactured by North Star.
       1. Standards Compliance: CAN/CSA A440-00.
          1. Air: A2/Fixed.
          2. Water: B4.
          3. Structural: C3.
          4. Screen: S1.
          5. Forced Entry: F20.
          6. DP Rating: R-PG40-H.
          7. Water Resistance: 730 psf (35 kPa).
          8. Air Infiltration/Exfiltration: A2.
       2. Window Type and Sizes:

\*\* NOTE TO SPECIFIER \*\* Delete window type not required.

* + - * 1. Double Glazed:

Minimum: 13 x 21 inches (330 x 533 mm).

Maximum Width 48 inches (1219 mm) Maximum Height: 78 inches (1981 mm).

Maximum Width + Height: 120 united inches (3048 mm).

* + - * 1. Triple Glazed:

Minimum: 13 x 21 inches (330 x 533 mm).

Maximum Width 42 inches (1067 mm) Maximum Height: 78 inches (1981 mm).

Maximum Width + Height: 104 united inches (2642 mm).

* + - 1. Frame and Sash: Profiles are extruded virgin PVC powder material.
         1. Design: Multi-chamber for strength and energy efficiency.
         2. Joints: Fusion welded for a water and airtight seal, strength, and squareness.
         3. Frame Depth: 3-1/4 inch (83 mm).
         4. Recessed Drain Covers: For frames. Reticulated foam to keep insects out.
      2. Insulated Glass:

\*\* NOTE TO SPECIFIER \*\* Delete panes options not required.

* + - * 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
        2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
        3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - * 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
        2. Glass: Cardinal LoC3-366, soft coat.
        3. Glass: Pilkington Activ Self-Cleaning.
        4. Glass: Laminated. 3/8 inch (9.5 mm) airspace. Two 1/8 inch (3 mm) glass panes with a 0.030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - * 1. Air Space: Heavy inert argon or krypton gas.
      1. Glazing:
         1. Neoprene Setting Blocks: Around perimeter of sash.
         2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
         3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
         4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
      2. Multiple Weather-Stripping:
         1. Water Repellant Pile Weather-Strips: Seven stiff fin type vapor barrier around perimeter of each operable window sash ensuring air and watertight seal.
         2. Two Pile Weather-Strips: Incorporated for added weatherability.
         3. One Weather-Strip: Located on inside of window frame at sill and on the fixed upper sash where lower and upper sash overlap.
      3. Hardware: Two Die-Cast Cam Locks and Keeper: Assembles onto each operable sash for weatherability and security.
         1. Window Width Less Than 27-1/4 inch (692 mm): One cam lock and keeper.

\*\* NOTE TO SPECIFIER \*\* Limit sash opening features are available. Consult manufacturer for more information. Delete sash operation options not required.

* + - * 1. Sash Operation:

Two constant force coil spring balance hardware.

Recessed Finger Latches: Release bottom sash to tilt sash.

Full Length Sash Pull Handles: Extruded into interior glazing stop profile.

Color: White.

Color: \_\_\_\_\_\_\_.

Self-latching locks, keepers, and tilt latches

Color: White.

Color: Black.

\*\* NOTE TO SPECIFIER \*\* Special egress hardware is not available for single hung tilt windows that enable narrow sizes to meet egress codes.

* + - 1. Egress: Verify windows meet local building code.
         1. Canadian egress is minimum clear opening of 15 inches (381 mm) and a minimum sq/ft opening of 3.77sq/ft (0.35m2).
         2. USA egress is minimum clear opening (WxH) 20x24 and a minimum sq/ft opening of 5.7 sq/ft (0.53m2). Grade floor 5.0sq/ft (0.47m2).
         3. Canada: Min. Frame (WxH): 19-3/4 x 45 inches (502 x 1143 mm).
         4. United States: Min. Frame (WxH): 26-3/4 x 58-3/4 inches (679 x 1492 mm).
      2. Screens:
         1. Frame: Roll formed 0.021 inch (0.53 mm) aluminum. Nylon injection molded corner key with pull tab.
         2. Screen Material: Anti-glare fiberglass cloth.

\*\* NOTE TO SPECIFIER \*\* Screen frame is white or one of manufacturer's nine exterior colors

* + - * 1. Color: As determined by the Architect or detailed on the Drawings.
      1. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - * 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
        2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.

Exterior Textured Color Finish: Ivory.

Exterior Textured Color Finish: Chestnut brown.

Exterior Textured Color Finish: Cocoa.

Exterior Textured Color Finish: Hickory.

Exterior Textured Color Finish: Sandalwood.

Exterior Textured Color Finish: Sable.

Exterior Textured Color Finish: Midnight Black.

Exterior Textured Color Finish: Anthracite Grey.

Exterior Textured Color Finish: Espresso.

Interior Wood Grains: Kolonial Oak.

Interior Wood Grains: Light Oak.

Interior Wood Grains: Walnut.

Interior Wood Grains: Stainable/Paintable Pine.

Interior Textured Color Finishes: Espresso.

Interior Textured Color Finishes: Hickory.

Interior Textured Color Finishes: Midnight Black.

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + - 1. Grilles: Between glass panes.
         1. Grille Width: 5/16 inch (8 mm) narrow. Finish: White, pewter and brass.
         2. Grille Width: 5/8 inch (16 mm) flat rectangular.

Finish Interior: White or wood grain.

Finish Exterior: Color as determined by the Architect from manufacturer's standard range or as detailed on the Drawings.

* + - * 1. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.

Finish: Pewter all sides.

Finish: White all sides.

Finish: Black all sides.

* + - * 1. Contoured 3/4 inch (19 mm) wide grilles.

Finish Interior: White.

Finish Exterior: White or color as determined by the Architect from manufacturer's standard range or as detailed on the Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + - 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
         1. Grille Width: 7/8 inches (22 mm).
         2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - * 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + - 1. Accessories:
         1. Nailing fin.

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - * 1. Brick Molds: For bay and bow windows without head and seat.
        2. Drywall/wood return.
        3. Couplers.
        4. Jamb extensions.
      1. Shaped Top Single Hung:
         1. Round Top (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
         2. Camber Top (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
         3. Cathedral (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
         4. Quarter Arch (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
         5. Pentagon (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
         6. Trapezoid (WxHxLEG): \_\_\_ x \_\_\_ x \_\_\_ inches (\_\_\_ x \_\_\_ x \_\_\_ mm).
    1. Basis of Design: Single Slider Liftout Window with 1/2 screen, as manufactured by North Star.

\*\* NOTE TO SPECIFIER \*\* Delete model not required.

* + - 1. Model: 1372. Left side operating and right side fixed.
      2. Model: 1373. Right side operating and left side fixed.
      3. Standards Compliance: CAN/CSA A440-00.
         1. Air: A2/Fixed.
         2. Water: B4.
         3. Structural: C3.
         4. Screen: S1.
         5. Forced Entry: F20.
         6. DP Rating: R-PG40-H.
         7. Water Resistance: 730 psf (35 kPa).
         8. Air Infiltration/Exfiltration: A3.
      4. Window Type and Sizes:

\*\* NOTE TO SPECIFIER \*\* Delete window type not required.

* + - * 1. Double Glazed:

Minimum: 22 x 13 inches (559 x 330 mm).

Maximum Width 78 inches (1981 mm) Maximum Height: 60 inches (1524 mm).

Maximum Width + Height: 132 united inches (3353 mm).

* + - * 1. Triple Glazed:

Minimum: 22 x 13 inches (559 x 330 mm).

Maximum Width 78 inches (1981) Maximum Height: 54 inches (1372 mm).

Maximum Width + Height: 114 united inches (2896 mm).

* + - 1. Frame and Sash: Profiles are extruded virgin PVC powder material.
         1. Design: Multi-chamber for strength and energy efficiency.
         2. Joints: Fusion welded for a water and airtight seal, strength, and squareness.
         3. Frame Depth: 3-1/4 inch (83 mm).
         4. Recessed Drain Covers: For frames. Reticulated foam to keep insects out.
      2. Insulated Glass:

\*\* NOTE TO SPECIFIER \*\* Delete panes options not required.

* + - * 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
        2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
        3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - * 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
        2. Glass: Cardinal LoC3-366, soft coat.
        3. Glass: Pilkington Activ Self-Cleaning.
        4. Glass: Laminated. 3/8 inch (9.5 mm) airspace. Two 1/8 inch (3 mm) glass panes with a 0.030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - * 1. Air Space: Heavy inert argon or krypton gas.
      1. Glazing:
         1. Neoprene Setting Blocks: Around perimeter of sash.
         2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
         3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
         4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
      2. Multiple Weather-Stripping:
         1. Water Repellant Pile Weather-Strips: Eight stiff fin type vapor barrier around perimeter of each operable window sash ensuring air and watertight seal.
         2. Two Interior Side Pile Weather-Strips: Water repellant with stiff fin type vapor barrier are located on inside of window frame at sill and jamb location for additional protection against air and water penetration.
      3. Hardware: Two Die-Cast Cam Locks and Keeper: Assembles onto each operable sash for weatherability and security.
         1. Window Width Less Than 27-1/4 inch (692 mm): One cam lock and keeper.

\*\* NOTE TO SPECIFIER \*\* Limit sash opening features are available. Consult manufacturer for more information. Delete sash operation options not required.

* + - * 1. Sash Operation:

"Delrin" self-lubricating glide shoes on bottom of sash to allow for smooth opening and closing of sash.

Recessed Finger Latches: Secured at top of sash to allow tilt in and lift out of sash for ease of cleaning.

Full Length Sash Pull Handles: Extruded into interior glazing stop profile.

Color: White.

Color: \_\_\_\_\_\_\_.

Self-latching locks, keepers, and tilt latches.

Color: White.

Color: Black.

\*\* NOTE TO SPECIFIER \*\* Special egress hardware is not available for single slider lift windows that enable narrow sizes to meet egress codes.

* + - 1. Egress: Consult local building codes. Verify window specified meets or exceeds requirements for Project location.
         1. Canadian egress is minimum clear opening of 15 inches (381 mm) and a minimum sq/ft opening of 3.77sq/ft (0.35m2).
         2. USA egress is minimum clear opening (WxH) 20x24 and a minimum sq/ft opening of 5.7 sq/ft (0.53m2). Grade floor 5.0sq/ft (0.47m2).
         3. Canada: Minimum Frame (WxH): 40 x 19-3/4 inches (1016 x 502 mm).
         4. United States: Minimum Frame (WxH): 50 x 29 inches (1270 x 737 mm).
      2. Screens:
         1. Frame: Roll formed 0.021 inch (0.53 mm) aluminum. Nylon injection molded corner key with pull tab.
         2. Screen Material: Anti-glare fiberglass cloth.

\*\* NOTE TO SPECIFIER \*\* Screen frame is white or one of manufacturer's nine exterior colors

* + - * 1. Color: As determined by the Architect or detailed on the Drawings.
      1. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - * 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
        2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.

Exterior Textured Color Finish: Ivory.

Exterior Textured Color Finish: Chestnut brown.

Exterior Textured Color Finish: Cocoa.

Exterior Textured Color Finish: Hickory.

Exterior Textured Color Finish: Sandalwood.

Exterior Textured Color Finish: Sable.

Exterior Textured Color Finish: Midnight Black.

Exterior Textured Color Finish: Anthracite Grey.

Exterior Textured Color Finish: Espresso.

Interior Wood Grains: Kolonial Oak.

Interior Wood Grains: Light Oak.

Interior Wood Grains: Walnut.

Interior Wood Grains: Stainable/Paintable Pine.

Interior Textured Color Finishes: Espresso.

Interior Textured Color Finishes: Hickory.

Interior Textured Color Finishes: Midnight Black.

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + - 1. Grilles: Between glass panes.
         1. Grille Width: 5/16 inch (8 mm) narrow. Finish: White, pewter and brass.
         2. Grille Width: 5/8 inch (16 mm) flat rectangular.

Finish Interior: White or wood grain.

Finish Exterior: Color as determined by the Architect from manufacturer's standard range.

* + - * 1. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.

Finish: Pewter all sides.

Finish: White all sides.

Finish: Black all sides.

* + - * 1. Contoured 3/4 inch (19 mm) wide grilles.

Finish Interior: White.

Finish Exterior: White or color as determined by the Architect from manufacturer's standard color range.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + - 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
         1. Grille Width: 7/8 inches (22 mm).
         2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - * 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + - 1. Accessories:
         1. Nailing fin.
         2. Installation clips.

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - * 1. Brick Molds: For bay and bow windows without head and seat.
        2. Drywall/wood return.
        3. Couplers.
        4. Jamb extensions.
    1. Basis of Design: 1374 3-Lite (End Vent) Single Slider Lift-out Windows with full screen, as manufactured by North Star.
       1. Standards Compliance: CAN/CSA A440-00.
          1. Air: A2/Fixed.
          2. Water: B3.
          3. Structural: C3.
          4. Screen: S1.
          5. Forced Entry: F20.
          6. DP Rating: R-PG55-HS.
          7. Water Resistance: 330 psf (15.8 kPa).
          8. Air Infiltration/Exfiltration: A3.
       2. Window Type and Sizes:

\*\* NOTE TO SPECIFIER \*\* Delete window type not required.

* + - * 1. Double Glazed:

Minimum: 48 x 13 inches (1219 x 330 mm).

Maximum Width: 120 inches (3048 mm) Maximum Height: 60 inches (1524 mm).

Maximum Width + Height: 168 united inches (4267 mm).

* + - * 1. Triple Glazed:

Minimum: 48 x 13 inches (1219 x 330 mm).

Maximum Width: 108 inches (2743mm) Maximum Height: 54 inches (1372 mm).

Maximum Width + Height: 144 united inches (3658 mm).

* + - 1. Frame and Sash: Profiles are extruded virgin PVC powder material.
         1. Design: Multi-chamber for strength and energy efficiency.
         2. Joints: Fusion welded for a water and airtight seal, strength, and squareness.
         3. Frame Depth: 3-1/4 inch (83 mm).
         4. Recessed Drain Covers: For frames. Reticulated foam to keep insects out.
      2. Insulated Glass:

\*\* NOTE TO SPECIFIER \*\* Delete panes options not required.

* + - * 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
        2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
        3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - * 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
        2. Glass: Cardinal LoC3-366, soft coat.
        3. Glass: Pilkington Activ Self-Cleaning.
        4. Glass: Laminated. 3/8 inch (9.5 mm) airspace. Two 1/8 inch (3 mm) glass panes with a 0.030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - * 1. Air Space: Heavy inert argon or krypton gas.
      1. Glazing:
         1. Neoprene Setting Blocks: Around perimeter of sash.
         2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
         3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
         4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
      2. Multiple Weather-Stripping:
         1. Water Repellant Pile Weather-Strips: With stiff fin type vapor barrier around perimeter of each operable window sash ensuring air and watertight seal.
         2. Two Pile Weather-Strips: With stiff fin type vapor barrier located on inside of window frame at sill and jamb for protection against air and water penetration.
      3. Hardware: Two Die-Cast Cam Locks and Keeper: Assembles onto each operable sash for weatherability and security.
         1. Window Width Less Than 27-1/4 inch (692 mm): One cam lock and keeper.

\*\* NOTE TO SPECIFIER \*\* Limit sash opening features are available. Consult manufacturer for more information. Delete sash operation options not required.

* + - * 1. Sash Operation:

"Delrin" self-lubricating glide shoes on bottom of sash to allow for smooth opening and closing of sash.

Recessed Finger Latches: Secured at top of sash to allow tilt in and lift out of sash for ease of cleaning.

Full Length Sash Pull Handles: Extruded into interior glazing stop profile.

Color: White.

Color: \_\_\_\_\_\_\_.

Self-latching locks, keepers, and tilt latches.

Color: White.

Color: Black.

\*\* NOTE TO SPECIFIER \*\* Special egress hardware is not available for 3-lite end vent windows that enable narrow sizes to meet egress codes.

* + - 1. Egress: Verify windows meet local building code.
         1. Canadian egress is minimum clear opening of 15 inches (381 mm) and a minimum sq/ft opening of 3.77sq/ft (0.35 m2).
         2. USA egress is minimum clear opening (WxH) 20x24 and a minimum sq/ft opening of 5.7 sq/ft (0.53 m2). Grade floor 5.0 sq/ft (0.47 m2).
      2. Screens:
         1. Frame: Roll formed 0.021 inch (0.53 mm) aluminum. Nylon injection molded corner key with pull tab.
         2. Screen Material: Anti-glare fiberglass cloth.

\*\* NOTE TO SPECIFIER \*\* Screen frame is white or one of manufacturer's nine exterior colors

* + - * 1. Color: As determined by the Architect or detailed on the Drawings.
      1. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - * 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
        2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.

Exterior Textured Color Finish: Ivory.

Exterior Textured Color Finish: Chestnut brown.

Exterior Textured Color Finish: Cocoa.

Exterior Textured Color Finish: Hickory.

Exterior Textured Color Finish: Sandalwood.

Exterior Textured Color Finish: Sable.

Exterior Textured Color Finish: Midnight Black.

Exterior Textured Color Finish: Anthracite Grey.

Exterior Textured Color Finish: Espresso.

Interior Wood Grains: Kolonial Oak.

Interior Wood Grains: Light Oak.

Interior Wood Grains: Walnut.

Interior Wood Grains: Stainable/Paintable Pine.

Interior Textured Color Finishes: Espresso.

Interior Textured Color Finishes: Hickory.

Interior Textured Color Finishes: Midnight Black.

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + - 1. Grilles: Between glass panes.
         1. Grille Width: 5/16 inch (8 mm) narrow. Finish: White, pewter and brass.
         2. Grille Width: 5/8 inch (16 mm) flat rectangular.

Finish Interior: White or wood grain.

Finish Exterior: Color as determined by the Architect from manufacturer's standard range or as detailed on the Drawings.

* + - * 1. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.

Finish: Pewter all sides.

Finish: White all sides.

Finish: Black all sides.

* + - * 1. Contoured 3/4 inch (19 mm) wide grilles.

Finish Interior: White.

Finish Exterior: White or color as determined by the Architect from manufacturer's standard color range.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + - 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
         1. Grille Width: 7/8 inches (22 mm).
         2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - * 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + - 1. Accessories:
         1. Nailing fin.
         2. Installation clip.

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - * 1. Brick Molds: For bay and bow windows without head and seat.
        2. Drywall/wood return.
        3. Couplers.
        4. Jamb extensions.
    1. Basis of Design: 1377 Picture Window (Singles Frame), as manufactured by North Star.
       1. Standards Compliance: CAN/CSA A440-00.
          1. Air: N/A.
          2. Water: N/A.`
          3. Structural: N/A.
          4. Forced Entry: N/A.
          5. DP Rating: CW-PG70-FW.
          6. Water Resistance: 730 psf (35 kPa).
          7. Air Infiltration/Exfiltration: Fixed.
       2. Window Type and Sizes:

\*\* NOTE TO SPECIFIER \*\* Delete window type not required.

* + - * 1. Double Glazed: Minimum: 13 x 13 inches (330 x 330 mm). Maximum one way: 128 united inches (3251 mm); 40 sq ft (3.716 sq m).
        2. Triple Glazed: Maximum one way: 128 inches (3251 mm); 20 sq ft (1.858 m).
      1. Frame: Frame and stop profiles are extruded virgin PVC powder material.
         1. Design: Multi-chamber for strength and energy efficiency.
         2. Joints: Fusion welded for a water and airtight seal, strength, and squareness.
         3. Frame Depth: 3-1/4 inch (83 mm).
      2. Insulated Glass: Panes.

\*\* NOTE TO SPECIFIER \*\* Delete panes options not required.

* + - * 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
        2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
        3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - * 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
        2. Glass: Cardinal LoC3-366, soft coat.
        3. Glass: Pilkington Activ Self-Cleaning.
        4. Glass: Laminated. 3/8 inch (9.5 mm) airspace. Two 1/8 inch (3 mm) glass panes with a 0.030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - * 1. Air Space: Heavy inert argon or krypton gas.
      1. Glazing:
         1. Neoprene Setting Blocks: Around perimeter of sash.
         2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
         3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
         4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
      2. Weather-Stripping: Profiled exterior frame edge and interior glass stop have co-extruded flexible vinyl fin weather-strip. Seals against exterior and interior glass faces.
      3. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - * 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
        2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.

Exterior Textured Color Finish: Ivory.

Exterior Textured Color Finish: Chestnut brown.

Exterior Textured Color Finish: Cocoa.

Exterior Textured Color Finish: Hickory.

Exterior Textured Color Finish: Sandalwood.

Exterior Textured Color Finish: Sable.

Exterior Textured Color Finish: Midnight Black.

Exterior Textured Color Finish: Anthracite Grey.

Exterior Textured Color Finish: Espresso.

Interior Wood Grains: Kolonial Oak.

Interior Wood Grains: Light Oak.

Interior Wood Grains: Walnut.

Interior Wood Grains: Stainable/Paintable Pine.

Interior Textured Color Finishes: Espresso.

Interior Textured Color Finishes: Hickory.

Interior Textured Color Finishes: Midnight Black.

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + - 1. Grilles: Between glass panes.
         1. Grille Width: 5/16 inch (8 mm) narrow. Finish: White, pewter and brass.
         2. Grille Width: 5/8 inch (16 mm) flat rectangular.

Finish Interior: White or wood grain.

Finish Exterior: Color as determined by the Architect from manufacturer's standard range or as detailed on the Drawings.

* + - * 1. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.

Finish: Pewter all sides.

Finish: White all sides.

Finish: Black all sides.

* + - * 1. Contoured 3/4 inch (19 mm) wide grilles.

Finish Interior: White.

Finish Exterior: White or color as determined by the Architect from manufacturer's standard color range.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + - 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
         1. Grille Width: 7/8 inches (22 mm).
         2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - * 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + - 1. Accessories:
         1. Nailing fin.
         2. Installation clips.

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - * 1. Brick Molds: For bay and bow windows without head and seat.
        2. Drywall/wood return.
        3. Couplers.
        4. Jamb extensions.
    1. Basis of Design: Bay and Bow Windows, as manufactured by North Star.
       1. Features:
          1. Completely assembled with side jambs, including interior side capping to minimize trimming the cavity most common on bay and bow applications.
          2. Exterior extruded vinyl capping on head and seat.
          3. Head and seat with jambs include edge banding, which allows the option of a reveal when installing the casing trim.
          4. Stretch-wrapped packaging on a shipping skid to avoid damage to the unit.
          5. Air spaces behind window couplers are insulated with fiberglass batt insulation.

\*\* NOTE TO SPECIFIER \*\* Bay or bow windows must be supported to avoid sagging. Failing to do so will void all warranty.

* + - 1. Cable Support System; Grip-Tite: Uses a straightline clamp to secure the cable to the window. The design has a "no-slip" function that locks the cable in place.
      2. Frame and Sash: Profiles are extruded virgin PVC powder material.
         1. Design: Multi-chamber for strength and energy efficiency.
         2. Joints: Fusion welded for a water and airtight seal, strength, and squareness.
         3. Frame Depth: 3-1/4 inch (83 mm).
      3. Head and Seat:

\*\* NOTE TO SPECIFIER \*\* Delete construction options not required.

* + - * 1. Construction: Maintenance-free 3/4 inch (19 mm) white Formica.
        2. Construction: Medium oak veneer (unfinished) head and seat
        3. Construction: Laminated 2-1/8 inch (54 mm) insulated head and seat with exterior vinyl extruded capping system.
        4. Front Edge of Head and Seat: Sealed against moisture with aluminum foil backed ice and water shield before extruded vinyl capping is applied and sealed.
      1. Insulated Glass:

\*\* NOTE TO SPECIFIER \*\* Delete panes options not required.

* + - * 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
        2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
        3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - * 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
        2. Glass: Cardinal LoC3-366, soft coat.
        3. Glass: Pilkington Activ Self-Cleaning.
        4. Glass: Laminated. 3/8 inch (9.5 mm) airspace. Two 1/8 inch (3 mm) glass panes with a 0.030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - * 1. Air Space: Heavy inert argon or krypton gas.
      1. Glazing:
         1. Neoprene Setting Blocks: Around perimeter of sash.
         2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
         3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
         4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
      2. Weather-Stripping: Combination of flexible vinyl bulb type and water repellant pile weather-strips with stiff fin type vapor barrier. Ensures maximum energy efficiency.
      3. Hardware: Dependent on window types used in Bay and Bow configurations.
      4. Screens:
         1. Frame: Roll formed 0.021 inch (0.53 mm) aluminum. Nylon injection molded corner key with pull tab.
         2. Screen Material: Anti-glare fiberglass cloth.

\*\* NOTE TO SPECIFIER \*\* Screen frame is white or one of manufacturer's nine exterior colors

* + - * 1. Color: As determined by the Architect or detailed on the Drawings.
      1. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - * 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
        2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.

Exterior Textured Color Finish: Ivory.

Exterior Textured Color Finish: Chestnut brown.

Exterior Textured Color Finish: Cocoa.

Exterior Textured Color Finish: Hickory.

Exterior Textured Color Finish: Sandalwood.

Exterior Textured Color Finish: Sable.

Exterior Textured Color Finish: Midnight Black.

Exterior Textured Color Finish: Anthracite Grey.

Exterior Textured Color Finish: Espresso.

Interior Wood Grains: Kolonial Oak.

Interior Wood Grains: Light Oak.

Interior Wood Grains: Walnut.

Interior Wood Grains: Stainable/Paintable Pine.

Interior Textured Color Finishes: Espresso.

Interior Textured Color Finishes: Hickory.

Interior Textured Color Finishes: Midnight Black.

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + - 1. Grilles: Between glass panes.
         1. Grille Width: 5/16 inch (8 mm) narrow. Finish: White, pewter and brass.
         2. Grille Width: 5/8 inch (16 mm) flat rectangular.

Finish Interior: White or wood grain.

Finish Exterior: Color as determined by the Architect from manufacturer's standard range or as detailed on the Drawings.

* + - * 1. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.

Finish: Pewter all sides.

Finish: White all sides.

Finish: Black all sides.

* + - * 1. Contoured 3/4 inch (19 mm) wide grilles.

Finish Interior: White.

Finish Exterior: White or color as determined by the Architect from manufacturer's standard color range.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + - 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
         1. Grille Width: 7/8 inches (22 mm).
         2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - * 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + - 1. Accessories:
         1. Nailing fin.
         2. Installation Clips.

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - * 1. Brick Molds: For bay and bow windows without head and seat.
        2. Drywall/wood return.
        3. Couplers.
        4. Jamb extensions.
      1. Standard Jamb: 6 inch (152 mm).

\*\* NOTE TO SPECIFIER \*\* Delete bay window types and options not required.

* + - 1. Bay Window Type: 30 Degree Bay Window.
         1. Bay Width: 48 to 144 inches (1219 to 3657 mm)
      2. Bay Window Type: 45 Degree Bay Window.
         1. Bay Width: 60 to 144 inches (1524 to 3657 mm).
      3. Bay Window Type: 4 Lite Bow Window.
         1. Bay Width: 60 to 144 inches (1524 to 3657 mm).
      4. Bay Window Type: 5 Lite Bow Window.
         1. Bay Width: 60 to 144 inches (1524 to 3657 mm).

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. PATIO DOORS
     1. Patio Doors:

\*\* NOTE TO SPECIFIER \*\* Delete basis of design options not required.

* + - 1. Basis of Design: Model 3310. Patio Door, as manufactured by North Star.
         1. Standards Compliance: CAN/CSA A440-00.

Air: A3.

Water: B3.

Structural: C3.

Forced Entry: F20.

DP Rating: CW-PG45-FW.

Water Resistance: 330 psf (15.8 kPa).

Air Infiltration/Exfiltration: A3.

* + - 1. Basis of Design: Model 3320. Two-Panel Patio Doors, as manufactured by North Star.
         1. Standards Compliance: CAN/CSA A440-00.

Air: A3.

Water: B3.

Structural: C3.

Forced Entry: F20.

DP Rating: CW-PG45-FW.

Water Resistance: 330 psf (15.8 kPa).

Air Infiltration/Exfiltration: A3.

* + - 1. Basis of Design: Model 3330. Three-Panel Patio Door, as manufactured by North Star.
         1. Standards Compliance: CAN/CSA A440-00.

Air: A3.

Water: B3.

Structural: C2.

Forced Entry: F10.

DP Rating: CW-PG30-FW.

Water Resistance: 220 psf (10.5 Mpa).

Air Infiltration/Exfiltration: A3.

* + - 1. Basis of Design: Model 3340. Four-Panel Patio Door, as manufactured by North Star.
         1. Standards Compliance: CAN/CSA A440-00.

Air: A2.

Water: B2.

Structural: C2.

Forced Entry: F10.

DP Rating: CW-PG30-FW.

Water Resistance: 260 psf (12.4 kPa).

Air Infiltration/Exfiltration: A2.

* + - 1. Basis of Design: Model 3300. Vinyl Patio Door with Reinforced Transom Assembly.
    1. Frames and Sashes:
       1. Profiles: Extruded virgin PVC powder material.
          1. Design: Multi-chamber design for strength and energy efficiency.
          2. Frame Depth: 5-5/8 inches (143 mm).
          3. Corners: Mechanically fastened at corners and sealed with one-sided adhesive backed closed cell polyethylene gaskets.
          4. Door Frame's Low Profile Sill: Fitted with an extruded anodized aluminum screen track.
          5. Extruded Sash: Fusion welded ensuring a water and airtight seal. Metal reinforced providing superior rigidity.
    2. Insulated Glass:

\*\* NOTE TO SPECIFIER \*\* Delete panes options not required.

* + - 1. Number of Panes: Double. 1/8 inch (3 mm) tempered glass.
      2. Number of Panes: Triple. 1/8 inch (3 mm) tempered glass.
      3. Spacers: Edgetech silicone foam low conductive S-Class Super Spacer.

\*\* NOTE TO SPECIFIER \*\* Delete glass options not required. Pilkington Energy Advantage is standard.

* + - 1. Glass: Pilkington Energy Advantage Low E (hard coat) glass.
      2. Glass: Cardinal LoC3-366, soft coat.
      3. Glass: Pilkington Activ Self-Cleaning.
      4. Glass: Laminated. 1/8 inch (3 mm) thick, 3/8 inch (9.5 mm) airspace and two 1/8 inch (3 mm) glass panes with a .030 inch (0.76 mm) clear interior membrane in-between.

\*\* NOTE TO SPECIFIER \*\* The remaining options are optional Delete options not required.

* + - 1. Air Space: Heavy inert argon or krypton gas.
      2. White Mini Blinds: Raise, lower, and tilt.
    1. Glazing:
       1. Neoprene Setting Blocks: Around perimeter of sash.
       2. Silicone Toe Bead Sealant: Interior glazing cavity to stabilize glass movement.
       3. Insulated glass from interior side of sash against flexible vinyl fin weather-strip co-extruded to exterior edge of sash.
       4. Interior glazing stops with flexible co-extruded vinyl fin weather-stripping against interior glass face.
    2. Weather-Stripping:
       1. Lock Side Jamb: Triple weather-strip comprised of two water repellant pile weather-strips with stiff fin type vapor barrier and one bulb type compression gasket.
       2. Door Frame at Head and Bottom of Sliding Sash and at Interlocking Vertical Checkrail: Two water repellant pile weather-strips with stiff fin type vapor barrier.
       3. At Frame Head: Anti-lift block with wool pile weather-strip.
       4. Bottom of Lock Side Jamb: A closed cell foam pad is located at.
    3. Hardware:

\*\* NOTE TO SPECIFIER \*\* Delete hardware options not required.

* + - 1. Opening Panel: Equipped with two tandem roller assemblies with noise and friction reducing nylon rollers with stainless steel ball bearings.
      2. Single point keyless lock and keeper:
         1. Finish: White.
         2. Finish: Black.
         3. Finish: Deluxe Pewter.
         4. Finish: Deluxe Brass.
      3. Multi-point lock hardware.
      4. Single point locks with key cylinder.
      5. Multi-point locks with key cylinder.
      6. Security bolt or security bar hardware.

\*\* NOTE TO SPECIFIER \*\* Delete screens if not required.

* + 1. Screens: Heavy duty extruded aluminum screen frame with adjustable steel rollers, screened with anti-glare fiberglass cloth.
       1. Screen Frame Colors: White and manufacturer's nine exterior colors.
    2. Exterior and Interior Finishes:

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - 1. Virgin Vinyl Extrusion Finish: Smooth, clean, bright white.
      2. Laminate Finishes: Applied PVC laminate film, 200im (microns) thick, with an acrylic overlay for exceptional UV protection.
         1. Exterior Textured Color Finish: Ivory.
         2. Exterior Textured Color Finish: Chestnut brown.
         3. Exterior Textured Color Finish: Cocoa.
         4. Exterior Textured Color Finish: Hickory.
         5. Exterior Textured Color Finish: Sandalwood.
         6. Exterior Textured Color Finish: Sable.
         7. Exterior Textured Color Finish: Midnight Black.
         8. Exterior Textured Color Finish: Anthracite Grey.
         9. Exterior Textured Color Finish: Espresso.
         10. Interior Wood Grains: Kolonial Oak.
         11. Interior Wood Grains: Light Oak.
         12. Interior Wood Grains: Walnut.
         13. Interior Wood Grains: Stainable/Paintable Pine.
         14. Interior Textured Color Finishes: Espresso.
         15. Interior Textured Color Finishes: Hickory.
         16. Interior Textured Color Finishes: Midnight Black.

\*\* NOTE TO SPECIFIER \*\* Delete grilles paragraph if not required or delete grille options not required.

* + 1. Grilles: Between glass panes.
       1. Grille Width: 5/16 inch (8 mm) narrow
          1. Finish: White, pewter and brass.
       2. Grille Width: 5/8 inch (16 mm) flat rectangular.
          1. Finish Interior: White or wood grain
          2. Finish Exterior: Finish Exterior: White or color as determined by the Architect from manufacturer's standard color range.
       3. Grille Width: 5/8 inch (16 mm) flat rectangular grilles.
          1. Finish: Pewter all sides.
          2. Finish: White all sides.
          3. Finish: Black all sides.
       4. Contoured 3/4 inch (19 mm) wide grilles are optional in white or white/colored exterior.
          1. Finish Interior: White.
          2. Finish Exterior: White or color as determined by the Architect from manufacturers standard color range.

\*\* NOTE TO SPECIFIER \*\* Delete divided lites paragraph if not required or delete divided light options not required.

* + 1. Divided Lites: Classic Simulated Divided Lites (SDL): SDL Grille bars are permanently applied to interior and exterior glass surface.
       1. Grille Width: 7/8 inches (22 mm).
       2. Grille Width: 2 inches (51 mm).

\*\* NOTE TO SPECIFIER \*\* Airspace grilles are optional on double pane units. Delete if not required.

* + - 1. Airspace Grille: 1/4 x 5/16 inch (6 x 8 mm) pewter.

SDL \*\* NOTE TO SPECIFIER \*\* Delete blinds in between lites if not required.

* + 1. Blinds in Between Lites: Mini blinds are a dust free solution built in between clear insulated glass.

\*\* NOTE TO SPECIFIER \*\* Delete accessories paragraph if not required or delete accessories not required.

* + 1. Accessories:
       1. Nailing fin.
       2. Installation clips.

\*\* NOTE TO SPECIFIER \*\* Used mostly for new construction and walk-in bays and bows.

* + - 1. Brickmolds.
      2. Drywall/wood return.
      3. Couplers.
      4. Jamb extensions.
    1. Patio Door Types:

\*\* NOTE TO SPECIFIER \*\* Delete patio door type options not required.

* + - 1. Patio Door Height: 79-1/2 inch (2019 mm).
         1. Side Lite (O): 5 ft (1.524 m) nominal.
         2. Side Lite (O): 6 ft (1.829 m) nominal.
         3. Side Lite (O): 8 ft (2.438 m) nominal.
         4. Two-Panel (OX): 5 ft (1.524 m) nominal.
         5. Two-Panel (OX): 6 ft (1.829 m) nominal.
         6. Two-Panel (OX): 8 ft (2.438 m) nominal.
         7. Three-Panel (OXO): 7.5 ft (2.286 m) nominal.
         8. Three-Panel (OXO): 9 ft (2.743 m) nominal.
         9. Three-Panel (OXO): 12 ft (3.658 m) nominal.
         10. Four-Panel (OXXO): 9.5 ft (2.896 m) nominal.
         11. Four-Panel (OXXO): 11.5 ft (3.505 m) nominal.
         12. Four-Panel (OXXO): 15.5 ft (4.724 m) nominal.
      2. Patio Door Height: 95-1/2 inch (2426 mm). 8 ft nominal
         1. Side Lite (O): 6 ft (1.829 m) nominal.
         2. Side Lite (O): 8 ft (2.438 m) nominal.
         3. Two-Panel (OX): 6 ft (1.829 m) nominal.
         4. Two-Panel (OX): 8 ft (2.438 m) nominal.
         5. Three-Panel (OXO): 9 ft (2.743 m) nominal.
         6. Three-Panel (OXO): 12 ft (3.658 m) nominal.
         7. Four-Panel (OXXO): 11.5 ft (3.505 m) nominal.
         8. Four-Panel (OXXO): 15.5 ft (4.724 m) nominal.

\*\* NOTE TO SPECIFIER \*\* Delete patio door transoms paragraph if not require or delete transom options not required.

* + - 1. Patio Door Transoms: 1-1/4 inch (32 mm) Timberstrand horizontal reinforcement required between patio door and transom.
         1. 5 ft (1.524 m) Side Lite: 31-7/16 inches (798 mm).
         2. 6 ft (1.829 m) Side Lite: 37-7/16 inches (951 mm).
         3. 8 ft (2.438 m) Side Lite: 49-7/16 inches (1256 mm).
         4. 5 ft (1.524 m) Nominal: 58-3/4 inches (1492 mm).
         5. 6 ft (1.829 m) Nominal: 70-3/4 inches (1797 mm).
         6. 8 ft (2.438 m) Nominal: 94-3/4 inches (2407 mm).
         7. 7.5 ft (2.286 m) Nominal, 3-Panel: 88 inch (2235 mm).
         8. 9 ft (2.743 m) Nominal, 3-Panel: 106 inch (2692 mm).
         9. 12 ft (3.658 m) Nominal, 3-Panel: 142 inch (3607 mm).
         10. 9.5 ft (2.896 m) Nominal, 4-Panel: 116 inch (2946 mm).
         11. 11.5 ft (3.505 m) Nominal, 4-Panel: 140 inch (3556 mm).
         12. 15.5 ft (4.724 m) Nominal, 4-Panel: 188 inch (4775 mm).

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly constructed and prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
   4. FIELD QUALITY CONTROL
      1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection, or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
  1. CLEANING AND PROTECTION
     1. Clean products in accordance with the manufacturer's recommendations.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION