SECTION 08 56 20

IMPACT RESISTANT WINDOWS, ALUMINUM AND VINYL

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\*\* NOTE TO SPECIFIER \*\* CGI Windows and Doors; impact resistant windows, aluminum and vinyl.  
This section is based on the products of CGI Windows and Doors, which is located at:  
3780 W. 104th St.  
Hialeah, FL 33018  
Toll Free Tel: 800-442-9042   
Tel: 305-593-6590  
Fax: 305-593-6592  
Email: [request info (SDawson@cgiwindows.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=CGI+Windows+and+Doors&coid=42479&rep=&fax=305-593-6592&message=RE:%20Spec%20Question%20(08562cgi):%20%20&mf=)  
Web: <http://www.cgiwindows.com>   
 [ [Click Here](http://www.arcat.com/arcatcos/cos42/arc42479.html) ] for additional information.  
CGI Windows & Doors is the premier manufacturer of hurricane impact resistant windows and doors. Produced to the most exacting industry standards, our high performance, high aesthetic product collections offer advanced hurricane protection of home and commercial structures, in both new and existing construction. Whether your choice is aluminum or vinyl, in addition to using impact-resistant laminated glass and the finest hardware, our windows and doors exude strength and beauty - a function of our workmanship, pride and engineering excellence.  
CGI was the first hurricane window manufacturer in the United States to offer a line of impact resistant windows and doors that meets the Miami-Dade approved impact windows and doors with laminated glass. CGI products have easily passed the Miami-Dade County Large Missile test and have proven to withstand winds of nearly 300 MPH (483 KPH).

1. GENERAL
   1. SECTION INCLUDES

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

* + 1. Aluminum Windows: Impact resistant.
       1. Premium Series: (Estate collection series)
          1. Casement windows. (238 series)
          2. Project-out windows. (238 series)
          3. Fixed/designer (picture) windows. (238 series)
          4. Single hung windows. (360 series)
          5. Horizontal rolling windows. (375 series)
          6. Fixed (picture) windows. (410 series)
       2. Mid-Price Point: (Sentinel Collection Series)
          1. Single hung windows. (110 series)
          2. Horizontal rolling windows. (120 series)
          3. Fixed (picture) windows. (130 series)
          4. Casement windows. (238SN series)
          5. Project-out windows. (238SN series)
       3. Sparta Series:
          1. Single hung windows. (SH 4100A)
          2. Horizontal roller windows. (HR 4110A)
          3. Fixed (picture) windows. (PW /AR 4120A)
    2. Vinyl Windows: Impact resistant and energy efficient. (Targa series)
       1. Single hung windows. (7100)
       2. Horizontal rolling windows. (7200)
       3. Casement windows. (7300)
       4. Project-out windows. (7400)
       5. Fixed (picture) windows. (7500)
  1. RELATED SECTIONS

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

* + 1. Section 06 10 00 - Rough Carpentry.
    2. Section 07 91 23 - Backer Rods.
    3. Section 08 34 36 - Darkroom Doors.
    4. Section 08 83 13 - Mirrored Glass Glazing.
  1. REFERENCES

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

* + 1. ASTM International (ASTM):
       1. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
       2. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
       3. ASTM E283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
       4. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
       5. ASTM E547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.
    2. American Architectural Manufacturers Association (AAMA):
       1. AAMA 803.3 - Narrow Joint Seam Sealers.
       2. AAMA 1302.5 - Voluntary Specification for Forced-Entry Resistant Aluminum Prime Windows.
       3. AAMA 2603 - Pigmented Organic Coatings on Aluminum.
       4. AAMA 2605 - High-Performance Organic Coatings on Aluminum.
    3. Florida Building Code, 6th Edition; 2017 (FBC):
       1. Sections governing construction in High-Velocity Hurricane Zones (HVHZ).
          1. FBC 1620: HVHZ Wind Loads; Structural.
          2. FBC 2410: HVHZ General; Glass and Glazing.
          3. FBC 24121: HVHZ Windows, Doors, Glass and Glazing.
    4. Miami-Dade County Test Application Standards (TAS) adopted by FBC:
       1. FBC TAS 201 - Impact Test Procedures.
       2. FBC TAS 202 - Criteria for Testing Impact and Nonimpact Resistant Building Envelope Components Using Uniform Static Air Pressure.
       3. FBC TAS 203 - Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.
    5. National Fenestration Rating Council (NFRC).
       1. NFRC 100 - Procedure for determining Fenestration Product U-factors.
       2. NFRC 200 - Procedure for determining Fenestration Product Solar Heat Gain Coefficient (SHGC) and Visible Transmittance (VT) at Normal Incidence.
  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. Indicate elevations, locations, markings, dimension, finishes and wind pressures.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum ten 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 such as 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. WARRANTIES
     1. Warranty Period:
        1. Structural, Hardware and Certain Finishes: 10 years.
        2. Stress Cracks on Glass: 1 year.
        3. Delamination on Laminated Glass Units: 5 years.
        4. Insulated Glass; sealed component: 10 years.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: CGI Windows and Doors, which is located at: 3780 W. 104th St.; Hialeah, FL 33018; Toll Free Tel: 800-442-9042 ; Tel: 305-593-6590; Fax: 305-593-6592; Email: [request info (SDawson@cgiwindows.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=CGI+Windows+and+Doors&coid=42479&rep=&fax=305-593-6592&message=RE:%20Spec%20Question%20(08562cgi):%20%20&mf=); Web: <http://www.cgiwindows.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.
  1. PERFORMANCE REQUIREMENTS
     1. Standards Compliance:
        1. Structural Test: ASTM E 330.
        2. Water Infiltration Resistance: ASTM E 547/E 331 and FBC TAS 202.
        3. Air Infiltration resistance: ASTM E 283.
        4. Windborne Debris Impact Resistance: Pass large missile impact test, pass cyclic pressure test following FBC TAS 203.
        5. Florida HVHZ rated windows.
        6. Glazing performance tested in accordance with NFRC standards.

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

* 1. ALUMINUM WINDOWS

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

* + 1. Basis of Design: Estate Collection, 238 Series Casement Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Water Resistance: 16.5 psf (0.79 kPa) maximum.
          2. Forced Entry Test per AAMA 1302.5: Passed.
       2. Window Size:

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

* + - * 1. Width: 18 inches (457 mm).
        2. Width: 19-1/8 inches (486 mm).
        3. Width: 20 inches (508 mm).
        4. Width: 24 inches (620 mm).
        5. Width: 26-1/2 inches (673 mm).
        6. Width: 28 inches (711 mm).
        7. Width: 30 inches (762 mm).
        8. Width: 32 inches (823 mm).
        9. Width: 36 inches (914 mm).
        10. Width: 37 inches (940 mm).
        11. Width: 42 inches (1067 mm).
        12. Width: \_\_\_\_\_.
        13. Width: As indicated on Drawings.
        14. Height: 17 inches (432 mm).
        15. Height: 24 inches (620 mm).
        16. Height: 26 inches (660 mm).
        17. Height: 30 inches (762 mm).
        18. Height: 36 inches (914 mm).
        19. Height: 38-3/8 inches (975 mm).
        20. Height: 42 inches (1067 mm).
        21. Height: 48 inches (1219 mm).
        22. Height: 50-3/8 inches (1280 mm).
        23. Height: 54 inches (1372 mm).
        24. Height: 60 inches (1524 mm).
        25. Height: 63 inches (1600 mm).
        26. Height: 66 inches (1676 mm).
        27. Height: 72 inches (1829 mm).
        28. Height: 78 inches (1981 mm).
        29. Height: 84 inches (2134 mm).
        30. Height: \_\_\_\_\_.
        31. Height: As indicated on Drawings.
      1. Window Features:
         1. Frame: Extruded screen with Super-View screen fiberglass mesh.

\*\* NOTE TO SPECIFIER \*\* Delete glazing bead option not required.

* + - * 1. Glazing Beads: Extruded snap-on, contoured ogee profile.
        2. Glazing Beads: Extruded snap-on, contemporary square profile.
        3. Stainless steel assembly screws.
        4. Double continuous rows of weatherstripping, one row of Schlegel Q-Lon and another row of Aptus.
        5. Exterior flange frame, 1/2 inch (13 mm).
      1. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete type and glazing options not required.

* + - * 1. Type: 7/16 inch (11 mm) laminated.

Large Missile Rating, 26-1/2 x 50-5/8 inch Window: Positive 110 psf (5.27 kPa), negative 195 psf (9.34 kPa).

Large Missile Rating, 37 x 63 inch Window: Positive 110 psf (5.27 kPa), negative 120 psf (5.75 kPa).

Large Missile Rating, 37 x 76 inch Window: Positive 56.3 psf (2.7 kPa), negative 56.3 psf (2.7 kPa).

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 340; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

Heat Strengthened or Tempered as required.

* + - * 1. Type: 1 inch (25 mm) insulated laminated.

Large Missile Rating, 26-1/2 x 50-5/8 inch Window, Annealed Glass: Positive 99.7 psf (4.77 kPa), negative 104.3 psf (4.99 kPa).

Large Missile Rating, 37 x 63 inch Window, Annealed Glass: Positive 60 psf (2.87 kPa), negative 60 psf (2.87 kPa).

Large Missile Rating, 37 x 76 inch Window, Annealed Glass: Positive 56.3 psf (2.7 kPa), negative 56.3 psf (2.7 kPa).

Large Missile Rating, 26-1/2 x 50-5/8 inch Window, Tempered Glass: Positive 110 psf (5.27 kPa), negative 195 psf (9.34 kPa).

Large Missile Rating, 37 x 63 inch Window, Tempered Glass: Positive 110 psf (5.27 kPa), negative 117 psf (5.6 kPa).

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Clear.

Color: Gray.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

Heat Strengthened or Tempered as noted.

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

* + - 1. Finish: Powder Coating per AAMA 2603. Color: White.
      2. Finish: Powder Coating per AAMA 2603. Color: Bronze.
      3. Finish: PVDF Coating per AAMA 2605. Color: Bone White.
      4. Finish: PVDF Coating per AAMA 2605. Color: Bronze.
      5. Finish: PVDF Coating per AAMA 2605. Color: Custom color to be selected by Architect.
      6. Finish: PVDF Coating per AAMA 2605. Color: \_\_\_\_\_.
      7. Finish: Clear Anodized: NAAMM AA-C2241, 215R1, Class 1, minimum 0.7 mils, in natural aluminum color.
      8. Finish: Aspen Wood Grain. Color: Hazelnut Brown.
      9. Finish: Aspen Wood Grain. Color: Mahogany Red.
      10. Finish: Aspen Wood Grain. Color: Walnut Brown.
      11. Construction: Heavy extruded aluminum-alloy sections, precision cut and assembled with sealed, mitered hairline joints and no visible fasteners when vents are closed. Provide grooves in extrusions to receive double weather stripping between vents and frames.
      12. Member Wall Thickness:
          1. Frames: At least 0.080 inch (2.3 mm).
          2. Vents: At least 0.090 inch (2.9 mm).
      13. Frame Depth: At least 2.075 inches (53 mm).
      14. Corner Construction:
          1. At Casement Window Frames and Vents: Assemble with sealed mitered, hairline joint, made rigid by fastening with No. 10 stainless steel screws.
          2. At Frames: 4 stainless steel corner keys and 4 aluminum corner keys.
          3. At Vents: 4 stainless steel corner keys.
      15. Hardware:
          1. Operator: Single arm stainless steel roto operator and nesting crank handle.
          2. Track: Stainless steel operator track.
          3. Hinges: Pair, stainless steel 4 bar concealed hinges.
          4. Lock Bars: Stainless steel, multipoint.
          5. Snubber blocks.

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

* + - * 1. Hardware Finish: Multi -coat baked enamel: Color: White.
        2. Hardware Finish: Multi -coat baked enamel: Color: Bronze.
        3. Hardware Finish: Multi -coat baked enamel: Color: Silver.
      1. Included Options:

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

* + - * 1. Keyed Limit opening devices.
        2. Non-Keyed Limit opening devices.

\*\* NOTE TO SPECIFIER \*\* For window sizes 24 inches (610 mm) wide and above.

* + - * 1. Hinges with washability feature.
        2. Custodial type locks, for institutional use.
        3. Equal leg frames.

\*\* NOTE TO SPECIFIER \*\* Delete muntins options not required. 3-1/2 inch muntins not available with insulated glass.

* + - * 1. Muntins: Extruded double applied, inside and outside raised profile 1-inch (25 mm).
        2. Muntins: Extruded double applied, inside and outside, raised profile 3-1/2 inches (89 mm).
        3. Muntins: Grids inside insulated glass.
    1. Basis of Design: Estate Collection, 238 Series Project Out Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Maximum Water Resistance: 16.5 psf (0.79 kPa).
          2. Forced Entry Test per AAMA 1302.5: Passed.
       2. Window Size:

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

* + - * 1. Width: 18 inches (457 mm).
        2. Width: 19-1/8 inches (486 mm).
        3. Width: 20 inches (508 mm).
        4. Width: 24 inches (620 mm).
        5. Width: 26-1/2 inches (673 mm).
        6. Width: 28 inches (711 mm).
        7. Width: 30 inches (762 mm).
        8. Width: 32 inches (823 mm).
        9. Width: 36 inches (914 mm).
        10. Width: 37 inches (940 mm).
        11. Width: 40 inches (1016 mm).
        12. Width: 42 inches (1067 mm).
        13. Width: 48 inches (1219 mm).
        14. Width: 53-1/8 inches (1349 mm).
        15. Width: 54 inches (1372 mm).
        16. Width: 60 inches (1524 mm).
        17. Width: 66 inches (1676 mm).
        18. Width: 72 inches (1829 mm).
        19. Width: \_\_\_\_\_.
        20. Width: As indicated on Drawings.
        21. Height: 17 inches (432 mm).
        22. Height: 24 inches (620 mm).
        23. Height: 26 inches (660 mm).
        24. Height: 30 inches (762 mm).
        25. Height: 36 inches (914 mm).
        26. Height: 38-3/8 inches (975 mm).
        27. Height: 42 inches (1067 mm).
        28. Height: 48 inches (1219 mm).
        29. Height: 50-3/8 inches (1280 mm).
        30. Height: 54 inches (1372 mm).
        31. Height: 60 inches (1524 mm).
        32. Height: 63 inches (1600 mm).
        33. Height: 66 inches (1676 mm).
        34. Height: 72 inches (1829 mm).
        35. Height: \_\_\_\_\_.
        36. Height: As indicated on Drawings.
      1. Window Features:
         1. Frame: Extruded screen with Super-View screen fiberglass mesh.

\*\* NOTE TO SPECIFIER \*\* Delete glazing bead option not required.

* + - * 1. Glazing Beads: Extruded snap-on, contoured ogee profile; colonial.
        2. Glazing Beads: Extruded snap-on, contemporary square profile.
        3. Stainless steel assembly screws and corner keys.
        4. Double continuous rows of weatherstripping, one row of Schlegel Q-Lon and another row of Aptus.
        5. Exterior flange frame, 1/2 inch (13 mm).
      1. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete type and glazing options not required.

* + - * 1. Type: 7/16 inch (11 mm) laminated.

Large Missile Rating, 53-1/8 x 26 inch Window, Annealed Glass: Positive 110 psf (5.27 kPa), negative 195 psf (9.34 kPa).

Large Missile Rating, 54 x 24 inch Window, Annealed Glass: Positive 110 psf (5.27 kPa), negative 195 psf (9.34 kPa).

Large Missile Rating, 53-1/8 x 26 inch Window, Heat Strengthened Glass: Positive 110 psf (5.27 kPa), negative 120 psf (5.75 kPa).

Large Missile Rating, 54 x 24 inch Window, Heat Strengthened Glass: Positive 110 psf (5.27 kPa), negative 195 psf (9.34 kPa).

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

Heat Strengthened or Tempered as noted.

* + - * 1. Type: 3/4 inch (19 mm) insulated laminated.

Large Missile Rating, 53-1/8 x 26 inch Window, Annealed Glass: Positive 101.3 psf (4.85 kPa), negative 120 psf (5.75 kPa).

Large Missile Rating, 54 x 24 inch Window, Annealed Glass: Positive 107.9 psf (5.17 kPa), negative 107.9 psf (5.17 kPa).

Large Missile Rating, 53-1/8 x 26 inch Window, Heat Strengthened Glass: Positive 110 psf (5.27 kPa), negative 120 psf (5.75 kPa).

Large Missile Rating, 54 x 24 inch Window, Heat Strengthened Glass: Positive 110 psf (5.27 kPa), negative 195 psf (9.34 kPa).

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Clear.

Color: Gray.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

Heat Strengthened or Tempered as noted.

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

* + - 1. Finish: Powder Coating per AAMA 2603. Color: White.
      2. Finish: Powder Coating per AAMA 2603. Color: Bronze.
      3. Finish: PVDF Coating per AAMA 2605. Color: Bone White.
      4. Finish: PVDF Coating per AAMA 2605. Color: Bronze.
      5. Finish: PVDF Coating per AAMA 2605. Color: Custom color to be selected by Architect.
      6. Finish: PVDF Coating per AAMA 2605. Color: \_\_\_\_\_.
      7. Finish: Clear Anodized: NAAMM AA-C2241, 215R1, Class 1, minimum 0.7 mils, in natural aluminum color.
      8. Finish: Aspen Wood Grain. Color: Hazelnut Brown.
      9. Finish: Aspen Wood Grain. Color: Mahogany Red.
      10. Finish: Aspen Wood Grain. Color: Walnut Brown.
      11. Construction: Heavy extruded aluminum-alloy sections, precision cut and assembled with sealed, mitered hairline joints and no visible fasteners when vents are closed. Provide grooves in extrusions to receive double weather stripping between vents and frames.
      12. Member Wall Thickness:
          1. Frames: At least 0.080 inch (2.3 mm).
          2. Vents: At least 0.090 inch (2.9 mm).
      13. Frame Depth: At least 2.075 inches (53 mm).
      14. Corner Construction:
          1. At Project-out Window Frames and Vents: Assemble with sealed mitered, hairline joint, made rigid by fastening with No. 10 stainless steel screws.
          2. At Frames: 4 stainless steel corner keys and 4 aluminum corner keys.
          3. At Vents: 4 stainless steel corner keys.
      15. Hardware:
          1. Operator: Dual arm stainless steel roto operator and crank handle.
          2. Track: Stainless steel operator track.
          3. Hinges: Pair, stainless steel 4 bar concealed hinges.
          4. Locks: Pair of Cam locks.
          5. Lock Keepers: Pair of stainless steel lock keepers.
          6. Snubber blocks.

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

* + - * 1. Hardware Finish: Multi-coat baked enamel. Color: White.
        2. Hardware Finish: Multi-coat baked enamel. Color: Bronze.
        3. Hardware Finish: Multi-coat baked enamel. Color: Silver.
      1. Included Options:

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

* + - * 1. Keyed Limit opening devices.
        2. Non-keyed Limit opening devices.
        3. Custodial type locks. For Institutional use.
        4. Equal leg frames.
        5. Collapsible cranks.

\*\* NOTE TO SPECIFIER \*\* Delete muntins options not required. 3-1/2 inch muntins not available with insulated glass.

* + - * 1. Muntins: Extruded double applied, inside and outside, raised profile 1 inch (25 mm).
        2. Muntins: Extruded double applied, inside and outside, raised profile 3-1/2 inches (89 mm).
        3. Muntins: Grids inside insulated glass.
    1. Basis of Design: Estate Collection, 238 Series Fixed and Designer Fixed Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Maximum Water Resistance: 16.5 psf (0.79 kPa).
          2. Forced Entry Test per AAMA 1302.5: Passed.
       2. Window Configuration:

\*\* NOTE TO SPECIFIER \*\* Delete shape options not required. All configurations listed below except rectangular are considered designer configurations.

* + - * 1. Shape: Rectangular.
        2. Shape: Half Circle.
        3. Shape: Full Circle.
        4. Shape: Arch Top/Eyebrow.
        5. Shape: Octagon.
        6. Shape: Hexagon.
        7. Shape: Chord.
        8. Shape: Tombstone.
        9. Shape: Trapezoid.
        10. Shape: Pentagon.
        11. Shape: Gothic Pentagon.
        12. Shape: Oval.
        13. Shape: Standard Colonial.
        14. Shape: Custom Colonial as indicated on Drawings.
        15. Shape: \_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Minimum width is 14 inches, maximum width is 78 inches. Delete options not required.

* + - * 1. Width: 14 inches (356 mm).
        2. Width: 78 inches (1981 mm).
        3. Width: \_\_\_\_\_.
        4. Width: As indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Minimum height is 14 inches, maximum height is 130 inches. Delete options not required.

* + - * 1. Height: 14 inches (356 mm).
        2. Height: 130 inches (3302 mm).
        3. Height: \_\_\_\_\_.
        4. Height: As indicated on Drawings.
      1. Window Features:

\*\* NOTE TO SPECIFIER \*\* Delete configuration unit type option not required.

* + - * 1. Rectangular Window Configuration Units:

Glazing Beads: Extruded snap-on, contoured ogee profile; Colonial.

Corner keys.

* + - * 1. Designer Window Configuration Units:

Glazing Beads: Extruded snap-on, square profile.

Welded corners.

* + - * 1. Stainless steel assembly screws.
        2. Double continuous rows of weatherstripping, one row of Schlegel Q-Lon and another row of Aptus.
        3. Exterior flange frame, 1/2 inch (13 mm).
      1. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete type and glazing options not required.

* + - * 1. Type: 7/16 inch (11 mm) laminated.

Large Missile Rating, 26-1/2 x 50-5/8 inch Window, minimum: Positive 110 psf (5.27 kPa), negative 147.2 psf (7.05 kPa).

Large Missile Rating, 37 x 63 inch Window, minimum: Positive 102.1 psf (4.89 kPa), negative 110.2 psf (5.28 kPa).

Large Missile Rating, 48 x 72 inch Window, minimum: Positive 83.9 psf (4.02 kPa), negative 83.9 psf (4.02 kPa).

Large Missile Rating, 54 x 120 inch Window: Positive 50 psf (2.39 kPa), negative 50 psf (2.39 kPa).

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

Heat Strengthened or Tempered as noted.

* + - * 1. Type: 3/4 inch (19 mm) insulated laminated.

Large Missile Rating, 26-1/2 x 50-5/8 inch Window, minimum: Positive 110 psf (5.27 kPa), negative 133 psf (6.37 kPa).

Large Missile Rating, 37 x 63 inch Window, minimum: Positive 72.9 psf (3.49 kPa), negative 72.9 psf (3.49 kPa).

Large Missile Rating, 48 x 72 inch Window, minimum: Positive 52.9 psf (2.53 kPa), negative 52.9 psf (2.53 kPa).

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear High Performance with LoE 270; coating on No. 2 surface.

Color: Clear.

Color: Gray.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

Heat Strengthened or Tempered as noted.

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

* + - 1. Finish: Powder Coating per AAMA 2603. Color: White.
      2. Finish: Powder Coating per AAMA 2603. Color: Bronze.
      3. Finish: PVDF Coating per AAMA 2605. Color: Bone White.
      4. Finish: PVDF Coating per AAMA 2605. Color: Bronze.
      5. Finish: PVDF Coating per AAMA 2605. Color: Custom color to be selected by Architect.
      6. Finish: PVDF Coating per AAMA 2605. Color: \_\_\_\_\_.
      7. Finish: Clear Anodized: NAAMM AA-C2241, 215R1, Class 1, minimum 0.7 mils, in natural aluminum color.
      8. Finish: Aspen Wood Grain. Color: Hazelnut Brown.
      9. Finish: Aspen Wood Grain. Color: Mahogany Red.
      10. Finish: Aspen Wood Grain. Color: Walnut Brown.
      11. Construction: Heavy extruded aluminum-alloy sections, precision cut and assembled with sealed mitered, hairline joints.
      12. Corner Construction:
          1. Rectangular Fixed Window Frames:

Assemble with sealed, mitered, hairline joints, made rigid by fastening with No. 10 stainless steel screws.

Corner Keys: 4 stainless steel and 4 aluminum.

* + - * 1. Designer Fixed Window Frames: Welded corners with sealed hairline joints.
      1. Fixed Window Frame Construction: Use the same vent and frame extrusions as are used in casement and project-out Series 238 windows, but screw vent extrusion at interior using No. 10 x 1 inch (25 mm) stainless steel sheet metal screws around entire window, spaced as required by NOA.
         1. Apply plastic caps matching color or finish to screw heads.

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

* + - 1. Included Options:

\*\* NOTE TO SPECIFIER \*\* Decorative screw covers are only available on rectangular fixed windows.

* + - * 1. Decorative screw covers.

\*\* NOTE TO SPECIFIER \*\* Square glazing beads are optional for rectangular fixed/picture windows.

* + - * 1. Glazing Beads: Square.

\*\* NOTE TO SPECIFIER \*\* Equal leg frames are optional for rectangular fixed/picture windows.

* + - * 1. Equal leg frames.

\*\* NOTE TO SPECIFIER \*\* Delete muntins options not required. 3-1/2 inch muntins not available with insulated glass.

* + - * 1. Muntins: Extruded double applied, inside and outside, raised profile 1 inch (25 mm).
        2. Muntins: Extruded double applied, inside and outside, raised profile 3-1/2 inches (89 mm) muntins.
        3. Muntins: Grids inside insulated glass.
    1. Basis of Design: Estate Collection, 360 Series Single Hung Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:

\*\* NOTE TO SPECIFIER \*\* Delete water resistance option not required.

* + - * 1. Water Resistance, without Waterbar Adapter: 12 psf (0.57 kPa) maximum.
        2. Water Resistance, with Waterbar Adapter: 15 psf (0.72 kPa) maximum.
        3. Forced Entry Test per AAMA 1302.5: Passed.
      1. Window Size:

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

* + - * 1. Width: 18 inches (457 mm).
        2. Width: 19-1/8 inches (486 mm).
        3. Width: 24 inches (620 mm).
        4. Width: 26-1/2 inches (673 mm).
        5. Width: 30 inches (762 mm).
        6. Width: 32 inches (823 mm).
        7. Width: 36 inches (914 mm).
        8. Width: 37 inches (940 mm).
        9. Width: 42 inches (1067 mm).
        10. Width: 48 inches (1219 mm).
        11. Width: 53-1/8 inches (1349 mm).
        12. Width: 54 inches (1372 mm).
        13. Width: \_\_\_\_\_.
        14. Width: As indicated on Drawings.
        15. Height: 24 inches (620 mm).
        16. Height: 26 inches (660 mm).
        17. Height: 36 inches (914 mm).
        18. Height: 38-3/8 inches (975 mm).
        19. Height: 48 inches (1219 mm).
        20. Height: 50-3/8 inches (1280 mm).
        21. Height: 60 inches (1524 mm).
        22. Height: 63 inches (1600 mm).
        23. Height: 72 inches (1829 mm).
        24. Height: 76 inches (1930 mm).
        25. Height: 84 inches (2134 mm).
        26. Height: 96 inches (2438 mm).
        27. Height: 120 inches (3048 mm).
        28. Height: \_\_\_\_\_.
        29. Height: As indicated on Drawings.
      1. Window Features:
         1. Frame: Extruded screen with Super-View screen fiberglass mesh.
         2. Glazing Beads: Extruded aluminum snap-on:
         3. Stainless steel assembly screws.
         4. Double and triple weatherstripping. Wool pile with center soft fin, gray, minimum two rows at all moving connections.
         5. Balance cover and screen pocket covers.
         6. Captured bottom rail design with reservoir sill.
         7. Exterior flange frame, 1/2 inch (13 mm).
      2. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete type and glazing options not required.

* + - * 1. Type: 5/16 inch (7.9 mm) laminated.

Large Missile Rating, 37 x 63 inch Window, Annealed Glass: Positive 110 psf (5.27 kPa), negative 154.9 psf (7.42 kPa).

Large Missile Rating, 54 x 96 inch Window, Annealed Glass: Positive 68.9 psf (3.30 kPa), negative 68.9 psf (3.30 kPa).

Large Missile Rating, 42 x 120 inch Window, Annealed Glass: Positive 66.4 psf (3.18 kPa), negative 66.4 psf (3.18 kPa).

Large Missile Rating, 37 x 63 inch Window, Heat Strengthened Glass: Positive 100 psf (4.79 kPa), negative 210 psf (10.1 kPa).

Large Missile Rating, 54 x 96 inch Window, Heat Strengthened Glass: Positive 100 psf (4.79 kPa), negative 120 psf (5.75 kPa).

Large Missile Rating, 42 x 120 inch Window, Heat Strengthened Glass: Positive 100 psf (4.79 kPa), negative 120 psf (5.75 kPa).

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

* + - * 1. Type: 7/16 inch (11 mm) laminated.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Gray.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

* + - * 1. Type: 3/4 inch (19 mm) insulated laminated.

Large Missile Rating, 37 x 63 inch Window, Annealed Glass: Positive 110 psf (5.27 kPa), negative 177.6 psf (8.50 kPa).

Large Missile Rating, 54 x 96 inch Window, Annealed Glass: Positive 73.2 psf (3.50 kPa), negative 73.2 psf (3.50 kPa).

Large Missile Rating, 42 x 120 inch Window, Annealed Glass: Positive 70.6 psf (3.38 kPa), negative 70.6 psf (3.38 kPa).

Large Missile Rating, 37 x 63 inch Window, Heat Strengthened Glass: Positive 100 psf (4.79 kPa), negative 210 psf (10.1 kPa).

Large Missile Rating, 54 x 96 inch Window, Heat Strengthened Glass: Positive 100 psf (4.79 kPa), negative 120 psf (5.75 kPa).

Large Missile Rating, 42 x 120 inch Window, Heat Strengthened Glass: Positive 100 psf (4.79 kPa), negative 120 psf (5.75 kPa).

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Clear.

Color: Gray.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

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

* + - 1. Finish: Powder Coating per AAMA 2603. Color: White.
      2. Finish: Powder Coating per AAMA 2603. Color: Bronze.
      3. Finish: PVDF Coating per AAMA 2605. Color: Bone White.
      4. Finish: PVDF Coating per AAMA 2605. Color: Bronze.
      5. Finish: PVDF Coating per AAMA 2605. Color: Custom color to be selected by Architect.
      6. Finish: PVDF Coating per AAMA 2605. Color: \_\_\_\_\_.
      7. Finish: Clear Anodized: NAAMM AA-C2241, 215R1, Class 1, minimum 0.7 mils, in natural aluminum color.
      8. Finish: Aspen Wood Grain. Color: Hazelnut Brown.
      9. Finish: Aspen Wood Grain. Color: Mahogany Red.
      10. Finish: Aspen Wood Grain. Color: Walnut Brown.
      11. Construction: Heavy extruded aluminum-alloy sections , precision cut and assembled with hairline joints and no visible fasteners when sash is closed.
      12. Frame Construction: Provide enclosed sloped sill frame member. All sash/vent rails shall be tubular. Top fixed glass to be installed into a separate fixed sash, rather than to be glazed directly on the frame.
      13. Hardware: Factory applied, and field adjusted.

\*\* NOTE TO SPECIFIER \*\* Windows wider than 28 inches will have two locks instead of one. Delete option not required.

* + - * 1. CGI egress self-closing, sill mounted locks.
        2. Lifts/Pulls: Spring loaded.
        3. Balances: Attached to an independent CGI patented carrier with nylon guides for smooth operation and sash removal feature without disengaging the balance.

\*\* NOTE TO SPECIFIER \*\* Delete balance type option not required.

Balance Type: Concealed Block and Tackle balances.

Balance Type: Spiral Balances.

* + - 1. Included Options:

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

* + - * 1. Small missile impact resistance.
        2. Limit opening devices.
        3. 15 PSF Waterbar adaptor.
        4. Clipless mullions.
        5. Oriel/Proview configuration; uneven size vent available.

\*\* NOTE TO SPECIFIER \*\* Option below is only available with 5/16 inch glass. Delete if not required.

* + - * 1. Meeting rail mounted Sweep lock, keeper, and lift/pull.

\*\* NOTE TO SPECIFIER \*\* Delete muntins option not required. The first option below is not available with insulated glass.

* + - * 1. Muntins: Extruded double applied, inside and outside, raised low profile 1 inch (25 mm).
        2. Muntins Grids inside insulated glass.
    1. Basis of Design: Estate Collection, 375 Series Horizontal Rolling Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:

\*\* NOTE TO SPECIFIER \*\* Delete water resistance option not required.

* + - * 1. Water Resistance, without Waterbar Adapter: 12 psf (0.57 kPa) maximum.
        2. Water Resistance, with Waterbar Adapter: 18 psf (0. 86 kPa) maximum.
        3. Forced Entry Test per AAMA 1302.5: Passed.

\*\* NOTE TO SPECIFIER \*\* Delete window and panel configuration, and width options not required.

* + - 1. Window Configuration: 2 Panels:
         1. Panel Configuration: XO, equal panels.
         2. Panel Configuration: XO, unequal panels.
         3. Panel Configuration: OX, equal panels.
         4. Panel Configuration: OX, unequal panels.

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

* + - * 1. Width: 24 inches (620 mm).
        2. Width: 26-1/2 inches (673 mm).
        3. Width: 36 inches (914 mm).
        4. Width: 37 inches (940 mm).
        5. Width: 48 inches (1219 mm).
        6. Width: 53-1/8 inches (1349 mm).
        7. Width: 60 inches (1524 mm).
        8. Width: 72 inches (1829 mm).
        9. Width: 74 inches (1880 mm).
        10. Width: 106-1/4 inches (2699 mm).
        11. Width: \_\_\_\_\_.
        12. Width: As indicated on Drawings.
      1. Window Configuration: 3 Panels:
         1. Panel Configuration: XOX, equal panels.
         2. Panel Configuration: XOX, unequal panels.

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

* + - * 1. Width: 36 inches (914 mm).
        2. Width: 53-1/8 inches (1349 mm).
        3. Width: 54 inches (1372 mm).
        4. Width: 72 inches (1829 mm).
        5. Width: 74 inches (1880 mm).
        6. Width: 90 inches (2286 mm).
        7. Width: 106-1/4 inches (2699 mm).
        8. Width: 108 inches (2743 mm).
        9. Width: 111 inches (2819 mm).
        10. Width: 159-3/8 inches (4048 mm).
        11. Width: \_\_\_\_\_.
        12. Width: As indicated on Drawings.

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

* + - 1. Height: 24 inches (620 mm).
      2. Height: 26 inches (660 mm).
      3. Height: 36 inches (914 mm).
      4. Height: 38-3/8 inches (975 mm).
      5. Height: 48 inches (1219 mm).
      6. Height: 50-3/8 inches (1280 mm).
      7. Height: 60 inches (1524 mm).
      8. Height: 63 inches (1600 mm).
      9. Height: 72 inches (1829 mm).
      10. Height: 76 inches (1930 mm).
      11. Height: \_\_\_\_\_.
      12. Height: As indicated on Drawings.
      13. Window Features:
          1. Frame: Extruded screen with Super-View screen fiberglass mesh.
          2. Glazing Beads: Extruded aluminum snap-on.
          3. Stainless steel assembly screws.
          4. Double and triple weatherstripping. Wool pile with center soft fin, gray, minimum two rows at all moving connections.
          5. Exterior flange frame, 1/2 inch (13 mm).
      14. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete type and glazing options not required.

* + - * 1. Type: 5/16 inch (7.9 mm) laminated.

Large Missile Rating, 2 Equal Panels, Annealed Glass: Positive 98.5 psf (4.72 kPa), negative 98.5 psf (4.72 kPa).

Large Missile Rating, 3 Equal Panels, Annealed Glass: Positive 50 psf (2.39 kPa), negative 50 psf (2.39 kPa).

Large Missile Rating, 2 Equal Panels, Heat Strengthened Glass: Positive 120 psf (5.75 kPa), negative 147.7 psf (7.07 kPa).

Large Missile Rating, 3 Equal Panels, Heat Strengthened Glass: Positive 75 psf (3.59 kPa), negative 75 psf (3.59 kPa).

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

* + - * 1. Type: 7/16 inch (11 mm) laminated.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Gray.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

* + - * 1. Type: 13/16 inch (21 mm) insulated laminated.

Large Missile Rating, 2 Equal Panels, Annealed Glass: Positive 98.5 psf (4.72 kPa), negative 98.5 psf (4.72 kPa).

Large Missile Rating, 3 Equal Panels, Annealed Glass: Positive 100 psf (4.79 kPa), negative 100 psf (4.79 kPa).

Large Missile Rating, 2 Equal Panels, Heat Strengthened Glass: Positive 120 psf (5.75 kPa), negative 147.7 psf (7.07 kPa).

Large Missile Rating, 3 Equal Panels, Heat Strengthened Glass: Positive 75 psf (3.59 kPa), negative 75 psf (3.59 kPa).

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear High performance with LoE 270; coating on No. 2 surface.

Color: Clear.

Color: Gray.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

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

* + - 1. Finish: Powder Coating per AAMA 2603. Color: White.
      2. Finish: Powder Coating per AAMA 2603. Color: Bronze.
      3. Finish: PVDF Coating per AAMA 2605. Color: Bone White.
      4. Finish: PVDF Coating per AAMA 2605. Color: Bronze.
      5. Finish: PVDF Coating per AAMA 2605. Color: Custom color to be selected by Architect.
      6. Finish: PVDF Coating per AAMA 2605. Color: \_\_\_\_\_.
      7. Finish: Clear Anodized, NAAMM AA-C2241, 215R1, Class 1, minimum 0.7 mils, in natural aluminum color.
      8. Finish: Aspen Wood Grain. Color: Hazelnut Brown.
      9. Finish: Aspen Wood Grain. Color: Mahogany Red.
      10. Finish: Aspen Wood Grain. Color: Walnut Brown.
      11. Construction: Heavy extruded aluminum-alloy sections, precision cut and assembled with sealed and hairline joints and no visible fasteners when sash is closed.
      12. Corner Construction: assemble with sealed hairline joints, made rigid by fasteners with 3 No. 10 stainless steel screws per corner.
      13. Frame Construction: All sash/vent rails shall be tubular. Sash/vent to engage the jamb 0.50 inches (12.7 mm). Fixed panels to be installed into a separate fixed sash, rather than to be glazed directly on the frame.
      14. Hardware: Factory applied, and field adjusted.
          1. CGI self-closing heavy duty cast 1-7/8 inch x 4-1/8 inch (47.6 mm x 105 mm) spring loaded egress lock; one per operable panel.
          2. Patented quad roller system consisting of a 1-1/2 inches x 3 inches (38 mm x 76 mm) housing each containing four 3/4 inch (19 mm) diameter nylon wheels with stainless steel raceways on stainless steel axels. Each operable panel to have 2 housings; eight wheels. Wheels to run on PVC track inserts.
      15. Included Options:

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

* + - * 1. Small missile impact resistance.
        2. Concealed aluminum reinforcing.
        3. Clipless mullions.
        4. Limit opening devices.
        5. 18 PSF Waterbar adaptor.
        6. Unequal size vents.

\*\* NOTE TO SPECIFIER \*\* Delete muntin option not required. The first option below is not available with insulated glass. Delete if not required.

* + - * 1. Muntins: Extruded double applied, inside and outside, raised low profile 1 inch (25 mm).
        2. Muntins: Grids inside insulated glass.
    1. Basis of Design: Estate Collection, 410 Series Fixed Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Maximum Water Resistance: 20 psf (0.96 kPa).
          2. Forced Entry Test per AAMA 1302.5: Passed.
       2. Window Size:

\*\* NOTE TO SPECIFIER \*\* Minimum width is 14 inches, maximum width is 120 inches, maximum area is 60 square feet. Delete options not required.

* + - * 1. Width: 14 inches (356 mm).
        2. Width: 72 inches (1829 mm).
        3. Width: 120 inches (3048 mm).
        4. Width: \_\_\_\_\_.
        5. Width: As indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Minimum height is 14 inches, maximum height is 120 inches, maximum area is 60 square feet. Delete options not required.

* + - * 1. Height: 14 inches (356 mm).
        2. Height: 72 inches (1829 mm).
        3. Height: 120 inches (3048 mm).
        4. Height: \_\_\_\_\_.
        5. Height: As indicated on Drawings.
      1. Window Features:
         1. Direct set frame design.
         2. Stainless steel assembly screws.
         3. Removable interior glazing bead and cover.
         4. Concealed installation fasteners.
         5. Exterior flange frame, 1/2 inch (13 mm).
      2. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete type and glazing options not required.

* + - * 1. Type: 7/16 inch (11 mm) laminated.

Large Missile Rating, 63 x 48 inch Window, Annealed Glass: Positive 91.1 psf (4.36 kPa), negative 91.1 psf (4.36 kPa).

Large Missile Rating, 60 x 96 inch Window, Annealed Glass: Positive 51.8 psf (2.48 kPa), negative 51.8 psf (2.48 kPa).

Large Missile Rating, 72 x 120 inch Window, Heat Strengthened Glass: Positive 75 psf (3.59 kPa), negative 75 psf (3.59 kPa).

Large Missile Rating, 63 x 48 inch Window, Heat Strengthened Glass: Positive 133 psf (6.37 kPa), negative 150 psf (7.18 kPa).

Large Missile Rating, 60 x 96 inch Window, Heat Strengthened Glass: Positive 103.6 psf (4.96 kPa), negative 103.6 psf (4.96 kPa).

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer.

Color: Mist, Pattern 62; Obscure.

Color: Rain.

* + - * 1. Type: 1.2 inch (30 mm) insulated laminated.

Large Missile Rating, 63 x 48 inch Window, Annealed Glass: Positive 88.4 psf (4.23 kPa), negative 88.4 psf (4.23 kPa).

Large Missile Rating, 60 x 96 inch Window, Annealed Glass: Positive 50.3 psf (2.41 kPa), negative 50.3 psf (2.41 kPa).

Large Missile Rating, 72 x 120 inch Window, Heat Strengthened Glass: Positive 75 psf (3.59 kPa), negative 75 psf (3.59 kPa).

Large Missile Rating, 63 x 48 inch Window, Heat Strengthened Glass: Positive 133 psf (6.37 kPa), negative 150 psf (7.18 kPa).

Large Missile Rating, 60 x 96 inch Window, Heat Strengthened Glass: Positive 106.2 psf (5.08 kPa), negative Positive 106.2 psf (5.08 kPa).

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Gray.

Color: Clear.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

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

* + - 1. Finish: Powder Coating per AAMA 2603. Color: White.
      2. Finish: Powder Coating per AAMA 2603. Color: Bronze.
      3. Finish: PVDF Coating per AAMA 2605. Color: Bone White.
      4. Finish: PVDF Coating per AAMA 2605. Color: Bronze.
      5. Finish: PVDF Coating per AAMA 2605. Color: Custom color to be selected by Architect.
      6. Finish: PVDF Coating per AAMA 2605. Color: \_\_\_\_\_.
      7. Finish: Clear Anodized, NAAMM AA-C2241, 215R1, Class 1, minimum 0.7 mils, in natural aluminum color.
      8. Finish: Aspen Wood Grain. Color: Hazelnut Brown.
      9. Finish: Aspen Wood Grain. Color: Mahogany Red.
      10. Finish: Aspen Wood Grain. Color: Walnut Brown.
      11. Construction: Heavy extruded aluminum-alloy sections, precision cut and assembled with sealed, hairline joints. System is inside glazed.
      12. Corner Construction: Assemble with sealed, hairline joints, made rigid by fastening with No. 12 stainless steel screws.
      13. Included Options:

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

* + - * 1. Flat muntins.
        2. Equal leg frames.
        3. Clipless mullion.
        4. Small missile impact resistance.
    1. Basis of Design: Sentinel Collection, 110 Series Single Hung Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Maximum Water Resistance: 12 psf (0.57 kPa).
          2. Forced Entry Test per AAMA 1302.5: Passed.
       2. Window Size:

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

* + - * 1. Width: 19-1/8 inches (486 mm).
        2. Width: 24 inches (620 mm).
        3. Width: 26-1/2 inches (673 mm).
        4. Width: 32 inches (823 mm).
        5. Width: 37 inches (940 mm).
        6. Width: 40 inches (1016 mm).
        7. Width: 44 inches (1118 mm).
        8. Width: 48 inches (1219 mm).
        9. Width: 53-1/8 inches (1349 mm).
        10. Width: \_\_\_\_\_.
        11. Width: As indicated on Drawings.
        12. Height: 26 inches (660 mm).
        13. Height: 38-3/8 inches (975 mm).
        14. Height: 50-3/8 inches (1280 mm).
        15. Height: 59-1/2 inches (1511 mm).
        16. Height: 63 inches (1600 mm).
        17. Height: 76 inches (1930 mm).
        18. Height: \_\_\_\_\_.
        19. Height: As indicated on Drawings.
      1. Window Features:
         1. Frame: 2-1/2 inches (64 mm) deep.
         2. Screen: Extruded screen frame with Super-View fiberglass mesh.
         3. Fasteners: 3 stainless steel fasteners per corner.
         4. Matching top and bottom sightlines.
         5. Flush design.
         6. U-framed captured bottom rail with triple weatherstripping and weeped sill.
         7. Hidden block and tackle balances.
         8. Glazing Beads: Extruded snap-on square bead design.
         9. Strong structural glazing.
         10. Concealed head anchors.
         11. Captured bottom rail design with reservoir sill.
      2. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete glazing, type and color options not required.

* + - * 1. Large Missile Rating, 53-1/8 x 76 inch Window, Annealed Glass: Positive 75 psf (3.59 kPa), negative 75 psf (3.59 kPa).
        2. Large Missile Rating, 53-1/8 x 76 inch Window, Heat Strengthened Glass: Positive 80 psf (3.83 kPa), negative 85 psf (4.07 kPa).
        3. Type: 5/16 inch (7.9 mm) laminated.

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

* + - * 1. Type: 3/4 inch (19 mm) insulated laminated.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Gray.

Color: Clear.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

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

* + - 1. Finish: Powder Coating per AAMA 2603: Color: White.
      2. Finish: Powder Coating per AAMA 2603: Color: Bronze.
      3. Finish: Clear Anodized, NAAMM AA-C2241, 215R1, Class 1, minimum 0.7 mils, in natural aluminum color.
      4. Construction: Extruded aluminum-alloy sections, precision cut and assembled with hairline joints.
      5. Corner Construction: Assemble with hairline joints, made rigid by fasteners with 3 No. 10 stainless steel screws per corner.
      6. Hardware: Factory applied and field adjusted.
         1. Egress self-closing lock and lift/pull: Spring Loaded.
         2. Balance Type: Concealed block and tackle.
         3. Balance Type: Spiral Balances.
      7. Included Options:

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

* + - * 1. Meeting rail mounted sweep locks.
        2. Limit opening devices.
        3. Uneven size vent windows; Oriel/Proview configuration.
        4. Flange frame.
        5. Fin frame.
        6. Equal leg frame.

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

* + - * 1. Muntins, Extruded Aluminum: Low profile exterior and/or interior.
        2. Muntins, Extruded Aluminum: Semi-contoured; exterior only with low profile.
        3. Muntins: Grids inside insulated glass.
    1. Basis of Design: Sentinel Collection, 120 Series Horizontal Rolling Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Maximum Water Resistance: 12 psf (0.57 kPa).
          2. Forced Entry Test per AAMA 1302.5: Passed.

\*\* NOTE TO SPECIFIER \*\* Delete window and panel configuration and width options not required.

* + - 1. Window Configuration: 2 Panels:
         1. Panel Configuration: XO, equal panels.
         2. Panel Configuration: XO, unequal panels.
         3. Panel Configuration: OX, equal panels.
         4. Panel Configuration: OX, unequal panels.
         5. Width: 24 inches (620 mm).
         6. Width: 26-1/2 inches (673 mm).
         7. Width: 36 inches (914 mm).
         8. Width: 37 inches (940 mm).
         9. Width: 48 inches (1219 mm).
         10. Width: 53-1/8 inches (1349 mm).
         11. Width: 54 inches (1372 mm).
         12. Width: 60 inches (1524 mm).
         13. Width: 66 inches (1676 mm).
         14. Width: 72 inches (1829 mm).
         15. Width: 74 inches (1880 mm).
         16. Width: \_\_\_\_\_.
         17. Width: As indicated on Drawings.
      2. Window Configuration: 3 Panels:
         1. Panel Configuration: XOX, equal panels.
         2. Panel Configuration: XOX, unequal panels.
         3. Width: \_\_\_\_\_.
         4. Width: As indicated on Drawings.

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

* + - 1. Height: 24 inches (620 mm).
      2. Height: 26 inches (660 mm).
      3. Height: 36 inches (914 mm).
      4. Height: 38-3/8 inches (975 mm).
      5. Height: 48 inches (1219 mm).
      6. Height: 50-3/8 inches (1280 mm).
      7. Height: 60 inches (1524 mm).
      8. Height: 63 inches (1600 mm).
      9. Height: \_\_\_\_\_.
      10. Height: As indicated on Drawings.
      11. Window Features:
          1. Frame: 2-1/2 inches (64 mm) deep.
          2. Screen: Extruded screen frame with Super-View fiberglass mesh.
          3. Fasteners: 3 stainless steel fasteners per corner.
          4. Flush design.
          5. Double weatherstripping and weeped sill.
          6. Glazing Beads: Extruded snap-on square.
          7. Strong structural glazing.
          8. Concealed jamb anchor cover.
      12. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete glazing, type, and color options not required.

* + - * 1. Large Missile Rating, Annealed Glass: Positive 65 psf (3.11 kPa), negative 65 psf (3.11 kPa).
        2. Large Missile Rating, Heat Strengthened Glass: Positive 80 psf (3.83 kPa), negative 90 psf (4.31 kPa).
        3. Type: 5/16 inch (7.9 mm) laminated.

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

* + - * 1. Type: 3/4 inch (19 mm) insulated laminated.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Gray.

Color: Clear.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

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

* + - 1. Finish: Powder Coating (AAMA 2603): White.
      2. Finish: Powder Coating (AAMA 2603): Bronze.
      3. Finish: Clear Anodized, NAAMM AA-C2241, 215R1, Class 1, minimum 0.7 mils, in natural aluminum color.
      4. Construction: Extruded aluminum-alloy sections, precision cut and assembled with hairline joints.
      5. Corner Construction: Assemble with hairline joints, made rigid by fasteners with 3 No. 10 stainless steel screws per corner.
      6. Hardware: Factory applied, and field adjusted.
         1. Self-Closing Egress locks, spring loaded, one per operable panel.
         2. Single roller system consisting of nylon housing each containing one 3/4 inch (19 mm) diameter nylon wheels with stainless steel raceways on stainless steel axels. Each operable panel to have 2 housings, 2 wheels total. Wheels run on PVC track insert.
      7. Included Options:

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

* + - * 1. Sash interlock rail mounted sweep lock.
        2. Flange frame.
        3. Fin frame.
        4. Equal leg frame.

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

* + - * 1. Muntins, Extruded Aluminum: Low profile exterior and/or interior.
        2. Muntins, Extruded Aluminum: Semi-contoured; exterior only with low profile.
        3. Muntins: Grids inside insulated glass.
    1. Basis of Design: Sentinel Collection, 130 Series Fixed Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements: Maximum Water Resistance: 12 psf (0.57 kPa).
       2. Window Configuration:

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

* + - * 1. Shape: Rectangle.
        2. Shape: Half circle.
        3. Shape: Arch top or eyebrow.
        4. Shape: Full circle.
        5. Shape: Octagon.
        6. Shape: Hexagon.
        7. Shape: Chord.
        8. Shape: Tombstone.
        9. Shape: Trapezoid.
        10. Shape: Pentagon.
        11. Shape: Gothic pentagon.

\*\* NOTE TO SPECIFIER \*\* Minimum width is 10.5 inches, maximum width is 61 inches, maximum area is 33 square feet. Delete options not required.

* + - * 1. Width: 10.5 inches (267 mm).
        2. Width: 61 inches (1549 mm).
        3. Width: \_\_\_\_\_.
        4. Width: As indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Minimum height is 17.5 inches, maximum height is 121 inches, maximum area is 33 square feet. Delete options not required.

* + - * 1. Height: 17.5 inches (444 mm).
        2. Height: 121 inches (3073 mm).
        3. Height: \_\_\_\_\_.
        4. Height: As indicated on Drawings.
      1. Window Features:
         1. Frame: 2-1/2 inches (64 mm) deep.
         2. Fasteners: 2 stainless steel fasteners per corner.
         3. Glazing Beads: Extruded snap-on square.
         4. Strong structural glazing.
         5. Fastener covers.
      2. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete glazing, type and color options not required.

* + - * 1. Large Missile Rating, Annealed Glass: Positive 60 psf (2.87 kPa), negative 60 psf (2.87 kPa).
        2. Large Missile Rating, Heat Strengthened Glass: Positive 80 psf (3.83 kPa), negative 80 psf (3.83 kPa).
        3. Type: 7/16 inch (11 mm) laminated.

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

* + - * 1. Type: 1 inch (25 mm) insulated laminated.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Gray.

Color: Clear.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

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

* + - 1. Finish: Powder Coating per AAMA 2603: Color: White.
      2. Finish: Powder Coating per AAMA 2603: Color: Bronze.
      3. Finish: Clear Anodized, NAAMM AA-C2241, 215R1, Class 1, minimum 0.7 mils, in natural aluminum color.
      4. Included Options:

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

* + - * 1. Flange frame.
        2. Fin frame.
        3. Equal leg frame.

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

* + - * 1. Muntins, Extruded Aluminum: Low profile exterior and/or interior.
        2. Muntins, Extruded Aluminum: Semi-contoured; exterior only with low profile.
        3. Muntins: Grids inside insulated glass.
    1. Basis of Design: Sentinel Collection, 238SN Series Casement Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Maximum Water Resistance: 16.5 psf (0.79 kPa).
          2. Forced Entry Test per AAMA 1302.5: Passed.
       2. Window Size:

\*\* NOTE TO SPECIFIER \*\* Maximum area is 16.34 square feet. Delete size options not required.

* + - * 1. Width: 18 inches (457 mm).
        2. Width: 19-1/8 inches (486 mm).
        3. Width: 20 inches (508 mm).
        4. Width: 24 inches (620 mm).
        5. Width: 26-1/2 inches (673 mm).
        6. Width: 28 inches (711 mm).
        7. Width: 30 inches (762 mm).
        8. Width: 32 inches (823 mm).
        9. Width: 36 inches (914 mm).
        10. Width: 37 inches (940 mm).
        11. Width: \_\_\_\_\_.
        12. Width: As indicated on Drawings.
        13. Height: 17 inches (432 mm).
        14. Height: 24 inches (620 mm).
        15. Height: 26 inches (660 mm).
        16. Height: 30 inches (762 mm).
        17. Height: 36 inches (914 mm).
        18. Height: 38-3/8 inches (975 mm).
        19. Height: 42 inches (1067 mm).
        20. Height: 48 inches (1219 mm).
        21. Height: 50-3/8 inches (1280 mm).
        22. Height: 54 inches (1372 mm).
        23. Height: 60 inches (1524 mm).
        24. Height: 63 inches (1600 mm).
        25. Height: 66 inches (1676 mm).
        26. Height: 72 inches (1829 mm).
        27. Height: 78 inches (1981 mm).
        28. Height: 84 inches (2134 mm).
        29. Height: \_\_\_\_\_.
        30. Height: As indicated on Drawings.
      1. Window Features:
         1. Screen: Extruded frame with Super-View screen fiberglass mesh.
         2. Frame: 2 inches (51 mm) deep.
         3. Glazing Beads: Extruded snap-on.
         4. Stainless steel assembly screws and corner keys.
         5. Double weatherstripping.
         6. Exterior flange frame, 1/2 inch (13 mm).
      2. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete glazing, type, and color options not required.

* + - * 1. Large Missile Rating, 20 x 26 inch Window: Positive 110 psf (5.27 kPa), negative 194.3 psf (9.30 kPa).
        2. Large Missile Rating, 37 x 63 inch Window: Positive 60 psf (2.87 kPa), negative 60 psf (2.87 kPa).
        3. Type: 5/16 inch (7.9 mm) laminated.

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

* + - * 1. Type: 3/4 inch (19 mm) insulated laminated.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Gray.

Color: Clear.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

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

* + - 1. Finish: Powder Coating per AAMA 2603: Color: White.
      2. Finish: Powder Coating per AAMA 2603: Color: Bronze.
      3. Finish: Clear Anodized, NAAMM AA-C2241, 215R1, Class 1, minimum 0.7 mils, in natural aluminum color.
      4. Construction: Heavy extruded aluminum-alloy sections, precision cut and assembled with sealed, mitered hairline joints and no visible fasteners when vents are closed. Provide grooves in extrusions to receive double weather stripping between vents and frames.
      5. Member wall thickness:
         1. Frames: At least 0.080 inch (2.3 mm).
         2. Vents: At least 0.090 inch (2.9 mm).
      6. Frame Depth: At least 2.075 inches (53 mm).
      7. Corner Construction:
         1. At Casement Window Frames and Vents: Assemble with sealed mitered, hairline joint, made rigid by fastening with No. 10 stainless steel screws.
         2. At Frames: 4 stainless steel corner keys and 4 aluminum corner keys.
         3. At Vents: 4 stainless steel corner keys.
      8. Hardware:
         1. Operator: Single arm Stainless steel roto operator and nesting crank handle.
         2. Track: Stainless steel operator track.
         3. Hinges: Pair, stainless steel 4 bar concealed hinges.
         4. Locks: Pair of locks.
         5. Keepers: Pair of stainless-steel keepers.
         6. Snubber blocks.

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

* + - * 1. Hardware Finish: Multi -coat baked enamel. Color: White.
        2. Hardware Finish: Multi -coat baked enamel. Color: Bronze.
        3. Hardware Finish: Multi -coat baked enamel. Color: Silver.
      1. Included Options:

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

* + - * 1. Connecting lock bar for egress windows.
        2. Keyed Limit opening devices.
        3. Non-keyed Limit opening devices.
        4. Hinges with washability feature. For window sizes 24 inches (610 mm) wide and above.
        5. Custodial type locks, for institutional use.
        6. Equal leg frames.

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

* + - * 1. Muntins, Extruded Aluminum: Low profile exterior and/or interior.
        2. Muntins, Extruded Aluminum: Semi-contoured; exterior only with low profile.
        3. Muntins: Grids inside insulated glass.
    1. Basis of Design: Sentinel Collection, 238SN Series Project Out Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Maximum Water Resistance: 16.5 psf (0.79 kPa).
          2. Forced Entry Test per AAMA 1302.5: Passed.
       2. Window Size:

\*\* NOTE TO SPECIFIER \*\* Maximum area is 16.34 square feet. Delete size options not required.

* + - * 1. Width: 18 inches (457 mm).
        2. Width: 19-1/8 inches (486 mm).
        3. Width: 20 inches (508 mm).
        4. Width: 24 inches (620 mm).
        5. Width: 26-1/2 inches (673 mm).
        6. Width: 28 inches (711 mm).
        7. Width: 30 inches (762 mm).
        8. Width: 32 inches (823 mm).
        9. Width: 36 inches (914 mm).
        10. Width: 37 inches (940 mm).
        11. Width: 40 inches (1016 mm).
        12. Width: 42 inches (1067 mm).
        13. Width: 48 inches (1219 mm).
        14. Width: 53-1/8 inches (1349 mm).
        15. Width: 54 inches (1372 mm).
        16. Width: 60 inches (1524 mm).
        17. Width: 66 inches (1676 mm).
        18. Width: 72 inches (1829 mm).
        19. Width: \_\_\_\_\_.
        20. Width: As indicated on Drawings.
        21. Height: 17 inches (432 mm).
        22. Height: 24 inches (620 mm).
        23. Height: 26 inches (660 mm).
        24. Height: 30 inches (762 mm).
        25. Height: 36 inches (914 mm).
        26. Height: 38-3/8 inches (975 mm).
        27. Height: 42 inches (1067 mm).
        28. Height: 48 inches (1219 mm).
        29. Height: 50-3/8 inches (1280 mm).
        30. Height: 54 inches (1372 mm).
        31. Height: 60 inches (1524 mm).
        32. Height: 63 inches (1600 mm).
        33. Height: 66 inches (1676 mm).
        34. Height: 72 inches (1829 mm).
        35. Height: 84 inches (2134 mm).
        36. Height: \_\_\_\_\_.
        37. Height: As indicated on Drawings.
      1. Window Features:
         1. Screen: Extruded frame with Super-View screen fiberglass mesh.
         2. Frame: 2 inches (51 mm) deep.
         3. Glazing Beads: Extruded snap-on, contemporary square profile.
         4. Stainless steel assembly screws and corner keys.
         5. Double continuous rows of weatherstripping, one row of Schlegel Q-Lon and another row of Aptus.
         6. Exterior flange frame, 1/2 inch (13 mm).
      2. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete type and glazing options not required.

* + - * 1. Large Missile Rating, 24 x 36 inch Window: Positive 110 psf (5.27 kPa), negative 161.9 psf (7.75 kPa).
        2. Large Missile Rating, 37 x 63 inch Window: Positive 60 psf (2.87 kPa), negative 60 psf (2.87 kPa).
        3. Type: 5/16 inch (7.9 mm) laminated.

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

* + - * 1. Type: 3/4 inch (19 mm) insulated laminated.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Gray.

Color: Clear.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

Heat Strengthened or Tempered as noted.

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

* + - 1. Finish: Powder Coating per AAMA 2603: Color: White.
      2. Finish: Powder Coating per AAMA 2603: Color: Bronze.
      3. Finish: Clear Anodized, NAAMM AA-C2241, 215R1, Class 1, minimum 0.7 mils, in natural aluminum color.
      4. Construction: Heavy extruded aluminum-alloy sections, precision cut and assembled with sealed, mitered hairline joints and no visible fasteners when vents are closed. Provide grooves in extrusions to receive double weather stripping between vents and frames.
      5. Member Wall Thickness:
         1. Frames: At least 0.080 inch (2.3 mm).
         2. Vents: At least 0.090 inch (2.9 mm).
      6. Frame Depth: At least 2.075 inches (53 mm).
      7. Corner Construction:
         1. At Casement Window Frames and Vents: Assemble with sealed mitered, hairline joint, made rigid by fastening with No. 10 stainless steel screws.
         2. At Frames: 4 stainless steel corner keys and 4 aluminum corner keys.
         3. At Vents: 4 stainless steel corner keys.
      8. Hardware:
         1. Operator: Dual arm stainless steel roto operator and crank handle.
         2. Track: Stainless steel operator track.
         3. Hinges: Pair, stainless steel 4 bar concealed hinges.
         4. Locks: Pair of locks.
         5. Lock Keepers: Pair of stainless steel lock keepers.

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

* + - * 1. Hardware Finish: Multi-coat baked enamel. Color: White.
        2. Hardware Finish: Multi-coat baked enamel. Color: Bronze.
        3. Hardware Finish: Multi-coat baked enamel. Color: Silver.
        4. Snubber blocks.
      1. Included Options:

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

* + - * 1. Limit opening devices.
        2. Custodial type locks, for institutional use.
        3. Equal leg frames.
        4. Collapsible cranks.

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

* + - * 1. Muntins, Extruded Aluminum: Low profile exterior and/or interior.
        2. Muntins, Extruded Aluminum: Semi-contoured; exterior only with low profile.
        3. Muntins: Grids inside insulated glass.
    1. Basis of Design: Sparta Collection, SH4100A Series Single Hung Windows; as manufactured by CGI Windows and Doors.
       1. Window Size:

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

* + - * 1. Width: 19-1/8 inches (486 mm).
        2. Width: 24 inches (620 mm).
        3. Width: 26-1/2 inches (673 mm).
        4. Width: 32 inches (823 mm).
        5. Width: 37 inches (940 mm).
        6. Width: 40 inches (1016 mm).
        7. Width: 44 inches (1118 mm).
        8. Width: 48 inches (1219 mm).
        9. Width: 53-1/8 inches (1349 mm).
        10. Width: As indicated on Drawings.
        11. Height: 26 inches (660 mm).
        12. Height: 38-3/8 inches (975 mm).
        13. Height: 50-3/8 inches (1280 mm).
        14. Height: 63 inches (1600 mm).
        15. Height: 76 inches (1930 mm).
        16. Height: \_\_\_\_\_.
        17. Height: As indicated on Drawings.
      1. Window Features:
         1. Frame: 2 inches (51 mm) deep.
         2. Flange: 1/2 inch (13 mm) front flange.
         3. Florida Product Approval HVHZ.
         4. Stainless steel assembly screws.
         5. Block and tackle balances.
         6. Gasket seals at frame corners.
      2. Glazing:
         1. Design Pressure: Positive 55 psf (2.63 kPa), negative 65 psf (3.11 kPa).
         2. Type: 5/16 inch (7.9 mm) laminated.

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

Color: Clear.

Color: Gray.

Color: Bronze.

Color: Mist, Pattern 62.

Color: Clear with Energy Shield.

Color: Gray with Energy Shield.

Color: Bronze with Energy Shield.

Color: Mist with Energy Shield.

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

* + - 1. Finish: Powder Coating per AAMA 2603. Color: White.
      2. Finish: Powder Coating per AAMA 2603. Color: Bronze.
      3. Construction: Extruded aluminum-alloy sections, precision cut and assembled with hairline joints.
      4. Corner Construction: Assemble with hairline joints.
      5. Hardware: CGI sweep lock.

\*\* NOTE TO SPECIFIER \*\* Delete hardware color option not required.

* + - 1. Hardware Color: White.
      2. Hardware Color: Bronze.
      3. Balance Type: Block and tackle. Two per sash/vent.
    1. Basis of Design: Sparta Collection, HR4110A Series Horizontal Rolling Windows; as manufactured by CGI Windows and Doors.
       1. Window Configuration:

\*\* NOTE TO SPECIFIER \*\* Delete configuration and size options not required.

* + - * 1. Panel Configuration: XO.
        2. Panel Configuration: OX.
        3. Panel Configuration: XOX; 1/3-1/3-1/3.
        4. Panel Configuration: XOX; 1/4-1/2-1/4.
        5. Width: 24 inches (620 mm).
        6. Width: 26-1/2 inches (673 mm).
        7. Width: 36 inches (914 mm).
        8. Width: 37 inches (940 mm).
        9. Width: 48 inches (1219 mm).
        10. Width: 53-1/8 inches (1349 mm).
        11. Width: 54 inches (1372 mm).
        12. Width: 60 inches (1524 mm).
        13. Width: 66 inches (1676 mm).
        14. Width: 72 inches (1829 mm).
        15. Width: 74 inches (1880 mm).
        16. Width: \_\_\_\_\_.
        17. Width: As indicated on Drawings.
        18. Height: 24 inches (620 mm).
        19. Height: 26 inches (660 mm).
        20. Height: 36 inches (914 mm).
        21. Height: 38-3/8 inches (975 mm).
        22. Height: 48 inches (1219 mm).
        23. Height: 50-5/8 inches (1286 mm).
        24. Height: 60 inches (1524 mm).
        25. Height: 63 inches (1600 mm).
        26. Height: \_\_\_\_\_.
        27. Height: As indicated on Drawings.
      1. Window Features:
         1. Frame: 2 inches (51 mm) deep.
         2. Flange: 1/2 inch (13 mm) front flange.
         3. Rollers: Brass.
         4. Florida Product Approval HVHZ.
         5. Stainless steel assembly screws.
         6. Gasket seals at frame corners.
         7. Standard weep covers.
      2. Glazing:

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

* + - * 1. Design Pressure: Positive 55 psf (2.63 kPa), negative 65 psf (3.11 kPa).
        2. Type: 5/16 inch (7.9 mm) laminated.

Color: Clear.

Color: Gray.

Color: Bronze.

Color: Mist, Pattern 62.

Color: Clear with Energy Shield.

Color: Gray with Energy Shield.

Color: Bronze with Energy Shield.

Color: Mist with Energy Shield.

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

* + - 1. Finish: Powder Coating per AAMA 2603. Color: White.
      2. Finish: Powder Coating per AAMA 2603. Color: Bronze.
      3. Construction: Extruded aluminum-alloy sections, precision cut and assembled with hairline joints.
      4. Brass Rollers: Two per operable sash/vent.
    1. Basis of Design: Sparta Collection, PW/AR4120A Series Picture Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Maximum Water Resistance: 12 psf (0.57 kPa).
       2. Window Configuration:

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

* + - * 1. Shape: Rectangle.
        2. Shape: Half circle.
        3. Shape: Eyebrow.
        4. Shape: Half eyebrow.
        5. Shape: Arch.
        6. Shape: Trapezoid.

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

* + - * 1. Width: \_\_\_\_\_.
        2. Width: As indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Minimum height is 17.5 inches, maximum height is 121 inches, maximum area is 33 square feet. Delete height options not required.

* + - * 1. Height: 17.5 inches (444 mm).
        2. Height: 121 inches (3073 mm).
        3. Height: \_\_\_\_\_.
        4. Height: As indicated on Drawings.
      1. Window Features:
         1. Frame: 2 inches (51 mm) deep.
         2. Flange: 1/2 inch (13 mm) front flange.
         3. Florida Product Approval HVHZ.
         4. Stainless steel assembly screws.
         5. Silicone-sealed corners.
      2. Glazing:
         1. Design Pressure: Positive 55 psf (2.63 kPa), negative 65 psf (3.11 kPa).
         2. Type: 7/16 inch (11 mm) laminated.

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

Color: Clear.

Color: Gray.

Color: Bronze.

Color: Mist, Pattern 62.

Color: Clear with Energy Shield.

Color: Gray with Energy Shield.

Color: Bronze with Energy Shield.

Color: Mist with Energy Shield.

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

* + - 1. Finish: Powder Coating per AAMA 2603. Color: White.
      2. Finish: Powder Coating per AAMA 2603. Color: Bronze.
      3. Construction: Extruded aluminum-alloy sections, precision cut and assembled with hairline joints.

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

* 1. VINYL WINDOWS

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

* + 1. Basis of Design: Targa Collection, 7100 Series Single Hung Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Maximum Water Resistance: 9 psf (0.43 kPa).
          2. Forced Entry Test per ASTM F588: Passed.
       2. Window Size:

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

* + - * 1. Width: 19-1/8 inches (486 mm).
        2. Width: 24 inches (620 mm).
        3. Width: 26-1/2 inches (673 mm).
        4. Width: 32 inches (823 mm).
        5. Width: 37 inches (940 mm).
        6. Width: 40 inches (1016 mm).
        7. Width: 44 inches (1118 mm).
        8. Width: 48 inches (1219 mm).
        9. Width: 53-1/8 inches (1349 mm).
        10. Width: As indicated on Drawings.
        11. Height: 26 inches (660 mm).
        12. Height: 38-3/8 inches (975 mm).
        13. Height: 50-3/8 inches (1280 mm).
        14. Height: 63 inches (1600 mm).
        15. Height: 76 inches (1930 mm).
        16. Height: As indicated on Drawings.
      1. Window Features:
         1. Flange: 1/2 inch (13 mm).
         2. Frame Depth: 3-1/4 inches (83 mm).
         3. Jamb: Aluminum reinforced.
         4. Sill: Sloped.
         5. Capture-lock sash system.
         6. Lift assist, constant force balance system.
         7. Glazing Beads: Snap-on.
         8. Strong structural glazing.
         9. No installation fasteners required in head or sill.
         10. Aluminum reinforced sash.
         11. Screen: Extruded frame with Super-View screen fiberglass mesh.
         12. Stainless steel assembly screws.
      2. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete glazing, type, and color options not required.

* + - * 1. Large Missile Rating, Annealed Glass: Positive 60 psf (2.87 kPa), negative 60 psf (2.87 kPa).
        2. Large Missile Rating, Heat Strengthened Glass: Positive 70 psf (3.35 kPa), negative 75 psf (3.59 kPa).
        3. Type: 7/16 inch (11 mm) laminated.

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer.

Color: Mist, Pattern 62; Obscure.

Color: Rain.

* + - * 1. Type: 1 inch (25 mm) insulated laminated.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Gray.

Color: Clear.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

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

* + - 1. Finish: White Vinyl.
      2. Finish: Two-tone Bronze paint exterior, White Vinyl interior.
      3. Construction: Sections and fabricated assemblies to be straight, true and smooth. Vinyl frames and sashes to be multi-chambered, Pharmaceutical grade extruded vinyl, miter cut, butt joined and fusion welded.
      4. Hardware:
         1. Snap lock, spring loaded, 4 inches (102 mm) long. Limit maximum load to plus or minus 60 psf (2.873 kPa).
         2. Sweep locks and keepers.
         3. Flush Tilt Latches; two per vent/sash.

\*\* NOTE TO SPECIFIER \*\* Delete hardware color option not required.

* + - 1. Hardware Color: White.
      2. Hardware Color: Bronze.

\*\* NOTE TO SPECIFIER \*\* Delete balances type option not required.

* + - 1. Balances Type: Constant Force, two per vent/sash.
      2. Balances Type: Ultralift Spiral, two per vent/sash.
      3. Included Options:

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

* + - * 1. Flange frame.
        2. Fin frame.
        3. Equal leg; flush/box frame.
        4. Low Profile Contoured 1 inch (25 mm) Muntins at exterior and Low Profile at interior.
        5. Integral grids between glass; at insulated laminated.
    1. Basis of Design: Targa Collection, 7200 Series Horizontal Rolling Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Maximum Water Resistance: 9 psf (0.43 kPa).
          2. Forced Entry Test per ASTM F588: Passed.

\*\* NOTE TO SPECIFIER \*\* Delete configuration and size options not required.

* + - 1. Window Configuration: 2 Panels:
         1. Panel Configuration: XO, equal panels.
         2. Panel Configuration: XO, unequal panels.
         3. Panel Configuration: OX, equal panels.
         4. Panel Configuration: OX, unequal panels.
         5. Width: 26-1/2 inches (673 mm).
         6. Width: 36 inches (914 mm).
         7. Width: 37 inches (940 mm).
         8. Width: 48 inches (1219 mm).
         9. Width: 53-1/8 inches (1349 mm).
         10. Width: 54 inches (1372 mm).
         11. Width: 60 inches (1524 mm).
         12. Width: 66 inches (1676 mm).
         13. Width: 72 inches (1829 mm).
         14. Width: 74 inches (1880 mm).
         15. Width: As indicated on Drawings.
      2. Window Configuration: 3 Panels:
         1. Panel Configuration: XOX, equal panels.
         2. Panel Configuration: XOX, unequal panels.
         3. Width: 48 inches (1219 mm).
         4. Width: 53-1/8 inches (1349 mm).
         5. Width: 60 inches (1524 mm).
         6. Width: 72 inches (1829 mm).
         7. Width: 74 inches (1880 mm).
         8. Width: 84 inches (2134 mm).
         9. Width: 96 inches (2438 mm).
         10. Width: 106-3/8 inches (2702 mm).
         11. Width: 108 inches (2743 mm).
         12. Width: 111 inches (2819 mm).
         13. Width: As indicated on Drawings.

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

* + - 1. Height: 26 inches (660 mm).
      2. Height: 38-3/8 inches (975 mm).
      3. Height: 50-3/8 inches (1280 mm).
      4. Height: 54 inches (1372 mm).
      5. Height: 63 inches (1600 mm).
      6. Height: As indicated on Drawings.
      7. Window Features:
         1. Flange: 1/2 inch (13 mm).
         2. Frame Depth: 3-1/4 inches (83 mm).
         3. Glazing Beads: Snap-on.
         4. Strong structural glazing.
         5. Concealed installation fasteners.
         6. Aluminum reinforced sash.
         7. Screen: Extruded frame with Super-View screen fiberglass mesh.
         8. Capture-lock sash system.
      8. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete glazing, type and color options not required.

* + - * 1. Large Missile Rating, Annealed Glass: Positive 60 psf (2.87 kPa), negative 60 psf (2.87 kPa).
        2. Large Missile Rating, Heat Strengthened Glass: Positive 70 psf (3.35 kPa), negative 75 psf (3.59 kPa).
        3. Type: 7/16 inch (11 mm) laminated.

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

* + - * 1. Type: 1 inch (25 mm) insulated laminated.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Gray.

Color: Clear.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

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

* + - 1. Finish: White Vinyl.
      2. Finish: Two-tone Bronze paint exterior, White Vinyl interior.
      3. Construction: Sections and fabricated assemblies to be straight, true and smooth. Vinyl frames and sashes to be multi-chambered, Pharmaceutical grade extruded vinyl, miter cut, butt joined and fusion welded.
      4. Hardware:
         1. Snap lock: Spring loaded to 60 psf (2.87 kPa) maximum. 4 inches (102 mm) long.
         2. Sweep locks and keepers.

\*\* NOTE TO SPECIFIER \*\* Delete hardware color option not required.

* + - 1. Hardware Color: White.
      2. Hardware color: Bronze.
      3. Sash/vent Rollers: Dual, nylon/stainless steel.
      4. Included Options:

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

* + - * 1. Flange frame.
        2. Fin frame.
        3. Equal leg; flush/box frame.
        4. Low Profile Contoured 1 inch (25 mm) Muntins at exterior and Low Profile at interior.
        5. Integral grids between glass; at insulated laminated.
    1. Basis of Design: Targa Collection, 7300 Series Casement Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Maximum Water Resistance: 9 psf (0.43 kPa).
          2. Forced Entry Test (ASTM F588): Passed.
       2. Window Size:

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

* + - * 1. Width: 19-1/8 inches (486 mm).
        2. Width: 24 inches (620 mm).
        3. Width: 26-1/2 inches (673 mm).
        4. Width: 28 inches (711 mm).
        5. Width: 32 inches (823 mm).
        6. Width: 37 inches (940 mm).
        7. Width: As indicated on Drawings.
        8. Height: 26 inches (660 mm).
        9. Height: 38 inches (965 mm).
        10. Height: 38-3/8 inches (975 mm).
        11. Height: 50-3/8 inches (1280 mm).
        12. Height: 51 inches (1295 mm).
        13. Height: 55 inches (1397 mm).
        14. Height: 63 inches (1600 mm).
        15. Height: 76 inches (1930 mm).
        16. Height: As indicated on Drawings.
      1. Window Features:
         1. Flange: 1/2 inch (13 mm).
         2. Frame Depth: 3-1/4 inches (83 mm).
         3. Glazing Beads: Snap-on.
         4. Triple weatherstripping.
         5. Strong structural glazing.
         6. Aluminum reinforced frames and sash.
         7. Screen: Extruded frame with Super-View screen fiberglass mesh.
      2. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete glazing, type, and color options not required.

* + - * 1. Large Missile Rating, Annealed Glass: Positive 60 psf (2.87 kPa), negative 60 psf (2.87 kPa).
        2. Large Missile Rating, Heat Strengthened Glass: Positive 70 psf (3.35 kPa), negative 70 psf (3.35 kPa).
        3. Type: 7/16 inch (11 mm) laminated.

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

* + - * 1. Type: 1 inch (25 mm) insulated laminated.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Gray.

Color: Clear.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

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

* + - 1. Finish: White Vinyl.
      2. Finish: Two-tone Bronze paint exterior, White Vinyl interior.
      3. Construction: Sections and fabricated assemblies to be straight, true and smooth. Vinyl frames and sashes to be multi-chambered, Pharmaceutical grade extruded vinyl, miter cut, butt joined and fusion welded.
      4. Hardware:
         1. Operator: Stainless steel arm operator and nesting crank handle.
         2. Track: Stainless steel operator track.
         3. Hinges: Pair, stainless steel concealed hinges with washability features.
         4. Multipoint lock system with single locking handle.
         5. Stainless steel keepers.
         6. Aluminum super-snubber blocks.
      5. Included Options:

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

* + - * 1. Limit opening devices.
        2. Flange frame.
        3. Fin frame.
        4. Equal leg; flush/box frame.
        5. Low Profile Contoured 1 inch (25 mm) Muntins at exterior and Low Profile at interior.
        6. Integral grids between glass; at insulated laminated.
    1. Basis of Design: Targa Collection, 7400 Series Project Out Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Maximum Water Resistance: 9 psf (0.43 kPa).
          2. Forced Entry Test per ASTM F588: Passed.
       2. Window Size:

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

* + - * 1. Width: 19-1/8 inches (486 mm).
        2. Width: 20 inches (508 mm).
        3. Width: 24 inches (620 mm).
        4. Width: 26-1/2 inches (673 mm).
        5. Width: 28 inches (711 mm).
        6. Width: 30 inches (762 mm).
        7. Width: 32 inches (823 mm).
        8. Width: 36 inches (914 mm).
        9. Width: 37 inches (940 mm).
        10. Width: 40 inches (1016 mm).
        11. Width: 42 inches (1067 mm).
        12. Width: 48 inches (1219 mm).
        13. Width: 53-1/8 inches (1349 mm).
        14. Width: As indicated on Drawings.
        15. Height: 17 inches (432 mm).
        16. Height: 24 inches (620 mm).
        17. Height: 26 inches (660 mm).
        18. Height: 30 inches (762 mm).
        19. Height: 36 inches (914 mm).
        20. Height: 38-3/8 inches (975 mm).
        21. Height: 42 inches (1067 mm).
        22. Height: 48 inches (1219 mm).
        23. Height: 50-3/8 inches (1280 mm).
        24. Height: As indicated on Drawings.
      1. Window Features:
         1. Flange: 1/2 inch (13 mm).
         2. Frame Depth: 3-1/4 inches (83 mm).
         3. Glazing Beads: Snap-on.
         4. Triple weatherstripping.
         5. Strong structural glazing.
         6. Aluminum reinforced frames and sash.
         7. Screen: Extruded frame with Super-View screen fiberglass mesh.
      2. Glazing:

\*\* NOTE TO SPECIFIER \*\* Delete glazing, type, and color options not required.

* + - * 1. Large Missile Rating, Annealed Glass: Positive 60 psf (2.87 kPa), negative 60 psf (2.87 kPa).
        2. Large Missile Rating, Heat Strengthened Glass: Positive 75 psf (3.59 kPa), negative 75 psf (3.59 kPa).
        3. Type: 7/16 inch (11 mm) laminated.

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

* + - * 1. Type: 1 inch (25 mm) insulated laminated.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Gray.

Color: Clear.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

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

* + - 1. Finish: White Vinyl.
      2. Finish: Two-tone Bronze paint exterior, White Vinyl interior.
      3. Construction: Sections and fabricated assemblies to be straight, true and smooth. Vinyl frames and sashes to be multi-chambered, Pharmaceutical grade extruded vinyl, miter cut, butt joined and fusion welded.
      4. Hardware:
         1. Operator: Stainless steel arm operator and nesting crank handle.
         2. Track: Stainless steel operator track.
         3. Hinges: Pair, stainless steel concealed hinges.
         4. Multipoint lock system with single locking handle.
         5. Stainless steel keepers.
         6. Aluminum super-snubber blocks.
      5. Included Options:

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

* + - * 1. Flange frame.
        2. Fin frame.
        3. Equal leg; flush/box frame.
        4. Low Profile Contoured 1 inch (25 mm) Muntins at exterior and Low Profile at interior.
        5. Integral grids between glass; at insulated laminated.
    1. Basis of Design: Targa Collection, 7500 Series Fixed Windows; as manufactured by CGI Windows and Doors.
       1. Performance Requirements:
          1. Maximum Water Resistance: 12 psf (0.57 kPa).
          2. Forced Entry Test per ASTM F588: Passed.
       2. Window Configuration:

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

* + - * 1. Shape: Rectangular.
        2. Shape: Half circle.
        3. Shape: Arch top or eyebrow.
        4. Shape: Full circle.
        5. Shape: Octagon.
        6. Shape: Hexagon.
        7. Shape: Chord.
        8. Shape: Tombstone.
        9. Shape: Pentagon.
        10. Shape: Gothic pentagon.
        11. Shape: Trapezoid.

\*\* NOTE TO SPECIFIER \*\* Minimum width is 19-1/8 inches, maximum width is 120 inches. Maximum area is 32 square feet. Delete options not required.

* + - * 1. Width: 19-1/8 inches (486 mm).
        2. Width: 120 inches (3048 mm).
        3. Width: \_\_\_\_\_.
        4. Width: As indicated on Drawings.

\*\* NOTE TO SPECIFIER \*\* Minimum height is 19-1/8 inches, maximum height is 120 inches. Maximum area is 32 square feet. Delete options not required.

* + - * 1. Height: 19-1/8 inches (486 mm).
        2. Height: 120 inches (3048 mm).
        3. Height: \_\_\_\_\_.
        4. Height: As indicated on Drawings.
      1. Window Features:
         1. Flange: 1/2 inch (13 mm).
         2. Frame Depth: 3-1/4 inches (83 mm).
         3. Glazing Beads: Snap-on.
         4. Strong structural glazing.
         5. Concealed installation fasteners.
      2. Glazing:
         1. Large Missile Rating, Annealed Glass: Positive 50 psf (2.39 kPa), negative 50 psf (2.39 kPa).

\*\* NOTE TO SPECIFIER \*\* Delete type and color options not required.

* + - * 1. Type: 7/16 inch (11 mm) laminated.

Color: Gray.

Color: Clear.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

* + - * 1. Type: 1 inch (25 mm) insulated laminated.

Color: Clear with High performance LoE 366; coating on No. 2 surface.

Color: Clear with High performance LoE 270; coating on No. 2 surface.

Color: Gray.

Color: Clear.

Color: Dark Gray, Turtle Code.

Color: Bronze.

Color: Solexia Green.

Color: White Interlayer; Obscure.

Color: Mist, Pattern 62.

Color: Rain.

Heat Strengthened glass as required.

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

* + - 1. Finish: White.
      2. Finish: Two-tone painted Bronze exterior, White interior.
      3. Included Options:

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

* + - * 1. Flange frame.
        2. Fin frame.
        3. Equal leg; flush/box frame.
        4. Low Profile Contoured 1 inch (25 mm) Muntins at exterior and Low Profile at interior.
        5. Integral grids between glass; at insulated laminated.

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. Perform cutting, fitting, forming, drilling, and grinding of frames, without damage to finish, as needed to fit project conditions and make watertight. Replace components with damage to exposed finishes.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions approved submittals and in proper relationship with adjacent construction.
      2. Attach window frame and shims to perimeter blocking at openings to accommodate construction tolerances and other irregularities. Maintain integrity of air barriers and vapor retarder sheets.
      3. Align windows plumb and level, free of warp or twist.
      4. Adjust vents to close snugly and put in smooth operating order.
      5. Where aluminum surfaces contact alkaline substrates such as concrete or mortar, and metals other than stainless steel or zinc, protect from direct contact by painting reactive substrate and dissimilar metals with a heavy coating of bituminous paint in the field.
   4. 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