SECTION 05 52 00

ALUMINUM RAILING

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\*\* NOTE TO SPECIFIER \*\* Feeney Inc. (CableRail, DesignRail®); aluminum railing systems products.  
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This section is based on the products of

[ [Click Here](https://arcat.com/company/feeney-inc-cablerail-designrail-38341) ] for additional information.  
Since 1948, Feeney has been manufacturing and supplying specialty building products for design and construction professionals. Our years of experience supplying thousands of projects worldwide have given us the insight and expertise to develop a diverse and innovative line of the highest quality architectural products.  
  
Feeney, Inc. is a leading manufacturer of high quality architectural products that enhance the spaces where people live, work and play. Feeney residential and commercial products for exterior and interior applications include CableRail stainless steel cable assemblies, Quick-Connect� auto-locking cable fittings, DesignRail� aluminum railing systems with optional LED lighting, DesignRail� Panel Infill, stainless steel Architectural Rods, Awning Kits and the Trellis Collection of garden trellises. This specification includes DesignRail� aluminum railing systems. These pre-engineered, component-based systems combine the strength, durability, low maintenance and environmental integrity of aluminum with the innovative design details that ensure structural reliability, affordability and lasting beauty. Made from high strength 6000-series aluminum extrusions that can be efficiently assembled on site using pre-engineered components that snap and screw together. Available in a variety of styles and colors with tough AAMA-2604 ColorEasy powder-coated finishes as well as a variety of panel infill options including Vertical CableRail, Horizontal CableRail, Aluminum Pickets, Tempered Glass, Resin, Stainless Steel Mesh, Laser-Cut Aluminum. Our products can qualify for LEED: recycled content.

1. GENERAL
   1. SECTION INCLUDES

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

* + 1. Extruded aluminum railing system frame with aluminum picket infill.
    2. Extruded aluminum railing system frame with tempered glass infill.
    3. Extruded aluminum railing system frame with cable infill.
    4. Extruded aluminum railing system frame with resin panel infill.
    5. Extruded aluminum railing system frame with stainless steel wire mesh panel infill
    6. Extruded aluminum railing system frame with laser-cut aluminum panel infill
  1. RELATED SECTIONS

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

* + 1. Section 03 30 00 - Cast-In-Place Concrete: Requirements for placement of anchors or sleeves in concrete.
    2. Section 04 40 00 - Unit Masonry.
    3. Section 06 20 00 - Finish Carpentry: Wood posts, handrails and footrails.
    4. Section 06 43 13 - Wood Stairs and Railings.
  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 A 492 - Specification for Stainless Steel Rope Wire.
    2. ASTM B 221 (ASTM B 221 M) - Aluminum-Alloy Extruded Bar, Rod, Wire, Shape and Tube.
    3. ASTM B 429 - Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube
    4. ASTM C 1048 - Standard Specification for Heat-Treated Flat Glass -- Kind HS, Kind FT Coated and uncoated Glass; 1997b.
    5. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Pipe.
    6. ASTM D 2843 Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics (resin infill only).
    7. ASTM D 635. Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position (resin infill only).
    8. ASTM D 1929 Standard Test Method for Determining Ignition Temperature of Plastics (resin infill only).
    9. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials (resin infill only).
    10. International Code Council - International Residential Code (IRC):
        1. Section 104.11 Alternative materials, design and methods of construction and equipment.
        2. 2012, 2015, 2018, 2021 IRC Section R311.7.8 - Handrails.
        3. 2012, 2015, 2018, 2021 IRC Section R311.8.3 - Handrails Required.
        4. 2012, 2015, 2018, 2021 IRC Section 312 - Guards.
    11. International Code Council - International Building Code (IBC):
        1. Section 104.11 Alternative materials, design and methods of construction and equipment.
        2. Section 1014 - Handrails.
        3. Section 1015 - Guards.
  1. DESIGN / PERFORMANCE REQUIREMENTS

\*\* NOTE TO SPECIFIER \*\* Edit the following carefully as required to suit local building codes or performance requirements.

* + 1. Structural Performance: Provide handrails and railings that meet all applicable codes pertaining to the top rail of the guards, handrails not serving as top rail, and guard infill area.
    2. Corrosion Resistance: Separate incompatible materials to prevent electrolytic corrosion.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements .
     2. Product Data: Manufacturer's data sheets on each product to be used, including:
        1. Preparation instructions and recommendations.
        2. Storage and handling requirements and recommendations.
        3. Installation and maintenance methods.

\*\* NOTE TO SPECIFIER \*\* Shop drawings may not be required for small or simple projects. Delete the following paragraph if shop drawings are not required.

* + 1. Shop Drawings: Indicate materials, sizes, styles, fabrication, anchorage and installation details for railing system and infill.

\*\* NOTE TO SPECIFIER \*\* Delete the following paragraphs if LEED is not applicable.

* + 1. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
       1. List of proposed materials with recycled content. Indicate post-consumer recycled content and pre-consumer recycled content for each product having recycled content.
       2. Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

* + 1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and finishes.
    2. Verification Samples: For each finish product specified, provide two samples, minimum size 6 inches (150 mm) square that represent actual product, color, and finish.

\*\* NOTE TO SPECIFIER \*\* The following paragraph is optional. Delete if not required.

* + 1. Assembly Samples: Provide assembled samples of railings sections, fabricated from full-size components, showing method of finishing intersections.
       1. Post and Top Rail sections: minimum 4 inch (100 mm) long piece of each type specified,
       2. Infill: Picket, minimum 4 inch (100 mm) long piece.
       3. Infill: Glass, minimum 4 x 4 inch (100 x 100 mm) glass piece.
       4. Infill: Cable, minimum 8 inch (200 mm) long piece with end fittings.
       5. Infill: Resin, minimum 4 x 4 inch (100 x 100 mm) resin piece.
       6. Infill: Mesh, minimum 6 x 6 inch (152 x 152 mm) panel piece.
       7. Infill: Laser, minimum 5 x 5 inch (127 x 127 mm) panel piece.
    2. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
    3. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic checking and adjustment of cable tension and periodic cleaning and maintenance of all railing and infill components.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Minimum 10 years experience in producing aluminum railing systems.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project 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: Provide a mock-up for evaluation of preparation techniques and application workmanship.
       1. Finish one complete railing section with infill in area designated by Architect.
       2. Do not proceed with remaining work until workmanship is approved by Architect.
       3. Reconstruct mock-up as required to produce acceptable work.
       4. Accepted mock-ups shall be comparison standard for remaining Work
  1. DELIVERY, STORAGE, AND HANDLING
     1. Deliver to site and store materials in manufacturer's original containers and packaging, with labels clearly identifying product name and manufacturer.
     2. Store products in clean, dry area indoors until ready for installation. Store materials in accordance with manufacturer's instructions.
     3. Protect materials and finish from damage during handling and installation.
  2. SEQUENCING
     1. Ensure that shop drawings and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
     2. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
     2. Verify actual openings by field measurements before fabrication; show recorded measurements on shop drawings.
     3. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.
  4. PRE-INSTALLATION MEETING
     1. Convene a pre-installation meeting approximately two weeks before start of construction of railing frame component mounting surfaces. Require attendance of parties directly affecting work of this section, including Contractor, Architect, fabricator, and installer. Review the following:
        1. Specific method of installation of components into mounting surfaces.
        2. Installation, adjusting, cleaning, and protection of railing system.
        3. Coordination with other work.
  5. COORDINATION
     1. Coordinate Work with other operations and installation of adjacent materials to avoid damage.
  6. WARRANTY
     1. Warranty:

\*\* NOTE TO SPECIFIER \*\* Delete options that were not chosen in section 1.1 in general requirements.

* + - 1. Extruded aluminum railing system frame with aluminum picket infill - 10-year limited warranty from date of purchase.
      2. Extruded aluminum railing system frame with tempered glass infill - 10-year limited warranty for aluminum frame and 2-year limited warranty on tempered glass panel infill from date of purchase.
      3. Extruded aluminum railing system frame with cable infill - 10-year limited warranty from date of purchase.
      4. Extruded aluminum railing system frame with resin panel infill - 10-year limited warranty for aluminum frame and 2-year limited warranty on resin panel infill from date of purchase.
      5. Extruded aluminum railing system frame with stainless steel wire mesh panel infill - 10-year limited warranty from date of purchase.
      6. Extruded aluminum railing system frame with laser-cut aluminum panel infill - 10-year limited warranty from date of purchase.
  1. EXTRA MATERIALS
     1. See Section 01 60 00 - Product Requirements. - Product Requirements, for additional provisions.
     2. Provide one, approximately 0.6 fluid ounce (18 ml) container of touch-up paint per 100 feet (30 m) of each color railing.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Feeney Inc. (CableRail, DesignRail), which is located at: 2603 Union St.; Oakland, CA 94607; Toll Free Tel: 800-888-2418; Tel: 510-893-9473; Fax: 510-893-9484; Email: request info (sales@feeneyinc.com); Web: http://www.feeneyinc.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. MATERIALS - GENERAL
     1. Aluminum Railing System Frame: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than strength and durability properties of alloy and temper designated below for each aluminum form required.
        1. Extruded Bar and Tube: ASTM B 221 (ASTM B 221 M), alloy 6063-T5
        2. Plate and Sheet: ASTM B 209 (ASTM B 209M), alloy 6061-T6/T52.
        3. Powder-coat aluminum components in compliance with AAMA 2604 standard.
     2. Structural Requirements: Fabricate integral railings and component connections to meet or exceed the requirements as set forth in the current, adopted ICC International Building Code (IBC), International Residential Code (IRC), or governing local code as applicable.

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

* + - 1. Infill: Aluminum Pickets.
      2. Infill: Tempered Glass panels.
      3. Infill: CableRail and Fittings.
      4. Infill: Resin panels.
      5. Infill: Stainless Steel Mesh panels.
      6. Infill: Laser-Cut Aluminum panels.
  1. MATERIALS - ALUMINUM RAILING SYSTEM
     1. Aluminum Railing System: DesignRail Railing System as manufactured by Feeney, Inc.

\*\* NOTE TO SPECIFIER \*\* Delete railing configurations not required. The Feeney DesignRail program has 6 Frame+Infill Options, with a sublevel of options to choose from. Step 1: choose frame options (height, mounting and Top Rail profile), Step 2: choose your infill option(s). If you have any questions, please contact commercial@feeneyinc.com or call us, we are here to assist in your specification writing.

* + - 1. Frame Options (Height/Mounting/TopRail):

\*\* NOTE TO SPECIFIER \*\* Delete options for POSTS/MOUNTING not required.

* + - * 1. Height: 36 inch (914 mm).
        2. Height: 39 inch (991 mm).
        3. Height: 42 inch (1067 mm).
      1. Mounting Conditions:
         1. Square Post: Base mounted as shown on Drawings.
         2. Square Post: Stanchion mounted as shown on Drawings.
         3. Square Post: Fascia mounted as shown on Drawings.
         4. Square Post: Fascia bracket mounted as shown on.
         5. Square Post: Core mounted as shown on Drawings.
      2. Top Rail Profiles:

\*\* NOTE TO SPECIFIER \*\* Select Top Rail Profile and delete those not required. Series 150 is typically used for stairways; series 450 is typically used as a base for finished wood caps. If more than one is selected, verify that each series number is clearly located on the Drawings.

* + - * 1. Square Series 100: 2 by 1-3/4 inch (51 by 45 mm) by 1/16 inch (1.6 mm) thick extruded aluminum profile.
        2. Graspable Series 150: 2 by 1-1/4 inch (51 by 32 mm) by 1/16 inch (1.6 mm) thick extruded aluminum graspable profile.
        3. Rectangular Series 200: 3-1/2 inch by 1-1/4 inch (89 by 32 mm) by 3/32 inch (2.4 mm) thick extruded aluminum rectangular profile.
        4. Round Series 300: 3 by 2-5/16 inch (76 by 59 mm) by 3/32 inch (2.4 mm) thick extruded aluminum round profile.
        5. Elliptical Series 350: 3-1/2 inch by 1-1/4 inch (89 by 32 mm) by 3/32 inch (2.4 mm) thick extruded aluminum elliptical profile.
        6. Low-Profile Series 450: 2-11/16 by 1-1/4 inch (68 by 32 mm) by 1/16 inch (1.6 mm) thick extruded aluminum channel profile to support finished wood or composite cap rail as selected by the Architect.
      1. Infill Style Options:

\*\* NOTE TO SPECIFIER \*\* Select one or more of the following for the INFILL STYLE and delete the one(s) not required. If more than one is selected, verify that each type is clearly located on the Drawings. There are 6 different types of Infill choices (A - F) Pickets, Glass, CableRail, Resin, Mesh, Laser.

* + - * 1. DesignRail with Aluminum Pickets Infill:

\*\* NOTE TO SPECIFIER \*\* Delete aluminum picket infill options not required

ALUMINUM PICKETS INFILL: 3/4 inch (19 mm) square extruded aluminum tubes.

ALUMINUM PICKETS INFILL plus INTERMEDIATE RAIL: Intermediate Horizontal Rail: 1-11/16 by 1-3/4 inch (43 by 45 mm) by 1/16 inch (1.6 mm) thick extruded aluminum rounded channel profile.

Include washers, nuts, end caps and any accessory items as recommended by manufacturer for installation conditions shown on Drawings.

* + - * 1. DesignRail with Tempered Glass Infill: 8 mm Fully tempered conforming to the specifications of ANSI Z97.1, ASTM C 1048-97b and CPSC 16 CFR 1201 with) Selected by Architect (https://www.feeneyinc.com/Designer) to review options or order samples.

\*\* NOTE TO SPECIFIER \*\* Delete glass panel infill options not required.

8mm Clear with Polished edges, Class1, Glass Panel Infill.

8mm Clear, Gray Tinted with Polished edges, Class 1, Glass Panel Infill.

8mm Clear, Bronze Tinted with Polished edges, Class 1, Glass Panel Infill.

Tempered Glass option above plus Intermediate Horizontal Rail): 1-11/16 by 1-3/4 inch (43 by 45 mm) by 1/16 inch (1.6 mm) thick extruded aluminum rounded channel profile.

Include washers, nuts, end caps and any accessory items as recommended by manufacturer for installation conditions shown on Drawings.

* + - * 1. DesignRail with CableRail Infill:

\*\* NOTE TO SPECIFIER \*\* Delete Vertical or Horizontal cable railing infill options not required.

Vertical CableRail Cables: 1/8 inch (3.2 mm) diameter, 1 by 19 construction, ASTM A 492, Type 316 stainless steel, polished finish, commercial, dry grade cable with fittings options specified below.

\*\* NOTE TO SPECIFIER \*\* Delete Vertical CableRail infill options not required.

VERTICAL CABLERAIL INFILL: Provide a 2 inch (51 mm) long stainless-steel Threaded Terminal factory attached to one end of each cable and a stainless-steel Fixed Button End factory attached to the other end.

VERTICAL CABLERAIL INFILLS plus INTERMEDIATE RAIL: Intermediate Horizontal Rail: 1-11/16 by 1-3/4 inch (43 by 45 mm) by 1/16 inch (1.6 mm) thick extruded aluminum rounded channel profile.

Include washers, nuts, end caps and any accessory items as recommended by manufacturer for installation conditions shown on Drawings.

Horizontal CableRail Cables: 1/8 inch (3.2 mm) diameter, 1 by 19 construction, ASTM A 492, Type 316 stainless steel, polished finish, commercial, dry grade cable with fittings options specified below.

\*\* NOTE TO SPECIFIER \*\* Delete Horizontal CableRail infill options not required

STANDARD CABLERAIL KITS: Provide Feeney Cable Rail Standard Kits with a factory attached 4-1/4 inch (108mm) long stainless steel Threaded Terminal on one end of each cable and a field attached stainless steel Quick-Connect Inset fitting for the other end as shown on Drawings.

CONCEAL CABLERAIL KITS: Provide Feeney CableRail Conceal Kits with a factory attached stainless steel Conceal Terminal and Receiver on one end of each cable and a field attached stainless steel Conceal Quick-Connect fitting for the other end as shown on Drawings.

FITTINGS+CABLERAIL BULK CABLE SPOOLS: Cable fittings as recommended by the Manufacturer and approved by the Architect for installation conditions as shown on Drawings.

OPTION ABOVE plus INTERMEDIATE RAIL: 1-11/16 by 1-3/4 inch (43 by 45 mm) by 1/16 inch (1.6 mm) thick extruded aluminum rounded channel profile.

BOTTOM RAIL:

Bottom Rail.

No Bottom Rail.

Include washers, nuts, end caps and any accessory items as recommended by manufacturer for installation conditions shown on Drawings.

* + - * 1. DesignRail with Resin Panel Infill: 1/4 inch (3.2mm) thick resin infill panels with embedded organic materials. Sandstone finish both sides. SCS-certifieed recycled content, Greenguard Gold Indoor Air Quality Certified, UL registered, Declare. Selected by Architect (https://www.feeneyinc.com/Designer) to review options or order samples.

\*\* NOTE TO SPECIFIER \*\* Delete Resin Panel infill options not required.

Resin Panel infill: Gingko Thatch.

Resin Panel infill: Ting Ting.

Resin Panel infill: Bamboo Rings Natural.

Resin Panel infill: Connection square Gray.

Resin Panel infill: Fossil Leaf Spade Random.

Resin Panel infill: Rice Grass.

Resin Panel infill: Kathali Grays.

Resin Panel infill: Bear Grass Lite.

Resin Panel infill: Thatch 50 percent.

Resin Panel Infill: \_\_\_\_\_\_\_\_.

Include washers, nuts, end caps and any accessory items as recommended by manufacturer for installation conditions shown on Drawings.

* + - * 1. DesignRail with Stainless Steel Wire Mesh Panel Infill: 3/16 grade Stainless Steel Wire Mesh (description of welds are in the style section) Selected by Architect (https://www.feeneyinc.com/Designer) to review options or order samples.

\*\* NOTE TO SPECIFIER \*\* Delete Stainless Steel Wire Mesh Panel infill options not required.

Wire Mesh Panel Infill: Allure Stainless Steel (paired 1-1/2 inch).

Wire Mesh Panel Infill: Horizon Stainless Steel (Traditional welded wire with 3 inch opening).

Wire Mesh Panel Infill: Dazzle Stainless Steel (Basket press 1 inch).

Wire Mesh Panel Infill: Metropolitan Stainless Steel (tight mesh, 3/4 inch opening, smooth lock crimp).

Include washers, nuts, end caps and any accessory items as recommended by manufacturer for installation conditions shown on Drawings.

* + - * 1. DesignRail with Laser-Cut Aluminum Panel Infill: 3/16 inch thick 5052-T6 aluminum panels, ColorEasy Powder Coated to AAMA 2604 specification. Style Selected by Architect (https://www.feeneyinc.com/Designer) to review options or order samples.

\*\* NOTE TO SPECIFIER \*\* Delete Laser-Cut Aluminum Panel infill options not required.

Laser-Cut Panel Infill: Agama.

Laser-Cut Panel Infill: Sverra.

Laser-Cut Panel Infill: Torrent.

Laser-Cut Panel Infill: Cypher.

Laser-Cut Panel Infill: Trillium.

Laser-Cut Panel Infill: Seagrass.

Laser-Cut Panel Infill: Pisces.

Laser-Cut Panel Infill: Bound.

Laser-Cut Panel Infill: Cubist.

Laser-Cut Panel Infill: Custom Design.

Include washers, nuts, end caps and any accessory items as recommended by manufacturer for installation conditions shown on Drawings.

* + - 1. Structural Requirements: Fabricate integral railings and component connections to meet or exceed the requirements as set forth in the current, adopted ICC International Building Code (IBC), International Residential Code (IRC), or governing local code as applicable.
  1. COMPONENTS

\*\* NOTE TO SPECIFIER \*\* Verify that type and size of fasteners for connecting posts and other components to other construction are shown on the Drawings and have been approved by a Structural Engineer.

* + 1. Fasteners for Connecting Components to Other Construction: Type and size as shown on Drawings.
    2. Aluminum end caps for exposed open ends of rails, tubes, and profiles.

\*\* NOTE TO SPECIFIER \*\* Select accessories required from the following paragraphs and delete those not required.

* 1. ACCESSORIES
     1. Applied Continuous Handrail: 1-1/2 inch (38 mm) diameter extruded aluminum tube. Provide where shown on Drawings.
        1. Brackets: Cut from extruded aluminum profile.
        2. ADA compliant extensions and returns.
     2. Gate: Custom design as shown on Drawings with welded extruded aluminum frame.

\*\* NOTE TO SPECIFIER \*\* Select gate infills as required and delete those not required. If more than one is required, verify the locations are clearly shown on the Drawings.

* + - 1. Gate Infill: Match railing system infill.
      2. Gate Infill: Pickets.
      3. Gate Infill: Glass.
      4. Gate Infill: Horizontal cables.
      5. Gate Infill: Vertical cables.
      6. Gate Infill: Resin panels
      7. Gate Infill: Wire mesh panels
      8. Gate Infill: Laser cut aluminum panels
      9. Provide complete with hardware including hinges, latch, and drop bolt for double gates.
    1. Base Plate Covers: decorative aluminum covers for base mounted posts, 1-5/16 inch (33 mm) contour reveal, powder coated to match railing color.
    2. Low Voltage Lights: Locate as shown on Drawings.
       1. Top rail mounted, recessed 24 volt LED.
       2. Bottom rail mounted, recessed 24 volt LED.
       3. Top and Bottom rail mounted, recessed 24 volt LED.
       4. Post mounted, 24 volt LED, aluminum Post Accent Light powder coated to match railing color.
  1. FINISH
     1. Shop Finish: ColorEasy Powder-coated aluminum components in compliance with AAMA 2604.

\*\* NOTE TO SPECIFIER \*\* Below are the components that are available for powder-coat, delete those not required. ColorEasy Color Offering (https://www.feeneyinc.com/ColorEasy) to find out more information, get samples or ask questions.

* + - 1. ColorEasy Choices per component.
         1. Post Color:

Color: Bright White.

Color: Modern White.

Color: Coffee Cream.

Color: Silver.

Color: Dove Gray.

Color: Iron Gray.

Color: Blue Steel.

Color: Textured Black.

Color: Black Matte.

Color: Sparkling Champagne.

Color: Bronze.

Color: Oil Rubbed Bronze.

Color: Brickyard Red.

Color: Commodore Blue.

Color: Hartford Green.

Color: Custom color as selected by Architect.

Color: As shown on Drawings.

* + - * 1. Top Rail Profile:

Color: Bright White.

Color: Modern White.

Color: Coffee Cream.

Color: Silver.

Color: Dove Gray.

Color: Iron Gray.

Color: Blue Steel.

Color: Textured Black.

Color: Black Matte.

Color: Sparkling Champagne.

Color: Bronze.

Color: Oil Rubbed Bronze.

Color: Brickyard Red.

Color: Commodore Blue.

Color: Hartford Green.

Color: Weathered Gray (150/200 Top Rail only).

Color: Walnut (150/200 Top Rail only).

Color: Cherry (150/200 Top Rail only).

Color: Custom color as selected by Architect.

Color: As shown on Drawings.

* + - * 1. Aluminum Picket Infill:

Color: Bright White.

Color: Modern White.

Color: Coffee Cream.

Color: Silver.

Color: Dove Gray

Color: Iron Gray.

Color: Blue Steel.

Color: Textured Black.

Color: Black Matte.

Color: Sparkling Champagne.

Color: Bronze.

Color: Oil Rubbed Bronze.

Color: Brickyard Red.

Color: Commodore Blue.

Color: Hartford Green.

Color: Custom color as selected by Architect.

Color: As shown on Drawings.

* + - * 1. Laser-Cut Aluminum Panel Infill:

Color: Bright White.

Color: Modern White.

Color: Coffee Cream.

Color: Silver.

Color: Dove Gray.

Color: Iron Gray.

Color: Blue Steel.

Color: Textured Black.

Color: Black Matte.

Color: Sparkling Champagne.

Color: Bronze.

Color: Oil Rubbed Bronze.

Color: Brickyard Red.

Color: Commodore Blue.

Color: Hartford Green.

Color: Custom color as selected by Architect.

Color: As shown on Drawings.

* 1. FABRICATION
     1. Fabricate members and assemblies in accordance with approved shop drawings.
     2. Assemble items to largest extent practical to minimize field splicing. Disassemble as required for shipping. Clearly identify each unit for installation
     3. Conceal fasteners and welds as much as design will allow. Grind smooth all sharp angles and corners.
     4. Connect non-welded members using manufacturer's standard concealed fasteners and fittings unless otherwise indicated.
     5. Close exposed ends of railing members with manufacturer's standard end fittings.
     6. Provide Manufacturer's standard brackets, fittings, flanges, and anchors for connection to other work unless otherwise indicated on the approved shop drawings.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
      2. Verify mounting conditions are in accordance with manufacturer's recommendations.
      3. If substrate conditions are the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions.
      2. Provide anchorage devices and fittings to secure railings to in-place construction, including threaded fittings for concrete inserts, toggle bolts and through-bolts.
      3. Install railing system plumb, level, square, and rigid.
      4. Separate dissimilar materials with bushings, gaskets, grommets, washers or coatings where required to prevent electrolytic corrosion.
   4. CLEANING
      1. Remove temporary coverings and protection of adjacent work areas. Clean installed products in accordance with manufacturer's instructions before owner's acceptance.
      2. Remove from project site and legally dispose of construction debris associated with this Work.
   5. PROTECTION
      1. Protect installed products until completion of project.
      2. Replace defective or damaged components as directed by Architect.
      3. Touch-up, repair or replace damaged products before Substantial Completion.
   6. SCHEDULES

\*\* NOTE TO SPECIFIER \*\* Retain Paragraph below if required to suit project requirements. Identify products by name on the Drawings or use this paragraph to define the location of each type of material to be used. Edit as required to suit project or delete and identify products on the Drawings.

* + 1. :
    2. :

END OF SECTION