

PART 1 - GENERAL

1.1 WORK INCLUDES

- A. Base Bid: Unless noted otherwise, the General Prime Contractor shall provide all labor and materials for the installation of a complete system as specified in this section.
 - 1. Pre-engineered, component-based, ornamental railing system.
 - 2. Railing system with glass infill.

1.2 RELATED WORK

- A. Concrete work as specified in structural drawings.
- B. Division 8 Section “Glazing.”

1.3 PREINSTALLATION MEETINGS

- A. Pre-installation Conference: Conduct conference at Project Site.
 - 1. Convene Contractor, Architect, railing fabricator, and railing installer.
 - 2. Discuss installation methods for frame components attaching to supporting construction and coordination with other work.
 - 3. Discuss installation, adjusting, and protection of railing system.

1.4 DESIGN REQUIREMENTS

- A. Railing system shall be designed to conform to building code and ADA requirements for openings and stress.

1.5 SUBMITTALS

- A. Product Data: Submit manufacturer's product data, including description of materials, components, fabrication, finishes and installation instructions. Installation instructions include all structural computations and test reports provided by the manufacturer evidencing compliance with the specifications.
- B. Shop Drawings: Submit manufacturer's shop drawings, including plans, elevations, sections, and details, indicating materials, components, sizes, dimensions, tolerances, hardware, fasteners, finishes, options, accessories, and installation. Show details of attaching railing system to supports.
- C. Samples: Submit manufacturer’s samples of standard materials, finishes, colors, and textures.

- D. Test Reports: Submit test reports from qualified independent testing agency indicating compliance with ASTM E 985.
- E. Manufacturer's Quality Assurance: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application. Submit certification that the manufacturer has not less than 5 years experience producing the product specified in this section. The manufacturer or an approved installer will do installation of this product.
- F. Maintenance Instructions: Submit manufacturer's maintenance and cleaning instructions.
- G. Warranty: Submit manufacturer's standard warranty.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage: Store materials in clean, dry area indoors in accordance with manufacturer's instructions.
- C. Handling: Protect materials and finish from damage during handling and installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 1. Blum, Julius & Co., Inc., JB Glass Railing.
 2. Laurence, C. R. Co., Inc. CRL Glass Railings.
 3. Morse Industries. PanelGrip railing system.
 4. VIVA Railings, LLC. SHOE railing system.
- B. Drawings are based on Viva Railings "SHOE" railing system. Other companies listed have equivalent systems available as listed.

2.2 ORNAMENTAL RAILING SYSTEM

- A. Aluminum:
 1. Extruded Bar and Tube: ASTM B 221 (ASTM B 221 M), alloy 6063-T6/T52.Support Posts
- B. Stainless Steel:
 1. Shapes: ASTM A240/A240M, Type 304.
 2. Tube: ASTM A554, Type 304.
 3. Finish: No. 6 Satin, 380 grit.

- C. Base Shoe
 - 1. Aluminum Mounting Shoe Base: 2½” x 4” profile; Dry Set glazing continuous compression system.
 - 2. Mount: Top.
 - 3. Cladding: Clear anodized aluminum-standard.
- D. Infill Panels
 - 1. Glass
 - a. Type: Clear tempered meeting requirements of ANSI Z97.1 and ASTM C1048, Type 1 transparent flat, Class 1 clear, Quality q3 glazing select, Kind FT fully tempered.
 - b. Thickness: 1/2 inch.
 - c. Edges chamfered and polished.
- E. Top Cap
 - 1. 1 inch x 1 inch stainless steel U-cap rail.
- F. Handrail
 - 1. 1-1/2 inch diameter stainless steel round tubing.
- G. Wall Mounted Handrail
 - 1. 1-1/2 inch diameter stainless steel round tubing.

2.3 FINISHES

- A. Stainless Steel: NAAMM AMP 503, No. 6 satin.

2.4 ACCESSORIES

- A. Anchors: Type best suited to application.
- B. Wall Brackets for Rail: With non-exposed fasteners.

2.5 FABRICATION

- A. Fabricate railings with joints located symmetrically.
- B. Fabricate railings with joints tightly fitted and secured. Furnish fittings to accommodate site assembly and installation.
- C. Supply components required for anchorage of railings. Fabricate anchors and related components of same material and finish as railing.
- D. Conceal fastenings where possible.
- E. Use welds for permanent connections where possible.
 - 1. Grind exposed welds smooth.
 - 2. Tack welds prohibited on exposed surfaces.

- F. Accommodate for expansion and contraction of members and building movement without damage to connections or members.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive railing system. Notify Architect if areas are not acceptable. Do not begin installation until unacceptable conditions have been corrected.

3.2 INSTALLATION

- A. Install railing system in accordance with manufacturer's instructions using manufacturer's trained installers or an installer acceptable to the specified manufacturer.
- B. Install railing system plumb, level, square, true to line, accurately fitted, free from distortion, and rigid.
 - 1. Install Base Shoe level and plumb. Miter corners.
- C. Fit joints tight, flush, and hairline.
- D. Attach railing system securely in place using fasteners supplied or approved by manufacturer. All embedded anchor plates and supporting steel shall be provided by another trade and coordinated with the railing supplier.
- E. Attach railing system to supports as indicated on the drawings and as approved by manufacturer.
- F. Field-weld components as approved by manufacturer.
- G. Use manufacturer's supplied hardware.
- H. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.
- I. Remove and replace defective or damaged components that cannot be successfully repaired as determined by Architect.

3.3 INSTALLATION TOLERANCES

- A. Maximum variation from level or from indicated slopes: 1/4 inch in 10 feet, noncumulative.
- B. Maximum offset from true alignment of abutting members: 1/16 inch.

3.4 CLEANING & PROTECTION

- A. Clean railing system promptly after installation in accordance with manufacturer's instructions.

- B. Do not use harsh cleaning materials or methods that could damage glass or finish.
- C. Do not use abrasive cleaners.
- D. Protect installed railing system and finish from damage during construction.

END OF SECTION 05 73 13

