



Product Guide

RGS products are available in a wide variety of configurations and are capable of being customized to accommodate your individual taste and specific architectural styling



Introduction to RGS Products Inc.

The purpose of this packet is to introduce you to our company and the products and services we offer. We are a full service, architectural metals and glass fabrication and contracting company established in 2009 with over 100 years combined experience in the industry. We provide state of the art, CADD, engineering, fabrication and installation services, necessary to provide you with a single source to assist you in managing your projects, saving you time and money.

We specialize in the following products:

- Ornamental Railings, including: Glass, Aluminum, Stainless Steel and Cable
- Aluminum Screens and Louvers
- Aluminum and Glass Canopies
- Aluminum and Glass Trellises

We welcome you to contact us via any means below :

RGS Products Inc.
455 West 2nd Street, P.O. Box 11
Waterford, PA 16411
PH: (814) 796-4515
FX: (814) 796-4009
E-mail: sales@rgsproductsinc.com

*We look forward to the opportunity to fulfill your requirements for
Architectural metals and Glass*

RGS Railing Styles:



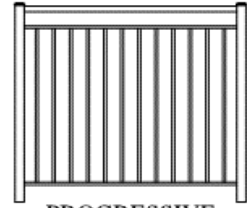
TRADITIONAL



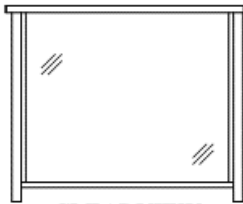
PROGRESSIVE



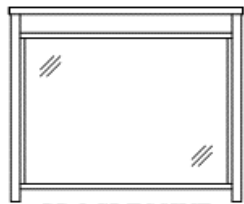
VICTORIAN



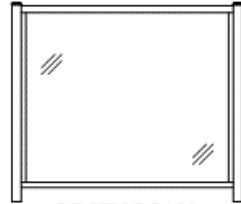
PROGRESSIVE
VICTORIAN



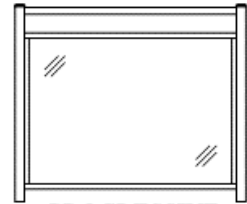
CLEARVIEW



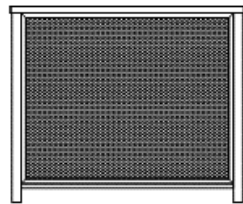
PROGRESSIVE
CLEARVIEW



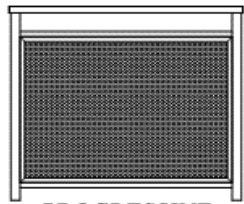
VICTORIAN
CLEARVIEW



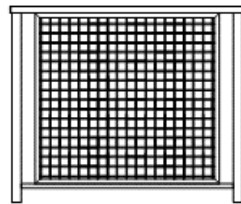
PROGRESSIVE
VICTORIAN
CLEARVIEW



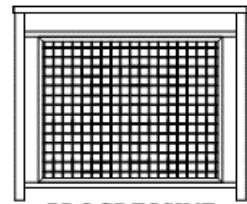
VELOCITY
PERF.



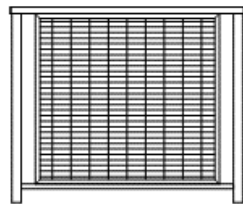
PROGRESSIVE
VELOCITY
PERF.



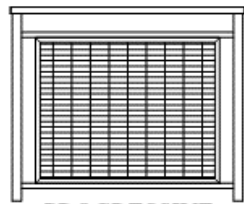
VELOCITY
MESH



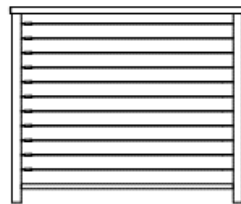
PROGRESSIVE
VELOCITY
MESH



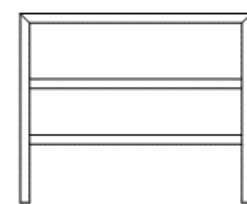
VELOCITY
GRATE



PROGRESSIVE
VELOCITY
GRATE



OCEANIC
CABLE



PIPE &
TUBE

RGS Powder Coat Options:

The RGS powder coat range is designed to meet every level of exterior durability required in the architectural arena. Whether it's a simple AAMA 2604 specification or the tough demands of the AAMA 2605 specification, we have a factory applied powder product that will meet and exceed those needs.

RGS 400SD is the perfect mid-range powder coating suitable for residential and commercial applications.

RGS 400SD:

- Meets and exceeds AAMA 2604
- Is suitable for all exterior architectural application
- Is equivalent to 50% Kynar liquid paint
- Is a Super Durable polyester powder coating
- Is available with a 5 year warranty on aluminum

RGS 500P is a high performing Fluoropolymer powder coating. Designed to meet the very toughest exterior architectural specifications, RGS 500FP will add the highest level of protection to your design without compromising aesthetics.

RGS 500FP:

- Meets and exceeds AAMA 2605
- Is suitable for all exterior architectural applications where high performance is essential
- Is equivalent to 70% Kynar liquid paint
- Is available with a 10 year warranty on aluminum

	AAMA 2604	AAMA 2605
IFS Product	IFS 400SD	IFS 500FP
Years weathering testing	5	10
Weathering - color retention	<5 Delta E	<5 Delta E
Weathering - gloss retention	Minimum 30% retention	Minimum 50% retention
Weathering - chalk	No more than 8 rating	No more than 8 rating
Salt spray test	3000 hrs. Blisters size 8	4000 hrs., blisters size 8 or 2000 hrs. aggressive cycle test
Humidity test	3000 hrs. Blisters size 8	4000 hrs. Blisters size 8
Chemical tests	The same	

RGS Standard Powder Coat Colors:

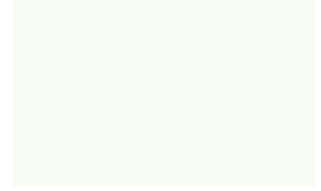
Custom Colors Available Upon Request



Fashion Gray



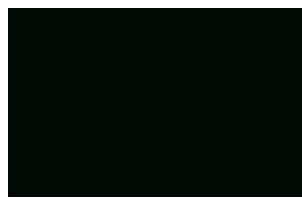
Seawolf Beige



Bone White



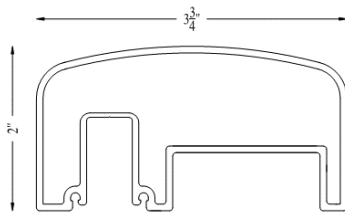
Statuary Bronze



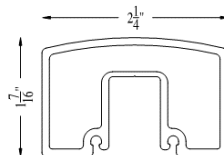
Black

RGS Top Rail Options:

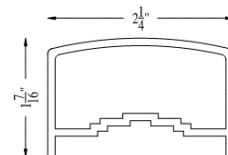
(custom top rails and extrusions available upon request)



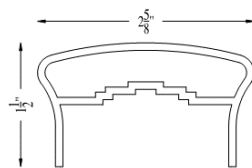
TC-024G



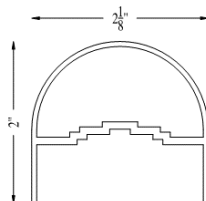
TC-022G



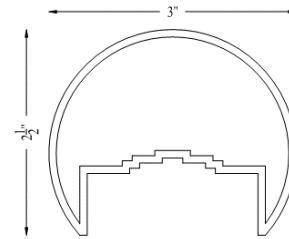
TC-022



TC-026

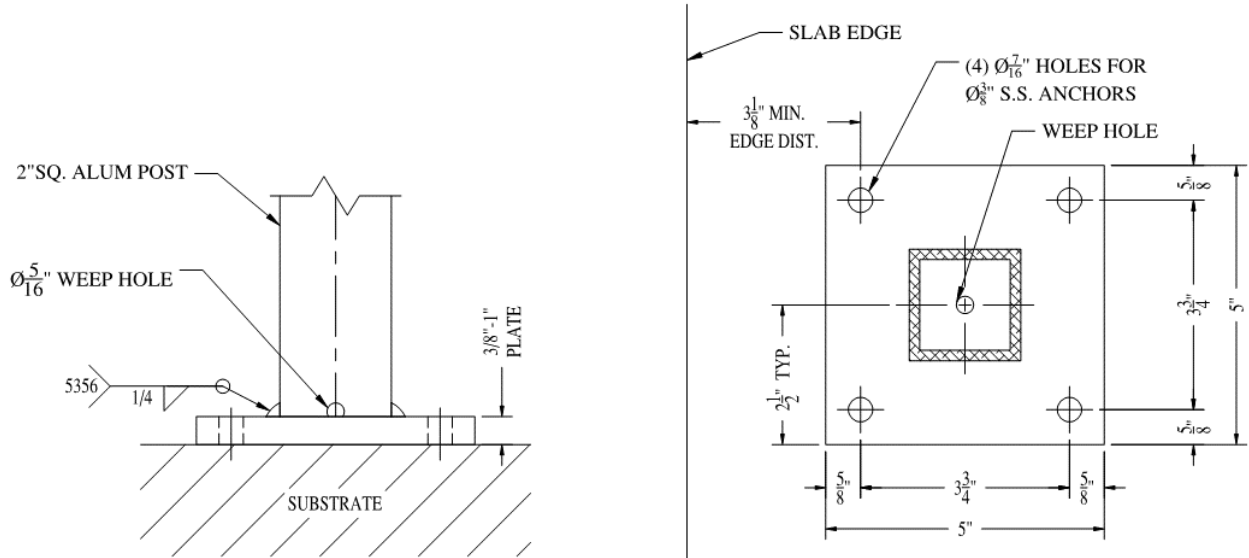


TC-020

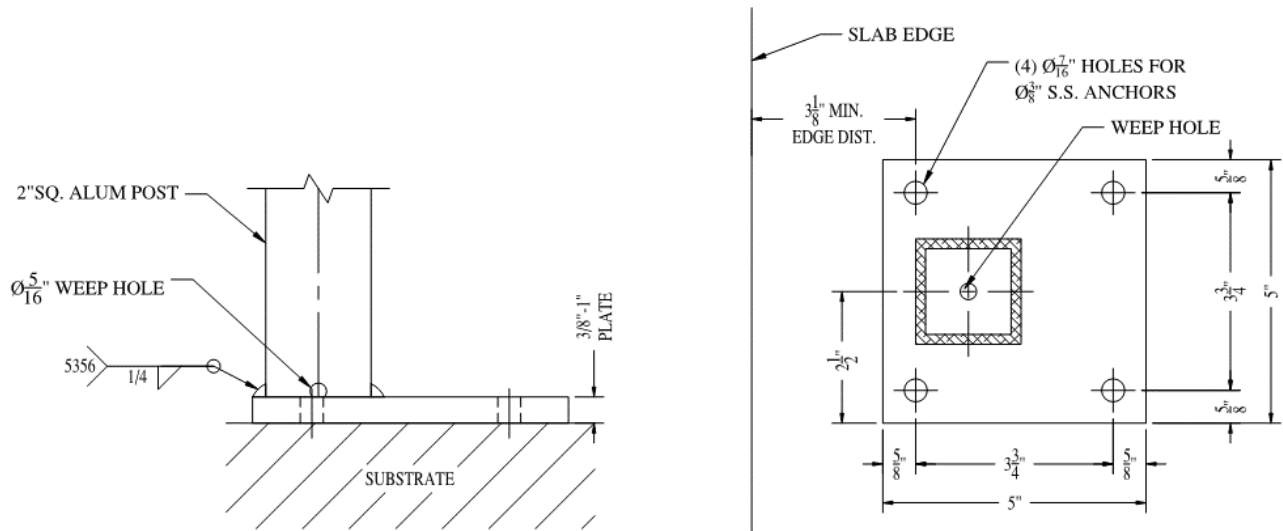


TC-030

RGS Typical Mount Details:

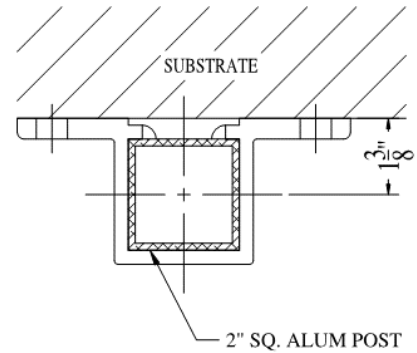
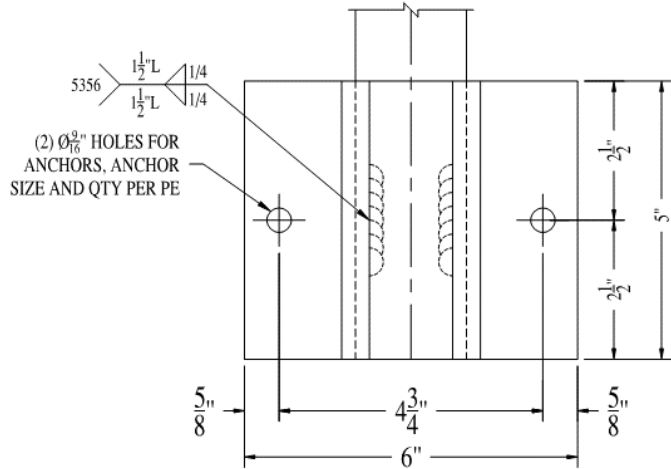


TM TOP/SURFACE MOUNT DETAIL
NTS

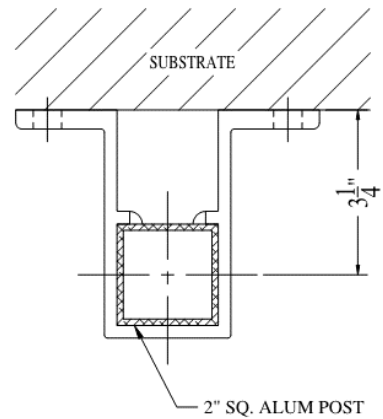
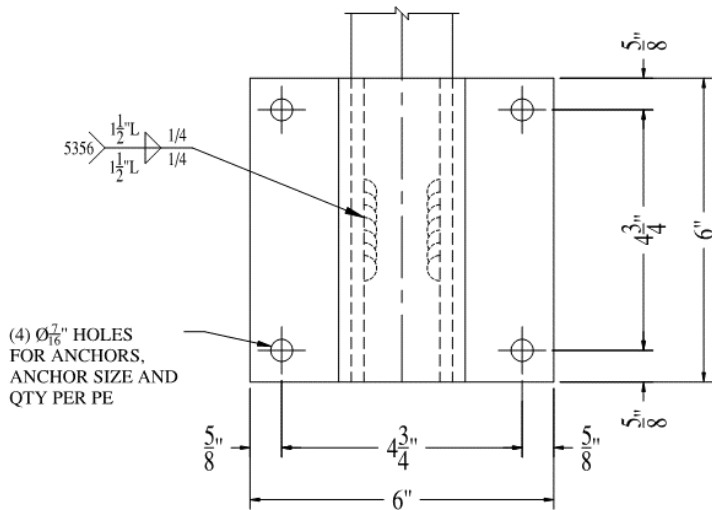


OM OFFSET SURFACE MOUNT DETAIL
NTS

RGS Typical Mount Details Continued:

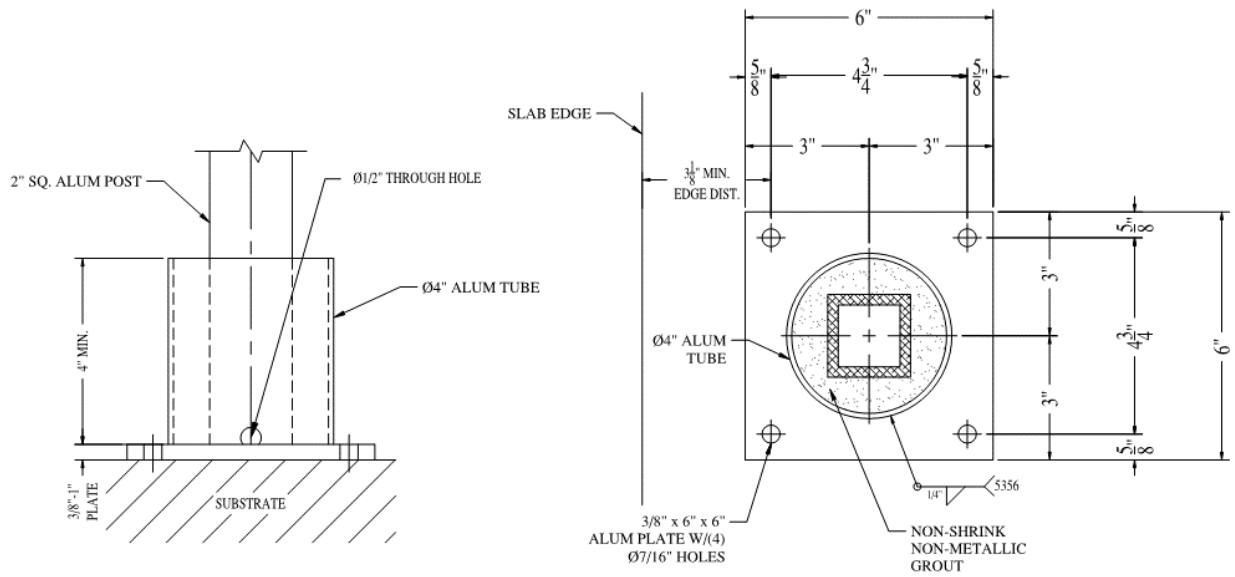


(SM) SIDE MOUNT DETAIL
NTS

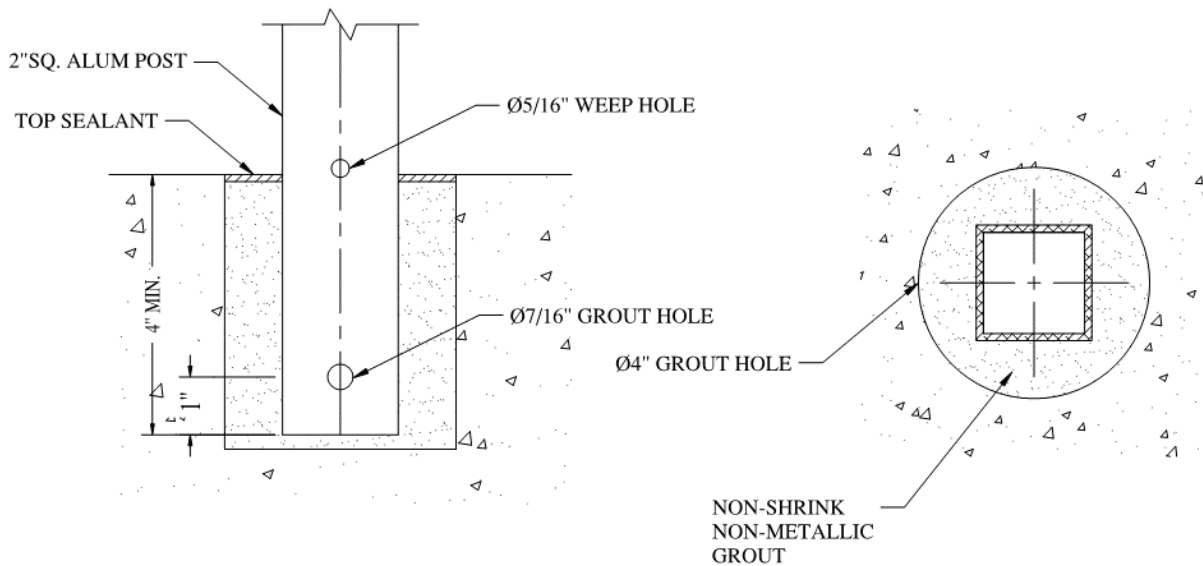


(PM) PARAPET SIDE MOUNT DETAIL
NTS

RGS Typical Mount Details Continued:



GS GROUT SLEEVE DETAIL
NTS

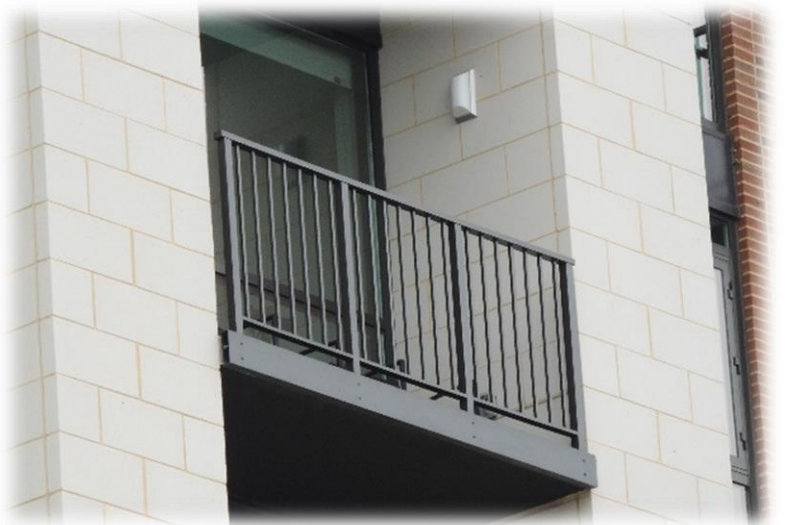
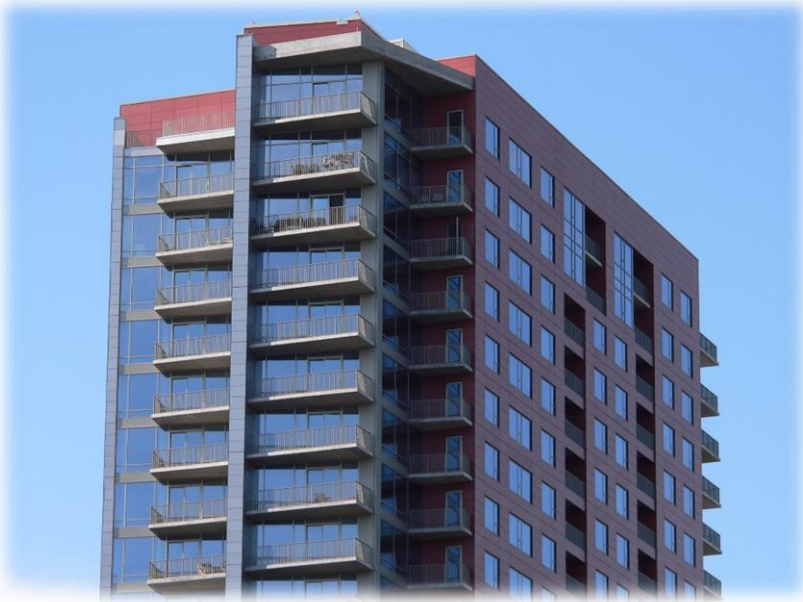


ED EMBEDMENT DETAIL
NTS



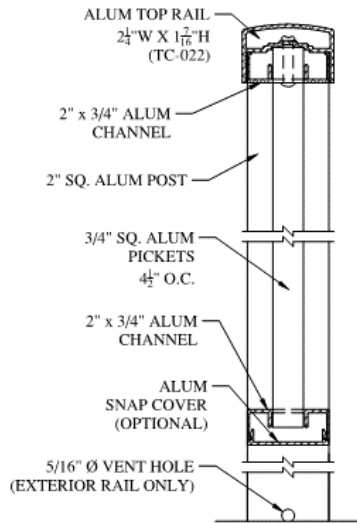
Traditional Picket Railing

All RGS products are capable of being customized to specific needs

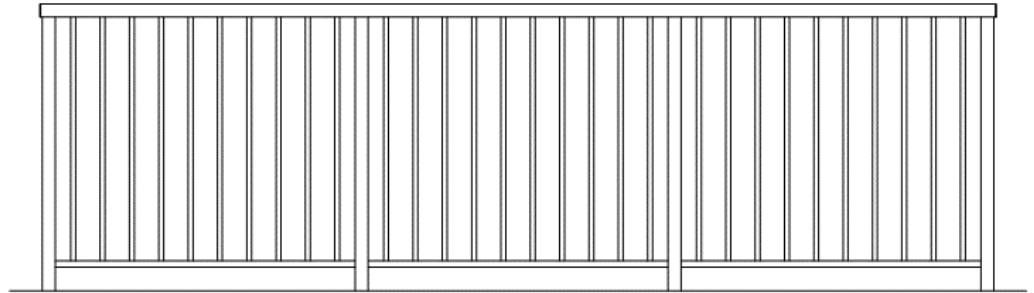


Traditional Picket Railing

Typical Elevation & Section:



TYPICAL SECTION



TYPICAL RAILING ELEVATION

Technical Specifications :

Material:	Aluminum
Finishes:	Architectural powder coat
Height:	36", 42", 48", and 72" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Standard Infill options:	3/4" Vertical pickets (custom available)



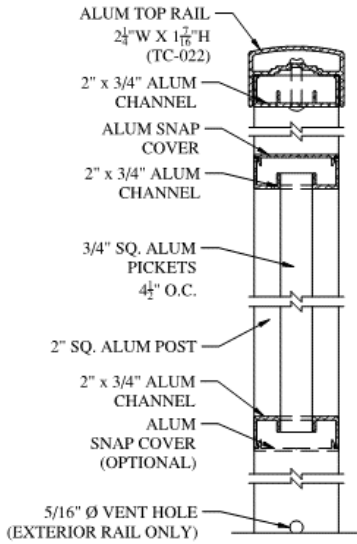
Progressive Picket Railing

All RGS products are capable of being customized to specific needs

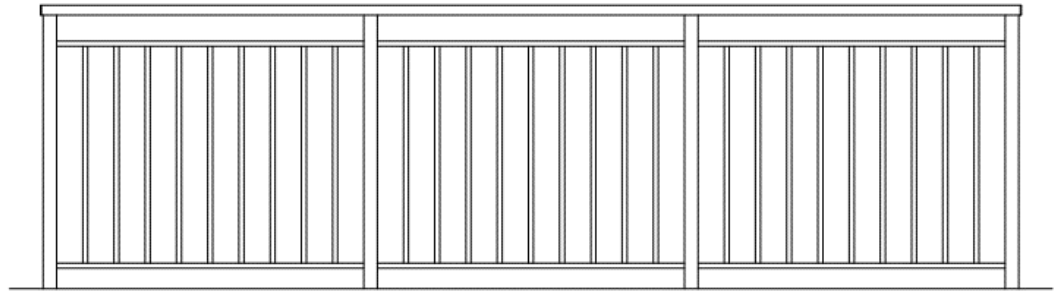


Progressive Picket Railing

Typical Elevation & Section:



TYPICAL SECTION



TYPICAL RAILING ELEVATION

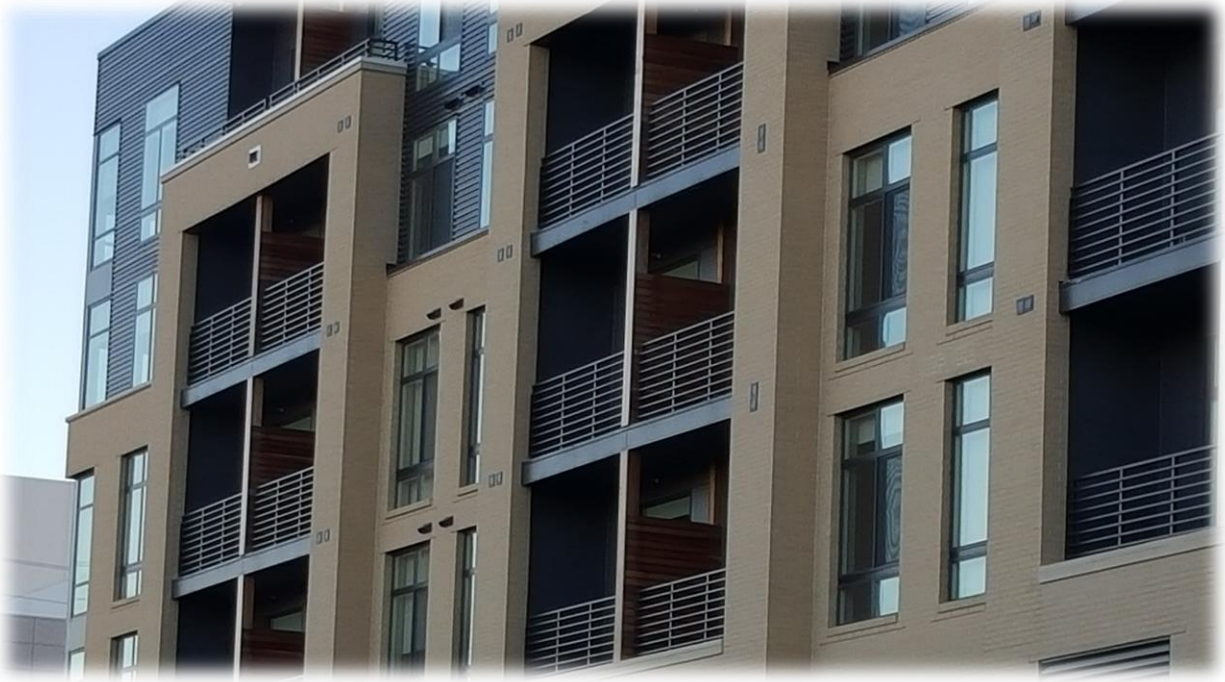
Technical Specifications:

Material:	Aluminum
Finishes:	Architectural powder coat
Height:	36", 42", 48", and 72" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Standard Infill options:	3/4" Vertical pickets (custom available)



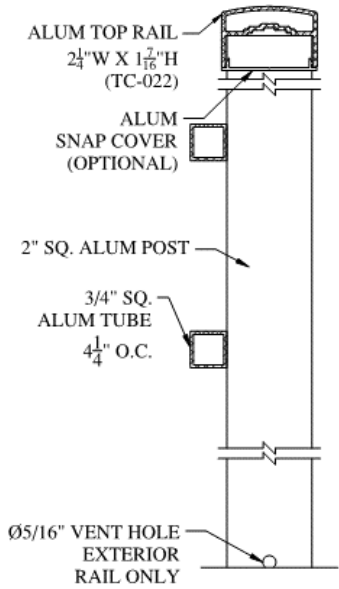
Horizontal Picket & Slat Railing

All RGS products are capable of being customized to specific needs

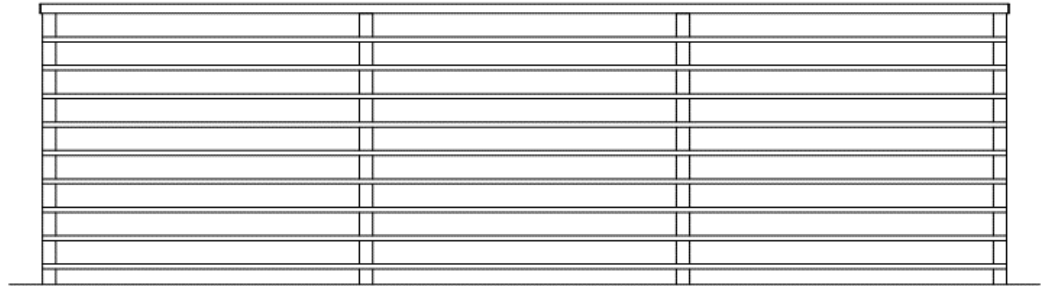


Horizontal Picket & Slat Railing

Typical Elevation & Section (Picket):

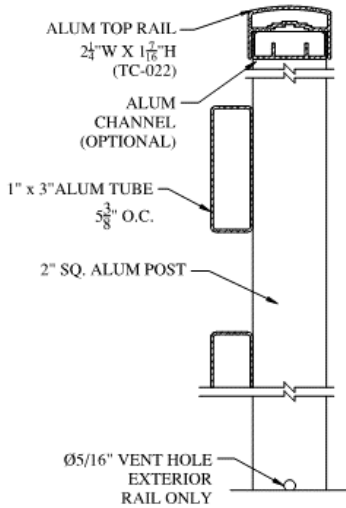


TYPICAL SECTION

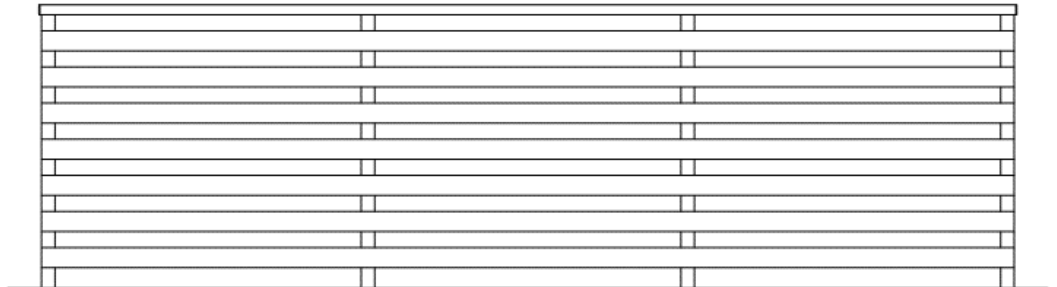


TYPICAL ELEVATION

Typical Elevation & Section (Slat):



TYPICAL SECTION



TYPICAL RAILING ELEVATION

Horizontal Picket & Slat Railing

Technical Specifications:

material:	Aluminum
Finishes:	Architectural powder coat
Height:	36", 42", 48", and 72" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Standard Infill options:	3/4" Horizontal pickets or 3" x 1" Tube (custom available)



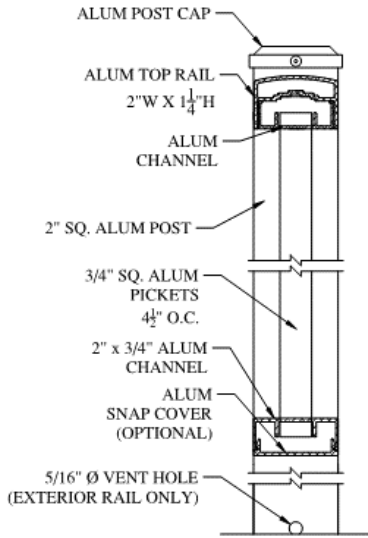
Victorian Railing

All RGS products are capable of being customized to specific needs

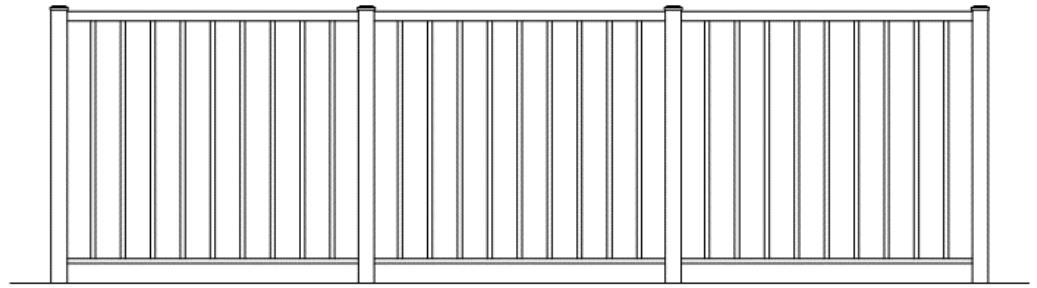


Victorian Railing

Typical Elevation & Section:

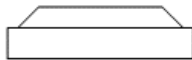


TYPICAL SECTION

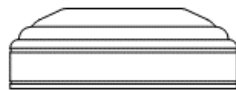


TYPICAL ELEVATION

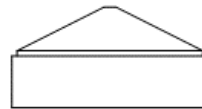
Post Cap Options:



Newell



Newport



Pyramid



Ball

Victorian Railing

Technical Specifications:

material:	Aluminum
Finishes:	Architectural powder coat
Height:	36", 42", 48", and 72" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Standard Infill options:	3/4" Vertical pickets, 3/4" Horizontal pickets, Glass, Mesh, Grate, Perforated panel, SST cable, and Louvers (custom available)



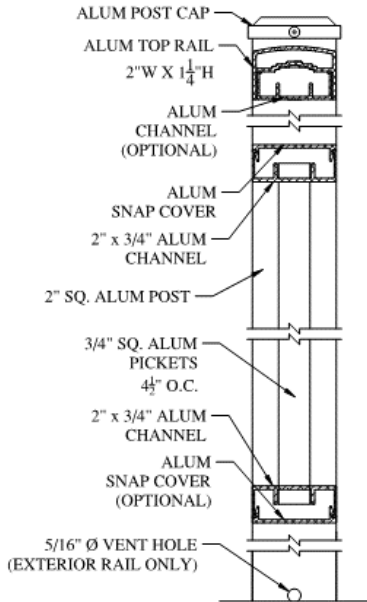
Progressive Victorian Railing

All RGS products are capable of being customized to specific needs

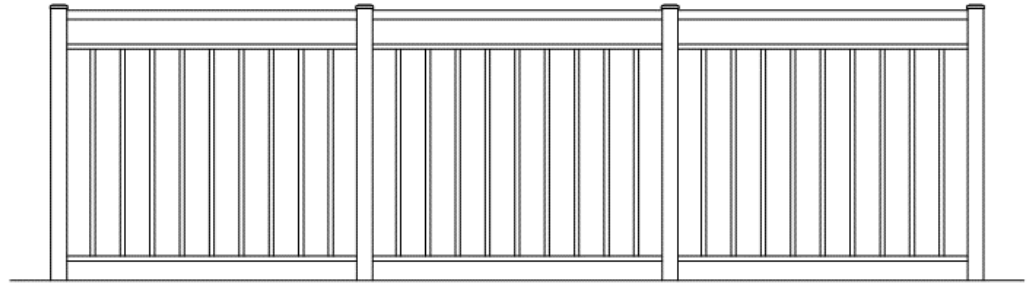


Progressive Victorian Railing

Typical Elevation & Section:

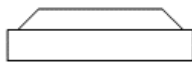


TYPICAL SECTION

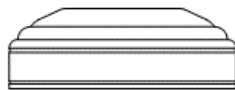


TYPICAL ELEVATION

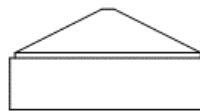
Post Cap Options:



Newell



Newport



Pyramid



Ball

Progressive Victorian Railing

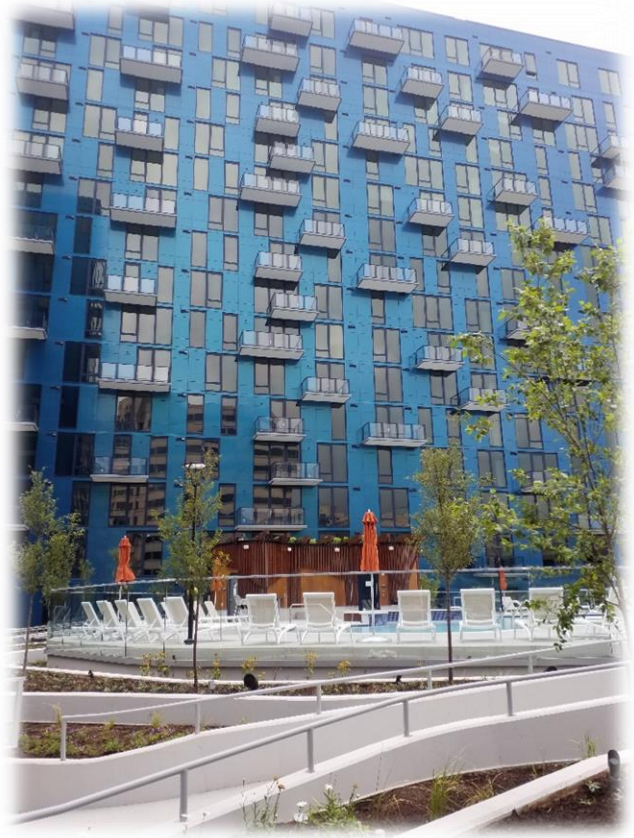
Technical Specifications:

Material:	Aluminum
Finishes:	Architectural powder coat
Height:	36", 42", 48", and 72" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Standard Infill Options:	3/4" Vertical pickets, 3/4" Horizontal pickets, Glass, Mesh, Grate, Perforated panels, SST cable, and Louvers (custom available)



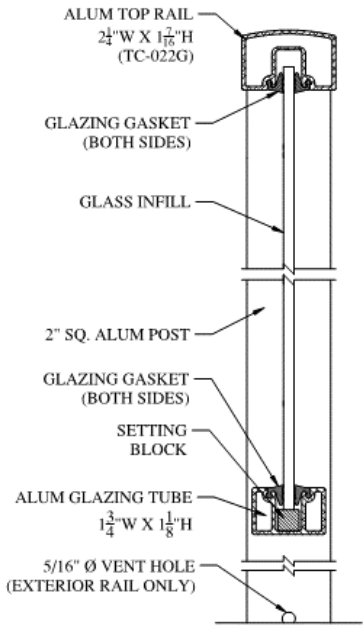
Clearview Glass Railing

All RGS products are capable of being customized to specific needs

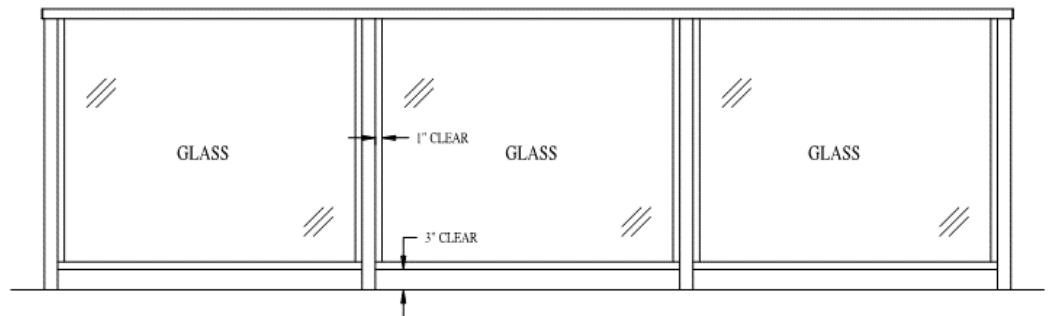


Clearview Glass Railing

Typical Elevation & Section:

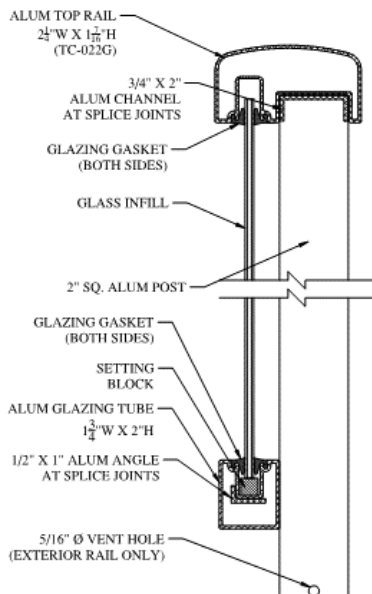


TYPICAL SECTION

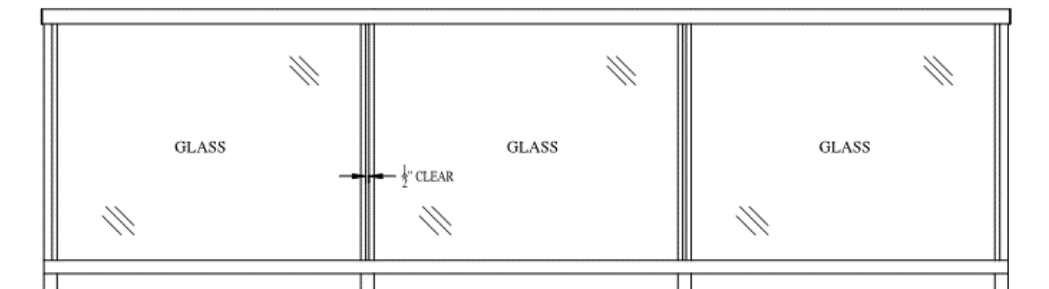


TYPICAL ELEVATION

Typical Elevation & Section (Offset):



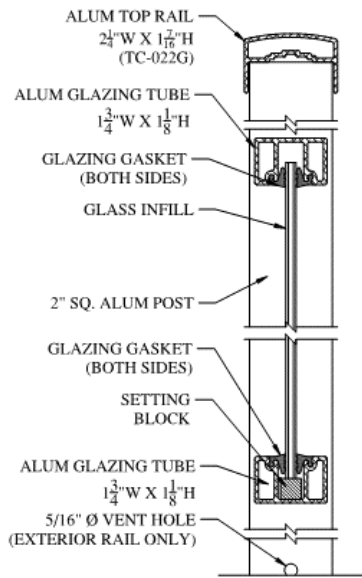
TYPICAL SECTION



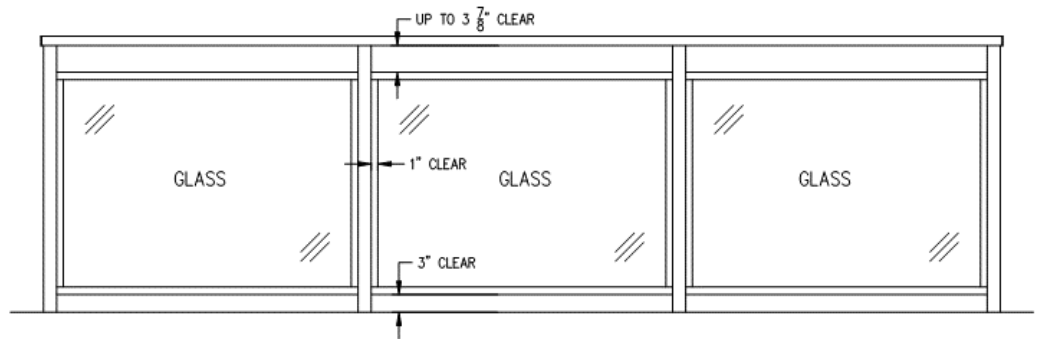
TYPICAL ELEVATION

Clearview Glass Railing

Typical Elevation & Section (Progressive):

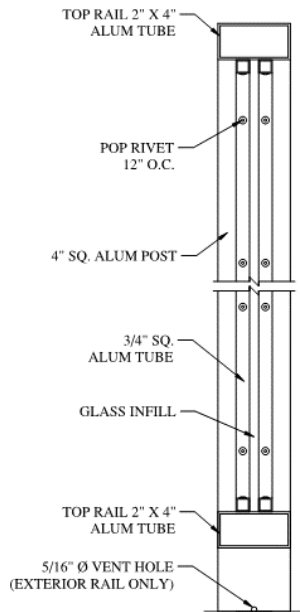


TYPICAL SECTION

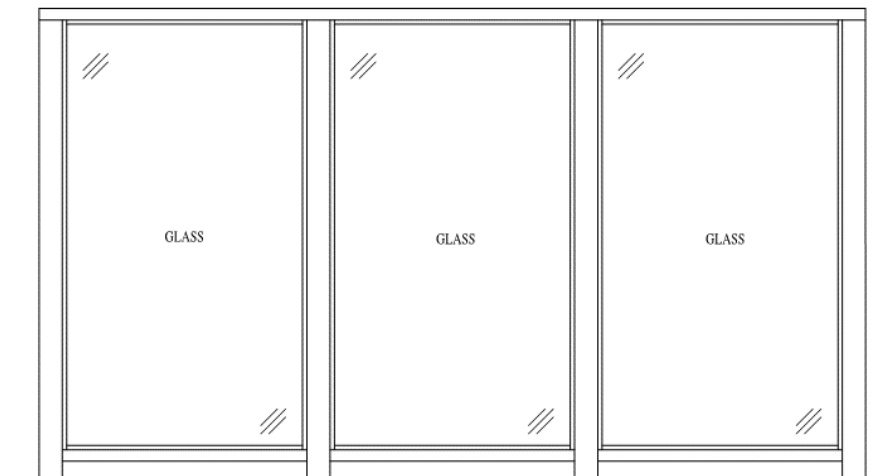


TYPICAL ELEVATION

Typical Elevation & Section (Fence):



TYPICAL SECTION



TYPICAL ELEVATION

Clearview Glass Railing

Technical Specifications:

Material:	Aluminum and Glass
Finishes:	Architectural powder coat
Height:	36", 42", 48", and 72" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Standard Infill options:	3/8" Tempered or 3/8" Laminated (custom available)



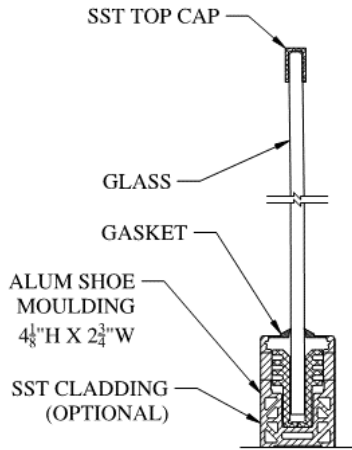
Glass Railing

All RGS products are capable of being customized to specific needs

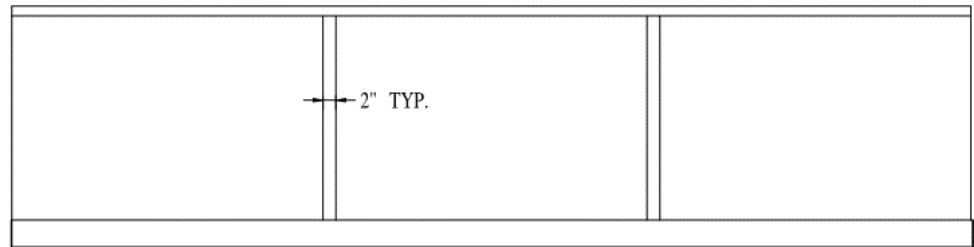


Glass Railing

Typical Elevation & Section (Structural Glass):

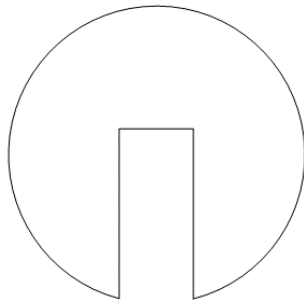


TYPICAL SECTION

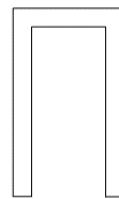


TYPICAL RAILING ELEVATION

Standard Top Cap Options:



Rounded

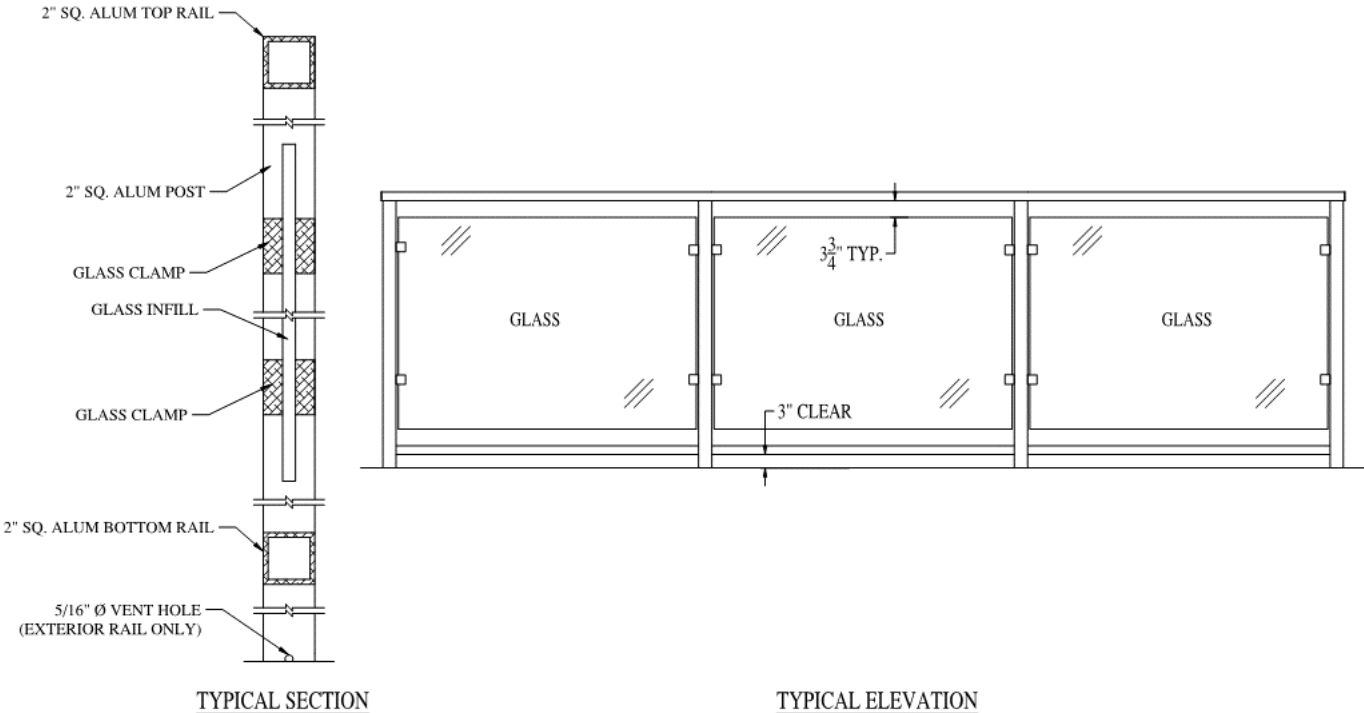


U-Shaped

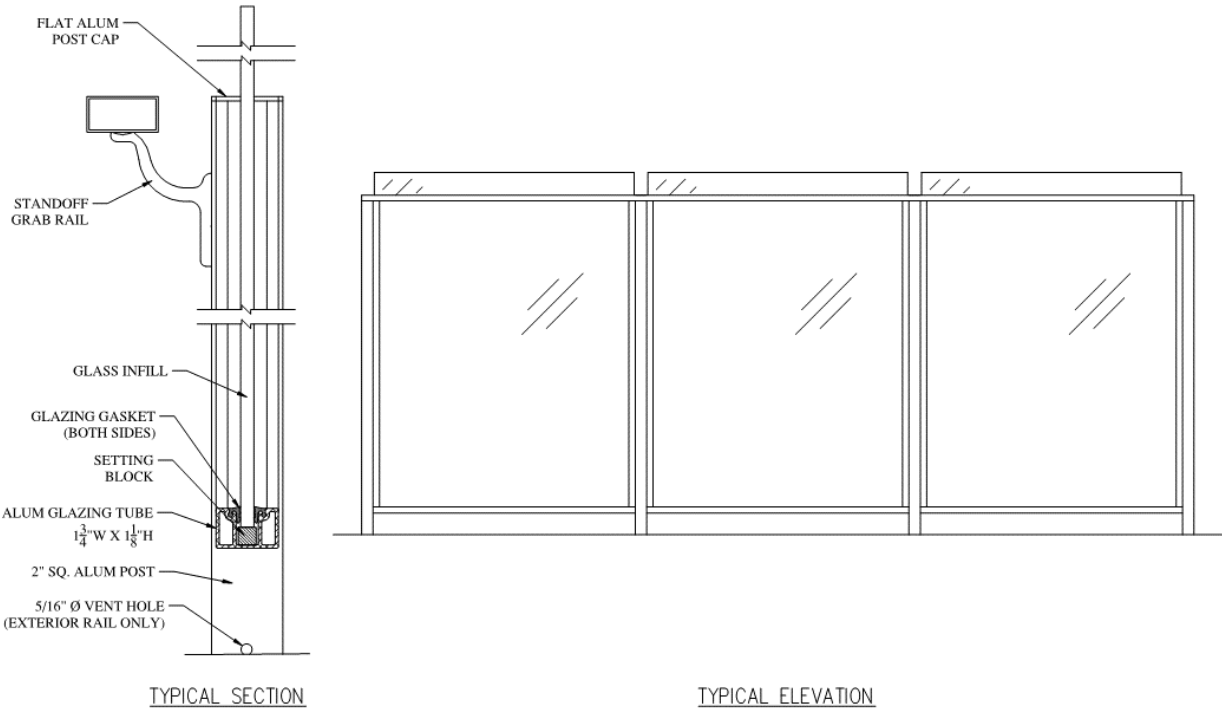
*Available in Aluminum or Stainless Steel
Custom options available upon request*

Glass Railing

Typical Elevation & Section (Glass Clamp):

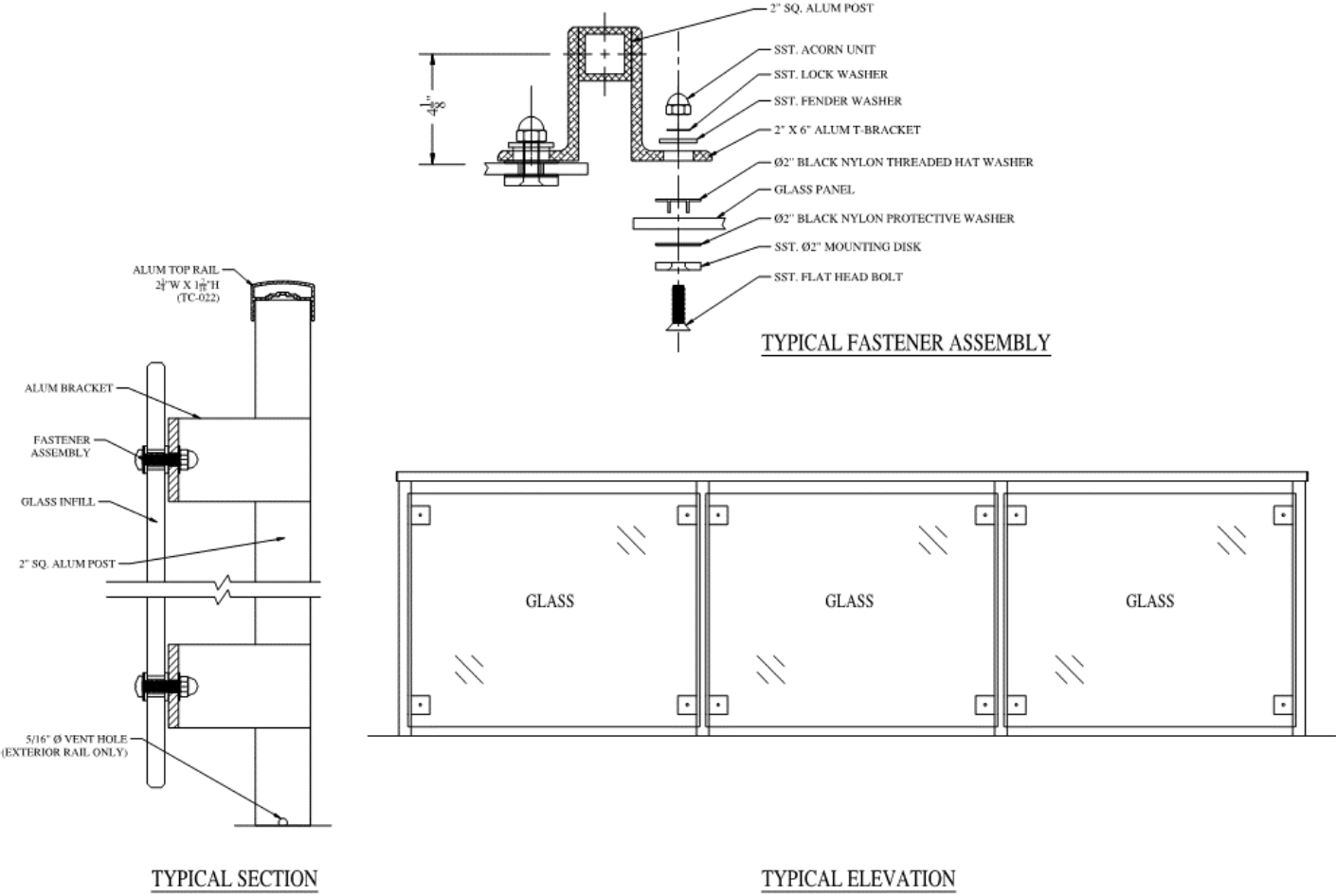


Typical Elevation & Section (Partial Post):



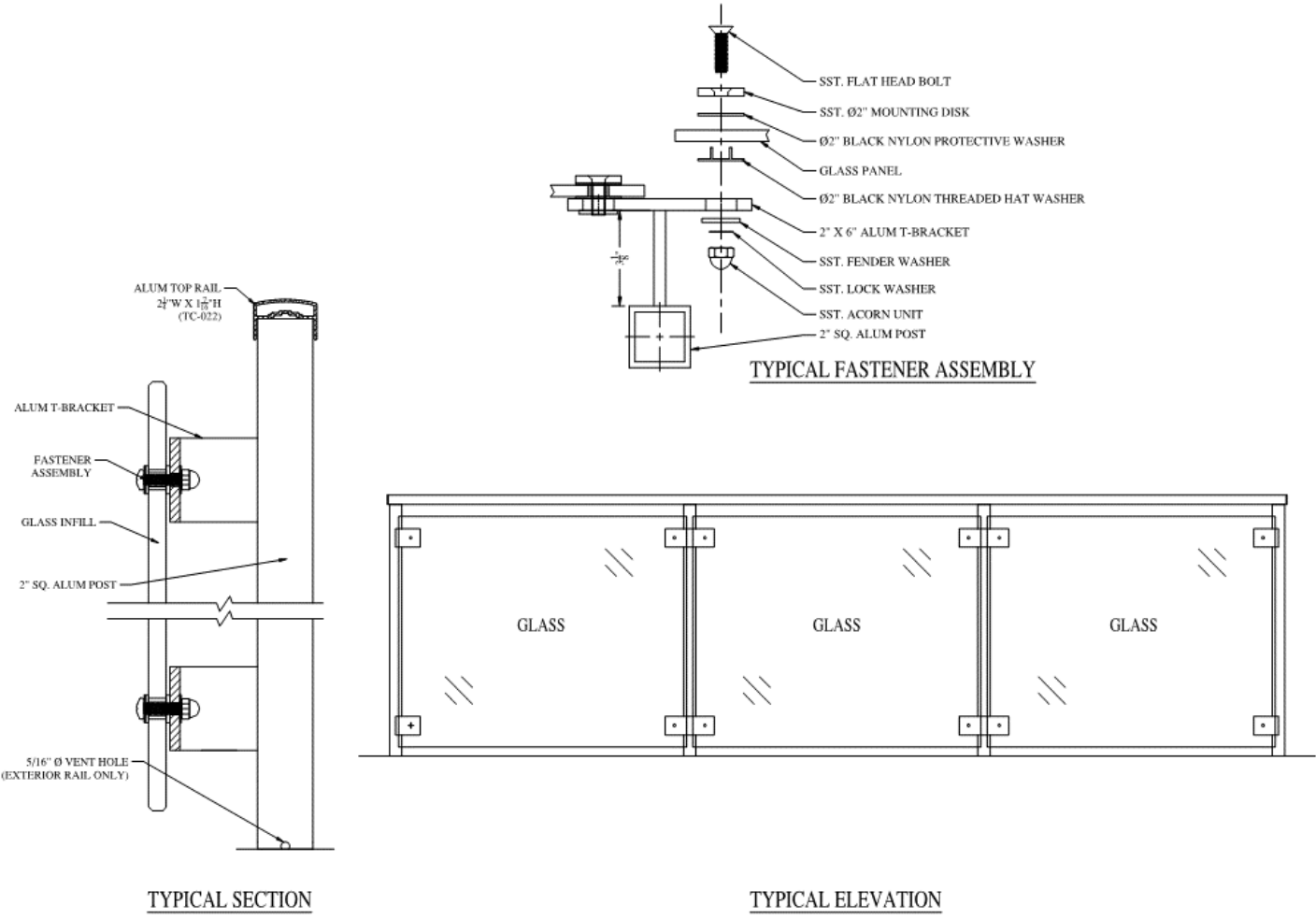
Glass Railing

Typical Elevation & Section (Point Mounted):



Glass Railing

Typical Elevation & Section (T-Bracket):



Glass Railing

Technical Specifications:

Material:	Aluminum and Glass
Finishes:	Architectural powder coat
Height:	36", 42", 48", and 72" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Standard Infill options:	3/8" or 1/2" Tempered and 3/8" or 1/2" Laminated (custom available)



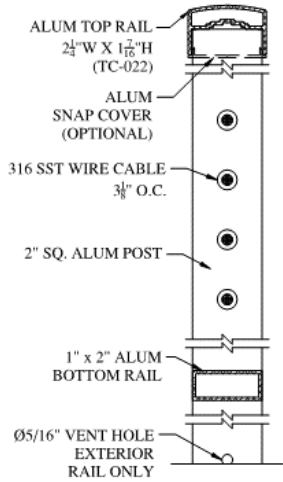
Oceanic Cable Railing

All RGS products are capable of being customized to specific needs

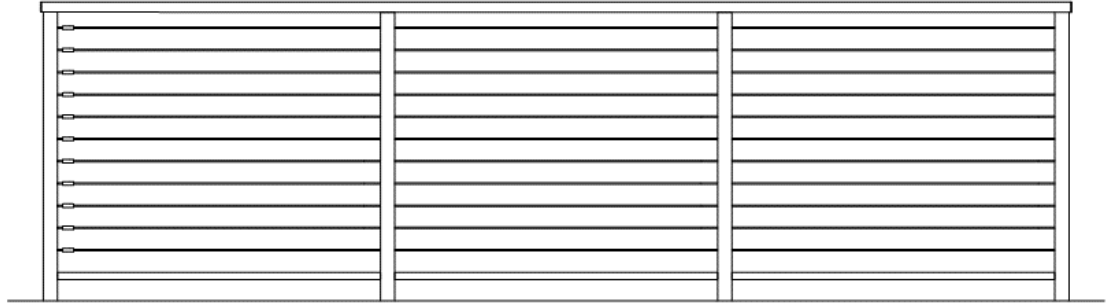


Oceanic Cable Railing

Typical Elevation & Section:

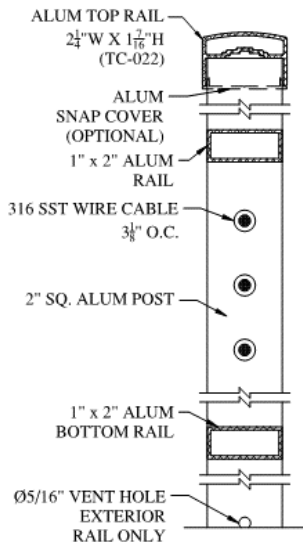


TYPICAL SECTION

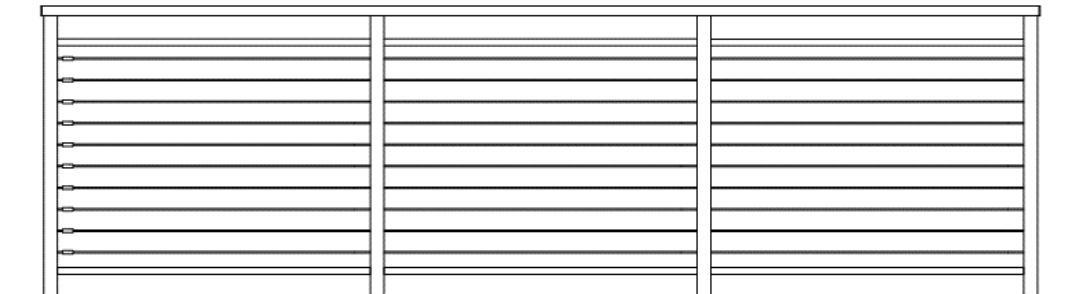


TYPICAL RAILING ELEVATION

Typical Elevation & Section (Progressive):



TYPICAL SECTION



TYPICAL RAILING ELEVATION

Oceanic Cable Railing

Technical Specifications:

material:	Aluminum and stainless steel
Finishes:	Architectural powder coat
Height:	36", 42", 48", and 72" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Standard Infill options:	Horizontal stainless steel cable (custom available)



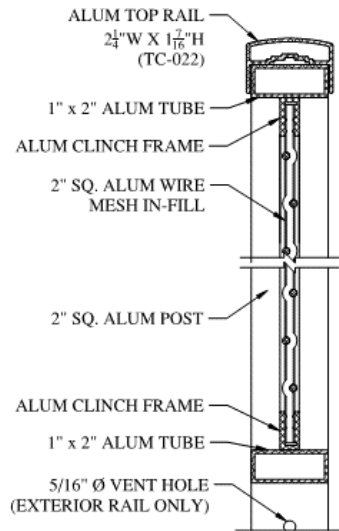
Velocity Mesh & Grate Railing

All RGS products are capable of being customized to specific needs

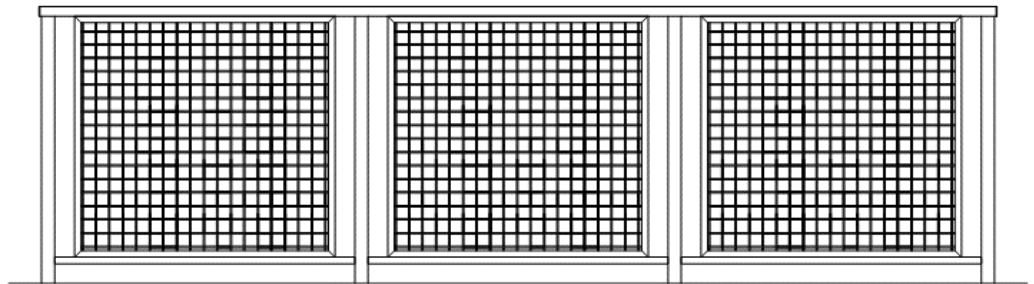


Velocity Mesh & Grate Railing

Typical Elevation & Section (Mesh):

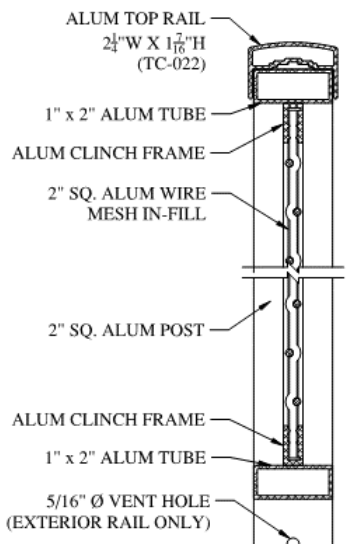


TYPICAL SECTION

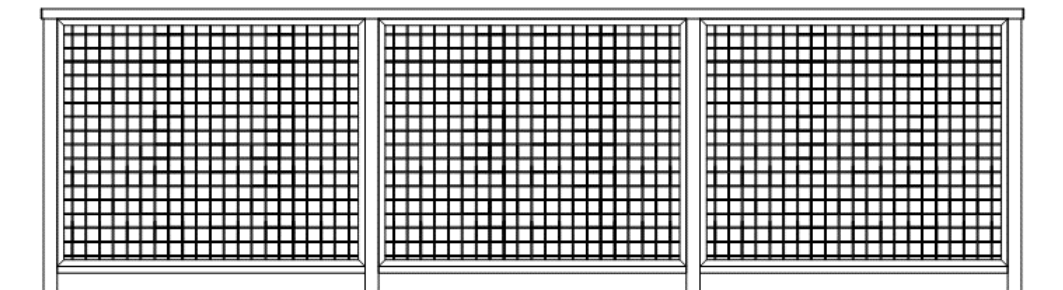


TYPICAL RAILING ELEVATION

Typical Elevation & Section (Mesh, Framed Tight):



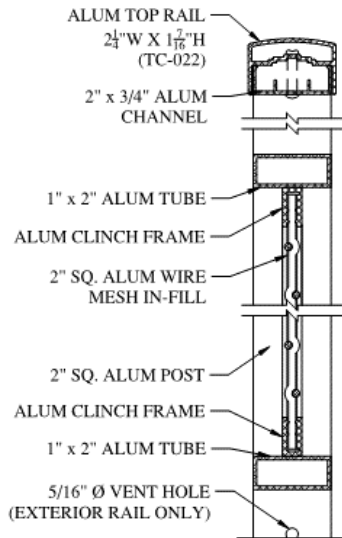
TYPICAL SECTION



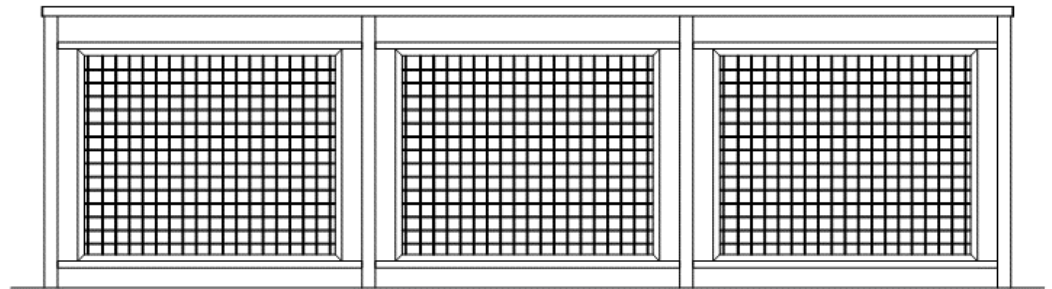
TYPICAL RAILING ELEVATION

Velocity Mesh & Grate Railing

Typical Elevation & Section (Progressive Mesh):

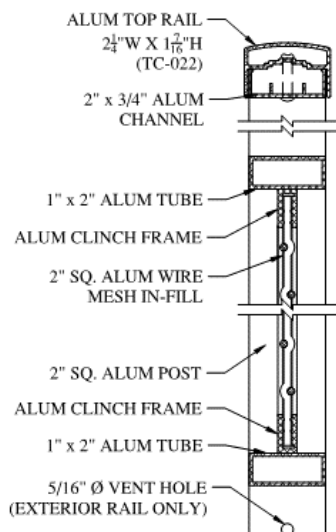


TYPICAL SECTION

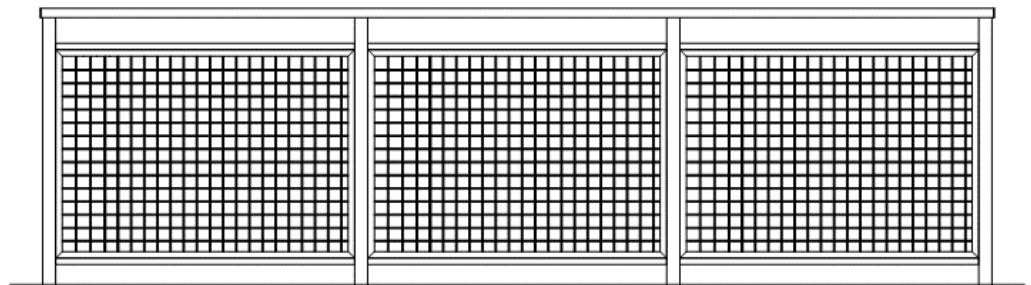


TYPICAL RAILING ELEVATION

Typical Elevation & Section (Progressive Mesh , Framed Tight):



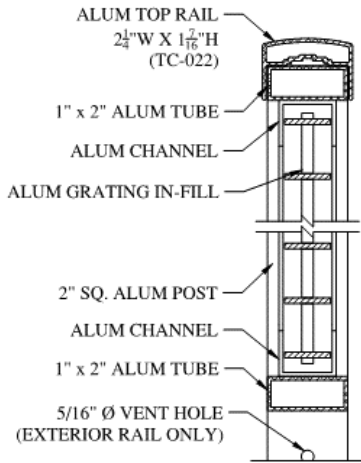
TYPICAL SECTION



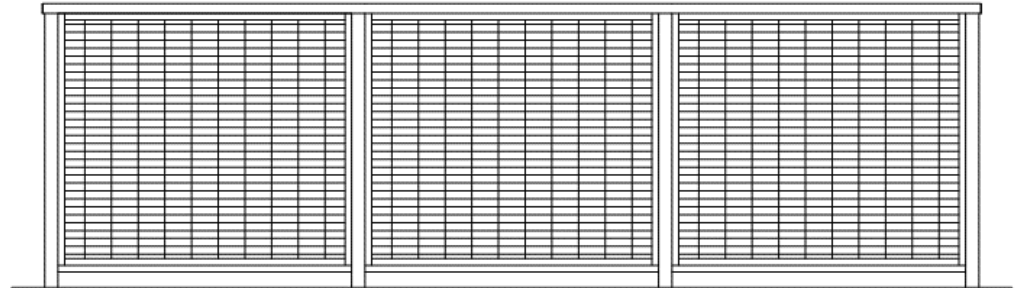
TYPICAL RAILING ELEVATION

Velocity Mesh & Grate Railing

Typical Elevation & Section (Grate):

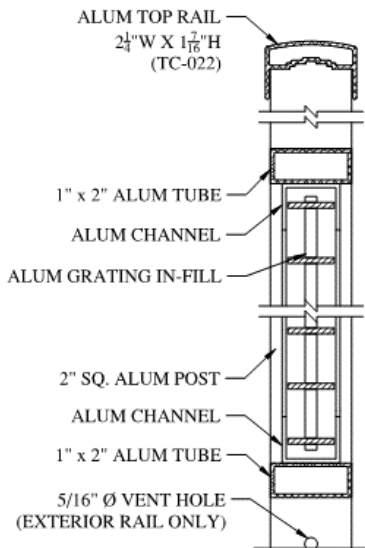


TYPICAL SECTION

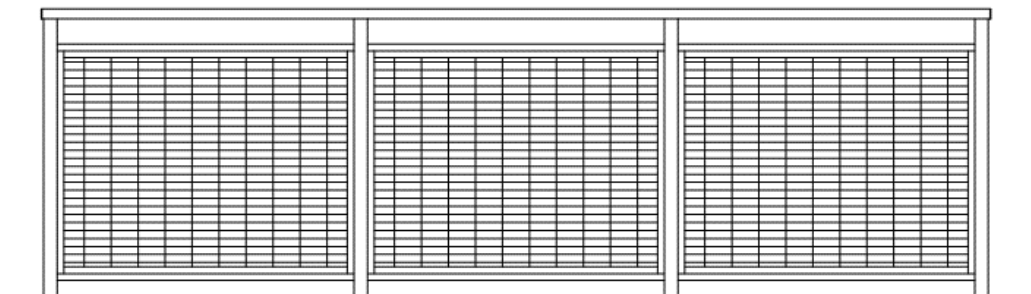


TYPICAL ELEVATION

Typical Elevation & Section (Progressive Grate):



TYPICAL SECTION



TYPICAL ELEVATION

Velocity Mesh & Grate Railing

Technical Specifications:

Material:	Aluminum
Finishes:	Architectural powder coat
Height:	36", 42", 48", and 72" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Standard Infill options:	2" x 2" ww mesh or grate (custom available)



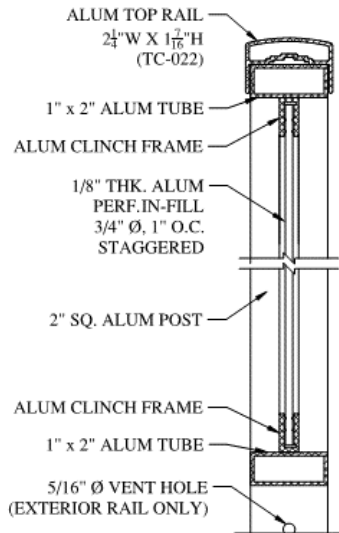
Velocity Perforated Railing

All RGS products are capable of being customized to specific needs

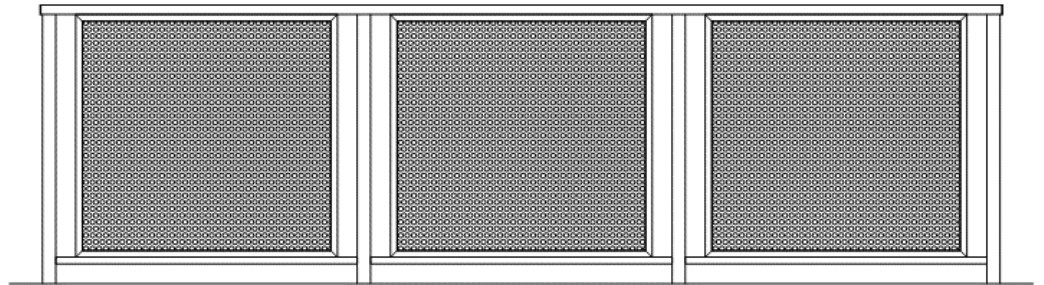


VELOCITY PERFORATED RAILING

Typical Elevation & Section:

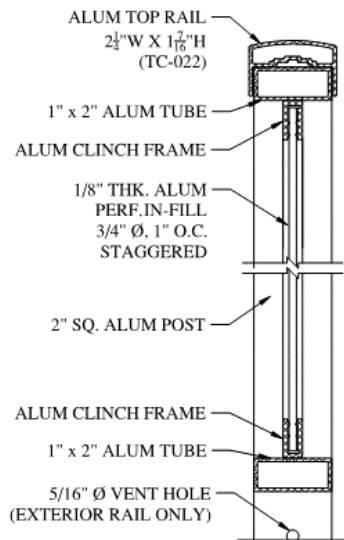


TYPICAL SECTION

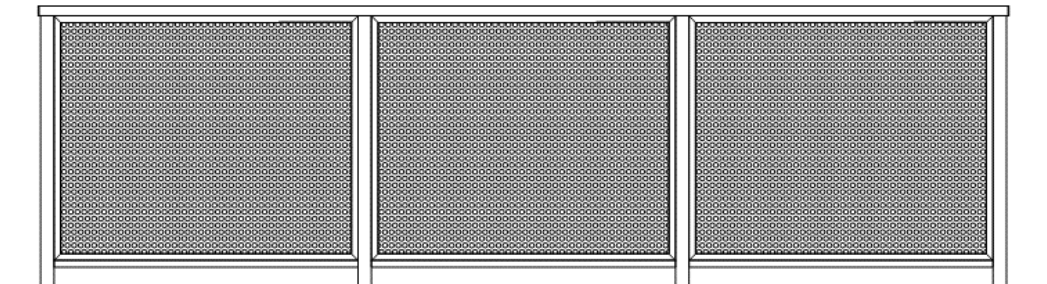


TYPICAL RAILING ELEVATION

Typical Elevation & Section (Framed Tight):



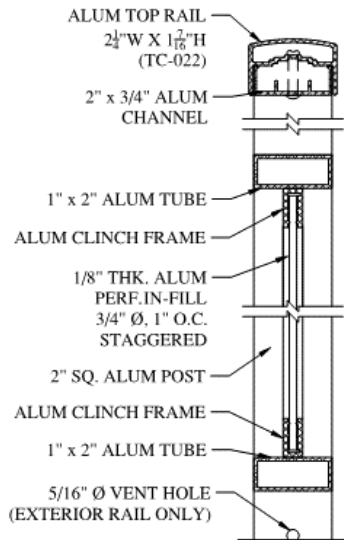
TYPICAL SECTION



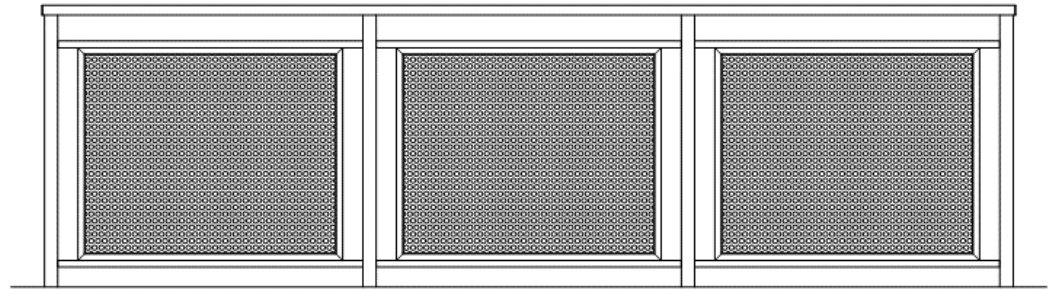
TYPICAL RAILING ELEVATION

VELOCITY PERFORATED RAILING

Typical Elevation & Section (Progressive):

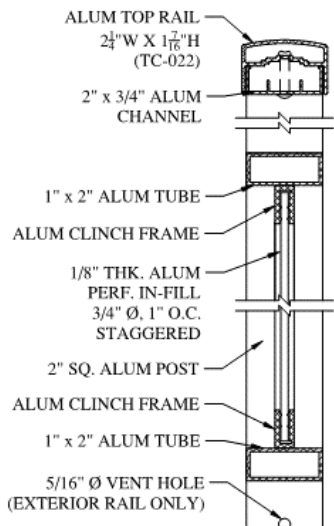


TYPICAL SECTION

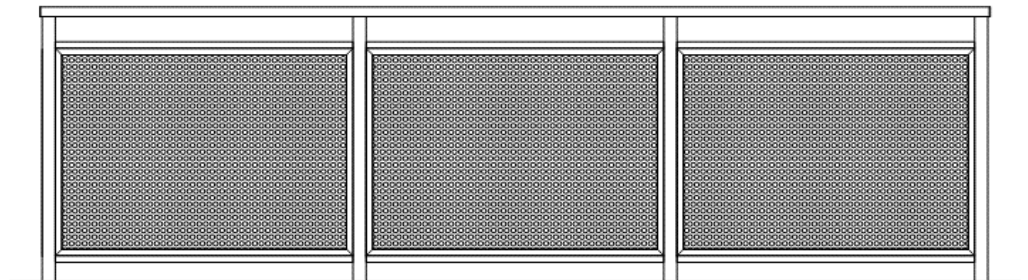


TYPICAL RAILING ELEVATION

Typical Elevation & Section (Progressive, Framed Tight):



TYPICAL SECTION



TYPICAL RAILING ELEVATION

VELOCITY PERFORATED RAILING

Technical Specifications:

material:	Aluminum
Finishes:	Architectural powder coat
Height:	36", 42", 48", and 72" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Standard Infill options:	Perforated Panel (custom available)



Pipe & Tube Railing

All RGS products are capable of being customized to specific needs



Pipe & Tube Railing

Technical Specifications:

Material:	Aluminum or stainless steel
Finishes:	Architectural powder coat
Height:	36", 42", and 48" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Standard Infill options:	Pipe and Tube (custom available)



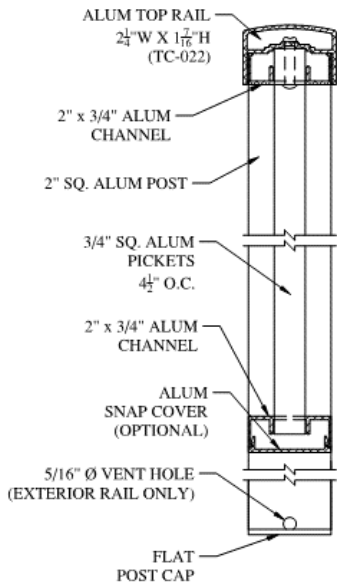
Juliet Railing & Balcony

All RGS products are capable of being customized to specific needs

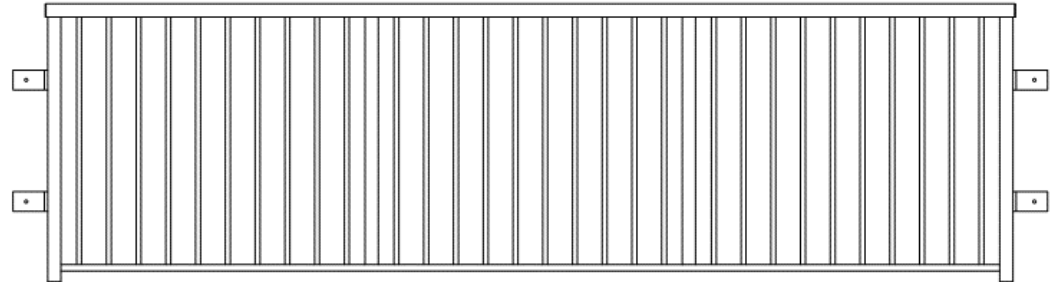


Juliet Railing & Balcony

Typical Elevation & Section:

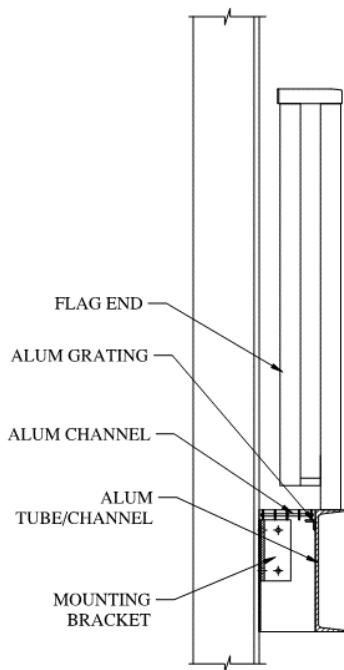


TYPICAL SECTION

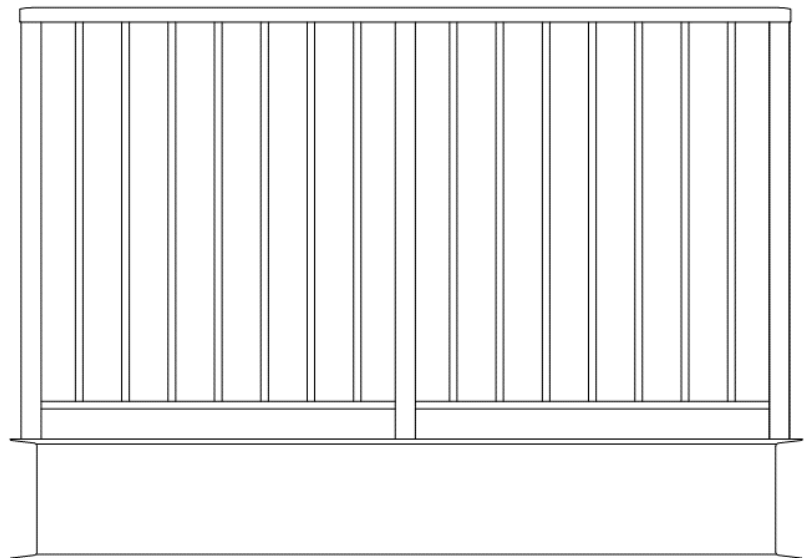


TYPICAL RAILING ELEVATION

Typical Elevation & Section (Prefabricated Balcony):



TYPICAL SECTION



TYPICAL ELEVATION

Juliet Railing & Balcony

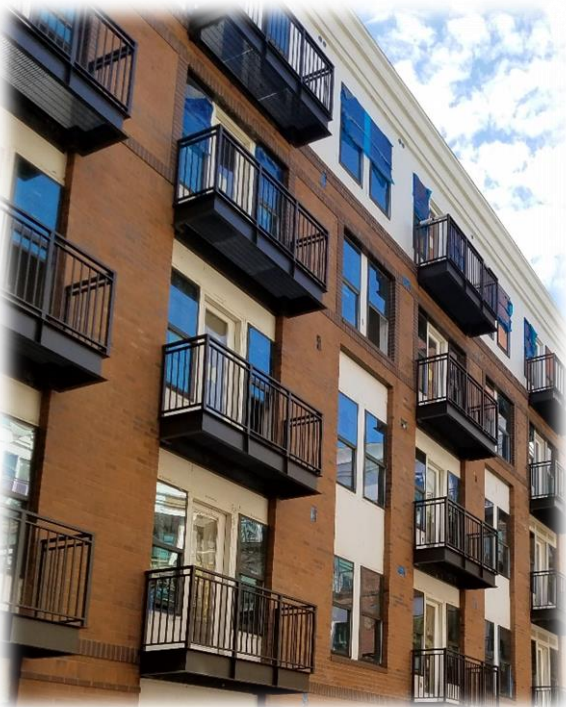
Technical Specifications:

Material:	Aluminum, Glass
Finishes:	Architectural powder coat
Height:	42" and 48" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Standard Infill options:	3/4" Vertical picket, 3/4" Horizontal picket, Tube, Glass, Cable, Mesh, Grate, and Perforated Panel (custom available)
Standard Decking options:	Aluminum grate or EMS decking (custom available)



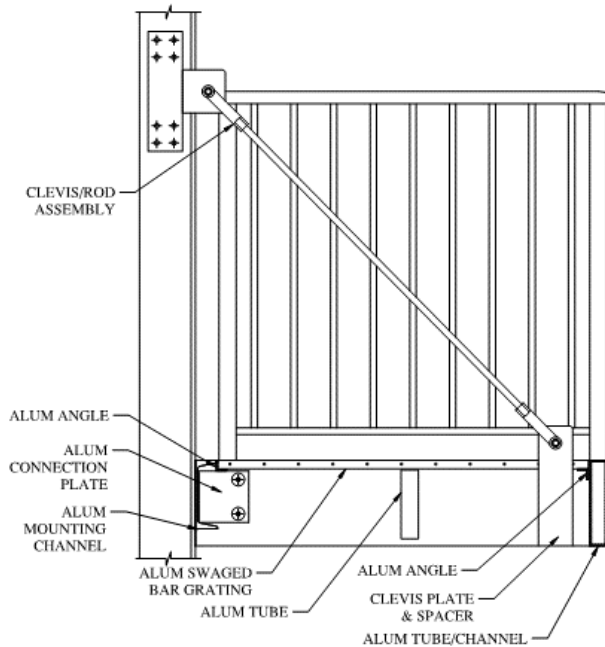
Prefabricated Balcony

All RGS products are capable of being customized to specific needs

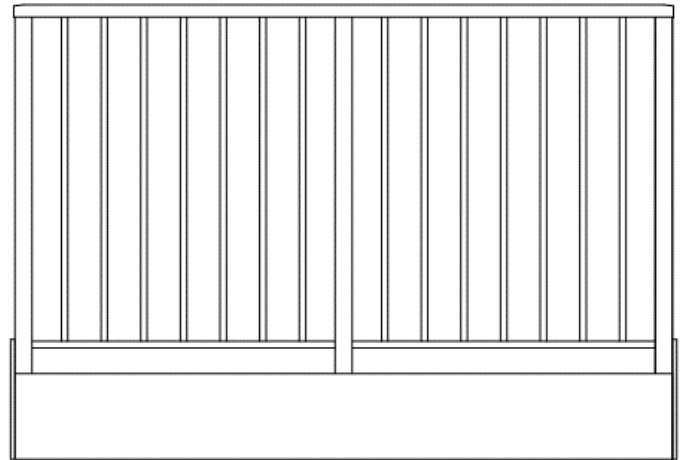


Prefabricated Balcony

Typical Elevation & Section:



TYPICAL SECTION



TYPICAL ELEVATION

Technical Specifications:

Material:	Aluminum
Finishes:	Architectural powder coat
Height:	42" and 48" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Infill options:	Any RGS Railing (custom available)
Standard Decking options:	Aluminum grate or EMS decking (custom available)



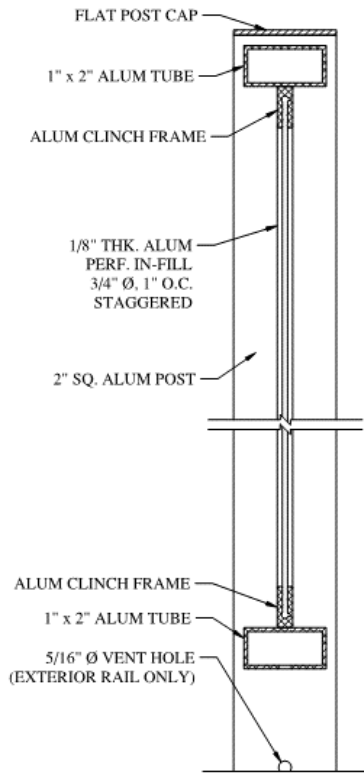
Dividers

All RGS products are capable of being customized to specific needs

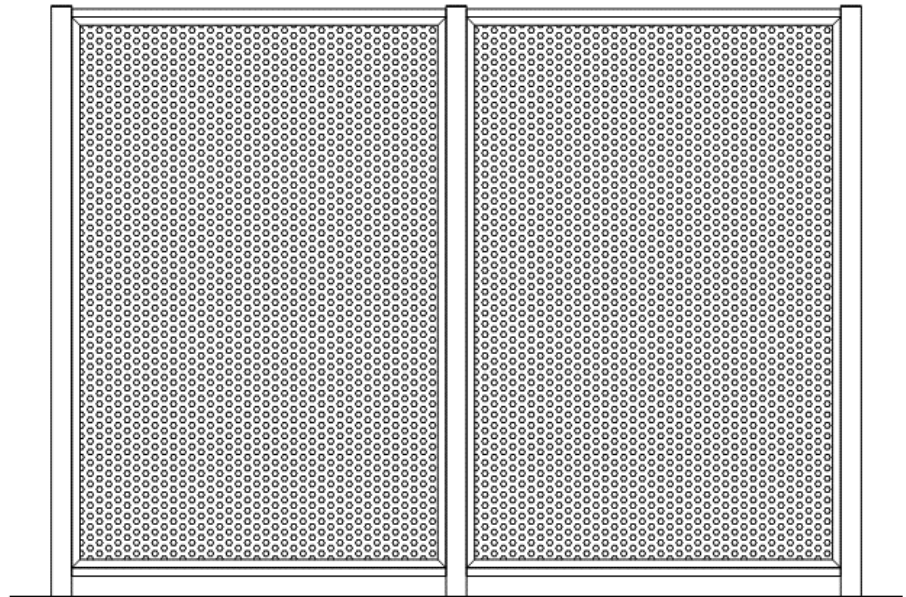


Dividers

Typical Elevation & Section (Perforated):



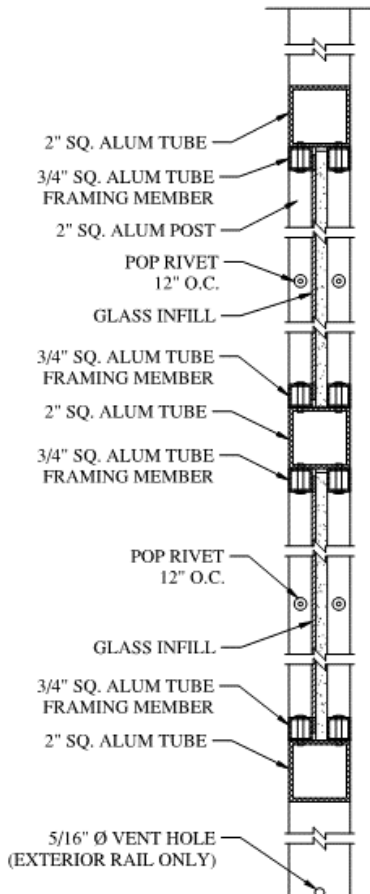
TYPICAL SECTION



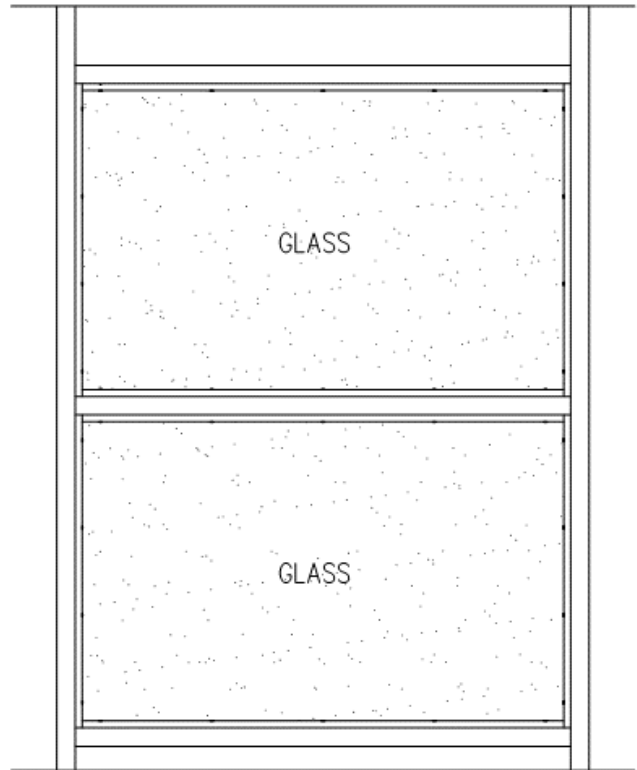
TYPICAL ELEVATION

Dividers

Typical Elevation & Section (Glass):



TYPICAL SECTION



TYPICAL ELEVATION

Dividers

Technical Specifications:

Material:	Aluminum, Glass
Finishes:	Architectural powder coat
Height:	72" and 96" Standard (custom available)
Standard Post Spacing:	4' O.C. Max. (custom available)
Standard Infill options:	3/4" Picket, Glass, Mesh, Perforated Panel, Grate, Solid Panel, and Louver (custom available)



Screens & Louvers

All RGS products are capable of being customized to specific needs



Screens & Louvers



Screens & Louvers

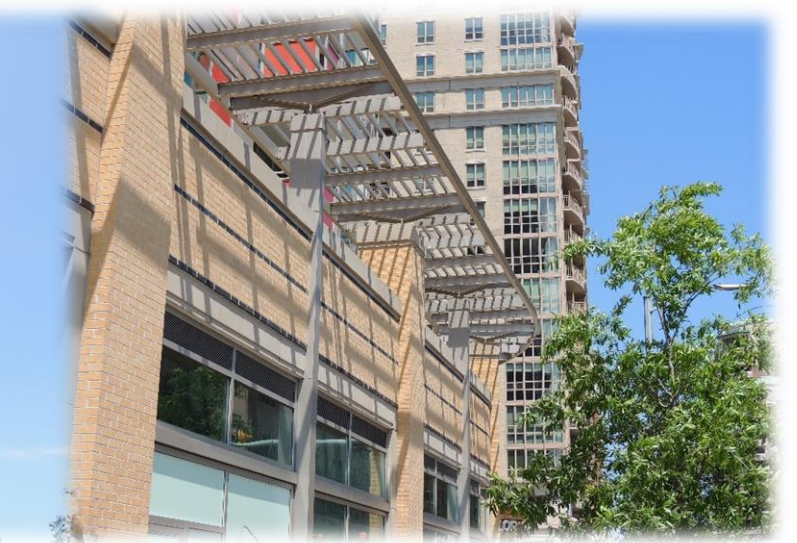
Technical Specifications:

Material:	Aluminum, Glass
Finishes:	Architectural powder coat
Height:	Custom
Infill options:	3/4" Picket, Mesh, Grate, Perforated Panel, Glass, Cable, and Louvers (custom available)



Trellis & Canopies

All RGS products are capable of being customized to specific needs



Trellis & Canopies



*RGS Products Inc. | 455 West 2nd Street, P.O. Box 11 | Waterford, PA 16411
Phone: (814) 796-4515 | Fax: (814) 796-4009 | E-mail: sales@rgsproductsinc.com*

Trellis & Canopies



RGS Products Inc. | 455 West 2nd Street, P.O. Box 11 | Waterford, PA 16411
Phone: (814) 796-4515 | Fax: (814) 796-4009 | E-mail: sales@rgsproductsinc.com

Trellis & Canopies

Technical Specifications:

Material:	Aluminum, Glass
Finishes:	Architectural powder coat
Height:	Custom
Standard Infill options:	Tube and Glass (custom available)

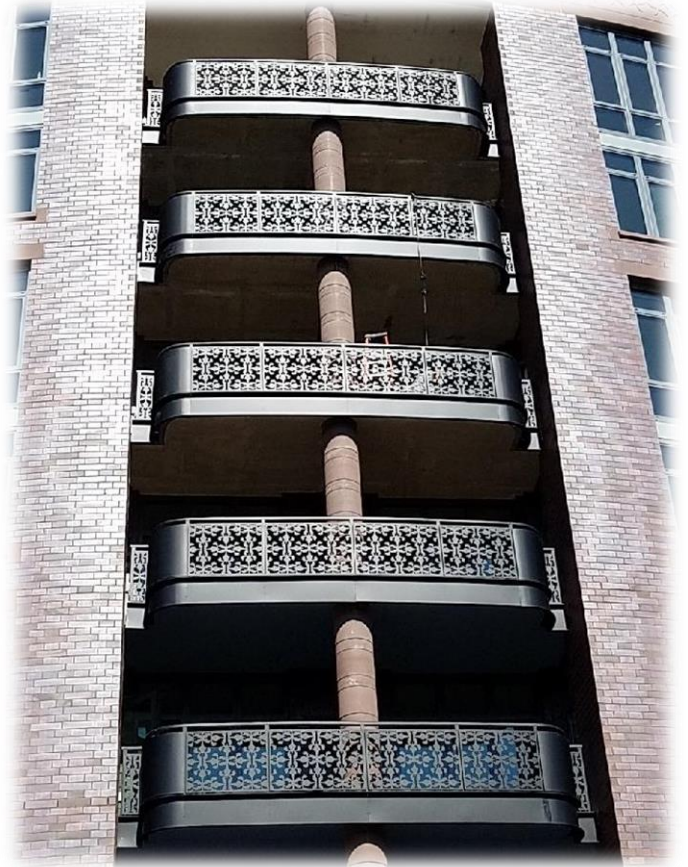


Custom Work

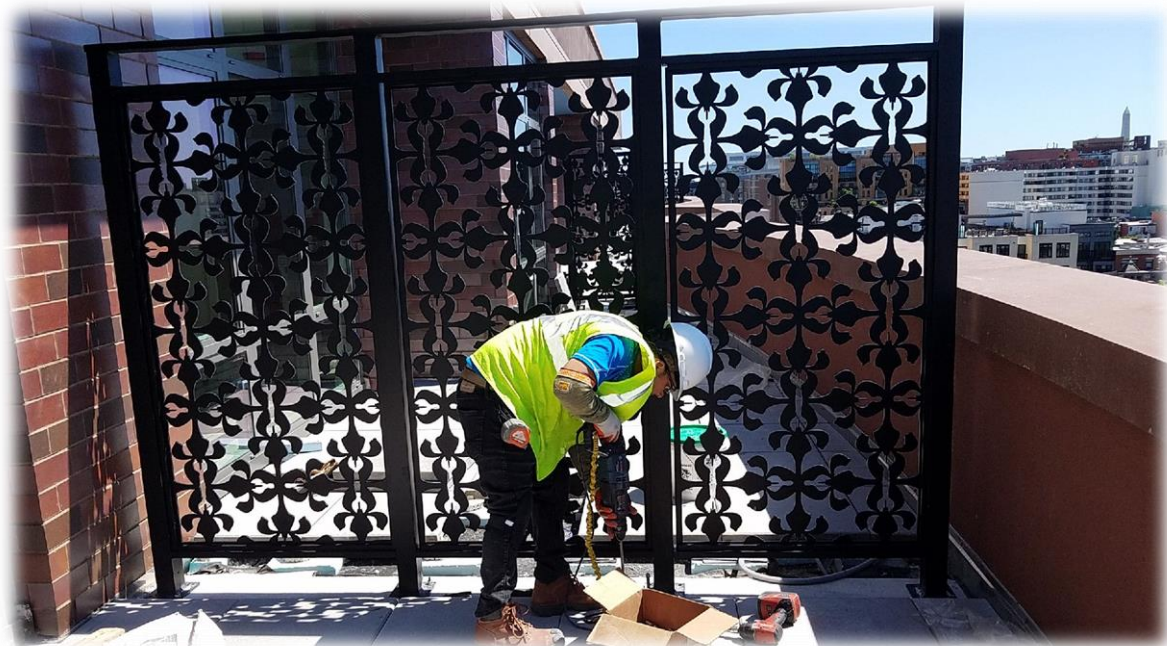
All RGS products are capable of being customized to specific needs



Custom Work



Custom Work



*RGS Products Inc. | 455 West 2nd Street, P.O. Box 11 | Waterford, PA 16411
Phone: (814) 796-4515 | Fax: (814) 796-4009 | E-mail: sales@rgsproductsinc.com*



SECTION 05520
HANDRAILS AND RAILINGS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The General Provisions of the contract, including General and Supplementary Provisions and General Requirements apply to work specified in this Section.

1.2 REFERENCES

- A. AA 30 - "Specifications for Aluminum Structures".
- B. AAMA 2604 – Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.
- C. AAMA 2605 – Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.
- D. ADA, Standards for Accessible Design, 2010.
- E. ANSI – Z97.1 Safety Performance Specifications and Methods of Testing for Safety Glazing Materials Used in Buildings.
- F. ASTM B 26/B 26M - Standard Specification for Aluminum-Alloy Sand Castings; 2005.
- G. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2004.
- H. ASTM B 210 - Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes; 2004.
- I. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2005.
- J. ASTM B 247 - Standard Specification for Aluminum and Aluminum-Alloy Die Forgings, Hand Forgings, and Rolled Ring Forgings; 2000.
- K. ASTM B 429 - Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube; 2002.
- L. ASTM C 1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Non-shrink); 2002.
- M. ASTM E 985 - Standard Specification for Permanent Metal Railing Systems and Rails for Buildings.

1.3 PERFORMANCE REQUIREMENTS

- A. General: Handrails and railings shall withstand structural loading as determined by allowable design working stresses of materials based on the following standards.
- B. Structural Performance: Provide handrails and railings capable of withstanding the following structural loads without exceeding allowable design working stress of materials for handrails, railings, anchors and connections:
 - 1. Handrails and Guards: Shall withstand the following loads:
 - a. Concentrated load of 200 lbf (0.89kN) applied at any point and in any direction.
 - b. Uniform load of 50 lbf-ft. (0.07kN-m) applied in any direction.
 - c. Concentrated and uniform loads above need not be assumed to act concurrently.
 - 2. Intermediate components and Infill Area: Shall withstand the following loads:
 - a. Concentrated horizontal load of 50 lbf (0.89 kN) applied to a 1sq. ft. at any point in system, including panels, intermediate rails, balusters, or other elements composing infill area. Loads need not be assumed to act concurrently, with loads on top rails in determining stress on guard.
- C. Thermal Movements: Design handrails and railings to allow for movements resulting from 120 degree F (49 C) changes in ambient and 180 degree F (82 C) surface temperatures. Base design upon surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
- D. Corrosion Resistance: To prevent galvanic corrosion, isolate metals and incompatible materials to eliminate direct contact.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: For Manufacturer's products assembled from standard components to be used, including:
 - 1. Powder Coat Paint or other finish provided.
- C. Shop Drawings:
 - 1. Submit Manufacturer's approved shop drawings detailing the section and elevation views of each product to be installed.
 - 2. Coordinate with locations listed on Contract Drawings.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing railing manufacturer's full range of available colors.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of railing through one source, from a single manufacturer.
- B. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.

2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
3. Mock up may remain in place and become incorporated into the finished work, subject to approval of the architect.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify handrail and railing dimensions by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating handrails and railings without field measurements. Coordinate construction to ensure that actual dimensions correspond to established dimensions.

1.8 WARRANTY

- A. At project closeout, provide to the Owner or Owners Representative, an executed copy of the manufacturer's standard document outlining the terms, conditions and limitations of their Warranty.
 1. Material Warranty: One (1) Year.
 2. Finish Warranty: Five (5) Years AAMA 2604.
 3. Finish Warranty: Ten (10) Years AAMA 2605

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. RGS Products Inc., located at: 455 West Second St., Waterford, PA 16441; Tel: 814-796-4515; Email: sales@rgsproductsinc.com
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 METALS

- A. General: Provide metal free from pitting, seam marks, roller marks, stains, discolorations, and other imperfections where exposed to view on finished units.
- B. Aluminum: 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/T52
 2. Extruded Structural Pipe and Tube: ASTM B 429, alloy 6063-T832.
 3. Plate and Sheet: ASTM B 209 (ASTM B 209M), alloy 6061-T6.
 4. Die and Hand Forgings: ASTM B247 (ASTM B 247 M), alloy 6061-T6
 5. Castings: ASTM B 26/B 26M, alloy A356-T6.

- C. Brackets, Flanges and Anchors: Formed metal of same type of material and finish as supported rails, unless otherwise indicated.
 - 1. Provide brackets with flange for concealed anchorage to hanger bolt.
 - 2. Provide formed brackets with predrilled hole for exposed bolt anchorage.
 - 3. Provide brackets with internal sleeve connectors.

2.3 GLASS PRODUCTS AND GLAZING MATERIALS

- A. Tempered Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated), Type 1 (transparent glass, flat) or Type 2 (tinted glass, flat), Quality q3 (glazing select). Provide products complying with requirements indicate below for class, thickness, and manufacturing process that have been tested for surface and edge compression according to ASTM C 1048 and for impact strength according to 16CFR, Part 1201for Category II materials.
- B. Laminated Glass: ASTM E 2353 Kind LHS (Laminated Heat Strengthened), Condition A (uncoated), Type 1 (transparent glass, flat) or Type 2 (tinted glass, flat), Quality q3 (glazing select).Provide products complying with requirements indicate below for class, thickness, and manufacturing process that have been tested for surface and edge compression according to ASTM E 2353 and for impact strength according to 16CFR, Part 1201for Category II materials.

2.4 FASTENERS

- A. Handrail Anchors: Select fasteners of type, grade and class required to produce connections suitable for anchoring handrails and railings to other types of construction indicated and capable of withstanding design loads.
- B. Handrail and Railing Component Anchors: Use fasteners fabricated from same basic metal, unless otherwise indicated. Do not use metals that are corrosive or incompatible with materials joined.
 - 1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are a standard fastening method for handrail and railing indicated.

2.5 GROUT AND ANCHORING CEMENT

- A. Non-shrink, Nonmetallic Grout: Premixed, factory-packaged, non-staining, non-corrosive, non-gaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.6 FABRICATION

- A. Assemble handrails and railings in shop to greatest extent possible to minimize filed splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- B. Form changes in direction of railing members as shown in the Contract Drawings.

- C. Mechanical Connections: Fabricate handrails and railings by connecting members with railing manufacturer's standard concealed mechanical fasteners and fittings, unless otherwise indicated. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
- D. Brackets, Flanges, Fittings and Anchors: Provide manufacturer's standard wall brackets, flanges, miscellaneous fittings and anchors to connect handrail and railing members to other construction.
- E. Provide inserts and other anchorage devices to connect handrails and railings to concrete or masonry. Fabricate anchorage devices capable of withstanding loads imposed by handrails and railings. Coordinate anchorage devices with supporting structure.
- F. Shear and punch metals cleanly and accurately. Remove burrs from exposed cut edges.
- G. Cut, reinforce, drill and tap components as indicated on drawings to receive finish hardware, screws and similar items.
- H. Close exposed ends of railing members with prefabricated end fittings.
- I. Provide mounted handrails wall returns at wall ends unless otherwise indicated. Close ends of returns, unless clearance between end of railing and wall is 1/4 inch (6mm) or less.

2.7 FINISHES

- A. General:
 - 1. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
 - 2. Appearance of Finished Work:
 - a. Variations in appearance of abutting or adjacent units are acceptable if they are within one-half of the range of approved samples. Noticeable variations in the same unit are not acceptable.
 - b. Variations in appearance of other components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.
- B. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- C. High Performance Organic Powder Coating Finish: AAC12C42R1X (Chemical Finish: cleaned with inhibited chemicals; Powder Coating: as specified below). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with manufacturer's written instructions a minimum 5 stage cleaning and pre-treatment system shall be utilized to remove organic and inorganic surface oils, and residual oxides. The pre-treatment when used in conjunction with a baked organic coating shall produce a total finishing system capable of meeting impact, adhesion, detergent, humidity and salt spray performance as specified in the appropriate AAMA 2605 specification.
- D. Polyester Powder Coating, 2-3 mil. Average film thickness AAMA 2603 or AAMA

2604.

Color and Gloss: As Selected by Architect from manufacturer's full range of standard colors.

PART 1 EXECUTION

1.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

1.2 PREPARATION

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

1.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Clean surfaces thoroughly with soap and water after installation is completed.

1.4 PROTECTION

- A. Protect finishes of handrails and railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at the time of Substantial Completion.
- B. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in field to shop; make requires alterations and refinish entire unit, or provide new units.

END OF SECTION



Closing

Thank you for our products. We are very interested in becoming an approved railing supplier for your project, as well as any future projects you will be working on.

RGS has supplied 100's of thousands of feet of aluminum and/or glass railings for restoration projects nationwide, and we understand the special needs and demands unique to specialized projects. We are interested in being engaged early in the design phases of the projects, where we are able to assist in providing preliminary railing designs which meet your clients structural and aesthetic requirements.

Attached is a copy of our project history report, as of May 2019. This will give you an idea of the magnitude of projects we are capable of.

We would appreciate the opportunity to further discuss our capabilities with you and will follow up with you in a few days.

In the meantime, please do not hesitate to call with any questions or concerns you may have.

Thank you for your time and consideration