



LISTING INFORMATION OF
Digger Specialties - Westbury Aluminum Railing System
SPEC ID: 33512

Digger Specialties, Inc.
3446 US 6 East
Bremen, IN 46506
United States

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

LISTING INFORMATION

The Westbury Aluminum Railing system is a guard or guardrail under the definitions of the referenced codes. It is intended for use at or near the open sides of elevated walking areas of buildings and walkways as required by the codes.

CODE COMPLIANCE RESEARCH REPORT

Evaluation Method	Building Code	Report Number
ICC-ES AC273	2015, 2012 IBC 2015, 2012 IRC 2020 FBC	CCRR-0163

Attribute	Value
Code Reports	Yes
Criteria	ICC-ES AC273 (2016)
CSI Code	05 52 00 Metal Railings
CSI Code	05 00 00 Metals
Intertek Services	Certification
Intertek Services	Code Compliance Research Report
Listed or Inspected	LISTED
Listing Section	METAL RAILINGS
Spec ID	33512

Issue Date: 04-13-2011
Revision Date: 09-30-2021
Renewal Date: 10-31-2022

DIVISION: 05 00 00 - METALS
Section: 05 52 00 – Metal Railings

REPORT HOLDER:

Digger Specialties, Inc.
3446 US Highway 6 East
Bremen, IN 46506
(574)-546-5999
www.diggerspecialties.com

REPORT SUBJECT:

Westbury® Aluminum Railing

- *Tuscany Series (Style C10, C101)*
- *Riviera Series (Styles C30, C301, C30R, C301R, C31, C311, C32, C321, C33, C331, C34 and C341)*
- *Veranda Series (Style C70)*
- *VertiCable Series (Style C80)*
- *Liberty Series (Style S10)*
- *Screen Rail*

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2015 and 2012 *International Building Code® (IBC)*
- 2015 and 2012 *International Residential Code® (IRC)*
- 2020 *Florida Building Code (see Section 9.0)*
- 2020 *Florida Building Code Residential (See Section 9)*

1.2 *Westbury® Aluminum Railing* has been evaluated for the following properties (see Table 1):

- Structural Performance

1.3 *Westbury® Aluminum Railing* has been evaluated for the following uses (see Table 2):

- The *Westbury® Aluminum Railing* system is a guardrail under the definitions of the referenced codes. It is intended for use at or near the open sides of elevated walking areas of buildings and walkways as required by the codes.

- Guardrails are provided as level guardrails for level walking areas such as decks, balconies, and porches.

2.0 STATEMENT OF COMPLIANCE

Westbury® Aluminum Railing complies with the Codes listed in Section 1.1, for the properties stated in Section 1.2 and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.0.

3.0 DESCRIPTION

3.1 Level guardrails are provided with rail lengths up to 96 inches` in length (measured between the inside of support posts) and an installed height of up to 42 inches. See Table 2 for qualified configurations.

3.2 The *Westbury® Aluminum Railing* system is an assemblage of extruded aluminum top and bottom rails, balusters, structural aluminum posts, rail to post brackets, decorative moldings and post caps.

3.3 Systems may include extruded PVC rail inserts, tempered glass panels, austenitic (300 series) stainless steel fasteners, cast Zamak 3 brackets, and A360 brackets. See Figure 23.

3.4 The system is available in various colors and architectural grade powder coated finishes.

3.4.1 Rails - Each of the top, mid, and bottom aluminum rails are routed to accept various infill components described in Section 3.4.2 for the various railing systems as shown in Figure 1 through 12.

3.4.1.1 The *Tuscany, Riviera, Veranda* and *Liberty* top rails are extruded 6005-T5 aluminum rails with internal longitudinal ribs, and dimensions of 1.74 inches wide by 1.38 inches tall. The *Tuscany, Riviera and Liberty* Series use PVC rail inserts as a baluster retainer. The *Veranda* Series uses a rubber insert as a glass infill retainer. See Figures 13 and 17.



3.4.1.2 The *VertiCable* top rail is an extruded 6005-T5 aluminum rail with one internal longitudinal rib, dimensions of 1.74 inches wide by 1.38 inches tall and a 0.14-inch x 1-3/16 inch wide 6005-T5 aluminum plate that is drilled for the cable and baluster infills. See Table 3 for the cable fastening schedule and Figure 32 for cross sections of the *VertiCable* top rail sections.

3.4.1.3 The mid-rail is an extruded 6005-T5 aluminum rail with internal longitudinal ribs, dimensions of 1.74 inches wide by 1.25 inches tall. A PVC rail insert is used as a baluster retainer. See Figure 15.

3.4.1.4 The *Tuscany*, *Riviera*, *Veranda* and *Liberty* bottom rails are extruded 6005-T5 aluminum rails with internal longitudinal ribs and are 1.74 inches wide by 1.25 inches tall. A PVC rail insert is used as a baluster retainer. See Figure 14.

3.4.1.5 The *VertiCable* bottom rail is an extruded 6005-T5 aluminum rail with internal longitudinal ribs and is 1.74 inches wide by 1.25 inches tall. A 1-1/2 wide x 0.125 inch thick bar made from 6005-T5 aluminum is inserted into the bottom rail intermittently for the retaining of the round baluster infills. See Table 3 for the cable fastening of the infills. See Figure 33 for a cross section of the *VertiCable* bottom rail.

3.4.1.6 The *Screen Rail* top and bottom rails are 2 inches wide by 1-1/4 inch high by 0.06-inch wall extruded 6063-T6 aluminum with longitudinal ribs of various geometry. See Figure 13 and Figure 14.

3.4.2 The guardrail infills vary by guardrail style:

3.4.2.1 The *Tuscany* Series (Style C10 and C101) utilizes a square and round profile, 6063-T6 aluminum balusters in various lengths. See Figure 19 and Table 2 for applicable assemblies.

3.4.2.2 The *Liberty* Series uses a 6063-T6, 5/8-inch square aluminum baluster. Rails are routed to the shape of the baluster profile to receive balusters. See Figure 19.

3.4.2.3 The *Veranda* Series (Style C70) infill area of the railing system (see Figure 8) utilizes a 1/4 inch thick tempered glass panel in various sizes.

3.4.2.4 The *Riviera* Series (Styles C30, C301, C30R, C301R, C31, C311, C32, C321, C33, C331, C34 and C341) infill area of the railing system is configured with 6063-T6 aluminum balusters, square and round profiles and with tabbed 6063-T6 aluminum rings between the top and mid-rail. See Figure 2 through Figure 7, Figure 19 and Table 2 for applicable assemblies.

3.4.2.5 The *VertiCable* (Style C80) infill area utilizes 1/8" diameter, 1x19, S31600 stainless steel cables spaced at 3.00 inches on center between the hollow balusters (See Figure 9). Also, see Table 3 for cable fastening methods.

3.4.2.6 The *VertiCable* (Style C80) uses 5/8" hollow balusters that are equally spaced along the rail. The 5/8" baluster, 0.19 in wall, are aluminum extrusions used with the 36" tall configuration. The 5/8" stainless steel baluster, 0.09" wall, is 304 stainless steel used with the 42" tall configuration. See Figures 9 and 10.

3.4.2.7 The *Screen Rail* baluster is a 0.75 in square by 0.05-inch wall extruded 6063-T6 aluminum installed with a 3-5/8-inch clear space between balusters. See Figure 19.

3.4.3 Structural Aluminum Posts:

3.4.3.1 Power Posts are a 2-1/2-inch square by 0.12-inch wall extruded 6005-T5 aluminum tube with six internal screw slots. The tube is connected to a 4-1/2-inch square, 1/2 inch thick 6061-T6 aluminum base plate via both a 1/4-inch continuous fillet weld and six #14 by 2-inch diameter flat-head screws. For the standard Power Post, see Table 3 and Figure 25. For the Power Post crossover assembly, see Table 3 and Figure 24.

3.4.3.2 The 4x4 aluminum post is a 4-inch square by 0.125-inch wall extruded 6063-T6 aluminum tube. The tube is permanently attached to a 6-inch square, 1/2 inch thick 6061-T6 aluminum base plate by a 1/4-inch continuous fillet weld. See Table 3 and Figure 26.

3.4.3.3 2-inch Alum Support Posts are a 2-inch square by 0.09-inch wall extruded 6005-T5 aluminum tube with two internal screw slots. The tube is connected to a 3-7/8-inch square, 1/2 inch thick 6061-T6 aluminum base plate via both a 1/4-inch continuous fillet weld and two #14-14 x 2 inch flat-head screws. For the Alum Support Post, see Table 2



and Figure 27. For the 2" Post crossover assembly, see Table 3 and Figure 24.

3.4.3.4 3-inch aluminum post mounts are a 3-inch square by 0.09-inch wall extruded aluminum tube. The tube is connected to a 5-inch square, 3/8 inch thick aluminum base plate via a 1/4-inch continuous fillet weld. See Figure 28.

3.4.3.5 6-inch aluminum post mounts are a 6-inch square by 0.11-inch wall extruded aluminum tube. The tube is connected to a 7.75-inch square, 3/8 inch thick aluminum base plate via a 1/4-inch continuous fillet weld. See Figure 29.

3.4.3.6 The *Screen Rail* post is 2 inches square by 0.09-inch wall extruded from 6063-T6 aluminum. Tabbed slots accommodate the installation of the screen. See Figure 12 and Figure 31.

3.4.4 Support blocks are installed between the lower rail and the deck surface midway between supports, with the exception of Westbury C-10 Tuscany railings that are 72 inches or less between posts. See Figure 21 and 22.

4.0 PERFORMANCE CHARACTERISTICS

4.1 The guardrail system described in this report has demonstrated the capacity to resist the design loadings specified in Chapter 16 of both the IBC and the FBC and Section R301 of the IRC when tested in accordance with ICC-ES AC273.

5.0 INSTALLATION

5.1 General:

Westbury® Aluminum Railing must be installed in accordance with the manufacturer's published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer's instructions must be available on the jobsite during installation.

5.2 Application: The top and bottom rails are attached directly to structural posts utilizing cast Zamak 3 mounting brackets via mechanical fasteners. See Figure 23 and Table 2.

5.3 Guardrails may be assembled in various configurations. Refer to Figure 1 through Figure 11 for overall assembly and Table 2 for the fastening schedule.

5.4 Infill components (aluminum balusters and aluminum rings) are inserted into routed holes in the aluminum rails and secured via PVC rail inserts that are installed internally to the rails. See Figure 16.

5.5 The infill component for the *Veranda Series* (Style C70) consists of a glass panel which is inserted into the top rail and slides up, to clear bottom rail. The glass panel is aligned with the bottom insert and pushed down into that insert.

5.6 The cable infill for the *VertiCable* consists of both 1/8-inch diameter stainless steel cables and 5/8-inch diameter hollow aluminum balusters. The steel cables must be installed with the stainless-steel cable tensioner below the bottom rail tensioned to 200 pounds of tension per cable.

5.7 *Power Post* shim plates are 4-1/2 inches long by 3/4 inch wide by 1/16 inch thick austenitic (300 series) stainless steel plates. The 4" aluminum post shim plates are 6 inches long by 3/4 inch wide by 0.06 inch thick austenitic (300 series) stainless steel plates. The 3" square aluminum post shim plates are 5 inches long by 3/4 inch wide by 0.06 inch thick austenitic (300 series) stainless steel plates. The 6" square aluminum post shim plates are 7.75 inches long by 3/4 inch wide by 0.06 inch thick austenitic (300 series) stainless steel plates.

5.8 The 2" square aluminum posts must be installed with the two internal screw channels perpendicular with the rail line. See Figure 27. Two shim plates are utilized under the base of the 2-inch aluminum post mount. The shim plates line the perimeter of the post base. Shim plates are 3.88 inches long by 0.75 inches wide by 0.06 inch thick austenitic stainless-steel plates.

5.9 *Screen Rail* assemblies are installed between the structural porch framing (posts and/or walls). The aluminum *Screen Rail* post (nonload-bearing) is installed alongside the load-bearing porch framing (post or wall) and attached at the top and bottom with a post base/cap bracket (See Figure 23).





6.0 CONDITIONS OF USE

The guardrail assemblies identified in this report are deemed to comply with the intent of the provisions of the referenced building codes subject to the following conditions:

6.1 Installation must comply with this Research Report, the manufacturer's published installation instructions, and the applicable Code. In the event of a conflict, this report governs.

6.2 Attachment of guardrail systems described herein to conventional wood supports is outside the scope of this report.

6.3 Austenitic stainless-steel shim plates are used to prevent direct contact between the structural post base plate and the supporting structure. Compatibility of fasteners and other metallic components with the supporting structure, including chemically treated wood, is outside the scope of this report.

6.4 Shim plates must be used for all structural post installations as described in Sections 5.7 and 5.8.

6.5 Anchorage of the structural post is not within the scope of this report and is subject to evaluation and approval by the building official. Anchors must satisfy the design load requirements specified in Chapter 16 of the building code and must meet the following minimum requirements:

6.5.1 A minimum of four anchor bolts must be used and located in the four pre-drilled holes in the structural post base plate.

6.5.2 The anchors must have a minimum nominal diameter equal to 3/8 inch.

6.5.3 When the supporting structure is a wood-framed deck, installation must include anchorage to suitable structural framing. Decking is not considered structural framing, and anchorage to decking alone is not an approved installation method.

6.5.4 For post installation on concrete or other rigid supports such as structural steel, the installation uses four 3/8-inch diameter anchor bolts located in the pre-drilled holes in the structural post base plate. The type and length of the anchor bolts is dependent upon the material and

condition of the supporting structure and is not within the scope of this report.

6.5.5 The structural wood framing detailed in Figure 24 is an acceptable mounting method for the 2" square aluminum post limited to the 2012 & 2015 IRC or FBC Residential only.

Exception: *The Westbury® Veranda Series Style C70 Glass Railing System* is not approved for use with this mounting method.

6.5.6 Where required by the building official, engineering calculations and details shall be provided. The calculations shall verify that the anchorage and supporting structure complies with the building code for the type and condition of the supporting construction.

6.6 The glass infill panel of guardrails is considered a hazardous location as defined by Sections 2406.4 of the IBC and 2406.3 of the FBC. Glass must be identified by permanent etching as required by Sections 2406.3 of the IBC and 2406.2 of the FBC. Each section of glass must bear the manufacturer's name or mark and the applicable test standard. (Class A of ANSI Z97.1 and Category II of 16 CFR 1201).

6.7 The *Screen Rail* post is nonload-bearing and must be attached to structural posts and walls that support building construction. The evaluation of the *Screen Rail* post is limited to supporting the guardrail loads only.

6.8 Guardrails with glass infill are not approved for use in wind-borne debris regions as defined by the IBC in accordance with Section 2407.1.4. Thus, glass balusters are also not approved for use in the High Velocity Hurricane Zone (HVHZ) under the FBC.

6.9 All products are manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 SUPPORTING EVIDENCE

7.1 Drawings and installation instructions submitted by Digger Specialties, Inc.

7.2 Data demonstrating compliance with the performance requirements of ICC-ES AC273, Acceptance Criteria for





Handrails and Guards, revised March 2016 with additional testing including increased test loads to address IBC and FBC Section 2407.1.1 for assemblies that utilize a glass in-fill panel.

7.3 Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

8.0 IDENTIFICATION

The Westbury® Aluminum Railing guardrail assemblies that are described in this report shall be identified with labeling on the individual components and/or the packaging such that the product is identifiable at the point of use. The label shall include at least the following information:

- 8.1 The manufacturer’s name (Digger Specialties, Inc.)
- 8.2 Address and telephone number
- 8.3 The product name (Westbury® Aluminum Railing)
- 8.4 The name and/or identifying mark of the independent inspection agency
- 8.5 For 36” high guardrail systems, the label shall also include the phrase, “For Use in One- and Two- Family Dwellings Only.”
- 8.6 The Intertek Mark as shown below, and the Code Compliance Research Report number (CCRR-0163).



9.0 FLORIDA BUILDING CODE

9.1 Scope of Evaluation:

The Westbury® Aluminum Railings were evaluated for compliance with the Florida Building Code – Building.

9.2 Conclusion:

The Westbury® Aluminum Railings, described in Sections 2.0 through 7.0 of this Research Report, comply with the Florida Building Code subject to the following conditions:

- Westbury® Tuscan, Riviera, Liberty and VertiCable Series comply with the Florida Building Code including High-Velocity Hurricane Zone (HVHZ) provisions.
- Veranda model complies with the Florida Building Code excluding the High-Velocity Hurricane Zones (HVHZ).
- Intertek is a Florida State Product Evaluation Entity.

10.0 CODE COMPLIANCE RESEARCH REPORT USE

10.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

10.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

10.3 Reference to the <https://bpdirectory.intertek.com> is recommended to ascertain the current version and status of this report.

This Code Compliance Research Report (“Report”) is for the exclusive use of Intertek’s Client and is provided pursuant to the agreement between Intertek and its Client. Intertek’s responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Report. Only the Client is authorized to permit copying or distribution of this Report and then only in its entirety, and the Client shall not use the Report in a misleading manner. Client further agrees and understands that reliance upon the Report is limited to the representations made therein. The Report is not an endorsement or recommendation for use of the subject and/or product described herein. This Report is not the Intertek Listing Report covering the subject product and utilized for Intertek Certification and this Report does not represent authorization for the use of any Intertek certification marks. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.





TABLE 1 – PROPERTIES EVALUATED

PROPERTY	2015/2012 IBC SECTION	2015/2012 IRC SECTION	2020 FBC - Building	2020 FBC- Residential
Structural Performance	1607.8	R301.5	1607.8	R301.5

TABLE 2 – GUARDRAIL SYSTEMS AND USE CATEGORIES

<u>Westbury® Aluminum Guardrail System</u>	<u>Guardrail Type</u>	<u>Maximum Guardrail Dimensions¹</u>	<u>Code Occupancy Classification</u>
<i>Tuscany Series & Riviera Series</i>	Level	8' x 42"	IBC and FBC IRC and FBC-Residential
	Level	8' x 36"	IBC and FBC (limited) ² IRC / FBC-Residential Only ^{2,4}
<i>Tuscany Series</i>	Level 45 deg.	8' x 36"	IBC and FBC (limited) ² IRC / FBC-Residential Only ^{2,4}
<i>Tuscany (no center support under bottom rail)</i>	Level	6' x 42"	IBC and FBC IRC and FBC-Residential
		6' x 36"	IBC and FBC (limited) ² IRC / FBC-Residential Only ²
<i>VertiCable Series</i>	Level	6' x 42"	IBC and FBC IRC and FBC-Residential
		8' x 36"	IBC and FBC (limited) ² IRC / FBC-Residential Only ²
<i>Veranda Series</i>	Level	6' x 42"	IBC and FBC ^{3,4} IRC and FBC-Residential ^{3,4}
		6' x 36"	IBC and FBC (limited) ^{2,3,4} IRC / FBC-Residential Only ^{2,3,4}
<i>Liberty S10 Series</i>	Level	8' x 42"	IBC (limited) ² IRC Only ²
<i>Screen Rail</i>	Level	61" x 42"	IBC – All Use Groups

¹ Guardrails are qualified up to and including the listed maximum guardrail system dimensions for use in the referenced Code Occupancy Classification. Guardrail lengths are actual railing lengths, i.e. clear space between supports for level rails. Guardrail height is walking surface to top of top rail. Minimum installed height shall be 36 inches.

² The use of this product shall be limited to exterior use as a guardrail system for balconies and porches for one- and two-family dwellings in accordance with the IRC or FBC-Residential.

³ Excluding wind-borne-debris regions

⁴ Excluding High-Velocity-Hurricane-Zone (HVHZ)

⁵ See Table 3 for available support posts.





TABLE 3 – POST MOUNTS AND USE CATEGORIES

<u>Post</u>	<u>Westbury® Aluminum Guardrail System</u>	<u>Maximum Rail Height¹</u>	<u>Maximum Railing Length²</u>	<u>Code Occupancy Classification</u>
2" Square Aluminum Post	<i>Tuscany Series</i> <i>Riviera Series</i> <i>VertiCable Series</i> <i>Veranda Series</i>	42 inches	8 feet	IRC / FBC-Residential Only
	<i>Liberty S10 Series</i> <i>Screen Rail</i>	42 inches	61 inches	IBC and FBC IRC and FBC-Residential
2-1/2" Power Post	<i>Tuscany Series</i> <i>Riviera Series</i> <i>VertiCable Series</i> <i>Veranda Series</i>	42 inches	8 feet	IBC and FBC IRC and FBC-Residential
3" Square Aluminum Post	<i>Tuscany Series</i> <i>Riviera</i> <i>VertiCable Series</i> <i>Veranda Series</i> <i>Liberty S10 Series</i>	42 inches	8 feet	IRC / FBC-Residential Only
4" Square Aluminum Post	<i>Tuscany Series</i> <i>Riviera Series</i> <i>VertiCable Series</i> <i>Veranda Series</i>	42 inches	8 feet	IBC and FBC IRC and FBC-Residential
6" Square Aluminum Post	<i>Tuscany Series</i> <i>Riviera Series</i> <i>VertiCable Series</i> <i>Veranda Series</i> <i>Liberty S10 Series</i>	42 inches	8 feet	IRC / FBC-Residential Only

¹ Rail height is walking surface to top of top rail.

² Rail lengths are actual railing lengths, i.e. clear space between supports.

³ The use of this product shall be limited to exterior use as a guardrail system for balconies and porches for one- and two-family dwellings in accordance with the IRC or FBC-Residential.





TABLE 4 – FASTENER SCHEDULE

Westbury® Guardrail	Connection	Fastener
<i>Riviera Tuscany Veranda VertiCable</i>	Rail Brackets to Post	Two #10-16 x 5/8 in pan-head, self-drilling, 18-8, 300 Series screws ²
	Crossover Assemblies to Top Rail	
	Top Rail and Mid-Rail Bracket to Rail	Two #10-15 x 1 in flat-head, self-drilling, 18-8, 300 Series screws ² (one through each side hole)
	Support Block Screw to Bottom Rail	One #8-18 x 3/4 in pan-head, self-drilling, zinc-plated 18-8, 300 Series screw ²
	Power Post Base Plate to 2-1/2” Structural Post Tube	Six #14-14 x 2 in flat-head, self-drilling, 18-8, 300 Series screws ^{1, 2} (Two sets of three screws shall be aligned parallel with rail)
Base Plate to 2” Alum Support Post	Two #14-14 x 2 in trim head, Phillips-drive, 18-8, 300 Series screws ^{1, 2} (Screws shall be aligned perpendicular to rail)	
<i>Riviera</i>	Square Baluster to Rails	Inserted into 0.8-inch square routed hole and held snug with PVC Rail Insert
	Round Baluster to Rails	Inserted into 0.79-inch diameter routed hole and held snug with PVC Rail Insert
	Bottom Rail Bracket to Rail	No mechanical fastener
<i>Tuscany</i>	Square Baluster to Rails	Inserted into 0.8-inch square routed hole and held snug with PVC Rail Insert
	Round Baluster to Rails	Inserted into 0.79-inch diameter routed hole and held snug with PVC Rail Insert
	Bottom Rail Bracket to Rail	No mechanical fastener
	45 Degree Top/Bottom Rail Bracket to Post	Two #10-16 by 5/8 in. (0.140 in minor diameter) pan-head, self-drilling, stainless steel screws
	45 Degree Top/Bottom Rail Bracket to Rail	Two #10-16 by 1 in. (0.140 in minor diameter) trim-head, self-drilling, stainless steel screws
<i>Veranda</i>	Glass Panel to Rails	EPDM gasket retaining glass panel in slotted top and bottom rails
	Bottom Rail Bracket to Rail	No mechanical fastener
<i>VertiCable</i>	Aluminum Baluster to Rails	slip fit in routing – No mechanical fasteners
	Cable Infill to Top Rail Insert	One 0.23 in diameter (OD) hollow 18-8 stainless steel cable stop sleeve, crimp fit to each cable
	Cable Infill to Bottom Rail Insert	One 0.23 in diameter (OD) hollow 18-8 stainless steel cable stop sleeve, crimp fit to each cable and one 3/8 in wide by 7/8 in long threaded (20 TPI) stainless steel cable tensioner with 1/2 in 18-8 stainless steel nut per cable
	Bottom Rail Bracket to Rail	Two #10-15 x 1 in flat-head, self-drilling, 18-8, 300 Series screws ² (one through each side hole)
<i>Liberty S10</i>	Top Rail Bracket to Post	Four #10-16 x 5/8-inch (0.133-inch minor diameter), pan-head, self-drilling, stainless ⁽²⁾ steel screws
	Bottom Rail Bracket to Post	Two #10-16 x 5/8-inch (0.133-inch minor diameter), pan-head, self-drilling, stainless ⁽²⁾ steel screws
	Top Rail Bracket to Rail ⁽²⁾	One #10-16 x 5/8-inch (0.133-inch minor diameter), pan-head, self-drilling, stainless ⁽²⁾ steel screw
	Rail Support to Bottom Rail	Two #10-16 x 5/8-inch (0.133-inch minor diameter), pan-head, self-drilling, stainless ⁽²⁾ steel screws





TABLE 4 – FASTENER SCHEDULE (CONTINUED)

Westbury® Guardrail	Connection	Fastener
Screen Rail	Rail Bracket to Post	Two #10-16 x 5/8-inch pan-head, self-drilling, stainless ⁽²⁾ steel screws
	Top/Bottom Rail to Brackets	Slip-Fit, no Mechanical Attachment
	Baluster to Top/Bottom Rail	Secured in Place with PVC Infill Retainer
	Infill Retainer to Rails	Channel Fit
	Post Top and Bottom	Two #14 x 1-3/4 Screws

¹ Power Posts and 2” Alum Support Posts are supplied with fasteners pre-installed.

² Permissible grades of the 300 Series stainless steel material include: 304, 305, 316, 384, and/or XM7 (30430), which are all Austenitic Stainless Steel – Cold Worked materials.

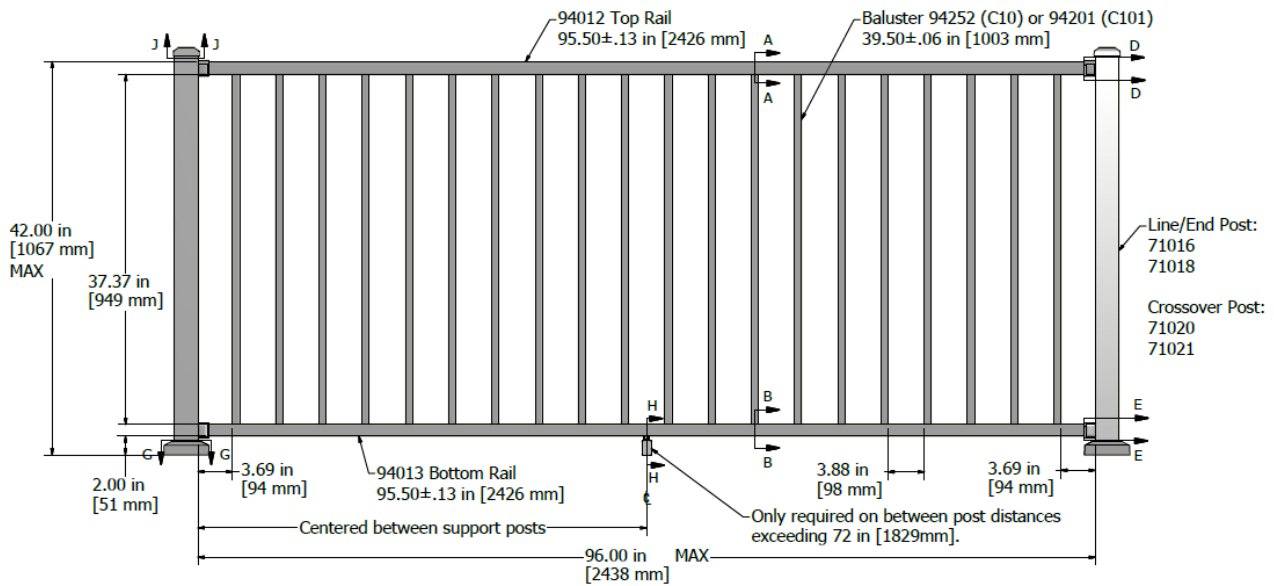


FIGURE 1 - WESTBURY® TUSCANY SERIES STYLE C10/C101 ALUMINUM RAILING SYSTEM



545 E. Algonquin Road • Arlington Heights • Illinois • 60005
intertek.com/building



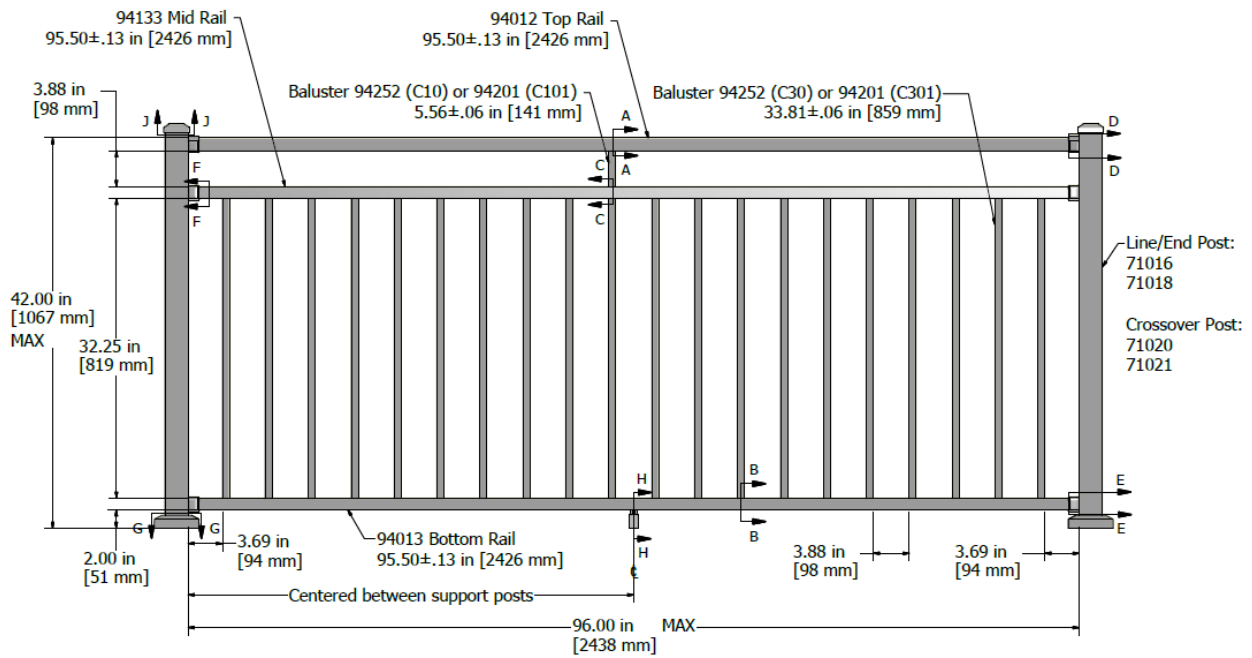


FIGURE 2 - WESTBURY® RIVIERA SERIES STYLE C30/301 ALUMINUM RAILING SYSTEM

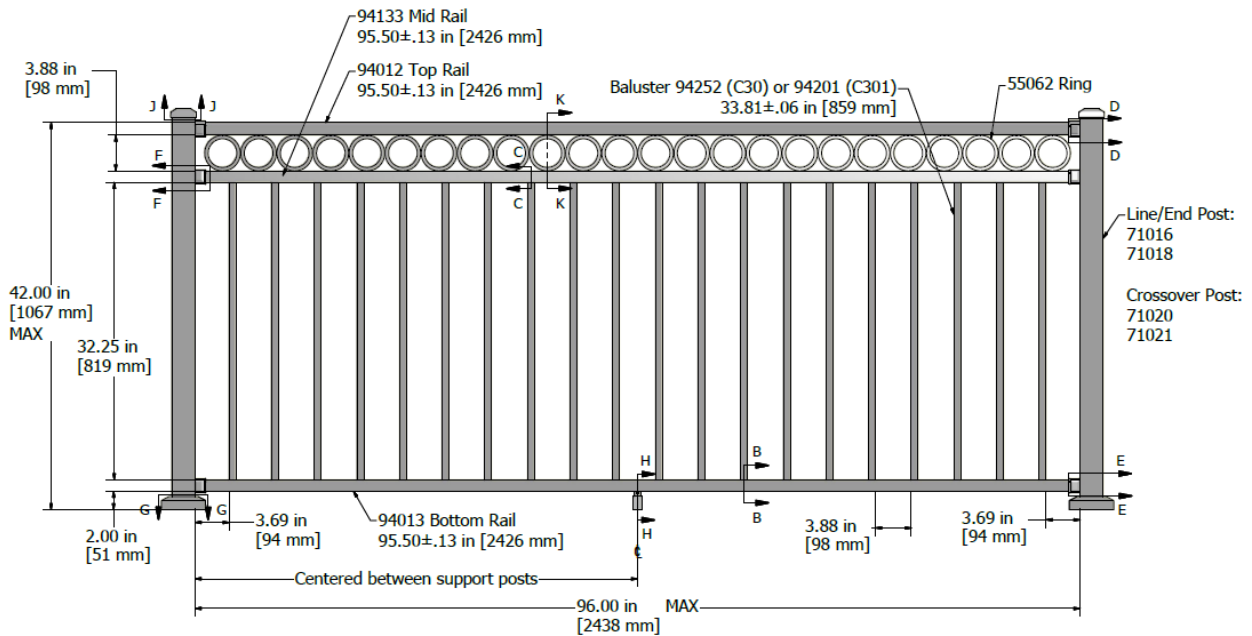


FIGURE 3 - WESTBURY® RIVIERA SERIES STYLE C30R/C301R ALUMINUM RAILING SYSTEM



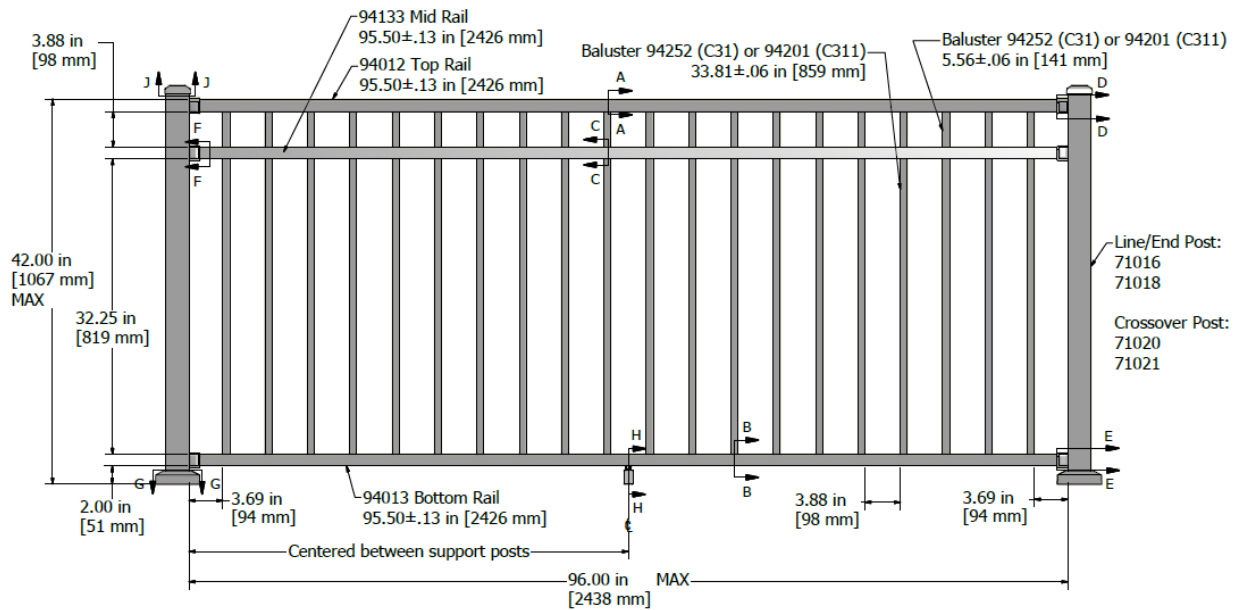


FIGURE 4 - WESTBURY® RIVIERA SERIES STYLE C31/C311 ALUMINUM RAILING SYSTEM

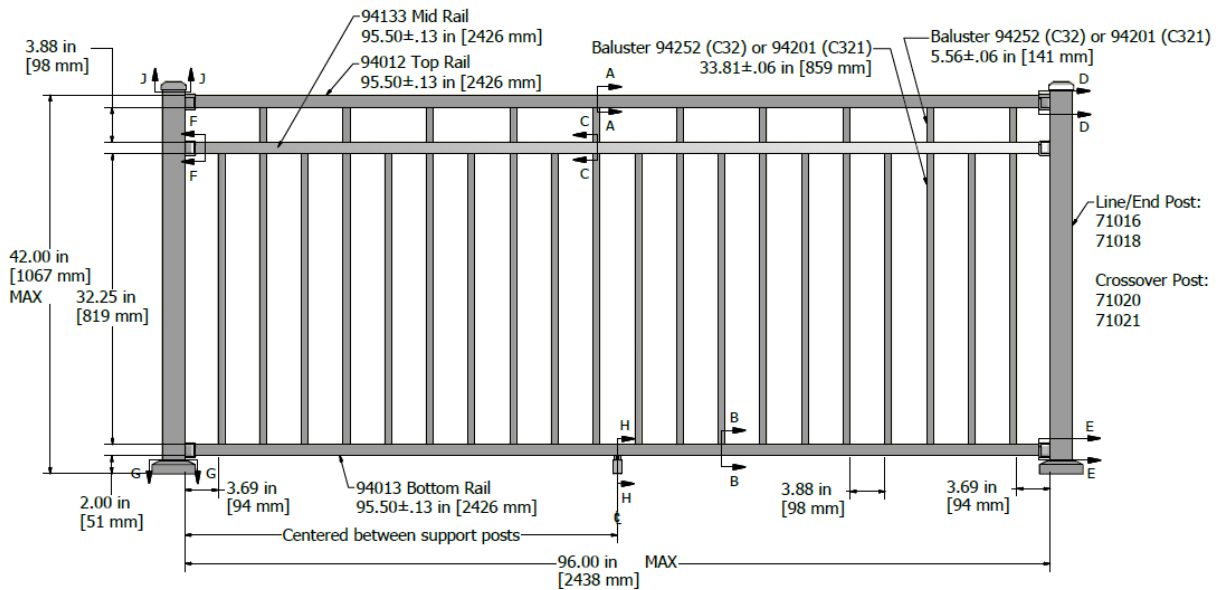


FIGURE 5 - WESTBURY® RIVIERA SERIES STYLE C32/C321 ALUMINUM RAILING SYSTEM



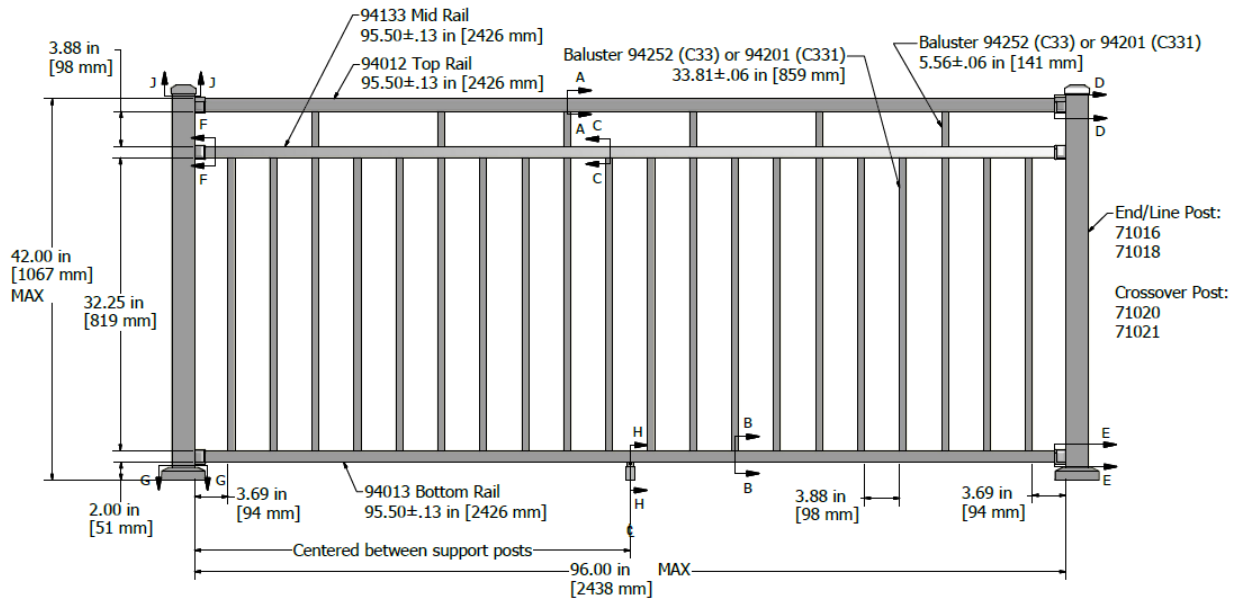


FIGURE 6 - WESTBURY® RIVIERA SERIES STYLE C33/C331 ALUMINUM RAILING SYSTEM

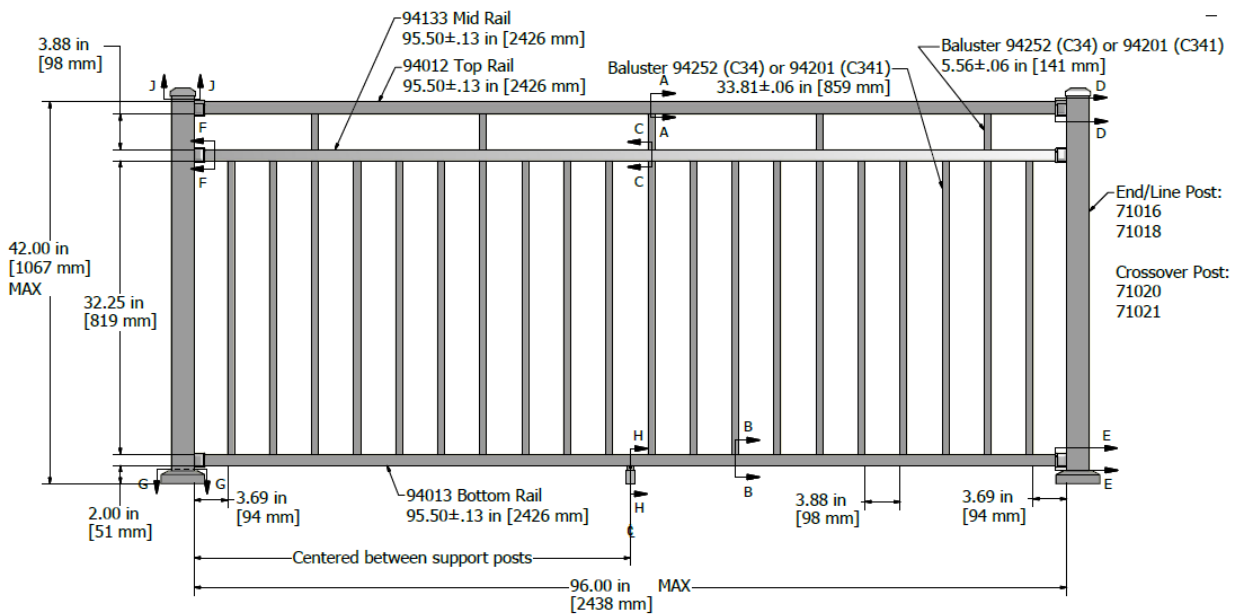


FIGURE 7 - WESTBURY® RIVIERA SERIES STYLE C34/C341 ALUMINUM RAILING SYSTEM



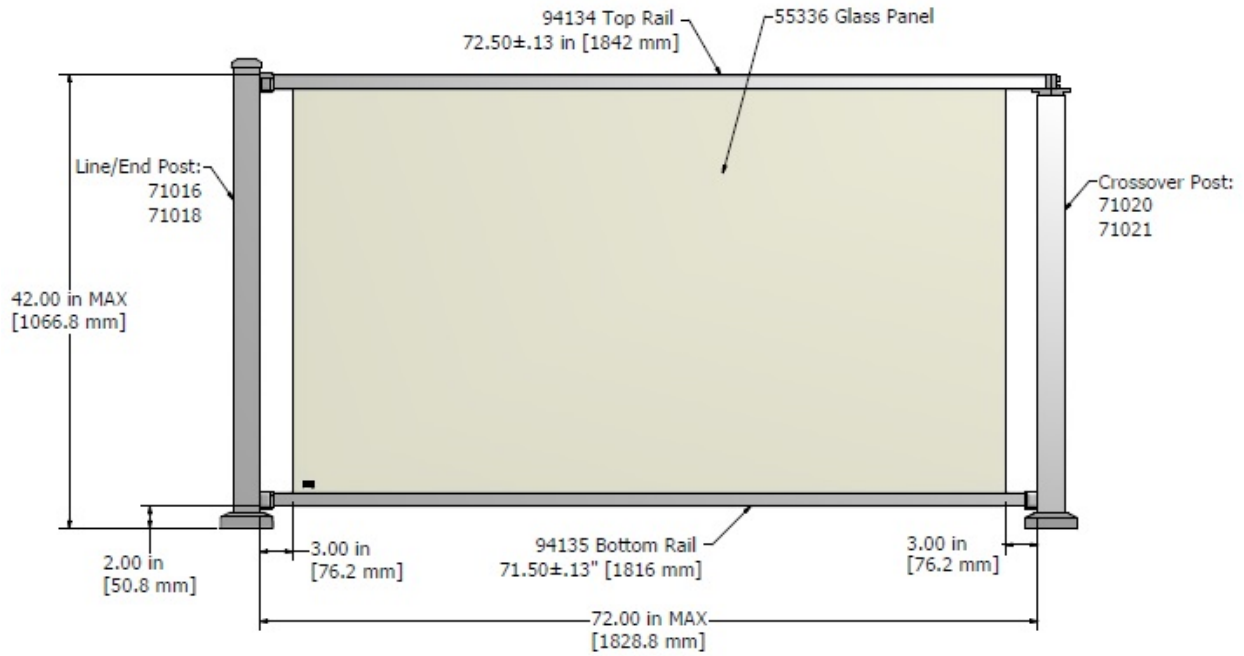


FIGURE 8 - WESTBURY® VERANDA SERIES STYLE C70 GLASS RAILING SYSTEM

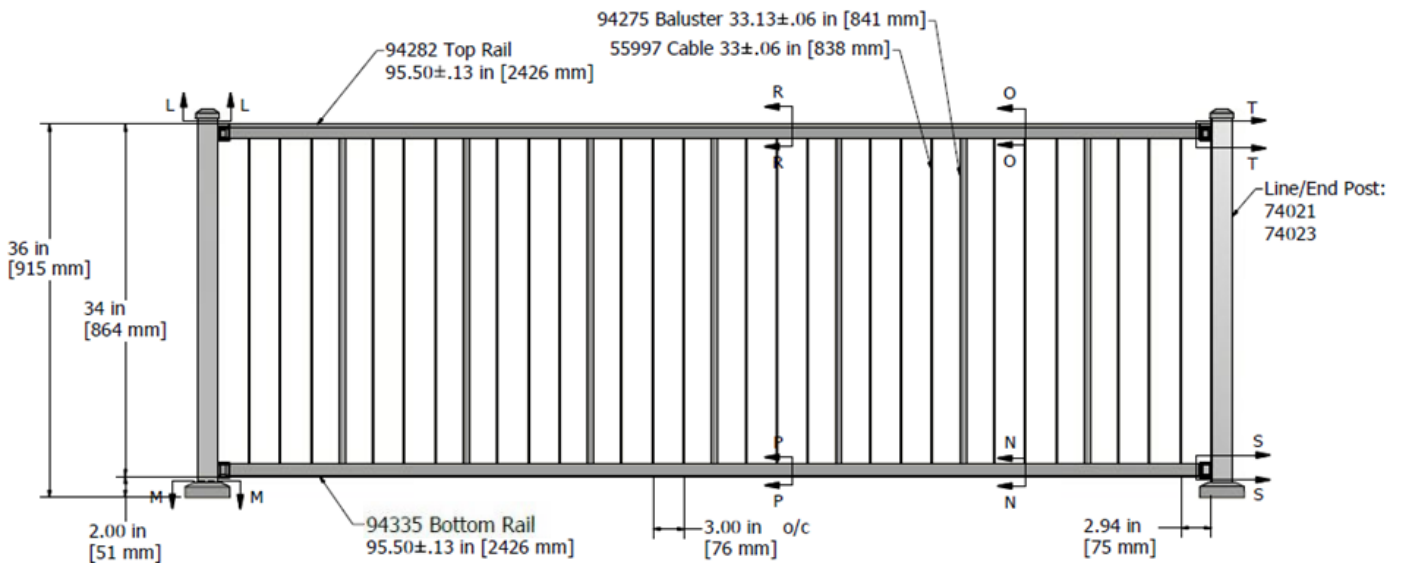


FIGURE 9 - WESTBURY® VERTICABLE SERIES STYLE C80 ALUMINUM RAILING SYSTEM (36" TALL)

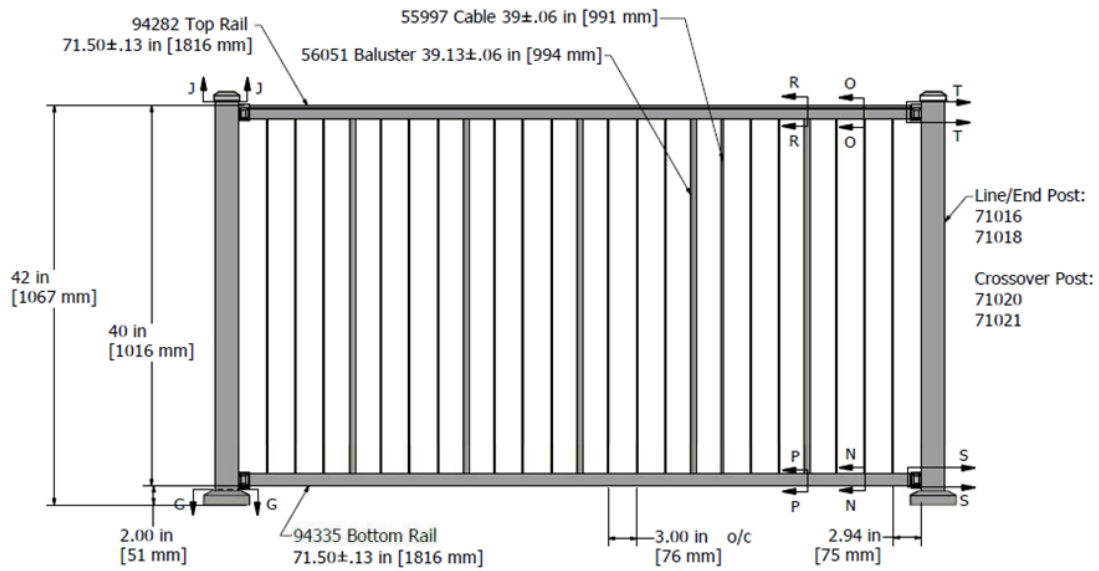


FIGURE 10 - WESTBURY® VERTICABLE SERIES STYLE C80 ALUMINUM RAILING SYSTEM (42" TALL)

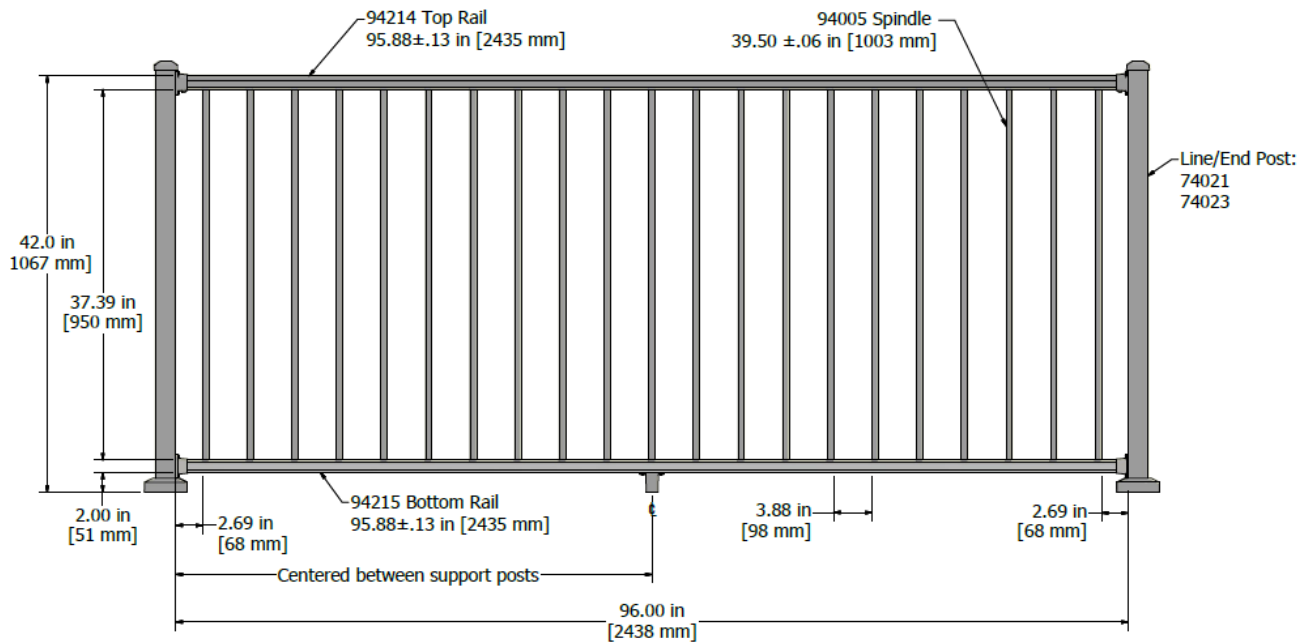


FIGURE 11 - WESTBURY® LIBERTY S10 ALUMINUM RAILING

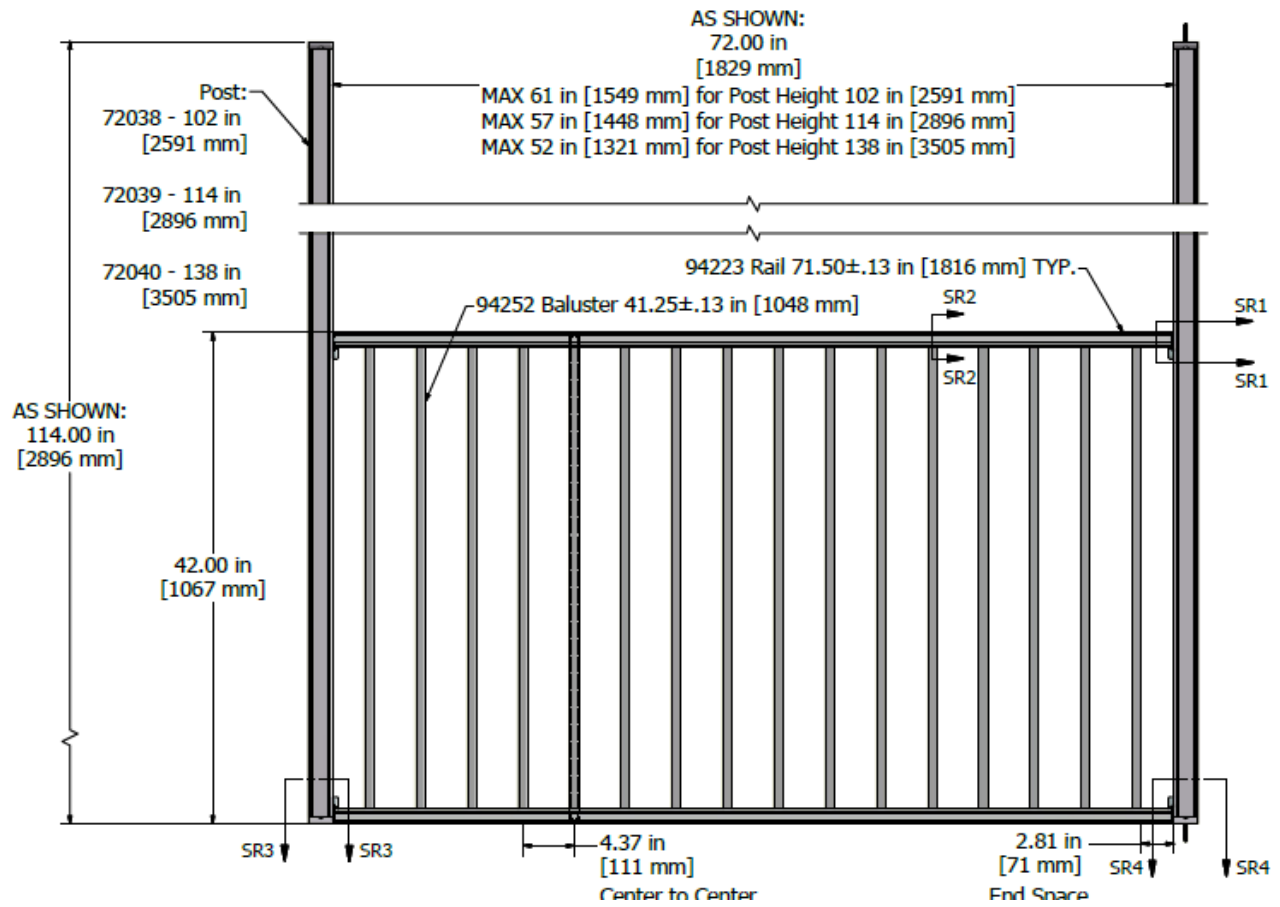


FIGURE 12 –SCREEN RAIL ALUMINUM RAILING AND INSTALLATION INTO STRUCTURAL PORCH FRAMING (POSTS AND WALL)



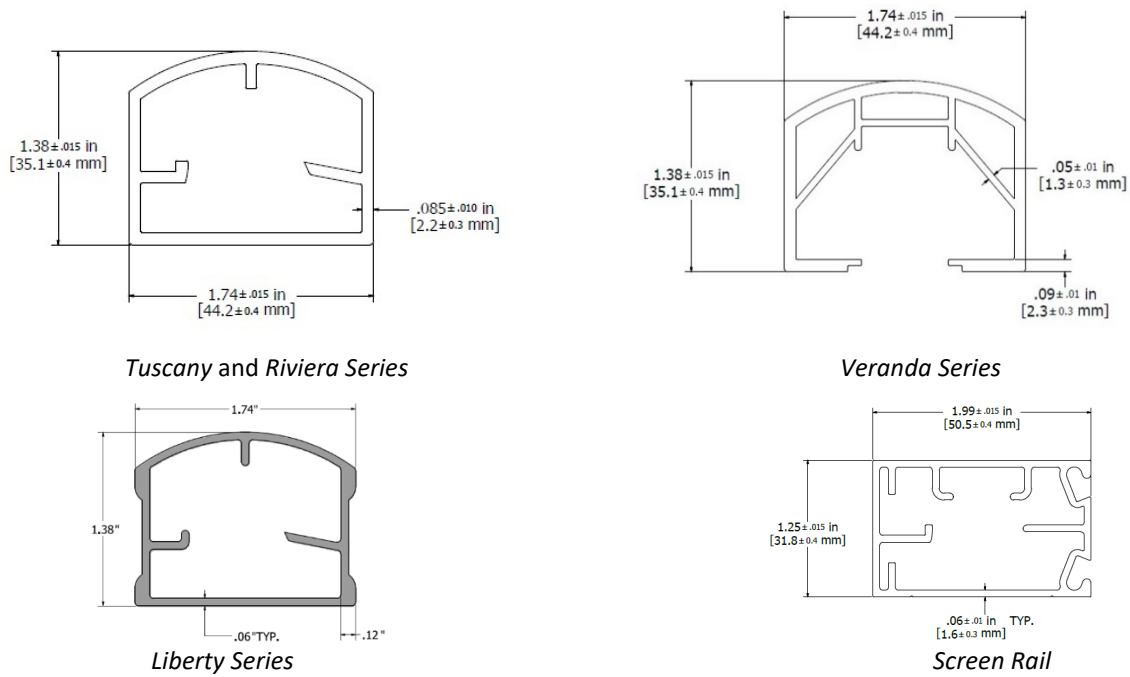


FIGURE 13 – TOP RAIL PROFILES

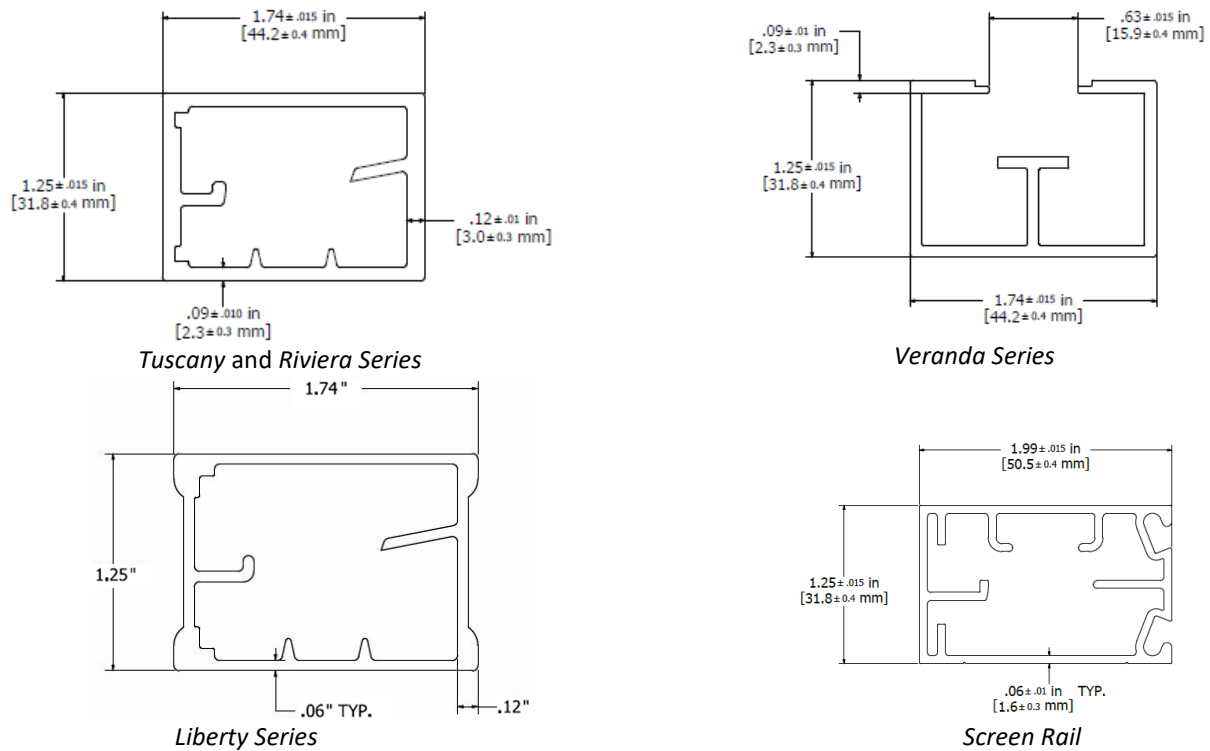


FIGURE 14 – BOTTOM RAIL PROFILES



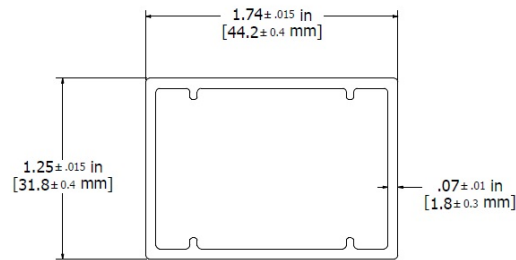
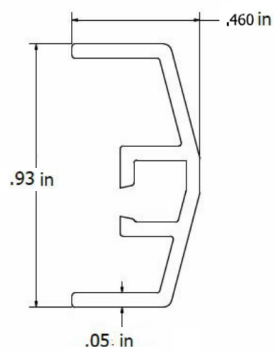
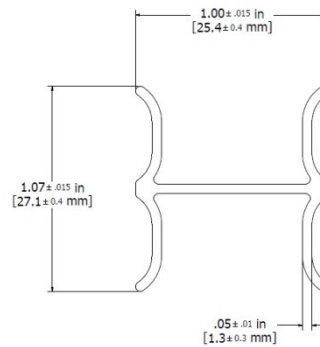


FIGURE 15 – MID-RAIL PROFILE (RIVIERA SERIES ONLY)

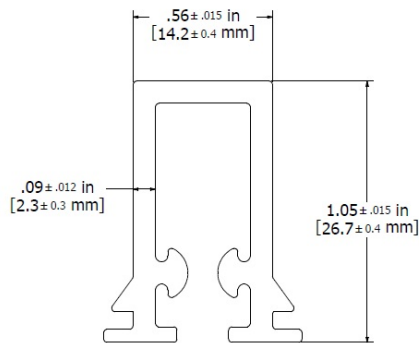


For Top and Bottom Rails

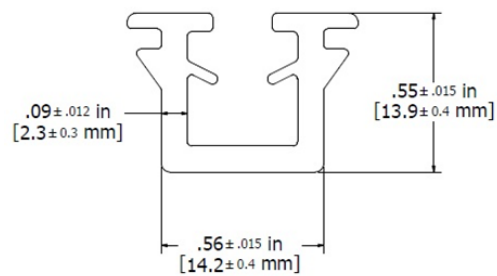


For Mid-Rail

FIGURE 16 – TUSCANY, RIVIERA SERIES AND SCREEN RAIL PVC INSERTS FOR ALUMINUM BALUSTERS



for Top Rails



for Bottom Rails

FIGURE 17 – VERANDA SERIES RUBBER INSERTS FOR GLASS INFILL



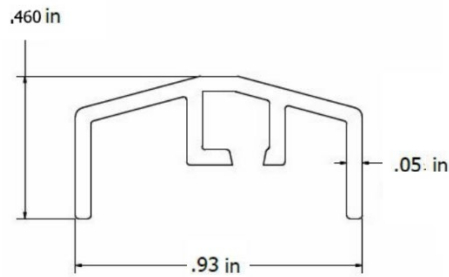


FIGURE 18- LIBERTY PVC INSERT FOR TOP AND BOTTOM RAIL

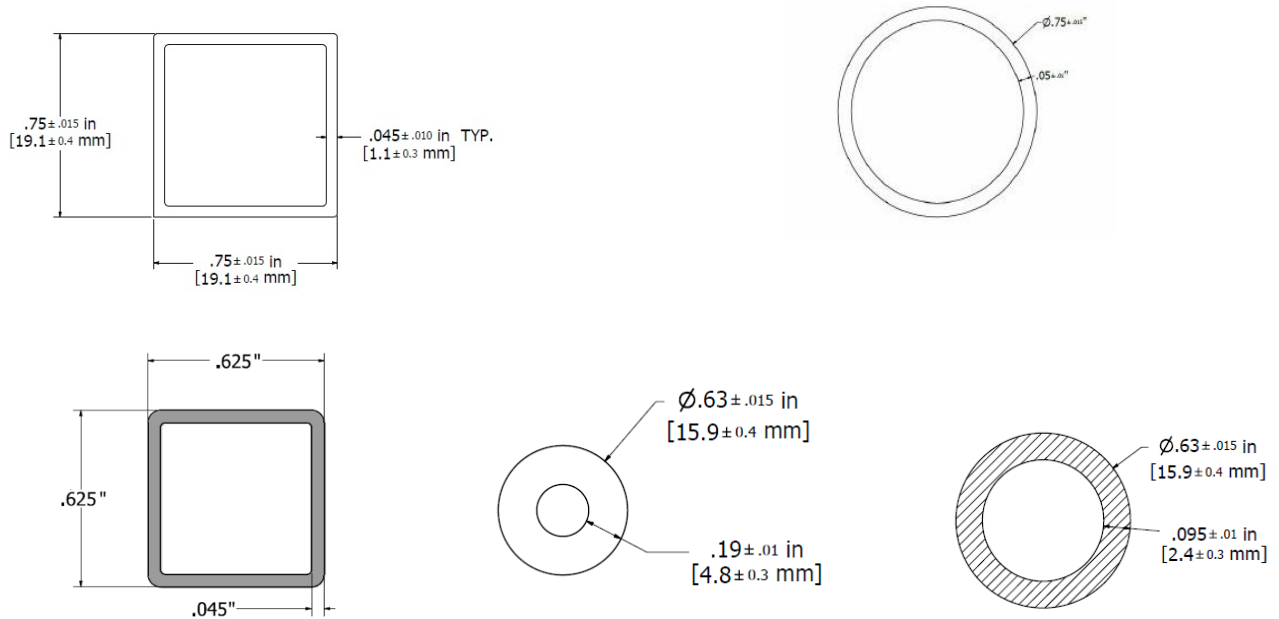


FIGURE 19 – BALUSTERS (ALL ARE ALUMINUM EXCEPT FOR THE 5/8" .095 WALL, WHICH IS STAINLESS)

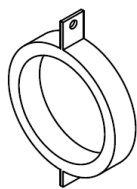


FIGURE 20 – TABBED RING (RIVIERA SERIES)

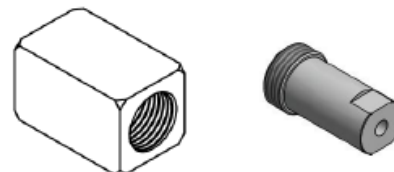


FIGURE 21 - SUPPORT BLOCK COMPONENT

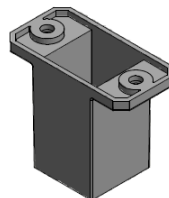
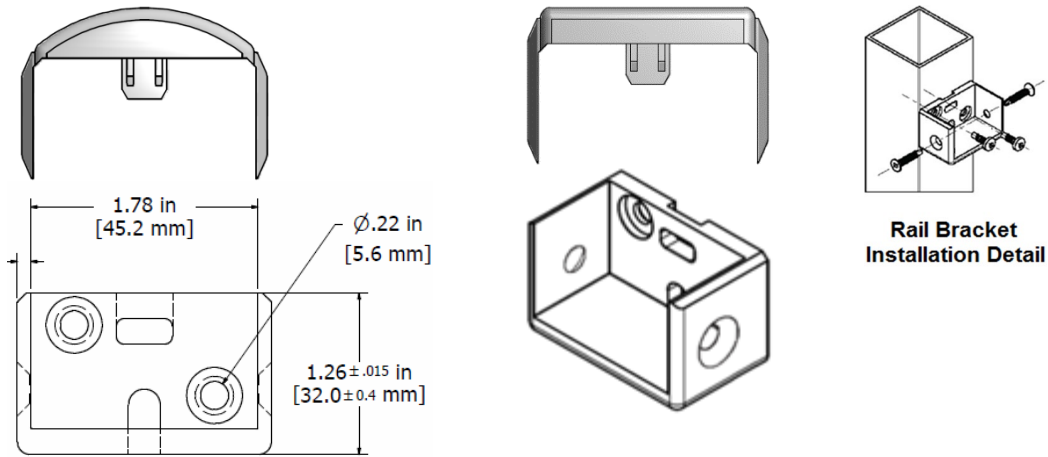
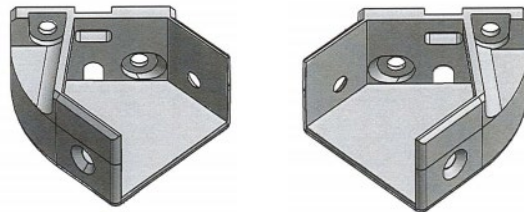


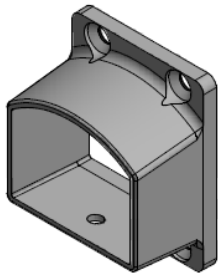
FIGURE 22 – LIBERTY SERIES RAIL SUPPORT BLOCK



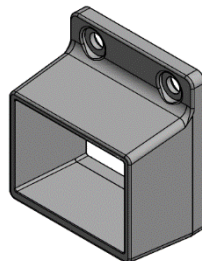
Riviera, Tuscany, and Veranda Brackets



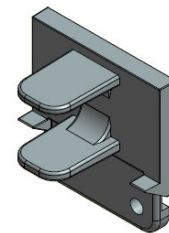
45 Degree *Tuscany* Brackets



ZAMAK 3 Cast *Liberty* Top Bracket



ZAMAK 3 Cast *Liberty* Bottom Bracket



Die Cast Aluminum *Screen Rail* Mount Bracket



Die-Cast Aluminum Top and Bottom *Screen Rail* Post Bracket

FIGURE 23 –BRACKET COMPONENTS

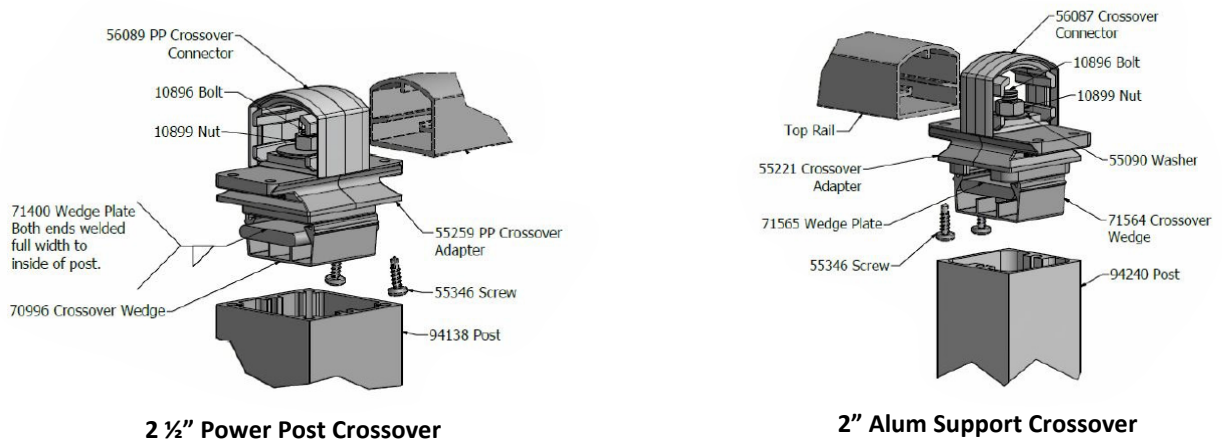


FIGURE 24 –CROSSOVER ASSEMBLIES

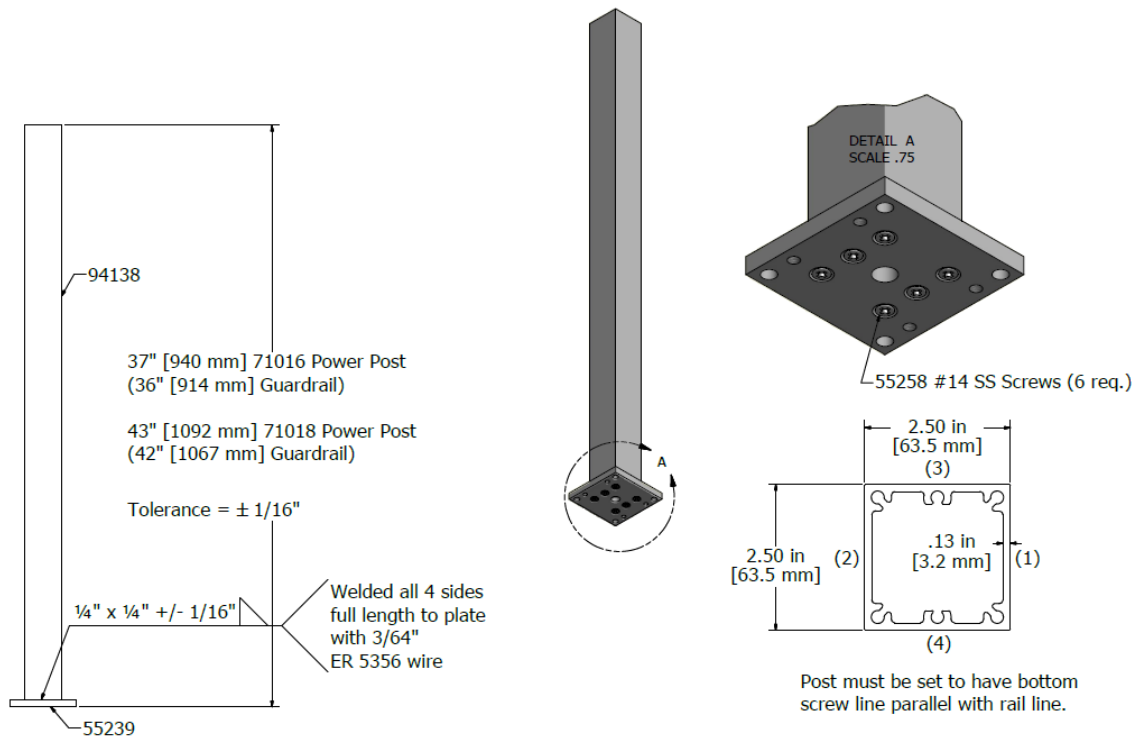


FIGURE 25 – 2-1/2" POWER POST ASSEMBLY

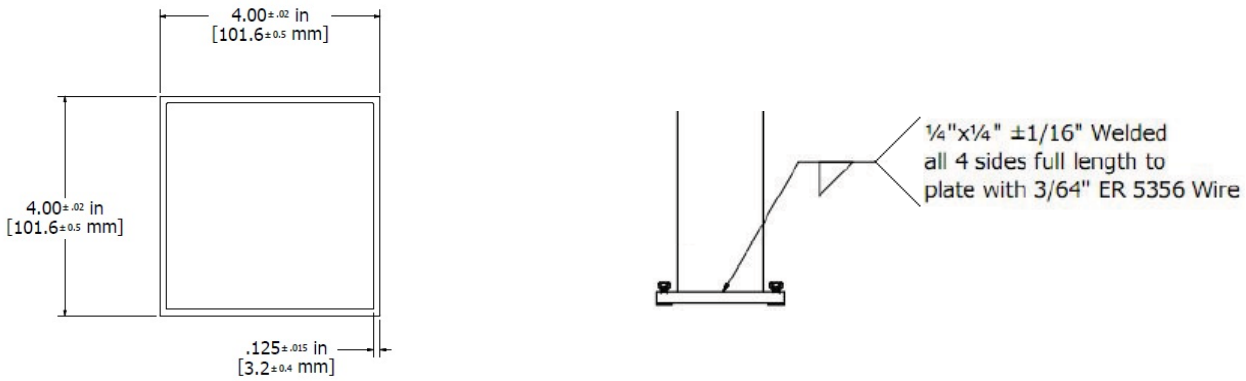


FIGURE 26 – 4X4 ALUMINUM POST ASSEMBLY

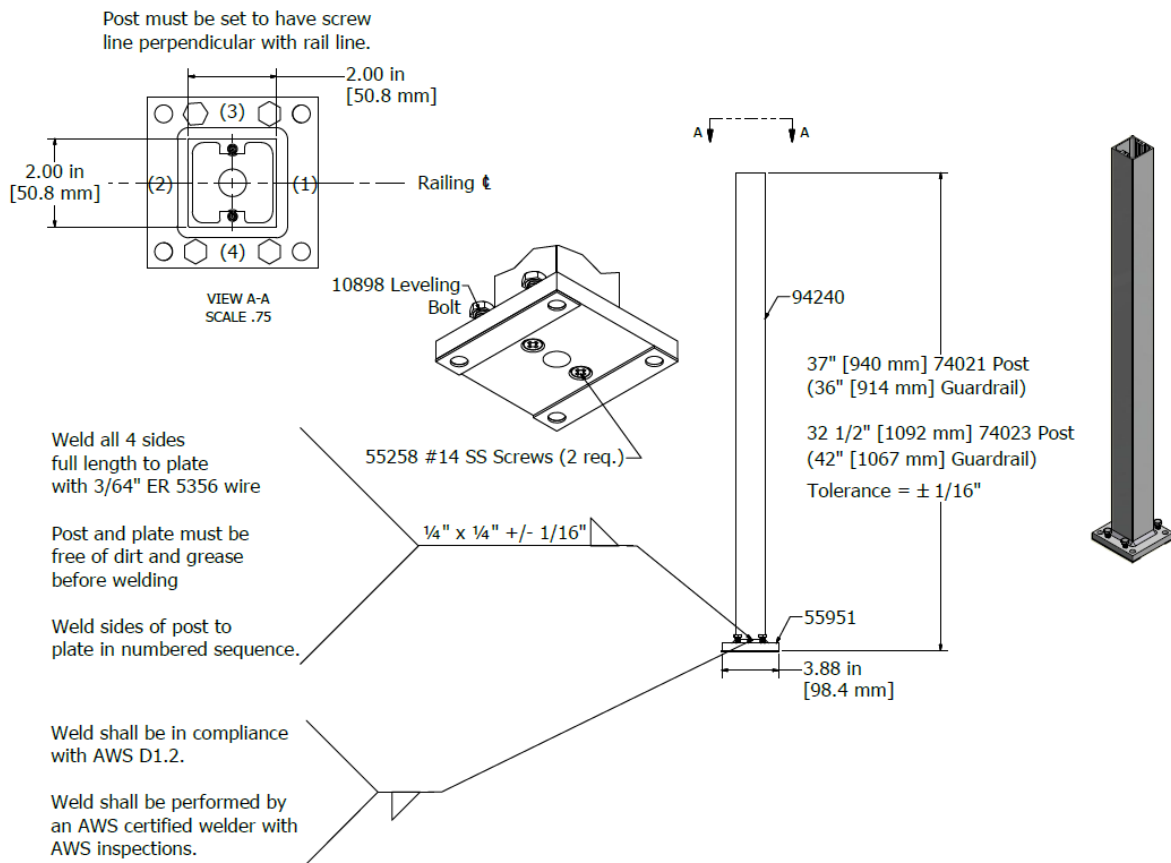


FIGURE 27 – 2" SQUARE ALUMINUM SUPPORT POST ASSEMBLY

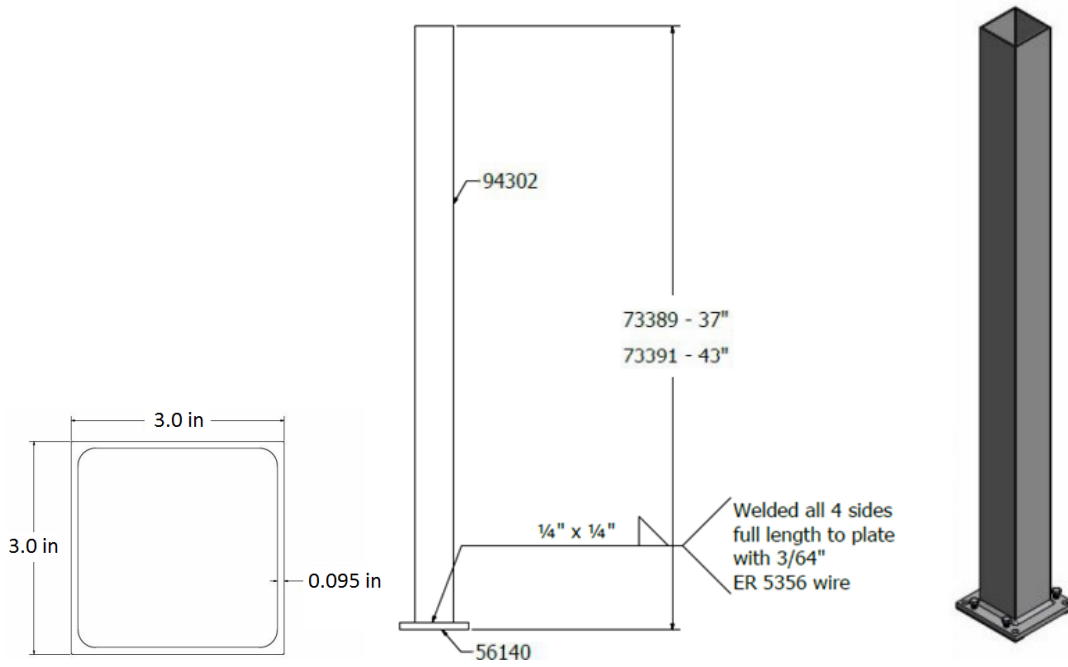


FIGURE 28 – 3” SQUARE ALUMINUM SUPPORT POST ASSEMBLY

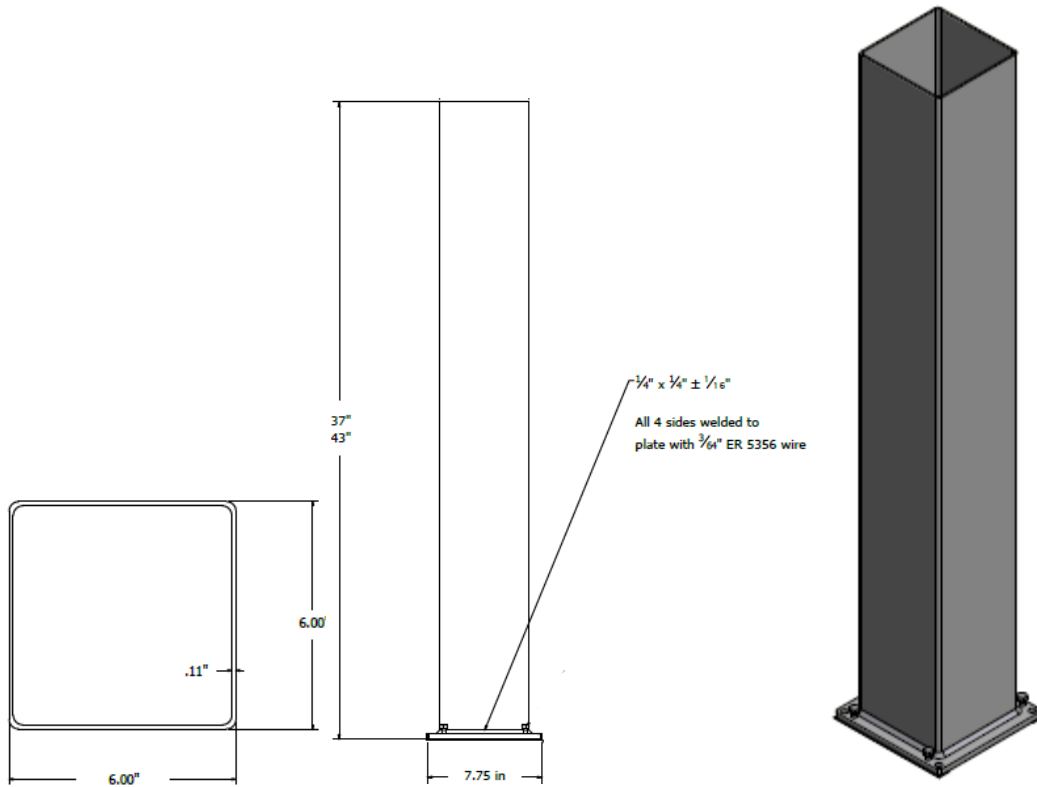


FIGURE 29 – 6” SQUARE ALUMINUM SUPPORT POST ASSEMBLY



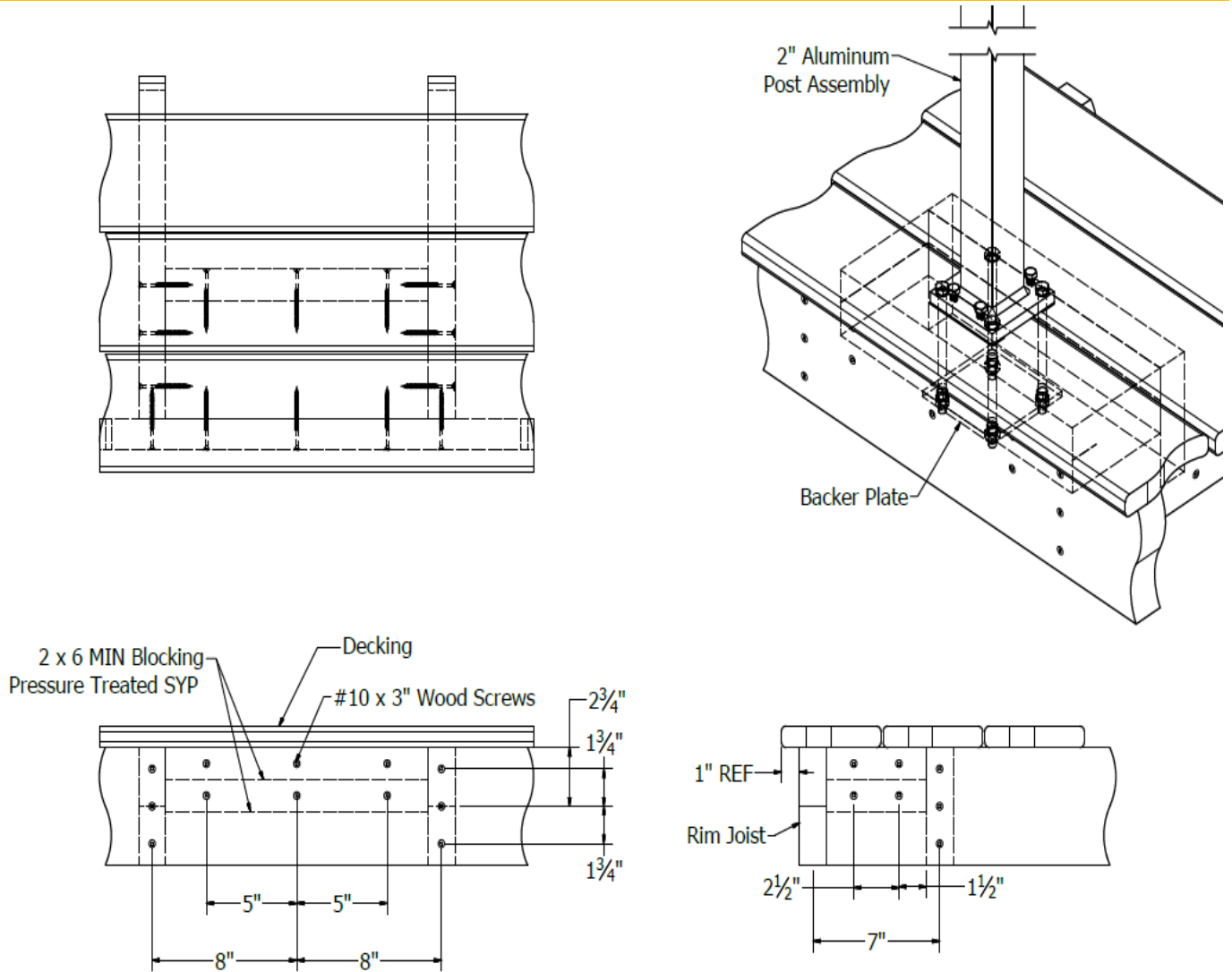


FIGURE 30 – STRUCTURAL WOOD FRAMING 2" POST MOUNT

Limited to IRC and FBC Residential

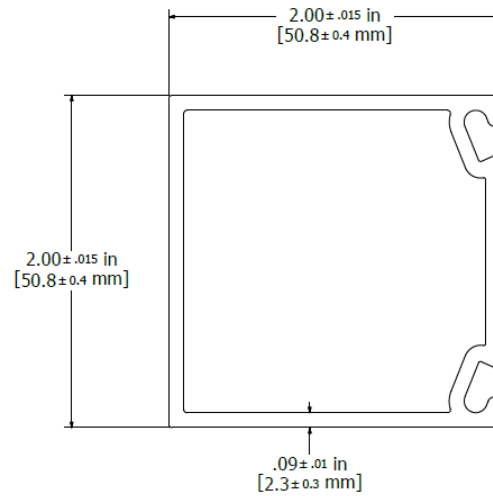


FIGURE 31 - SCREEN RAIL NON-STRUCTURAL POST

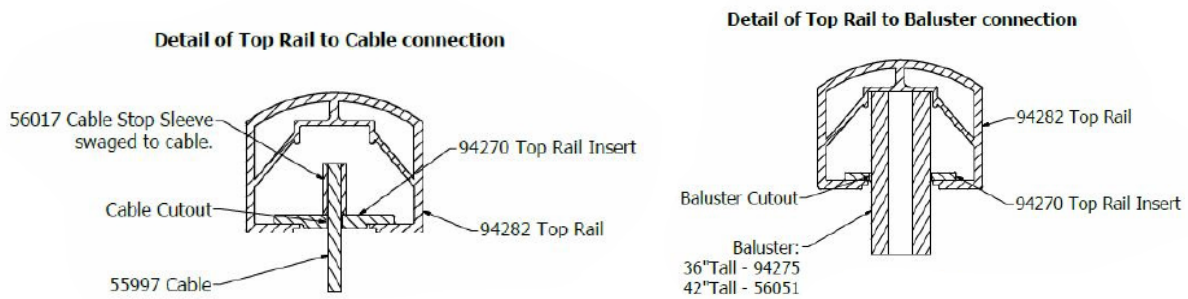


FIGURE 32 – WESTBURY® VERTICABLE SERIES C80 TOP RAIL PROFILES



FIGURE 33 – WESTBURY® VERTICABLE SERIES C80 BOTTOM RAIL PROFILES