



Building Product Evaluation Report 0112

Barrette Finyl Line Guardrail Systems Barrette Outdoor Living

Initial Acceptance: January 25, 2018

Expiration: January 24, 2024

Revision: May 11, 2023

TYPE OF ACCEPTANCE

Product Material – Wood and Plastics

CSI Specification Division: 06 50 00 (Structural Plastic) and 06 63 00 (Plastic Railing)

MANUFACTURER IDENTIFICATION:

Barrette Outdoor Living

740 North Main Street

Bulls Gap, TN 37711

1-800-336-2383

www.barretteoutdoorliving.com

EVALUATION REPORT SUBJECT:

Finyl Line™ Guardrail Systems for Exterior Applications

Installation on construction complying with the International Residential Code® (IRC®) or with the International Building Code® (IBC®), including IBC exceptions in Section 1015.3 of the IBC.

DESCRIPTION OF BUILDING COMPONENTS:

Barrette Outdoor Living guardrail system is identified by the name – **Finyl Line™ Guardrail System**. The guardrail system is for use in areas as referenced in the Applicable Codes. The guardrail system provides a protective barrier for walking areas, balconies, porches, stairs and ramps. The guardrail system is manufactured by the co-extrusion process, assembled with molded components and is produced in white and other colors.

1. Guardrail – Finyl Line

- (a) The **Finyl Line** guardrail system consists of top rail, bottom rail, balusters and aluminum reinforcing inserts. The top rail, bottom rail and balusters are manufactured with PVC material by the co-extrusion process except for the aluminum baluster and the molded brackets.
- (b) The **Finyl Line** guardrail system has a top rail that comes in two styles: “T” Rail profile and Deck Board “DB” profile. The “T” Rail top rail profile is “T” in shape, hollow in the center, has rounded edges, is pre-routed for balusters and has cap stock on the rail. The Deck Board profile has a flat top for the application of a deck board, is hollow in the center, has rounded edges and is pre-routed for balusters. The deck board for the Deck Board profile top rail is optional and is not provided with the guardrail kit and is not covered in this Report. The two top rails have 3 optional reinforcing insert configurations which are as follows: “Heavy H”, “H” and “h”. The reinforcing inserts are an extruded 6005-T5 Aluminum material. See Table 1 in this Report for drawings and dimensions of top rails and inserts.
- (c) The **Finyl Line** guardrail system has a bottom rail that is rectangular in shape, hollow in the center, has rounded edges and is pre-routed for balusters. The bottom rail has two optional reinforcing insert configurations which are as follows: “T” and “h”. The reinforcing inserts are an extruded 6005-T5 Aluminum material. See Table 1 in this Report for drawings and dimensions of bottom rails and inserts.



- (d) The **Finyl Line** guardrail system has three baluster designs as follows: square, turned and round. The square and turned balusters are manufactured with PVC material. The square baluster has rounded edges and is hollow in the center. The turned baluster is square on both ends with rounded edges, turned in the middle and is hollow in the center. The round baluster is circular in shape, is hollow in the center and is an extruded 6063-T52 Aluminum material. See Table 1 in this Report for baluster drawings and dimensions.
- (e) The **Finyl Line** guardrail system is also available with pre-assembled decorative infills: Freeport and Chippendale. The infills have square balusters with a 3-ft wide decorative pattern (Freeport or Chippendale) at the middle. The decorative patterns are made with a combination of square and rectangular PVC balusters. The top rail consists of a T-Rail with a BAR10128-2 H profile insert. The bottom rail insert consists of a BAR10128-3 H profile. Both inserts are made with an extruded 6005-T5 Aluminum material. See Table 1 in this Report for baluster drawings and dimensions.
- (f) The **Finyl Line** guardrail system is also available with Decorative Screen Panel (DSP) infill. The panels are 68-inches wide by 34-inches high and are manufactured in an injection molding process with a proprietary blend of Polypropylene and fiberglass. The panels are available in different patterns – Boardwalk, River Rock, Optic, and Sanibel (see Table 1 in this Report). Vertical edges of the panels are attached to PVC H-Channels and the infill is inserted to the top and bottom rails through the pre-routed slots.
- (g) The **Finyl Line** guardrail system connections for the top and bottom rail to the supports are PVC molded brackets and adapters. The brackets and adapters are secured to the posts with steel screws (stainless, corrosion-resistant, or galvanized) suitable for use in preservative-treated wood. See Table 1 and 3 of this Report for a drawing of the bracket and number of fasteners required.
- (h) See Table 2 in this Report for the **Finyl Line** guardrail system heights and lengths.
- (i) See manufacturer's published installation instructions identified as [BOM 34115554](#) dated 2/19/20, [BOM 34115733](#) dated 02/19/20, and [BOM 34111869 / Rev12.21](#) for additional installation details.

2. Stairs – **Finyl Line**

- (a) The **Finyl Line** guardrail system (other than with decorative infills) can be used as stair guards. See Tables 1, 2 and 3 in this Report for maximum length between posts, top and bottom rail connection brackets and fasteners required.
- (b) When the guardrail is used with stairs, the guardrail must be installed in accordance with the manufacturer's published installation instructions, noted in 1(h) above and information located in Tables 1, 2 and 3 in this Report. When the manufacturer's published installation instructions differ from this Report, this Report governs. Additionally, in order to comply with the IBC or IRC graspability requirements, a separate handrail complying with IBC Section 1014.3 or IRC Section R311.7.8.3 must be provided. Specific details regarding the construction installation and attachment to the stair guardrail and/or posts have not been evaluated and are outside the scope of this Report. Specific details when required must be furnished to the authority having jurisdiction.

APPLICABLE CODES:

- 2015, 2018, and 2021 International Building Code (IBC)
- 2015, 2018, and 2021 International Residential Code (IRC)

APPLICABLE CHARACTERISTICS REVIEWED:

1. Structural Performance:

- (a) Barrette Outdoor Living **Finyl Line** guardrail system has been reviewed for maximum spans as indicated in Table 2. Table 2 in this Report also indicates the limitations of use evaluated for each design.

2. Temperature:

- (a) Barrette Outdoor Living **Finyl Line** guardrail system has been reviewed for evaluated temperature range of -20°F to 125°F (-29°C to 52°C).

3. Flame Spread Index:

- (a) Barrette Outdoor Living **Finyl Line** guardrail system flame spread rating was less than 200 for PVC material when tested in accordance with ASTM E84, *Standard Test Method for Surface Burning Characteristics of Building Materials*.

4. Decay Resistance:

- (a) The material used in the Barrette Outdoor Living **Finyl Line** guardrail system in this Report does not contain any wood and has been deemed comparable to naturally resistant wood or to preservative treated wood for resistance to fungal decay.



5. Termite Resistance:

- (a) The material used in the Barrette Outdoor Living **Finyl Line** guardrail system in this Report does not contain any wood and has been deemed equivalent to naturally resistant wood or to preservative treated wood for resistance to termite attack.

6. UV Testing:

- (a) The UV testing was conducted, and an appropriate adjustment factor was applied in accordance with ASTM D7032, *Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards, and Handrails*.

7. Fastening:

- (a) Barrette Outdoor Living **Finyl Line** guardrail system top and bottom rails must be fastened to posts with PVC molded brackets using steel (stainless, corrosion-resistant, or galvanized) screws. See Table 1 of this Report for drawings of the brackets. See Table 3 of this Report and manufacturer's installation instructions for fastening details.
- (b) The fasteners and brackets are supplied by the manufacturer and must be used in the installation of the Barrette Outdoor Living **Finyl Line** guardrail system. Use of other brackets and fasteners is not covered under this Report.

8. Posts:

- (a) Wood posts or other wood support framing members are not covered under this Report. However, wood posts and other wood support framing members must be designed to meet load and other requirements in the applicable building code(s), have a minimum specific gravity of 0.50 (Southern Pine or better), and of sufficient thickness to allow full penetration of bracket mounting screws.

APPLICABLE USES:

The Barrette Outdoor Living **Finyl Line** guardrail systems evaluated in this Report are for installations on construction complying with IRC or IBC. See Table 2 for guardrail system limitations.

LIMITATIONS OF ACCEPTANCE:

The Barrette Outdoor Living **Finyl Line** guardrail system described in this Report complies with those codes listed in the Applicable Codes section above and is subject to the following conditions:

1. Barrette Outdoor Living **Finyl Line** guardrail system is limited to exterior construction complying with the IRC and the IBC. The guardrail systems provide a protective barrier for walking areas, balconies, porches, stairs and ramps.
2. Installation of the guardrail system must comply with this Report; the manufacturer's published installation instructions identified as [BOM 34115554](#) dated 02/19/20 and [BOM 34115733](#) dated 02/19/20, [BOM 34111869 / Rev12.21](#), and the applicable code. When the guardrail installation instructions differ from this Report, this Report governs.
3. The fasteners described in this Report have been evaluated for the installation of the Barrette Outdoor Living **Finyl Line** system guardrail and handrail only. Material necessary for anchorage of the guardrail system(s) and compatibility of the fasteners to the treated wood supporting construction have not been evaluated.
4. The Barrette Outdoor Living **Finyl Line** guardrail system indicated in this Report must be fastened to the supporting construction as indicated in the manufacturer's published installation instructions and as outlined in this Report. When guardrail fastening instructions differ from this Report, this Report governs.
5. The top rail component for the Barrette Outdoor Living **Finyl Line** guardrail system does not meet the graspability requirements when used as a handrail for stairs. See Description of Building Components 2(b) in this Report for additional requirements.
6. When required, the guardrail system, including a stair (see Description of Building Components 2(b), in this Report must be designed by a professional and submitted to the authority having jurisdiction for final acceptance.
7. The Barrette Outdoor Living **Finyl Line** guardrail system has not been evaluated as a member of a fire-resistance-rated assembly.
8. Barrette Outdoor Living has a third-party inspection program provided by PFS TECO.



DOCUMENTATION SUBMITTED:

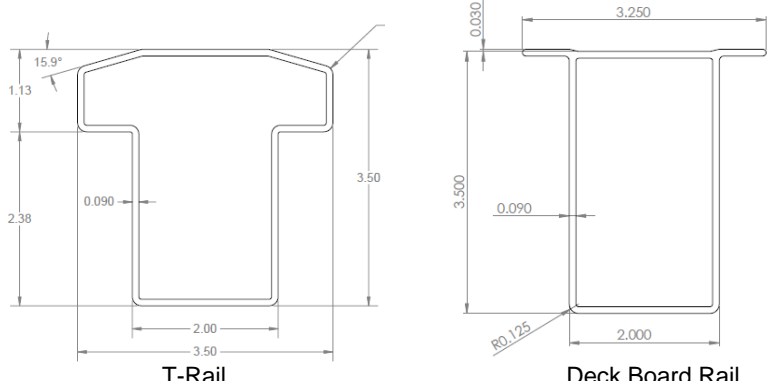
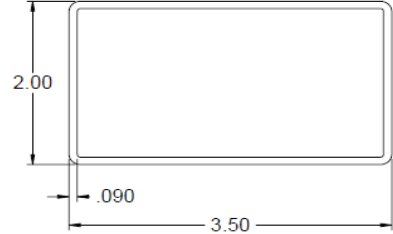
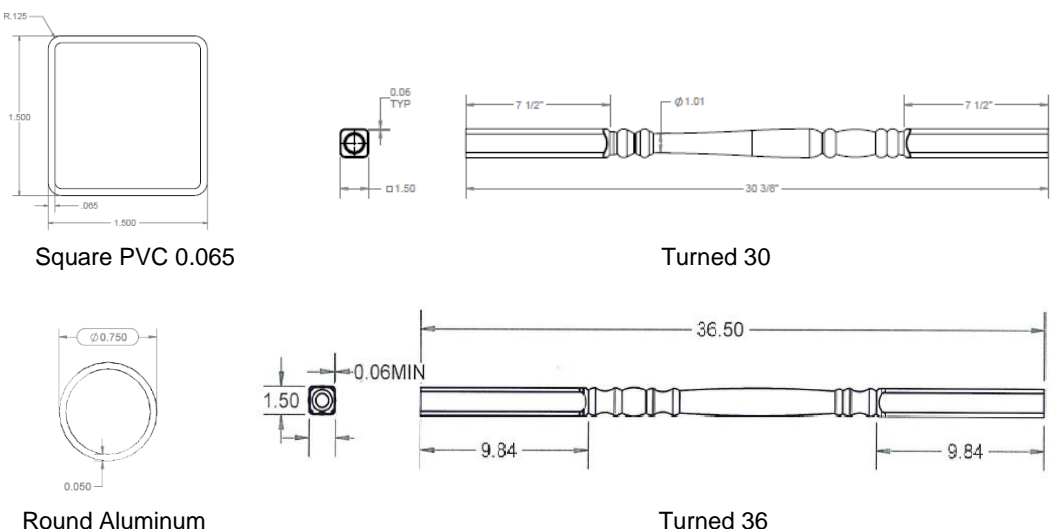
Submitted data was provided in accordance with PFS TECO Certification and Inspection Policy: Deck Boards and Guardrails (Quality Control Manual, Specifications, Manufacturer's published installation instructions, Test data and Descriptive information). The products have been evaluated in accordance with ICC-ES AC174, *Acceptance Criteria for Deck Board Span Ratings and Guardrail Systems (Guards and Handrails)*.

PRODUCT IDENTIFICATION:

The Barrette Outdoor Living guardrail assembly system must be identified with a label on each component or the packaging. The information required is as follows: Barrette Outdoor Living, product identification (***Finyl Line***), compliance to ASTM D7032 including the maximum guardrail span, the PFS TECO Building Product Evaluation number (BPER 0112), and the PFS Certification Mark (see image below). Guardrails that are 36" high require a label indicating, "Guardrail installation in residential (1 & 2 Family) units only." Guardrails without this information are not covered under this Report.

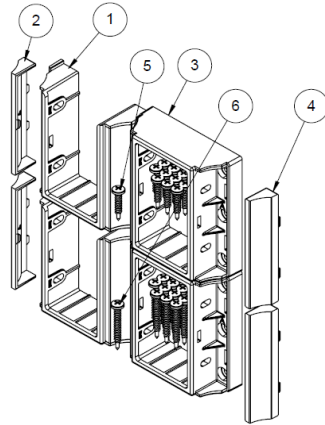


Table 1: Schematics of Finyl Line Guardrail System Components

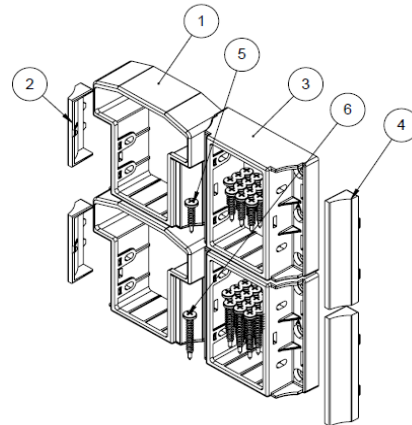
Description	Profile
<p>Top Rail</p>	 <p>T-Rail</p> <p>Deck Board Rail</p>
<p>Bottom Rail</p>	
<p>Balusters</p>	 <p>Square PVC 0.065</p> <p>Turned 30</p> <p>Round Aluminum</p> <p>Turned 36</p>

<p>Top Rail Insert</p>	<p>Heavy H Stiffener</p> <p>H Stiffener</p> <p>h Stiffener</p> <p>BAR10128-2 H Stiffener</p>
<p>Bottom Rail Insert</p>	<p>T Stiffener</p> <p>h Stiffener</p> <p>BAR10128-3 H Stiffener</p>
<p>Post Adapters</p>	<p>45 Degree</p> <p>22.5 Degree</p> <p>Round Post</p>

Level Rail
Bracket Kits

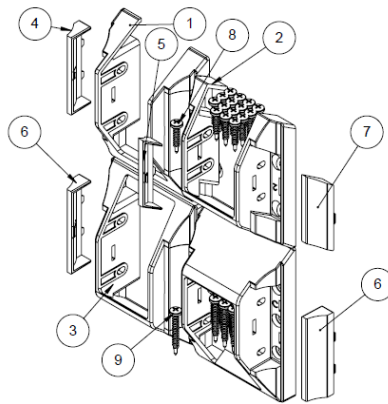


Deck Board Rail

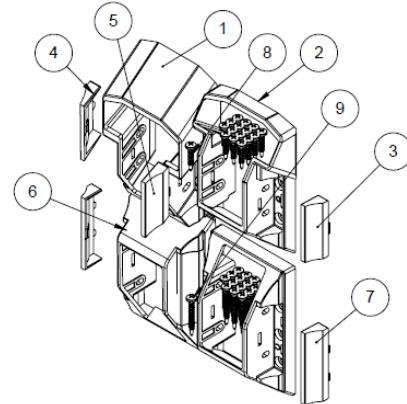


T Rail

Stair Rail
Bracket Kits

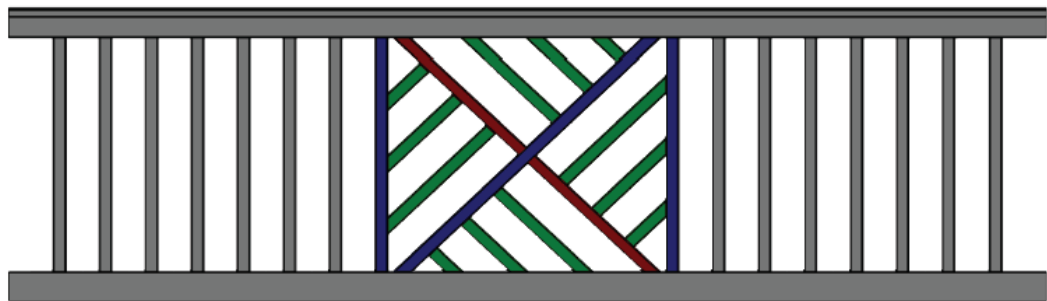


Deck Board Rail

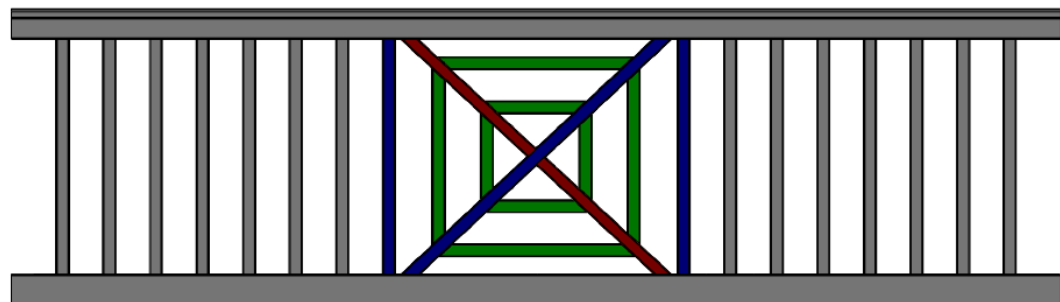


T Rail

Level
Assemblies with
Decorative
Panel

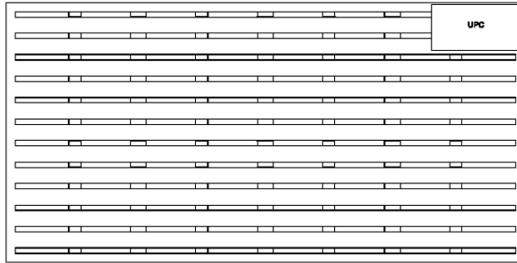


10' x 36" CHIPPENDALE PANEL (ALSO AVAILABLE IN 6' AND 8')

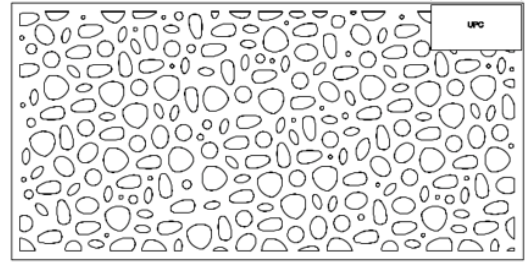


10' x 36" FREEPORT PANEL (ALSO AVAILABLE IN 6' AND 8')

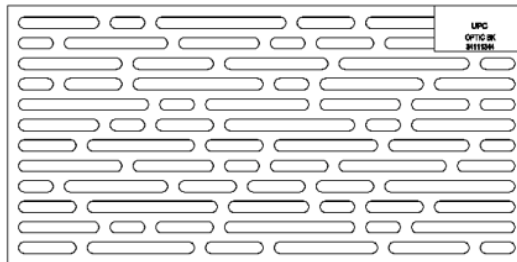
Decorative
Screen Panel
(DSP) Infill



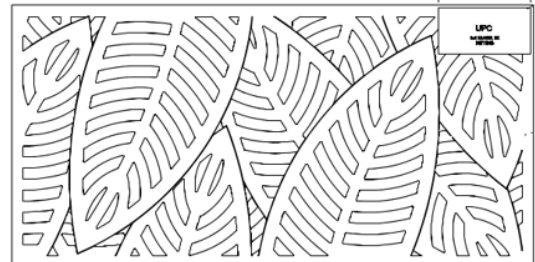
Boardwalk Pattern



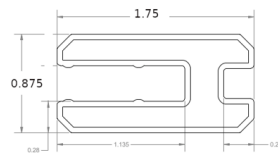
River Rock Pattern



Optic Pattern



Sanibel Pattern



DSP H-Channel



Table 2: Span Table for Finyl Line Guardrail Assembly

Guardrail Type	Top Rail Type with Insert	Bottom Rail Insert	Baluster	Max Guardrail Span
Maximum Guardrail Height 36 in. for IRC Residential One- and Two-Family Residential Dwellings				
Level	DB Rail with Heavy H Stiffener	h	Square, Turned 30, Round	120-in.
	T Rail with Heavy H Stiffener	h		
Stair	T Rail with Heavy H Stiffener	h		117.5-in.
Level	DB Rail with H Stiffener	T		96-in.
	T Rail with H Stiffener	T		
Stair	DB Rail with H Stiffener	T		93.5-in.
	T Rail with H Stiffener	T		
Level	DB Rail with h Stiffener	T		72-in.
	T Rail with h Stiffener	T		
Stair	DB Rail with h Stiffener	T		69.5-in.
	T Rail with h Stiffener	T		
Level with Decorative Infills	DB Rail with BAR10128-2 H Stiffener	BAR10128-3 H		Square
Level with DSP Infills	T Rail with H Stiffener	H	DSP Panel	72-in.
Maximum Guardrail Height 42 in. for IBC				
Level	DB Rail with Heavy H Stiffener	T	Square, Turned 36, Round	96-in.
	T Rail with Heavy H Stiffener	T		
Stair	DB Rail with Heavy H Stiffener	T		93.5-in.
	T Rail with Heavy H Stiffener	T		
Level	DB Rail with H Stiffener	T		72-in.
	T Rail with H Stiffener	T		
Stair	DB Rail with H Stiffener	T		69.5-in.
	T Rail with H Stiffener	T		

for SI conversion: 1 in = 25.4 mm, 1 psf = 47.9 Pa, 1 lbf = 0.0044 kN

Refer to Table 3 for fastening schedule.

Maximum span is clear length between posts measured parallel to top/bottom rail.



Table 3: Fastening Schedule for Finyl Line Guardrail Assembly

Location	Connection	Fasteners
Top Rail	Bracket to Post	Four #10 x 1-1/2" pan-head, square drive, 410 SS with zinc screw
	Bracket with 45° or 22.5° Adapter to Post	Four #10 x 3" pan-head, square drive, 410 SS with zinc screw ¹
	Bracket with Column Adapter to Post	Four #10 x 2" pan-head, square drive, 410 SS with zinc screw ¹
	Bracket to Rail	Four #10 x 1" pan-head, square drive, 410 SS with zinc screw
	DB Rail to Deck Board Filler Plate ²	#10 x 3/4" truss head 410 SS with zinc screw @ 12" o/c both lips ²
Bottom Rail	Bracket to Post	Four #10 x 1-1/2" pan-head, square drive, 410 SS with zinc screw
	Bracket with 45° or 22.5° Adapter to Post	Four #10 x 3" pan-head, square drive, 410 SS with zinc screw ¹
	Bracket with Column Adapter to Post	Four #10 x 2" pan-head, square drive, 410 SS with zinc screw ¹
	Bracket to Rail	Four #10 x 1" pan-head, square drive, 410 SS with zinc screw
DSP Infill	Infill to Top Rail	Slip fit – No mechanical connection
	Infill to Bottom Rail	Slip fit – No mechanical connection
	H-Channel to Infill	Two #6 x 3/4" Phillips-head SDS 410 SS screw

¹ Pre drill with 5/32" drill bit.

² Deck Board Filler plate is optional and not included with the kit. Fasteners included are not evaluated in this Report.



BPER 0112 Revision History		
Version	Revision Date	Description
1.0	Jan 15, 2018/ Oct 25, 2022	Initial Approval / Last Revision
1.1	May 11, 2023	Added Aluminum Round baluster to IBC railing