ENHANCED PROCEDURES OF RAILINGS PERMITS

1) All rails shall be designed for the loads specified in section 1618.4.6 of the Florida Building Code. They shall be designed to resist a uniform load of 50 plf and a concentrated load of 200 lbs applied in any direction at the top and transferred through the support to the structure. Intermediate rails, balusters and panel fillers shall be designed for a uniform load of 25 psf. Exterior railings shall also be designed for wind loads calculated in accordance with chapter 16 of the Florida Building Code (Existing),
2) Glass used in a handrail assembly or guards shall comply with section 1618.4.6.3 of the Florida Building Code. Safety glazing shall be tested by an accredited laboratory to satisfy the resistance requirements of wind, live and kinetic energy impact loading conditions. The kinetic energy impact loading shall comply with ANSI Z97.1 using a 400 foot-pound energy impact. A test certificate shall be provided.
3) Handrails for ramps and stairs shall be minimum 34" and maximum 38" in height above the finished floor. Circular handrails shall have a minimum 1.25" and maximum 2" outside diameter. Non-circular handrails shall have a minimum perimeter of 4" and a maximum perimeter of 6.25" with a minimum edge radius of 0.01". Handrails shall be continuous. At stairs where the handrails are not continuous they shall extend 12". There shall be a clearance of 1.5" between the handrail and the wall. Handrails shall comply with section 1012 of the Florida Building Code.
4) Guards shall be located for all structures located 30" above the grade or floor below. The minimum height of the guard shall be 42". The baluster or ornamental patterns of the guards shall reject a 4" diameter sphere. Guards shall comply with section 1013 of the Florida Building Code,
5) The following documents shall be provided for a building permit for rails.
   a) A plan view showing the locations of the rails.
   b) The typical elevations of the rails showing the height, post and baluster spacing and the spacing between the finished floor and the bottom rail. All dimensions shall be provided. The sizes and thicknesses of the structural elements shall be specified.
   c) Provide typical sections showing the connection of the post to the floor.
   d) If the rail is for new concrete construction, a sleeve should be provided for metal railing in the slab during the casting of the slab. The post shall be embedded in the slab with epoxy grouting. Details of the connections of the posts and the concrete shall be provided. If the railing is made of wood, then the post shall be connected after the concrete construction and shall be detailed according to item 5f described below.
   e) If the rail is for existing concrete construction, it is advised to use a steel plate at the bottom of the post to connect it with the existing concrete. The detail of the connection shall be shown in the typical section of the rail. A plan view showing the plate (size and thickness) with the connectors and their spacing and edge distances shall be provided. If embedment of the post in the existing concrete is desired then the reinforcing of the slab shall be located by means of an X-ray method. The Contractor shall be instructed on the drawings to avoid any interference with the steel or cutting of steel.
   f) For wood railings, show the connections of the post to the floor. Specify the connector size, model and the manufacturer with the nailing schedule and shear & tension capacities.
   g) Steel, aluminum and wood railings shall comply with chapters 22, 20 & 23 of the Florida Building Code respectively.
   h) The structural notes shall consist of material specifications, standards & strengths of materials and the design criteria.
   i) A test certificate for glass rails tested in accordance with section 1618.4.3 of the Florida Building Code shall be provided.
   j) Structural calculations consisting of analysis of the forces, design of the members and connections shall be provided.
   k) The shop drawings and structural calculations shall be prepared, signed and sealed by a Professional Engineer licensed in the state of Florida.
   l) The Architect AND the Engineer of Record shall review the shop drawings for compliance with the design load criteria, relevant building codes, material specifications and architectural design. They shall apply a shop drawing stamp confirming the compliance.