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re: ENGINEER'S REPORT FOR INTERIOR FRAMING @ 620 SW MAULDIN AVENUE, LAKE CITY, FL

I reviewed the interior framing at the above referenced site. Floor plans were provided by the owner and are attached.

- FLOOR JOISTS: 2X8 @ 16" O.C. 12' SPAN
- GIRDERS: 3-2X12 BUILT UP HEADER

Stairs and railings shall be constructed per the details attached to this report.

In my professional opinion, this framing meets the specifications in the 2023 Florida Building Code - Residential, 8th Edition. Should you have any questions, please don't hesitate to contact me.

Respectfully,



Carol Chadwick, P.E.

This item has been digitally signed and sealed by Carol Chadwick, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.
 CC Job FL24394

DESIGN CODES:
 2023 FLORIDA BUILDING CODE (FBC) - RESIDENTIAL
 OCCUPANCY: RESIDENTIAL GROUP R-3 (ONE- AND TWO-FAMILY DWELLINGS)
 DESIGN LOADS:
 LL 20 PSF RAFTERS
 LL 20 PSF CEILING JOISTS
 DL 10 PSF RAFTERS
 DL 10 PSF CEILING JOISTS
 DL 30 PSF ATTICS WITH STORAGE
 NUMBER OF STORIES: 1
 TYPE OF CONSTRUCTION: TYPE V-6, UNPROTECTED, UNSPRINKLERED
 WIND ZONE INFORMATION
 BUILDING: ENCLOSED STRUCTURE
 ULTIMATE DESIGN WIND SPEED: 130 MPH
 NOMINAL DESIGN WIND SPEED: 110 MP

1. The rise and run of steps shall be uniform in size, shape, and the variation cannot exceed 3/8 inch in the total run per FBC-R 311.7.5.2.

2. The maximum rise of steps shall be 7 3/4 inches; the minimum tread depth shall be 10 inches. The minimum under tread depth at the walk line shall be 10 inches; and the minimum under tread depth shall be 6 inches. A nosing not less than 3/4 inch but not greater than 1 1/4 inches shall be provided on stairways with solid risers where the tread depth is less than 11 inches per FBC-R 311.7.5.1.

3. Stairways shall have a minimum headroom clearance of 80 inches measured vertically from a line connecting the edges of the nosing. Such headroom shall be continuous above the stairway to the point where the line intersects the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the stairway and landing per FBC-R 311.7.2.

4. The minimum width of stairways shall not be less than 36 inches. The minimum dimension of all landings shall be 36 inches per FBC-R 311.7.1.

5. All stairs having four or more risers are required to have handrails and guardrails that comply with the FBC-R 311.7.8.

6. All landings, decks, and balconies that are more than 30 inches above grade require a building permit and guardrails that comply with FBC-R 312.1.

7. The mounting of handrails shall be such that the completed handrail and supporting structure are capable of withstanding a load of at least 200 pounds applied in any direction at any point along the top of the rail per TABLE FBC-R 301.5.

8. Handrails shall be continuous the full length of the stairs, from the top riser to the bottom per FBC-R 311.7.8.2.

9. Handrails are only permitted to be interrupted by a newel post at a landing per FBC-R 311.7.8.2, Exception 1.

10. Handrail height, measured above the stair tread nosing, shall be uniform, not less than 34 inches and not more than 38 inches per FBC-R 311.7.8.1.

11. Handrails with a circular cross-section shall have an outside diameter of at least 1 1/4 inches and not greater than 2 inches or shall provide equivalent grasp ability. If the handrail is not circular it shall have a perimeter dimension of at least 4 inches and not greater than 6 1/4 inches with a maximum cross-section dimension of 2 1/4 inches. Edges shall have a minimum radius of 0.01 inch per FBC-R 311.7.8.3.

12. Handrail ends shall be returned to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight. The termination point may also be a newel post per FBC-R 311.7.8.2.

13. Handrails shall have a clear space between the handrail and a wall or other surface of at least 1 1/2 inches. A handrail end a wall or other surface adjacent to the handrail shall be free of any sharp object or abrasive elements per FBC-R 311.7.8.2.

14. Projections into the required width of stairways at each handrail shall not exceed 4 1/2 inches at or below the handrail height per FBC-R 311.7.1.

15. On the open side of the stairs, intermediate railings shall be provided and installed so that a 4.375 inch sphere cannot pass through per FBC-R 312.1.3.

16. There shall be a floor or landing at the top and bottom of each stairway. The width perpendicular to the direction of travel shall be not less than the width of the flight served. Landings of shapes other than square or rectangular shall be permitted provided that the depth at the walk line and the total area is not less than that of a quarter circle with a radius equal to the required landing width. Where the stairway has a straight run, the depth in the direction of travel shall be not less than 36 inches. R311.7.6

STAIR DETAIL

STAIR RISER HEIGHT AND TREAD DEPTH

Note: Dimensions and dimensioned surfaces shall be exclusive of carpets, rugs or runners.

LEVEL LANDING (per R311.7.6)

- Located at the top and bottom of each stairway
- Depth not less than width of flight served.
- For straight run, min. 36" deep in direction of travel

BEVEL OR RADIUS
Radius of curvature max 9/16" or bevel max 1/2" (per R311.7.5.3)

Tread depth
10" min

Riser height
4" min
7-3/4" max

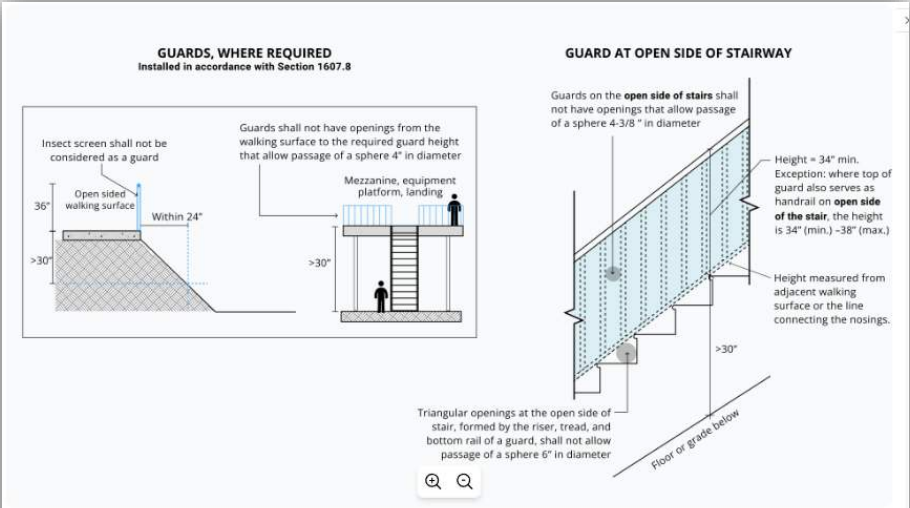
NOSING PROJECTION
Measured from back of tread below

- Min 3/4", Max 1-1/4" (per R311.7.5.3)
- The greatest projection shall not exceed the smallest by more than 3/8"

Exception:
Nosing projection not required if tread depths is not <11"

RISER NOTES

1. Vertical or sloped from underside of nosing max 30°
2. Open risers located >30" above the floor or grade below must still prevent passage of a 4" sphere through the opening



Overview

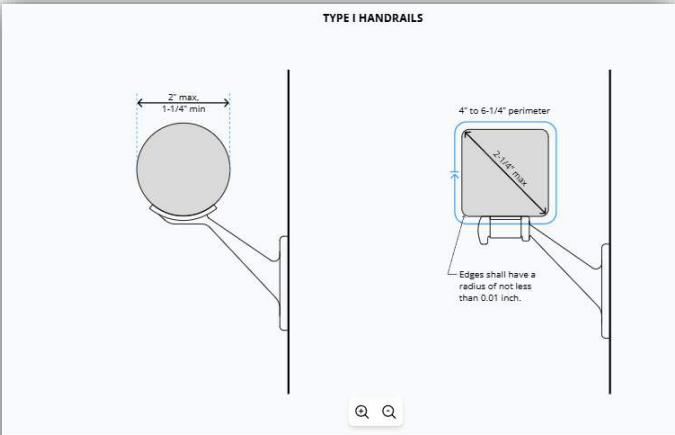
GUARD. A building component or a system of building components located near the open sides of elevated walking surfaces that minimizes the possibility of a fall from the walking surface to the lower level.

Primary Sections

FL RC R312.1.1 Where Required (*23)

Related Sections

FL RC R311.7 Stairways (*23)



Overview

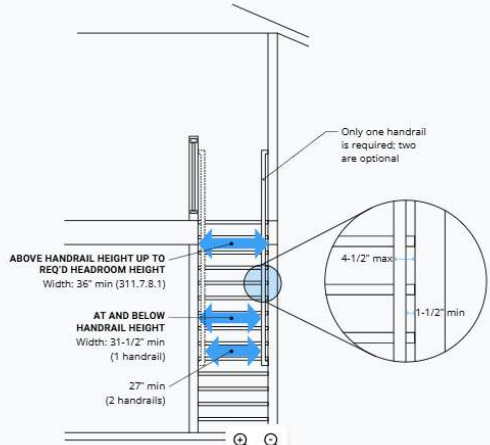
Type I handrails are either circular with a cross section that has an outside diameter between 1-1/4" to 2" maximum. When the handrail is not circular, then it needs to have a perimeter that is between 4" to 6-1/4" maximum with a cross section that is not greater than 2-1/4". The edges of non-circular handrail can have a radius of 0.01" minimum.

Primary Sections

FL RC R311.7.8.3 Grip-Size (*23)

Related Sections

FL RC R311.7.8 Handrails (*23) FL RC R311.7 Stairways (*23) FL RC R311.8.3 Handrails Required (*23) FL RC R311.8.3.2 Grip Size (*23)



Only one handrail is required; two are optional

ABOVE HANDRAIL HEIGHT UP TO REQ'D HEADROOM HEIGHT
Width: 36" min (311.7.8.1)

AT AND BELOW HANDRAIL HEIGHT
Width: 31-1/2" min (1 handrail)
27" min (2 handrails)

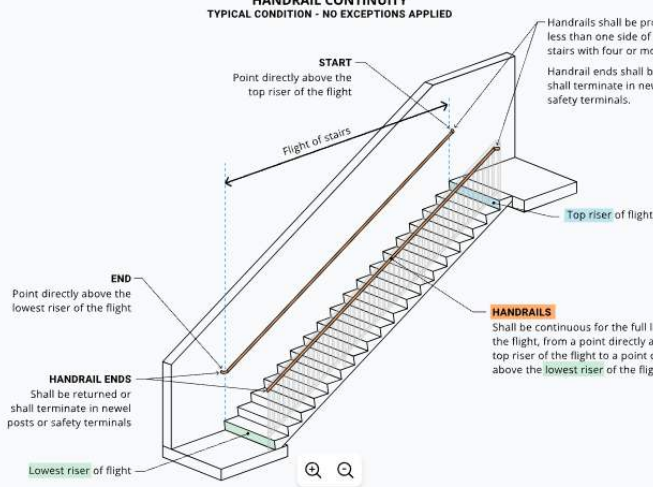
4-1/2" max
1-1/2" min

Overview

Residential stairways are permitted to have a handrail on only one side of the stairway in the residential code. Minimum widths vary depending on how many handrails are provided, and the location of the width measurement per R311.7.1. The amount of distance a handrail may project into the stairway is limited by R311.7.8.2.

Primary Sections

FL RC R311.7.1 Width ('23)



HANDRAIL CONTINUITY
TYPICAL CONDITION - NO EXCEPTIONS APPLIED

START
Point directly above the top riser of the flight

Flight of stairs

Top riser of flight

END
Point directly above the lowest riser of the flight

HANDRAIL ENDS
Shall be returned or shall terminate in newel posts or safety terminals

Lowest riser of flight

HANDRAILS
Shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight

Handrails shall be provided on not less than one side of each flight of stairs with four or more risers.
Handrail ends shall be returned or shall terminate in newel posts or safety terminals.

Overview

Handrail continuity is important for various reasons related to safety, accessibility, and compliance with building regulations. Firstly, a continuous handrail maximizes safety by providing continuous support for individuals navigating staircases and ramps, reducing the risk of slips and falls. This is especially beneficial for individuals who may have mobility issues, such as older adults or individuals with certain disabilities. Handrails' continuation without interruption by newel posts or other obstructions, also facilitates quicker and safer evacuation during an emergency.

SITE PHOTOGRAPHS







