



City of Walker
Community Development
4243 Remembrance Rd. NW
Grand Rapids, MI 49534

Phone: (616) 791-6858
Email: cdd@walker.city
Website: www.walker.city

RESIDENTIAL DECK PERMIT REQUIREMENTS

STEP 1: SUBMIT ALL REQUIRED DOCUMENTS FOR REVIEW to: cdd@walker.city

- ☐ BUILDING PERMIT APPLICATION
- ☐ BUILDING PLAN - Plan should include size, dimensions, elevation, and materials list.
- ☐ SITE PLAN - Plan should include lot lines, existing and proposed structures, setbacks, easements, and dimensions.
- ☐ KENT COUNTY ENVIRONMENTAL HEALTH REVIEW FORM - Required for properties with well and/or septic. Complete and send to KCHD email address on form.

STEP 2: PERMIT ISSUANCE. PAYMENT FOR THE PERMIT WILL BE COLLECTED WHEN THE PERMIT IS APPROVED. THE COST IS BASED ON PROJECT VALUE INCLUDING MATERIALS AND LABOR PLUS THE ZONING REVIEW FEE.

STEP 3: INSPECTION REQUIREMENTS

- ☐ FOOTING INSPECTION: AFTER HOLES ARE DUG AND BEFORE CEMENT IS POURED
- ☐ FINAL INSPECTION IS PERFORMED AFTER COMPLETION OF THE DECK AND WHEN THE GRADING IS FINISHED

DECK CONSTRUCTION BASICS:

Footings. Footings shall be designed and constructed below frost depth. A 42" minimum ground cover is required from bottom of footing to grade.

Posts / Columns. Columns and posts in contact with the ground or embedded in concrete must be of pressure treated wood approved for ground contact.

Materials. Decks exposed to the weather must be constructed with wood of natural resistance to decay or treated wood. This includes horizontal members such as beams, joists, ledger boards and decking; and vertical members such as posts, poles, guards, handrails, and columns. Other man-made products are subject to approval by the building official.

Railings. All decks, balconies, or porches which are more than 30" above grade or a floor below must be protected by a guard a minimum of 36" above the finished deck surface. Guards and stair railings shall have horizontal, vertical, diagonal, or other ornamental intermediate rails through which a sphere 4" in diameter cannot pass.

Fasteners. Fasteners and hangers need to be hot dipped galvanized steel, stainless steel, copper, or equivalent.

Joists/Beams. Joists shall not overhang beams by more than 2'0", nor shall beams overhang posts by more than 1'0" at each end.

Loading. Decks shall be designed and constructed to support a minimum live load of 40lbs per square foot. The dead load is assumed to be a minimum of 10 lbs per square foot for a total design load of 50lbs per square foot. Additional loads shall be considered if a spa is to be placed on the deck.

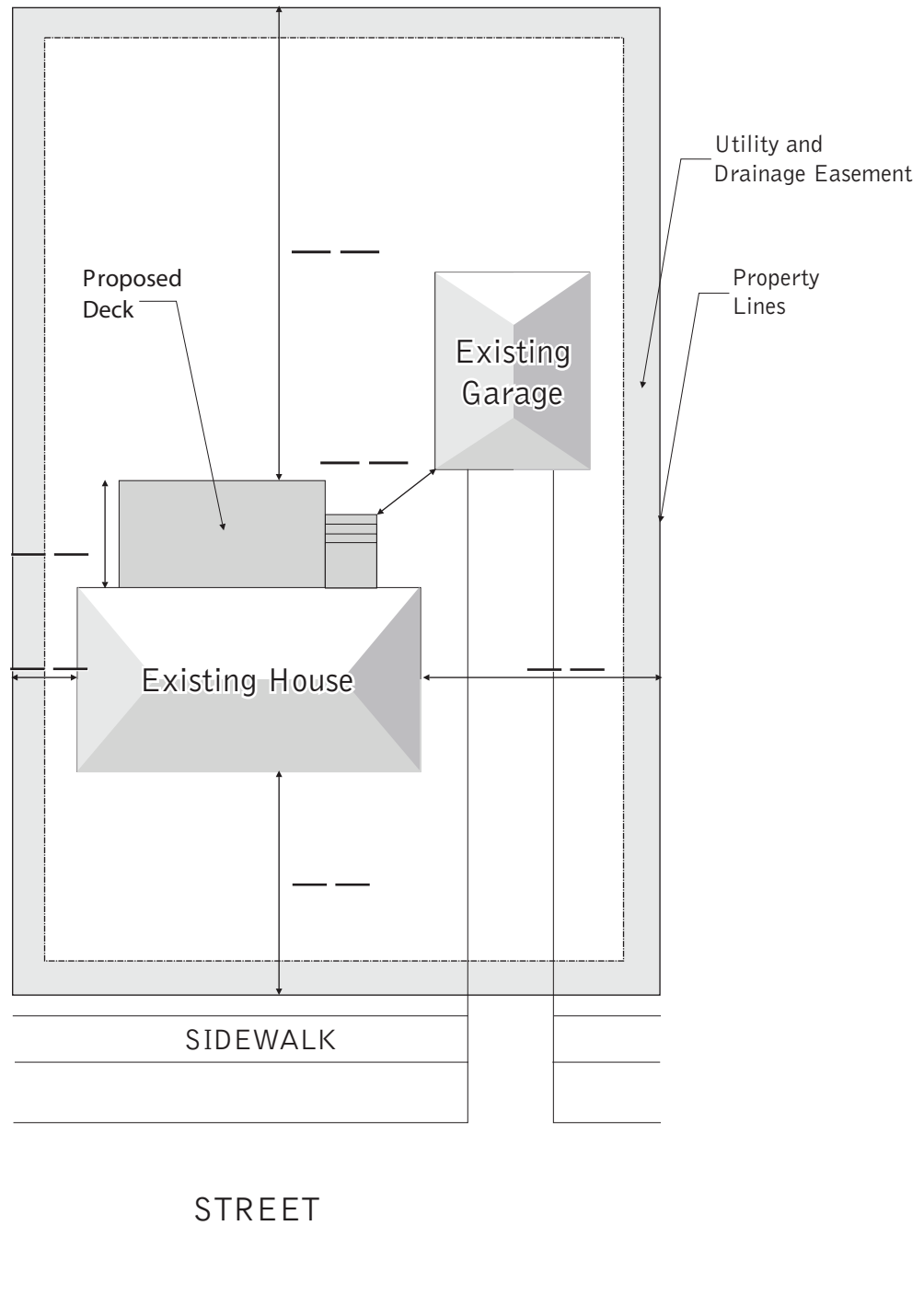
Connection to Building. Ledger boards shall be bolted or lagged to the existing building framing with a minimum of two ½" lags or matching bolts, double dipped galvanized or stainless steel, 4" to 6" long, at 16" on center or equivalent. (Lag tips should protrude from band joist.) All connections between the deck and dwelling must be flashed with corrosive-resistant flashing. Solid blocking must be provided for the attachment of the deck ledger board (not rim board alone).

*This information presented in this guide is intended to help you with your project.
Each project may have additional requirements. If you have any questions, please contact us.*

RESIDENTIAL DECK GUIDE

Sample Site Plan

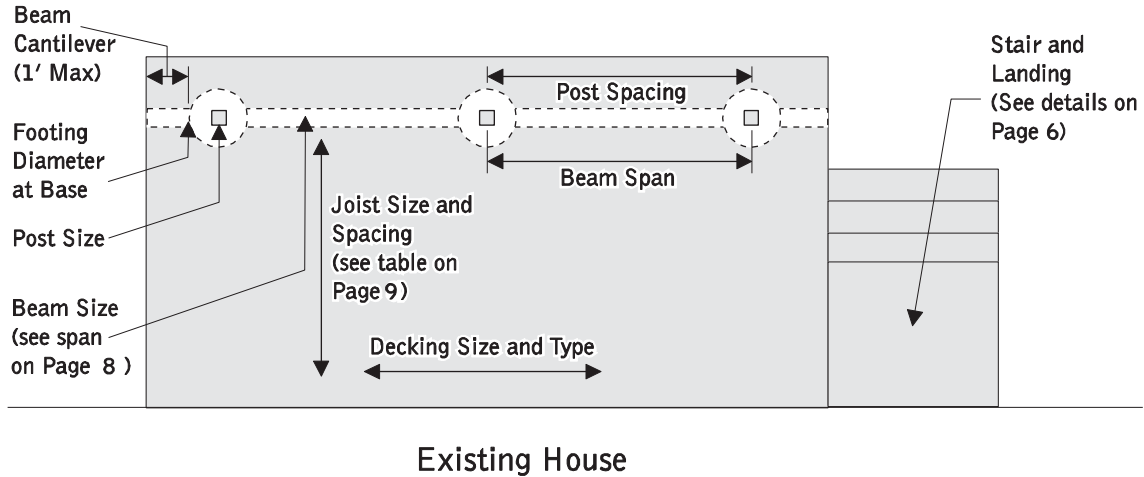
Note: Show any additional structures that exist on the property (i.e. Pool, Shed, Etc.)



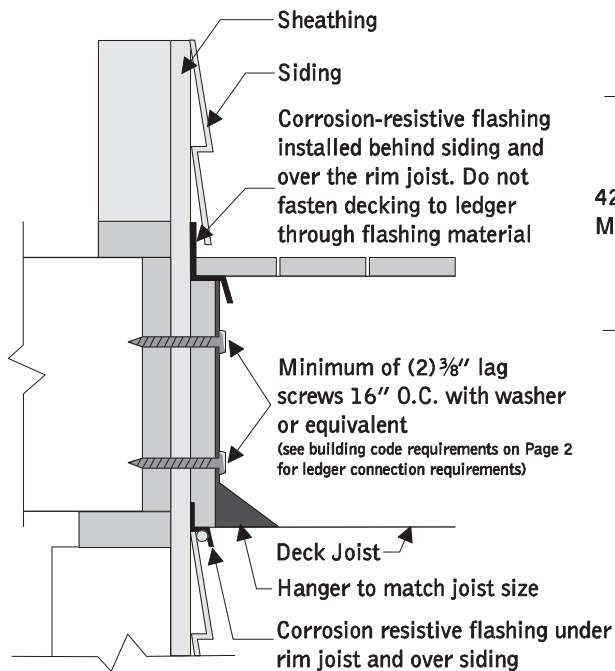


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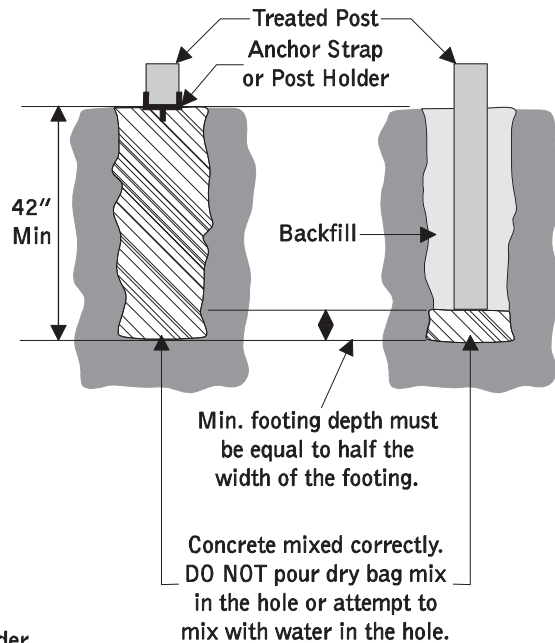
Sample Floor Plan



Ledger Connection Detail

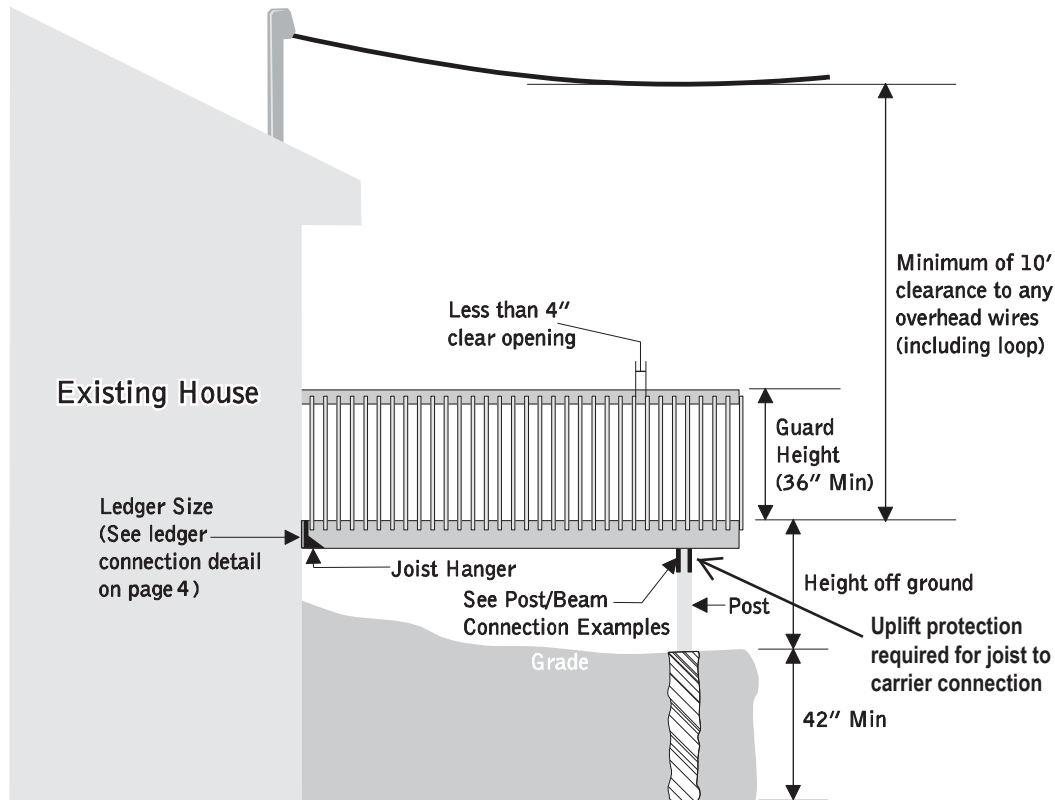


Typical Post Footing Examples

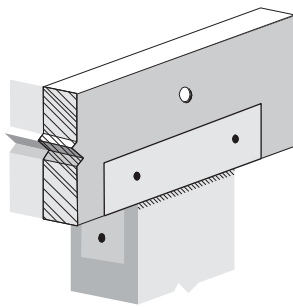


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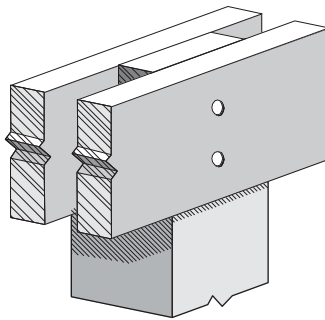
Side Elevation



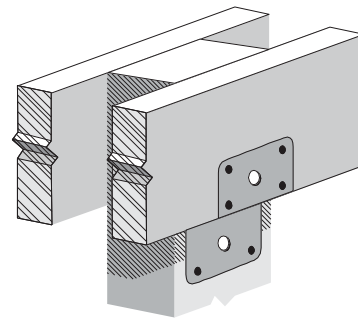
Post Beam Connections



Top Mount
Bolts and nails as required
by manufacturers specifications



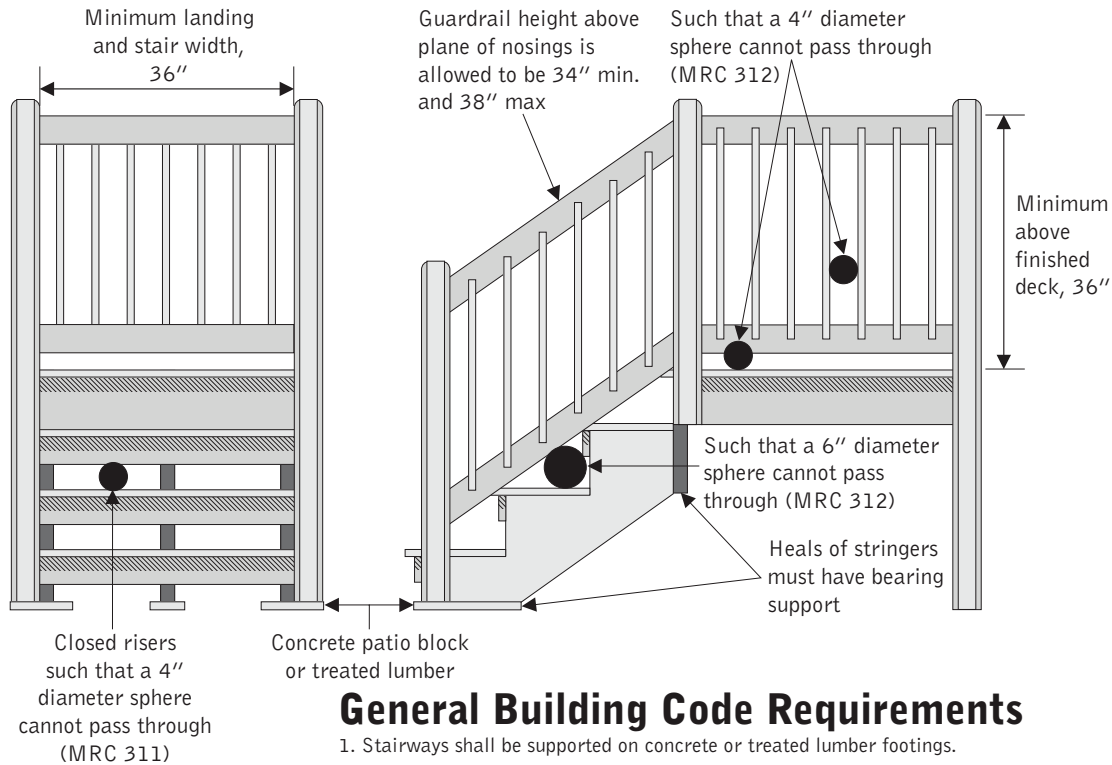
Notch Post
Minimum (2) structural or lag
screws



Side Mount
Bolts and nails as required
by manufacturers specifications

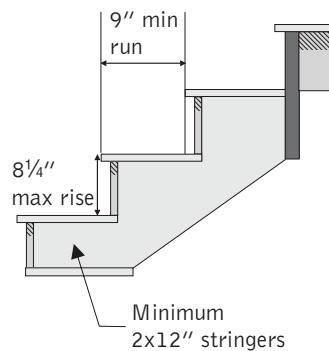
RESIDENTIAL DECK GUIDE

Stair And Landing Requirements



General Building Code Requirements

1. Stairways shall be supported on concrete or treated lumber footings.
2. Stairways to have a minimum width of 36" with a maximum rise of 8 $\frac{1}{4}$ " and a minimum run of 9". The greatest riser height or tread depth in a flight of stairs shall not exceed the smallest by more than $\frac{3}{8}$ ". (MRC 311)
3. Nosing: the radius of curvature at the leading edge of the tread shall be no greater than $\frac{1}{16}$ " (14.3 mm). A nosing not less than $\frac{3}{4}$ " (19 mm) but not more than 1 $\frac{1}{4}$ " (32 mm) shall be provided on stairways with solid risers. The greatest nosing projection shall not exceed the smallest nosing projection by more than $\frac{3}{8}$ " (9.5 mm) between two stories, including the nosing at the level of floors and landings. Beveling of nosing shall not exceed $\frac{1}{2}$ " (12.7 mm). Risers shall be vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 (0.51 rad) degrees from the vertical. Open risers are permitted, provided that the opening between treads does not permit the passage of a 4-inch diameter (102 mm) sphere.(MRC 311)
 - A. A nosing is not required where the tread depth is a minimum of 11 inches (279 mm).
 - B. The opening between adjacent treads is not limited on stairs with a total rise of 30 inches (762 mm) or less.
4. A stairway with 4 or more risers shall have a handrail 34-38" above the nose of the tread to the top of the handrail. (MRC 311)
5. The handrail shall be continuous the full length of the stairway and shall be returned or terminated at a newel post or safety terminal. (MRC 311)
6. A minimum 36"x36" landing is required at the top of the stairs. A landing or flat ground may be used at the bottom of the stairs. (MRC 311)
7. The triangle area between the stair riser and tread at the bottom of the guard must be such that a sphere 6" in diameter cannot pass through.(MRC 312)
8. All decks, balconies or porches which are more than 30" above grade or a floor below must be protected by a guard a minimum of 36" above the finished surface. (MRC 312)



RESIDENTIAL DECK GUIDE

Handrail Requirements

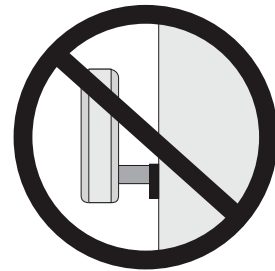
R311.5.6.3 Handrail grip size.

All required handrails shall be of one of the following types or provide equivalent graspability.

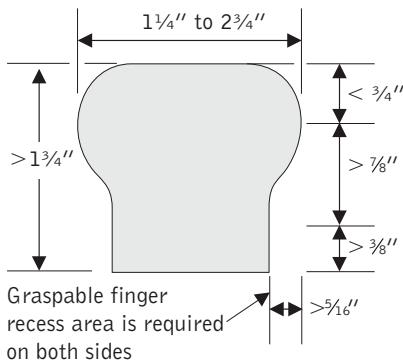
1. Type I. Handrails with a circular cross section shall have an outside diameter of at least $1\frac{1}{4}$ inches (32 mm) and not greater than 2 inches (51 mm). If the handrail is not circular it shall have a perimeter dimension of at least 4 inches (102 mm) and not greater than $6\frac{1}{4}$ inches (160 mm) with a maximum cross section dimension of $2\frac{1}{4}$ inches (57 mm).
2. Type H Handrails with a perimeter greater than $6\frac{1}{4}$ inches (160 mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of $\frac{3}{4}$ inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least $\frac{5}{16}$ inch (8 mm) within $\frac{7}{8}$ inch (22 mm) below the widest portion of the profile. This required depth shall continue for at least $\frac{3}{8}$ inch (10 mm) to a level that is not less than $1\frac{3}{4}$ inches (45 mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be $1\frac{1}{4}$ inches (32 mm) to a maximum of $2\frac{3}{4}$ inches (70 mm). Edges shall have a minimum radius of 0.01 inches (0.25 mm).



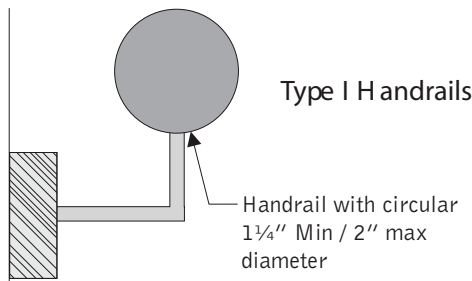
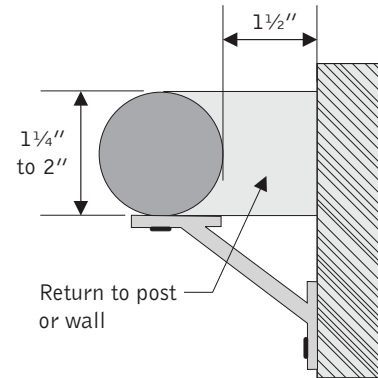
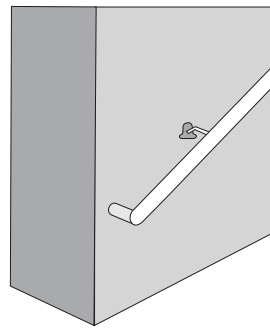
NOT ACCEPTABLE



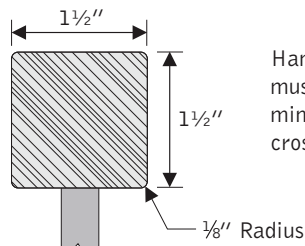
Type II Handrail



Handrail returned to newel post or wall at or beyond top and bottom tread nosings. (MRC 311.5.6.2)



Type I Handrails



Handrail that is not circular must have a perimeter of 4" min / $6\frac{1}{4}$ " max with a maximum cross section dimension of $2\frac{1}{4}$ "