



Stairs and Guard Rails

1245 West Hwy 96 Arden Hills, MN 55112

651-792-7800

www.cityofardenhills.org

This handout is intended only as a guide and is based in part on the 2020 Minnesota State Building Code, Arden Hills City ordinances, and good building practice. While every attempt has been made to insure the correctness of this handout, no guarantees are made to its accuracy or completeness. Responsibility for compliance with applicable codes and ordinances falls on the owner or contractor. For specific questions regarding code requirements, refer to the applicable codes or contact your local Building Department.

BUILDING PERMITS

Building permits are required for most projects including decks with the following exception: freestanding decks, regardless of size, if they are not more than 30 inches above adjacent grade. Freestanding decks do not require footings that extend below the frost depth.

Building permits are not required for patios made of concrete or pavers on grade.

Building permits can be obtained from the Building Department by filling out and signing an application and submitting your building plans. Building permits are typically processed within 5 -10 business days after receiving a complete set of plans. **If your application is incomplete it will delay your project.**

GENERAL NOTES

1. The stamped "Approved" plan and the Inspection Record Card shall be made available to the inspectors during their inspections. As per MN2020 IRC, in accordance with 1300.0120 Subp. 13, the building permit shall be kept on site of the work until the completion of the project. Pursuant to Minnesota Statutes, Section 15.41, It shall be posted in a prominent location in the area of construction. If the card is not on site, the inspection may be failed as per Subp. 12
2. Separate permits are required when installing electrical wiring, heating equipment, or plumbing fixtures. Contact the Building Inspection Division for information regarding plumbing and heating, or call the contracted electrical inspector for electrical information.
3. Call the Building Inspection Division at 651-792-7800 between the hours of 8:00 a.m. and 4:30 p.m. to arrange for an inspection. Please provide the permit number with your request. Call the contracted Electrical Inspector between the hours of 7:00 a.m. and 8:30 a.m. to arrange for an inspection. Please provide the permit number with your request.

PERMIT EXPIRATION

If you suspend work on your project for more than 180 days since permit issuance or your last inspection, your permit will expire. If unforeseen circumstances delay construction, contact the Building Department **before** your permit expires.

PLANS

The Building Department has a handout illustrating what needs to be included on your plans. It is very important that your plans depict exactly how your project will be built. Plans must be neat and be of a scale of at least $\frac{1}{4}'' = 1'$. Plans are reviewed for code compliance and a copy is returned to the applicant with notes to identify required corrections. The plan review can only be as good as the information provided on the plans. PLEASE REVIEW THE PLANS WHEN THEY ARE RETURNED TO YOU SO THAT YOU WILL BE AWARE OF ANY CORRECTIONS NEEDED. The City only maintains plans for one year after completion of a residential deck. You may wish to retain a copy of your approved plans, permits, and inspection record cards for any future needs.

INSPECTIONS

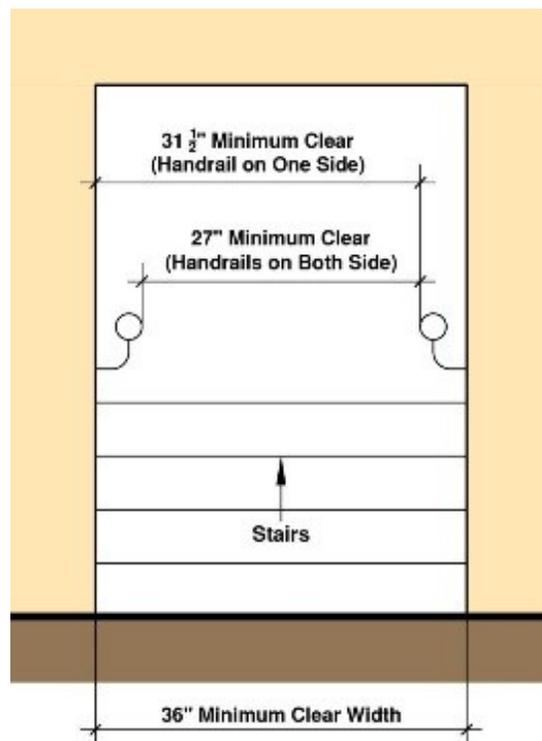
1. Call 24 hours in advance or preferably 2 days in advance.
2. Have address, permit number, and type of inspection (ex. footing) ready.
3. Let the inspector know if you wish for an exact time and they will try to accommodate you.
4. Footing Inspection - Holes dug, loose material/water removed. Plans and record card on-site.
5. If work is approved, the inspector will sign the permit card and you may proceed with the next step.
6. Final Inspection - All work is complete plans and permit card on-site.
7. If corrections are noted, a correction notice will be left on the site. If a re-inspection is required, it will be noted on the notice.

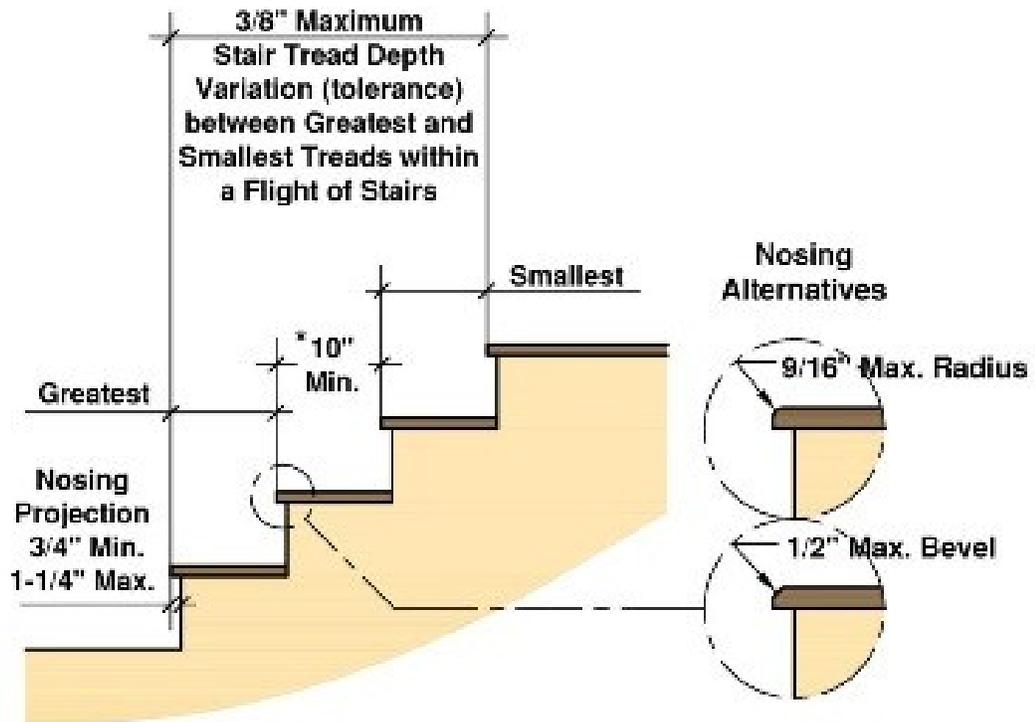
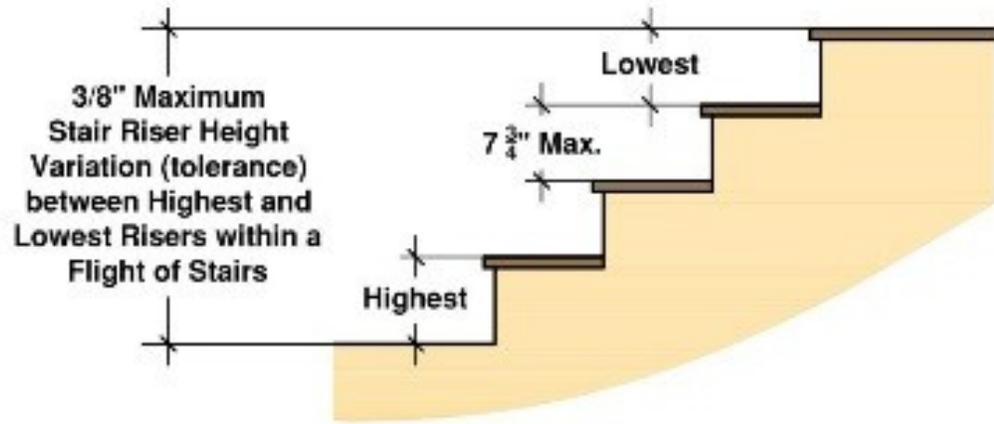
Please do not hesitate to call the Building Department at 651-792-7800. If necessary, we will be happy to meet with you on the site to help resolve any concerns or problems.

STAIRS

The following spatial requirements apply to stairs:

- Minimum width above the handrail - 36 inches.
- The minimum clear width from the handrail height to the treads is 31 ½ inches for stairs with rails on one side and 27 inches for stairs with rails on both sides.
- Open risers are not permitted when the total rise of the stair exceeds 30 inches unless the open space is such that a 4-inch diameter sphere will not pass through.
- For winder stairs, the width of the tread must be at least 10 inches at a point 12 inches from the side where the treads are narrowest. The minimum width of any tread may not be less than 6 inches.
- When the underside of stairs is enclosed with walls and a door, the walls, ceilings, and under side of the stair must be covered with ½ inch gypsum board.
- The largest tread depth or riser height within any stairway shall not be exceeded the smallest by more than $\frac{3}{8}''$.
- The maximum riser height is $7\frac{3}{4}''$ and the minimum tread depth is 10"

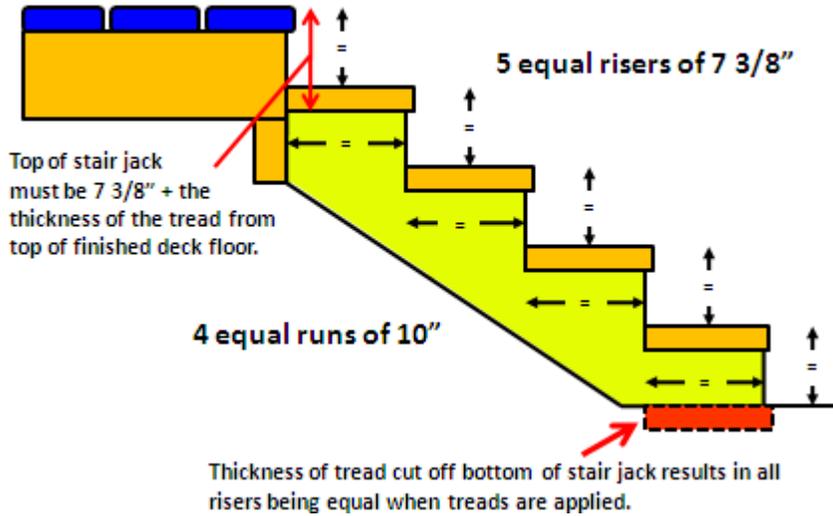




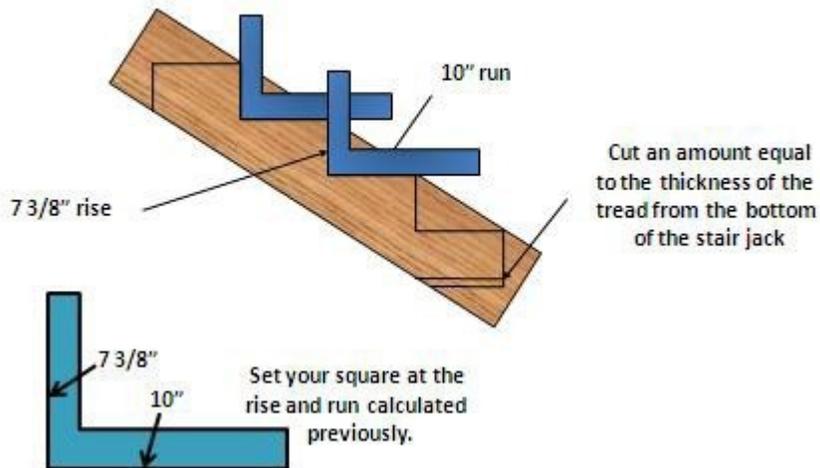
* Nosing is required where tread depth is minimum 10".
 Exception: Nosing not required if tread depth is 11" minimum.

Stairs must be designed for a 40 pound per square foot uniformly distributed live load. Treads must be designed for the uniformly distributed live load or a 300-pound concentrated load acting over an area of 4 square inches, whichever produces the greatest stresses.

THE COMPLETED STAIR



LAYING OUT STAIR JACKS



LANDINGS

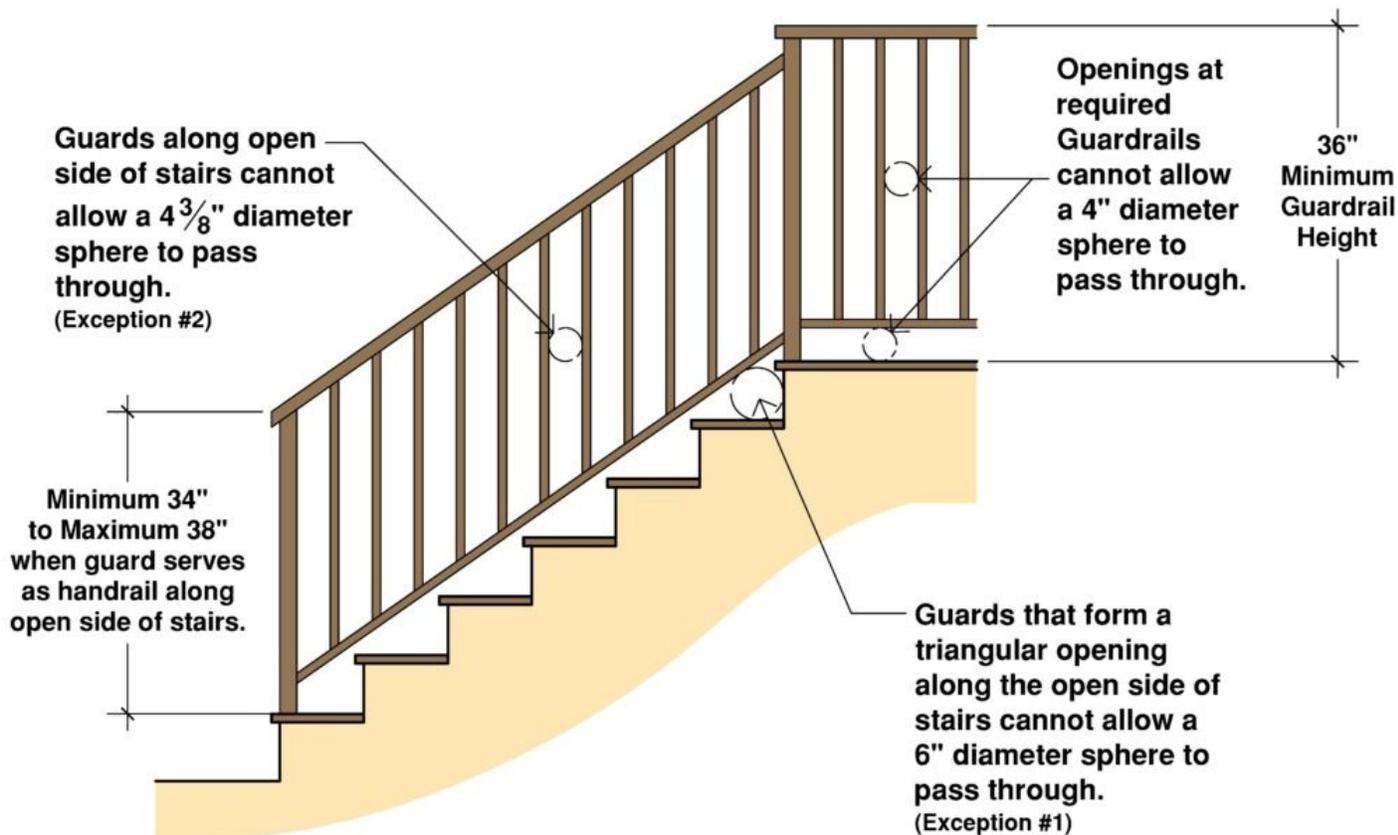
There are no requirements for landings at any **interior** door except adjoining stairs. Stair landings must be as wide as the stair served and 36 inches measured in the direction of travel. A landing is not required at the top of an **interior** stair provided no door swings over the landing. Stairs cannot exceed 12'-3" in height between landings and floor levels.

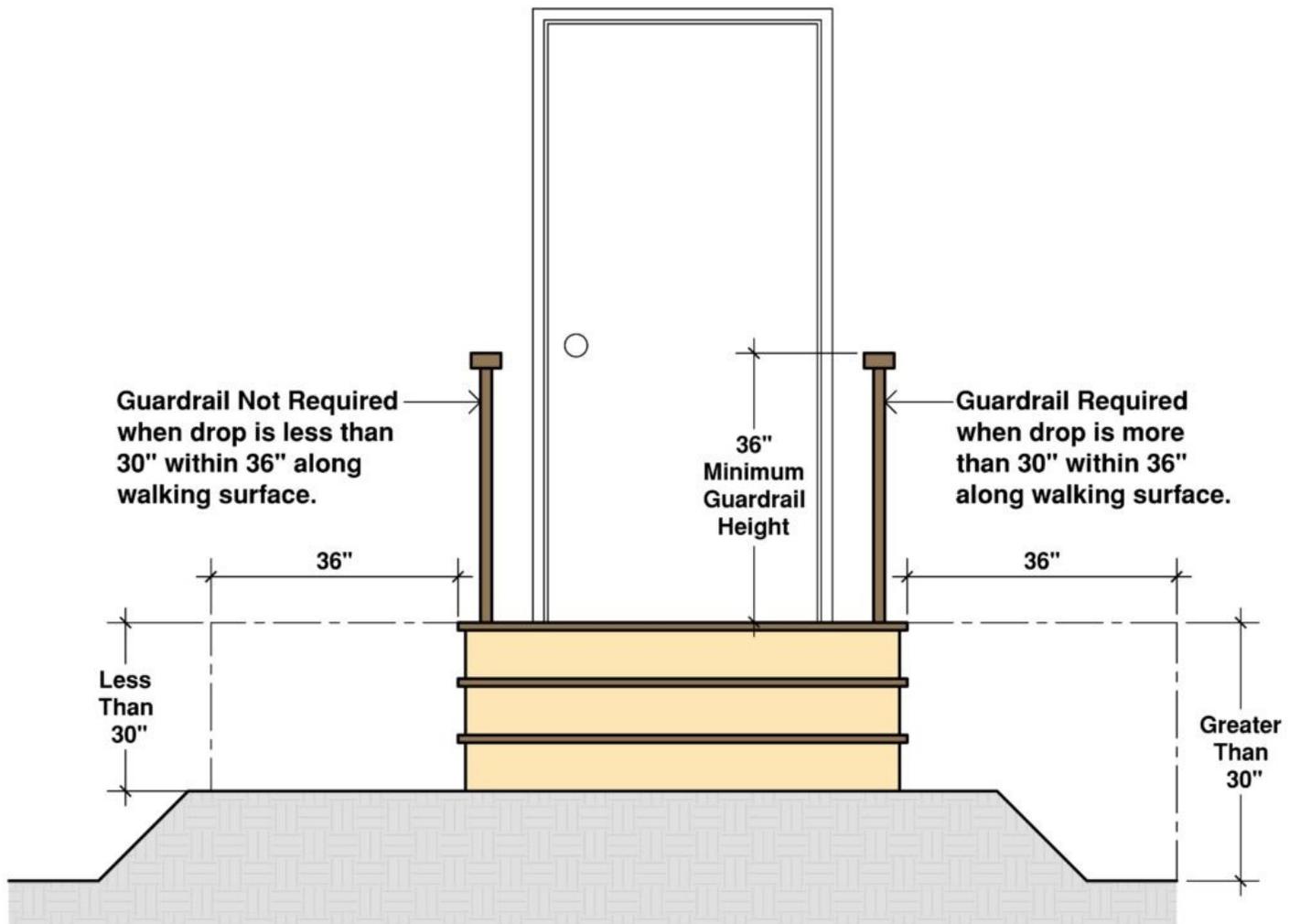
HEADROOM

Every stairway shall have a headroom clearance of not less than 6'-8" or 80". The minimum headroom in all parts of the stairway may not be less than 6'-8". This is measured vertically from the sloped plane adjoining the tread nosings or from the floor surface of the landings or platform on that portion of the landing. However: If you are altering an existing stairway, you can reduce the headroom to 6'4".

HANDRAILS AND GUARDS

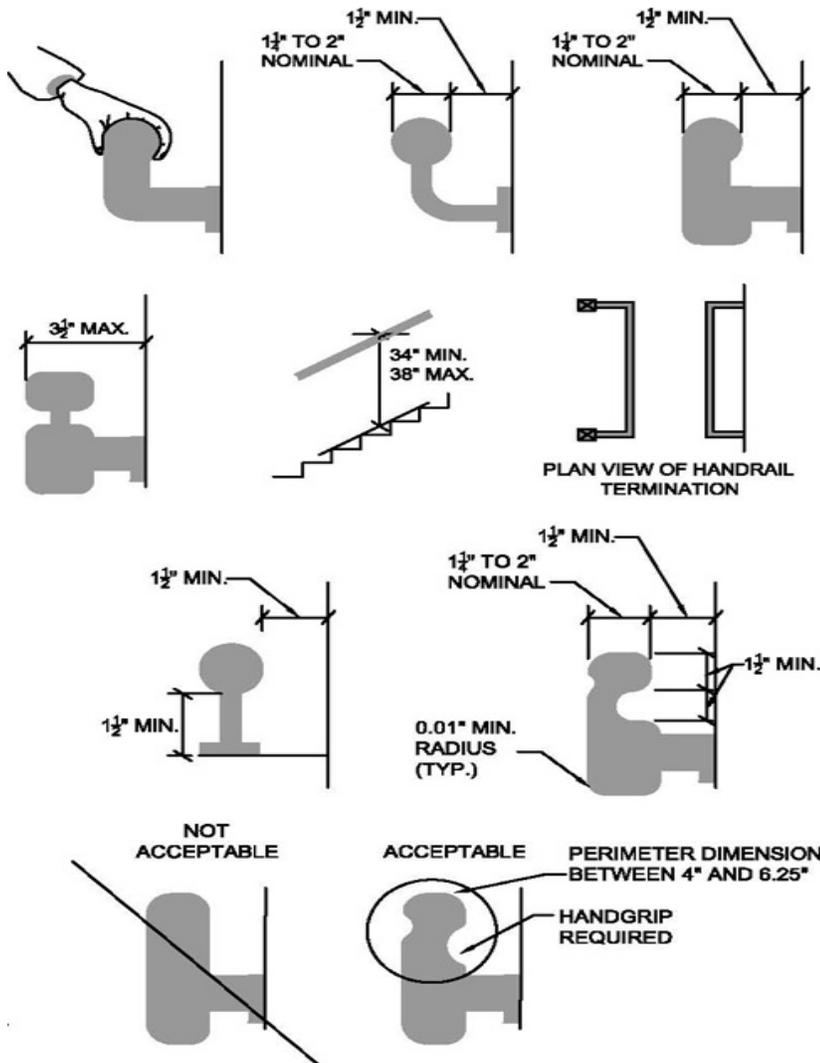
- Handrails are required on at least one side of all stairs with four (4) or more risers.
- Handrails must be mounted **34" – 38"** above the nosing of the stair treads.
- Handrails must extend from a point directly above the bottom riser to a point directly above the top riser.
- Handrails must be continuous for the entire length of a flight of stairs.
Exception: Handrails can be interrupted by a newel post at a turn.
- The ends of handrails must be returned to the wall or terminate in a newel post.
- Hand rails and guards must be designed to support a 200 lb load applied in any direction at any point along the top of the guard or rail.
- The outside diameter of a circular handrail may be no less than 1 1/4" and no greater than 2". A non-circular must have a perimeter dimensions of at least 4" and no greater than 6 1/4". The maximum cross section is 2 1/4". See diagram.
- Handrails next to a wall shall have a space of not less than 1 1/2" between the wall and the handrail.
- Guards are required on the open side(s) of stairs with a total rise of more than 30 inches above the floor or grade below. Guards on stairs must be not less than 34 inches high measured from the nosing of the treads.
- All required guards must not permit passage of a 4-inch diameter sphere. Guards on stairs must not permit passage of a 4 3/8-inch sphere. The triangular space formed by the bottom of a guard, a stair riser and stair tread may be such that a 6-inch diameter sphere will not pass through.





Illumination

All interior and exterior stairways and landings must be illuminated.



NOTE: For specific code requirements, please contact the Building Inspection Division. Questions regarding design and cost should be referred to a professional builder or architect.

Building Inspector: 651-792-7818

This handout is written as guide to common questions and problems. It is not intended nor shall it be considered a complete set of requirements.