



**Building Department**  
507-437-9950  
Fax: 507-437-7101  
City of Austin  
500 4<sup>th</sup> Ave NE  
Austin, MN 55912

# DECKS/PORCHES

**PERMITS:** A building permit is required for construction of deck or porch that is more than 30" above grade. Decks 30" or less built over any basement or story below also requires a building permit. For all other decks 30" or less a zoning permit is required. **Decks that are attached to a structure with frost footing regardless of height will also require a building permit. MN Building Code 1300.0120 and International Residential Code Section R105.2** \*\*Decks requiring a zoning permit are not required to adhere to the IRC, but it is highly recommended\*\*

**PERMIT APPLICATION:** Permit application must contain the following:

1. Plot drawing that indicates:
  - a. Location of house
  - b. Future deck/porch
  - c. Distance to all lot lines
  - d. Drainage/utility easements (if any)(Sheet for plot drawing is attached to this form)
2. Plan drawing that indicates:
  - a. Size and layout of deck/porch
  - b. Size of footings, posts, beams, joists, and decking. (See attached form)

**INSPECTIONS:** (Contractor or owner are responsible for requesting the necessary inspections)

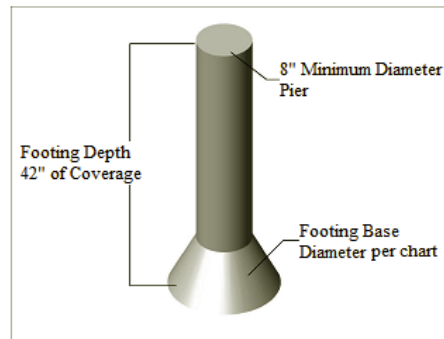
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|---------------|-------------------------------------|-----------------|---------------------------------------|
| <b>DECKS:</b> | 1. Footing inspection               | <b>PORCHES:</b> | 1. <u>Footing inspection required</u> |
|               | 2. <u>Final inspection required</u> |                 | 2. Framing inspection required        |
|               |                                     |                 | 3. Insulation inspection if requested |
|               |                                     |                 | 4. <u>Final inspection required</u>   |

**Setbacks:**

- a) Decks up to 18" above the surrounding grade as measured to the top of the floor of the deck may extend into the required front yard a distance not to exceed 8', but shall not in any case be nearer than 15' from the front property line of any lot of record not exceeding 70' of lot frontage, nor extend beyond the sides of the exterior wall directly adjacent to the front yard area.
- b) Decks higher than 18" above the surrounding grade as measured to the top of the floor of the deck may extend into the required front yard a distance not to exceed 6', but in no case shall the deck be nearer than 15' to the front property line or any lot of record not exceeding 70' of lot frontage, nor extend beyond the sides of the exterior wall directly adjacent to the front yard area.
- c) Decks to be constructed in front yard setback areas of recorded lots exceeding 70' of lot frontage shall be limited to 50 sq.ft. in area, and shall not extend into required front yard areas more than 5'.

**Frost Footings:**

Required for any deck attached to a dwelling, porch or garage that has frost footings. The minimum depth to the base of the footing is 42 inches from grade. Use Beam and Footing Size chart to determine required footing diameter on page four.



**Pressure-Treated Wood**

Recent changes have been made in the chemicals used in the manufacture of pressure-treated wood. Chromated copper arsenate, also known as CCA, is being phased out and the most common new treatments approved for outdoor use are Alkaline Copper Quaternary (ACQ) and Copper Azole. According to the lumber and fastener industry, the newer chemicals being used to treat the wood approved for outdoor use are considerably more corrosive than those previously treated with CCA and therefore require special fasteners, hangers, and greater care in the selection of materials that may come in contact with the wood. The fastener industry has indicated that some of the hangers and fasteners currently on the market may not perform with some of the new treatments.

Designers, builders, and home owners will need to pay particular attention to the grade marks on the lumber, and verify that proper hardware (hangers, nails, brackets) are appropriate with the particular treatment of the lumber. This not only applies to decks utilizing these products but sill plates and posts as well. The code references the American Wood Preservers Association (AWPA) which has published information on this issue. Particular attention should also be made to the manufacturer's installation instructions for the hardware. Questions should be directed to your wood and fastener supplier or your local Building Official

**Wood Required:**

All exposed wood used in the construction of decks is required to be of approved wood of natural resistance to decay (redwood, cedar, etc.) or approved treated wood. This includes posts, beams, joists, decking and railings. Treated wood used for deck construction shall have an approved label/stamp identifying the material's intended use in accordance to AWPAC22 (structural treated wood). See chart below:

USES & CHEMICAL RETENTION	
RETENTIONS (lbs./cubic feet)	USES/EXPOSURES
0.25	Above ground
0.40	Ground contact Fresh water contact
0.60	Wood foundation
2.50	Salt water contact

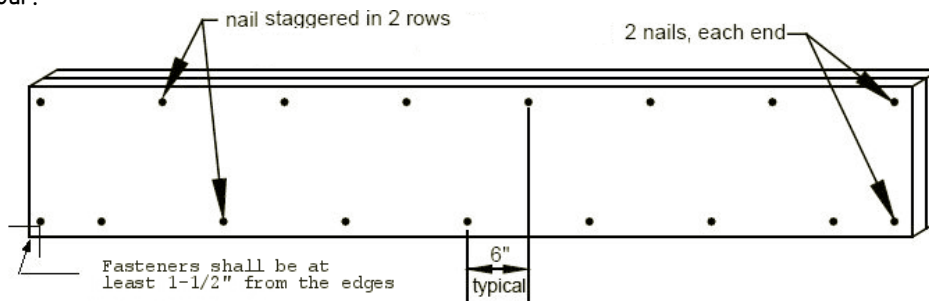
**Fasteners:**

Fasteners for pressure-preservative and fire-retardant-treated wood shall be of hot-dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper. The coating weights for zinc-coated fasteners shall be in accordance with ASTM A 153.

- Exceptions:
1. One-half-inch (12.7 mm) diameter or larger steel bolts
  2. Fasteners other than nails and timber rivets shall be permitted to be of mechanically deposited zinc-coated steel with coating weights in accordance with ASTM B 695, Class 55 minimum.

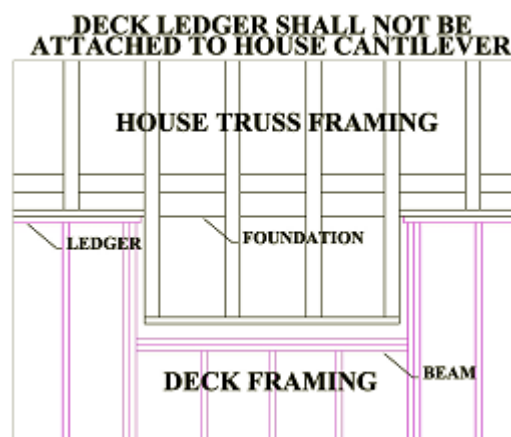
**Beam Construction:**

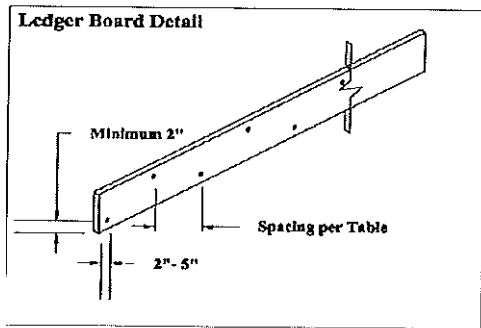
The beam shall be two 2 inch nominal pieces of lumber. Nail the beam together using 10d-16d nails 12" inches on center staggered top and bottom. Use Beam and Footing Size chart to determine required beam size on page four.



**Cantilevered wall construction:**

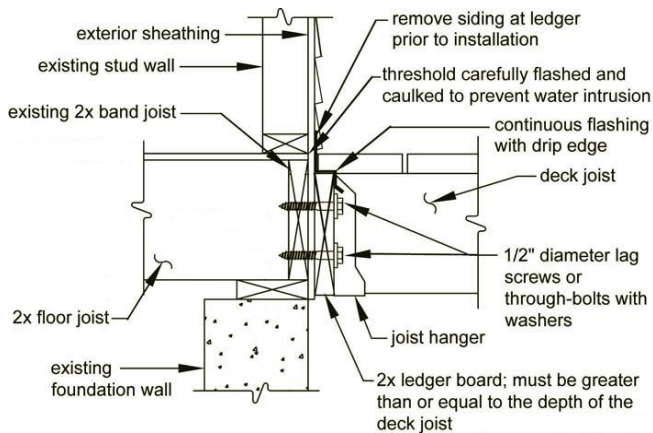
Deck ledger shall not be supported on cantilevered joist or trusses without engineered design. Frame around cantilevered joists.





**Flashing:** All connections between deck and dwelling shall be weatherproof. Any cuts in exterior finish shall be flashed.

**Decks:** Where supported by attachment to an exterior wall, decks shall be sufficiently anchored to the primary structure and designed for both vertical and lateral loads as applicable. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. Where connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting.



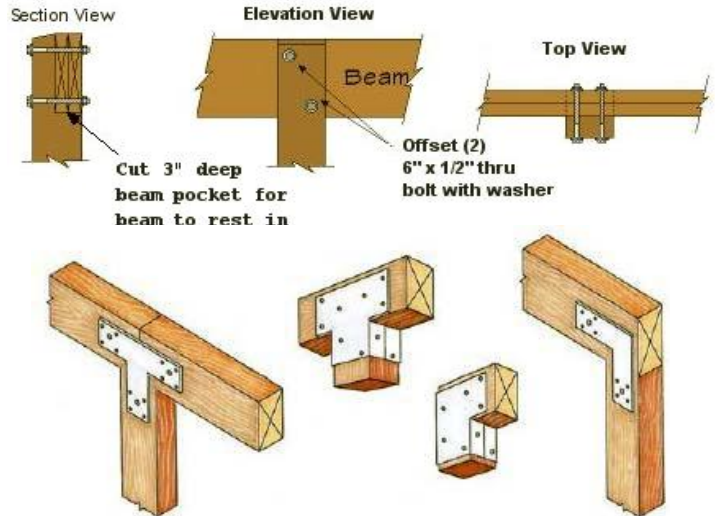
**Ledger Board Fastener Spacing Table**

Joist Span	6'	6'-8'	8'-10'	10'-12'	12'-14'	14'-16'	16'-18'
Connection Details	On center spacing of fasteners in inches						
1/2" diameter lag screw	30"	23"	18"	15"	13"	11"	10"
1/2" diameter bolt	36"	36"	34"	29"	24"	21"	19"
1/2" diameter bolt on 1/2" washers	36"	36"	29"	24"	21"	18"	16"

The tip of the lag screw shall fully extend beyond the inside face of the band joist. Ledger board shall be flashed to prevent water from contacting the house band joist. Ledger board shall be minimum 2x8" No.2 grade or better. Ledger board supporting loads shall be uniform. See ledger board detail on next page.

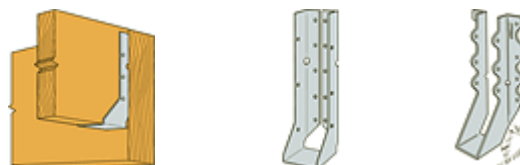
**Post to Beam Connection:** Beam shall have full bearing on post below, attached with bolts or manufactured hardware.

**Beam Pocket Cut Into A 6 X 6 Support Post**



POST-TO-GIRDER CONNECTIONS

**Framing Details** Header beams and joists that frame into ledgers or beams shall be supported by approved framing and anchors such as joist hangers. Joist hangers shall not be modified without manufacturer's approval. Use inverted flange hanger if you want joist flush at end of ledger board.



**Joist Span**

Based on No.2 or better wood grades  
(Design Load = 40#LL+10#DL, Deflections=L/360)

	Ponderosa Pine		Southern Pine		Western Cedar	
	12" OC	16" OC	12" OC	16" OC	12" OC	16" OC
2X6	9'-2"	8'-4"	10'-9"	9'-9"	9'-2"	8'-4"
2X8	12'-1"	10'-10"	14'-2"	12'-10"	12'-1"	11'-0"
2X10	15'-4"	13'-3"	18'-0"	16'-1"	15'-5"	13'-9"
2X12	17'-9"	15'-5"	21'-9"	19'-0"	18'-5"	16'-0"

**Joist Cantilever:**

Joists shall not overhang beams by more than the dimension specified on this table. Cantilevered joists shall have solid blocking above beam. Beams shall not overhang posts by more than one foot unless a special design is approved.

Member Size	Spacing	Maximum Cantilever Span (uplift Force at Back span Support in lbs.)	
		Ground Snow Load	
		50 psf	70 psf
2 x 8	12"	39" (156lbs)	34" (165lbs)
2 x 8	16"	34" (151lbs)	29" (180lbs)
2 x 10	12"	57" (189lbs)	49" (201lbs)
2 x 10	16"	49" (208lbs)	42" (220lbs)
2 x 10	24"	40" (241lbs)	34" (255lbs)
2 x 12	16"	67" (260lbs)	57" (268lbs)
2 x 12	24"	54" (319lbs)	47" (330lbs)

**Stairs:**

Minimum width is 36". Maximum rise is 7 3/4". Minimum run is 10". Largest tread width or riser height shall not exceed the smallest by more than 3/8". Open risers are permitted provided that the opening between treads does not permit the passage of a 4" diameter sphere.

**Stair Attachment:**

Stairs shall be positively anchored to the deck to resist both vertical and horizontal forces. Such attachment cannot be accomplished by the use of toenails or nails subject to withdrawal. IRC Sec. R311.2.1

**Guards:**

R312.1 Porches, balconies, ramps, or raised floor surfaces located more than 30 inches (762 mm) above the floor or grade below shall have guards not less than 36 inches (914 mm) in height. Open sides of stairs with a total rise of more than 30 inches (762 mm) above the floor or grade below shall have guards not less than 34 inches (864 mm) in height measured vertically from the nosing of the treads.

Porches and decks which are enclosed with insect screening shall be equipped with guards where the walking surface is located more than 30 inches (762 mm) above the floor or grade below.

**Guard Opening Limitations:**

Required guards on open sides of stairways, raised floor areas, balconies and porches shall have intermediate rails or ornamental closures which do not allow passage of a sphere 4 inches (102 mm) or more in diameter.

- Exceptions:
1. The triangular openings formed by the riser, tread and bottom rail of a guard at the open side of a stairway are permitted to be of such size that a sphere 6 inches (152 mm) cannot pass through
  2. Openings for required guards on the sides of stair treads shall not allow a sphere 4 3/8 inches (107 mm) to pass through

### **Handrails:**

Handrails shall be provided on at least one side of each continuous run of treads or flight with four or more risers. R311.5.6

### **Handrail Height:**

Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm). R311.5.6.1

### **Handrail Continuity:**

Handrails for stairways 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. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1 1/2 inch (38 mm) between the wall and the handrails. R311.5.6.2

Exceptions:

1. Handrails shall be permitted to be interrupted by a newel post at the turn
2. The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread

### **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 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 1/4 inches (160 mm) with a maximum cross section of dimension of 2 1/4 inches (57 mm).
2. Type II. Handrails with a perimeter greater than 6 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 3/4 inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least 5/16 inch (8 mm) within 7/8 inch (22 mm) below the widest portion of the profile. This required depth shall continue for at least 3/8 inch (10 mm) to a level that is not less than 1 3/4 inches (45 mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1 1/4 inches (32 mm) to a maximum of 2 3/4 inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm). R311.5.6.3

### **Special Design Note:**

Some deck designs may not be appropriate should the placement of a screen porch or 3-season porch on the deck platform be a future consideration. Setbacks for porches are not the same as setbacks for decks.

### **Stairway Illumination:**

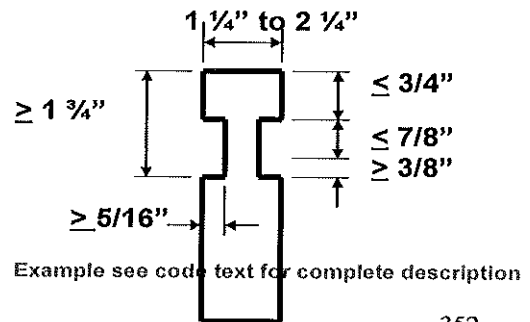
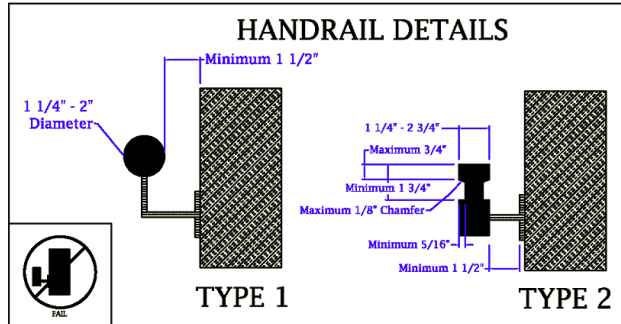
Exterior stairways shall be provided with an artificial light source located in the immediate vicinity of the top landing of the stairway. IRC R303.6 Grade level shall be provided with an artificial light source located in the immediate vicinity of the bottom landing of the stairway. *Exception: An artificial light source is not required at the top and bottom landing, provided an artificial light source is located directly over each stairway section.* IRC Section R303.6.1

The illumination of exterior stairs shall be controlled from inside the dwelling unit. *Exception: Lights that are continuously illuminated or automatically activated.* IRC Section R303.6.1

Verification should be made with the Austin Utilities relating to required deck clearances to gas or electric meters, 507-433-8886.

# Means of Egress

## Stair handrail



Criteria for handrails with a graspable finger recess area of handrails.

### R311.5.6.3 Handrail grip size.

#### 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 of dimension of  $2 \frac{1}{4}$  inches (57 mm).

#### 2. Type II.

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 inch (0.25 mm).

Emergency escape windows under decks and porches.

"Emergency escape windows are allowed to be installed under decks and porches provided the location of the deck allows the window to be fully opened and provides a path not less than 36 inches in height to a yard or court."

IRC Section R310.5



**Windows:**

Safety glazing may be required depending on deck design and layout. If your window is less than 60" above stairs or landings, safety glazing is required. Windows larger than 9' square feet closer than 18" to deck floor are also required to be safety glazed. Windows closer than 24" to doors shall be safety glazed.