

PERMIT APPROVAL

A building permit for a deck will not be issued, and work shall not begin until it has been approved by Planning, Building Inspections and Environmental Health Departments. Failure to provide all of the information above will delay or prevent permit approval. After we have received all of the items listed above, **please allow 10-15 working days for your building permit application to be processed.**

Deck plans are approved on the assumption that the deck will be used only as a deck for the life of the structure. Because footing sizes, structural supports and a host of other deck components are different for enclosed porches than for decks, it is important that you indicate on your plans the desire to convert the deck at a future date. You should then design your deck to carry future loads and meet setbacks and other rules.

We will not accept the computer-generated deck plans often made available from home centers such as Menard's, Home Depot, and Lowe's. These plans lack the information and accuracy necessary for a proper plan review. Permit applications containing these types of plans will be returned to the applicant thus delaying permit issuance.

ZONING REQUIREMENTS

The Zoning District and lot acreage will determine setbacks and allowable structure sizes. Contact the Planning and Zoning Office for more information 763-682-7338.

REQUIRED INSPECTIONS

- **Footing inspection:** After holes are dug and prior to placing concrete, to verify size, location and soil types.
- **Framing:** required before installing decking where deck is less than 30 inches above grade, otherwise optional.
- **Final inspection:** when completed and before occupying deck.

To schedule an inspection please have the owners name, permit number and address of the project. Call 763-682-7338.



1-800-252-1166 or 651-454-0002

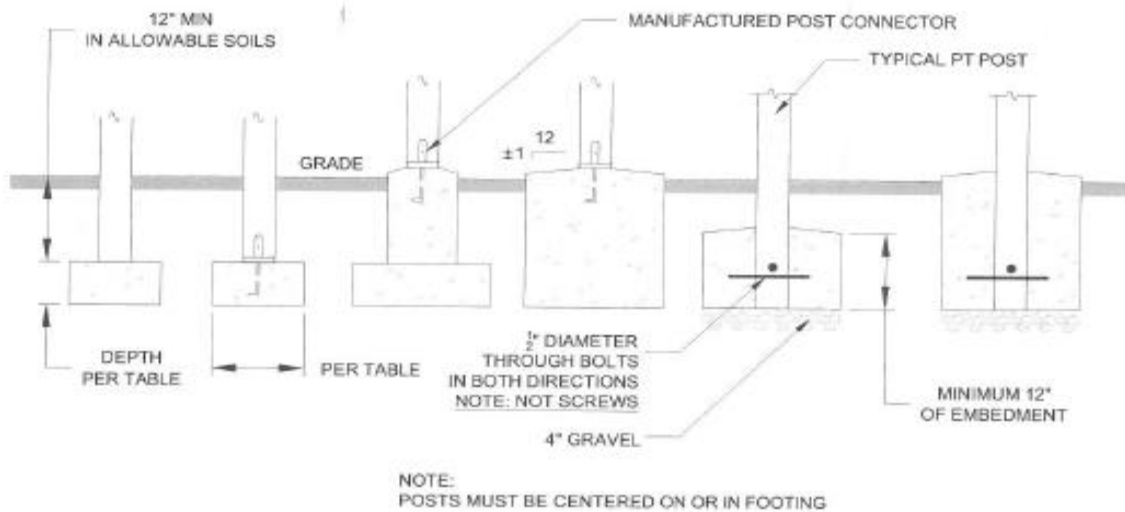
Call Gopher State One Call for utility locations at least two working days before you dig.

GENERAL BUILDING CODE REQUIREMENTS

FOOTINGS

Required footing sizes are determined by calculating the area of the deck supported by each footing. Loads shall be assumed to be equally shared between the supporting elements.

Post footings supporting columns must not be less than 8-inch diameter. The bottom of post footings may be belled out to achieve the required bearing area. The base of the footing must be at least 42 inches below finished grade. The use of a fiberboard tube will allow you to elevate the top of the footing above finished grade to provide protection for the wood post.



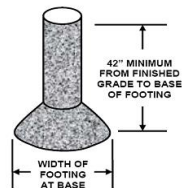
For SI: 1 inch = 25.4 mm.

Minimum depth. Deck footings shall extend below the frost line specified in below in accordance with MN Building Code Section R403.1.4 .1.

Exceptions:

1. Free-standing decks that meet all of the following criteria:
 - 1.1. The joists bear directly on precast concrete pier blocks at grade without support by beams or posts.
 - 1.2 The area of the deck does not exceed 200 sq. ft.
 - 1.3 The walking surface is not more than 20 inches above grade at any point within 36 inches measured horizontally from the edge.
2. Free-standing decks need not be provided with footing that extend below the frost line.

Deck Post Size	Maximum Height (feet-inches)
4 x 4	6 - 9
4 x 6	8
6 x 6	14
8 x 8	14



DECK POST HEIGHT

DECK FOOTING SIZES (2000 psf soils)

Live Load (psf) ^b	Tributary Area (sqft)	Load Bearing Value of soil (psf) ^{a,c,d}		
		2000 ^e		
		Side of square footing (inches)	Diameter of a round footing (inches)	Thickness (inches)
40	20	12	14	6
	40	12	14	6
	60	15	17	6
	80	17	19	6
	100	19	21	6
	120	21	23	7
	140	22	25	8
	160	24	27	9

- a. Interpolation, extrapolation not permitted
- b. Live load = 40 psf, Dead load = 10psf
- c. Assumes minimum square footing to be 12”x 12”x 6” for 6x6 post
- d. If the support is a brick or CMU pier, the footing shall have a minimum 2” projection on all sides
- e. Area, in square feet, of deck surface supported by post and footing

LUMBER & COMPOSITE

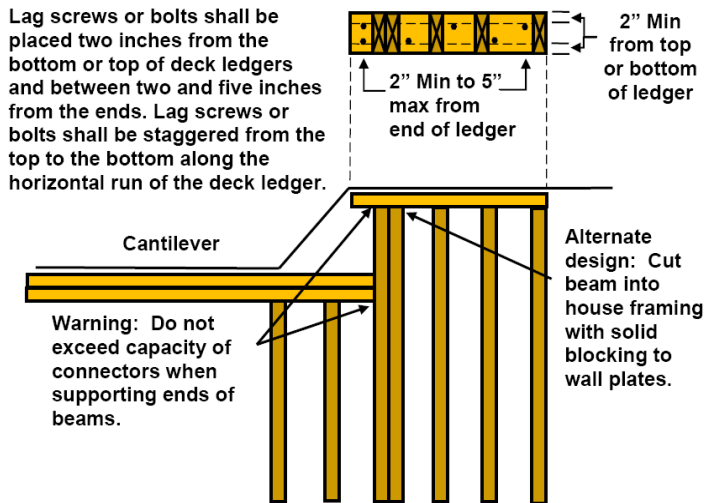
All wood used in the construction of decks must be approved naturally durable wood or wood that is preservative treated. This includes posts, beams, joists, decking, guards and rails. Wood used above ground, in contact with the ground, or below ground requires different degrees of treatment. Check the labels of the material you are buying to determine where it can be used. Because the new preservative treatments are very corrosive, make sure that any metal connectors used in the construction of your deck are approved by the manufacturer for use with treated wood.

Plastic or composite deck materials must be approved by the Building Official before installing. This approval is based on the material having a valid NER ES report. Ask the decking supplier to provide you with a copy of the research report.

A list of approved decking materials can be found at: <http://www.10klakes.org>
 ES Reports can be found at: http://www.icc-es.org/Evaluation_Reports/

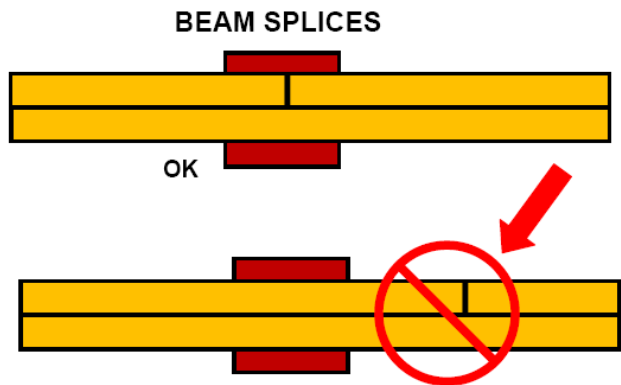
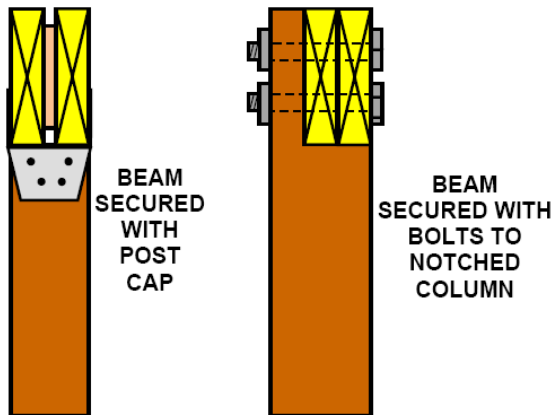
FASTENERS AND CONNECTORS

Nails and screws must be stainless steel, hot dipped galvanized or electroplated with a polymer coating. Joist hangers and connectors must be stainless steel or hot dip galvanized to **G185** specifications. Joists must bear on a beam, ledger strip, or joist hangers. Joist hangers must be installed in accordance with the manufacturer's requirements. Fill all nail holes in joist hangers. If the deck is attached to the house, the deck ledger must be attached to the house rim joist with 3/8" lag bolts or equivalent type fastener, installed to resist withdrawal, at 16" oc into a solid wood rim joist or wood blocking. If the floor frame assembly does not allow for 16" oc spacing, install 2 bolts to each floor joist or truss, maximum spacing of 24" oc. All connections between the deck and house must be properly flashed.

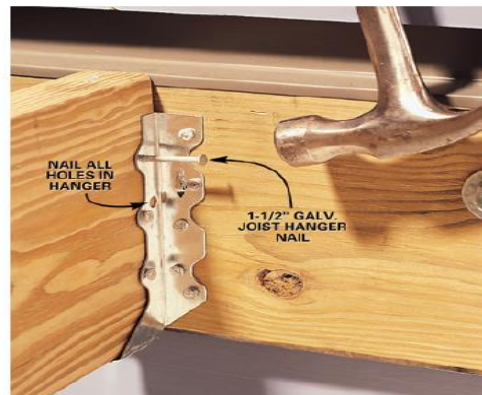


House cantilevers must not support the deck, unless designed for deck load support.

METHODS OF ATTACHING BEAM TO COLUMN



CONCEALED FLANGE HANGER



CONVENTIONAL HANGER

Species (a)	Size	Allowable Joist Span (b)		
		Spacing Of Deck Joists (inches)		
		12	16	24
Sothern Pine	2x6	9-11	9-0	7-7
	2x8	13-1	11-10	9-8
	2x10	16-2	14-0	11-5
	2x12	18-0	16-6	13-6
Douglas Fir-larch, hem-fir, spruce-pine-fir (d)	2x6	9-6	8-8	7-2
	2x8	12-6	11-1	9-1
	2x10	15-8	13-7	11-1
	2x12	18-0	15-9	12-10
Redwood, western cedars, ponderosa pine, red pine(e)	2x6	8-10	8-0	7-0
	2x8	11-8	10-7	8-8
	2x10	14-11	13-0	10-7
	2x12	17-5	15-1	12-4

Deck Joist Span for Common Species

- a. no. 2 grade with wet service factor
- b. Live load =40 psf dead load=10 psf
- c. Live load =40 psf dead load =10psf
- d. Includes incising factor
- e. Northern species with no incising factor

MAXIMUM CANTILEVER SPANS FOR JOISTS

The ratio of backspan to cantilever span shall be at least 2:1. A full-depth rim joist shall be provided at the cantilevered end of the joists. Solid blocking shall be provided at the cantilevered support.

Member size	Spacing	Maximum Cantilever Span (uplift force at backspan support in lbs) c,d
		Ground Snow Load 50 psf
2x8	12"	39"
2x8	16"	34"
2x10	12"	57"
2x10	16"	49"
2x10	24"	40"
2x12	16"	67"
2x12	12"	54"

Deck Beam Spans for Common Species a,b,g

Species (c)	Size (d)	DECK JOIST SPAN LESS THEN OR EQUAL TO: (FEET)						
		6	8	10	12	14	16	18
Southern pine	1-2x6	4-11	4-0	3-7	3-3	3-0	2-10	2-8
	1-2x8	5-11	5-1	4-7	4-2	2-10	3-7	3-5
	1-2x10	7-0	6-0	5-5	4-11	4-7	4-3	4-0
	1-2x12	8-3	7-1	6-4	5-10	5-5	5-0	4-9

	2-2x6	6-11	5-11	5-4	4-10	4-6	4-3	4-0
	2-2x8	8-9	7-7	6-9	6-2	5-9	5-4	5-0
	2-2x10	10-4	9-0	8-0	7-4	6-9	6-4	6-0
	2-2x12	12-2	10-7	9-5	8-7	8-0	7-6	7-0
	3-2x6	8-2	7-5	6-8	6-1	5-8	5-3	5-0
	3-2x8	10-10	9-6	8-6	7-9	7-2	6-8	6-4
	3-2x10	13-0	11-3	10-0	9-2	8-6	7-11	7-6
	3-2x12	15-3	13-3	11-10	10-9	10-0	9-4	8-10
Douglas fir- larch, hem-fir, spruce-pine-fir,(e) redwood, western cedars, ponderosa pine , red pine(f)	3x6 or 2-2x6	5-5	4-8	4-2	3-10	3-6	3-1	2-9
	3x8 or 2-2x8	6-10	5-11	5-4	4-10	4-6	4-1	3-8
	3x10 or 2-2x10	8-4	7-3	6-6	5-11	5-6	5-1	4-8
	3x12 or 2-2x12	9-8	8-5	7-6	6-10	6-4	5-11	5-7
	4x6	6-5	5-6	4-11	4-6	4-2	3-11	3-8
	4x8	8-5	7-3	6-6	5-11	5-6	5-2	4-10
	4x10	9-11	8-7	7-8	7-0	6-6	6-1	5-8
	4x12	11-5	9-11	8-10	8-1	7-6	7-0	6-7
	3-2x6	7-4	6-8	6-0	5-6	5-1	4-9	4-6
	3-2x8	9-8	8-6	7-7	6-11	6-5	6-0	5-8
	3-2x10	12-0	10-5	9-4	8-6	7-10	7-4	6-11
	3-2x12	13-11	12-1	10-9	9-10	9-1	8-6	8-1

- Live load =40 psf, dead load = 10psf
- Beams supporting deck joists from one side only
- No. 2 grade, wet service factor
- Beam depth shall be greater than or equal to depth of joists with flush beam condition.
- Includes incising factor
- Northern species. Incising factor not included
- Beam cantilevers are limited to adjacent beam's span divided by 4.

GUARDS

Raised floor surfaces located more than 30 inches above a floor or grade below shall have guards not less than 36 inches in height. Open sides of stairs with a total rise of more than 30 inches above the floor or grade below shall have guards not less than 34 inches in height measured vertically from the nosing of the treads. Required guards shall have intermediate rails or ornamental closures which do not allow passage of a sphere 4 inches or more in diameter. 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 a size that a sphere 6 inches cannot pass through. Openings for required guards on the sides of stair treads shall not allow a sphere $4\frac{3}{8}$ inches to pass through.

STAIRS & HANDRAIL

Stairs must be a minimum of 36 inches wide. Stairs must have a maximum rise of 7 ¾ inches and a minimum run of 10 inches. The run is measured from the nosing of one tread to the nosing of the next tread. The greatest riser height within any flight of stairs shall not exceed the smallest by more than ¾ inch. Open risers are permitted provided that a 4-inch diameter sphere will not pass between the treads.

A handrail must be provided on one side when there are four or more risers. The top of the handrail must be between 34 and 38 inches from the end of the nosing measured straight up to the top of the handrail. The handrail must have a circular cross section of 1 ¼ inch to 2 inches and have returns on each end or terminate in newel posts.

