WRIGHT COUNTY
OFFICE OF PLANNING AND ZONING
BUILDING INSPECTION

SUBJECT:

DECKS
763-682-7338

EFFECTIVE DATE:
01/01/2012
REVISED DATE:
06/24/2017

PERMITS

Building permits are required for any deck attached to another structure (dwelling, garage etc.) or any detached deck more than 30 inches above grade. Building permits are required for decking replacement.

Permit fees for decks: Based on value and fees are extracted from 1997 UBC in addition to a plan review fee of 65% of building permit fee and State Surcharge per State Building Code sect. 16B.70.

Electrical permits are required for the extension of existing circuits or installation of new circuits. All electrical wiring must conform to the National Electrical Code. To obtain an electrical permit see the electrical permit handout for the inspector in your area or contact:

State Board of Electricity Phone: 651-284-5064 OR 1-800-DIAL-DLI
443 Lafayette Road North
St. Paul, Minnesota 55155-4342
Web site: http://www.electricity.state.mn.us/

REQUIRED INFORMATION

When applying for the building permit provide the following information.

1. 2 copies of an updated site plan or survey showing all property lines, existing buildings and dimensions, setbacks, wells, pools, septic tank and drainfield locations and proposed deck location with setbacks.
2. A compliance inspection for the existing septic system, if required. Contact the Planning and Zoning Office for more information 763-682-7338.
3. 2 copies of deck plans drawn to scale and including the following information:
   PLAN VIEW
   - Proposed deck size, location of stairs.
   - Size, type and spacing of floor joists.
   - Size, type, and location of posts, beams and headers.

   CROSS SECTION
   - Height of structure above grade.
   - Diameter, depth and type of footings.
   - Size type and spacing of floor joists.
   - Size, type and direction of decking. (Plastic or composite decking must be approved by the Building Official before installing.)
   - Joist hangers, flashings and fasteners.
   - Guardrail design and dimensions.
   - Details of stairs.

   ELEVATIONS
   - Location of existing windows, doors, electric meters, gas regulators, etc.

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.

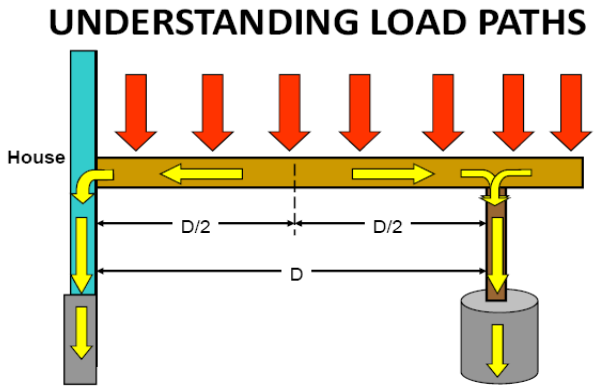
GOPHER STATE ONE CALL

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

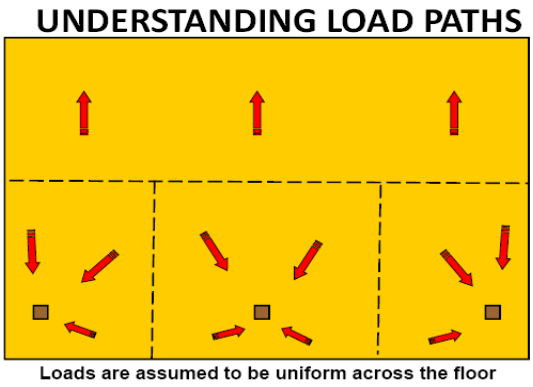
Call Gopher State One Call for utility locations at least two working days before you dig.

GENERAL BUILDING CODE REQUIREMENTS

FOOTINGS

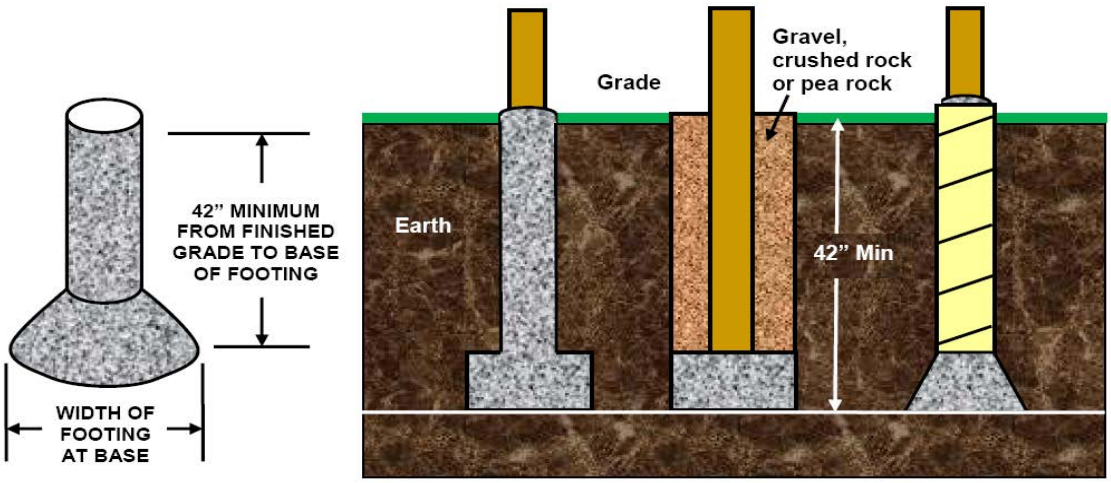


Required footing sizes are determined by calculating the area of the deck supported by each footing. Loads shall be assumed to be equally shared between the supporting elements.
Post footings supporting columns must not be less than 8 inch diameter. The bottom of post footings may be belled out to achieve 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.



DECK FOOTING SIZES (2000 psf soils)

Area of deck supported in square feet	Diameter of footing in inches
14	8
23	10
33	12
45	14
59	16
75	18
92	20
112	22
133	24

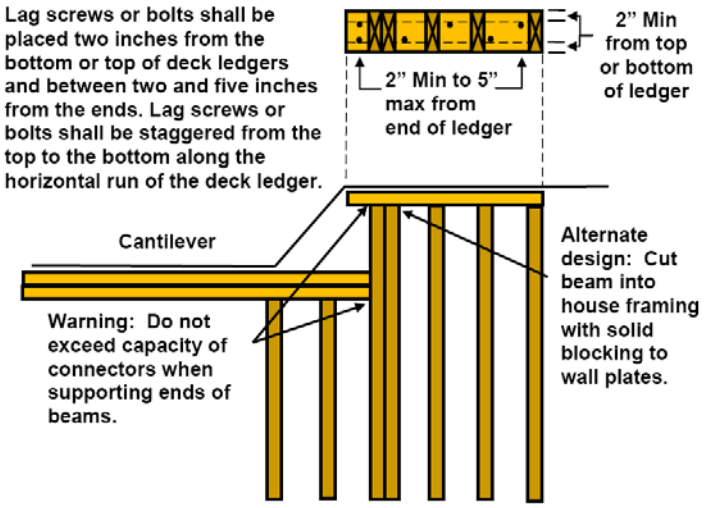


LUMBER

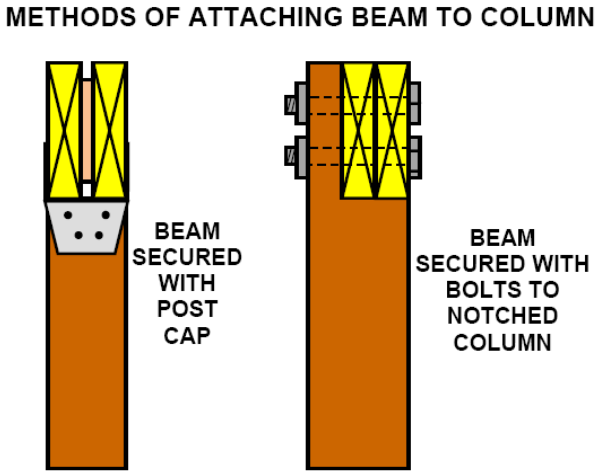
All wood used in the construction of decks must be approved naturally durable wood or wood that is preservative treated. This includes posts, beams, joists, decking, guards and rails. Wood used above ground, in contact with the ground, or below ground requires different degrees of treatment. Check the 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.

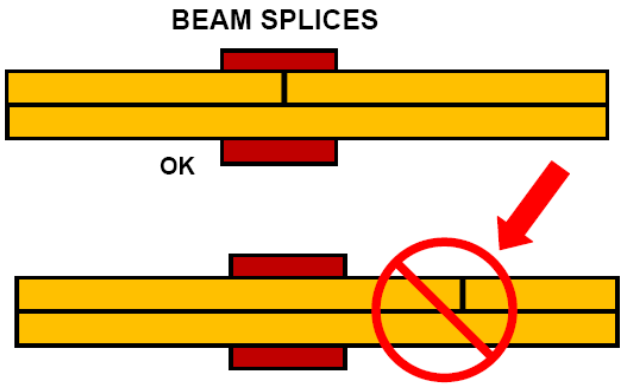
FASTENTERS AND CONNECTORS

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 attacked 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.

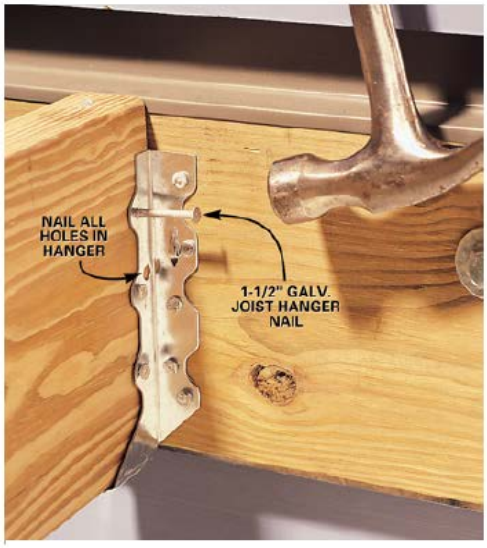


House cantilevers must not support the deck, unless designed for deck load support.





CONCEALED FLANGE HANGER



CONVENTIONAL HANGER

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.

JOIST SIZE	MAXIMUM CANTILEVER
2x8's @ 12" oc	39"
2x8's @ 16" oc	34"
2x10's @ 12" oc	57"
2x10's @ 16" oc	49"
2x10's @ 24" oc	40"
2x12's @ 16" oc	67"
2x12"s @ 24" oc	54"

DECKING

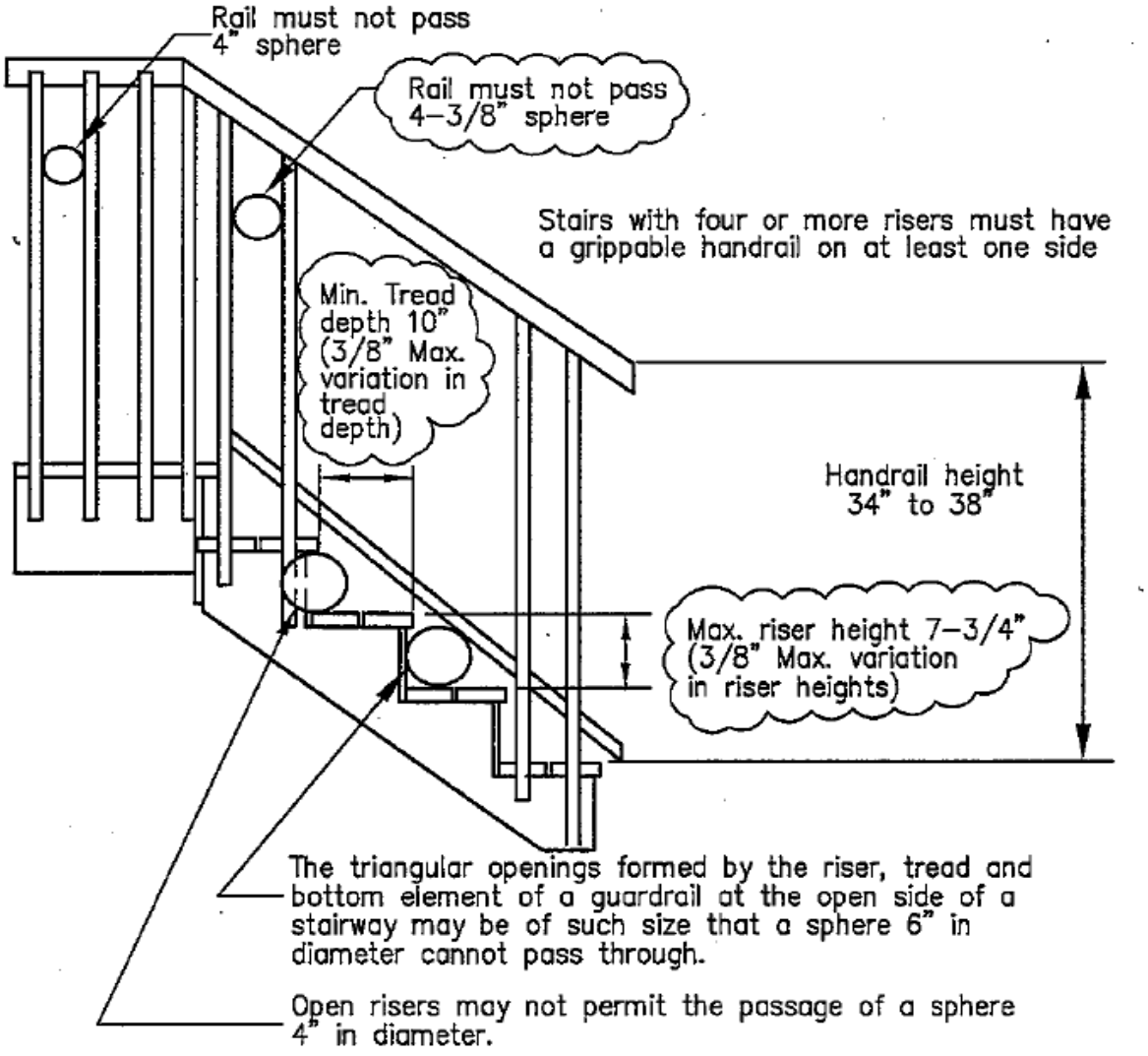
Plastic or composite deck materials must be approved by the Building Official before installing. This approval is based on the material having a valid NER ES report. Ask the decking supplier to provide you with a copy of the research report.
A list of approved decking materials can be found at: http://www.10klakes.org
ES Reports can be found at: http://www.icc-es.org/Evaluation_Reports/

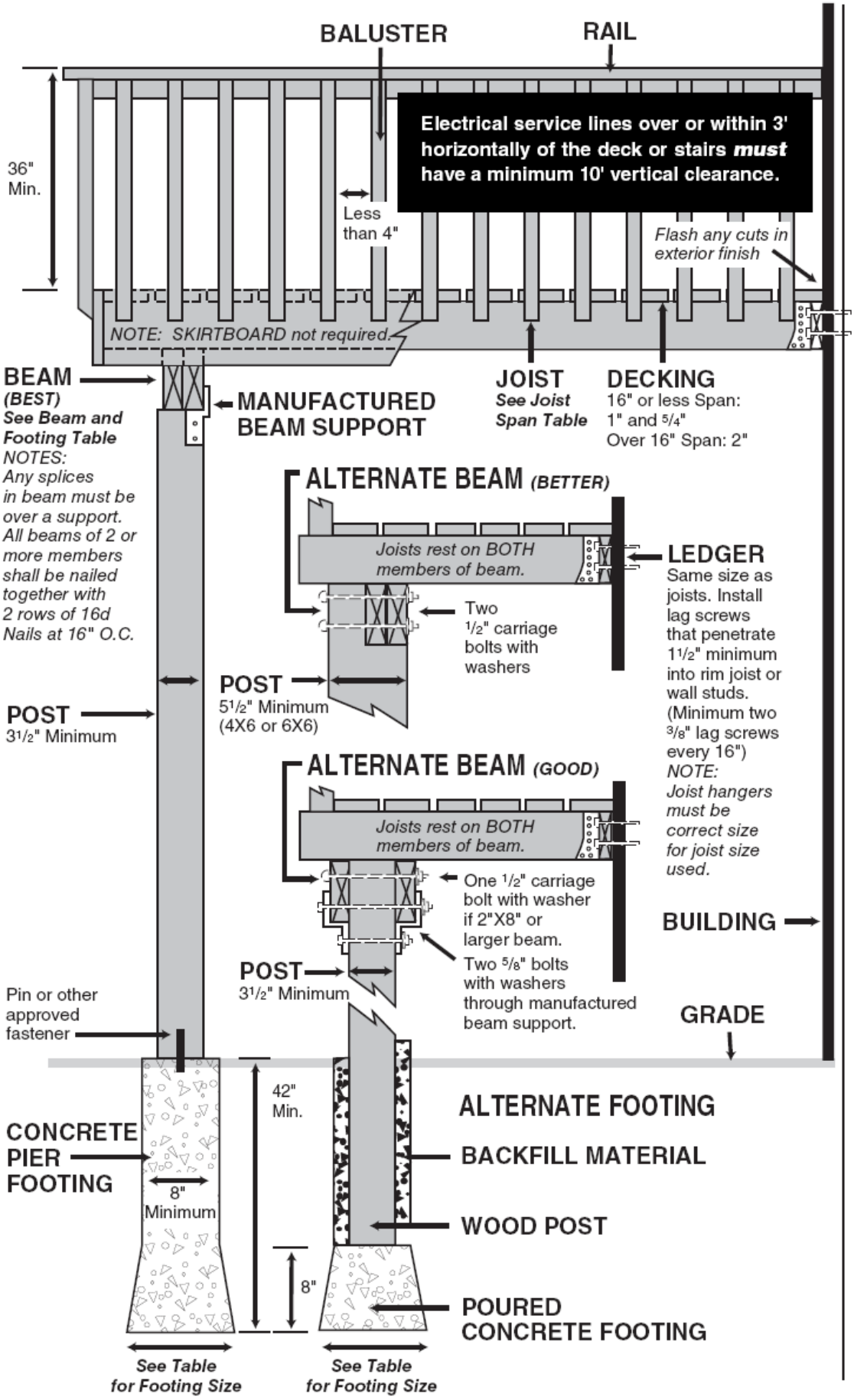
GUARDRAILS

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 $^{3}/_{8}$ inches to pass through.

STAIRS

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 $^{3}/_{8}$ 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.




BALUSTER
RAIL
36" Min.
Less than 4"
Electrical service lines over or within 3' horizontally of the deck or stairs must have a minimum 10' vertical clearance.
Flash any cuts in exterior finish
NOTE: SKIRTBOARD not required.
BEAM (BEST) See Beam and Footing Table
NOTES: Any splices in beam must be over a support. All beams of 2 or more members shall be nailed together with 2 rows of 16d Nails at 16" O.C.
MANUFACTURED BEAM SUPPORT
JOIST See Joist Span Table
DECKING 16" or less Span: 1" and 5/4" Over 16" Span: 2"
ALTERNATE BEAM (BETTER)
Joists rest on BOTH members of beam.
Two 1/2" carriage bolts with washers
LEDGER Same size as joists. Install lag screws that penetrate 1 1/2" minimum into rim joist or wall studs. (Minimum two 3/8" lag screws every 16") NOTE: Joist hangers must be correct size for joist size used.
POST 5 1/2" Minimum (4X6 or 6X6)
POST 3 1/2" Minimum
ALTERNATE BEAM (GOOD)
Joists rest on BOTH members of beam.
One 1/2" carriage bolt with washer if 2"X8" or larger beam.
Two 5/8" bolts with washers through manufactured beam support.
POST 3 1/2" Minimum
BUILDING
GRADE
Pin or other approved fastener
42" Min.
ALTERNATE FOOTING
CONCRETE PIER FOOTING
8" Minimum
BACKFILL MATERIAL
WOOD POST
8"
POURED CONCRETE FOOTING
See Table for Footing Size
See Table for Footing Size

SPAN TABLE FOR WESTERN WOODS (WWPA) AND SOUTHERN YELLOW PINE (SYP)

JOIST SPAN FROM LEDGER TO BEAM						
Treated Lumber	6 FT.	8 FT.	10 FT.	12 FT.	14 FT.	16 FT.
SIZE @ SPACING WESTERN WOODS (WWPA)	2X6 @ 24' OC	2X6 @ 16"OC 2X8 @ 24" OC 2X10 @ 24"OC	2X8 @ 16" OC 2X10 @ 24" OC 2X12 @ 24" OC	2X8 @ 12" OC 2X10 @ 16" OC 2X12 @ 16" OC	2X10 @ 12" OC 2X12 @ 16" OC	2X12 @ 12" OC
SIZE @ SPACING SOUTHERN PINE (SYP)	2X6 @ 24' OC	2X6 @ 24"OC 2X8 @ 24" OC	2X6 @ 12" OC 2X8 @ 24" OC 2X10 @ 24" OC	2X8 @ 16" OC 2X10 @ 24" OC 2X12 @ 24" OC	2X8 @ 12" OC 2X10 @ 16" OC 2X12 @ 24" OC	2x10 @ 16"OC 2X12 @ 12" OC

BEAM SIZES FOR WESTERN WOODS (WWPA) AND SOUTHERN YELLOW PINE (SYP)

POST SPACING			JOIST SPAN FROM LEDGER TO BEAM					
	Treated Lumber		6 FT.	8 FT.	10 FT.	12 FT.	14 FT.	16 FT.
	4 ft.	WESTERN WOODS (WWPA)	1-2X6	2-2X6 1-2X8	2-2X6 1-2X8	2-2X6 1-2X8	2-2X6 1-2X8	2-2X6 1-2X8
		SOUTHERN YELLOW PINE (SYP)	1-2X6	1-2X6 1-2X8	1-2X8 1-2X10	1-2X8 1-2X10	1-2X10 1-2X12	1-2X12
	5 ft	WESTERN WOODS (WWPA)	2-2X6 1-2X8	2-2X6 1-2X8	2-2X6 2-2X8	3-2X6 2-2X8	2-2X8 2-2X10	2-2X10 1-2X12
		SOUTHERN YELLOW PINE (SYP)	1-2X6	2-2X6 2-2X8	1-2X8 1-2X10	1-2X8 1-2X10	1-2X10 1-2X12	1-2X12
	6 ft.	WESTERN WOODS (WWPA)	2-2X6 2-2X8	2-2X6 2-2X8	2-2X8 2-2X10	2-2X8 2-2X10	3-2X8 2-2X10	3-2X8 2-2X10
		SOUTHERN YELLOW PINE (SYP)	2-2X6 2-2X8	2-2X6 2-2X8	2-2X8 1-2X10	2-2X8 1-2X10	2-2X10 1-2X12	2-2X10 2-2X12
	7 ft	WESTERN WOODS (WWPA)	3-2X6 2-2X8	3-2X8 2-2X10	3-2X8 2-2X10	3-2X8 2-2X10	2-2X10 2-2X12	3-2X10 2-2X12
		SOUTHERN YELLOW PINE (SYP)	2-2X6 2-2X8	3-2X6 2-2X8	2-2X8 2-2X10	2-2X8 2-2X10	2-2X10 2-2X12	2-2X10 2-2X12
	8 ft.	WESTERN WOODS (WWPA)	3-2X8 2-2X10	3-2X8 2-2X10	3-2X8 2-2X10	3-2X8 3-2X10	3-2X10 2-2X12	3-2X10 3-2X12
		SOUTHERN YELLOW PINE (SYP)	3-2X6 2-2X8	3-2X6 2-2X8	3-2X8 2-2X10	3-2X8 2-2X10	2-2X10 2-2X12	3-2X10 2-2X12
	9 ft.	WESTERN WOODS (WWPA)	3-2X8 2-2X10	3-2X8 2-2X10	3-2X8 2-2X10	3-2X8 3-2X10	3-2X10 3-2X12	4-2X10 3-2X12
		SOUTHERN YELLOW PINE (SYP)	3-2X6 2-2X8	3-2X8 2-2X10	3-2X8 2-2X10	3-2X8 3-2X10	3-2X10 2-2X12	3-2X10 2-2X12
	10 ft.	WESTERN WOODS (WWPA)	3-2X8 2-2X10	3-2X8 3-2X10	3-2X10 3-2X12	4-2X10 3-2X12	4-2X10 3-2X12	4-2X10 3-2X12
		SOUTHERN YELLOW PINE (SYP)	3-2X8 2-2X10	3-2X8 2-2X10	3-2X8 3-2X10	3-2X10 2-2X12	3-2X10 3-2X12	3-2X10 3-2X12
	11 ft.	WESTERN WOODS (WWPA)	3-2X10 2-2X12	3-2X10 3-2X12	4-2X10 3-2X12	4-2X10 3-2X12	4-2X12	4-2X12
		SOUTHERN YELLOW PINE (SYP)	3-2X8 2-2X10	3-2X8 3-2X10	3-2X10 2-2X12	3-2X10 3-2X12	3-2X10 3-2X12	4-2X10 3-2X12
	12 ft.	WESTERN WOODS (WWPA)	3-2X10 3-2X12	4-2X10 3-2X12	4-2X10 3-2X12	4-2X12	4-2X12	ENGINEERED BEAM
		SOUTHERN YELLOW PINE (SYP)	3-2X8 3-2X10	3-2X10 2-2X12	3-2X10 3-2X12	4-2X10 3-2X12	4-2X10 3-2X12	4-2X10 3-2X12
	13 ft.	WESTERN WOODS (WWPA)	4-2X10 3-2X12	4-2X10 3-2X12	4-2X12	4-2X12	ENGINEERED BEAM	ENGINEERED BEAM
		SOUTHERN YELLOW PINE (SYP)	3-2X10 2-2X12	3-2X10 3-2X12	4-2X10 3-2X12	4-2X10 3-2X12	4-2X12	4-2X12
	14 ft.	WESTERN WOODS (WWPA)	4-2X10 3-2X12	4-2X12	4-2X12	ENGINEERED BEAM	ENGINEERED BEAM	ENGINEERED BEAM
		SOUTHERN YELLOW PINE (SYP)	3-2X10 3-2X12	4-2X10 3-2X12	4-2X10 3-2X12	3-2X12	4-2X12	4-2X12