

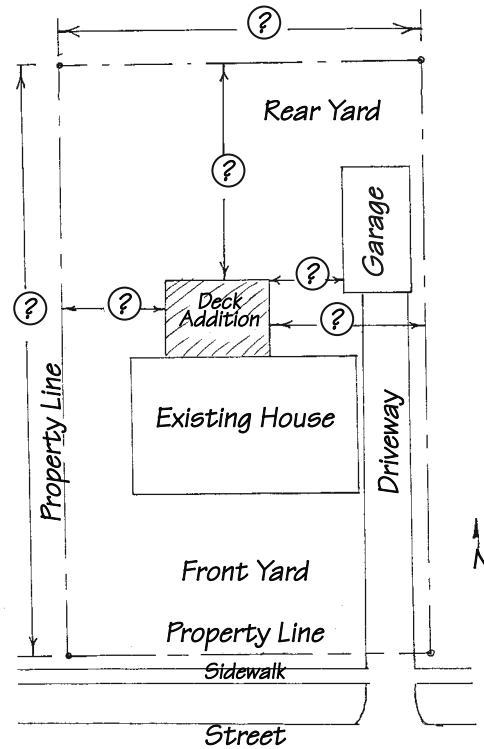
Building a deck for your home can and should be a rewarding experience. This brochure will help ensure that building your deck is just that – a rewarding experience.

All new and replacement decks require a building permit. There are two basic requirements from the City's Department of Building and Safety to obtain a permit. A site plan shows **where** you want to build your deck, complete with lot dimensions and setback distances from the proposed deck to the property lines. Building and Safety also needs to know **how** you are building your deck. This brochure will provide you with the *minimum* information necessary to obtain a deck permit.

Specific requirements for all decks:

1. Decks exposed to the weather must be constructed of wood resistant to decay. This would include pressure treated wood, cedar or redwood in accordance with the Building Code.
2. Decks more than 30" above the adjacent ground must have a guard railing at least 36" in height. Stair railing is also required on at least one side of the stairs when there are more than three risers. The stair railing must be no greater than 38" above the nose of the stair tread.
3. A deck attached to a home must be supported by the existing home and/or frost-free footings at least 36" in depth.
4. Posts supporting decks must rest on top of and be connected to the footing. Posts are not permitted to be buried in the ground or footing.
5. Decks must be designed to support their own weight (10 lbs/sq. ft.) and the weight of objects and people (40 lbs/sq. ft.). If a hot tub is placed on the deck, an additional 50 lbs/sq. ft. will be added to the load.
6. The spacing of the railing balusters cannot allow the passage of a 5" sphere through any part of the railing, including the stair railing.
7. Deck stair risers must be uniform and cannot exceed 7 3/4" in height. The riser height cannot vary more than 3/8" in a flight of stairs.
8. The minimum tread depth is 10". The greatest tread depth within a flight of stairs cannot exceed the smallest by more than 3/8".
9. Stair treads must be reasonably level, with consideration given to shed water, snow and ice.
10. The ledger board attached to the house must be bolted to solid wood framing members.
11. The handgrip portion of a stair railing cannot be less than 1-1/4" or more than 2-5/8" in length. A 2x4 installed vertically is acceptable.
12. Floor joists may not extend (cantilever) more than 24" over the beam. Beams or headers may not extend (cantilever) more than 12" from the post.

SAMPLE SITE PLAN



② Where this symbol appears, please indicate the measurements for your project. Specific minimums will depend upon zoning district and individual lot.

LOADS FOR CALCULATING FOOTING SIZES

$(x) \times (y) = \text{load area}$
 $(\text{load area}) \times (\text{number of lbs. per sq. foot}) = \text{Load}$

Floor only = 50lbs. per sq. foot
 Add 40lbs. per sq. foot when adding roof.
 Add 55lbs. per sq. foot when adding roof and ceiling.
 Add 50lbs. per sq. foot where a hot tub or spa will sit.
 (Unless otherwise stated by the manufacturer.)

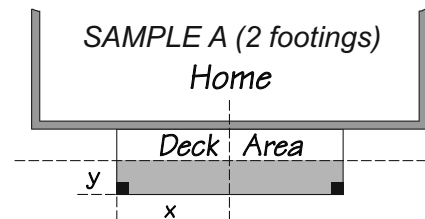
If your deck is more than 30 inches above grade, you will need a guardrail.

see graphs in panel to right

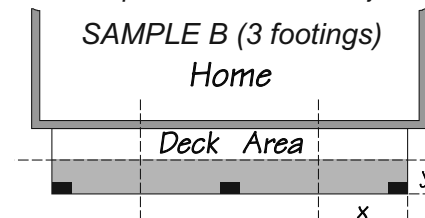
FOOTING SIZES FOR DECKS

| Load (lb.) | Hole Depth (in.) | Round Hole Diameter (in.) | Square Hole Length per Side (in.) |
|------------|------------------|---------------------------|-----------------------------------|
| 500 | 36 | 7 | 6 |
| 1000 | 36 | 10 | 8 |
| 1500 | 36 | 12 | 10 |
| 2000 | 36 | 14 | 12 |
| 2500 | 36 | 15 | 13 |
| 3000 | 36 | 17 | 15 |
| 3500 | 36 | 18 | 16 |
| 4000 | 36 | 19 | 17 |
| 4500 | 36 | 20 | 18 |
| 5000 | 36 | 21 | 19 |
| 5500 | 36 | 22 | 20 |
| 6000 | 36 | 23 | 21 |
| 6500 | 36 | 24 | 22 |
| 7000 | 36 | 25 | 22 |
| 7500 | 36 | 26 | 23 |
| 8000 | 36 | 27 | 24 |
| 8500 | 36 | 28 | 25 |
| 9000 | 36 | 29 | 25 |
| 9500 | 36 | 30 | 26 |
| 10000 | 36 | 30 | 27 |

HOW TO DETERMINE LOADS



The shaded area represents the load area. The darkened area represents the location of your footings.



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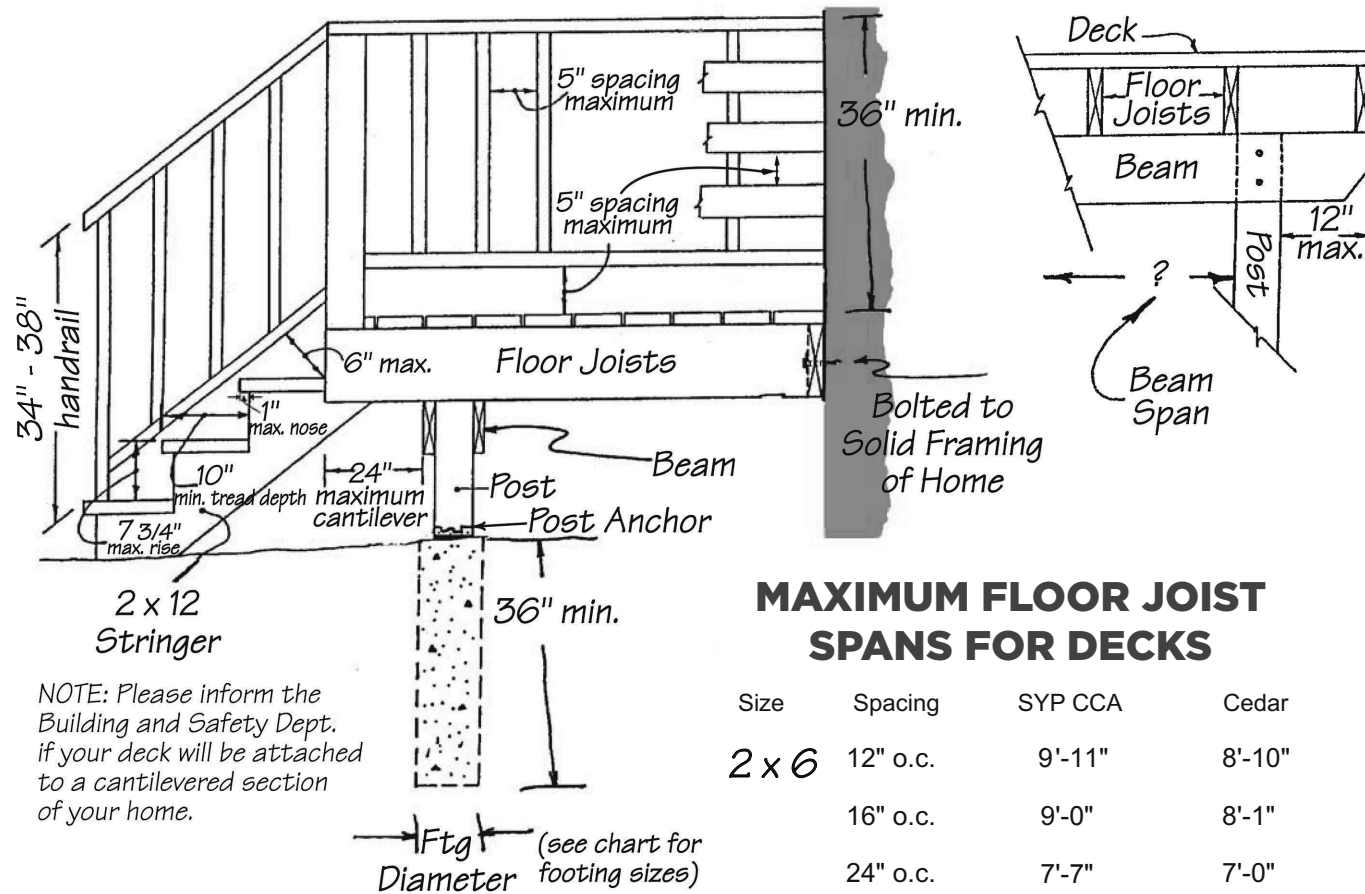
HOW TO
DESIGN & BUILD
 YOUR
DECK

HOW TO DESIGN & BUILD YOUR DECK

For buried cable locations call diggers hotline at:

811

Building and Safety Department
555 South 10th St., Room 203
Lincoln, NE 68508
402 / 441-7882
lincoln.ne.gov



NOTE: Please inform the Building and Safety Dept. if your deck will be attached to a cantilevered section of your home.

DECK BEAM SPAN TABLE

| Beam Span | Species | Floor Joist Length | | | | | | |
|-----------|----------------|--------------------|--------|--------|--------|--------|--------|--------|
| | | 20' | 18' | 16' | 14' | 12' | 10' | 8' |
| 12'-0" | #2 Syp Treated | 3-2x12 | 3-2x12 | 3-2x12 | 3-2x12 | 3-2x12 | 2-2x12 | 2-2x12 |
| 10'-0" | #2 Syp Treated | 3-2x12 | 3-2x12 | 2-2x12 | 2-2x12 | 2-2x10 | 2-2x10 | 2-2x8 |
| 8'-0" | #2 Syp Treated | 2-2x10 | 2-2x10 | 2-2x10 | 2-2x10 | 2-2x8 | 2-2x6 | 2-2x6 |
| 6'-0" | #2 Syp Treated | 2-2x8 | 2-2x8 | 2-2x8 | 2-2x8 | 2-2x6 | 2-2x6 | 2-2x6 |
| 12'-0" | #2 Cedar | N/A | 5-2x12 | 5-2x12 | 4-2x12 | 4-2x12 | 3-2x12 | 3-2x12 |
| 10'-0" | #2 Cedar | 4-2x12 | 4-2x12 | 3-2x12 | 3-2x12 | 3-2x12 | 2-2x12 | 2-2x10 |
| 8'-0" | #2 Cedar | 3-2x12 | 3-2x12 | 2-2x12 | 2-2x12 | 2-2x10 | 2-2x10 | 2-2x8 |
| 6'-0" | #2 Cedar | 2-2x10 | 2-2x10 | 2-2x10 | 2-2x8 | 2-2x8 | 2-2x8 | 2-2x6 |

2012 International Residential Code 10lb. dead load, 40lb. live load, 24" max. cantilever

MAXIMUM FLOOR JOIST SPANS FOR DECKS

| Size | Spacing | SYP CCA | Cedar |
|--------|----------|---------|---------|
| 2 x 6 | 12" o.c. | 9'-11" | 8'-10" |
| | 16" o.c. | 9'-0" | 8'-1" |
| | 24" o.c. | 7'-7" | 7'-0" |
| 2 x 8 | 12" o.c. | 13'-1" | 11'-8" |
| | 16" o.c. | 11'-10" | 10'-7" |
| | 24" o.c. | 9'-8" | 9'-2" |
| 2 x 10 | 12" o.c. | 16'-2" | 14'-11" |
| | 16" o.c. | 14'-0" | 13'-6" |
| | 24" o.c. | 11'-5" | 11'-3" |
| 2 x 12 | 12" o.c. | 19'-1" | 18'-1" |
| | 16" o.c. | 16'-6" | 16'-0" |
| | 24" o.c. | 13'-6" | 13'-0" |

Note: This chart for #2 grade lumber only.

MAXIMUM POST HEIGHTS FOR DECKS* (based on tributary area)

| Load Area | 4 x 4 | 4 x 6 | 6 x 6 |
|-------------|-------|-------|-------|
| 36 sq. ft. | 10' | 14' | 17' |
| 48 sq. ft. | 10' | 12' | 17' |
| 60 sq. ft. | 9' | 11' | 17' |
| 72 sq. ft. | 8' | 10' | 17' |
| 84 sq. ft. | 7' | 9' | 17' |
| 96 sq. ft. | 7' | 9' | 17' |
| 108 sq. ft. | 6' | 8' | 17' |
| 120 sq. ft. | 6' | 8' | 17' |
| 132 sq. ft. | 5' | 7' | 16' |
| 144 sq. ft. | 5' | 7' | 15' |
| 156 sq. ft. | 5' | 7' | 14' |
| 168 sq. ft. | - | 6' | 14' |
| 180 sq. ft. | - | 6' | 13' |
| 192 sq. ft. | - | 6' | 13' |
| 204 sq. ft. | - | 5' | 12' |

*40lb. live load Southern Yellow Pine

HOW TO CALCULATE TRIBUTARY AREA

