



RESIDENTIAL DECKS

1685 CROSTOWN BOULEVARD NW, ANDOVER, MINNESOTA 55304 (763) 755-8700 • FAX (763) 755-8923 • WWW.ANDOVERMN.GOV

Building permits are required for decks exceeding 30 inches above grade or attached to a dwelling.

SUBMITTALS REQUIRED FOR PERMIT

- [Building Permit Application](#)
- Certificate of Survey or an accurate, dimensioned Site Plan showing the proposed deck.
- Two (2) copies of construction plans showing proposed designs and materials. Drawings should be drawn to scale on paper and include:
 - **Site Plan** – showing lot dimensions and locations of existing and proposed structure(s)
 - **Floor Plan** – providing deck and stair locations and dimensions; lumber type; size and spacing of footings, posts, beams, joists, headers, decking, guardrails and handrails
 - **Cross Sections and/or Elevations** – rear or side views showing the deck height from grade; diameter and depth of footings; guardrail height and spacing of intermediate rails; and rise and run of stairs

ZONING SETBACKS AND LOCATIONS

Decks must not be installed in or over drainage, utility and other public easements.
The Zoning Code requires decks attached to dwellings to be setback, away from property lines:

ZONING DISTRICT ¹	Yard Setbacks			
	Front	Side Fronting on a Public Street	Side	Rear ²
R-1	40	40	10	32
R-2	40 ³	40	10	32
R-3	35 ³	35	10	22
R-4	35 ³	35	10	22
PUD / R-5 <i>Planned Unit Development</i>	Varies by PUD	Varies by PUD	Varies by PUD	Varies by PUD

Notes:

¹ In all districts building setbacks vary to accommodate future streets and county roads, also see City Code 12-5-4.

² Per City Code 12-4-3, C 2, deck setbacks stated here provide for an 8' encroachment into the regular rear yard setbacks.

³ In R-2, R-3 and R-4 District, front yard setback averaging to existing, adjoining buildings shall apply, also see City Code 12-5-1.

BUILDING CODE REQUIREMENTS

INSPECTIONS:

The following inspections must be requested during construction:

- ✓ **Site/Location & Footing Inspection** – Prior to placement of concrete.
- ✓ **Framing** – Prior to concealing ledgers, joists and structural connections.
- ✓ **Final** – Upon completion of the deck. *(If the deck is elevated framing and final may be combined.)*

Please call (763) 755 – 8700 to schedule an inspection. Please have your address and permit number available.

FOOTINGS:

Where attached to or serving a building with a frost foundation, deck footings must extend at least 42” below grade or provide equal resistance to frost heave. Freestanding decks may be constructed without frost resistant foundations. The base of the footings must provide sufficient load bearing area – typically 12” to 24” in diameter. For a single level deck, the total of all loads are at least 50 lbs. per square foot of deck. Distribution of those loads to the footings must be determined. If the deck may be converted to a porch, then additional loads must be considered in sizing footings – Consult with the City Building Inspection Department.

LOAD-BEARING VALUES OF UNDISTURBED SOILS

CLASS OF MATERIAL	LOAD-BEARING CAPACITY (Lbs. per square foot)
Sandy gravel and/or gravel	3,000
Sand, silty sand, clayey sand, silty gravel and clayey gravel	2,000
Clay, sandy clay, silty clay, clayey silt, silt and sandy silt	1,500

LUMBER & CONSTRUCTION:

Lumber exposed to weather or soil must be naturally resistant or treated to resist rot. Wood that is to be used underground must be pressure-preservative treated (.60 AC2 or approved equal). Where treated lumber is cut or drilled, the exposed surface must be thoroughly field treated with a wood preservative containing copper naphthenate – available at most home improvement and paint stores.

The wood structural members for decks must designed to support a total load of at least 50 pounds per square foot (see attached chart for lumber sizing). Wood decking must be at least 1 ¼” in thickness for floor joists spaced 24” on center, and 1” in thickness for floor joists spaced 16” on center. Note: If you are using composite decking be sure to check the manufacturer’s specifications for joist spacing. Some brands may require joists to be spaced 12” on center or less.

Ledger boards must be securely attached to the load bearing structure of the house. Connections between deck and dwelling must be flashed and caulked. Joists and headers must be supported by approved framing anchors such as joist hangers. All hardware and fasteners must be corrosion resistant.

GUARDRAILS: Guardrails must be installed where the walking surfaces are over 30” above grade. Guardrails must be at least 36” in height and must not permit the passage of a 4” sphere through the intermediate rails or pickets.

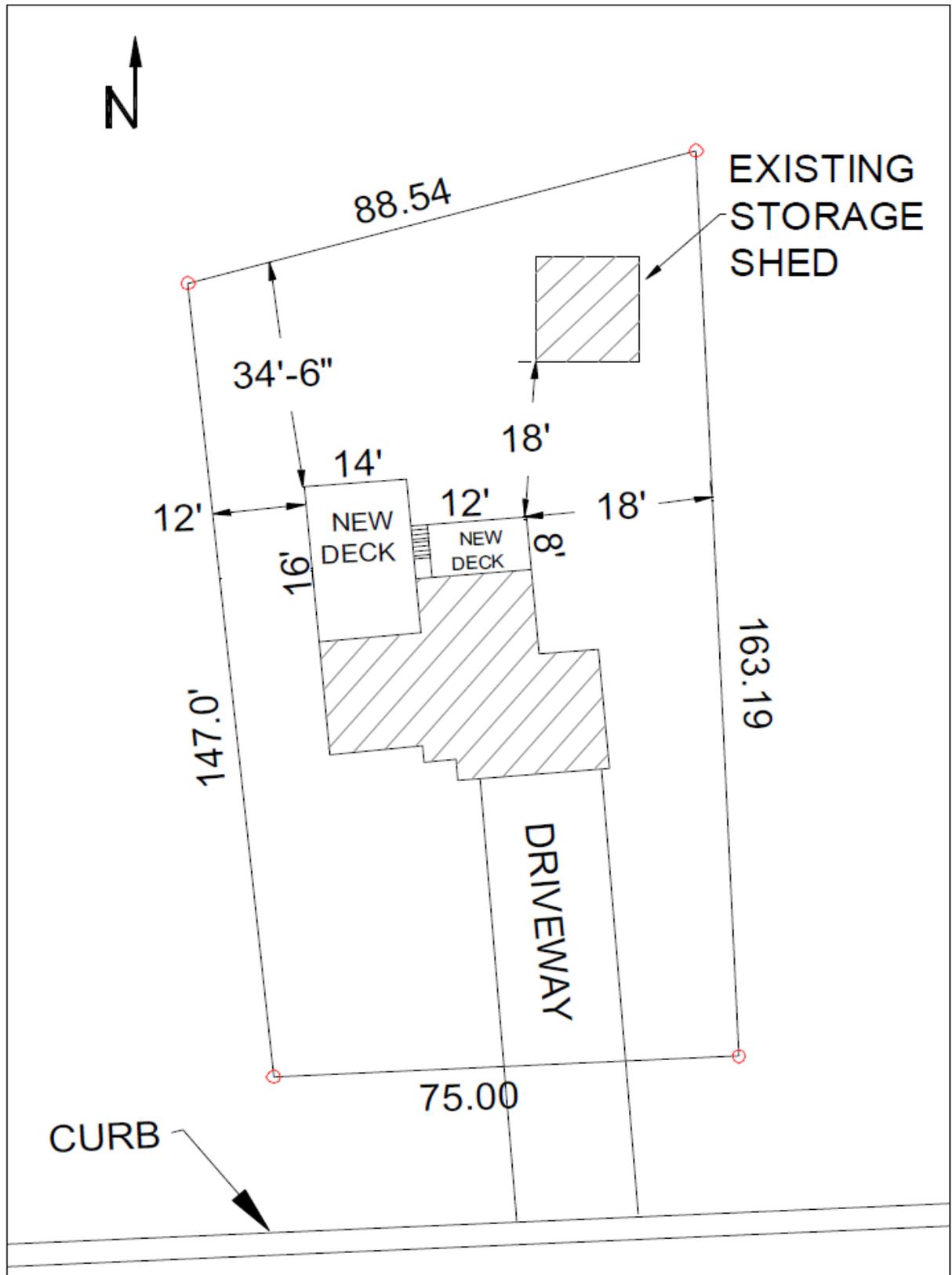
STAIRWAYS: Stairways must be at least 36” in width, with risers no higher than 7 ¾” and treads at least 10” long. Variations in riser heights or in tread lengths must not exceed 3/8 ”.

HANDRAILS: Stairways having 4 or more risers must have a grippable handrail on at least one side. Handrail height must be between 34” and 38” in height above the nosings of treads and extend continuously for the full length of the stairway. Handrails must have a space of not less than 1 ½” between the wall and the handrail. The grippable portion of the handrail must be smooth and at least 1 ¼” but no more than 2” in diameter. Handrails must be returned to the guardrail or supporting wall at each end.

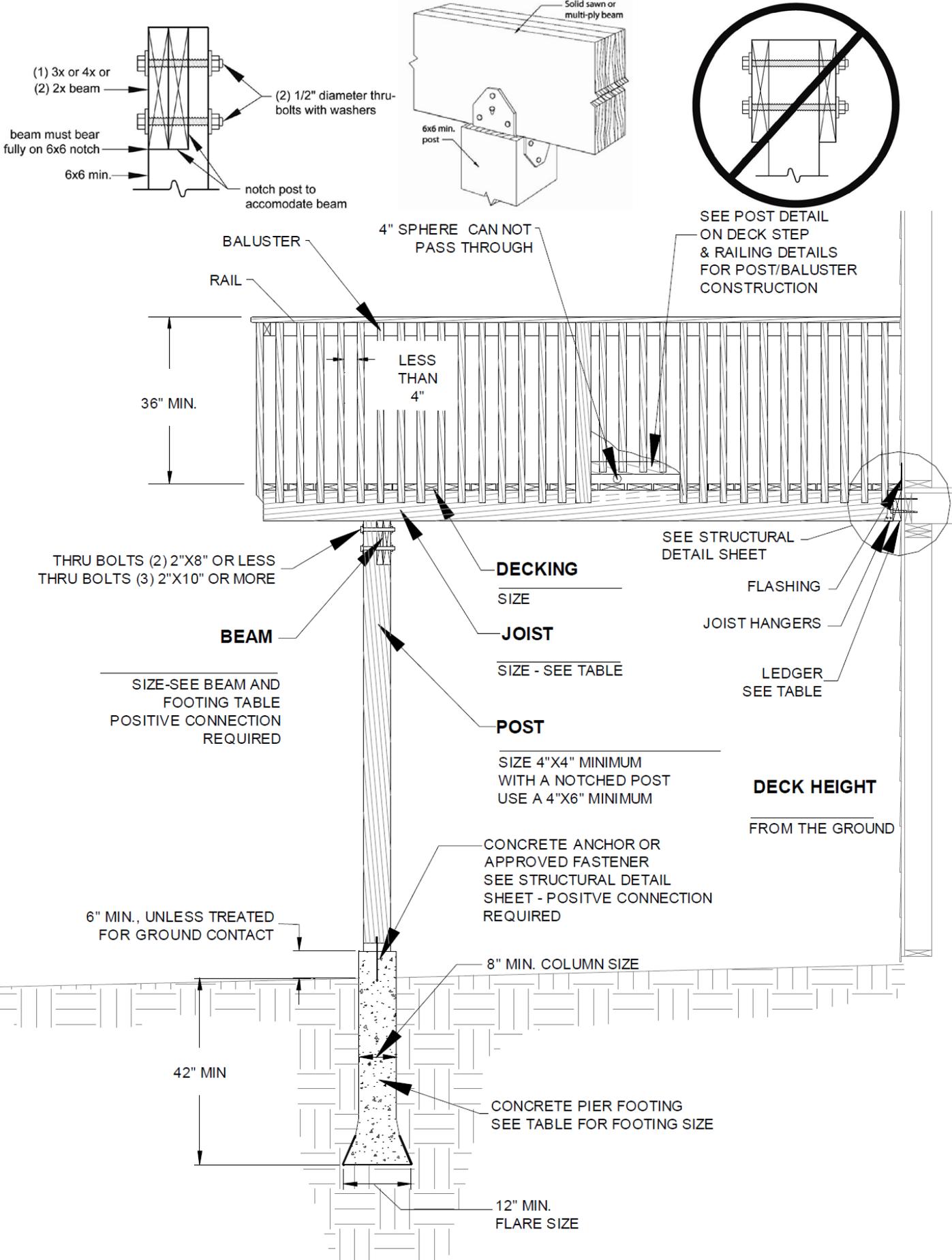
LANDINGS: Exterior stairs must be provided with a level landing at the top and bottom. The landing must be as wide as the width of the stair and at least 3’ in the direction of travel.

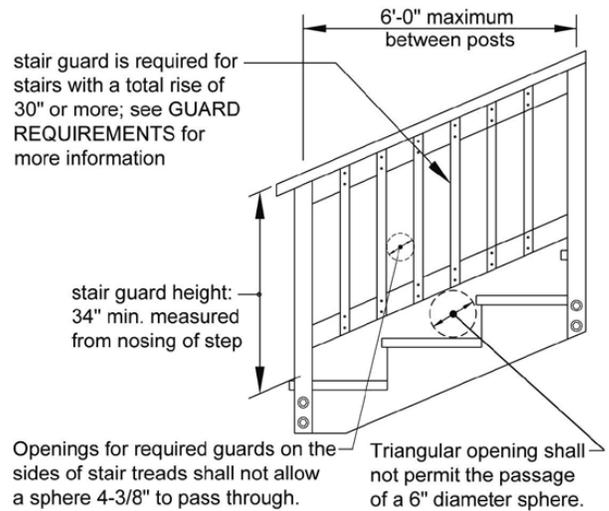
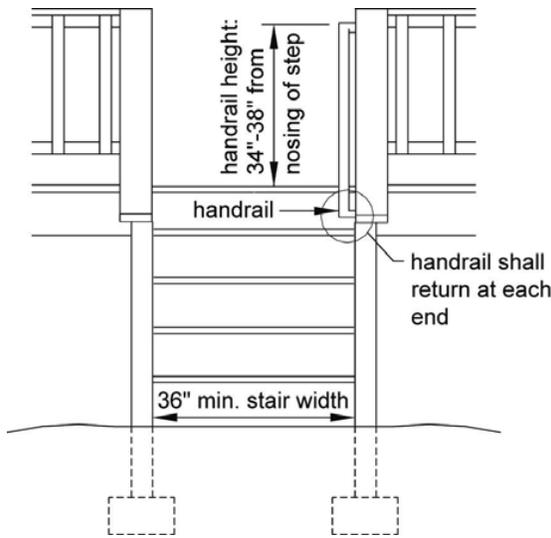
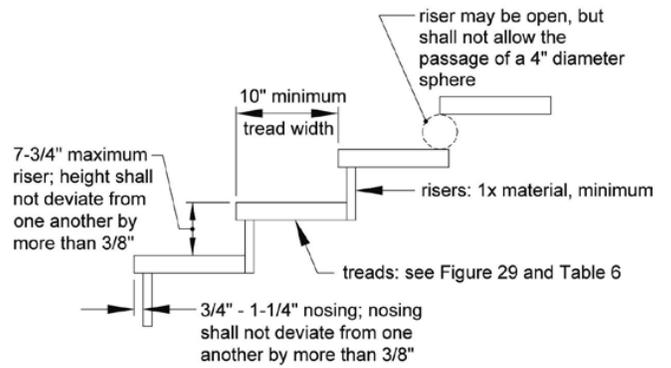
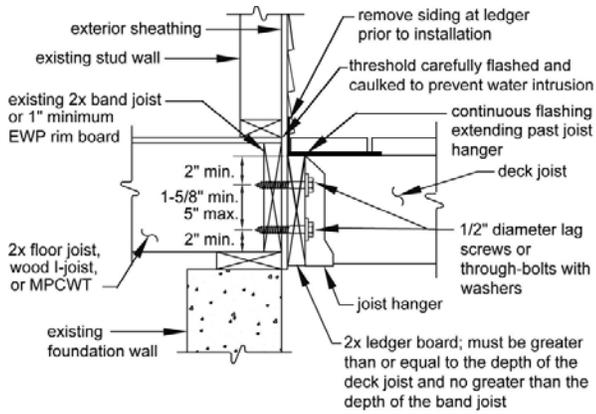
This informational document may not comprehensively address all City ordinances regarding the subject addressed. It is provided to serve only as a helpful guide during design phase. Any site preparation or other work requiring permits is not allowed until all required permits have been issued by the City of Andover.

ACCURATE, DIMENSIONED SITE PLAN

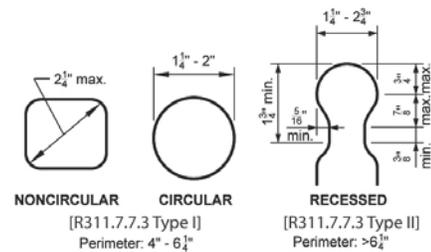
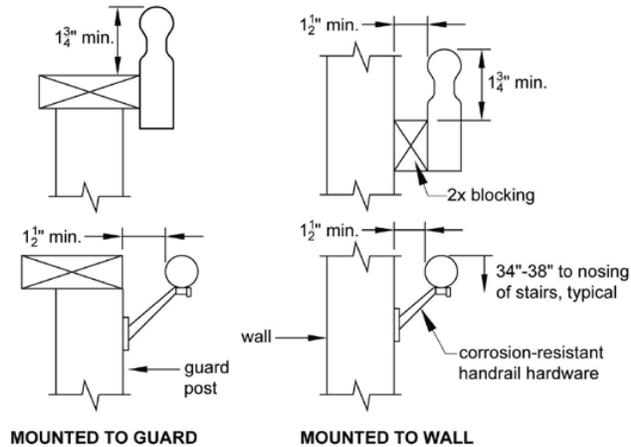


123 Long Street Northwest





Fasten handrails per manufacturer recommendations



BEAM AND FOOTING SIZES

RESIDENTIAL DECKS

Based on No. 2 or better Ponderosa Pine and Southern Pine (Treated for weather and/or ground exposure)

Joist Length	Post Spacing												
	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'		
6'	Southern Pine Beam 1-2x6 Ponderosa Pine Beam 1-2x6 Corner Footing 6 5 4 Intermediate Footing 9 8 7	1-2x6 1-2x6 7 6 5 10 8 7	1-2x6 1-2x8 7 6 5 10 9 8	2-2x6 2-2x8 8 7 6 11 9 8	2-2x6 2-2x8 9 7 6 12 10 9	2-2x6 2-2x8 9 8 7 13 11 9	2-2x6 2-2x8 10 8 7 14 11 10	2-2x6 2-2x8 11 9 8 15 12 10	2-2x8 2-2x10 10 8 7 14 12 10	2-2x8 2-2x10 11 9 8 15 13 11	2-2x8 2-2x10 12 10 9 16 14 12	2-2x10 2-2x12 11 9 8 17 15 13	2-2x10 2-2x12 12 10 9 18 16 14
7'	Southern Pine Beam 1-2x6 Ponderosa Pine Beam 1-2x6 Corner Footing 7 5 5 Intermediate Footing 9 8 7	1-2x6 1-2x6 7 6 5 10 8 7	1-2x6 1-2x8 8 7 6 11 9 8	2-2x6 2-2x8 9 7 6 12 10 9	2-2x6 2-2x8 9 8 7 13 11 9	2-2x6 2-2x8 10 8 7 14 11 10	2-2x6 2-2x8 11 9 8 15 12 10	2-2x6 2-2x8 12 10 9 16 14 12	2-2x6 2-2x8 13 11 9 17 15 13	2-2x6 2-2x8 14 12 10 18 16 14	2-2x6 2-2x8 15 13 11 19 17 15	2-2x6 2-2x8 16 14 12 20 18 16	2-2x6 2-2x8 17 15 13 21 19 17
8'	Southern Pine Beam 1-2x6 Ponderosa Pine Beam 1-2x6 Corner Footing 7 6 5 Intermediate Footing 10 8 7	1-2x6 1-2x6 7 6 5 10 8 7	1-2x6 1-2x8 8 7 6 11 9 8	2-2x6 2-2x8 9 7 6 12 10 9	2-2x6 2-2x8 9 8 7 13 11 9	2-2x6 2-2x8 10 8 7 14 11 10	2-2x6 2-2x8 11 9 8 15 12 10	2-2x6 2-2x8 12 10 9 16 14 12	2-2x6 2-2x8 13 11 9 17 15 13	2-2x6 2-2x8 14 12 10 18 16 14	2-2x6 2-2x8 15 13 11 19 17 15	2-2x6 2-2x8 16 14 12 20 18 16	2-2x6 2-2x8 17 15 13 21 19 17
9'	Southern Pine Beam 1-2x6 Ponderosa Pine Beam 1-2x6 Corner Footing 7 6 5 Intermediate Footing 10 9 7	1-2x6 1-2x6 7 6 5 10 8 7	1-2x6 1-2x8 8 7 6 11 9 8	2-2x6 2-2x8 9 7 6 12 10 9	2-2x6 2-2x8 9 8 7 13 11 9	2-2x6 2-2x8 10 8 7 14 11 10	2-2x6 2-2x8 11 9 8 15 12 10	2-2x6 2-2x8 12 10 9 16 14 12	2-2x6 2-2x8 13 11 9 17 15 13	2-2x6 2-2x8 14 12 10 18 16 14	2-2x6 2-2x8 15 13 11 19 17 15	2-2x6 2-2x8 16 14 12 20 18 16	2-2x6 2-2x8 17 15 13 21 19 17
10'	Southern Pine Beam 1-2x6 Ponderosa Pine Beam 1-2x6 Corner Footing 8 6 6 Intermediate Footing 11 9 8	1-2x6 1-2x6 7 6 5 10 8 7	1-2x6 1-2x8 8 7 6 11 9 8	2-2x6 2-2x8 9 7 6 12 10 9	2-2x6 2-2x8 9 8 7 13 11 9	2-2x6 2-2x8 10 8 7 14 11 10	2-2x6 2-2x8 11 9 8 15 12 10	2-2x6 2-2x8 12 10 9 16 14 12	2-2x6 2-2x8 13 11 9 17 15 13	2-2x6 2-2x8 14 12 10 18 16 14	2-2x6 2-2x8 15 13 11 19 17 15	2-2x6 2-2x8 16 14 12 20 18 16	2-2x6 2-2x8 17 15 13 21 19 17
11'	Southern Pine Beam 1-2x6 Ponderosa Pine Beam 1-2x6 Corner Footing 8 7 6 Intermediate Footing 12 9 8	1-2x6 1-2x6 7 6 5 10 8 7	1-2x6 1-2x8 8 7 6 11 9 8	2-2x6 2-2x8 9 7 6 12 10 9	2-2x6 2-2x8 9 8 7 13 11 9	2-2x6 2-2x8 10 8 7 14 11 10	2-2x6 2-2x8 11 9 8 15 12 10	2-2x6 2-2x8 12 10 9 16 14 12	2-2x6 2-2x8 13 11 9 17 15 13	2-2x6 2-2x8 14 12 10 18 16 14	2-2x6 2-2x8 15 13 11 19 17 15	2-2x6 2-2x8 16 14 12 20 18 16	2-2x6 2-2x8 17 15 13 21 19 17
12'	Southern Pine Beam 1-2x6 Ponderosa Pine Beam 1-2x6 Corner Footing 9 7 6 Intermediate Footing 13 10 9	1-2x6 1-2x6 7 6 5 10 8 7	1-2x6 1-2x8 8 7 6 11 9 8	2-2x6 2-2x8 9 7 6 12 10 9	2-2x6 2-2x8 9 8 7 13 11 9	2-2x6 2-2x8 10 8 7 14 11 10	2-2x6 2-2x8 11 9 8 15 12 10	2-2x6 2-2x8 12 10 9 16 14 12	2-2x6 2-2x8 13 11 9 17 15 13	2-2x6 2-2x8 14 12 10 18 16 14	2-2x6 2-2x8 15 13 11 19 17 15	2-2x6 2-2x8 16 14 12 20 18 16	2-2x6 2-2x8 17 15 13 21 19 17
13'	Southern Pine Beam 1-2x6 Ponderosa Pine Beam 1-2x6 Corner Footing 9 7 6 Intermediate Footing 13 10 9	1-2x6 1-2x6 7 6 5 10 8 7	1-2x6 1-2x8 8 7 6 11 9 8	2-2x6 2-2x8 9 7 6 12 10 9	2-2x6 2-2x8 9 8 7 13 11 9	2-2x6 2-2x8 10 8 7 14 11 10	2-2x6 2-2x8 11 9 8 15 12 10	2-2x6 2-2x8 12 10 9 16 14 12	2-2x6 2-2x8 13 11 9 17 15 13	2-2x6 2-2x8 14 12 10 18 16 14	2-2x6 2-2x8 15 13 11 19 17 15	2-2x6 2-2x8 16 14 12 20 18 16	2-2x6 2-2x8 17 15 13 21 19 17
14'	Southern Pine Beam 1-2x6 Ponderosa Pine Beam 1-2x6 Corner Footing 9 8 7 Intermediate Footing 13 11 9	1-2x6 1-2x6 7 6 5 10 8 7	1-2x6 1-2x8 8 7 6 11 9 8	2-2x6 2-2x8 9 7 6 12 10 9	2-2x6 2-2x8 9 8 7 13 11 9	2-2x6 2-2x8 10 8 7 14 11 10	2-2x6 2-2x8 11 9 8 15 12 10	2-2x6 2-2x8 12 10 9 16 14 12	2-2x6 2-2x8 13 11 9 17 15 13	2-2x6 2-2x8 14 12 10 18 16 14	2-2x6 2-2x8 15 13 11 19 17 15	2-2x6 2-2x8 16 14 12 20 18 16	2-2x6 2-2x8 17 15 13 21 19 17
15'	Southern Pine Beam 1-2x6 Ponderosa Pine Beam 1-2x6 Corner Footing 10 8 7 Intermediate Footing 14 11 10	1-2x6 1-2x6 7 6 5 10 8 7	1-2x6 1-2x8 8 7 6 11 9 8	2-2x6 2-2x8 9 7 6 12 10 9	2-2x6 2-2x8 9 8 7 13 11 9	2-2x6 2-2x8 10 8 7 14 11 10	2-2x6 2-2x8 11 9 8 15 12 10	2-2x6 2-2x8 12 10 9 16 14 12	2-2x6 2-2x8 13 11 9 17 15 13	2-2x6 2-2x8 14 12 10 18 16 14	2-2x6 2-2x8 15 13 11 19 17 15	2-2x6 2-2x8 16 14 12 20 18 16	2-2x6 2-2x8 17 15 13 21 19 17
16'	Southern Pine Beam 1-2x6 Ponderosa Pine Beam 1-2x6 Corner Footing 10 8 7 Intermediate Footing 14 11 10	1-2x6 1-2x6 7 6 5 10 8 7	1-2x6 1-2x8 8 7 6 11 9 8	2-2x6 2-2x8 9 7 6 12 10 9	2-2x6 2-2x8 9 8 7 13 11 9	2-2x6 2-2x8 10 8 7 14 11 10	2-2x6 2-2x8 11 9 8 15 12 10	2-2x6 2-2x8 12 10 9 16 14 12	2-2x6 2-2x8 13 11 9 17 15 13	2-2x6 2-2x8 14 12 10 18 16 14	2-2x6 2-2x8 15 13 11 19 17 15	2-2x6 2-2x8 16 14 12 20 18 16	2-2x6 2-2x8 17 15 13 21 19 17

Notes:

- Joist length is total length of joist, including any cantilevers.
- When joist extends (cantilevers) beyond support beam by 18" or more, add 1" to footing dimensions shown.
- Requirements for future 3-season porches or screen porches:
 - Increase corner footings size shown by 90%.
 - Increase center footings size shown by 55%.
 - Locate all footings at extremities of deck (no cantilevers).
 - Beam sizes indicated need not be altered.
- All footing sizes above are base diameter (in inches) and are listed for THREE SOIL TYPES:

CLAY	SAND	GRAVEL
10	8	7
14	11	10