



COMMUNITY DEVELOPMENT DIVISION

Building Inspections Department

GOVERNMENT CENTER • 200 FOURTH AVENUE WEST • SHAKOPEE, MN 55379-1220
(952) 496-8475 • Fax (952) 496-8496 • Web <http://www.co.scott.mn.us>

RESIDENTIAL DECKS

GENERAL INFORMATION

1. Signed, completed building permit application form from your Township/City Clerk.
2. A Compliance Inspection for the existing septic system, if required (contact the Community Development Department at (952) 496-8475 for more information).
3. Provide an updated plot plan of your property showing all property lines, existing buildings and dimensions, setbacks, wells, septic tank and drainfield locations, and proposed deck location with setbacks. New footings and foundations must be a minimum of 10' from septic tanks and a minimum of 20' from drainfields.
4. Submit two copies of plans showing proposed designs and materials. Plans shall be drawn to scale and shall include the following information:

A floor plan indicating the following:

- Proposed size of deck with dimensions to scale
- Size and spacing of floor joists and decking material
- Size and length of beams
- Size, location and spacing of posts
- Species and grade of lumber or composite material to be used

Elevations indicating the following:

- Height of structure from established grade
- Diameter and depth of footings
- Guardrail height (if any)
- Spacing of intermediate rails (if any)
- Type of footing
- Stairs (location and size) including minimum 36" tread of width, minimum 36"x36" landings

Attached are examples of drawings, which are intended as GUIDE ONLY!!

PERMIT APPROVAL:

A building permit for a deck will not be issued, and work should not begin until it has been approved by Planning, Building Inspections, Natural Resources, and Environmental Health Departments.

Failure to provide all of the information above will delay or prevent permit approval. After a preliminary review, ADDITIONAL INFORMATION MAY BE REQUIRED. After we have received all of the items listed above, **please allow 10-15 working days for your building permit application to be processed.**

GENERAL BUILDING CODE REQUIREMENTS:

1. Footings shall be designed and constructed below frost depth (42" minimum).
2. Approved wood of natural resistance to decay or treated wood shall be used.
3. A guardrail not less than 36" inches in height shall protect decks that are more than 30" above grade above finished decking. Open guardrails and stair railings shall have horizontal, vertical or diagonal rails such that a sphere 4" in diameter cannot pass through.
4. Stairway handrails shall be 34"-38" height above tread nosing.
5. Floor joist spaced at 24" on center requires 2" minimum decking and floor joist spaced at 16" on center requires 1-1/4" minimum decking. (Cannot install 1" decking diagonally across 16" oc joists.)
6. Decks shall be capable of supporting a 40-pound per square foot live load.
7. METAL FLASHING IS REQUIRED WHERE DECK RIM IS ATTACHED.
8. Splice all members of beams over posts.
9. Provide mechanical connection between posts and footings (foundation anchor strap or an approved post holder).
10. All fasteners (screw and nails) must be corrosion resistant. Only joist hanger nails may be used in joist hangers.
11. Cantilevers on decks may not exceed:

Joist Size	Joise Spacing	Maximum Cant
2 x 10	12" OC	24"
	16" OC	24"
	24" OC	18"
2 x 8	12" OC	24"
	16" OC	18"
	24" OC	12"
2 x 6	12" OC	12"
	16" OC	12"

12. Maximum cantilever of beam past a post cannot exceed depth of beam member.
13. The cantilevered portion of a house may not support a deck unless engineered designed submitted.

NOTE: The above information represents general code requirements relative to deck construction.

For specific code requirements, please contact the Building Inspections Department at (952) 496-8475.

REQUIRED INSPECTIONS:

- Footings:** After the holes are dug, but **PRIOR TO POURING CONCRETE!!**
Framing: After footings, posts, beams, and joists are installed.
Final: When the structure has been completed.

GENERAL NOTES

The stamped, approved plans and survey shall be kept on the job site until the final inspection has been made.

The Inspection Record Card shall be placed on the outside exterior wall near the deck and shall remain posted until the final inspection has been made. Cards should be protected from the weather.

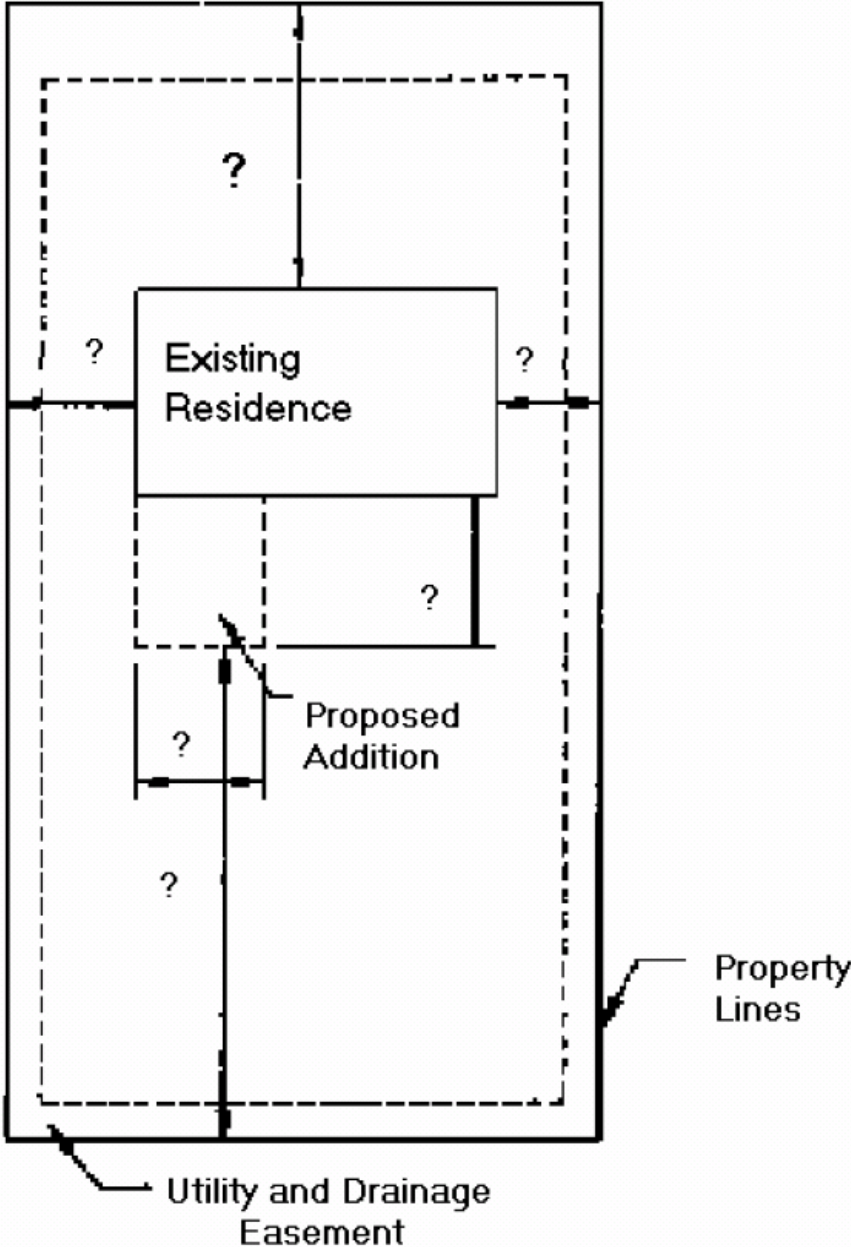
Call (952) 496-8475 between 8:00 a.m. and 4:30 p.m. to arrange for an inspection.

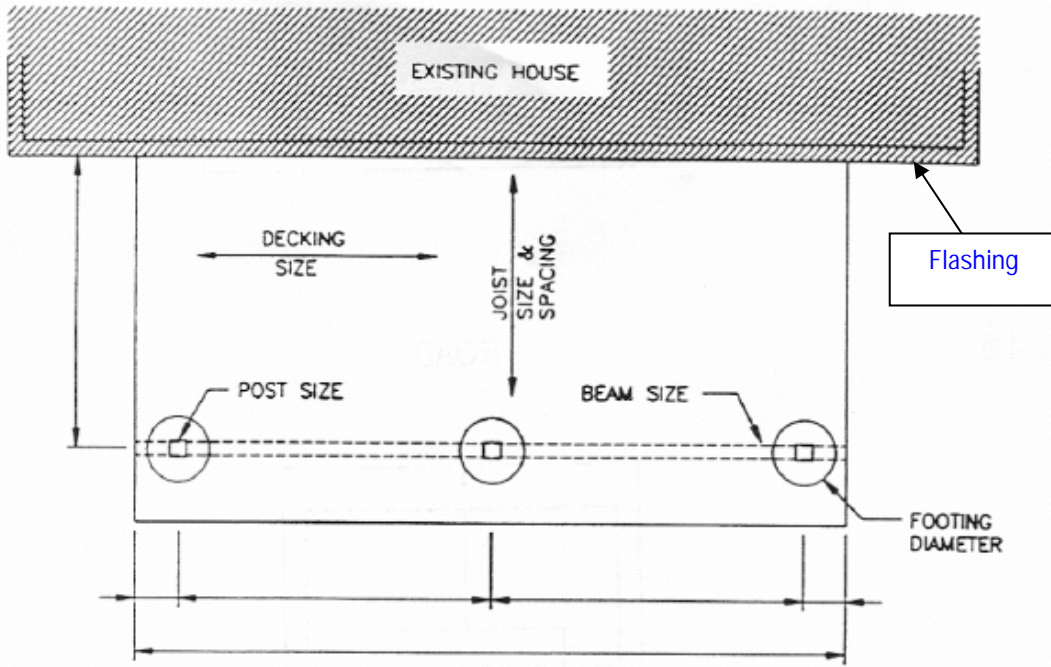
Prior to digging, call Gopher Services at (651) 454-0002 to verify utility locations. A 48-hour notice is required, excluding weekends and holidays.

~ PLEASE ALLOW 24 HOURS NOTICE FOR ALL INSPECTIONS ~

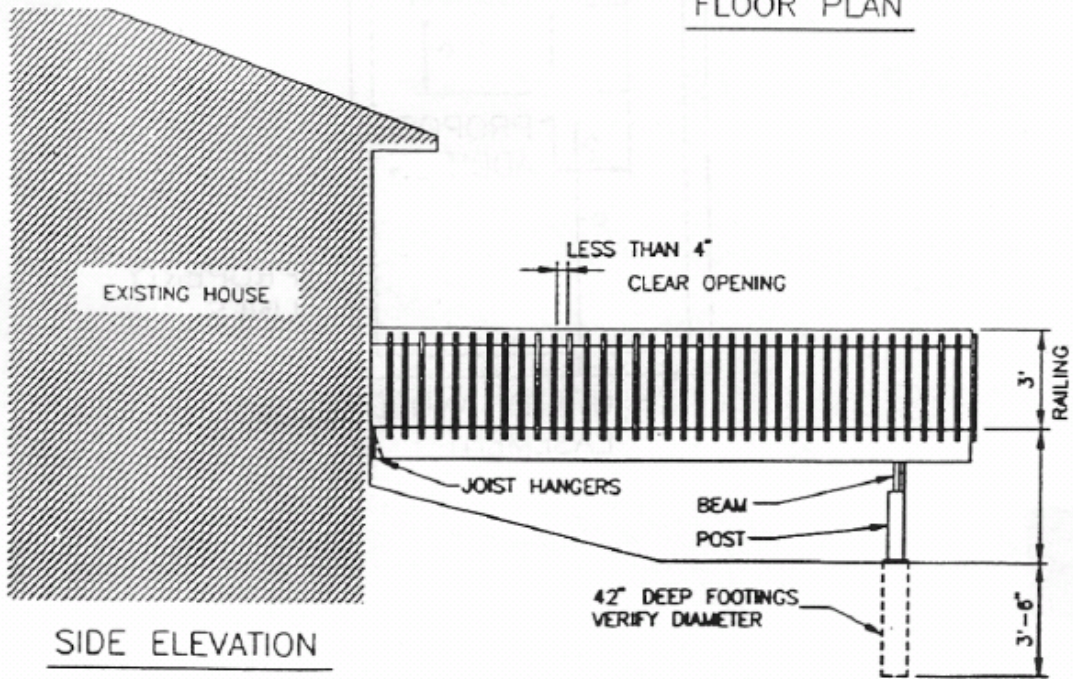
Survey Sample

ROAD





FLOOR PLAN



SIDE ELEVATION

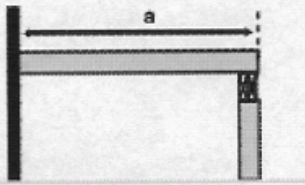
Joist Span

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

	Ponderosa Pine			Southern Pine			Western Cedar		
	12"OC	16"OC	24"OC	12"OC	16"OC	24"OC	12"OC	16"OC	24"OC
2x6	9-2	8-4	7-0	10-9	9-9	8-6	9-2	8-4	7-3
2x8	12-1	10-10	8-10	14-2	12-10	11-0	12-1	11-0	9-2
2x10	15-4	13-3	10-10	18-0	16-1	13-5	15-5	13-9	11-3
2x12	17-9	15-5	12-7	21-9	19-0	15-4	18-5	16-0	13-0

Sample Calculations for Using Joist Span, Beam Size and Footing Size Tables

CASE I SOLUTION:

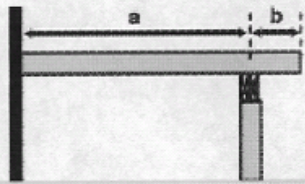


Refer to tables for joist, beam and footing size requirements.

Example: $a = 12'$; Post Spacing = 8'

Use the **Joist Span** table to find the acceptable joist sizes for a 12' span, 2x8s at 12" O.C., 2x10s at 16" O.C. or 2x12s at 24" O.C.

Use the **Beam and Footing Sizes** table and find the 8' post spacing column. With a 12' deck span, the beam may be either two 2x8s or two 2x10s, depending on wood used. Depending on the type of soil, the footing diameter at the base must be a minimum of 12", 10" or 9" for the corner post and 17", 14" or 12" for all intermediate posts.

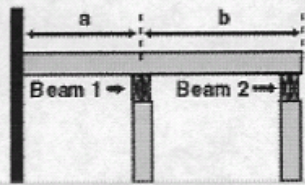


Use "a" to determine joist size and "a" + "b" to determine beam and footing sizes. The length of "b" is restricted by both the length of "a" and the size of the joists.

Example: $a = 8'$, $b = 2'$, Post Spacing = 10'

Refer to the **Joist Span** table. For an 8' joist span, either 2x8s at 24" O.C. or 2x6s at 16" O.C are acceptable.

For sizing the beam, use a joist length of 12' ($8' + 4'$) and a post spacing of 10'. The **Beam and Footing Sizes** table indicates that the beam may be either two 2x10s or two 2x12s, depending on wood used. Depending on the type of soil, the footing diameter at the base must be a minimum of 15", 12" or 11" for the corner post and 20", 17" or 15" for all intermediate posts. Note that because of the 2' cantilever all footing sizes were increased by 1" as required by footnote 2 at the end of the table.



Use "a" or "b", whichever is greater, to determine joist size. Use "a" + "b" to determine the size of Beam 1 and the post footing size for the posts supporting Beam 1. Use joist length "b" to determine both the size of Beam 2 and the post footing size for the posts supporting Beam 2.

Example: $a = 6'$, $b = 7'$, Post Spacing = 9'

Joist size is determined by using the longest span joist (7'). The **Joist Span** table indicates that 2x6s at 24" O.C. would be adequate for this span.

For Beam 1 and footings, use a joist length of 13' ($6' + 7'$) and a post spacing of 9'. The **Beam and Footing Sizes** table indicates that the beam may be two 2x10s or two 2x12s, depending on the wood used. Depending on the type of soil, the footing diameters for Beam 1 posts shall be 13", 11" or 9" for the corner (outside) post and 19", 15" or 13" for all intermediate posts. For Beam 2 and footings use a joist length of 7' and post spacing of 9'. The beam may be two 2x8s or two 2x10s, depending on wood used. Depending on the type of soil, the footing diameters for Beam 2 shall be 10", 8" or 7" for the corner posts, and 14", 11" or 10" for all intermediate posts.

Beam and Footing Sizes

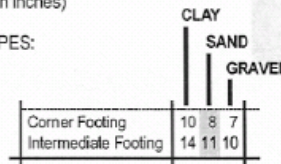
Based on No. 2 or better Ponderosa Pine and Southern Pine
(Treated for weather and/or ground exposure)

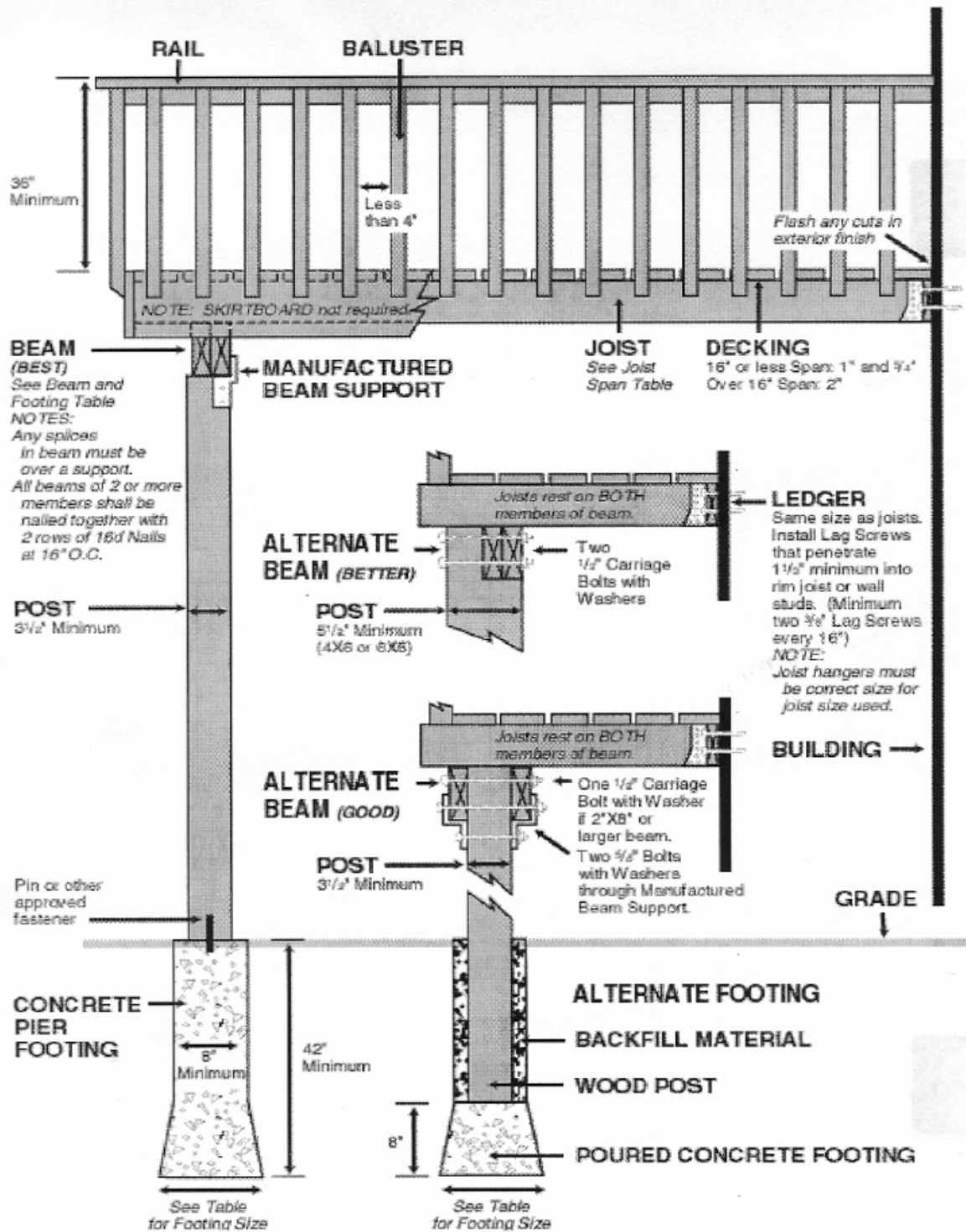
		Post Spacing										
		4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'
6'	Southern Pine Beam	1-2x6	1-2x6	1-2x6	2-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x10
	Ponderosa Pine Beam	1-2x6	1-2x6	1-2x8	2-2x8	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	2-2x10
	Corner Footing	6 5 4	7 6 5	7 6 5	8 7 6	9 7 6	9 7 6	10 8 7	10 8 7	10 9 7	11 9 8	11 9 8
7'	Southern Pine Beam	1-2x6	1-2x6	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x10	2-2x12
	Ponderosa Pine Beam	1-2x6	1-2x6	1-2x8	2-2x8	2-2x8	2-2x10	2-2x10	2-2x10	2-2x12	2-2x12	2-2x10
	Corner Footing	7 5 5	7 6 5	8 7 6	9 7 6	9 8 7	10 8 7	10 8 7	11 9 8	11 9 8	12 10 9	12 10 9
8'	Southern Pine Beam	1-2x6	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12
	Ponderosa Pine Beam	1-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x10	2-2x10	2-2x12	2-2x12	2-2x12
	Corner Footing	7 6 5	8 6 6	9 7 6	9 8 7	10 8 7	10 8 7	11 9 8	11 9 8	12 10 9	13 10 9	13 11 9
9'	Southern Pine Beam	1-2x6	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	3-2x10
	Ponderosa Pine Beam	1-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x10	2-2x10	2-2x12	2-2x12	3-2x10
	Corner Footing	7 6 5	8 7 6	9 7 6	10 8 7	10 9 7	11 9 8	12 10 8	12 10 8	13 10 9	13 10 9	14 11 10
10'	Southern Pine Beam	1-2x6	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x12	3-2x10	3-2x10
	Ponderosa Pine Beam	1-2x6	1-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	2-2x12	3-2x12	Eng Bm
	Corner Footing	8 6 6	9 7 6	10 8 7	10 8 7	11 9 8	12 10 8	12 10 8	13 11 9	14 11 10	14 12 10	15 12 10
11'	Southern Pine Beam	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12
	Ponderosa Pine Beam	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x12	2-2x12	3-2x10	3-2x12	Eng Bm
	Corner Footing	8 7 6	9 7 6	10 8 7	11 9 8	12 9 8	12 10 9	13 11 9	14 11 10	14 12 10	15 12 10	15 13 11
12'	Southern Pine Beam	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	3-2x10	3-2x10	3-2x12
	Ponderosa Pine Beam	2-2x6	2-2x6	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	2-2x12	3-2x12	Eng Bm	Eng Bm
	Corner Footing	9 7 6	10 8 7	10 9 7	11 9 8	12 10 9	13 10 9	14 11 10	14 12 10	15 12 10	15 13 11	16 13 11
13'	Southern Pine Beam	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	3-2x10	3-2x12	3-2x12
	Ponderosa Pine Beam	2-2x6	2-2x6	2-2x8	2-2x10	2-2x12	2-2x12	2-2x12	2-2x12	3-2x12	Eng Bm	Eng Bm
	Corner Footing	9 7 6	10 8 7	11 9 8	12 10 8	13 10 9	13 11 9	14 12 10	15 12 10	15 13 11	16 13 11	17 14 12
14'	Southern Pine Beam	1-2x6	2-2x6	2-2x6	2-2x8	2-2x10	2-2x10	2-2x12	3-2x10	3-2x12	3-2x12	Eng Bm
	Ponderosa Pine Beam	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x10	2-2x12	3-2x10	3-2x12	Eng Bm	Eng Bm
	Corner Footing	9 8 7	10 8 7	11 9 8	12 10 9	13 11 9	14 11 10	15 12 10	15 13 11	16 13 11	17 14 12	17 14 12
15'	Southern Pine Beam	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12	3-2x12	Eng Bm
	Ponderosa Pine Beam	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12	Eng Bm	Eng Bm
	Corner Footing	10 8 7	11 9 8	12 10 8	13 10 9	14 11 10	14 12 10	15 12 11	16 13 11	17 14 12	17 14 12	18 15 13
16'	Southern Pine Beam	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12	3-2x12	Eng Bm
	Ponderosa Pine Beam	2-2x6	2-2x8	2-2x10	2-2x10	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12	Eng Bm	Eng Bm
	Corner Footing	10 8 7	11 9 8	12 10 9	13 11 9	14 11 10	15 12 10	16 13 11	16 13 11	17 14 12	18 15 13	18 15 13

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 footing size shown by 90%.
 - Increase center footing size shown by 55%.
 - Locate all footings at extremities of deck (no cantilevers).
 - Beam sizes indicated need not be altered.

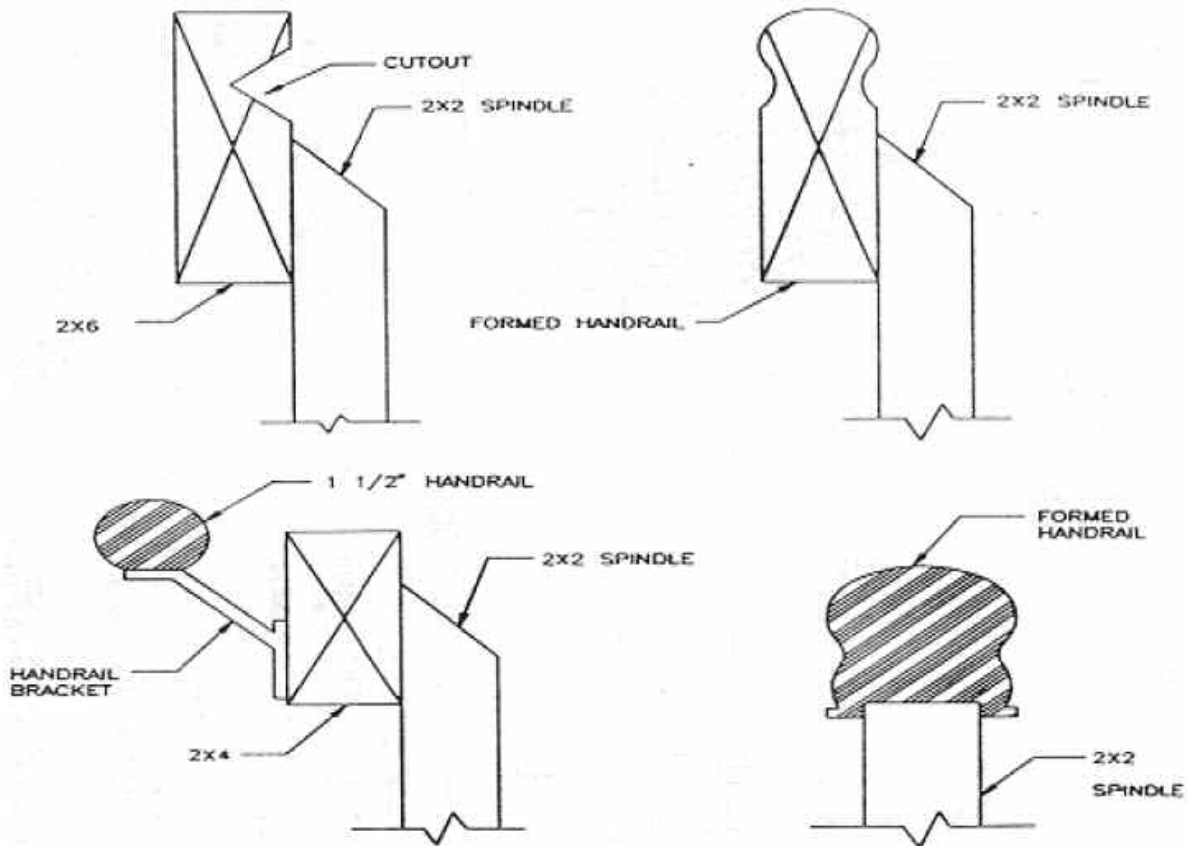
- All footing sizes above are base diameters (in inches) and are listed for THREE SOIL TYPES:





5700A pg 4 (8/95)

HANDRAIL DESIGNS



NOTES:

1. OTHER SHAPES MAY BE ACCEPTABLE IF THEY PROVIDE AN EQUIVALENT GRIPPING SURFACE.
2. FLAT 2x4 OR 2x6 HANDRAILS ARE NOT ACCEPTABLE.
3. APPROVED WOOD OF NATURAL RESISTANCE TO DECAY OR TREATED WOOD SHALL BE USED.