

Foundation Instructions

Spirit Elements recommends 3 different methods for constructing basic foundations for our products:

1. Patio Stones
2. 4x4 Pressure Treated Beams
3. Concrete Slab

With all our products, we recommend the following procedure:

Prepare site for construction

Before you receive your garden shed or gazebo, clear the construction area. Remove all debris; roots, grass, rocks, etc.

Make sure the ground slopes away from the site at least 10 feet in all directions. If necessary, build up the soil in the center of the site and slope away for the high point to provide drainage. Fill in any low spots within the perimeter of the site. A slope of 1/8 inch per foot is enough to prevent water accumulation.

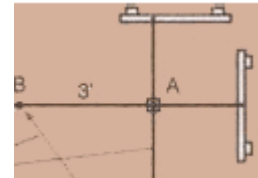
We recommend excavating the site 4 inches deep and laying gravel or crushed rock where drainage may be a concern.

Laying out the foundation

No matter which type of foundation you've chosen, start by outlining the "footprint" on the site. Start by choosing one corner of the garden shed or the center of gazebo and mark it (A) by driving a stake into the ground.

Garden Sheds

Stretch a line from stake A straight across C and fasten it to a temporary stake outside the intended garden shed area. Measure along this line from A and mark the garden shed dimension in that direction. Drive a stake there and set up batter boards. Use the 3-4-5 triangulation method to extend another line at right angles to the A-C line. Measure to the next corner and stake it. Continue until all corners of the garden shed are connected by right angle lines.



Measure along the line 3 feet from the first stake A, and mark the string at this point. From stake A, run a second line perpendicular to the first. Measure out 4 feet to locate point C. If this second line is exactly at a right angle to the first, the diagonal line between A & C will be 5 feet. If not, move point C left or right until the diagonal measures 5 feet and stake that point.

Gazebos

Stretch a radial line from center stake A. Calculate the radius by using 1/2 the diameter of gazebo. Using orange spray paint or something similar, mark out a circle.

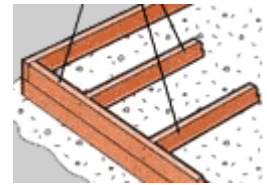
Determine the type of foundation

1. Patio Stone Foundation

If the ground is stable and has sufficient drainage, you can set patio stones directly on firm, compacted soil. If not, lay on gravel or crushed rock as previously described.

Garden Sheds: Starting with one floor section, position stones around its perimeter and specific joists. (For details, see

specific instruction manual) Use a 2x4 straight piece of lumber on edge and a carpenter's level to position correctly. Add or remove soil/sand under each stone until level. Complete remaining floor sections in the same manner. When all floor panels are level with each other, flip over, screw together and place back on level foundation.



Gazebo: Position patio stones on outline of gazebo previously described. For details of how and where stones go, see specific instruction manual. Use a 2x4 straight piece of lumber on edge and a carpenter's level to position correctly. Add or remove soil/sand under each stone until level. When stones are level, position completed sub-structure (Rim, Long & Short Joist and Core Block) on top. Once again, use a level to confirm positioning and make any necessary adjustments.

2. 4x4 Pressure Treated Beam Foundation

You can build directly on pressure-treated beams or railroad ties laid on a properly prepared construction site. Run beams perpendicular to floor joists. Use a 2x4 straight piece of lumber on edge and a carpenter's level to position correctly.

To prevent the beams from shifting, secure them with ½ inch rebar inserted through holes drilled in the beams and driven 3 to 4 feet into the ground. Leave each side or end of the foundation open to promote drainage and air circulation beneath the floor.

3. Concrete Slab Foundation

Typically a slab 3-4 inches thick laid over a subbase of 4 inches of gravel or crushed rock is sufficient but may vary depending on your geographic location.

Using either mix your own concrete or having it delivered by truck, ready to pour, depends on how much time and effort you have to dedicate to the project. A slab for our 8x10 foot Rancher or a 10 foot gazebo both to a depth of 4 inches will require approximately 1 cubic yard of premixed concrete.

Use the following procedure:

1. Excavate the slab area and footing trench.
2. Excavate the slab area to a depth 6 inches. This would put the finished slab surface 2 inches above ground (4 inches of gravel)
3. Set up your batter board strings to represent the outside face of the slab. At each corner, drop a plumb line from the intersecting strings to the bottom of the trench, then drive a 2x4 stake at this point. Using the plumb bob again, drive a nail into the top of the stake where the plumb bob touches it. Attach strings between the stakes. Using the strings as guides, drive the 2x4 form stakes around the trench perimeter, spaced on 2 foot centers.
4. Attach the form boards to the stakes with double-headed nails. Make sure the stakes are on the outside of the boards and flush with or below them.
5. Use 2x4 stakes to brace the corners of the forms.
6. Backfill the excavation with 4 inches of gravel, then lay down a plastic vapor barrier.
7. Spread or pour concrete with a rake or hoe, compacting it gently into the footing areas. Use a shovel to move concrete into footing trench. Make the pour to about 1 inch above the forms to allow for settling. Use a long 2x4 to level the concrete. Move the board in a side-to-side motion as you pull it towards you.
8. Use finishing tools, such as a bull float and trowel, to smooth the concrete surface. Allow the concrete to cure fully (seven to ten days).

