

# Curve Appeal

*Build the deck of your dreams by mimicking natural contours*

by Mike Berger

From the graceful lines of a towering tree to the gentle sweep of a meandering brook, nature eschews straight lines in favor of curves, bends and twists. Creating an outdoor living space that blends with these contours can be a challenge, especially when it comes to building a deck. But if you understand the basics of how to incorporate curves into your design, you can create a structure that harmonizes with natural elements and adds a sense of elegance that a typical angular deck can't match. And it can be far easier to construct than it might appear.

No matter the size or shape you have in mind, you can use the techniques we highlight here to create the deck of your dreams. From a foolproof foundation system to simple methods for creating sensuous lines, these tips will show you how to enhance your landscape by throwing your deck a curve.

## Design considerations

The most important elements to understand when designing a curved deck are the length of the curve and the placement of its radius. Too gentle of a curve would create little visual interest; one that's too tight

would be difficult to construct, as materials could easily splinter when you bend them to match the radius.

Measure the rough square area that your deck will occupy, transfer those measurements to graph paper and use a compass to draw the curve. Note where the joist tails will fall in relation to the curve. Are the joists adequately supported? If not, either change the curve's radius or add extra footings and beams to provide the necessary support. (I used six footings and three main-beam pairs to support the joists; if this had been a square deck, I would have needed only four footings and two main beams — see drawing, p. 40.)

## Building the foundation

The foundation is the single biggest factor that makes building a deck of this type so easy. Because all of the components sit atop the ones beneath (see drawing), they can be positioned independently for accuracy. To duplicate our system, start by marking the general location of the 4x4 posts and digging holes for the posts' footings. Dig the holes to meet local codes — mine were 10 in. dia. x 48 in. deep. After pouring the concrete (but before it hardens), insert J-bolts into the center of each footing; then fasten post brackets to the

*The elegance and grace a curved deck adds to your landscape belies how easy the structure is to build.*



PHOTOS BY SCOTT JACOBSON AND MIKE BERGER

## Curved Deck

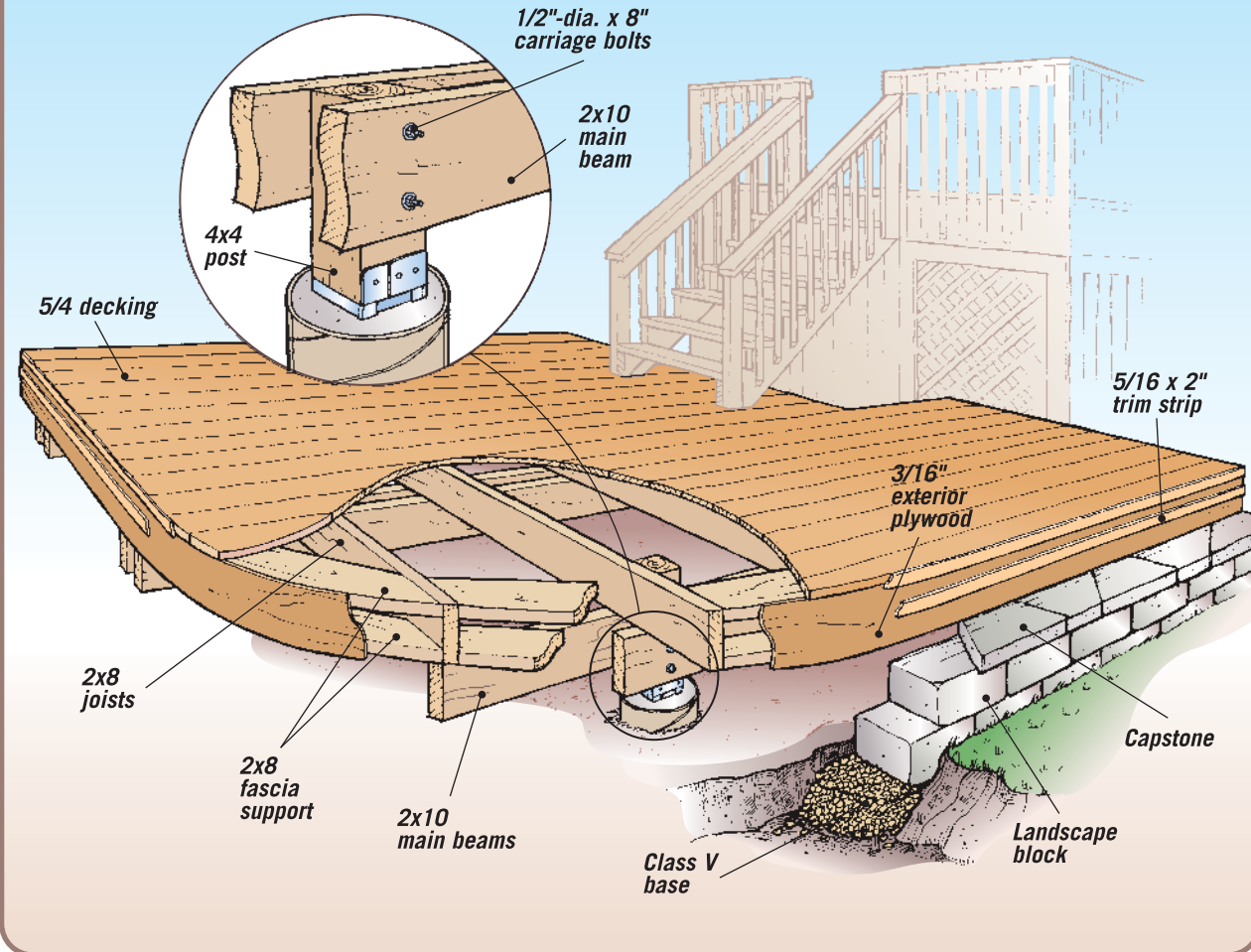


ILLUSTRATION BY STEPHEN HUTCHINGS

J-bolts after the concrete has set.

Cut the 4x4 posts longer than you'll need; then nail them to the post brackets. Start at the post that sits at the highest point of your work site and measure 9-1/2 in. up from the base of the concrete footing to establish the top of the position of the 2x10 main beams. From that mark, measure up an additional 7-1/2 in. to determine the top position of the 2x8 joists; then use a string level to transfer those two measurements to the remaining posts (photo 1, opposite).

Position the 2x10 main beams against the 4x4 posts, aligning the beams with their corresponding marks, and temporarily clamp them in place. Use a 1/2-in.-dia. spade bit to drill two holes through each set of beams and the post; then drive 1/2-in.-dia. x 8-in. carriage bolts through the holes and secure them with cut washers and nuts.

To complete the deck's foundation, position the 2x8 joists atop the main beams and use an appropriate wood

connector to fasten them to the beams (photo 2). I used H1 hurricane rafter ties from Simpson Strong-Tie, but you should check with local code authorities to determine what's appropriate for your location. Finally, use a reciprocating saw to cut away any sections of the 4x4 posts that protrude above the joists.

### Creating curves

To construct the curve, start by cutting either a length of string or a long scrap of lumber to use as a trammel stick that matches the length of the radius you determined on graph paper. (For our deck, I determined that a radius of 5 ft. would provide an attractive curve that would still allow the joists to rest on the beams.) Pin the trammel stick at the center of the radius and trace the curve onto the joist tails; then cut the tails as marked (photo 3).

Because the deck boards need support at the edge of the deck's curve, you'll need to construct a header system

around the curve's perimeter. To do this, cut header sections from scrap lengths of 2x8s to fit between the top edges of the joists, and fasten them in place using 4-in. deck screws (photo 4, p. 42). Reposition the trammel stick and trace the curve onto the header sections (photo 5); then use a jigsaw to cut along the traced line to create the finished curve (photo 6). Finally, use the installed header sections as templates to create a second row that you'll fasten flush with the bottom edge of the joists (see drawing, above).

### Fabricating fascia

With a little patience and ingenuity, constructing the fascia system for a curved deck can be fun. If your curve is very gentle, you may be able to wrap thin material (such as the 3/16-in.-thick exterior-grade plywood I used) around the perimeter. In my case, the curve was a bit too severe for the plywood to wrap without splintering. Rather than make

Transfer the measurements for the main support beams and joists to all of the 4x4 posts. Use a string level to make sure your marks are accurate.

Fasten the joists to the support beams. I positioned joists 24 in. OC and used a pneumatic palm nailer to fasten hangers. Always adhere to local codes.



the hundreds of kerf cuts that would be required to achieve the curve, I used a lawn sprinkler to soak the plywood for about an hour, making it more pliable for bending.

To fasten the fascia to the deck structure, start by applying a liberal amount of construction adhesive to the joist tails and the edges of the two headers. Because you don't want a fascia seam to fall in the middle of the curve, position the first fascia board so that it spans the bulk of the curve. Use 2-in. deck screws to securely fasten one end of the fascia board to the joist tails and header sections; then slowly bend the fascia around the curve, fastening it as you go (photo 7).

### Decking details

For the decking, I used 5/4x6 ACQ pressure-treated Southern pine that had been kiln dried after treatment (a process that's referred to as KDAT). I chose this material for several reasons. First, its appearance is typically better



Use a trammel stick pinned at the center of the radius to mark the curve on the joist tails; then cut away the excess length.



4

Fasten scrap lengths of 2x8 material between the joists to serve as headers.



5

Reattach the trammel stick and use it as a guide to draw a curve onto the header sections.



6

than that of other pressure-treated deck boards. Second, the kiln-drying process greatly reduces any chance of shrinking, cupping or warping once boards are installed. KDAT lumber also has superior strength and stiffness and is more uniform in size than other pressure-treated wood products. Finally, it has excellent rot resistance and can be immediately stained after installation.

Whether you choose KDAT lumber or opt for another decking material such as cedar or standard pressure-treated pine, the installation process is the same. Start at the outer edge of the deck, and place the first deck board flush with the plywood fascia. Let the board extend past the edge of the curve — you'll cut it to follow the profile once you've installed all of the deck boards — and secure it with 2-1/2-in. stainless steel screws. Use a 16d nail to set the proper gap, and install the remaining deck boards in similar fashion. If an individual board exhibits any warping, have a helper grab the board's end and pull it into position (photo 8, p. 44).

Once you've screwed all of the decking to the joists, cut away the bulk of the boards' overhang so that you can clearly see the fascia in relation to the board ends; then use a jigsaw to trim the boards to their finished length, fol-



7

Use a jigsaw to cut the header sections along the curve (left) and cut away any sections of beam that protrude past the joists. Soak the plywood for about an hour to increase its flexibility; then slowly form it around the curve (above).



8

lowing the fascia's surface (photo 9). Take your time, and don't apply too much pressure against the fascia as you cut or you're liable to deflect the jigsaw blade and end up with a wavy cut line.

To create a decorative trim that covers the exposed ends of the deck boards, I cut 5/16-in.-thick trim strips from 8-ft. lengths of 1x4 material. (If your deck's curve is gentle, you may be able to simply bend 1x4s around the perimeter.) Use 2-in. stainless steel screws placed

every 12 in. to carefully pull the trim strips against the deck boards.

### Step solutions

Because the foundation system for this type of deck does result in a bit of elevation — about 18 in. to allow for beams, joists and deck boards — some type of step is required around the deck's perimeter. Although you could build a wraparound step from lumber, I opted to construct one from retaining-wall blocks to match the existing landscaping.

Building a retaining-block step is very easy. (For complete instructions on how to set retaining wall blocks, see "Block Party," July/August 2002, p. 36.) Start by digging a level trench deep enough to encompass half the height of one of the blocks and 6 in. of Class V base material. Pour in and compact the base; then set the blocks in place on the compacted base. Use a maul to cut the capstones to fit the curve of the deck, and fasten them in place with construction adhesive specifically formulated for use with retaining-wall blocks.

Once the construction adhesive has set, all that's left is to stain the deck. I used ZAR Rain Stain to match an exist-

Use stainless steel screws to fasten the deck boards to the joists. If necessary, have a helper pull boards into alignment.



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Trim the deck boards with a jigsaw to follow the face of the plywood fascia.

ing structure; you could also apply a clear finish to preserve the lumber's warm tones. Whatever finish you choose, the result will be a deck that not only expands your living space but also enhances your entire landscape. ♦

## WEB EXTRAS



We installed flush-mount deck lights to enhance the deck's safety and appearance. To see how we did it, log on to [www.HandymanClub.com](http://www.HandymanClub.com) and click on Web Extras.

### SOURCES ONLINE

For online information, go to [www.HandymanClub.com/FromHandy](http://www.HandymanClub.com/FromHandy) and click on SOURCES ONLINE.

**Loctite** (Exterior Power Grab construction adhesive), 800-321-0253

**Rockler** (No. 36805 In-deck lighting discs), 800-279-4441

**Ryobi Power Tools** (P310 18-volt cordless caulk gun), 800-525-2579

**Simpson Strong-Tie** (H1 Seismic and hurricane tie), 800-999-5099

**Southern Forest Products Association** (KDAT pressure-treated lumber), (504) 443-4464

**UGL (ZAR Rain Stain)**, (570) 344-1202