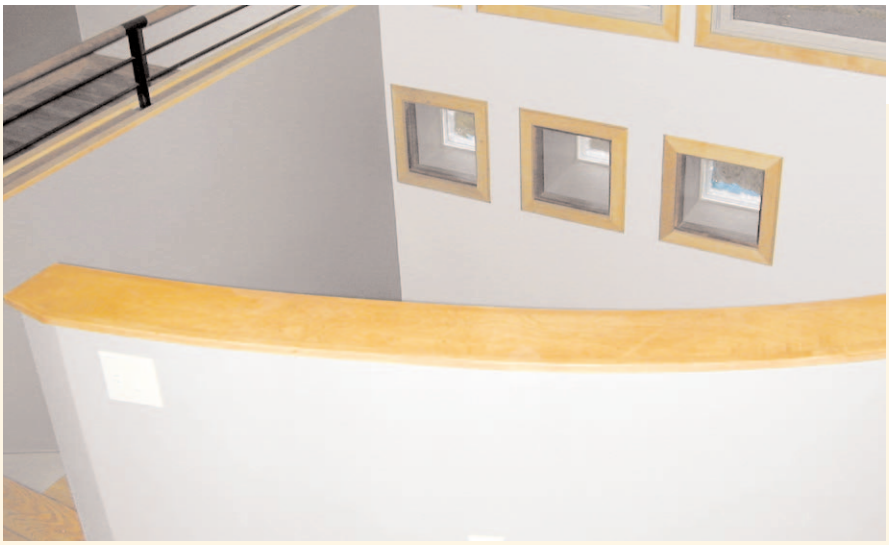
Two Simple Curved Walls



If the radius isn't too tight, building curved walls is straightforward

A recent whole-house remodeling project gave me and my crew the opportunity to use two different techniques for framing curved walls — one for an exterior wall and one for an interior wall.

Exterior Bulge

The plans called for a somewhat unconventional exterior curved bay. Instead of being a curved section of the exterior framing, the bay was really an applied decorative element, attached to the outside of the existing flat wall. The bulge was curved on the outside only; the interior side of the wall stayed straight. From the inside of the building, the only clues that the wall was unusual were the deep jambs on the three glass-block windows.

The curve was an arc with a 12-foot 8-inch radius that extended out from the plane of the wall about

by Chuck Green

10 inches at its deepest point. The architect thoughtfully designed the curved bay to be 96 inches long, measured along the arc, allowing it to be sheathed with full sheets of plywood running horizontally.

Although we could have framed the curved bulge by attaching vertical studs of varying depths to the existing sheathed 2x4 wall, I decided to install the new framing horizontally. We cut curved nailers out of 2x10s and mounted them horizontally on 16-inch centers. This provided great nailing for the sheathing.

We drew the curves with a string and a pencil, working right on the subfloor. A jigsaw blade we tried was too light-duty for the cuts, so we ended up making the curved rips on a band saw.

We first attached 2x4 cleats to the 2x10 nailers, then nailed the cleats through the sheathing to the studs. We had no problem bending the 1/2-inch CDX plywood.

To set off the curved bay from the main plane of the wall, we installed red cedar shingle siding with a shorter exposure than the cedar shingles on the rest of the house.

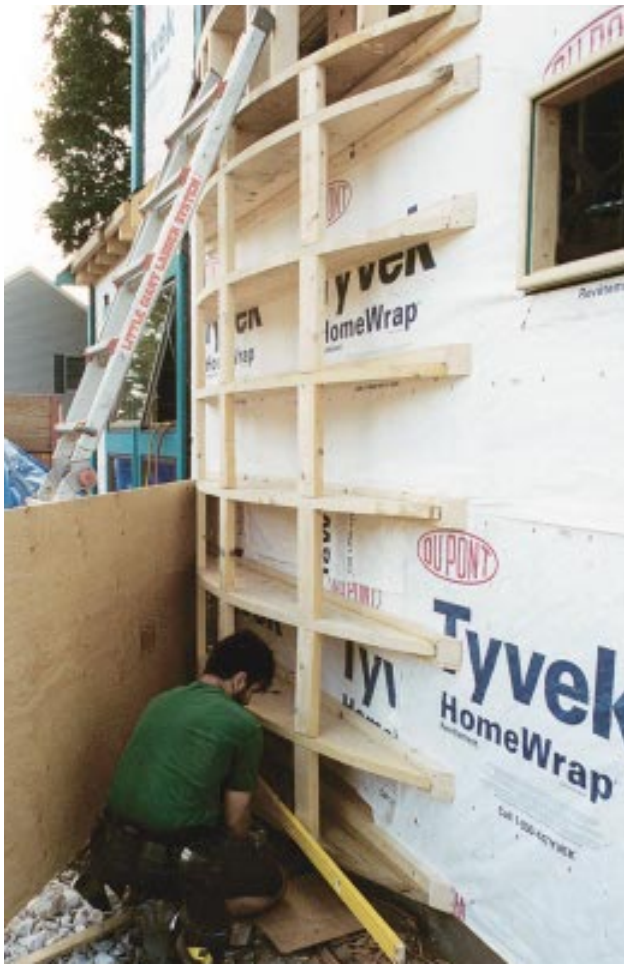
Sheet lead flashing over the window heads conformed easily to the curved jamb. (Although lead is easy to work with and makes a durable flashing, it is toxic. After handling lead, be sure to wash your hands before you reach for a donut.)

The architect proposed roofing the bay with a conical shingled roof or low-slope copper roofing, but the budget wouldn't allow it. The roofing we ended up with — a low-slope painted board — was not ideal.

Curved Interior Wall

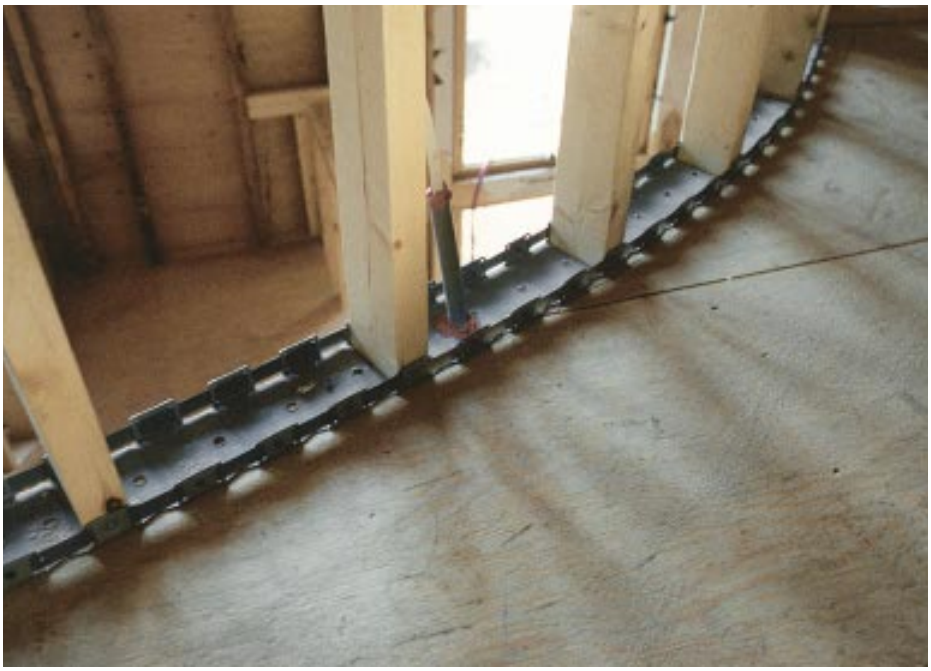
The interior plans included a 14-foot-long 36-inch-high curved half-wall at the edge of a mezzanine overlooking the stairs. This wall was framed more conventionally than the exterior bay.

We drew the 9-foot 3-inch radius using the string-and-nail technique. Because the center of the circle was in midair, we had to erect a staging plank at the center location, to give us a surface where we



Curved 2x10 nailers, cut on a band saw, define the exterior radius.

Because the curve is gentle, bending 1/2-inch plywood sheathing was easy.



Flex-C Trac metal plates save the time required to lay out and cut plywood plates. Studs attach easily with screws.

could drive a nail to catch the end of the string. The curved wall ran from the front wall of the house to the stairway, so we had defined beginning and end points for our curve.

For the curved wall plates, we used a product called Flex-C Trac (Flex-Ability Concepts; P.O. Box 7145, Edmond, OK 73083; 405/302-0611; www.flexc.com). This is a lightweight, flexible metal channel that comes in 10-foot lengths that join together easily for longer walls. We snapped two sections of Flex-C Trac together, curved the track to correspond to the radius we had drawn on the subfloor, then cut the track to length.

We secured the bottom track to the floor with drywall screws and fastened 2x4 studs 12 inches on-center to the bottom plate by screwing through the light-gauge metal track. We snapped on the top plate, which was cut to the same length, then checked every stud for plumb before screwing it in place. Later, we framed a partition that intersected the curved wall near the center, helping to brace it.

Using our standard technique for stiffening half walls, we glued as well as screwed the 1/2-inch gypsum blueboard to the studs. Since the wall had a gentle curve, it was easy to bend the 1/2-inch blueboard — no need to wet the back or downsize to 1/4-inch or 3/8-inch drywall. The blueboard later received a coat of veneer plaster.

We trimmed the top of the wall with 3/4-inch birch plywood, edged with maple. To lay out the curve on the birch plywood, we set the sheet on top of the wall and traced the curve on the underside. We cut the curve with a jigsaw, then sanded the edges, being careful to maintain a 90-degree edge. Finally, we glued and clamped on 3/4x3/4-inch maple edge strips, which were flexible enough to require only minor persuasion from our clamps.

The curved opening by the stairs, set off with the curved balcony wall, is now a main focus of the house.

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