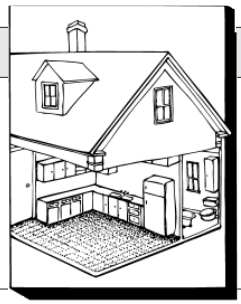
A Custom-Built Accessible Shower

by Don Jackson



If you do a lot of remodeling work, sooner or later you'll be asked to rework a shower to make it more accessible for someone who uses a wheelchair. If you shop around for one of the prefab accessible units, you'll notice two things: One is, they don't come cheap, especially the nicer acrylic ones. And second, these units take up space you may not have in the bathroom, not without knocking down walls and stealing from an adjoining room. The problem with a small bathroom is that a wheelchair needs a comfortable turning radius — usually 5 feet is specified — and the sidewalls of a shower unit get in the way unless it can be recessed.

Architect Larry Lundy of Madison, Wis., uses a different solution — a custom ceramic tile roll-in shower without walls. Lundy works for the Design Coalition, a nonprofit community design center specializing in accessible design. According to Lundy, space constraints are almost always a problem with accessible remodels. This means you usually have to move walls to make room for a prefab shower stall. Also, many of the so-called "accessible" shower units require a short, steep ramp to get into — a barrier for someone in a wheelchair.

So Lundy prefers to use a mortar-based tile shower pan set flush with the rest of the bathroom floor. A hospital-style shower curtain, the kind that hangs from tracks mounted on the ceiling, keeps the water in while still allowing an attendant, if there is one, to assist without getting drenched. A well-designed roll-in can actually turn an inaccessible bathroom into one that is much easier for someone in a wheelchair to use. Without a curb and with the shower curtain drawn back, the whole floor becomes available for maneuvering (see drawing at right).

Installation Tips

Lundy designs his roll-in showers with details developed with tile contractor Scott Duncan of Classic Enterprises in Saratoga, Calif. The construction details (see drawing, next page) are an adaptation of a standard curbed shower pan, which Duncan wrote about previously in the *Journal* (see "Leakproof Shower Pans," 10/92). Essential ingredients of the installation are the plastic shower pan membrane and a two-piece clamping-type drain. It is critical to slope the mortar bed under the membrane 1/4 inch per foot to ensure that any water that soaks through the tile runs out to the weep holes in the drain. Otherwise, bacteria will grow under the tile and create odors that will be impossible to get rid of.

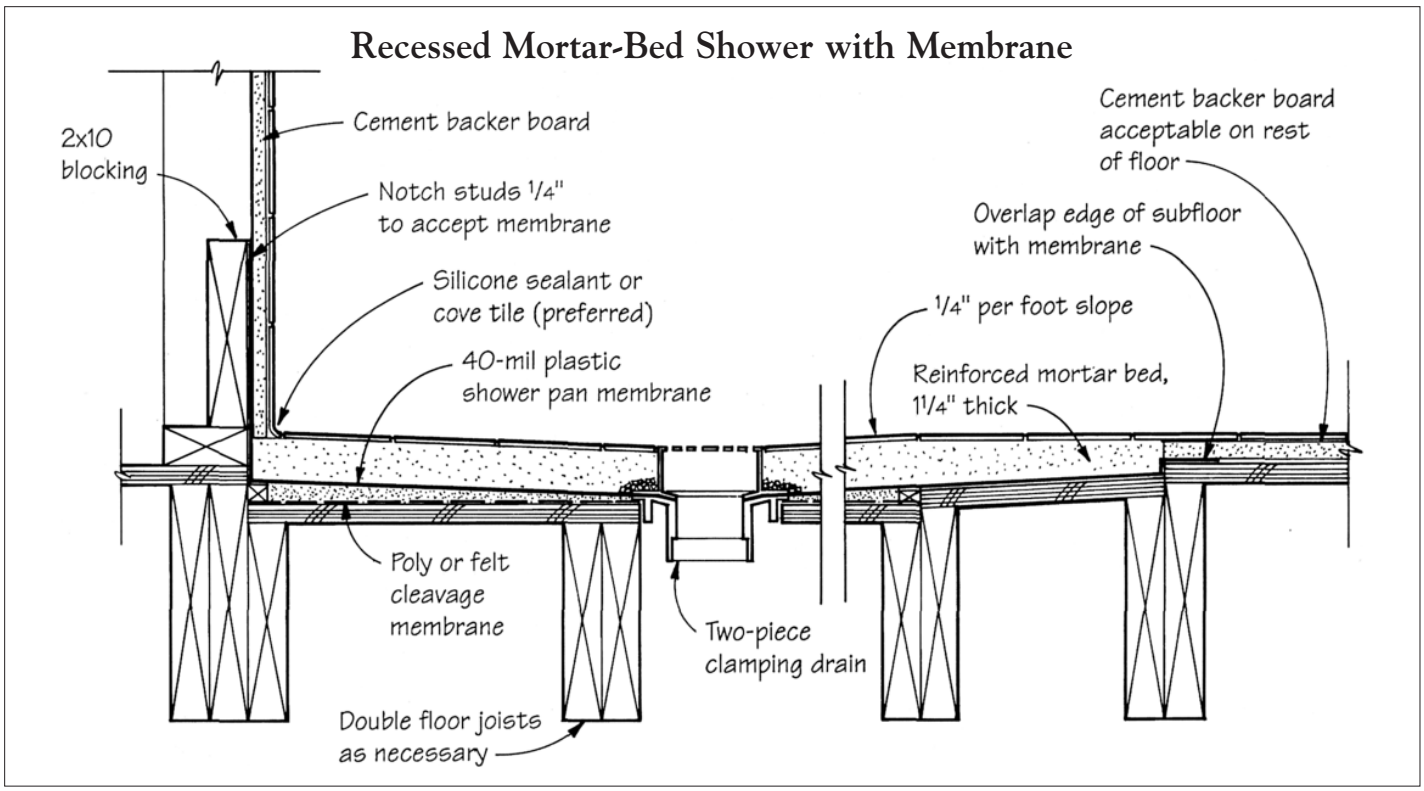
Lundy recommends installing a membrane under the entire bathroom floor if the budget will allow. If not, it should at least extend a couple of feet beyond the shower area to catch drips and splashes. The membrane should run up the wall at least 8 inches around the shower area; Use 2x10 blocking between the studs. You'll need to notch the bottom of the studs about 1/4 inch so that the membrane doesn't push the cement backerboard out at the bottom.

When modifying the floor framing, make sure the floor has no more than L/360 deflection, as for any tile floor. As you reduce the depth of the floor joists to make room for the recessed shower pan, you'll probably have to double several joists to stiffen the floor.

The mortar and tile work should be done by a tradesman skilled in the use of shower pan membranes. Specify cement backerboard substrate, not moisture-resistant drywall, for the shower walls. At the inside corner joint where the two tile walls meet, use silicone sealant instead of grout. The walls may deflect slightly over time, and the flexible sealant will absorb the movement without allowing water to penetrate behind the membrane.

Make sure when the mortar bed is floated that the slope toward the drain is limited to the immediate shower area. Otherwise, the wheelchair user may be

For a small bathroom, a custom tile roll-in shower area may be the best solution for accessible bathing. With the shower curtain pulled back, the entire floor area becomes available for maneuvering the wheelchair, while the walls of a prefab shower stall would get in the way.



The 40-mil plastic membrane, installed over a sloping mortar bed, ensures that any water that penetrates the tile will find its way to the two-piece drain assembly. Note the transition from the shower area to the main bathroom floor (at right in the drawing), where the subfloor steps up to finish floor level.

forced to use the brake to keep from rolling when using the other fixtures.

Curtain and Other Accessories

You're not going to find a hospital-style shower curtain at the local building supply. Try the Yellow Pages under "Hospital Equipment & Supplies." Kirsch (309 N. Prospect St., Sturgis, MI 49091; 800/528-1407) makes a track (part #9046) that you can site-bend to a 12-inch radius using a bending tool the company makes. A 16-inch drop chain with hooks allows the use of a standard-height shower curtain. Expect to pay $50 to $75 for the track and chain. The rig is easy to install — the track surface-mounts on the ceiling and finishes with end caps. Mount the track so that the curtain hangs about an inch inside where the floor begins to slope.

Hand-held shower head. These are available from many manufacturers. Where the budget can afford it, Lundy likes models by Kohler (Kohler, WI 53044; 414/457-4441). On occasion, he also uses a less expensive model from Alsons Corporation (525 E. Edna Place, Covina, CA 91723; 818/966-1668) that has a flow control right on the handle — a preference of some customers.

Grab bars. Horizontal grab bars in the shower area are usually necessary for wheelchair use. They help for maneuvering the wheelchair, and many people need them for support when they lean to reach the controls or soap dish. Grab bars are a good idea for anyone, standing or sitting, who uses the shower — even textured tiles get slippery.

Place grab bars 33 to 36 inches from the floor. Don't forget to add solid blocking during the early stages of the work. Grab bars should also be provided beside the toilet and in the area where the person makes the transfer into the bathing wheelchair.

Lundy advises using caution when buying grab bars. Many of the ones he's seen in local hospital supply stores stick out as much as 3 inches from the wall. These are very dangerous because a standing person can slip and get his arm wedged behind the bar. Look for bars that have only a 1 1/2-inch space to the wall. They should also be from 1 1/4 to 1 1/2 inches in diameter. A good source for grab bars is Tubular Specialties (13011 S. Spring St., Los Angeles, CA 90061; 800/421-2961).

Other items. A single-lever pressure-balancing control valve is a good idea in any shower, but it's a must in an accessible shower. A person in a wheelchair cannot quickly maneuver out from under a sudden stream of scalding water.

Don't forget to place a soap dish at a workable height — usually 30 to 36 inches from the floor. (The best way to get dimensions for most items in an accessible bath is to get out the measuring tape and have the client show you what's comfortable — it will vary from client to client.) As with any shower, install a good ventilation fan. And make sure that all electrical outlets are GFCI-protected.

Cost Considerations

Compared with the cost of simply installing a prefab accessible shower unit (no demo work), building the custom ceramic roll-in shower will cost more — perhaps twice as much. However, where space is at a premium, Lundy says the tile shower is definitely cost-competitive with moving walls to make room for a prefab. From a serviceability standpoint, the tile shower is easier to use because it requires no ramp; it's also more resistant to scrapes and bumps from the wheelchair. ■

Don Jackson is managing editor of the Journal of Light Construction.