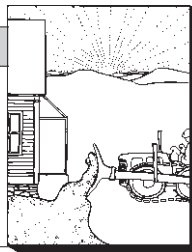


# Bridging the Design Gap

by Harris Hyman



The handrail is a laminated 2x8, lag-bolted to the baluster caps. The diagonal supports are 4x4s, nailed into place.



Harris Hyman

The bridge spans 58 feet across a village millpond in Somesville, Maine.

About ten years ago, the Mount Desert Historical Society, in Mount Desert Island, Maine, decided to construct an archive building in Somesville. The design they finally approved—the project of a local design class I was teaching with an associate—was a small building in the style of the local houses. It was to be built on the village millpond opposite another tiny building that held the first town office. The two buildings on the small pond formed a complex that was almost, but not quite, perfect.

When one of the Society members came by to see the construction drawings, he looked at the site plan, and said, "Wouldn't it be nice if there were a footbridge across the millpond to connect the buildings? It would really tie the complex together." He came back a couple of days later and told us that Dr. Virginia Somes Sanderson,

the last descendent of the founding family of Somesville, would give some money to build a footbridge. Could we design it?

Over the next three days I drew about ten bridge designs. Barb Sasaman—our drafter, office manager, technician, clerk-of-the-works, friend, and art critic—cut them up without mercy. "Looks like it belongs on the Interstate." "Dumb!" "Too frail." "Boring." "Why can't you do one like the beautiful Edo garden bridge on my living room wall?" Meanwhile the floor under my desk became cluttered with many "yellow roses" of balled-up tracing paper.

I went on site, took pictures, and surveyed the bottom of the pond. Eventually the design system asserted itself, as designs often do. With a crossing of 55 feet, I felt it had to be a single arched span of composite wood

construction. I laid out a nice little bridge with clapboard sides, like all the houses in Somesville. Sassaman said, "Too klunky." I felt depressed and frustrated and went home. On the drive home, another design asserted itself. I sat in the kitchen sketching. More "yellow roses."

The next design was an arched truss, with glulam structural rails and a structural handrail. It looked better. Then my associate Roc Caivano did some magic. The upright members of the truss I had designed were vertical. Roc laid a piece of trace over the elevation and changed the uprights to radials, perpendicular to the arch. I stared with my mouth open. He had it. The design was finished.

We presented it to the Historical Society and received the usual committee comments: "Ought to put a post in the middle." "Paint it gray." "Looks a little flimsy." "Paint it white." "Is it strong enough?" "Leave it natural wood."

I think that the idea of a single 55-foot span was a little unexpected, and I explained that it was designed to accommodate the entire third and fourth grade of the elementary school safety when they crowded on to watch the alewives run upstream in May.

We got the go-ahead. The construction drawings were completed, and we worked out the final details with Brian Hamor, one of the local contractors.

Like many builders in the area, Brian had done some boat building, so glue-laminated curved beams were no big deal. Ralph Stanley, one of the

truly outstanding Downeast wooden-boat builders, was a member of the Historical Society, and he suggested a cold-curing epoxy so that Brian could build the beams outside in the cool spring weather. As usual, he did a near-perfect job, and the bridge went together quite smoothly. Brian even suppressed his tendency to redesign things.

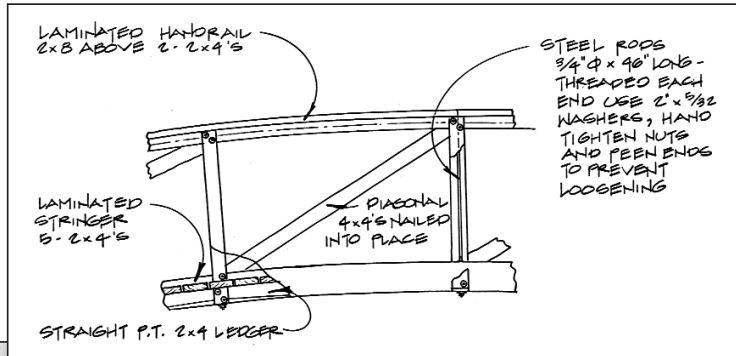
On a beautiful summer day, Brian stopped traffic and we craned the bridge into place. It fit perfectly into the abutment plates and he bolted it down. Dr. Sanderson watched from her wheelchair while I promenaded across with her personal aide and my two older sons to cut the ribbon.

But the best was yet to come. On my way home from work the following week, I saw a family of tourists photographing one another on the bridge. I stopped my truck and gazed in delighted wonder.

The bridge became something of a landmark. A lot more people stopped to photograph and paint it. A couple of years later the local bank featured it on their calendar. A company from California published it in a series of posters of New England scenes. A Boston furrier's ad had models on the bridge in fur coats. You can buy several postcard versions, and find it on Somesville souvenir tee shirts.

My daughter who lives in Cameroon, Africa, has a frame with a tourist photo of the bridge mounted along with an elevation of it from the construction drawings. Someday, a well-travelled visitor to her home will see it on the wall and ask, "Isn't that in Maine?" ■

Harris Hyman is a "rural" G.P. engineer in Lamoine, Maine, and a contributing editor for The Journal of Light Construction.



Using Downeast boat-building techniques, Brian Hamor built the bridge's beams with a cold-cure epoxy method. Steel rods within the baluster radials add support.



Though the idea of a single 58-foot span initially caused some safety concern, Hyman said the bridge is engineered to support the entire third and fourth grade classes from the local elementary school.