

This project got started when the new pastor of a local church saw a faux stone sign I'd made a few years ago. He wanted to "spruce up" the signs at his church, so he called to see if I'd be interested in doing something for him. My family and I had just moved into the area, so I was eager to do a nice sign in my new community.

The pastor, Doug Gebhard, told me how he wanted the sign to have a Celtic feel. He shared the history of the church and St. Andrew, and explained how important it was that the church have an appropriate sign. I took a look around the church, noted some of the key features, and made a few quick sketches. I also took a bunch of pictures of the stone, the building, and whatever else caught my eye. Rev. Gebhard gave me all of the pertinent information for the sign and a deposit, and left the rest up to me. Back at the shop I put together a sample and a sketch. He made a few adjustments, and we were ready to go.

Getting Started

The first step was to scan my drawing (using Graphix Advantage software) and bring it to scale. Then I created the layouts that would be used for routing on my Gerber Saber router. I put



Pictures of the church, like this archway, were used for reference in the design.

High-density urethane board makes it easy to simulate cut stone

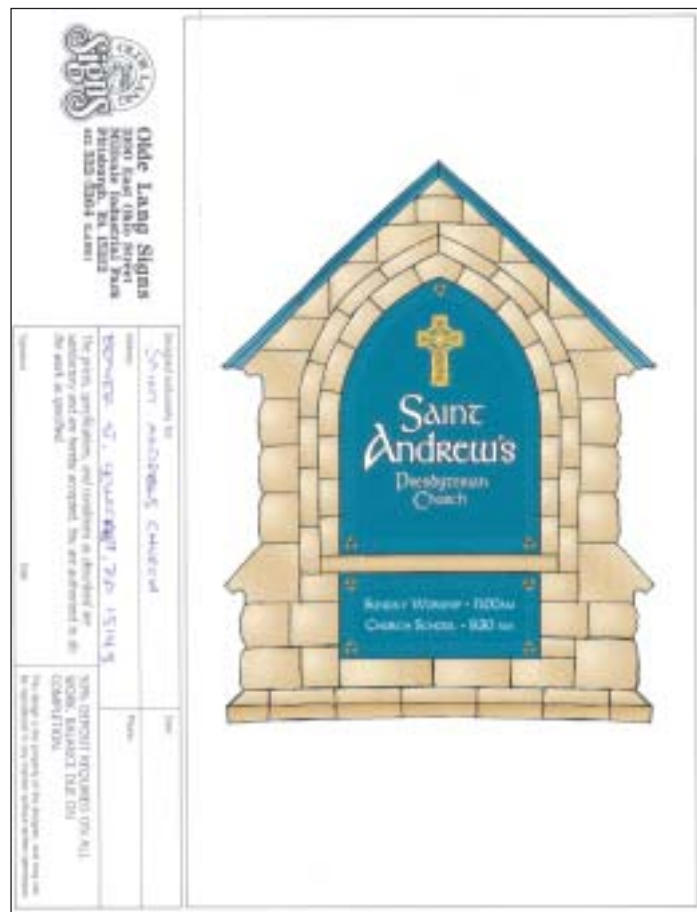
Step-by-step: A faux stone monument sign

by Jeffrey P. Lang

together a material list and ordered the urethane, paint, and gold leaf. Mr. Gebhard supplied the slate, which had come off the roof of his

home. It gave the sign a nice touch.

Now it was time for production to begin. I decided to rout the



The sales sketch

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Figure 1. Routing the top halves of the faux stone



Figure 2. The bottom half, routed and cut out



Figure 3. Drilling screw holes with a Kreg jig



Figure 4. The two sections were joined using urethane glue and galvanized sheetrock screws.



Figure 5. Applying the glue to the back-ground panel for the raised sections



Figure 6. The faces were glued and screwed to the side pieces.

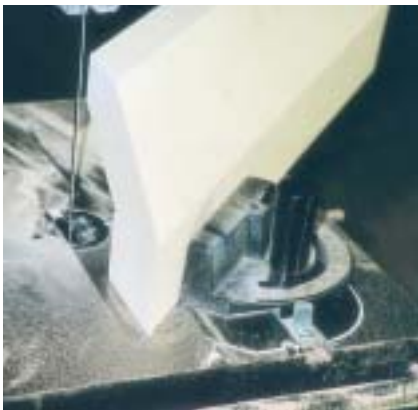


Figure 7. Mitering the corners of the base with the band saw and mitre gauge



Figure 8. Gluing the base together with a band clamp



Figure 9. Preparing to glue the base to the main body with urethane glue

faces in two sections because of their size. The sign measured 7-ft. tall, 57-in. wide, and 16-in. thick at the base. A 90-degree bit was used to cut a path on each side of the mortar line, and then the remaining peak was milled down with a flat bit. The faces fit together like a puzzle, and I made sure the seam was on the mortar line so it wouldn't show. The two halves were screwed and glued together with Gorilla Glue. I used a Kreg Jig [available from most woodworking retailers] to drill the pockets for the screws. The jig allows the screws to enter at a slight angle and not protrude either side of the material.

Raised sections of the face were then routed and fastened to the face with glue and screws. Cutoff "scraps" of HDU were glued and screwed along the inside of the openings for the sign faces in order to give the sign body some additional dimension. I used a trimmer router to make the inside edge even and smooth. After assembling both faces, I built the sides and fastened them with glue and screws, again using the Kreg Jig. I used galvanized sheetrock screws to avoid rust. The mortar joints in the sides were carved by hand to match the front.

The base pieces were made from 2-in. material and were cut at a 45-degree angle. I glued the cutoff piece to the other side of the piece I'd cut it from to make an "L"-shaped molding. Those pieces were then mitered on the band saw and glued together with a band clamp. Once the base dried, it was glued and screwed to the main body. The sign was starting to take shape.

The mess

The next step was grinding the HDU to simulate stone, using a 4-in. grinder. It turned out to be the messiest part of the job. Pictures of the church were kept nearby for



Figure 10. The assembled main body of the sign



Figure 12. Some of the mortar joints on the angled pieces had to be carved by hand.



Figure 14. Slight sandblasting on the HDU gives a texture similar to real stone.



Figure 11. Grinding the stone effect into the faces using a 4-in. grinder. (This goes fast, but it's messy!) Be careful not to hit the mortar.



Figure 13. Sandblasting the sign lightly for texture



Figure 15. The routed caps with the look of crown molding

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Figure 16. Routing the faces with the Celtic knot borders



Figure 17. The routed Celtic crosses



Figure 18. Before painting, the HDU was masked where glue would be applied



Figure 19. The painted faces



Figure 20. A bleed coat prevents bleeds of finish under mask



Figure 21. Painting the outline around the letters using a mask



Figure 22. Painting a bleed coat on the changeable panels



Figure 23. Detail of the sprayed tones



Figure 24. Note the torn edge on the spray shields

reference; I wanted to match the stone as closely as possible.

Some stones, the base and cornerstones for instance, were left smooth. After hand carving the mortar lines in the base, the sign was ready to be sandblasted. I blasted the sign very lightly, just enough to give it some texture but not enough to compromise its detail and shape.

The cap of the sign was made from 2-in. material and was cut out on the router. It needed to be thick so the slate could be mounted to it. I cut two pieces to give the look of crown molding, using a roundover bit and a ball end mill and making multiple passes. Then I sanded away the mill lines and we were ready for paint.

The faces

Each face features the Celtic knot, and I used a small roundover bit on the router to give it an embroidered look. The main faces were cut oversize so they could be attached to the inside of the sign. The smaller panels were cut a little smaller so that they would fit snugly inside the opening and could be changed twice a year when the times of services changed. Next I routed the Celtic crosses, both of which featured the same Celtic knotwork on their faces.

Before painting the sign panels, I masked off the edges with tape. When it came time to install them inside the sign, I wanted the glue to adhere directly to the HDU, rather than to paint.

I tinted the primer to aid in coverage for the topcoats. Once the topcoats dried thoroughly, I applied a mask to the larger panels before routing them. Then I fired up the router and carved both faces with a 120-degree V groove bit. The mask makes painting the letters after carving a lot easier.

Next I primed the letters. I like to use a prime coat that is close in



Figure 25. The finished "stone"



Figure 27. Screws, coated with Vaseline, were epoxied in place so they could be removed when the glue set.



Figure 29. Applying the glue to the body before inserting panels



Figure 26. Painting the mortar with a fitch



Figure 28. Pouring epoxy into the oversized hole where the screw will be inserted



Figure 30. The panels glued into place

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color to the background in case any paint seeps under the mask. After priming, I applied a few coats of white to the letters. The masks for the smaller panels were plotted, weeded and applied. A “bleed coat” of primer was also used on these before they were painted white.

Now it was time to paint the outline on the primary copy. I cut and applied an outline mask, using clear transfer tape to make registration easier. Finally, I sized and gilded the corner medallions and crosses.



Figure 31. Double-sided tape aided in alignment of the brackets.

The sign body

I primed the main body of the sign with two coats of Porter 515 acrylic bonding primer to seal the rough texture of the urethane. Then I applied two coats of Porter flat finish topcoat. The base color was a neutral sandstone color, and a flat finish was important to keep the realistic look of stone. I used an Iwata W71 gravity feed touch-up gun for spraying. This gun proved to be very useful because of its adjustable cup angle; the cup tilts so that paint doesn't spill out or stop feeding when tilting the

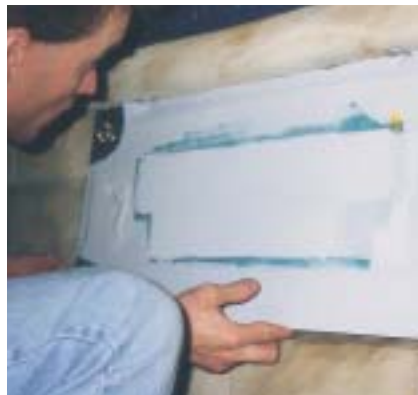


Figure 32. Setting the changeable panel into place on the brackets

gun at odd angles. After the base coat dried, I mixed a few different shades of the base coat in small cans. The colors were based on the reference photos I had taken of the church. It was interesting to see how many different colors there were in the arrangement of stones.

I applied these colors at random, being careful to avoid repetitive patterns and not covering each stone completely. I used a piece of card stock to shield the mortar joints from overspray. Some of the card edges were torn so they could be used as spray shields. The torn edge gave a realistic ragged-edge effect. When I finished spraying, I mixed up a sandy gray color for the mortar joints and brushed it on with a fitch.

Now that all the color was on the main body, I turned down the pressure on the spray gun and speckled on some dark brown, burnt orange and light ivory flecks. Close study of the stones revealed that there are a lot of speckles of many different colors throughout. After the speckles dried, which didn't take long,



Figure 33. The base was screwed and glued in place. Note the holes are where the posts slide up through.



Figure 34. My brother, Greg, installs the posts.



Figure 35. Screwing the slate onto the roof

I applied three coats of ultra deep base with no tint to the entire sign. An ultra deep base has very little pigment in it, if any. In the can it looks milky white but it dries clear. It essentially served as a water-based clear with the same properties as all of the other coats.

The changeable panels

The lower panels were designed to be changeable, but needed to fit precisely. HDU is extremely durable, but I wanted to find some way to tap it for the screws that would hold the panels in place. So I decided to drill oversized holes in precisely the right places, fill them with epoxy, and set galvanized screws in them that had been coated with a thin layer of Vaseline. The Vaseline would allow me to remove the screws after the epoxy set up and would leave a threaded cavity for future use. It was important for these holes to be accurate so that each sign could fit in either spot. The sign needed to be flipped upside down so the epoxy could set in the top holes, so I built legs from 1-in.-by-8-in. planks with a 2-in.-by-4-in. base. Once the glue dried completely, the screws came out easily.

The main panels needed to be installed into the sign first, so I glued and screwed the crosses to the sign faces. Next I removed the tape masking that was covering the edges of the panels, and I glued up the inside of the sign body. Rails were used to keep the sign from touching the glue until they were in the appropriate spot. Once lined up, the rails were removed, and I lowered the sign into position. Galvanized screws secured the panel in place.

The lower openings in the sign body were each covered with a panel that had two brackets mounted to the backs of them. I used flat stock aluminum to make the brackets and pre-drilled the holes. To position them prop-

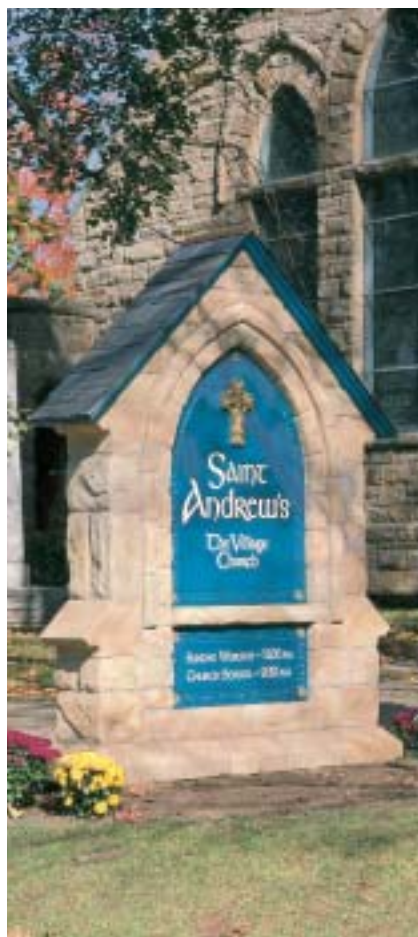


Figure 36. The finished sign.

erly, I screwed the brackets into place and applied double-sided adhesive tape to the front of each. Then I set the panels into position, made sure the adhesive gripped them, and removed the screws from the top and bottom of the brackets. I laid the panels face down and screwed the brackets to the panels from behind. I then re-installed the lower panels, stood the sign up, and applied the roof cap with glue and screws.

The posts

I didn't want the sign to rest on the ground, so I added a panel to the bottom of the sign where the cross member of the post system could rest. The post system, made

of pressure-treated 4-by-6-in. timbers, looked like an "H" and was screwed together with lag screws. The posts then fit up into the pockets in the sign cavity.

The slate roof

The used slate was a little too big for this project, so I had to cut them to fit. I scribed and cut them with a guillotine-type slate cutter. Slate is a great material to work with, and there's plenty of information out there for those interested in learning how to use it. I had a local sheet metal shop bend a copper cap that would slide onto the ridge where tabs would be screwed.

Delivery and installation

My brother, Greg, helped me with the installation procedure. With everything loaded in the truck, off to the site we went. We met with Pastor Gebhard, who showed us exactly where the new sign would be positioned. Greg bolted the post assembly together while I started digging post holes. We set the posts into place and checked for height, level, and plumb. All that was left to do was set the sign into position on the posts, and apply the slate on the roof. We slid the copper cap on, and the sign was complete.

The following week, the pastor invited my family to the dedication service for the sign. To add the Celtic feel, a bagpiper played at the beginning of the service, and a wonderful ceremony followed. The whole congregation seemed proud of their new sign. □



Jeffrey P. Lang's shop, Olde Lang Signs, is in Pittsburgh, PA.