BY KYLE DIAMOND

Premature Trim Failure


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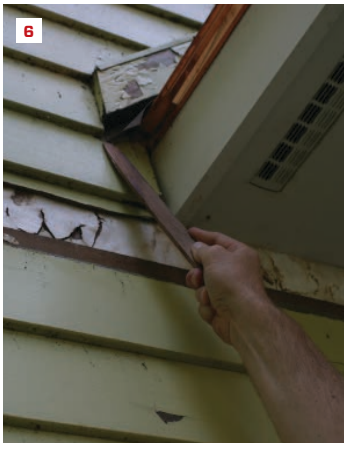
Last year my company, New Dimension Construction, began restoring the exterior envelope of a neo-colonial home, in Millbrook, N.Y. The scope of work included tearing off an existing wood-shingle roof, replacing windows, and upgrading the siding and trim with more-durable materials **(1)**. The house was only 28 years old, but poor trim detailing had caused the exterior cladding and windows to prematurely fail on many parts of the home. For this story, I'm going to focus on a few of the trouble spots I encountered on this project—and continue to encounter on similar projects built around the same time period.

TROUBLE SPOTS

To begin with, on the windows, the metal cap flashing at the head was not sloped properly and the wood cap trim was not kerf cut **(2)**. This caused water to pond, then run off the ends of metal flashing and behind the siding **(3)**. The siding was scribed around decorative head trim and no thought was given to directing water outwards from the WRB, so it ran down the factory-applied pine trim, collecting at the sills. Roughly half of the home's 30 windows exhibited the level of sill rot shown in photo **(4)**.

Also, the cedar water table trim was rotted throughout the house **(5)**. Traditionally, water table was topped off with a wood drip cap, which makes it prone

Photos: 1, 5, Kyle Diamond; 2, 3, 4, Tim Healey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to rotting if regular maintenance painting is not kept up. And if, as was the case here, it has no metal flashing installed over the wood drip cap, it's doomed to failure.

Another problem was at the entry portico, where kickout flashing had not been installed. Here, trim was placed over the step flashing, but no attempt was made to direct water running down the step flashing outward at the bottom **(6)**—water was allowed to flow behind the siding. This problematic detail occurred in couple of other locations higher up on the roof too.

Finally, at the rake returns, the aluminum cap flashing sloped the wrong way, which caused water to pond against the trim and siding **(7)**. The returns were probably built with too little slope to begin with, and over the years, settling caused them to reverse slope. Eventually, the silicone caulk sealing the aluminum cap flashing failed. When we started our repairs, we found the underlying rake-return boxes, adjacent trim, and framing had turned into compost **(8)**.

MIXING NEW PRODUCTS WITH TIME-TESTED METHODS

Working one facade at a time, we removed the existing siding and trim and replaced any rotted sheathing we came across. For the new weather-resistant barrier (WRB), we opted to use a drainable housewrap manufactured by Benjamin Obdyke called "HydroGap." It comes with raised dots placed in serpentine pattern that provide a capillary break between the WRB and new siding, while also offering some ventilation. For the new siding, we installed HardiPlank lap siding, which we had pre-primed and painted. All the replacement trim was cellular PVC manufactured by Koma and the metal flashing was 16-ounce copper—we like copper because it's long lasting and aesthetically pleasing and because you can solder the seam-work rather than relying on sealants to make watertight joints.

A better head detail. We joined the Koma head, jamb, and sill stock on the ground and fastened the resulting trim surrounds in place using the Cortex hidden fastening system. Out of Koma, we milled cap trim with a slope for drainage and a continuous kerf cut, and decorative molding. With our Tapco Pro-III metal brake and metal cut-off wheel, we fabricated the copper cap flashings on site.

After installing the PVC head cap trim, we slit the HydroGap

Photos: 6, Tim Healey; 7, 8, 9, 10, Kyle Diamond

WRB and slid the vertical leg of the cap flashing into the cut opening **(9)**. To direct water outward from the head flashing, we slipped square copper flashing under the cap flashing on both sides of the head trim; the bottom of square flashing was lapped onto the fiber-cement siding. The slit in the WRB was sealed with 3M all-weather flashing tape **(10)**.

Later on, the siding was butted to the head trim and then the decorative trim (with mitered returns glued up) was installed. This avoided the need to scribe the fiber-cement siding around a decorative molding, eliminating a potential water entry point, as was the case with previous head flashing.

Rot-proof water table. We replaced the existing rotted cedar water table, base, and corner board trim with Koma; the home's upper trim (fascia, frieze, rake, and soffit) was in good shape. For the water table, we purchased new Azek PVC drip cap; its trim profile was sloped for drainage and had a continuous kerf on the bottom edge. We fastened off the 12-inch-wide water table with Cortex screws and then installed the PVC drip cap with white aluminum L-flashing on top (lapped under the WRB) to prevent water from getting behind it.

In the rear of house, the existing water table trim transitioned into base trim, which butted stone pavers on a raised patio area. The existing rotted patio-to-wall base trim was too close to the ground and was not flashed properly. Here, we fit copper Z-flashing between the pavers and the rigid foundation insulation **(11)**; PVC base trim would be added later on. Stone entry steps at the rear patio and front portico were rebuilt and pitched away from the house **(12)**. The PVC corner boards were built to match the existing; the mitered drip cap was milled with a slope for drainage and a continuous kerf.

Portico roof. For aesthetic reasons, we doubled up on the new kickout flashing; the larger, upper kickout sheds most of the water, allowing the lower one to be more subdued **(13)**. We salvaged as much as we could of the portico roof. We rebuilt rake-return boxes to slope, trimming them out with Koma. The rake-return cap flashing was made with three pieces of copper, its seams soldered to act as one piece **(14)**.

Kyle Diamond co-owns New Dimension Construction, in Millbrook, N.Y., with his father, Dale Diamond.

Photos: Kyle Diamond