

State Preservation Board

Texas Capitol Roof Replacement and Rehabilitation Update 12/13/2023

The south wing and area around the dome is complete, scaffolding will begin coming down soon.



The new catwalk to the south pediment flagpole was flown into place by crane.



It will have steps, rather than a ramp like the previous catwalk, for OSHA-compliant access for personnel flying flags. It will also provide safe access to the roof surface.



Several tasks are underway in the dome.

The sheet metal dome is not completely waterproof. Quite a bit of water is blown inside by windy storms. This is where the Capitol's "double dome" construction comes in handy. Water that finds its way through the dome's sheet metal skin is caught by a series of interior roofs and gutters before it can get past the interior dome walls.

At the main roof level of the dome, a Cop-R-Loy roof remained in serviceable condition. The product history suggests it was placed sometime after 1928. It is described in project literature of the time as "refined ferrous metal made to a prescribed formula which includes special heat treatment and the alloying of pure ingot copper with the metal while it is in a molten state." To prevent having to replace this roof, and to address the unique configuration of a circular dome on a rectilinear roof, it is being tied into the new roof and sealed with modern materials.

Dome framing which penetrates this roof also creates difficult conditions to waterproof with traditional metal construction. They originally had "pitch pocket" waterproofing elements containing asbestos. These were abated and made safe, and the holes are being re-sealed with modern materials.

These materials are in protected locations and should have very long lives, protected from UV exposure, and are readily accessible for maintenance over time.



Work is progressing on the east wing.

New standing seam roof is being installed over an improved cricket that protects the east pediment.



The four corner “pavilions” continue to be a focus of work. Their 1888 framing is being reinforced to improve uplift resistance of this roof, which previously was simply bolted into single stones within a roughly formed limestone wall, with gutter framing cast in. The new framing system ties the roof together mechanically and spreads out uplift forces along the entire upper wall, with additional connection points lower on the wall, gutters, and fascia below, creating a cohesive structural system.



Original Framing

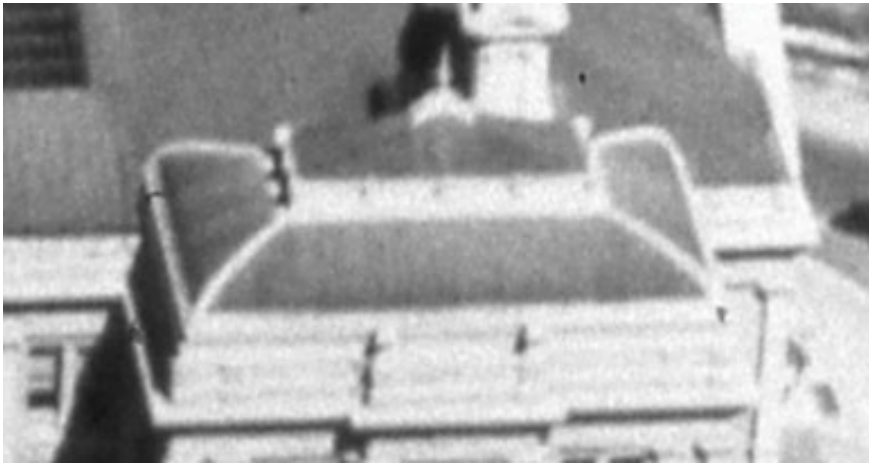
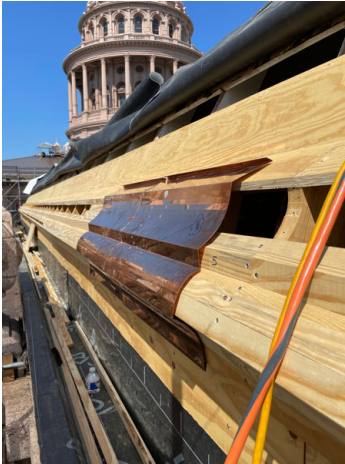


New Framing

The decorative band around the base of the roof, which was discussed in the previous update, is part of this system of strengthening the roof as well as restoring an original design detail.



This element will be clad in copper for compatibility with roof above and gutter below, and for longevity, but will be painted to match the original design



A difficult detail exists where the low-slope main roof meets the back of the steep-sloped mansard roof of the pavilions. It effectively creates a flat gutter on top of the roof, requiring water to flow around a corner before it can shed off the roof. This area has been leaking extensively in the past couple of years, including when snow accumulated in recent snow events, causing freeze damage and leaks.



The area has been treated with a membrane roofing since the early 1990's. It was too large to treat with even a flat seam metal roof area, within industry standards. Since this area is hidden from view from the ground below, we altered the roof form slightly by adding a peaked "cricket" to create a sloped roof system that can be sheathed in a 75-100 year copper roof sheathing.

