

St Paul Lutheran Church

Roof Project Information



Figure 1
St Paul Lutheran Church

We have been having problems with the roof of our Sanctuary for about 10 years. At first it was small drips in a few locations. Over time the drips got worse.



Figure 2

Trying to catch drips and keep carpet dry

There were times it was almost like it was raining inside the Sanctuary, even when the weather outside was clear and sunny. We have had the roof worked on several times to fix these leaks, however the leaks never stopped and in fact continued to become worse.

We determined that before any more work was done, we needed to understand what was happening and why. We formed a committee and researched the history of work on the roof since the church was built nearly 45 years ago.

A Little History:

The church was constructed with a large steeple centered directly over the alter to bring in ambient light. The remainder of the sanctuary roof has two different types of construction. The upper portion is a solid roof with tongue and groove wood deck planks. The lower portion of the roof is a vented cathedral ceiling, in other words, rafters that are insulated with fiberglass insulation, and then sheeted, with sheetrock covering the interior. When the church was first built, the roof had wooden shakes. A little over 20 years ago, the shakes had reached their lifespan and a contractor was hired to remove them and put on a new roof. The new roof was asphalt shingles.

We learned that a shake roof is considered a breathing roof and an asphalt roof is not. Because the ventilation required for a shake

roof is not the same as that required for an asphalt roof, the new roof began to develop condensation after the shingles were put on. It took years before the condensation became a noticeable issue in the church. Then the problems noted above began. At this time, we believe that the water issues are caused by a combination of leaking from the steeple tower due to issues with the flashing and 20 plus years of condensation due to inadequate ventilation.

Investigation



We are blessed to have a couple engineers and several people involved in construction as a part of our congregation. Last fall (September 2023), we opened up a portion of the roof on the east side of our sanctuary which has had the most significant leaking/dripping and showed the most disfigurement of the shingles and sheeting.

*Figure 3
Rafter support frame supporting the rafters during temporary repairs*

The roof was found to be spongy and soft when stepped on, so we constructed a large frame inside the sanctuary to support the roof before we started.

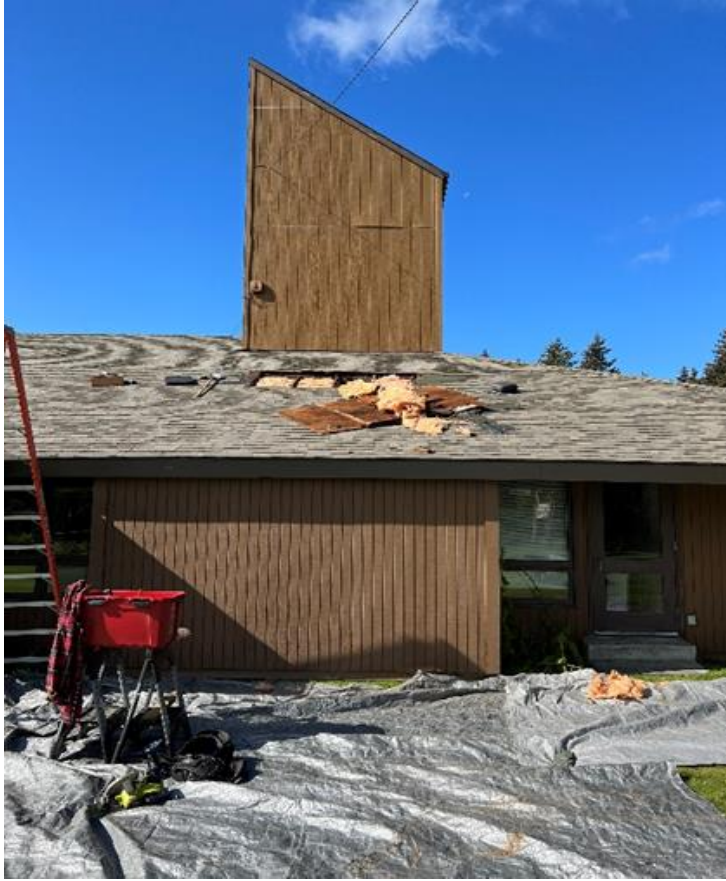


Figure 4
First piece of sheathing removed

portion of the solid roof was also viewed and though wet, it appeared to be structurally sound at that time. Because it was so late in the year, we knew that no permanent repair could be made so a temporary repair was done to carry us through the winter so that snow load would not cause the roof to collapse in that area.

The shingles were removed. The sheathing was completely soaked and softened from rot.

The piece of sheathing was removed and revealed that the rafters were also soaked from the top down. They were rotten to the point that they were starting to crumble. The insulation was completely soaked and there was water standing on the vapor barrier. Several more sheets of the plywood sheathing were removed and revealed the same conditions.

During this process, a



Figure 5
Temporary Repairs

Our Way Forward

We then started meeting with contractors and found a contractor willing to work with us on the roof and do the repairs in phases, as we needed to continue to raise funds to cover the costs. We have been raising funds for this project for over a year and our members and friends have given nearly \$75,000 for the roof in addition to their normal tithing.



Figure 6

Currently catching the drips and waiting for the contractor to start.

Phase 1 of the roof reconstruction plan will take place this summer. This phase will be to replace the East side of the sanctuary roof, which is the portion that we believe has the most significant rot. The estimate for this repair is \$124,455 (plus any overruns for any additional problems encountered). When we calculated that the repair to the West and North sides of the sanctuary (phases 2 & 3) could potentially each cost the same amount and that the repair of the steeple and the replacement of the remainder of

the church roof and fascia could also run over \$100,000, we realized that we needed to find ways to ask for help.

Since the appeal letter was sent, we realized that we can not longer use our sanctuary for worship and the leaking has caused the sheetrock to sag and is now in danger of falling.

In addition, the constant moisture in the ceiling/dripping has caused mold and mildew to develop and has become a significant health hazard to members of our congregation. We just made the decision to move our service into our social hall room for these reasons.

Our plan is to keep updating the roof information on our church website and to sent updates to congregations who have helped and/or are interested in our progress. We are overwhelmed by the love, support, and calls we have received to date.

If you have any questions, please feel free to contact me at 907-654-9905 or through email at: laurieorvedal@gmail.com

Blessings in Christ,

Laurie Orvedal

St Paul Lutheran Church Council President