Property Committee Annual report

Year 2025

There were four major projects this past year: replacing the roof of the entire church building, cutting down several unhealthy or dying trees in the church yard, planting new trees and installing solar panels on the church roof. All of them were expensive, and for the solar project to move forward, the other two projects had to be done first.

The **church roof** over the sanctuary was as old as the building itself, dating back to about 1981, and while it was in relatively good shape for its age of 40+ years, it was reasonably due for replacement. The roof over the original church and the connector may not have been quite that old, but with a shallower pitch and trees hanging over parts of it, it was at least as much in need of replacement as the sanctuary section. Putting solar panels over any section of the old roof would have been unfeasible. And we had an incentive to proceed with the solar project quickly, as there were large financial incentives for accomplishing the installation during the year of 2025. We had good reason to believe that the financial incentives would be gone by 2026. These projects were overseen by me (Roy) and Doug Wilson and Emerson Lavallee, working as a team. We interviewed the contractors that gave us proposals, chose the ones to hire, and dealt with them as the jobs got done.

The roof work was done first; we asked three contractors to give us bids, and of the three, we chose the one with the lowest bid: Pride Exteriors at $32,305. They had done the roof of the vicarage some years earlier, and the job had been done well, so we felt comfortable choosing them. The work was done in a day, Feb 24th.

At the same time we were getting roof quotes, we were getting **solar quotes**. We chose three installers that we knew to be reputable, all three came to inspect the roof, the electrical system and the environment around the church (particularly trees that could shade the roof) and all three gave us what we considered to be good quotes for a system that would give maximum financial return on the upfront cost, a system that would cover nearly all of our annual electricity consumption. One of the conditions for the maximal financial return packages was taking down the dying ash trees around the garage, plus the maple in the church yard, so we started getting tree cutting quotes about that time as well.

The planning for the solar installation wound up taking quite a long time, as we worked over alternatives to the original proposals. Carolyn, our senior warden raised the question as to whether we could put in a bigger installation that would cover the vicarage as well. The answer turned out to be yes, we could do that, but: the upfront cost would be much higher, the rate of return on the investment would be substantially lower, and, while the very-long term financial benefit of the bigger system would pay off over a couple of decades, it would take much longer for us to break even on the investment. And the logistics of covering the vicarage consumption were complicated by the fact that we now have tenants there who are covering the electricity bills. The simple system as originally proposed should pay for itself in about five to six years, while the larger one would take much longer. After spending a long time considering the merits of the two possibilities, we chose the smaller system for the sake of expediency. We needed the project to move into the engineering stages quickly, and any further delay might have pushed the installation back into 2026, which could have cost us the incentives: the state of RI would cover the first $7-8k, and the federal IRS would refund us 30% of the total cost after installation. The first round of quotes had come in at the beginning of February. It took until early April for us to choose the vendor: Sol Power LLC. On 4/18/25, Carolyn signed a contract for them to design and install an Enphase system: 24 panels, capable of generating 10.32 kW, and producing 11,500 kWh per year. For reference, the church used 9470 kWh in 2024, and 11,980 kWh in 2025. The system cost: $34.8K, with the state paying up-front $7.2K and the federal government giving us a rebate of $10.4k, making the ultimate cost to us: $17.1K. After the tree work, a revision was made in July, as explained below.

In late February, we were calling for quotes for **tree cutting**, and got three that we considered to be good. We chose the lowest of them: Warwick Tree Service, about $5.05k to take down all three ash trees, plus the maple in the church yard, which turned out to be diseased and likely to fall and damage the vicarage in the process. In negotiating that quote, we added in another tree: the diseased maple at the foot of the ramp, plus trimming back the oak that shades the ramp and parts of the old chapel where the meeting room is now. The grinding of 3 stumps was also included.

The tree cutting got delayed longer than we had hoped, but finally happened on April 21st. All trees were successfully taken down without incident. As pieces of the ash trees hit the ground, we observed that the outer branches shattered; they were long dead and had become quite brittle. It was time - . Doing this work in late April when the ground was soft required great care from the tree company, as they maneuvered multi-ton cranes around in the limited space of the yard, and I give them credit for doing the job as well as possible. As part of the project, days later, they sent a team with several yards of loam and grass seed and did a nice job of re-seeding the lawn where it had been damaged. It looked good for months afterward, until the summer drought mostly killed it off. By now, though, it looks about as it always has: the weeds that took over are green enough. Another crew came to do the stump grinding.

Knowing that the removal of these trees would eliminate nearly all the shade in the church yard, Doug solicited bids from local nurseries **to plant new trees** to eventually provide shade and make the yard more attractive. He asked for trees that would be hardy in that location, preferably native to RI, and ones which would not grow tall enough to shade the roof where the panels would go. Samuel Kinder & Brother, Inc. provided the best proposal, using larger trees grown in their Bristol Nursery, for $6,925. It included the removal of 2 old, declining crabapple trees southwest of the labyrinth and filling the holes left by their stumps and the planting of the following four trees:

-1 Japanese Snowbell, 15' tall, just south of the vicarage

-1"SkyLine" Honeylocust, 17' tall, just north of the garage

-1 "Oklahoma" Redbud, 10' tall, near the northeast corner of the sanctuary

-1 "Culley" River Birch, 15' tall, southwest of the labyrinth

As luck would have it, The Mary LeMoine Potter foundation sent out a request for funding proposals right as we were choosing the tree vendor. The foundation funds projects to beautify Kingston village and make civic life more comfortable. Drake rushed off a proposal in an afternoon, and they accepted it, awarding $3,700 towards the new trees.

Doug put out a request for donations to pay for the rest of the project. Generous parishioners immediately responded by contributing more than enough to fund the balance, thus avoiding further impact on the strained Capital Budget.

The trees were planted May 20, followed by the spreading of more loam and grass seed to repair damage to the yard.

Marianna Richardson valiantly took charge of the watering schedule through the summer drought and the rest of the growing season. All of the trees appear to be doing well.

With the trees removed, the Sol Power representative, Abel Collins, offered to check the solar exposure again. Their initial proposal had used an estimate of what the roof shading would be once the trees were gone, and he speculated that with a more reliable measurement after the trees were actually gone, they might be able to get approval for a slightly larger system, and a better financial deal for us. He repeated the measurements, and found that we could add another two panels. Moreover, slightly more efficient panels had just become available (440 instead of 430-watts per panel). It was about an extra $1000 for 2 more panels and substituting the 440s. We chose to do so, and on July 11th, **Carolyn signed a revised contract**, in which we contracted to purchase an 11.44 kW system with 26 panels, and an estimated annual production of 12,500 kWh. System total cost: $36.7K; upfront cost for us: $28.7K, and an anticipated federal rebate of $11K. The ultimate cost was projected to be $17.7K, and the system should pay for itself within 5-6 years.

The system was installed between Sept 25th and 29th. We got permission to turn it on, on October 6th, and it has been producing power ever since. The state provided its share of the cost, $8008, and with that money paid to Sol Power, our system was fully paid for. We have hired a tax preparer, Mark Feola (DLM tax services) to prepare the appropriate tax forms and submit them to the IRS. We hope that this final part of the solar saga will be completed in early 2026. There's more to be said about the solar panels; I'll add in the details at the end of this report.

There have been the **usual minor projects** in 2025:

The **vicarage tenants reported** that the bathroom vent fan wasn't working. The kitchen fan was similarly old and also in need of replacement. Dwight Escalera took the lead on this, and was able to find replacement motors from an obscure supplier on the internet. Those motors were probably the age of the building: 65+ years. We rebuilt and installed the fan assemblies and hope they last another few decades. That was done around March 20th. Then, in May, the shower diverter valve in the vicarage bathtub/shower fell apart, leaving the tenants with just the bathtub but no shower. Dwight and I put it back together again and it worked for a few weeks, but when it came apart the second time, I replaced the spigot with a new and fairly similar one from Home Depot.

This was a year for hornets, specifically yellowjackets. In late August, there were two colonies that became problematic, one in the compost bin by the side of the ramp, and the other inside the wall of the church, on the west side, near the organ. The activity from the compost bin was very obvious and threatening to anyone on the ramp or stairs. I dosed it heavily with wasp spray which killed most of them, but not all. Several days later I tossed in an "insect fogger" can, which emptied itself in the bin, and that killed the rest of them. The colony in the wall turned out to be very large, and difficult to kill off. The outdoor entrance was at the edge of one of the oak posts, where there was a gap in the siding next to the post. There was continuous yellowjacket traffic in and out of that little crevice. I dosed it repeatedly several times a week over a couple of months, and that made them pretty uncomfortable but that's about it. There were several crevices along the edge of that post on the inside of the building, and they were coming out between the wall and the post into Canterbury Hall. We started getting large numbers of them in Canterbury hall. I believe that over a couple of weekends the AA members dispatched many of them. By mid-September, there were many hundreds in that space, mostly dead or dying, and they gave off a smell like a dead animal. Mary and I vacuumed them up with a small shop-vac, from the carpets, window sills and windows themselves. The vacuum was very effective at removing the ones on the windows, so we left it there for future use until the colony had been killed off. To attack the colony inside the wall, I pushed a piece of tubing through the gap on the side of the post where they were coming in and out, and used a syringe to inject about a cup of isopropanol with permethrin in it, into the space between the inside and outside walls. There was also a gap between the edge of the post and the flooring in the sanctuary (next to the organ) and some of the hornets were emerging from there as well. One of them stung Diana; this grieved me, and I hope she was the only person who got stung. The battle with the hornets continued through much of October, and I repeatedly injected volumes of isopropanol with permethrin into the space in the wall, both from below in Canterbury Hall, and from above, in the sanctuary. By November, they seemed to all be gone. Whether the colony would have reappeared again in the spring if I hadn't attacked it, I don't know. We wouldn't want to wait to find out.

As a final problem for the year, the tenants in the vicarage were having water show up on the floor of the downstairs bathroom and in front of the dishwasher. I cleaned the dishwasher filter, and knowing that the toilet tank refill valve in that bathroom had been problematic since Beth's last year of residency there, I replaced the valve. The underlying issue came to light on Christmas day, though, when the tenants called the real estate agent, Shaun, to report that when they took a shower or flushed a toilet, water was showing up again on the floors downstairs. Shaun called me, I called Alex, (tenant) to confirm the situation, and realized there was an urgent problem. I called my contact, Paul Anderson Drain Cleaning, and was relieved to have the call answered on Christmas day. They offered to send someone immediately for $925, or, for $325, tomorrow. !! With those numbers, I paused for a long moment… and then told him to send someone now. The tenants had a houseful of Christmas guests; I called Doug to ask if he could unlock the church so the tenants and guests could use the bathroom there (I was in Connecticut); Doug was in the middle of cooking their Christmas dinner… but Doug agreed to make the trip and unlock a side door. And in a couple of hours, the worker for Paul Anderson had pushed through the clogging material –whatever it was- from the sewer line and opened the drains. So much for that! And our budget took a $925 hit in an already expensive year…

There is more to know about our solar installation:

First, about the vocabulary: we measure energy in kilowatt-hours (kWh). The ***rate*** at which we use or produce energy is expressed in kilowatts kW. If the mini-splits draw 3 kilowatts and run for 2 hours, they will consume 6 kilowatt-hours of electrical energy.

1. If the power grid goes down, the panels will not provide any electricity. Our system is designed such that the power from the panels goes first to cover our own consumption, and any excess goes out to the grid. The meter measures the outgoing power and Rhode Island Energy (RIE) effectively buys it from us, in the form of a credit on our bill. Without the grid present to absorb any excess production, the control system shuts down production from the panels. If we ever choose to add storage batteries to the system, then the panels would continue to provide power.
2. Our system is designed to cover our annual consumption, but we probably will still get electricity bills that we will have to pay. Most likely in January; the panels will cover some of our consumption in mid-Winter, but not all of it. In 2025 the church consumed 11,980 kWh, and the panels are estimated to produce about 12,500 per year. That ought to be enough, but…most of that production will occur from April through September, which is not when the mini-splits are using up a lot of power to heat the building. So, April through September, we'll be producing a lot of extra power, and selling it back to RIE at about 19 cents per kilowatt-hour (kWh). Then, December through sometime in February, we'll be consuming more than we produce, and using our accumulated credit (in dollars) to buy kilowatt-hours at about 30 cents each. If we have a mild winter with a lot of sun, we might have earned enough credits the previous summer to cover the winter shortfall, but most winters, we will probably have to pay something. *Those kWh prices are from the past year; future prices will be different*. One of the reasons that solar panels are a good investment is that kWh prices have been rising, and are expected to continue rising in the future. Putting panels on your roof is akin to paying for 5-6-7 years' worth of electricity upfront, and then getting free (or nearly free) power from then on. The panels are expected to provide power for more than 25 years.

3. There is another wrinkle in our solar saga. When the Sol Power engineers were registering the project with RIE, they found that there was a problem. Several other buildings near us already have solar panels, and feed excess power into the same transformer that we use. The rating of the RIE transformer on the pole outside our church only allows for another 5 kilowatts to be fed back through it. So, for the sake of permitting, we had to put a 5 kW cap on the export of power from our system. It's a design feature that goes into the software of the system controller. The system will produce as much power from the panels as the available sunlight allows, but only to the point where it is sending out 5 kilowatts to the grid. Our system has a nominal rating of 11.4 kW, but the design is such that the most it can realistically produce is about 8-9 kW on a sunny day in May. If we were using 4 kW ourselves mid-day on the sunny day in May, then there would only be about 4 or 5 kW left to export, and the panels would put out full power. More likely, though, we'll only be using 1 or 2 kW on sunny afternoons at that time of year, so our production would get clipped, (through the system's internal programming) so that we only export 5 kW to the grid. This will reduce the amount of credit that we can accumulate during the sunny, warm seasons, so the export limit does represent a financial loss to us. It's not possible to estimate exactly how much though; it depends on how many sunny days we get, and how we time our consumption on those days. My guess is that we might "lose" about 10 kWh of <u>potential</u> production for each bright sunny cloudless day, May through September. This situation gives us an incentive to use extra power around mid-day on sunny days.

4. If we ever chose to add storage batteries to our electrical system, then this loss could be reduced, and, the church would have electricity during power outages. For the time being though, batteries would not be remotely financially advantageous to us, and probably won't be at any foreseeable time in the future. One issue that I've had in mind, though, is that in the event of a prolonged power failure, the church has no backup heat source. From December through about early March, this could be problematic. The boiler requires a lot less power than the mini-splits, but without electricity it doesn't work either.