

Southgate Steeplejacks

Steeple Building • Steeple Restoration

279 Websterville Road • Barre, Vermont 05641 • (802) 839-6099
www.southgatesteeplejacks.com

STEEPLE INSPECTION UNITARIAN CHURCH BURLINGTON VT. May 2014

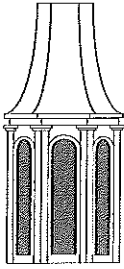
Thankyou for asking me to inspect your steeple. I am honored.

I will break this report into 7 parts.

- 1) Interior Safety
- 2) Structure
- 3) Copper
- 4) Woodwork
- 5) Balustrade
- 6) Bell
- 7) Windows
- 8) Lightning Protection
- 9) Weathervane

For the record, my history with your steeple is as follows. Nick Meyer hired us in 2006 to paint the steeple and repair one spot of rotted trim he found in the belfry trim. I asked him if he wanted me to look for other problems and he was clear that he did not. Anyway, turns out that there was a serious roof leak at the spire base and this caused major rot in 2 timbers and also rotted out a pretty good swath of exterior trim. Lazarus Scangas architect and Engineering Ventures were called in to consult. We all met onsite and I dragged up a garden hose to spray the places where I knew the leaks were happening to prove my point. Scangas came up with idea of using EPDM cover tape to fix the copper, and it was a fine idea that I have copied many times since. Engineering Ventures designed the structural fix. They called for some steel plates in the fix but Nick felt that was overkill and had me stop where it now stands. I think he was probably right and was really trying to save the church money.

For clarity may we agree on some terminology for the parts that make up your steeple? The brick section is the tower, the open section is the belfry, the bell rests on the roof structure that is called the belldeck. The belldeck supports a railing that is the Balustrade. Atop the belfry is the windowed lantern topped by the spire and weathervane. The skirt roof that surrounds the lantern is the lanterndeck



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BALUSTRADE

The balustrade seems surprisingly free of rot. I am surprised, frankly. Is it from 1957 or original? Anyway, you could keep it all painted up as part of the regular paint maintenance. Or, you could remove it to a shop and have it totally dis-assembled and stripped and primed all around and re-assembled with Stainless fasteners. In either case, it would be smart to put a copper cap on the top rail as they did on the corner posts.

BELL

The bell sits on a new Pressure Treated bunk that we built new. We did some free epoxy repairs to the wheel which was about to fall apart. The wheel should now be re-screwed together and liberally oiled with a deep penetrating solution. We like to use Penetrol but I am sure there are other good products available.

WINDOW SASH

The windows need to be removed to a shop, all glass removed, all paint stripped, total re-priming, re-glazing, top-coating. I do not know if code will require safety glass. I think it will not if the sash are repaired, but will if replaced. You could consider making each sash new out of one piece of tempered glass with applied wood or plastic to mimic the current look. This would result in a smooth interior surface. We have done this with good result in the past and it might cost less than restoring the old sash

LIGHTNING PROTECTION

I am not a certified lightning installer, but I know enough to know that there are at least a few things that are not right. The shaft of the weathervane serves as the lightning rod, which is fine, and the cable is attached to it. That's fine and we do it all the time BUT it should have a di-electric fitting that prevents galvanic action between the steel shaft and copper cable. I see that the clock mechanism and the steel shafts in the tower are well connected to the lightning system. But, the steel in the lantern is not. I hope that the cables are of a sufficiently large gauge. If so, it could be a simple matter of adding proper connections. If they are too small they would need to be replaced, which would be expensive. I recommend Armor Lightning Protection of Manchester for the inspection.

WEATHERVANE

I really could not do a close inspection of the vane. I see no sign of leakage on the central mast. But, often even a very small amount water that runs down a shaft will collect at the bottom of the hole and cause unseen rot. This problem tends to happen slowly and go unnoticed. The first outward sign of trouble is generally a vane that is slowly tipping or slowly dropping into the tip. Your appears to be doing neither. The vane could use a good scaling/painting and gold-leafing.

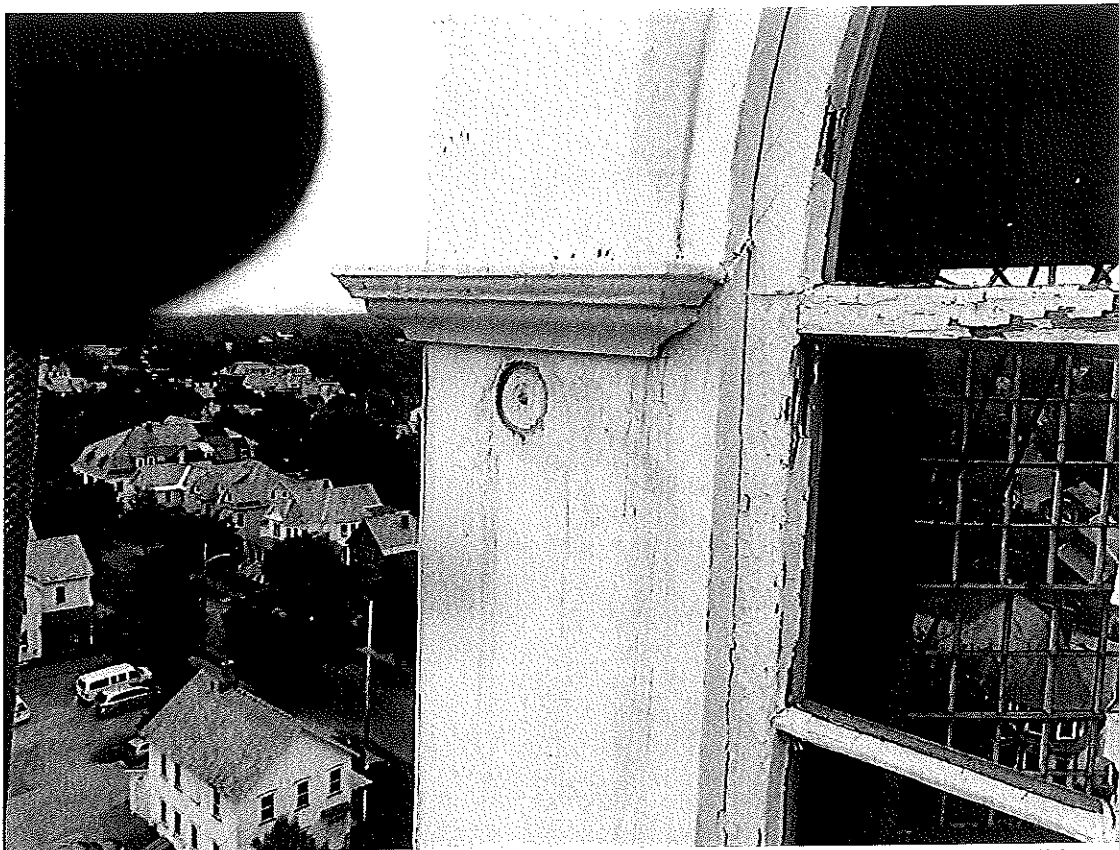
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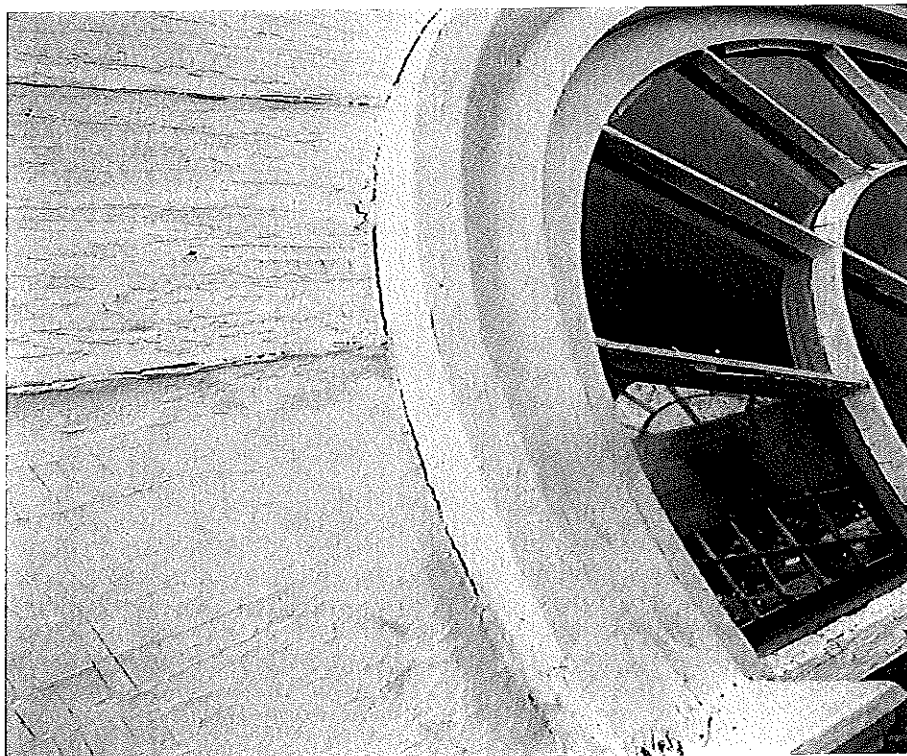
Shows window is pretty beat. I wish I had more up close pic of windows. But they need serious care soon



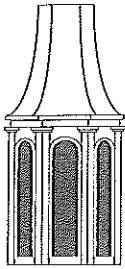
This home made ladder is AWFUL and a new one should be made



Shows the stains from the water running behind plinth. Another spot where the regular caulking maintenance will be needed if woodwork is to be kept.



More places where water runs behind. Also shows window needs work. Wish I took more window pics, they're beat.



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SUMMARY

In order of urgency, I would say that the interior access safety and lightning are the main priorities. Then, the window sash are going to get worse with increasing speed. I suggest that you make a DECISION about the woodwork/balustrade within 1 year. If you decide to keep the current woodwork, you should find a painter/carpenter you trust and set up a regular inspection/maintenance program and stick to it. If you decide to go with new woodwork I would plan to have it done within 5 years, with the same timeline for the balustrade. The bellwheel is so easily done that you might as well do it soon. The vane may be done any time, and keeping the copper going with an EPDM inspection every 20 years is fine.

If you decide to keep the current woodwork, I think you would do fine to contract directly with the needed trades. If you decide on new woodwork, you might do well to consider hiring an architect. I think highly of Ann Vivian of GVV Architects, Burlington.

BUDGET ALLOWANCES

1) Interior access safety and clock pulley safety	\$4000 or less
2) Window Sash restoration	\$28,000 or much less
3) New woodwork option	\$80,000 or less
4) Balustrade total shop restoration	\$24,000 or less
5) Weathervane restoration	\$7000 or less
6) Lightning (this assumes that your entire current system is no good and you need a whole new system. Very unlikely	\$8000 or less
7) Bell Wheel screwing/oiling	\$200 or less

NOTE The above numbers are NOT bids rather budgeting allowances

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