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INTRODUCTION

I walking around the perimeter of the entire campus, and going up on the flat roofs of the Cloister and Sunday School building. There are two major conditions that need to be repaired, and some other minor work.

SUMMARY

I have prepared pricing for 8 specific projects, and a three year initial budget estimate of \$29,500.

PART 1 - ASSESSMENT

MAJOR CONDITIONS

1. Failed Waterproofing



Some years ago, it appears that waterproofing was applied to most of the building exterior. In some places, it appears to have been brushed on with a roller, and in other areas it appears to have been sprayed on. Either the environmental conditions were wrong (too wet, too hot, too cold) or the product was inferior, but the waterproofing did not seem to penetrate the brick, and it turned opaque on the surface, leaving a “milky” look. My initial impression is that this can probably be removed with simple methods such as water and scrubbing.

I propose to do two or three test areas, perhaps on different brick types, and assess the likelihood of large-scale success. After that initial test, I can provide an estimate for a complete job, priced by building or elevation to give you cost flexibility.

The test patches would measure 6’x6’, and should be completed on inconspicuous surfaces. I recommend one for each type of masonry assembly: e.g. new sanctuary, chapel, school, etc. The test patches will need to completely dry for weeks before we can make any decisions. If you decided not to proceed with the work, I would charge you \$200 per test patch, otherwise there would be no charge.

2. Moisture Damage and Spalling

The source of the moisture damage and brick spalling is not clear. Spalling is commonly the result of bricks being softer than the adjoining mortar. When I see spalling like this, I usually also see moisture problems in the building. The moisture problems need to be addressed, or the masonry repairs will fix only part of the problem.



I took a good long look at the waterproofing details on the building and I am afraid that I *don't* find any obvious source of water penetration. There are incidental areas (see below), but nothing systemic, which I expected given the extent of the damage. All of the usual details on this type of assembly are present: good caulking at the capstone head joints, a lead drip edge below the capstones, a well-detailed roof installation, etc. I am a bit perplexed.

It appears that the worst areas have been decaying for some time and have been repaired more than once. The worst area is the corner and upper corner of the Sunday School building on the southeast. There is similar incidental damage throughout the campus.

The overall design of the building is quite hard on the bricks. The design permits quite a bit of water to be able to run down the face of the wall, starting from the very top. There is no overhang to protect the top of the wall and to create a drip line away from the plane of the wall.

One other idea is that there may be space beneath the existing roof that is trapping moisture leaving the building, which is trying to get out through the bricks. We would need to investigate from inside.

MINOR CONDITIONS

1. Stone Damage



I found two areas where the limestone water table should be patched, or replaced.

2. Cracks and gaps in EPDM roofing



These areas and others should be sealed with EPDM tape and caulked.

3. Slate repairs

There are 20-30 spots on the roof of the Sanctuary that need repair, including areas that were repaired with white caulk. Also, there is a supply of extra slate laying on the ground outside that should be put in storage.



4. Miscellaneous tuckpointing

Throughout the building, but mostly on the Klise Chapel and Cloister, there are incidental areas that need to be tuckpointed. There are perhaps 20-30 such areas.



PART 2 – PROPOSAL AND PRICES

Here is a list of projects with initial budget estimates:

<u>Initial Budget Estimate</u>	<u>Description</u>
\$300	1. Analyze possible source of moisture in Sunday School and in other buildings
\$500	2. Permit building to dry out if source is found; add ventilation
\$1,000	3. Repair flat roof and flashing assemblies on all flat roofs
\$10,000	4. Rebuild and repair worst masonry areas
\$5,000	5. Repair minor masonry areas including limestone
\$500	6. Repair roof slate
\$5,000	7. Clean milky haze off street elevations
\$7,000	8. Clean milky haze off all other elevations

Here is a phased approach to the work, over a course of three years, based on structural priority, not appearance.

- Year One: Numbers 1, 2, 3 above \$2,000 budget
- Year Two: Numbers 4, 5, 6 above, \$15,500 budget
- Year Three: Numbers 7 and 8 above, \$12,000 budget

Here is a phased approach to the work, over a course of three years, based on an initial improvement to appearances, then structural improvements.

- Year One: Numbers 7 and 8 above, \$12,000 budget
- Year Two: Numbers 1, 2, 3 above \$2,000 budget
- Year Three: Numbers 4, 5, 6 above, \$15,500 budget