

2018 Tower Repair Project

NOVEMBER 15, 2017 – INFORMATION SESSION

- Overview of the project
- Photographs
- 2017 Investigation – Findings
- Scope of work proposed for 2018
- Financing proposal



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Overview of the Project

Background - context

- Historical issues - periodic leaks from tower/roof area (+10 year period)
- Repairs conducted by Property Management staff
- Concerns also raised on the long term integrity of copper dome sheathing and cedar roof useful life

Phase 1 – investigation of the problems and addressing immediate issues

- Inspection - October 2015 (Petra consultant – certified roof inspector)
- Findings - end of life conditions for low slope roof between towers and most tower windows; cedar roofing approaching end of life.
- Repairs - summer 2016 repairs performed on low slope roof section at base of towers at cost of \$50,000 (work included temporary repairs to all windows) to address leaks originating from towers.

Phase 2 – addressing long term repairs needs and preventive maintenance plan

- Q4 2016 - Property Management sub-committee established to manage long term solutions to roofing/tower issues identified in Phase 1.
- Q4 2016 - engagement contract signed with Kumlin Sullivan (architect for hall expansion)
- Q2 2017 – RFP issued and service contract signed with construction management company NVR
- August 2017 – detailed site inspection performed to assess total damage and recommend remediation options
- Findings - main towers: confirmed need to replace windows and claddings. This will require removing and replacing all tower siding materials.
- Findings (Bell Tower) - need to isolate dome from the weather exposure
- Recommendation - proceed with a “Phase 3” program to repair towers in 2018

Phase 3 – Proposed 2018 repairs

Main Towers



Bell Tower



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Phase 2 - Findings and Recommendations

Main Towers:

- Extensive damage to all tower windows and exterior claddings
- Poor workmanship on original construction and improper installation of aluminum siding coverings are the likely causes of a deteriorating building envelope.
- Current round window construction contributing to building envelope problem on one tower.

Bell Tower (above library/old south entrance):

- Water entry from screened panels in dome is causing significant damage to wood structural members
- Internal structure of dome needs extensive repair; tower below dome is OK
- Screened panels should be replaced with solid dome copper sheathing.

Consultant recommendations

- Urgency confirmed – need to address building envelope issues to avoid long term structural damage and/or mould issues. **(Today's building envelope technology is much more advanced than in 1980)**
- Replace all tower windows and claddings.
- This requires the complete removal of all tower siding materials (aluminum siding, original cedar, building paper and sheathing) and refinish with similar aluminum siding or alternative material (e.g. Hardy board).
- Refinish/repair interior cedar panels with water damage.
- Secure tower crosses and upgrade the lightning arrest system.
- Repair bell tower damages to address imminent structural integrity risk.

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SUMMARY - SCOPE OF WORK

- **Total Capital**
 - \$660K (includes consultant fees)
- **Main Towers (4) – repair building envelope**
 - Strip existing exterior siding and sheathing
 - Replace all tower windows
 - Replace exterior aluminum siding
 - Estimated cost \$605K
- **Bell Tower – isolate from weather**
 - Repair/seal existing source of weather damages
 - Repair damaged wood framing
 - Estimated cost \$30K
- **Scheduling**
 - May – August 2018
- **Impact during construction**
 - scaffolding will be erected on exterior of towers; no scaffolding in interior
 - most of work is external; any internal work done during weekdays
 - some of parking lot will be allotted for construction team
 - **Expectations – repair schedule should have minimal impact on church services and events.**

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FINANCING PROPOSAL

- Use balance available from gaming fund.
- Seek additional of \$550,000 debt financing (LOC/other)
- Principal and interest of this new debt to be repaid using
 - future gaming funds
 - future CROSS investment income, and/or
 - use of operating surplus if available
 - fundraising initiatives
- Debt to be repaid within 10 years (2027)
- Organize fundraising initiatives