



TOWN OF NORTHBOROUGH Community Preservation Committee

Town Hall Offices • 63 Main Street • Northborough, MA 01532 • 508-393-5019 • 508-393-6996 Fax

FY2025 APPLICATION

The Community Preservation Act provides funding for three core community concerns:

- Acquisition and preservation of open space/recreation
- Creation and support of community housing
- Acquisition and preservation of historic buildings and landscapes

DATE SUBMITTED: October 24, 2023
NAME OF PROJECT: Structural Restoration of the Steeple on Historic Property
NAME OF APPLICANT: First Parish Northborough Unitarian-Universalist Church
CONTACT ADDRESS: 40 Church Street, Northborough, MA
CONTACT TELEPHONE: 913-219-7394
CONTACT EMAIL ADDRESS: gordonhart@gmail.com
SPONSORING ORGANIZATION: First Parish Church
CPA CATEGORY: <input type="checkbox"/> OPEN SPACE/RECREATION <input type="checkbox"/> HOUSING <input checked="" type="checkbox"/> HISTORIC
LOCATION: <input type="checkbox"/> TOWN LAND <input type="checkbox"/> SCHOOL LAND <input checked="" type="checkbox"/> PRIVATE LAND
AMOUNT OF CPA FUNDS REQUESTED: \$210,000
OTHER FUNDING SOURCES: Massachusetts Preservation Projects Fund, and Church
TOTAL COST OF PROJECT: \$300,000
BRIEF DESCRIPTION OF PROJECT, INCLUDING ANY CONSTRUCTION REQUIRED:
<p>The steeple continues to suffer from rainwater leakage. The congregation plans, at its own expense, to hire a contractor to replace defective materials on the steeple exterior and reseal that exterior to prevent future leakage. It hopes to have this work completed by the end of the calendar year, 2023. This steeple is part of our Meeting House building.</p> <p>As a consequence of many years of exposure and leakage, numerous wood structural materials, on the steeple's interior, have rotted and need to be replaced to assure the long-term existence of the steeple. Even with the leakage stopped, these materials will continue to deteriorate. They include the "cradle" which supports the bell, which we have stopped ringing due to concerns over the structural deterioration of the "cradle". Other deteriorated materials needing replacement include interior staircases, interior flooring, and interior supports for that flooring.</p> <p>Since a structural engineering study was completed, we have received a detailed proposal for structural restoration of the steeple. We hope to receive CPC funding to help pay for this structural restoration.</p>

PROJECT DESCRIPTION: Please answer the following questions. Applications will be returned as incomplete if all relevant requested information is not provided. Include additional pages of supporting materials and exhibits if necessary.

1. **GOALS:** What are the goals of the proposed project? Who will benefit and why? How will success be measured?

The goals are to either return the structure of our steeple to the condition it was in when first constructed, in the year 1950, or improve that structure. This will entail replacement of materials within our steeple, including, but not limited to, wood stairs, wood flooring, wood trusses that support the flooring and stairs, and wood "cradle" that supports the brass bell. After completion, workers and volunteers will be able to safely ascend the interior of the steeple, do maintenance work and inspections as needed, and ring the bell on a regular basis.

2. **ELIGIBILITY FOR CPA FUNDS:** From your review of the procedural sheet, describe how your project is eligible for the CPA category you have chosen.

Our church is an historic property set in the center of Northborough. Visually, our Meeting House is an integral part of the town. Until this past year our bell had been rung for weekly services, joyful weddings and solemn memorial services. We joined with other churches in the early months of Covid in ringing our bells together to bring people hope and a sense of connection. Historically our bell has been rung to alert residents of important local or national events such as the death of a president or an end to a war. With structural restoration to our Meeting House steeple, which is part of our historic property, we will be able to resume ringing the bell and maintain this building that continues to be significant to residents of this town.

3. **COMMUNITY SUPPORT:** What is the nature and level of support and/or opposition for this project? Include either a letter of support from the town board (Housing Partnership, Historic District Commission, Open Space Committee, Recreation Commission etc.) or a letter from the board stating why they do not support this application.

We have included a letter written by Norm Corbin, former Chair of the Northborough Historic District Commission, on November 22, 2022, which we provided with our application last year (which was not granted). In general, we believe there is support in the town for our Meeting House maintaining its appearance and function at its best. We do not know of any opposition to this project.

4. **BUDGET:** What is the total budget for the project and how will CPA funds be spent? All items of expenditure must be clearly identified and back-up documentation

provided. If the project involves construction on Town or school land, it may need to meet procurement and prevailing wage requirements.

We have attached a detailed proposal from Minuteman Building and Preservation, Inc. (dated August 31, 2023). This was prepared using a structural report, commissioned and paid for by our church, from Structures North, dated June 9, 2023 and also attached. The Minuteman proposal is in two parts, Phase 1, for \$42,175 and Phase 2, for \$276,373. These total \$318,538, more than our estimate of \$300,000. However, a representative from Minuteman has informed us that if these two phases were done together, back-to-back, the total would be less than \$318,538. Also, since we plan to hire another contractor to do exterior work to stop the leakage and replace rotted wood on the exterior, before the end of the calendar year, there would be some additional savings off the Minuteman proposal, we estimate on the order of \$20,000 to \$25,000.

5. **FUNDING:** What additional funding sources are available, committed or under consideration? Include commitment letters and describe any other attempts to secure funding for this project.

We plan on applying for MPPF funding, by March 31, 2024, and would hope to receive about \$50,000 from that state source of funding.

The church will spend about \$20,000 by end of year 2023, with another contractor, to stop the water leakage and replace deteriorated materials on the exterior of the steeple. This is an emergency expenditure. While this is a large amount for our church, we will commit to spending an additional \$20,000 to complete funding for this structural work in 2024.

6. **TIMELINE:** What is the schedule for project implementation, including a timeline for all critical elements? This should include the timeline for expenditures, receipt of other funds and/or other revenues, if any.

We hope to have this work done over the summer of 2024, before the resumption of regular church services in early September. This would allow for installation of the scaffolding, removal of the bell, replacement of the "cradle", reinstallation of the bell, and removal of the scaffolding, work that would otherwise be disruptive to congregants entering and leaving the building through the front door.

7. **IMPLEMENTATION:** Who will be responsible for implementing the project? Who will the project manager be? What relevant experience does the proposed project manager have? Who else will be involved in project implementation and what arrangements have been made with them?

Gordon Hart, a member of the Buildings and Grounds Committee, would be responsible and be the church's Project Manager. He is a degreed and licensed mechanical engineer who has worked for many years in the construction business. He has also worked as a volunteer for the church on numerous buildings and grounds issues. He will be backed up by David Sherman.

8. **MAINTENANCE:** If on-going maintenance is required, who will be responsible and how will it be funded?

The church membership will maintain the steeple following the repair work.

ADDITIONAL INFORMATION: If applicable:

9. **FURTHER DOCUMENTATION:** Documentation that you have control over the site, such as a Purchase and Sale Agreement, option or deed; any feasibility reports, renderings or other relevant studies and material; and any additional information that might benefit the CPC in their consideration of this project.

We have included the following attachments: (a) The Structures North engineering report, dated June 9, 2023, and (b) a proposal for the restoration work from Minuteman Building & Preservation, Inc., dated August 31, 2023. We have also included a letter of support from Norm Corbin, dated November 22, 2022.



9 June 2023

Gordon Hart
Buildings and Grounds Committee
40 Church Street
Northborough, MA 01532

Reference: First Parish Church Northborough – Tower Investigation

On April 27, 2023, we visited the First Parish Church in Northborough to investigate the exterior and interior tower structure. This report discusses our findings of the tower conditions and describes our recommendations for repair and restoration. Please note that the front entrance to the church facing Church St. will be referred to as the south elevation for the purposes of this report.

GENERAL DESCRIPTION:

The First Parish Church in Northborough has a wood framed tower that starts at Level A (attic space) and extends up four more levels. At the base of the tower, where the clock is present, there are two wood framed platforms along the interior, and a vinyl siding envelope along the exterior. At the belfry level, there is another platform that supports the bell and cradle within the tower, and the outside displays (4) wooden louvers, (4) wooden pinnacles, a decorative balustrade, and an EPDM rubber membrane roof. Level #4, the lantern level, has a less accessible platform along the interior where the majority of the cellular equipment is installed. The exterior of the lantern level shows (8) louvers along each octagonal face, (4) smaller wood pinnacles, and copper flashing at the flat and domed roof. Please refer to Figure 1 for the interior tower levels with respect to the tower envelope.

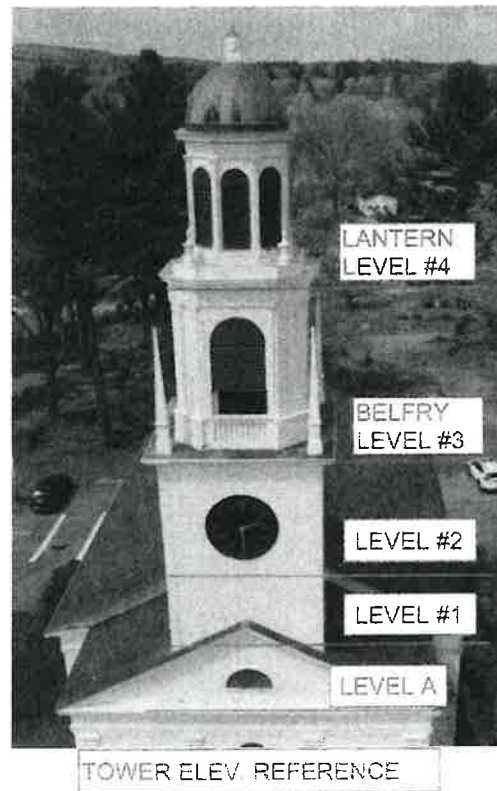


Figure 1: Tower Levels Reference Figure

EXTERIOR CONDITIONS AND RECOMMENDATIONS

Water infiltration has been an on-going issue that has brought concerns relating to the structural integrity of the church tower. To investigate, we flew a drone around the outside of the tower to help us identify weak points in the tower's façade where water may penetrate. One item that we noted immediately was that the exterior roofing at the belfry and lantern level platform roofs are pitched towards the tower, rather than away from the structure, contributing to water-related concerns that are discussed below.

Belfry Level:

- At the south elevation, we found standing water that was in contact with the wooden baseboard below the balustrade. There was also a rotted hole in the wood trim that appears have be worsening due to constant exposure to water (Photo 1).
- We found more standing water along the north, east, southeast, southwest, west, and northwest faces of the belfry level. With standing water alongside almost all of the wooden exterior trim at the belfry level, and only sealant or flashing with a few inches of height to protect the wood, water can easily reach the internal structure under wind-driven or slushy conditions (Photo 2-4).
- The sealant bond is visibly broken at the north, east, and west faces, with some detached flashing visible at the north façade (Photos 2-4).

First, the present rubber membrane should be stripped and the wood skirt boards that run over the backs of the roofed surfaces and the bases of the pinnacles should be removed. The roof surfaces should be re-pitched with pressure-treated (P/T) wood plywood on P/T wood furring to create a more aggressive outward pitch. These surfaces should then be re-roofed with red or zinc-coated copper that is run at least 8" up the faces of the sheathing and/or backing boards behind the removed trim. The trim boards should then be rip-cut to a narrower width and then reinstalled over the up-turned sheet copper roofing to eliminate the possibility of overtopping the flashing.

Lantern Level:

The two-step lantern level platform roof is covered with copper flashing, however, just like at the belfry level, the flashing does not appear to extend up and over the wood trim and the roof is pitched towards the tower. Ultimately, standing water is still a concern.

- We found pooling water at the southeast, north, and west faces of the lantern level (Photos 5-7).

Just as we recommended for the belfry level, the present skirt boards and roofing should be stripped and the roof re-pitched as noted above. The small pinnacles should also be removed. The stepped roof should then be re-clad in red or zinc-coated copper, which flashing should extend up no less than 8" over the wood

sheathing at both the flat roof and the raised step, with the outer edges formed with a hemmed drip. The skirt boards should then be reinstalled, along with the small pinnacles, which should be set on raised flashed bases that are fastened through the copper to the wood structure below and keep the pinnacles dry. All rotted wood should be replaced.

- A hammer was found just outside of the southeast louver (Photo 5) but could not be reached safely without climbing gear. *The hammer should be removed immediately to avoid any potential injury or unsafe circumstances.*

Additional concerns are present at the north and south sides of the tower where the peak of the church's roof meets the base of the tower. This area should be inspected further to see if there is already flashing present behind the vinyl siding (Photos 8 and 9). If there is no flashing, part of the siding and roofing shingles should be removed for proper copper flashing installation which includes red or zinc coated copper step flashing that runs up the sheathing behind the siding and trim boards.

Tower Lean

The tower was measured to lean forward by about $\frac{1}{2}$ " in 48". Because we did not see any visible sign of sufficient post compression or diagonal brace pull-out to cause such a lean, we believe that the most likely culprit is rot and compression of the front sill, which is presumably tucked behind the skirt boards that are at the top of the front concrete stairway. Water may be sheeting off of the stair landing and wetting the wood construction along the back edge, causing it to rot. One can see signs of rot at the bottom edge of one of the pilaster skirtboards (where the expressed "columns" on the front of the church stick out) and the skirtboard at the flat wall section has been removed and replaced with sheet metal flashing. *The presence of the metal flashing may be a sign that the sill was replaced, however, this should be confirmed. If this cannot be confirmed, we recommend that the sill be exposed and inspected.*

INTERIOR CONDITIONS AND RECOMMENDATIONS

There is a total of (5) interior levels that were investigated at the time of our visit, which include (4) of the wood framed platforms and the interior lateral bracing system at each elevation. Our findings will be discussed starting from Level A up to the lantern level.

Level A Walls:

Level A is at the base of the tower, which is also the attic space of the church. The roof framing of the church slopes upwards to meet the east and west walls of the tower. The tower has (4) posts that consist of (4) 2x6s, laminated together with nails. There is diagonal bracing between the posts along the north and south sides of the tower made up of (3) nail-laminated 2x6s. There are also either (4) 2x8s (south) or (4) 2x12s (north) that run horizontally between the posts, just above the top side of the diagonals. The wall studs are 2x6, spaced approximately 16" apart. At the east and west sides of the tower at level A, there are (2) 2x12s between the posts, at both the bottom and top of

the level. The 2x12s that run between the bottom ends of the posts carry ceiling framing from below, while the 2x12s that run between the tops of the posts receive roof and level 1 platform framing. We noted the following:

- Metal connecting angles were installed at some of the horizontal (4) 2x8s and (2) 2x12s that are located near the tops of the posts at level A (Photo 10). Along the north side, the through bolts that connect the angle to the posts do not run all the way through and only engage (1) of the several 2x8s. This means that not all of the 2x6s that make up the post are engaged, and neither are the 2x8s, which reduces the capacity of the bracing connection.

The bracing connections will need further reinforcement to activate the entirety of the post cross section, either with an added steel gusset plate or a different type of connection.

- We found deformation and surface splitting in the southeast post in between (2) through bolts that connect the (2) 2x12s to the post (Photo 11). This is a common sign of localized overstress or hidden rot that is causing load to shift to the front face of the member. *This portion of the post should be structurally analyzed and probed in further detail to determine the exact cause of this damage, which should be addressed.*

Level #1 Platform:

The floor system for the level #1 platform is made up of 2x8 joists spaced approximately 20" apart and wooden floor planking. The joists are framed around the stairway with (3) 2x8s, laminated together with nails.

- Between the joists, there was diagonal blocking, located near to their midspan (Photo 12). All of the blocking was disconnected from the joists, left to hang only from their top connection. *All of the blocking should be reattached to the joists.*
- At the west end of the framed stair opening, there are (3) 2x8s laminated together, acting as a header (Photo 13). The (2) joists that are supported by the header are notched at their end connection. When joists are notched along their underside, a stress concentration builds up at the inside corner of the notch and cause a horizontal crack through the joist member, thus weakening it. *Standard metal face-mount hangers should be installed at the notched ends so that the full depth of the joist is engaged.*
- The (3) 2x8 stair header also appears to have poor end connections, having only been toenailed in at each end. *A metal hanger should be installed at the end of the header where it meets the joists and should be posted down where it is currently toenailed into the sheathing.*

Level #1 Walls:

Similar to the wall framing at level A, the wall system at level #1 is made up of the (4) 2x6 posts, (3) 2x6 diagonal braces, and 2x6 vertical studs at 16" spacing.

- The vertical studs are toenailed into the diagonal braces and the diagonal braces are either toe nailed into the posts, or only have a single through bolt engaging (1) of the 2x's connecting it to the post (Photo 14). These are poor connections that do not appear to be sufficient to resist the high wind loads, such as from a hurricane. *The stud and bracing connections should be reinforced with steel gussets and nailed straps to strengthen the end connections of the lateral bracing system.*
- Similar to level A, the horizontal bracing members at the north and south ends of the tower have metal angles that are minimally connected to the posts (Photo 15). *These connections will need to be reinforced with added steel gussets or replaced with stronger connections.*
- We found some water staining on the west face sheathing (Photo 16), which can often suggest early stages of rot. This is most likely occurring from the water infiltration seen at the higher tower levels. *This level should be monitored for additional water damage after water resistant methods are adopted, as discussed in the "Exterior Conditions" section.*

Level #2 Platform:

The floor framing for level #2 appears to be lightly framed with 2x4 joists spaced 16" apart, carried by long spanning 2x4 "beams".

- There are significant amounts of water staining and visible rot along the level #2 floor planks and framing. There are some areas where there are deteriorated openings in the floor planks, making it unsafe to walk on. A few areas have heavily eroded planks that are currently "punk", and on the track to developing holes too (Photo 18).
- The long spanning 2x4s have a visible sag due to being overstressed in bending, as well as the water damage that is present.
- The framing in the middle bay (3 joist bays in total) has a variety of joist sizes starting from 2x4s extending up to a 2x10. The joists that are 2x4 are only toenailed into the 2x4 "beam", which is a poor connection. Additionally, the connections for the larger joists are worse because only the top part of the joist can be connected to the 2x4 "beam", therefore the entire joist cross section is not fully engaged (Photo 17).
- One of the (2) 2x4 headers has a discontinuous member which weakens the header's bending capacity, and the overall floor strength (Photo 18).

- The end connections for the joists and beams that connect to the tower walls are merely toenailed into the sheathing. The sheathing is designed to resist lateral loads and should not have the added gravity loads from the floor.

This platform should be reframed and sized properly to safely support human access loads. The joists and beams should connect to the tower bracing members, rather than the sheathing. End connections should sufficiently engage the entire joist cross section. This should be done after the water infiltration has been stopped, so as not to damage the new work.

Level #2 Walls:

Aside from the typical bracing end connection reinforcements that we recommended previously at level A and level #1, minimal damage was found at the level #2 walls. The wall framing is similar to that of level #1.

- The north wall runs without any out-of-plane bracing past the stairway and the grouped studs that provide transverse support along each side of the center strip of windows are insufficiently lapped above the top window, creating a potential hinge effect under heavy wind loads. The lap connections should be stiffened with longer, continuous studs running past them.

Belfry Level Platform:

The belfry platform has two beams made up of (3) 2x8s that run east to west. The joists also run east to west and are 2x8s with approximately 16" spacing. There are four diagonal bracing members that cross through the joists, made up of (4) 2x8s.

- At the time of our inspection, we suspected that there was rot present in the diagonal floor bracing beams, based upon water staining and mold growth on the members, so we performed resistance drill tests at the southwest corner one, which was the most accessible of the four. Our tests showed that there is rot present within the beam cross section, therefore we anticipate that there is rot present at all four of the diagonal bracing beams (Photo 19).

Further inspection is required, once conditions are made safe, to determine the severity of the rot at each of the bracing beams and whether replacement or additional reinforcement is required.

- The joist ends that are intersected by the bracing beams are only toe nailed to the beams (Photo 19). *The joist ends should be reinforced with skewed face-mount hangers.*

Belfry Level – Bell Cradle:

Despite the interior framing of the wall system at the Belfry level being hidden from view at the time of our visit, we were able to observe damage to the bell cradle at this level.

- The south end of the bell cradle, made up of 6x8 timbers has signs of rot on two of the four timbers at the south end (Photo 20). *These members should be replaced before the cradle system becomes insufficient to hold the weight of the bell, making an unsafe situation for occupants below.*
- The (4) rods that are at each corner of the bell cradle are visibly loose (Photo 21). *These rods should be tightened to actively engage them back into tension.*

Lantern Level Platform:

The lantern level platform framing was hidden from view at the time of our inspection.

Lantern Level Walls

The lantern level houses cellular equipment within. Most of the wall system was visible, consisting of (2) 2x4 posts and newer 2x4 plywood "gussets" to replace the original 2x4 diagonal braces that were cut to fit in the louvers (Photo 22). We did not find significant damage at this level.

Overall, the infiltrating water needs to be solved before repairs to the interior of the tower are made. The roof platform of the belfry and lantern levels should be angled away from the tower and re-flashed to ensure no water entry. Afterwards, rotted members can be reinforced or replaced, and the bracing connections can be strengthened. It is necessary that the water infiltration be halted soon, as current methods of collecting water in buckets and kiddie pools are only furthering the deteriorating process as the collected water creates a humid environment for the wood, accelerating the decay process. Solving the root of the problem immediately is key in maintaining a safe environment for the church and its occupants, while also proactively maintaining the majority of its historic fabric.

Thank you for providing the opportunity to survey the current state of your church. Should you need further assistance or have any questions or concerns, please do not hesitate to contact our office.

Respectfully,
Structures North Consulting Engineers, Inc.



John M. Wathne, PE (MA), President



Jillian Borghardt, EIT

Please see the attached Photo Appendix (13 pages, including cover)

APPENDIX, 7-pages, including cover page

Page 1

Photo 1: Standing water and opening at the south face belfry level

Photo 2: Standing water and deteriorating sealant at the west face belfry level

Page 2

Photo 3: Standing water and detached sealant/flashing at the north face belfry level

Photo 4: Standing water and detached sealant/flashing at east face belfry level

Page 3

Photo 5: Standing water and hammer along the southeast face of the lantern level

Photo 6: Standing water along the west face of the lantern level

Page 4

Photo 7: Standing water and deteriorating pinnacles along the north face of the lantern level

Photo 8: Suspect area with potential need for flashing (north face of tower)

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Photo 9: Suspect area with potential need for flashing (south face of tower)

Photo 10: Poor brace to post connection

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Photo 11: Splitting at the southeast post connection

Photo 12: Detached diagonal blocking between joists

Page 7

Photo 13: Notched joists and poor header connections

Photo 14: Toe nailed stud connections and minimal bracing connections

Page 8

Photo 15: Poor horizontal bracing to post connections

Photo 16: Slight water staining at level #1 west wall

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Photo 17: Poorly sized joists and beam members at level #2 floor framing

Photo 18: Water damaged floor planks and cut floor joist on level #2 floor framing

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Photo 19: Belfry framing rotted bracing beams and poor joist end connections

Photo 20: Rotted leg of the south end of the bell cradle

Page 11

Photo 21: (2 of 4) Loose tension rods on the bell cradle

Photo 22: Cut original bracing and new wood "gusset plates"

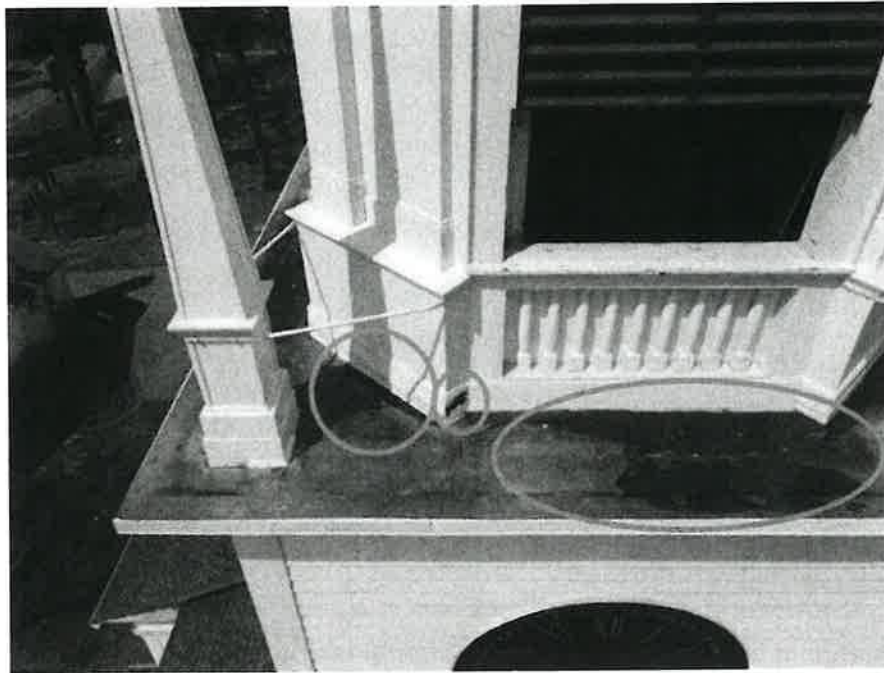


Photo 1: Standing water and opening at the south face belfry level



Photo 2: Standing water and deteriorating sealant at the west face belfry level

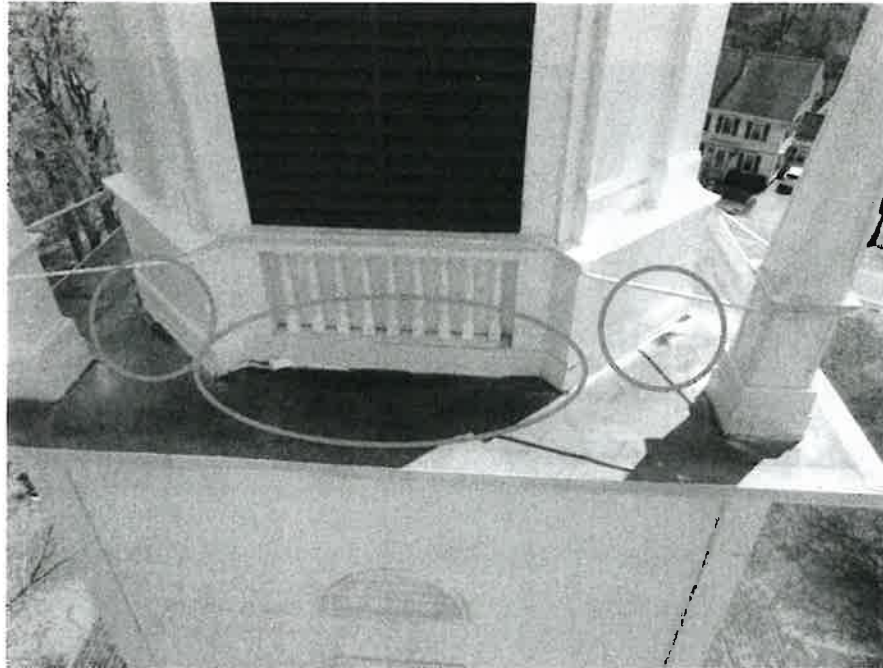


Photo 3: Standing water and detached sealant/flashing at the north face belfry level



Photo 4: Standing water and detached sealant/flashing at east face belfry level

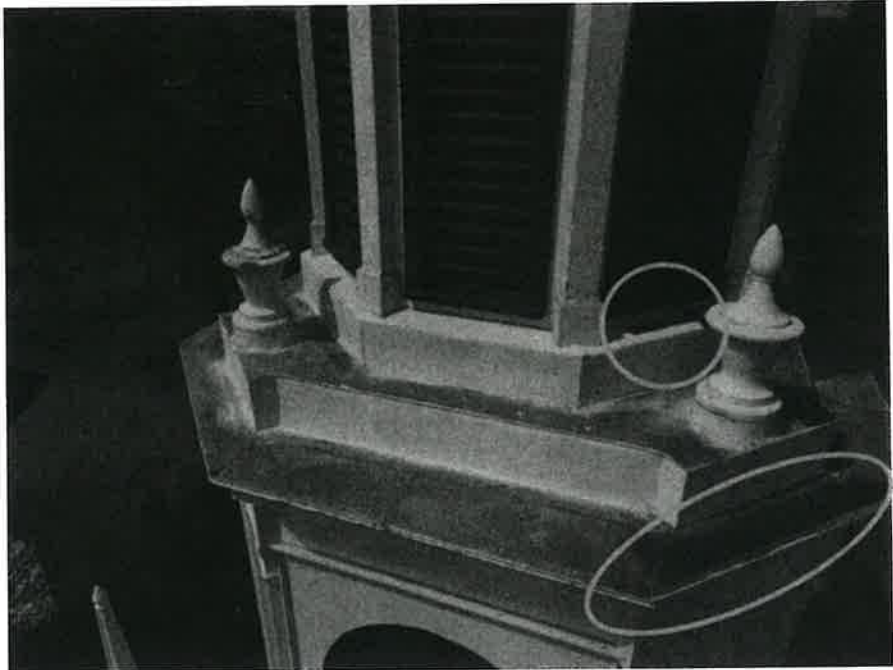


Photo 5: Standing water and hammer along the southeast face of the lantern level

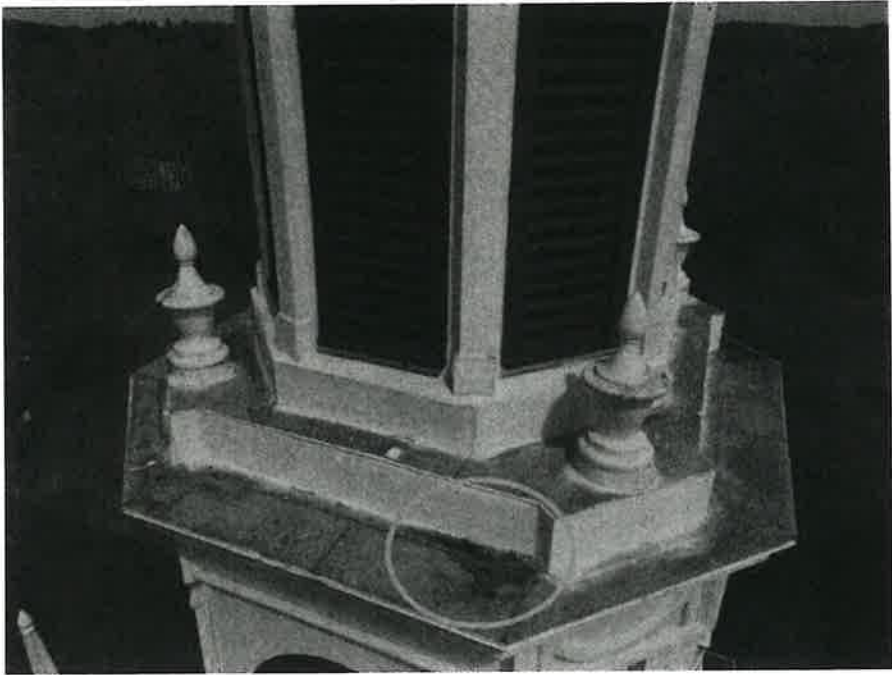


Photo 6: Standing water along the west face of the lantern level

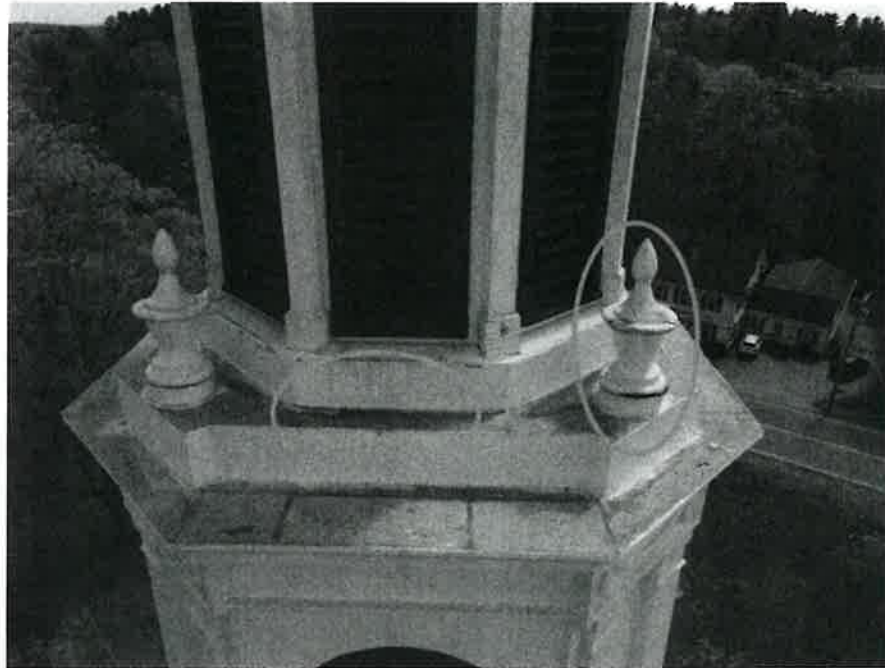


Photo 7: Standing water and deteriorating pinnacles along the north face of the lantern level

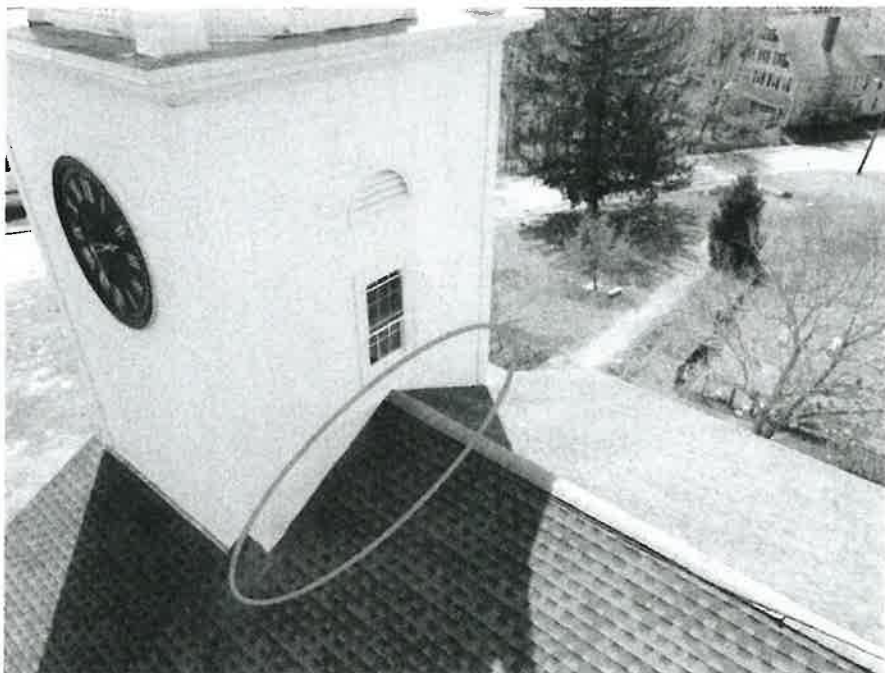


Photo 8: Suspect area with potential need for flashing (north face of tower)



Photo 9: Suspect area with potential need for flashing (south face of tower)

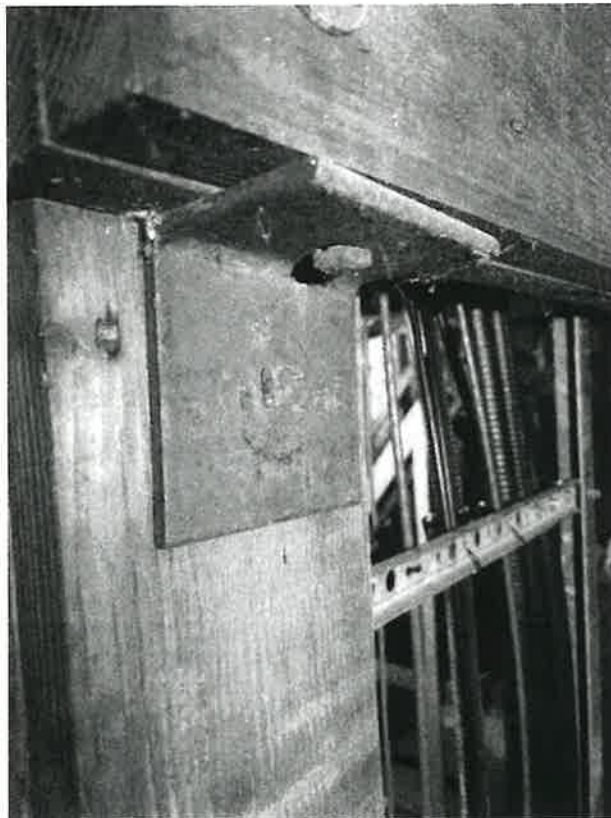


Photo 10: Poor brace to post connection



Photo 11: Splitting at the southeast post connection



Photo 12: Detached diagonal blocking between joists



Photo 13: Notched joists and poor header connections



Photo 14: Toe nailed stud connections and minimal bracing connections

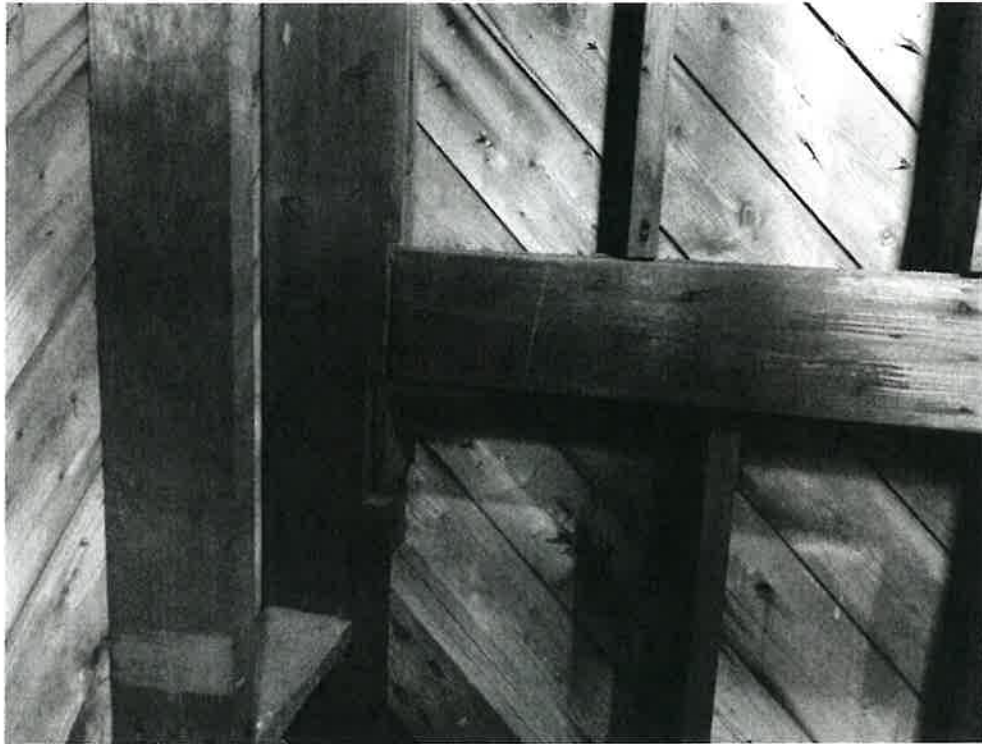


Photo 15: Poor horizontal bracing to post connections



Photo 16: Slight water staining at level #1 west wall



Photo 17: Poorly sized joists and beam members at level #2 floor framing



Photo 18: Water damaged floor planks and cut floor joist on level #2 floor framing



Photo 19: Belfry framing rotted bracing beams and poor joist end connections



Photo 20: Rotted leg of the south end of the bell cradle



Photo 21: (2 of 4) Loose tension rods on the bell cradle



Photo 22: Cut original bracing and new wood "gusset plates"

**PRELIMINARY ESTIMATE
40 CHURCH STREET UNITARIAN CHURCH
STEEPLE REPAIRS**

First Parish Unitarian Universal Church
40 Church Street
Northborough MA 01754

FEID #823-599-279
CSL #075624 unrestricted
HIC #195103

Proposal: 40 Church Steeple Repairs
Estimate Date: 4/18/2022
Revision 1 Date: 6/06/2022
Revision 2 Date: 8/31/2023

Workers Comp Insurance # MIWC 155423
General Liability Insurance #PSJ0226419866
Auto Liability Insurance # 1020097079

Dear members of the First Parish Council,

Thank you for the opportunity to provide this revised estimate to phase the steeple reconstruction. Note, this is not a band-aid approach; we are simply doing the work that can be done in preparation of a full project down the road. More importantly, we will be securing the structure in place. Please also note, we are not structural engineers and a structural engineer should be retained.

Drawings: N/A

Site Visit: Monday April 18th 2022 with David Sherman, FPUU, Jay Murray and Matt Green, Minuteman Building and Preservation, Inc., Brian Sherlock, Veterans Scaffold Services, Jackie, Caliber Painting, & Ben Aguirre, Ben's Construction. *Excludes Structural Engineering and Architect. We expect a structural engineer will be required to obtain building permit. Base contract includes Belfry level work & access to Belfry only*

As revised per Structures North "First Parish Church Northborough – Tower Investigation" dated 6/9/2023

PHASE 1

- | | |
|---|----------------|
| 1. General Requirements | |
| a. General Administration | \$1,100 |
| i. Permitting | |
| 1. Obtain General Building Permit | |
| 2. Obtain Dumpster Permit | |
| b. General Conditions | \$2,800 |
| i. Site Supervision | |
| ii. Housekeeping and cleaning | |
| iii. Dumpster, disposal and debris | |
| iv. Port-a-potty | |
| c. General Conditions | \$4,525 |
| i. Lay down floor protection | |
| ii. Set up scaffolding on balcony level up to tower floor | |

Minuteman Building & Preservation, Inc.
Preserving Our Past. Building Your Future.

14 Nason Street, Suite 307 P.O. Box 444 Maynard MA 01754 (978)823-0008

www.MinutemanBuilding.com

Minuteman

BUILDING & PRESERVATION, INC. 2017

- iii. Clean debris on all three levels
- d. General Conditions Interior Carpentry \$33,750
 - i. Remove and replace second and third level stairs with LVL framed stairs
 - ii. Remove and reframe third floor with 2"x10" lumber
 - iii. Over sheathe third floor with plywood
 - iv. Reinforce Bell Cradle floor
 - v. Install chain fall to hold bell

PHASE 1 TOTAL: \$42,175

PHASE 2

- 1. General Requirements
 - a. General Administration \$2,367
 - i. Permitting
 - 1. Obtain General Building Permit
 - 2. Obtain Dumpster Permit
 - b. General Conditions \$6,581
 - i. Site Supervision
 - ii. Housekeeping and cleaning
 - iii. Dumpster, disposal and debris
 - iv. Port-a-potty
 - c. Exterior General Conditions
 - vi. Crane, Rigging, & Support \$22,150
 - 1. Crane & crew to remove bell from belfry
 - 2. Crane & crew to reinstall bell in belfry
 - vii. Erect Scaffolding with net \$79,275
 - 1. Scaffold front elevation to soffit above clock, around bell tower, approximately 54' high
 - 2. One full deck of planks with planked side arms
 - 3. Complete guard rail and toe board system
 - 4. One stair location
 - 5. Overhead pedestrian protection as needed
 - 6. Debris netting to cover 100% of scaffold
 - 7. **Covers three months' rent, erection, and dismantling** of scaffolding, additional \$167 per day should we have insufficient time to complete all work
- 2. Site Prep & Demo \$9,750
 - a. Remove 4">2" PVC pipe
 - b. Remove and dispose of rotted bell cradle
 - c. Remove and set aside all louvres
 - d. Cut plywood up walls in Belfry for roof flashing to go up walls
 - e. Remove exterior trim on belfry level
 - f. Remove roofing

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- 3. Concrete (Not Applicable)
- 4. Masonry (Not Applicable)
- 5. Metals
 - a. Assumes reuse of existing bell frame
 - i. Retain bell, steel frame, & wheel
- 6. Woods & Plastics
 - a. Structural Carpentry Allowance \$40,000
 - i. As per Structures North "First Parish Church Northborough – Tower Investigation" dated 6/9/2023
 - b. Rough Carpentry \$23,360
 - i. Install sheathing on belfry floor
 - ii. Install P.T. Blocking under roof membrane
 - iii. Reframe bell cradle with 2"x12" LVL's, glued, screwed & sistered in same formation as existing bell cradle
 - c. Historical Carpentry Allowance \$30,000
 - i. TBD/anticipated
- 7. Thermal & Moisture
 - a. Roofing \$47,880
 - i. Level 3
 - 1. Obtain & Install ½" HD ISO around perimeter of outside portion lower roof around bell
 - 2. Obtain & Install ¼" per foot tapered ISO inside, under bell cradle
 - 3. Obtain & Install ½" HD ISO over tapered ISO
 - 4. Obtain & Install .060 EPDM fully adhered membrane
 - 5. Obtain & Install new copper edge metal around perimeter
 - 6. Obtain & Install new 4" roof drain and 4" PVC pipe for proper drainage
 - ii. Level 4
 - 1. Obtain & Install ½" HD ISO around perimeter of band
 - 2. Obtain & Install .060 EPDM fully adhered membrane
 - 3. Obtain & Install new copper edge metal around perimeter
 - 4. Obtain & Install new 16 oz. lead coated copper to match existing
 - iii. Elastomeric Roof Coating
 - 1. Clean existing roof
 - 2. Furnish & install (3) coats of elastomeric roof coating
- 8. Doors, Windows & Louvers
 - a. Louvres will be removed, repaired as needed & reinstalled
 - i. A new, finer bird mesh will be installed
- 9. Finishes \$15,000
 - a. Paint
 - i. Apply (1) coat of "Duraprime" by Mad Dog and (2) coats of finish to the belfry level of the bell tower/steeple

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ii. Paint all finials/posts and black vents

- 10. Specialties (Not Applicable)
- 11. Equipment (Not Applicable)
- 12. Furnishings (Not Applicable)
- 13. Special Construction (Not Applicable)
- 14. Conveying System (Not Applicable)
- 15. Mechanical (Not Applicable)
- 16. Electrical (Not Applicable)

PHASE 2 TOTAL

\$276,363

Add alternates:

- 1) Add Alternate #1: Lantern Level **TBD**
 - a) Scaffolding
 - i) Scaffold to second soffit elevation around bell cradle
 - b) Carpentry
 - c) Roofing
 - i) Obtain & Install ½" HD ISO, .060 EPDM membrane & copper edge metal around perimeter
 - d) Paint
- 2) Add Alternate #2: Dome Level **TBD**
 - a) Scaffolding
 - b) Carpentry
 - c) Roofing
 - i) Clean metal dome, furnish & install 3 coats elastomeric roof coating (standard colors)
 - d) Paint

Assumptions & Exclusions

- 1. Excludes Sales Tax
- 2. Excludes Prevailing Wages
- 3. Assumes One Mobilization, one phase for all work listed above

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Terms

- a. 15% Deposit to get on schedule. Bi-Monthly requisitions net 15 days, special order material and scaffolding may require payment in advance. 5% retainage on base contract only, not on change orders.

Respectfully submitted by _____

8/31/2023

Jason Murray, Owner / Operator

Acceptance of Proposal: The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to proceed as specified. Payment will be made as outlined above.

Date of acceptance _____ Authorized signature _____

All material is guaranteed as specified by the manufacturer. All work to be completed in a workmanlike manner according to industry standards. Any alteration or deviation from the above specifications involving extra costs will be executed only upon written orders and will become an extra charge over and above the proposal. All agreements are contingent upon items within our control. Our workers are covered by Workmen's Compensation Insurance. Our firm is covered by General Contractor Liability Insurance of \$1,000,000 / \$2,000,000 aggregate.

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Town of Northborough

Historic District Commission

63 Main Street

Northborough, Massachusetts 01532-1994

November 22, 2022

Mr. David Sherman
First Parish Church
40 Church Street
Northborough, MA 01532

RE: First Parish request for CPA Funding

Dear Mr. Sherman,

The Northborough Historical Commission voted unanimously at our November 16, 2022 meeting to support your CPA Funding request titled "Steeple Repairs to Replace Rotted Wood". We appreciate your efforts on preserving this historic meeting house near the town center.

The project is consistent with the requirement that CPA historic funds follow "The Secretary of the Interior's Standards for the Treatment of Historic Properties".

Considering the anticipated CPA Funding challenges in this current cycle, we encourage First Parish to investigate additional grants to help fund this \$200,000 CPA request. One grant opportunity is:

Massachusetts Historical Commission MPPF Grants:
[MHC: Massachusetts Preservation Projects Fund \(state.ma.us\)](https://state.ma.us/mhc)

Sincerely,

Normand D. Corbin

Chair
Northborough Historic District Commission

