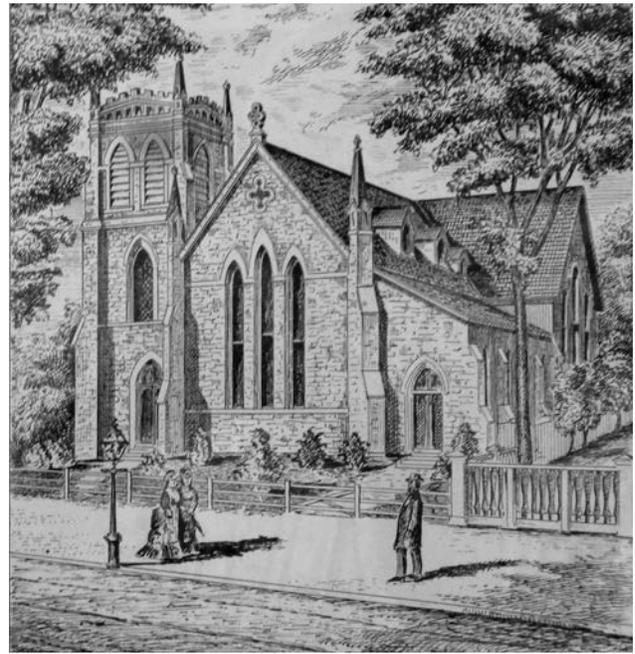


EXISTING CONDITIONS REPORT

BETHESDA EPISCOPAL CHURCH

SARATOGA SPRINGS, NEW YORK



JOHN G. WAITE ASSOCIATES, ARCHITECTS PLLC

Existing Conditions Report

for

Bethesda
Episcopal Church

SARATOGA SPRINGS, NEW YORK



MARCH 2016

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INTRODUCTION

Located on Washington Street in the center of Saratoga Springs, Bethesda Episcopal Church is of major architectural and historical significance. Designed by English immigrant architect Richard Upjohn, it embodies the then revolutionary ideas of Anglo-Catholic architecture and decoration developed by Augustus W.N. Pugin, the noted English architect and churchman. Bethesda Church was one of the earliest buildings in this country to be designed in this manner. Upjohn went on to design many other significant Gothic Revival buildings including Trinity Church (New York City), St. Peter's Church (Albany), and the Connecticut State Capital (Hartford). He was one of the founders of the American Institute of Architects in 1857 and was its first president.

With the initial construction of the church in 1842-44, there were no side aisles or pews and the nave was cruciform. In 1858 side aisles were added to the church and the walls of the nave were moved out to align with the transept. It is believed that these modifications followed Upjohn's original design and that his building plans were followed for the renovation.

Architect A. Page Brown added a narthex and bell tower to the church in 1887. He designed a new façade for the northern elevation in the Norman Romanesque style. An organ storage room was added at the south west corner of the church. At this time the interior was also significantly changed with work to the high altar that included mosaic tile work, the addition of a wrought iron Rood Screen, choir stalls and marble columns.

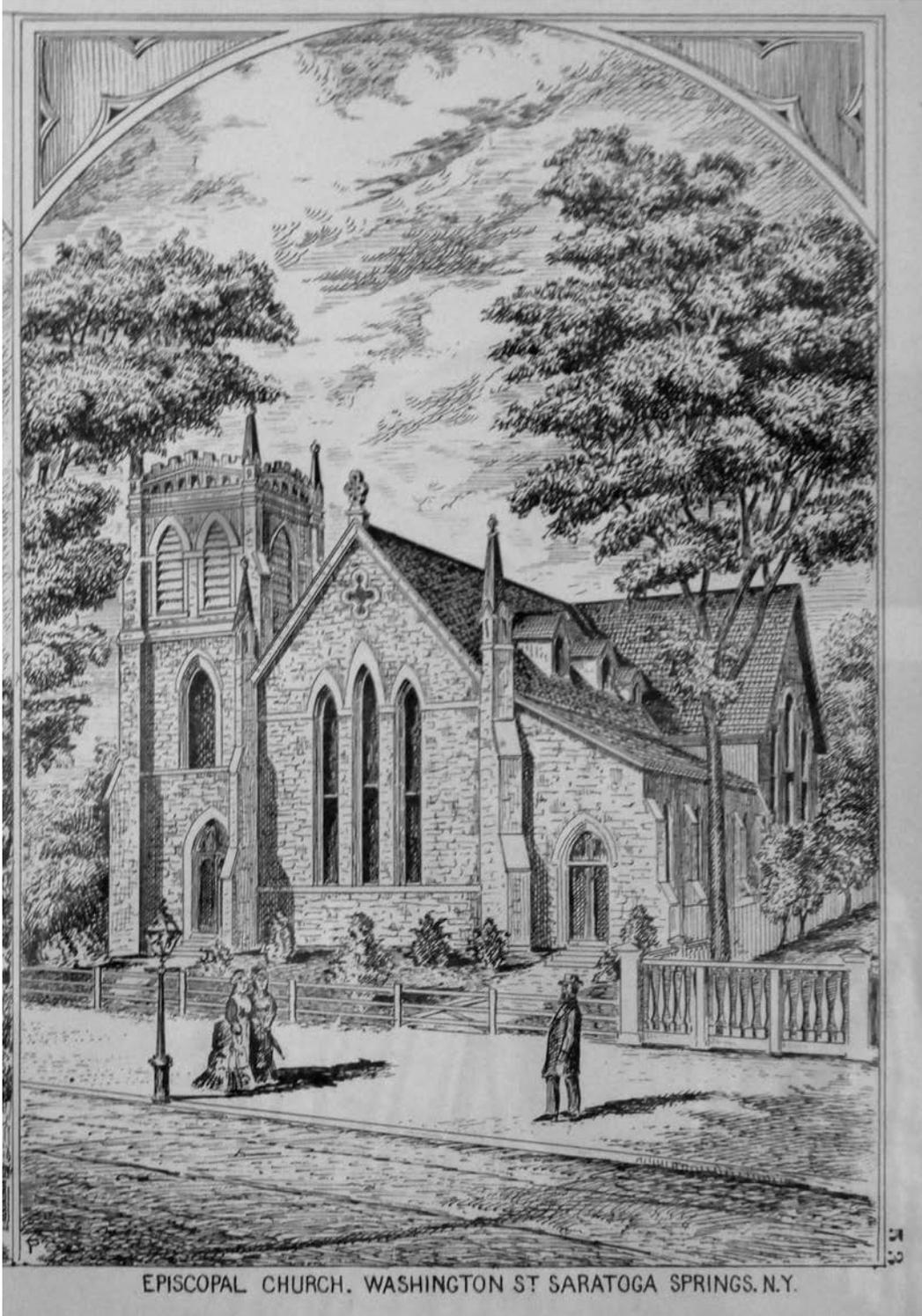
In 1995 an entrance that included a handicapped accessible lift was added to the east corner of the north façade.

The building was constructed of quality materials and it remains in generally stable condition despite periods of deferred maintenance. However, some significant problems do exist and should be addressed as soon as possible to remediate against further deterioration.

This conditions study focuses on both the exterior and interior of the building, outlining general and specific architectural problems and priorities for repair. This study was partially funded by the New York Landmarks Conservancy. It is recommended that all work on Bethesda Episcopal Church is undertaken in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

This report will refer to Phase I construction work which includes renovation work on the existing church that will coincide with the construction of the new parish hall and community center that is to be built on the empty lot to the west of the

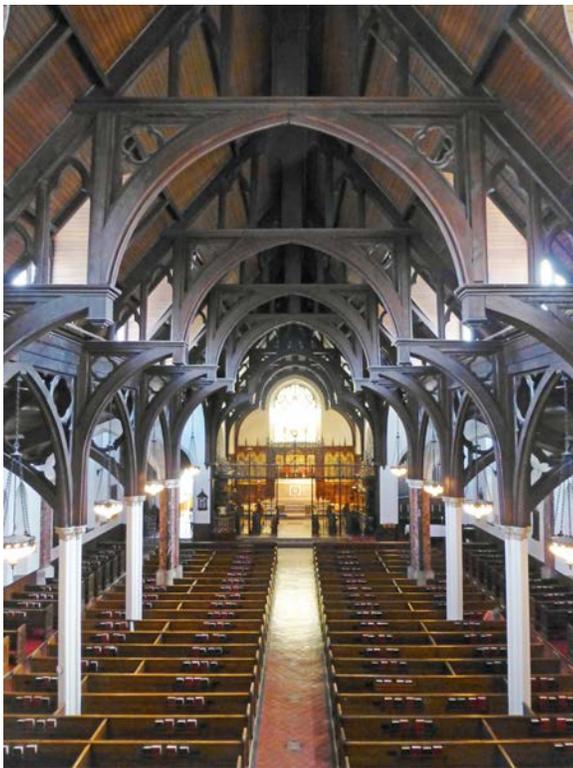
church. As funding becomes available, architectural drawings should be prepared detailing restoration materials and methods. This report and the upcoming Phase I work are the first steps in addressing the existing problems at Bethesda Episcopal Church.



Bethesda Episcopal Church in 1876. This historic image of the Richard Upjohn design is prior to architect A. Page Brown's narthex addition of 1887, when the bell tower was relocated.



Bethesda Episcopal Church is a prominent landmark in downtown Saratoga Springs. Phase I construction will involve the construction of a new parish hall and community center next to the existing church. Phase I will also include various renovation work on the existing church as outlined in the Recommendations section of this report. Additional repairs to the existing church are anticipated and should include work that is outlined and prioritized in this Conditions Study.



The historic surfaces, designed by Richard Upjohn, remain on the interior of the church. The building fabric is well maintained, but there is evidence of cracked plaster, general paint failure, and moisture damage in various locations throughout the building. The original paint colors and wall decoration have been changed to the present monochromatic decorative scheme, which is not consistent with the original architectural design.

EXISTING EXTERIOR CONDITIONS

The following examination of the church's exterior conditions is separated into six (6) sections in an effort to address all areas of the building's exterior envelope. The three basic portions of the building envelope are the masonry, roofs and wall openings. The remaining three categories explain the state of the cornice and trim, how the site impacts the building and other miscellaneous concerns.

MASONRY

Several types of masonry problems exist on the exterior of the church. Many of these problems are not currently noticeable, but could lead to further deterioration in the future. In spite of these problems, the building is in good overall condition.

The church's load bearing masonry exterior and foundation walls are constructed from limestone laid in a random ashlar pattern. The exterior door and window surrounds, belt course and copings are also limestone.

The most widespread problem occurs on the 1887 north façade above the lower belt course and foundation. The stone joints are failing because of improper joint preparation. The modern mortar joints lack the appropriate depth and have been repointed with a hard portland cement based mortar. When the mortar is removed, wet sand lies behind the mortar as a result of water penetration through the mortar joints.

Other problems relating to the condition of the masonry at the church are as follows:

- Limestone is a soft rock and susceptible to cracking. The stone shows minor and potentially on-going fine cracks. There is only minor deterioration of the stone surface.
- There are rare instances of open mortar joints and mortar loss at the joints. The missing mortar does not appear to have allowed the stones to shift. The exception is at the southern buttress on the west elevation where there is evidence of open mortar joints, major cracking, and stone movement.
- In several locations concrete patching on the limestone has failed and as a result there may be water ingress.
- There is possible water infiltration at the masonry belt course midway up the building on the north elevation that could be the result of open mortar joints. A lift will be needed to allow further inspection.

- Stones located next to the sidewalk on the north elevation have deteriorated because of salts used to melt ice.
- There are large areas of copper staining on the masonry walls, primarily on the north elevation.
- Gypsum crusts have formed in several isolated areas on the north elevation. This gypsum crust, calcium carbonate on stone, is a sign of surface deterioration; it is a result of the combination of moisture and sulfur-based air pollution.
- At the entry door surround, on the north elevation, there are several areas of stone cracking caused by minor stone movement. If left unaddressed the cracking will advance with time.
- The top of the brick chimney at the north end of the church is shifting and has open mortar joints.
- There is rust staining at a stone window sill at the ADA entrance. This staining is caused by the rusted window grille above.
- There is evidence of moisture on the masonry walls near the south buttress on the east and west transepts that is caused by poor roof drainage above.
- The upper portion of the brick rear courtyard wall is displaced from shifting and settlement. On the east elevation, five (5) linear feet of coping tile is missing and the brick below is saturated with water. If the coping tile is not replaced, the brick condition will worsen over time.
- A cracked concrete veneer cap is at the north end of the east areaway wall. Cracking was caused by the before mentioned movement of the courtyard wall.
- There are areas of step cracking, caused by settlement, and spalled brick at the south east corner of the brick courtyard wall.
- The brick courtyard walls have various locations with deteriorated bricks and open joints.
- It is assumed that the chimney on the south elevation of the church is unused and will have unnecessary maintenance costs. The chimney is constructed in front of an in-filled historic window opening.
- There is stone movement, joint failure, and improper drainage at the basement window light wells. In many locations, concrete was used improperly in an attempt to address drainage issues and walls are cracked and displaced. The light wells are filled with debris and leaves and as a result, moisture is held against the building.

- Open mortar joints are found at the arched tower windows on the west elevation.
- Weeds are growing out of masonry joints, particularly on the west elevation
- Various failing caulk repairs exist at the stone joints and stone surfaces.
- There are miscellaneous ferrous metal anchors and staining on the masonry below.

ROOFING

Asphalt shingles cover most of the roofs at Bethesda Episcopal Church. Historically the roof was first wood shingles and later roofed with slate shingles. The exception is at the bell tower which has slate roofing that was likely installed in 1887, when the bell tower was constructed.

The asphalt roof is nearing the end of its life and is out of character with the building's architecture. Roof leakage has been reported by the parish, and there are various areas of water penetration in the nave caused by roof leaks or ineffective flashing. There are repairs to the building that were made in the past, most likely to address damage caused by leaks.

A comprehensive inspection of the building's roofing system was not possible because of limited access. However, problems related to the roof are as follows:

- There is heavy ice damming at the eaves.
- Galvanic corrosion and rusting are found where dissimilar metal flashings meet.
- There are areas with cracked or broken slate on the bell tower roof.
- The roof pitch on the west elevation, over the organ storage room, is too shallow for asphalt shingle roofing.
- Loose fastening clips at the upper stone string course on the north elevation may result in the flashings loosening in the future, resulting in water ingress.
- In various locations there are excessive and unnecessary sheet metal flashings hiding the masonry walls.

WALL OPENINGS

The following section of the report includes all of the building's exterior door and window openings.

The stained glass windows are a defining feature of the building. A full inspection of the existing stained glass windows was undertaken by J & R Lamb Studios, which is included in Appendix A of this report. Still in business, Lamb is the same studio that installed the main altar window more than a century ago. The acrylic protective glazing that covers the stained glass windows in the nave and chancel is out of character with the building and is broken or cracked in many locations. The glazing obscures the window from the exterior and many windows are either unventilated or improperly ventilated. This condition will expedite the deterioration of the lead comes that hold the stained glass pieces in place.

There is evidence of roof runoff and ground water entering the building at the ground level basement window wells. This is discussed further in the Masonry section.

Other problems regarding the wall openings are as follows:

- Some degree of air infiltration occurs at most nave windows where daylight can be seen from the interior spaces. These cracks are susceptible to water infiltration.
- Various windows in the church have broken or cracked wooden sills and frames with rot. Wood window sills slope inward causing water to pool on the sill and travel inward to damage the interior plaster. This occurs in numerous locations.
- Paint coatings on the window frames are in poor condition.
- The application of very thick glazing putty obscures the wooden window frames at numerous locations.
- Condensation has formed on the window sills at the ADA entrance because of the lack of sealants. Window and door openings are improperly sealed at numerous locations.
- The double doors at the ADA entrance have no weather-stripping and there is air infiltration. The door binds and is difficult to operate.
- There is cracked glazing putty with broken storm windows at the basement windows. Water and air infiltration occurs at all of these openings.

- The north west basement window has a missing pane of glass and the sash is covered completely with loose plywood.
- The historic hardware at the front entry door on the north elevation is rust stained.
- Exterior doors at the areaway and basement stair enclosure are in poor condition, difficult to operate and are not secure.

CORNICE AND TRIM

The wood cornice and trim are the focus of this section. In general, the wood components are in sound condition except for various window frames with rotted or broken wood sills, as discussed in the Wall Openings section.

Other problems regarding the cornice and trim are as follows:

- There is squirrel damage at the cornice returns at the transepts.
- Unsightly electrical outlet boxes are located in the cornice.
- Paint failure exists on most areas of the wooden cornice.
- There is deterioration at the cornice below the sheet metal roof overflows.
- In various areas there are thick mortar joints that overlap the cornice. When mortar is applied to the face of wood, it is an improper and ineffective joint

SITE

Bethesda Episcopal Church is sited on Washington Street in downtown Saratoga Springs and is an urban site. The building has an open slightly sloped grass lot on the west. This is the site of the proposed Phase I future addition.

- Along the east elevation of the church there is a heaved and cracked concrete sidewalk. There are multiple tripping hazards, a rusty handrail and weeds growing out of the sidewalk cracks.
- The concrete sidewalk, within the courtyard, is heavily cracked and water is infiltrating the building at the church foundation. The exterior stair that leads to the undercroft choir room door is not code compliant.
- Weed trees grow at the southeast and southwest corners of the courtyard wall. If left in place, the root systems will undermine the courtyard foundation.

- Climbing vines grow at the west elevation of the church and if left in place, they may conceal masonry problems in the future.

MISCELLANEOUS

This section will deal with various issues not addressed elsewhere in the report:

- Rusting handrails and newel posts at the north entry stair have caused staining and deterioration on the stone entry stair below. The newel posts are loose and unanchored.
- The exterior fire stair in the courtyard is rusting, unanchored, and in an unusable state. This stair is a safety concern.
- There is exposed electrical conduit in multiple areas at the exterior of the building and next to the building. It is assumed that these conduits are no longer in use but, they are unsightly and detract from the appearance of the building's exterior. If the conduits are still in use, they are a safety hazard.
- The light above the north entry door is rusted and has paint failure.
- The standpipe hose connection on the north elevation of building lacks two caps and there is no closure.
- There is an exposed unsightly conduit pipe inside the basement stair enclosure on the east side of the church. It is assumed that this pipe is no longer in use.

EXISTING INTERIOR CONDITIONS

The interior of the church is well maintained and most of the historic finishes remain including plaster walls and wood hammer beam trusses supporting the roof. Exceptions include the west and east walls of the nave. These walls were furred out in the past and are now clad with gypsum wallboard. There is evidence of current, or past, moisture damage in various places throughout the building.

GENERAL

- Cracked plaster is expected in historic structures, and Bethesda is no exception. Cracking is a natural result of settlement and aging. There are numerous areas with cracked and damaged plaster on the walls and ceilings.
- There are areas where the plaster has been poorly patched and is not compatible with the surrounding historic plaster.
- General paint failure has been caused by moisture in many areas.
- There are areas with uneven, loose, broken or missing historic ceramic tile. In some areas there are open joints between the tiles.
- There is evidence of leaking at radiators and the wainscot above is damaged and warped.
- There is exposed electrical conduit. It is assumed that these conduits are no longer in use but, they are unsightly and detract from the appearance of the building. If the conduits are still in use, they are a safety hazard.
- The fire department reported in their inspection that the church does not satisfy fire safety in various areas, including faulty wiring, the use of extension cords in lieu of permanent wiring, non-approved multi plug wiring and outlet boxes that are lacking faceplates. Additionally there are not exit signs inside the church and the current fire department connection to the sprinkler system is not operable.

NARTHEX AND ADA ENTRANCE

- There is loose wainscot paneling and missing blocking on the east interior wall. This could be a potential source of air infiltration.
- The ceiling plaster is uneven.
- The threshold at the exterior entry door in the narthex is heaved with surface rust. The doorknob is loose; the door is difficult to open and lacks effective weather-stripping.
- The doors that lead to the nave are warped or binding. The original hardware is missing in several places.
- There are salt deposits at the ADA lift and adjacent floor area.
- Grout is missing between tile and stone at the door threshold between the ADA entrance and the narthex. There are also unsightly and ineffective caulk repairs on the floor.

NAVE, TRANSEPTS, CHOIR AND SACRISTY

- There are miscellaneous stone cracks at the altar stair.
- Roof leaks, open masonry joints and/ or flashing problems have resulted in plaster deterioration and moisture staining near the north side of both transepts. There is evidence of moisture-related decay at the wood cladding on the underside of the hammer beam trusses and at the beaded board ceiling in the side aisles. There is loose plaster that is a safety hazard.
- Gypsum wall board clads the east and west nave plaster walls. A modern wainscot cap projects out beyond the wainscot below. The drywall was most likely installed to address past moisture issues and it is not known what problems the gypsum wall board conceals.
- Plaster is cracked and there is evidence of moisture infiltration at many of the window sills.
- There are areas with loose wainscot paneling and gaps above the panels. The wainscot cap is missing in several areas.
- Pews are poorly anchored to the wainscot and loosely anchored to the floor in numerous areas.
- The pulpit is loose and unanchored.

- The carpet runner in the nave is worn and frayed.
- One of the doors between the narthex and nave is missing historic hardware.
- The antique light fixture near the organ is to be retained.
- There is outdated lighting in the chancel and the audio system needs improvement.
- Electric boxes are located in the side of radiators at many places. This is a fire hazard and unsafe.
- Because of the improperly ducted boiler chimney, there is peeling paint in the northwest corner of the nave. After Phase I, the boiler is scheduled to move to the new addition and this problem will be remedied.
- The sacristy floor is uneven and the tiles most likely contain asbestos.
- The glass is broken in the exterior door in the sacristy.

TOWER

- There is evidence of moisture damage in the north east corner. This appears to have been caused by moisture infiltration at the masonry belt course on the exterior, midway up the building. Further inspection will require the use of a lift.
- There is moisture damage on the west wall. This moisture appears to be coming from infiltration at the window opening above. A lift will be needed to inspect further.
- There is missing wainscot paneling on the upper landing.
- There is cracked and loose non-ceramic tile on the ground floor.
- The flashings at the louvered openings are not secure.
- The bell tower roof should be cleaned. Further inspection will require the use of a lift.

UNDERCROFT

- Throughout the undercroft there are obvious signs of water infiltration along the perimeter of the building.
- The interior masonry walls, in the organ blower room, have open mortar joints.

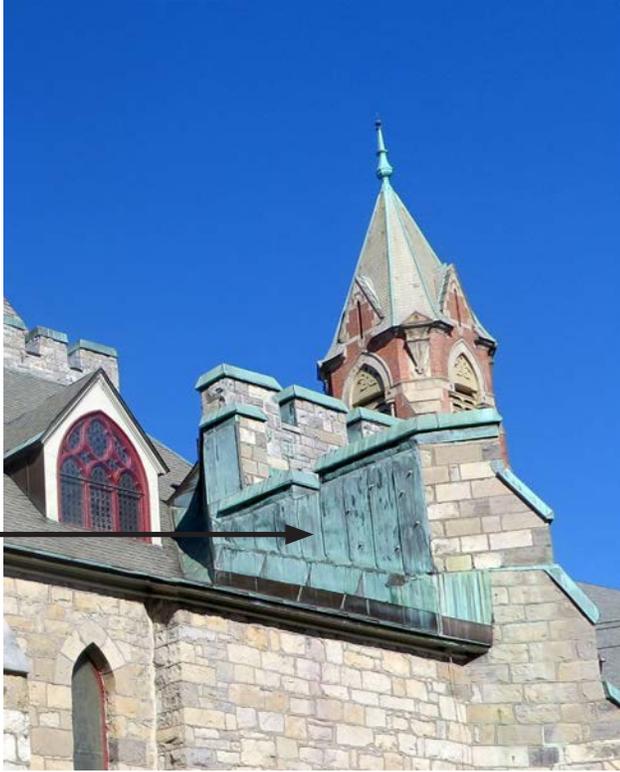
- There is dry rot on the south wall of the vestment room below the wooden cubbies.
- In the north vestment room there is dirt on the floor and evidence of leaking from the adjacent exterior light well. This leaking has caused the baseboard to decay.
- Multiple steel columns below the narthex are rusted and/ or fallen. The columns are not supporting the beam and floor above.
- The restrooms are lacking exhaust fans.
- There is possible water infiltration at the exterior choir room door.
- There is evidence of an outdated HVAC system that needs replacement. Various pipes are leaking, rusted, and un-insulated. The plumbing trunk line is corroded and leaking.

CHOIR ROOM

- The acoustic tile ceiling in the choir room is stained and damaged.
- The floor tile in the choir room may contain asbestos.
- Leaking heating pipes over the east door to the choir room are causing the door casing to decay.

EXISTING CONDITIONS PHOTOGRAPHS

**EXCESSIVE
FLASHING**



The asphalt shingle roofing is nearing the end of its life and is out of character with the historic architecture of the church. In many areas, excessive and unnecessary flashings obscure the masonry walls.



There is deterioration of the cornice below the sheet metal overflows on the west elevation. The masonry walls near the south buttress show signs of excessive moisture caused by the roof drainage above the buttress.



The walls have unwanted moisture and there is decay at the cornice near the south buttress on the east elevation. This deterioration is caused by poor roof drainage.



The door threshold at the front entry door on Washington Street is heaved. Both the threshold, historic hardware and light fixture above the door are rusted and the door requires weatherstripping.

**FILING
CAULK
REPAIR**

**STONE
CRACKS**



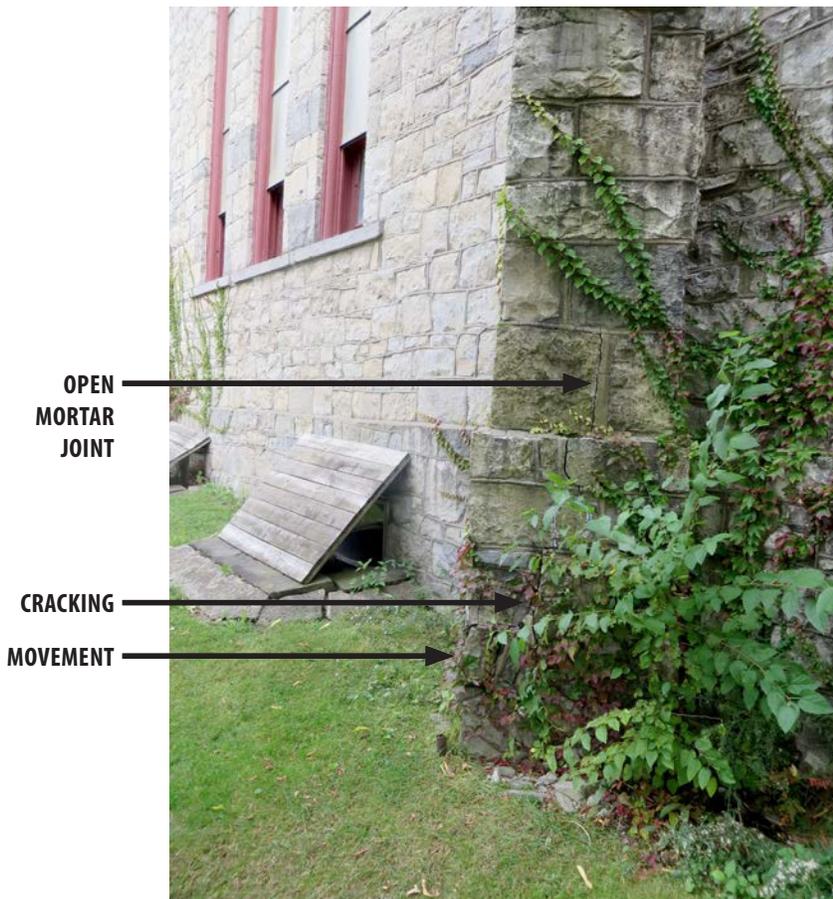
(Left) The entry railing is rusted and has caused staining on the stone stair. The handrail is currently unanchored and loose. It is a safety hazard. Behind the railing, on the masonry wall, is evidence of a failed caulk repair. Stone cracking, caused by minor stone movement, is evident at the door surround.

(Below) There are signs of decay at numerous failed window frames, including the large stained glass window in the chancel.





(Above) Some degree of air or water infiltration occurs at most windows. Because wood window sills are often sloped inadequately to drain water away from the building, water pools on the exterior and travels inward to damage interior window plaster.



(Left) The lower south buttress, on the west elevation, shows signs of stone movement, open mortar joints, and cracking that is caused by settlement of the masonry.



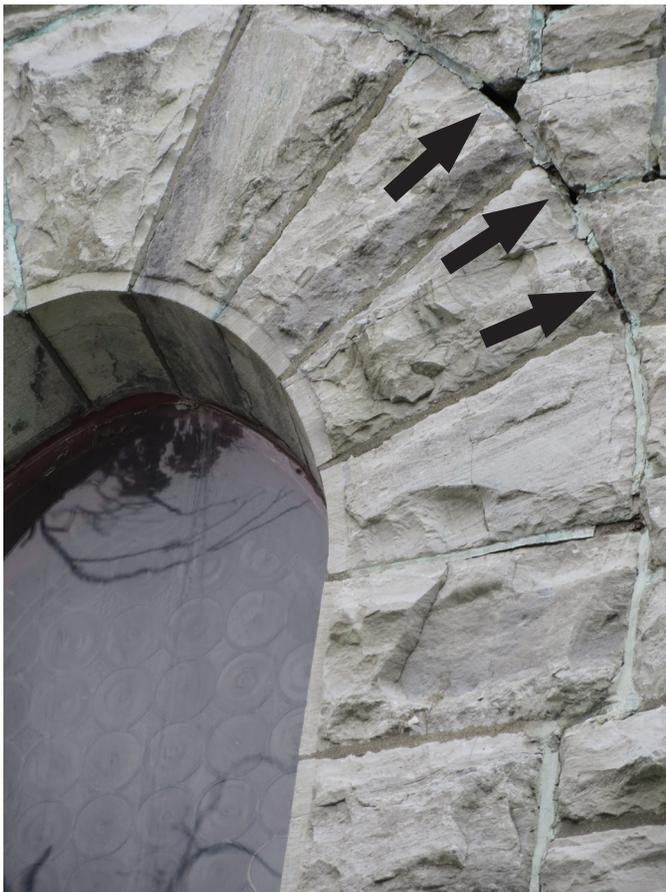
Step cracking exists at the exterior southeast corner of the brick courtyard. The step cracking is the result of minor settlement along with recent repointing with hard, portland cement mortar that is not compatible with the historic masonry. The step cracking should continue to be monitored for evidence of continued movement.



Weed trees grow near the courtyard walls. The root systems of the trees, if left in place, could damage the courtyard footings and foundations.



(Above) There is squirrel damage on the east elevation at the transept cornice.



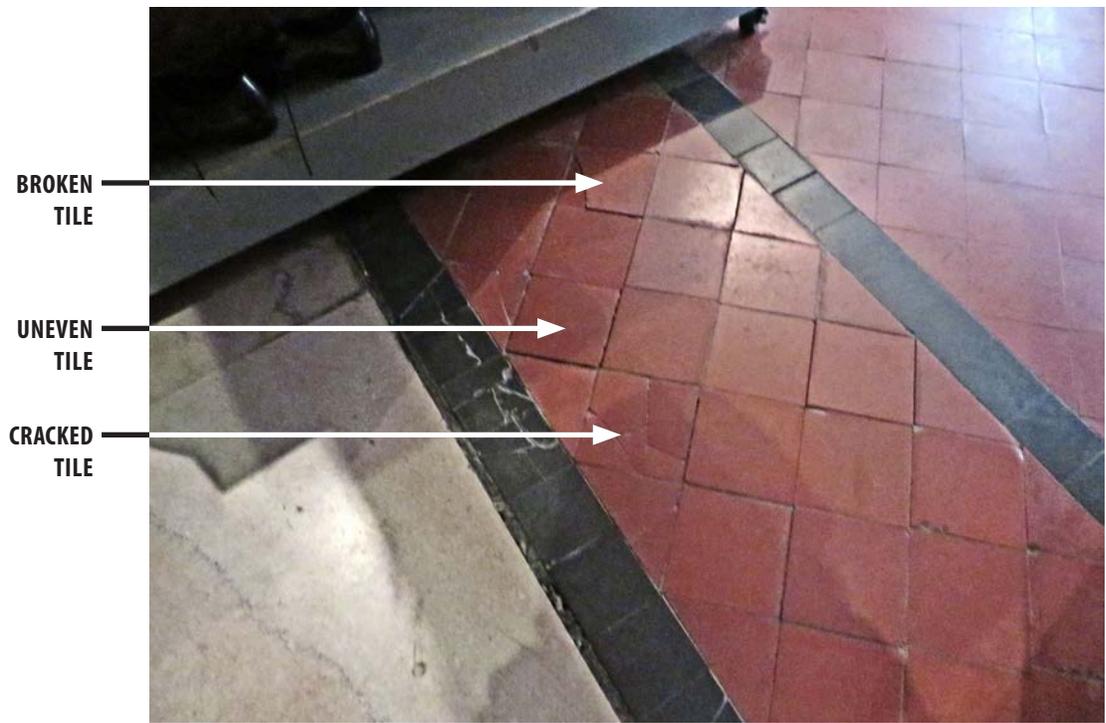
(Left) Open mortar joints above the arched windows of the tower on the west elevation could be a source of water infiltration.



There are electrical outlet boxes and exposed wiring on the wood cornice.



Previous roof leaks, open masonry joints, and deteriorated flashings have resulted in staining and plaster damage at each transept. There is also evidence of decay at the underside of the wood hammer beam trusses and at the beaded board ceiling in the side aisles.



**BROKEN
TILE**

**UNEVEN
TILE**

**CRACKED
TILE**

Various areas in the church have cracked, broken, or misaligned historic ceramic floor tiles.



The wainscot above the radiators is damaged and warped throughout the building. The wainscot is loose, and the wainscot cap is missing in numerous locations.

RECOMMENDATIONS

Bethesda Episcopal Church is a major landmark in downtown Saratoga Springs and an excellent example of Gothic Revival architecture. Although deferred maintenance and several previous misguided alterations have compromised parts of the building, Bethesda remains in good overall condition because of the high quality of its original construction. Bethesda will successfully remain a community asset if properly repaired and maintained.

The following list of recommendations includes Phase I work, which is a list of renovation work on the existing church building that will coincide with the construction of the new parish hall and community center. The remaining recommendations have been organized in order from most urgent (Priority One) to least urgent (Priority Three). An effort has been made to group like work items together. The list may need to be adjusted based upon the availability of funding to perform the work.

Work listed as first priority deals primarily with safety concerns and projects aimed at halting water infiltration into the building. Second priority work addresses less urgent matters including, roofing, glazing, chimney removal, and time sensitive finishing repairs. The final level of work is directed towards repairs that do not directly impact the condition of neighboring building elements.

The interiors of the church are in good condition except where problems on the building's exterior have had a negative impact on interior surfaces. All exterior work that may have an impact on interior finish should be completed before any major repairs are made to the building's interior. Items such as the historic clock mechanism, the historic sconce on the upper floor of the tower, and the antique light fixture near the choir, should be retained.

Issues relating to energy conservation are not a part of the recommendations since they do not generally directly impact the condition of the building. However, all work associated with installing a new energy efficient HVAC system should be completed before plaster is repaired or the church is repainted, as this work will require disturbing some historic finishes.

Construction work should be carried out only after contract documents have been prepared by an architect or engineer experienced in the restoration of historic buildings. Prior to the preparation of contract documents it will be necessary to undertake probes in several locations to better understand underlying conditions. Together, these two steps will allow the full scope of work to be bid as accurately and definitively as possible.

PHASE I

- The concrete sidewalk along the east elevation of the church should be removed, along with the crumbling concrete sidewalks inside the rear courtyard. The concrete stair in the courtyard should be replaced with a stair that has a code compliant landing, proper drainage and pitch. A full perimeter drainage system and waterproofing should be installed around the foundation of the building. ***As part of Phase I construction, new perimeter drainage along the west side of the building will be installed. If funding permits, Phase I work will include all of the items listed above.***
- The existing basement window light wells should be removed and rebuilt to eliminate water infiltration. ***As part of Phase I construction, the light wells will be rebuilt and new storm water drainage installed.***
- The exterior fire stair outside the sacristy door should be replaced. This stair is a safety hazard in its current state. To achieve code compliance, the swing of the door must be reversed and panic hardware installed. The glazing in the sacristy door needs to be replaced. ***This work will be completed as part of Phase I construction.***
- The acoustic system within the church should be improved. ***Acoustic upgrades have been designed as part of Phase I construction.***
- The failing non-ceramic tile at the ground floor level in the tower should be replaced. ***This work will be completed as part of Phase I construction.***
- The existing doors at the rear courtyard and basement stair enclosure should be replaced with historically appropriate doors. ***This work will be completed as part of Phase I construction.***
- A structural engineer should be hired to evaluate the rusted and missing structural columns under the narthex and decide if there are safety issues pertaining to the columns. A probe should be completed at the hammer beam trusses on the north side of the east and west transepts and a structural engineer should ascertain the extent of the damage caused by moisture infiltration. ***This work will be completed as part of Phase I construction.***

PRIORITY ONE

- Temporary roof repairs should be installed at areas of current roof leaks.
- All open and failed masonry joints should be fully raked out and repointed with an appropriate mortar mix. Sloppy or mismatched replacement mortar

- should also be replaced. All miscellaneous ferrous anchors should be removed from the masonry walls as well as weeds from masonry joints. The cracks at the stone entry door surround should be filled with epoxy or grout.
- The severe cracking and stone movement at the southern buttress on the west elevation should be repaired. This work may require rebuilding.
 - All failed concrete patching on stones should be removed and the underlying conditions assessed. In some locations new stone will be required. In other locations new patches may need to be installed.
 - Deteriorated bricks in the brick wall surrounding the rear courtyard should be replaced with new brick to match the existing in size, color, and texture.
 - Coping tile at top of courtyard walls should be replaced to produce a water tight cap.
 - All copper staining, rust staining and gypsum crust should be cleaned and removed from the exterior masonry using the gentlest cleaning method possible.
 - All existing wood window frames and sash should be restored and new components made to match historic components as needed. Care should be taken to ensure that all window sills slope away from the building. Broken basement window glass should be replaced.
 - All doors that do not open smoothly should be adjusted and repaired so that they swing freely. Weather-stripping should be installed at all exterior doors and all missing door hardware should be replaced.
 - An exterminator should be called to remove squirrels from the attic space. The wood cornice at the east transept should be repaired and patched immediately following successful removal of the squirrels to prevent their return.
 - New metal handrails and newel posts should be installed at the entry stair.
 - All areas of loose plaster within the church should be removed or reattached to ensure safety.
 - The interior lighting, in the chancel of the church, should be replaced.
 - All bushes, vines and vegetation in direct contact with the building should be removed.
 - After exterior moisture mitigation work is complete, moisture detectors should be installed in the undercroft. If the above exterior measures do not reduce moisture infiltration sufficiently, the undercroft floor slab may have to be

removed and a perimeter interior drainage system installed. Programming will dictate the extent of this work, as well as other repairs and replacement in the undercroft.

- After the brick joints at the south east corner of the brick courtyard are repointed, they should be monitored. If the joints reopen, it is a sign of continued wall movement and a structural engineer should evaluate.
- A licensed electrical engineer should be hired to evaluate the electrical service.
- A fire protection engineer should evaluate the existing fire protection and fire alarm system in the church. All items noted as failed or not observed in the 2015 Fire Department Inspection Report should be addressed and remedied.
- Licensed mechanical engineers should conduct a mechanical evaluation of the existing building and prepare a new HVAC system design.

PRIORITY TWO

- Areas of the masonry walls with intact but inappropriately hard Portland cement based mortars should be removed and repointed as needed.
- The unused brick chimney on the south elevation of the church should be removed and the cornice and stone beyond patched and repaired. The brick infill that is currently in the adjacent historic window opening could be removed and a new window installed.
- Following the relocation of the boiler to the new addition, the inactive chimney on the west elevation can be removed. This work should be done in conjunction with other roof work. If the chimney is not removed, the top of the chimney should be repointed and reset.
- The existing asphalt shingle roofing should be replaced with a new roofing system that is more appropriate to the architectural character of the building.
- All deteriorated framing or roof sheathing that is uncovered during roof replacement or chimney removal should be repaired or replaced.
- A sheet metal cricket should be installed on the roof above the south buttress of the east transept. The roof cricket will redirect storm water and reduce runoff on the masonry wall below.
- The low sloped asphalt roofing above the organ storage room on the west side of the church should be replaced with flat lock seam sheet metal roofing. The roof pitch is too shallow for asphalt shingles and this material change will

reduce the threat of future leaking. An interior drainage system should be considered in order to reduce runoff on the masonry wall below.

- Cracked or broken slate on the bell tower roof should be removed and replaced with slate that matches the existing in size and color.
- To reduce ice damming, rigid insulation and furring could be added to the top of existing roof deck. Due to the thickness of the new roof, it would sit higher than the sills of the clerestory windows. The sills would have to be raised and new protective glazing would need to be designed to accommodate the new sill heights. At some locations, at the south of the church, it may be possible to insulate from the interior.
- After roof and flashing replacement is complete, the gypsum wallboard cladded side aisle walls, at the east and west sides of the nave, should be monitored for evidence of continued moisture intrusion. If moisture intrusion continues, a probe should be undertaken.
- New protective glazing should be installed on all of the church's stained glass windows and conform to the existing tracery pattern. This glazing system must be designed to allow for proper ventilation. Appendix A and the Stained Glass Conditions Report completed by J & R Lamb Studios contains a full inspection of the existing stained glass windows and provides prioritization for their repair.
- All missing and badly deteriorated areas of the building's exterior wood cornice should be replaced to match the original profile.
- Following all exterior wood repairs, the cornice and trim should be fully and carefully scraped, primed and painted. The primary interior spaces should be repainted after the plaster has been repaired. Paint seriation analysis should be done to determine the historically appropriate paint schemes in all areas.
- Repairs should be made to the framing below the narthex floor.
- All areas of damaged historic plaster should be repaired once water infiltration has been dealt with effectively and plaster has had time to dry. Historically, the plaster was scored to look like masonry. If funds are available, the plaster should be restored to its original finish. Plaster work should be done in conjunction with the installation of the new HVAC system.
- Miscellaneous failing caulk repairs should be removed and replaced. If the caulk repair is at a masonry to masonry joint, it should be removed and replaced with mortar.

- Loose historic ceramic tile in the church should be re-secured and missing or broken tiles replaced. Missing grout between tiles and at thresholds should be replaced. Cracks at the stone altar stairs should be filled with epoxy or grout.
- A new energy efficient HVAC system should be installed. The new system should be designed in conjunction with the mechanical evaluation in Priority One.

PRIORITY THREE

- The light fixture above the entry door, on the north elevation, should be repainted.
- Caps should be provided for the standpipe hose connection on the north elevation.
- Wainscot paneling should be reattached and various pews re-anchored to the wainscot or the floor below.
- The pulpit should be re-anchored to floor.
- The carpet runner in the nave should be replaced or removed.
- The floor tile in the sacristy should be replaced. The floor tile in the choir room should be replaced as programming necessitates.
- All deteriorated and moisture damaged wood should be removed and replaced in auxiliary spaces. Programming will dictate the extent of this work.

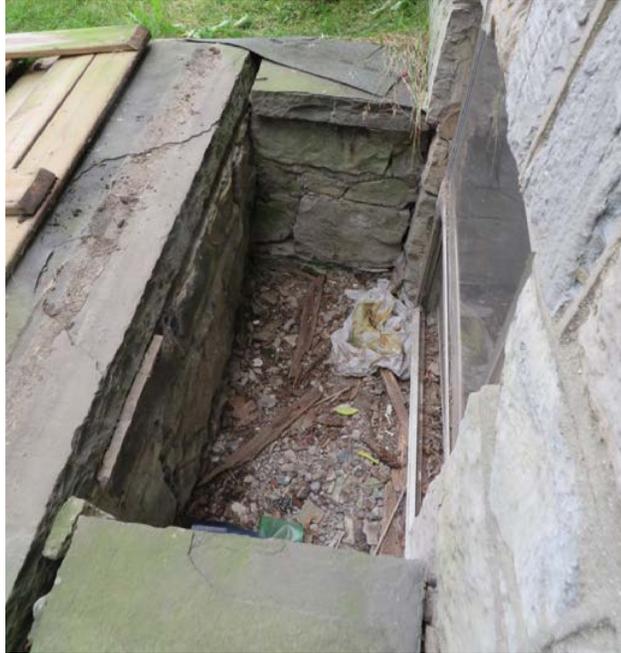
RECOMMENDATIONS PHOTOGRAPHS



(Above) The sidewalk at the east side of the church is heaved and cracked with many tripping hazards. It is sloped towards the building in some places. There are extensive moisture issues in the undercroft and the sidewalk is located where future stormwater drainage needs to be installed. ***If funding permits, Phase I construction will include this work.***



(Left) The concrete sidewalks inside the rear courtyard should be removed and the concrete stair in the courtyard replaced with a stair that is code compliant. A perimeter drainage system and waterproofing need to be installed around the foundation of the building to prevent water infiltration. ***If funding permits, Phase I construction will include this work.***



The existing basement windows wells show signs of stone movement, joint failure and improper drainage. They need to be replaced. At the existing window wells there is significant moisture infiltration into the undercroft. ***Phase I construction includes rebuilding the exterior light wells and installing new storm water drainage.***



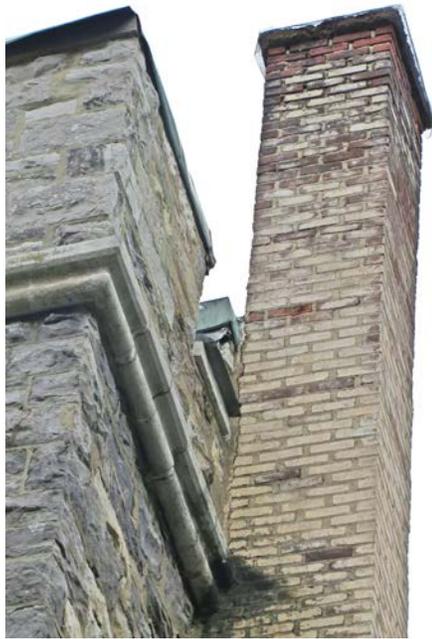
In the undercroft along the perimeter of the building, there are numerous signs of water infiltration from the exterior light wells. The leaking at this light well has caused the baseboard to decay. ***Phase I construction includes rebuilding the exterior light wells and installing new storm water drainage.***



The existing fire stair in the rear courtyard is a safety concern because of its general state of disrepair. *This stair is scheduled to be replaced in Phase I construction. Alterations will also be made to the Sacristy door that is at the top of the stair. The swing of this door will be reversed and hardware added to make the door code compliant.*



The vinyl composite tile on the ground floor in the tower is failing and not compatible with the surrounding historic architecture. *This tile will be replaced in Phase I construction and salvaged ceramic tile will be installed that matches the existing tile in the nave and narthex.*



The upper brick courses on the north chimney are shifting and have open mortar joints. *In Phase I construction a new mechanical room will be constructed in the addition. Space will be reserved for a new boiler for the existing church. After the new boiler is installed, this chimney will no longer be used and it can be demolished.*



On the interior of the north chimney, there is peeling paint due to the improperly ducted boiler chimney. *After Phase I construction, the boiler is scheduled to move to the new addition, this problem will be remedied and this area can be repainted.*



There are rusted and/ or fallen steel columns in the undercroft under the narthex. *In Phase I construction, a structural engineer will evaluate the rusted and missing structural columns under the narthex to determine if there are significant safety issues.*



To reduce wintertime ice damming on the church, the roof needs to be insulated. Furring, rigid insulation, and new roofing will be added to the top of the existing roof deck. The new, thicker roof will then sit higher than the sills at the clerestory dormer windows. The sills will then have to be raised and new protective glazing designed.

PROPOSED PARISH HALL & COMMUNITY CENTER EXPANSION PHASE I

Bethesda Episcopal Church is constructing a new parish hall and community center addition on the empty lot that is to the west of the existing church. This new addition was designed to accommodate Bethesda's needs for a new parish hall while also serving the community.

The first floor of the parish hall addition will contain a series of multi-use spaces including a Great Room that seats 200, a catering kitchen, church offices, meeting space and the music training center. Future tenants on the upper floors will occupy rental space for the service based community and non-profit organizations. The spaces will include daycare classrooms that will also be used by the church for their Sunday school program, retail and office tenants. The majority of these future tenants have signed written expressions of interest, demonstrating their intent to occupy space in the new community center. Formal lease arrangements are pending.

When JGWA designed the new addition, special attention was given to the English architect Augustus WN Pugin and the Gothic Revival architecture that originally influenced the architect of the church, Richard Upjohn. The new addition is a modern redefinition of this style and the addition was designed to complement the existing church in massing and detail.

In this first phase of construction, there will be renovations to the historic existing church. It is anticipated that, as funding permits, additional renovation work outlined in this study can either accompany Phase I work, or will follow. Please refer to the Recommendations section of this report.

APPENDIX

STAINED GLASS CONDITIONS REPORT

J & R Lamb Studios, Inc.



J & R Lamb Studios, inc.

STAINED GLASS CONDITIONS REPORT

Bethesda Episcopal Church
41 Washington Street
Saratoga Springs, NY 12866

September 24, 2015

On Tuesday September 8, 2015 I visited the church and examined the stained glass windows. I made a hands-on examination of the windows where possible and I used binoculars to make a visual examination of the higher windows. Window numbers correspond to the stained glass window layout below.

Window 1: Triple lancet window, approximately 9' x 11'. The window was examined through binoculars, and appears to be basically flat and on plane with the frame. Several pieces of glass with single cracks were observed. **Recommendation:** No work recommended at this time.

Window 2: Single lancet window, approximately 2' x 18' - 6". The stained glass in the operable ventilator is bulging and is weak, the panel flexes easily to the touch, likely the result of the continual opening and closing of the ventilators over time. The panel above the ventilator could also be reached and was strong to the touch, perhaps due to the adequate number of horizontal support bars present. A visual examination was made of the remainder of the window; it appeared mostly flat and on plane with all horizontal support bars attached. **Recommendation:** Releading of the ventilator stained glass panel.

Window 3: Single lancet window, approximately 2' x 21' - 6". The stained glass in the operable ventilator is bulging and is weak, the panel flexes easily to the touch, and the upper horizontal support bar has become detached from the stained glass panel. The poor condition of this panel is likely the result of the continual opening and closing of the ventilators over time. The panel above the ventilator could also be reached and was strong to the touch, perhaps due to the adequate number of horizontal support bars present. A visual examination was made of the remainder of the window; two noticeable bulges in the stained glass were noted. **Recommendation:** Releading of the ventilator stained glass panel. The bulges in the upper panels should be monitored to see if they worsen.

Interior design : chapels : columbaria

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Window 4: Single lancet window, approximately 2' x 18' - 6". The stained glass in the operable ventilator is bulging and is weak, the panel flexes easily to the touch, likely the result of the continual opening and closing of the ventilators over time. The panel above the ventilator could also be reached and was strong to the touch, perhaps due to the adequate number of horizontal support bars present. A visual examination was made of the remainder of the window; it appeared mostly flat and on plane with all horizontal support bars attached. **Recommendation:** Releading of the ventilator stained glass panel.

Window 5: Single lancet window, approximately 2' x 18' - 6". All the panels which comprise this appear to be mostly flat, but with some mild bowing beginning at the border which surrounds the figure. The stained glass in the operable ventilator and the panel directly above it contain several pieces of damaged glass (likely due to window slam factor), yet the lead felt strong to the touch with no visible breaks in the joints or lead coming. **Recommendation:** Make repairs to damaged glass in two lowest panels, monitor bowing in border around the figure.

Window 6: Single lancet window, approximately 2' x 21' - 6". All the panels which comprise this appear to be flat and well attached to the horizontal support bars. Lower panels were strong to the touch with no visible breaks in the joints or lead coming. **Recommendation:** No work recommended at this time.

Window 7: Single lancet window, approximately 2' x 18' - 6". All the panels which comprise this appear to be mostly flat, but with some mild bowing beginning at the border which surrounds the figure. Lower panels were strong to the touch with no visible breaks in the joints or lead coming. **Recommendation:** No work recommended at this time, monitor bowing in border around figure.

Note: *Windows 8 through 18 have had on site repairs performed previously, most notably the addition of new horizontal support bars. The new bars seem to have been successful in certain windows but not as effective in others. Some of the ineffective bars have fallen off, while others are not tied into the frame and are therefore not supporting the window effectively.*

Window 8: Single lancet window, approximately 21" x 105". The lead coming in this window appears to be weak with visible breaks in lead and some bowing. Evidence of previous on-site repair work having been performed, including puttying of the window in place, glass replacements, and new horizontal support bars. **Recommendation:** Complete releading of the window.

Window 9: Single lancet window, approximately 21" x 105". The lead coming in this window appears to be weak with visible breaks in lead and some bowing. Evidence of previous on-site repair work having been performed, including puttying of the window in place, glass replacements, and new horizontal support bars. **Recommendation:** Complete releading of the window.

Window 10: Single lancet window, approximately 21" x 105". The ventilator stained glass has been recently reled and is in good condition. The lead coming in the remainder of this window appears to be weak with visible breaks in lead and some bowing. Evidence of previous on-site work having been performed including puttying of the window in place, glass replacements, and new horizontal support bars. **Recommendation:** Complete releading of the window above the ventilator.

Window 11: Single lancet window, approximately 21" x 105". The lead coming in this window appears to be weak with moderate bowing throughout. Evidence of previous on-site repair work having been performed, including glass replacements and new horizontal support bars. **Recommendation:** Complete releading of the window.

Window 12: Single lancet window, approximately 21" x 105". The lead coming in this window appears to be in slightly better condition than windows 8-11, with only mild bowing seen throughout. Evidence of previous on-site repair work having been performed, including new horizontal support bars. **Recommendation:** Complete releading of the window.

Window 13: Single lancet window, approximately 21" x 105". The lead coming in this window appears to be in slightly better condition than windows 8-11, with only mild bowing seen throughout. Evidence of previous on-site repair work having been performed, including new horizontal support bars. **Recommendation:** Complete releading of the window.

Window 14: Single lancet window, approximately 21" x 105". The lead coming in this window appears to be in just slightly better condition than windows 8-11, with mild bowing seen throughout. The ventilator stained glass panel contains damaged glass and is separating from its horizontal support bar. Evidence of previous on-site repair work having been performed, including new horizontal support bars. **Recommendation:** Complete releading of the window.

Window 15: Single lancet window, approximately 21" x 105". The lead coming in this window appears to be in just slightly better condition than windows 8-11, with mild bowing seen throughout. Evidence of previous on-site repair work having been performed, including new horizontal support bars. **Recommendation:** Complete releading of the window.

Window 16: Single lancet window, approximately 21" x 105". The lead coming in this window appears to be in just slightly better condition than windows 8-11, with mild bowing seen throughout. Evidence of previous on-site repair work having been performed, including new horizontal support bars. **Recommendation:** Complete releading of the window.

Window 17: Single lancet window, approximately 21" x 105". The lead coming in this window appears to be in just slightly better condition than windows 8-11, with mild bowing seen throughout. Evidence of previous on-site repair work having been performed, including lead overlays and new horizontal support bars. **Recommendation:** Complete releading of the window.

Window 18: Single lancet window, approximately 21" x 105". The lead coming in this window appears to be in just slightly better condition than windows 8-11, with mild bowing seen throughout. Evidence of previous on-site repair work having been performed, including new horizontal support bars. **Recommendation:** Complete releading of the window.

Window 19: Single lancet window, approximately 21" x 105". The bottom panel of this window has been recently reled and is in good condition. The upper portion is in poor condition with considerable bowing and some damaged glass. **Recommendation:** Complete releading of the window above the bottom panel.

Window 20: Single lancet window, approximately 21" x 110". The ventilator stained glass panel has been recently reled and is in good condition. The panels above the ventilator are in good condition – flat, on plane, and well attached to the support bars. **Recommendation:** No work is recommended at this time.

Window 21: Small window, approximately 22" x 44". This window is in good condition, flat and strong to the touch. **Recommendation:** No work is recommended at this time.

Window 22: Small window, approximately 22" x 44". This window is in good condition, flat and strong to the touch. Note that one face is cracked along with one neighboring piece of glass, and it is possible that the paint is failing in several pieces in this window. **Recommendation:** No work is recommended at this time.

Window 23: Small gothic top window, approximately 26" x 77". This window is in poor condition - the paint is severely failing, the middle panel is bowed, the window is weak and moves to the touch, and there is a crack through Jesus' head. **Recommendation:** Full restoration of the window.

Window 24: Door panel, approximately 30" x 64". This door panel is in poor condition; it is bowed, with many cracked joints, lead overlays, and poor previous glass replacements. **Recommendation:** Complete releading of the window.

Window 25: Door panel, approximately 30" x 64". This door panel has sustained considerable damage in the lower portion, presumably from use of the door. New horizontal support bars have been added and poor quality previous repairs have been made. Clear glass on one side is likely supporting the window and keeping it flat. **Recommendation:** Complete releading of the window.

Window 26: Door panel, approximately 30" x 64". This leaded glass panel with rondels and textured clear glass has one damaged rondel and several cracked pieces of textured glass. One horizontal support bar is separating from the leaded glass panel. **Recommendation:** Removal to studio for repairs.

Window 27: Small stairwell window, approximately 19" x 41". This leaded glass window is in satisfactory condition. **Recommendation:** No work recommended at this time.

Window 28: Medium stairwell window, approximately 36" x 80". This leaded glass window is in satisfactory condition. **Recommendation:** No work recommended at this time.

Windows 29-31: Small balcony windows, approximately 28" x 68" each. These windows are in good condition, flat and strong, likely due to their relatively small size and adequate support system. **Recommendation:** No work recommended at this time.

Clerestory Windows: It was difficult to get a good look at these windows due to their height and position. Binoculars were used from the ground level and the balcony. Observations include:

- Clerestory A: The ventilator panel in this window is in very poor condition with much damaged glass.
- Clerestory C: Damaged glass in upper right kite.
- Clerestory E: The ventilator panel in this window is in very poor condition with much damaged glass.

- Clerestory G: Damaged glass throughout, most notably in the largest kite.
- Clerestory J: Damaged glass throughout.
- Clerestory I: Large bow present in panel above the ventilator.

Recommendation: It is difficult to give a work recommendation at this time; we recommend a hands on examination of the windows, which would require access (interior scaffolding set up).

Protective Coverings: All the lower windows with outside access are currently covered with Lexan sheeting that has yellowed and clouded over, which has been installed without any venting. The clerestory windows are covered with clear acrylic, which has been installed improperly by running screws through the plastic at the perimeters and also without ventilation. **Recommendation:** Removal of the existing protective covering and the installation of new ¼” clear laminated safety glass. New protection will also be vented to reduce heat and moisture buildup in the airspace between the stained glass and protective covering.

PRIORITIZATION

High Priority:

- Windows 2-4, releading of ventilator stained glass.
- Windows 8-11, complete releading, with the exception of the ventilator in Window 10.
- Windows 12-19, complete releading, with the exception of the bottom panel of Window 19.
- Exterior: replacement of all protective coverings.

Medium Priority:

- Windows 23-35, complete releading.
- Clerestory Windows: Hands on examination to be performed.

Low Priority:

- Window 5 and 26: Repairs to stained glass.

Lowest Priority:

- Windows 1, 6, 7, 20-22, and 27-31: No work at this time

We assume that the church is collecting information about the stained glass windows and their condition from various sources. Once this has been completed and a scope of work has been established, we will be happy to provide a proposal with specifications regarding the work to be done and a budget to perform the work.

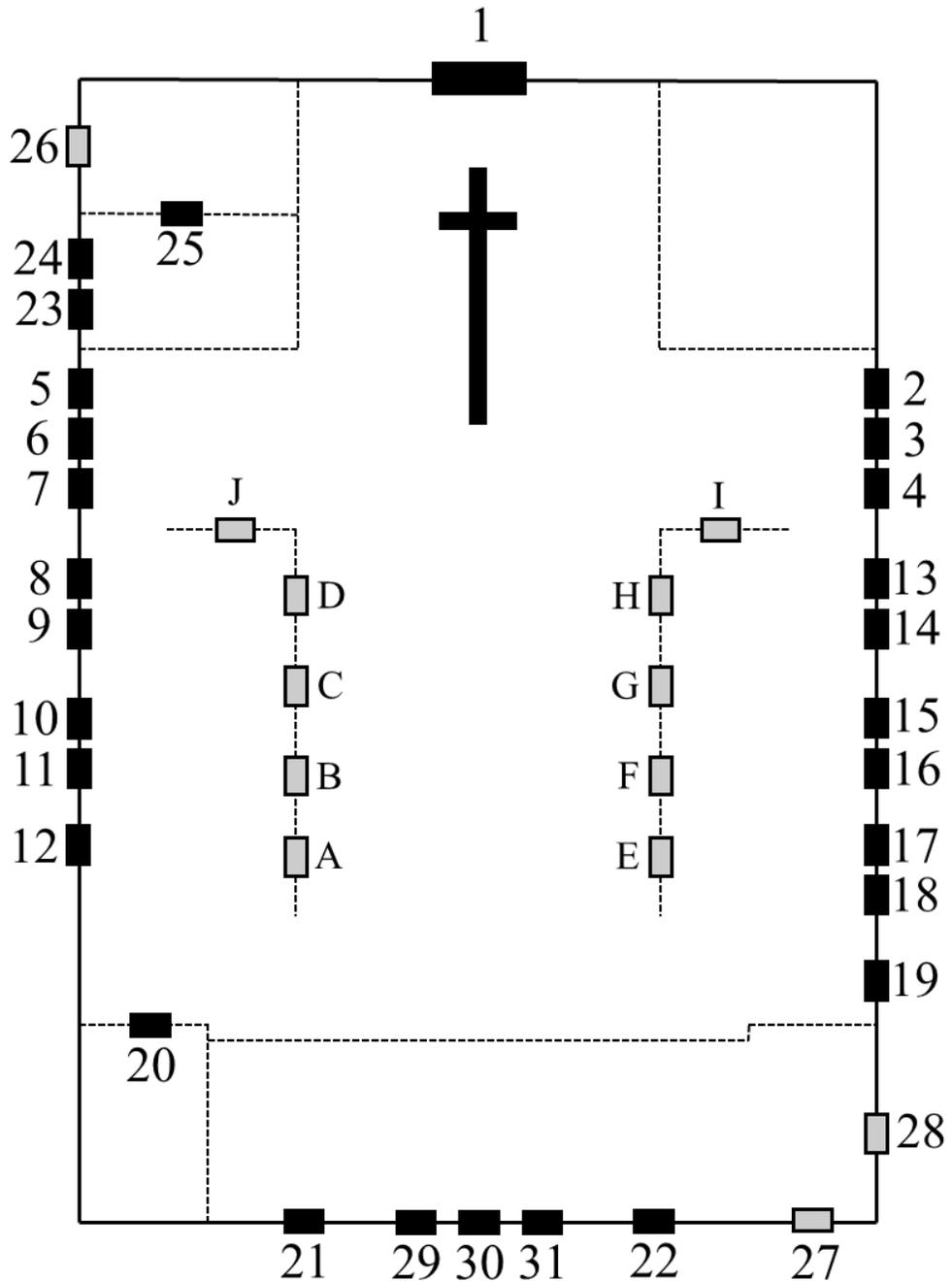
We thank the church for this opportunity and we look forward to the possibility of working at Bethesda Episcopal Church.

Respectfully Submitted,

Matthew Zeidler

J & R Lamb studios, inc.

BETHESDA EPISCOPAL CHURCH
41 Washington Street
Saratoga Springs, NY 12866



■ = Stained Glass Window

■ = Leaded Glass Window

J & R Lamb Studios, Inc.