



30 December 2016

Maisa L. Tisdale
The Mary & Eliza Freeman Center for History and Community
360/354 Main Street
Bridgeport, CT 06604

Reference: Walters Memorial A.M.E. Zion Church - Cursory Structural Conditions Assessment

Dear Wes:

It is a pleasure to present the findings from the cursory structural conditions assessment of the Walters Memorial A.M.E. Zion Church in Bridgeport, CT in the following report.

Executive Summary

The Walters Memorial Church has remained unopened since being flooded during Hurricane Sandy in 2012. Despite the significant flooding in the basement during and after the hurricane, the overall structural condition of the building is generally stable and sound. Building envelope and structural frame areas observed to be in need of repair and maintenance include roof, gutters/leaders, masonry foundation walls and reinforcement of leaning front parapet. Additionally, we have provided some comments on protection against future flood events in the context of FEMA guidelines.

General Description

We visited the site on 26/August/2016 to perform a cursory survey of the existing building and assess its structural integrity.

The church is located at 427 Broad Street and 12 Gregory Street, Bridgeport. For the purposes of this report the front of the church, which faces Broad Street, is considered east. Behind the main building is the parsonage, which was also reviewed during our investigation and included in this report.

Building Description

As described in the CT State Register of Historic Places Registration Form:

The church building is one story in height atop a high stone basement with a front-gable roof. The façade is comprised of three lancet-arch windows symmetrically arranged with a central entrance. The north and side elevations are five bays wide with transomed two-over-two-light fenestration set with colored glass. A small flank entry pavilion was added

to the north side in a mid-20th-century renovation. The building is presently encased in vinyl siding, with narrow 19th-century clapboard (north, south, and rear walls) and wide mid-20th-century clapboard (façade) extant underneath. At the south corner of the basement wall of the façade are two cornerstones, one in brownstone dating to 1835 and the other in granite above it set in 1951.

To the rear of the church facing south onto Gregory Street is the parsonage. This structure is of Dutch Colonial style, one-and-a-half stories in height, with a side-gable gambrel roof. It has a side entrance situated under a recessed porch, and two prominent second-story façade dormers. This building is also covered at present with vinyl siding, with original clapboard and shingle siding beneath.

The first / main floor of both the church and parsonage buildings is located a half story above exterior grade, and both sit above a full-story basement. The floodwaters from Hurricane Sandy in 2012 filled the basement but did not rise to the first floor. The floodwaters destroyed almost all finishes in the basement of the church building, and mechanical and electrical equipment below the flood line.

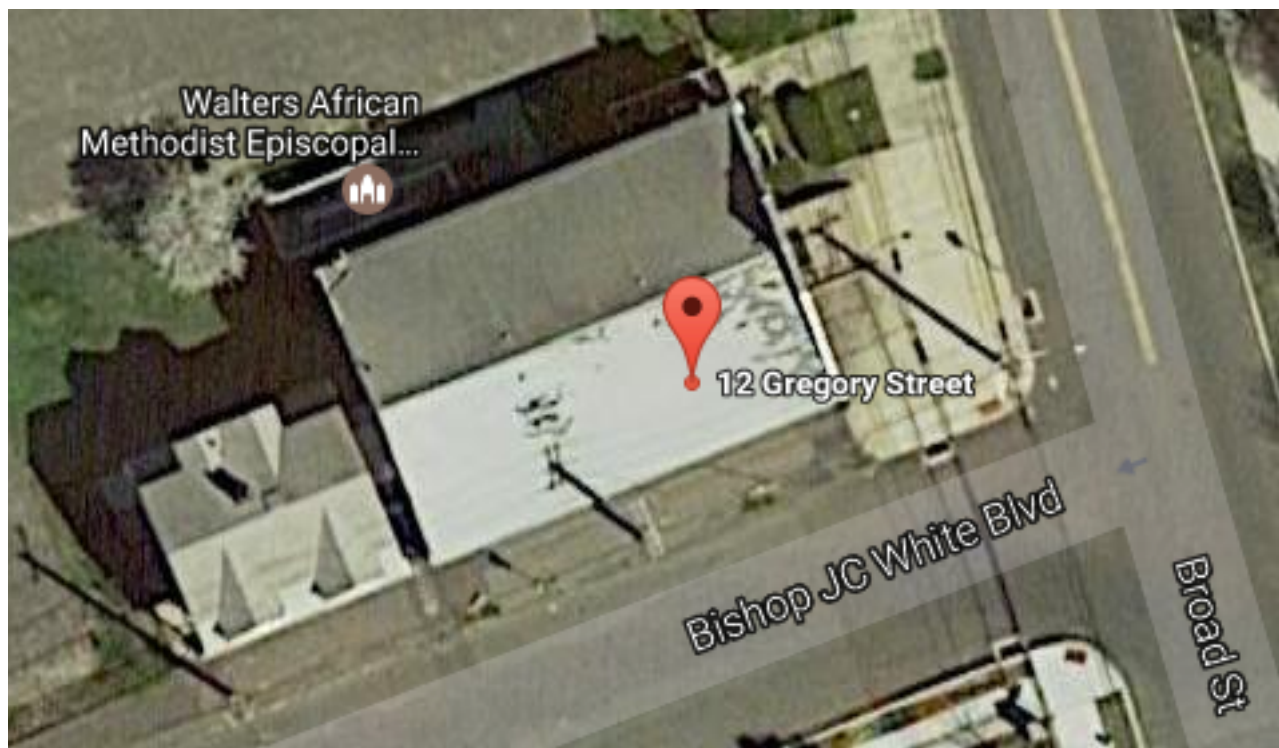


Figure 1. Plan View of Building (C) Google Maps 2016

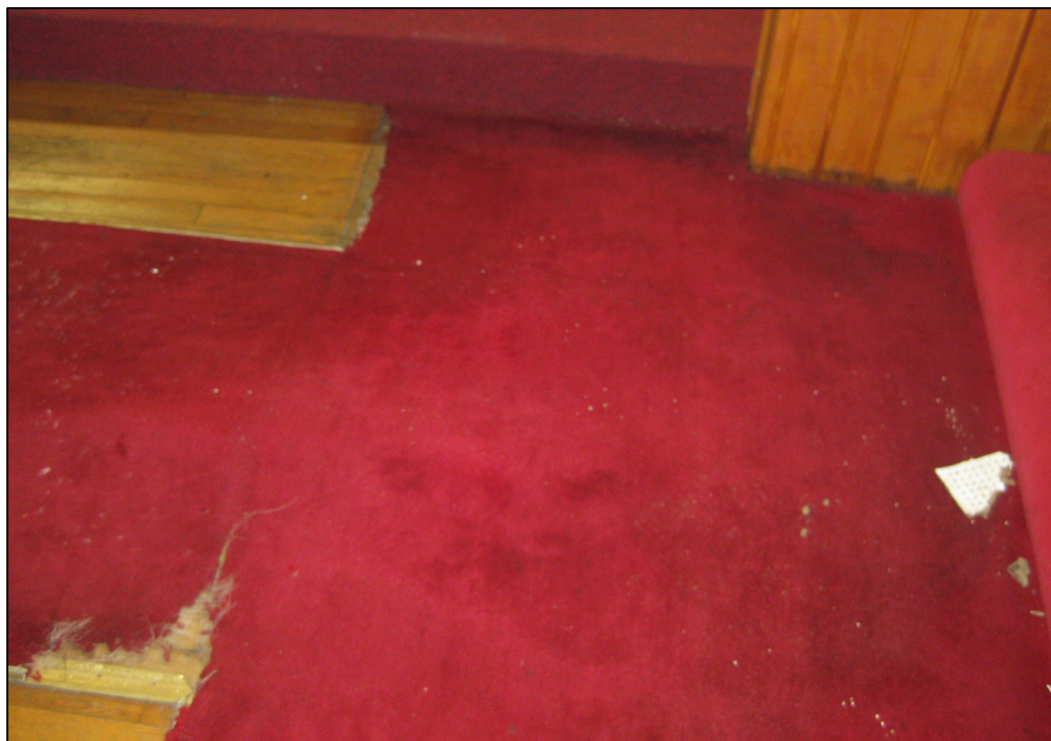
Noted Building Conditions and Repair Recommendations

The following is a brief photographic list of the noted conditions. The list is *not meant to be fully exhaustive*, but only representative of observations made during the cursory field visit. Repair recommendations should be developed further as part of a full Conditions Assessment report or professional design documents for repair and maintenance work.

1. We accessed the attic space above a hatch at the east end of the church. Dimensional lumber rafters within sight appear to be sound and functioning as intended. An active roof leak at the western end of the church is apparent. We could not see these rafters from the access hatch at the east. Some localized deterioration of rafters may have occurred and the rafters should be accessed and checked.



2. Buckling of first floor decking directly below roof leak will need to be repaired.



3. Front (east) parapet leaning back (west), needs further investigation and repair. Note that a section of the coping is missing, which can allow for potential moisture infiltration into the wall.



4. Multiple shingles on the east side of the roof in the vicinity of the parapet are missing or loose, and require replacement. There are several areas of the roof that exhibit similar conditions, and full roof replacement may be recommended pending further investigation. It is not clear whether an older layer of shingles is below.



5. Severe mortar joint deterioration and potential displacement of brick masonry units at the parsonage chimney. Complete or partial rebuilding of the chimney is most likely required.



6. Side foundation wall has cracks and masonry deterioration near leaders indicating that the roof drainage system, consisting of gutters draining to leaders that extend to sub-grade drainage, is malfunctioning. The condition of the sub-grade drainage was not verified. Cleaning out of gutters and sub-grade leaders is required to maintain proper drainage and ensure that there is no back up resulting in potential water infiltration to the structure (basement). Overall cleaning of the gutters and associated drainage should be performed 2-3 times per year.

The rear foundation walls of the main church and brick foundation of the parsonage have been painted, presumably in an attempt to keep water out. If the applied coating is not breathable (many are not), it could be trapping moisture within the masonry walls and deteriorating the mortar.



7. Parsonage cracking in and around interior walls of dormer is indicative of settlement in the wall or roof framing supporting the dormers. Additional investigation of surrounding roof framing is recommended.



8. Rising damp in parsonage as evident by failed masonry coating and disintegrating brick masonry and mortar.



9. Flooding in church basement during Hurricane Sandy caused damage to finishes (since removed) and partition wall studs (the lower portion of which have been replaced).



FEMA Recommendations

Taking measures to protect the building and minimize damage against future flood events is both in the best interest of the congregation as well as a probable requirement by the National Flood Insurance Program (NFIP).

The Federal Emergency Management Agency (FEMA) has developed extensive guidelines for floodproofing, and NFIP regulations generally refer to requirements laid out in FEMA publications.

Due to its status as a registered historic structure on the Connecticut State Register, the Walters Memorial Church meets FEMA's criteria for an "historic structure", which exempts it from being subject to the extensive NFIP requirements for "Substantial Improvement/Damage". The recommended measurements for floodproofing historic buildings are intended to be minimal so as not to potentially impact the building's historic designation, and are as follows: (summarized from FEMA P-936 "Floodproofing Non-Residential Buildings", section 2.1.3 – Floodproofing Historic Buildings)

- Elevating electrical/mechanical systems and utilities above the DFE (Design Flood Elevation) -(permanent installation, temporarily moveable in the event of flooding, or using materials that can be cleaned or units that are submersible where possible)
- Moving contents (above the DFE)
- Creating positive drainage (away from building)
- Using flood damage resistant materials (NFIP has specific guidelines for materials that are considered flood resistant for both exterior and interior applications. Due to the pollutants carried in floodwater and movement of the water, these are sometimes different than materials that can sustain wetting and drying from clean water).
- Filling in or wetproofing basements (further discussed below)

- Installing floodwalls (i.e. to protect window wells)

"Wet Waterproofing" consists of modifying a building in order to allow floodwaters to enter it while minimizing damage to the building and is summarized in Section 4.2 of FEMA P-936. In this case, wet waterproofing would allow the church to continue to use the basement as it had previously. In addition to the items noted above, wet waterproofing a basement may include the installation of a pump connected to a generator to remove water after a flood and installation of flood openings to allow to entry/exit of floodwater to reduce the potential of damage from hydrostatic pressure.

We recommend that floodproofing measures be considered and undertaken.

It has been a pleasure to perform this assessment. If you have any questions regarding this report, please do not hesitate to contact this office.

Respectfully Yours,

Cirrus Structural Engineering, LLC

A handwritten signature in black ink, appearing to read 'E. Acly', is written over a light gray rectangular background.

Elizabeth Acly, PE
Principal