

# Building Assessment

Prepared for:

## Unitarian Universalist Church of Buffalo: Interior and Exterior

695 Elmwood Ave, Buffalo, NY 14222



Prepared by:



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## EXECUTIVE SUMMARY:

### BUILDING HISTORY & CONTEXT

The Unitarian Universalist Church of Buffalo, located at 695 Elmwood Ave, Buffalo, NY 14222, was completed in 1906 and was designed by Edward Austin Kent. The church building is currently in use. Its exterior is predominantly limestone and has original arched windows with stained glass, oak doors, and a crenelated turret. The church's main sanctuary has an oak hammer-beam ceiling, and space seats four hundred people. The sanctuary is an architectural example of the Arts and Crafts Movement during the early 20th century. The church was added to the National Registry of Historic Places on June 30th, 2015 and is also considered a City of Buffalo individual landmark. The building underwent a renovation designed by Hamilton Houston Lownie Architects, PC, around the year 2000. This renovation included an addition at the south side of the Parish Hall, which is typically referred to as the Garden Entrance. The building has had basement flooding issues in the past and has suspected ACM (Asbestos Containing Materials) that should undergo testing prior to repairs or design work.

### SCOPE OF WORK

Foit-Albert Associates performed an assessment in June 2020 of the church's exterior and interior assets at the request of The Unitarian Universalist Church of Buffalo to plan future facility maintenance and potential capital projects. Scott Archambault, RA performed the assessment on behalf of Foit-Albert Associates. This assessment also included the building's fire protection, plumbing, mechanical, and electrical assets, which were to be evaluated by Phillip Manzella (FP & Plumbing), Andrew Kirsch and Michael Richards respectively for M/E Engineering. All assets were evaluated with consideration of the 2020 New York State Building Code and its associated reference standards.

Images In Glass were contracted separately for a review of stained glass windows throughout the sanctuary and adjacent vestibules. The analysis they provided is attached to this report.

During an on-site walkthrough, church staff provided access to every room of the building for the design team members to identify, quantify, and evaluate all existing assets. The observations generated from that walkthrough can be found in "Existing Conditions & Observations."

After a thorough exploration and investigation of the building, an itemized spreadsheet was generated, identifying the location, quantity, and condition of each observed asset. Additionally, these asset evaluations were compared to the prioritized list of potential future projects provided to the design team by church staff. The design team's conclusions can be found in "Recommendations & Priorities."

It should be noted that the scope of this assessment does not include any evaluation of the facility with respect to occupancy during the Covid19 pandemic. No judgements or calculations were made regarding ventilation, occupancy, or any other factor that relates to social distancing or safe occupancy during the outbreak.

### ASSESSMENT CRITERIA

The figure below illustrates the rating rubric used by Foit-Albert Associates to define their asset evaluation terms and approach in this report. There are several approaches to the evaluation of an asset: asset's age, condition of the asset performance, and maintenance history. Final asset rankings combine asset age, condition, performance, and maintenance history into a single weighted average. Each building asset listed in this report and its accompanying materials have been evaluated based on the criteria outlined in Figure 1.

**NOTE: See Appendix C: 1 for floor plans with room numbers provided by church staff.**

**ASSET CRITERIA AND SCORING SYSTEM**

**CONDITION RATING**

Asset Rating Score	Asset Age	Asset Condition	Asset Performance	Level of Maintenance	Asset Condition Rating	
	(Percent % of Useful Life Remaining)	(Quality, Level of Required Maintenance)	(Reliability, Ambience, Safety, Meets Industry Standards)	(Level of Preventative and Corrective Maintenance)	Rating Description	Scoring Range
5	Asset new or nearly new 75% - 100%	Asset new or like new, no visible defects	Asset meets or exceeds all performance of reliability metrics, industry standards	No unfunded or deferred maintenance activities	Excellent	4.4 to 5.0
4	Asset meeting or at its midlife point 60% - 75%	Asset showing minimal signs of wear; some slight defects or deterioration	Asset generally meets performance and reliability metrics, industry standards	Some temporary deferrals of PM and CM; but no activities skipped completely	Good	3.4 to 4.3
3	Asset has passed its midlife point 25% - 50%	Some moderately defective or deteriorated components; expected maintenance needs	Occasional performance and reliability issues; may be sub-standard in some areas	More frequent and extended deferrals of PM and CM; some activities skipped altogether	Adequate	2.5 to 3.3
2	Asset nearing or at end of its useful life 0-25%	Increasing number of defects, deteriorating components; growing maintenance needs	Performance and reliability problems becoming more serious, sub-standard elements	PM and CM activities frequently delayed or skipped until major problems surface	Marginal	1.8 to 2.4
1	Asset is past its useful life	Asset in need of replacement or restoration; may have critically damaged components	Frequent performance and reliability problems; does not meet industry standards	Significant backlog or PM and CM work due to history of deferred and skipped activities	Poor	1.0 to 1.7
0	Asset non-operable	Asset non-operable	Asset non-operable	Asset non-operable	Non-Operable	0

*Figure 1 – Asset Criteria and Scoring System*

## I. EXISTING CONDITIONS

### A. ARCHITECTURAL:

#### 1. Exterior

##### a. Façade

- 1) The existing façade is buffed Indiana Limestone with carbon steel dowel reinforcement. The backup of the stone is unknown, but it is likely an unfinished stone or speed tile.
- 2) Foundations of the façade are stone underneath the sanctuary and there is plaster visible in the basement throughout the rest of the building. It is unknown if the plaster is covering an original stone foundation in these locations, but it is overwhelmingly likely.
- 3) R.E. Kelley has been undertaking various repair and improvement projects to address ongoing water infiltration issues.
  - 1) Repairs have started with the west Elmwood façade and have progressed around the building to the south façade.



Figure 2 - North facade of the church, Elmwood Ave. is on the right.

- (1) Carbon steel dowels have been corroded and have caused jacking of the stone, opening joints for water infiltration, further exacerbating the corrosion.
  - (2) The existing copper gutters are supported by and anchored to a limestone ledge with steel pins. These pins, over time, have corroded and expanded leading to damage of the limestone façade.
- 2) See Appendix A for additional detail.



*Figure 3 View of stone gutters along East (Brittany Ln.) facade. The discoloration of the stone is likely due to corrosion of reinforcing or anchorage and water infiltration.*

**b. Roofing & Roof Drainage**

- 1) Existing roofing systems include EPDM over the Bell Tower, the flat roof above Room 207 and the valley at the west transept, along with copper roofing over the “Garden Entrance”, and slate tile roofing over much of the building.
  - 1) Bell Tower EPDM roofing was recently replaced by Grove Roofing. The EPDM flat roof above the Alliance Room (Room 207) is budgeted and planned for a 2020 replacement.
  - 2) The slate tile roofing has been patched and repaired where it was noticeably damaged. The condition of the roof substrate over the classrooms is unknown, but the underside of the substrate visible from the Sanctuary space is in excellent condition.
  - 3) Copper entrance roof has been recently repaired by Grove Roofing after seams were popping and water infiltration was noticeable.
  - 4) Existing stone-supported copper gutter conditions appear to be questionable; corrosion of existing anchors due to past roof damage (that has since been repaired), have caused rust jacking that requires masonry repair (see existing Façade analysis). This corrosion is caused from water standing in the gutters due to leaf and debris blockage and can be slowed by increased routine maintenance.

c. Exterior Openings

- 1) In general, all wood windows appeared to need routine maintenance including refinishing, re-roping and glazing replacement. Some glass will need to be replaced along the north façade.
- 2) Non- stained-glass windows and doors were evaluated individually by room are addressed in the assessment tool spreadsheet.
- 3) Stained Glass Windows: See Appendix B.

d. Garage

- 1) The existing garage east of the church is not in good condition. The walls of the structure appear to be stable, but the roof has extensive vegetation that requires removal. The roof itself is far beyond its useful life and should be replaced, as leaks are causing damage to the structural members beneath. One roof joist was observed to be splitting, most likely due to excessive moisture, rotting and weakening it.

2. Interior

a. Basement (finished portion)

- 1) The basement of the facility has the most critical needs in terms of maintenance and continued building operations. There has historically been and continues to be, water infiltration through quarry stone foundation walls, certain floor slabs, and old window wells where the windows have since been replaced with CMU block and the window well infilled with dirt.
- 2) Several of the storage and classrooms on the basement level have significant water damage from this infiltration, though it is clear that the facility staff have taken measures to address this damage recently (much of the damaged VCT tile on, and the floor base has been removed). In particular, the Youth Room (Room 020) has been a long-standing, highly visible "hot button" issue for church members due to water damage and mold formation at the south and east walls. Use of the Youth Room has subsequently been prohibited due to the presence of mold and its overall deteriorated



*Figure 4- VCT tile and floor base has been removed.*

condition.

- 3) While the water and moisture issues have been reduced by recent action, it remains a concern as continued excessive moisture will negatively impact any improvements made to the finishes in the future.
- 4) Church staff report that significant water infiltration occurs during heavy rains along north walls of rooms 008, 007, 005, and 003, as well as the floor drain in 004 and west wall of 003. The exterior of these foundation walls are adjacent to paved surfaces or sidewalks on the exterior. Additional water infiltration occurs on the east wall of room 020.
- 5) Classroom and storage spaces appear to be in working and usable condition despite the apparent water damage. Water infiltration occurs primarily at the floor level, under the rubber wall base. Drywall damage is likely present in these spaces as observed in room 020. The glass block windows throughout the basement appear to have been recently restored and are in excellent condition with the exception of the south glass block window in room 020, which has extensive water damage to the window sill and trim..
- 6) Existing stairways appear to be adequate for the rescue of persons in a wheelchair in the event of an emergency. The passage (room 000 on the attached floor plans) should be labeled and indicated to be the rescue point where emergency workers meet persons requiring rescue.
- 7) Many of the wood doors in the basement are in moderate condition but can be re-finished if desired.
- 8) The floor, ceiling, and wall finishes were in usable condition apart from having visible water damage in some locations. See associated assessment tool spreadsheet for specific locations of finishes in poor conditions.
- 9) There is a fire code violation present in the basement egress; 2 exits from floor are required based on the occupant load and only 1 exit is provided. The east stair leads to kitchen which is not permitted to be exited through and stair in the south undercroft which leads to the south end of the sanctuary is behind a locked door. The stair in the undercroft is very narrow and is not suitable to egress the number of occupants the basement would have.

b. Undercroft (unfinished portion of basement)



*Figure 5- Typical stone foundation- note the loose mortar present.*

- 1) The undercroft area of the basement (rooms B21, B22, B23, B24, and B25) contains very few finishes or architectural features but contains critical components for the facility usability.
- 2) The integrity of the foundation walls may be a future concern; there is loose mortar in the stone foundation and water infiltration that leads to heavy moisture presence throughout the undercroft. While the stone foundation walls are not in urgent need of repair based on Foit-Albert's assessment, if additional cracking or damage is observed, further structural investigation is recommended to see if reinforcing or re-mortaring the walls is necessary.
- 3) Church staff reports that undercroft water infiltration occurs through quarry stone foundations walls due to pooling at exterior foundation walls from poor surface drainage and recurring gutter and downspout blockage. This results in rainwater cascading down exterior masonry instead of collecting and being conveyed to the stormwater system.
- 4) Accumulation of moisture infiltration has been recently addressed by utilizing a trench that directs water to a working floor drain, however significant moisture and mildew were observed on site. The presence of moisture likely accelerates the degradation of the stone foundations, but it is not clear to what degree and effect this has on the structure, if any.
- 5) The undercroft contains an existing gravel covered clay drainage tile trench to collect water through quarry stone foundation walls. This trench system drains to the boiler room sump.

c. First Floor



*Figure 6- The Parish Hall serves in many ways as the front facing hub of the church and has been maintained extremely well. Only minor issues were noted in the assessment.*

- 1) The first floor of the church contains the public-facing facility spaces, including the Parish Hall and Sanctuary. These spaces are in stable condition and receive the most regular maintenance and care. The Parish Hall wood windows show signs of wear and some broken panes of glass. There is significant wear on the wood floor base, and wood doors throughout the floor level, and while these items could theoretically be replaced with a contemporary equivalent, Foit-Albert recommends repair of these assets to avoid expensive and invasive future improvement projects and maintain the building's historic character.
- 2) Various finishes in the semi-public offices and meeting rooms were well worn and past their useful life. These items include carpeting, wall base, and ceiling tile. The kitchen and pantry areas, while perfectly functional, are worn and should be a priority to replace (the finishes in these spaces do not significantly contribute to the



*Figure 7- Wear and tear is visible in the semi-private offices and areas of frequent staff use. These are minor issues that can either be completely ignored or addressed with replacement depending on the congregation/ committee priorities.*

building's historic character and are not items commonly repaired in favor of replacement). These finishes do NOT include other kitchen assets such as the sink, countertops, or appliances which were not assessed in the scope of this report.

- 3) **Accessibility:** The Parish Hall is accessible via the Garden Entrance for normal and emergency egress. The Sanctuary is only accessible by wheelchair via the elevator and does not have emergency egress available from that level. The Sanctuary entrance does provide emergency egress, but it is not accessible once one is outside (steps present, but no ramp).
- 4) **Stained Glass Windows:** See Appendix B.

d. **Second Floor**

- 1) The second floor of the facility is home to offices, classrooms, and a large meeting room. The finishes in these spaces, though well into their life, appeared to have been maintained well over the years.
- 2) The meeting room carpet seems to have some minor staining. Otherwise, the space is in adequate condition.



*Figure 8- Wear and tear is visible in the large meeting area on the second floor is visible on the carpet. The other finishes and assets present in the space appear to be in moderate to excellent condition.*

- 3) The ceiling and walls around the Elmwood Avenue staircase show some water damage.
- 4) Much of the woodwork present on the second floor is in excellent condition but may require minor maintenance to extend its useful life.
- 5) The choir loft (located within the sanctuary) is a potential code violation. The only stair to access it is narrow and steep, but it is not in itself a code violation if the occupant load is kept below 50 people (the limit for 1 means of egress). The church may wish to expand accessibility and egress to this space; see explanation and options in RECOMMENDATIONS AND PRIORITIZATION and Appendix C.
- 6) The Fire escape that is intended to provide egress from the second floor has fallen into poor condition due to lack of regular maintenance. Based on a preliminary calculation of existing occupant load and egress capacity of the second floor, it appears that the Fire escape is not required as a means of egress meaning

that removal of the Fire Escape may be possible. However, any removal of the existing fire escape will require approval of the local fire code or building official.

e. Elevator

- 1) The small elevator provides wheelchair access to the basement, parish hall level, sanctuary level and second floor levels of the facility. It does not provide emergency egress.
- 2) Elevator finishes are in acceptable condition and the elevator itself appears to operate normally.

**B. MECHANICAL:**

1. Basement:

- a. The basement office areas, library and meeting rooms are conditioned with a 20 year-old Trane HVAC/Dehumidification Air Handling Unit with steam heat and direct expansion cooling along with a ducted air distribution system. The unit has an associated 20 year-old Trane direct expansion R-22 condensing unit that is located on grade adjacent to the Facility's below grade mechanical room exterior stairwell access area (see picture below). A space sensor and return air humidistat control the systems operation. Ventilation is provided with ductwork to the air handling unit from an exterior louver within the stairwell access, referenced above. The outside air damper is operated manually and is typically in the closed position. The system reportedly performs adequately. The existing air distribution system, based upon its 20 year age, likely contains a great deal of dust and debris.



*Figure 9 - Interior Air Handling Unit*



*Figure 10 - Outdoor Condensing Coil*

- b. The building is heated via a low pressure steam distribution system. A new low pressure steam boiler was installed in the basement mechanical room in 2015. Reportedly, the boiler performs adequately.



*Figure 11 - Steam Boiler*

- c. The main Sanctuary is heated with a forced warm air system and six (6) steam radiators with field fabricated housings, all located within the basement undercroft areas.
- 1) The forced air heating system consists of a plenum return room with seven (7) horizontal ceiling hung heating coils, one which has been decommissioned (connections plugged), due to a leak sometime in the past. The existing fan, of unknown age, provides supply air to two (2) floor grilles located in the Sanctuary's east and center aisles. Air is returned from the west most aisle to the unit. The distribution ductwork is suspended from the basement undercroft ceiling. The system does not have outside ventilation air ducted to it. The system ductwork does not have or provide for air filtration. As a result, during winter months when windows and doors are typically closed, the Sanctuary heating system recirculates warm unfiltered air with no outside ventilation air.
  - 2) The rear half of the sanctuary is heated with six (6) field fabricated steam convection housings. Three (3) are located on the east side exterior wall and three (3) on the west side exterior wall. Each housing provides gravity airflow to supply and return grilles located in the exterior wall at the first floor above.

- d. The south entrance foyer has two (2) under floor steam convectors and associated housings which are difficult to access. Both convectors have steam pipe leakage issues which has resulted in one being valved off and inoperable.
- e. The facility has an existing low-pressure steam and condensate piping distribution system. It is likely that a significant portion of the system is original to the building and beyond its normal life expectancy. The staff reports no history of piping system leakage.
- f. The existing steam and condensate piping is missing a great deal of insulation. What insulation remains is old and may contain hazardous materials.



*Figure 12 - Uninsulated Steam Piping*

- g.** The existing condensate drain pipe supports have deteriorated and are either non-functional or missing.
- h.** The existing air distribution systems are insulated on the exterior. Repairs are required at multiple locations where damage has occurred.



*Figure 13 - Insulated Ductwork with Damaged Insulation*

**2.** First Floor Spaces:

- a.** The Office 102 area is heated with a floor mounted cast iron radiator fitted with a self-contained radiator control valve. Mechanical ventilation is not provided, however ventilation can be provided through the use of exterior operable windows which is permitted by Code. Air conditioning is provided via a ductless split system.
- b.** Bathrooms 104 and 108 are heated with floor mounted cast iron radiators fitted with self-contained radiator control valves. Mechanical ventilation is not provided, however ventilation can be provided through the use of exterior operable windows which is permitted by Code.

- c. Parish Hall 109 is heated with five (5) floor mounted cast iron radiators fitted with self-contained radiator control valves. Mechanical ventilation is not provided, however ventilation can be provided through the use of exterior operable windows which is permitted by Code.



*Figure 14 - Typical Radiator*

- d. Meeting Room 112 does not have a heating device within the space. During the heating season, with the boiler system in operation, heat from the basement below heats the floor and provides uncontrolled heating. Mechanical ventilation is not provided, however ventilation can be provided through the use of exterior operable windows which is permitted by Code. During shoulder seasons the space is heated with the use of portable electric heaters.
- e. Sanctuary 118 utilizes the forced air heating system in the basement undercroft, referenced above, with two (2) floor mounted supply grilles and one (1) return grille, located in the aisle floors. Natural convection heating is provided with exterior wall mounted supply and return grilles located a few inches above the floor side by side in six (6) locations (three (3) locations on the east wall and three (3) locations on the west wall). Mechanical ventilation is not provided, however ventilation can be provided through the use of exterior operable windows which is permitted by Code.
- f. Foyer 119 is heated with two (2) under floor convectors. There is no means of ventilation.
3. Second Floor:
- a. Office 212 is heated with a floor mounted cast iron radiator fitted with a self-contained radiator control valves. Mechanical ventilation is not provided, however ventilation can be provided through the use of exterior operable windows which is permitted by Code. Air conditioning can be provided by an existing, recently installed ductless split system.

- b. Meeting Rooms 203, 205, 209 and 211 are heated with floor mounted cast iron radiators fitted with self-contained radiator control valves. Mechanical ventilation is not provided; however ventilation can be provided through the use of exterior operable windows which is permitted by Code.
  - c. Storage 206 is heated with a floor mounted cast iron radiator fitted with self-contained radiator control valves.
  - d. Office 204 and 210 are heated with floor mounted cast iron radiators fitted with self-contained radiator control valves. Mechanical ventilation is not provided, however ventilation can be provided through the use of exterior operable windows which is permitted by Code.
  - e. Meeting Room 207 is heated with floor mounted cast iron radiators fitted with self-contained radiator control valves. Mechanical ventilation is not provided, however ventilation can be provided through the use of exterior operable windows which is permitted by Code.
  - f. Office 201 is heated with floor mounted cast iron radiators fitted with self-contained radiator control valves. Mechanical ventilation is not provided, however ventilation can be provided through the use of exterior operable windows which is permitted by Code.
4. Covid-19 Ventilation Considerations
- a. As indicated above, none of the first or second floor rooms have mechanical ventilation. However, ventilation can be provided by opening exterior operable windows which is permitted per Code.
  - b. Currently, the only means to provide or increase ventilation (i.e. to provide fresh outside air) when rooms are occupied is to open windows .... which typically is not done during "cold" weather.
  - c. Evaluating and recommending how to provide appropriate and sufficient "increased ventilation" or "improved filtration" per New York State or Federal Covid-19 guidelines is beyond the scope of this facility assessment review".

**C. PLUMBING:**

1. Domestic Cold and Hot Water Systems:
- a. Domestic cold water is supplied to the building by a 2 inch water main. No backflow prevention devices exist on this service. A backflow preventer is a device required by the City of Buffalo that is installed on the water main at the service entrance to the building that prevents backflow of water from the building into the municipal potable water supply which eliminates the risk of contaminating the municipal potable water supply. The 2 inch water main enters at the basement level in Storage Room 002. The water main decreases to 1-1/2 inch and is routed through a 1-1/2 inch water meter. From this water meter, piping is increased back to 2 inch size and is distributed throughout the building. Domestic cold water piping throughout the building is a combination of galvanized steel and copper. The galvanized piping appears quite old and shows visible signs of exterior corrosion. Corrosion is common in old steel water piping. Over time, small mounds of corrosion products (rust) form on the inside of the pipe. These mounds increase the roughness and reduce the open diameter of the inside

of the pipe thus increasing resistance to water flow. This is of little concern unless plumbing fixtures in the building are observed to have very little water pressure and flow which is not a recently reported issue at this facility.



*Figure 15 - Domestic Water Service*

- b. Domestic hot water is generated by a gas-fired tank type water heater located within Boiler Room 009. This water heater is a draft vent type that terminates to the masonry chimney. The unit is rated for 70,000 btu/h and is equipped with 75 gallons of hot water storage capacity. The average lifespan for this style water heater is 15 years. This water heater is 2005 vintage which puts it at the end of its useful life. Hot water is distributed from this unit to plumbing fixtures throughout the building. The domestic hot water system is equipped with hot water recirculation consisting of a network of piping and circulation pump.



*Figure 16 - Domestic Water Heater*

2. Sanitary and Storm Drainage Systems:

- a. All storm drainage piping exits the building by gravity. Primary storm drainage consists of gutters and downspouts that remove storm water from the building. It's been reported that there are reoccurring issues with obstructed gutters and downspouts caused by pine needles, leaves and other debris. These issues result in water overflowing the gutters onto the exterior façade walls and rainwater ponding along exterior of building during heavy rains. There is no current routine or schedule for inspecting and cleaning gutters and downspouts.
- b. The building is equipped with two (2) sump pump systems. One (1) system is located in Meeting Room 018 and consists of a duplex sump pump arrangement. The pump system is concealed behind millwork and was not observed. The intended purpose is believed to be sub-soil drainage but the design and extent of the underfloor drainage system is unknown. Another sump pump system is located in Boiler Room 009 and consists of a simplex sump pump with a backup water-powered pump. Both the primary pump and backup are manufactured by Liberty Pumps. The intended purpose is boiler condensate disposal, dehumidification condensate disposal, disposal of water from Undercroft foundation drainage system and drainage of water from exterior stairwell to the boiler room.



Figure 17 - Meeting Room 018 Sump Pump System



*Figure 18 - Boiler Room 009 Sump Pump System*

- c. Sanitary drainage conveying waste from fixtures exits the building by gravity below the basement floor. Sanitary waste and vent piping throughout the building is a combination of service weight cast iron, type DWV copper and PVC. The service weight cast iron pipe appears quite old and shows visible signs of corrosion.



*Figure 19 - Cast Iron Sanitary Waste Piping*

- d. The waste from the pre-rinse sink, three compartment sink and dishwasher flows through a point of use grease trap. The grease trap is an on-the-floor type. The unit appears quite old and shows visible signs of corrosion.



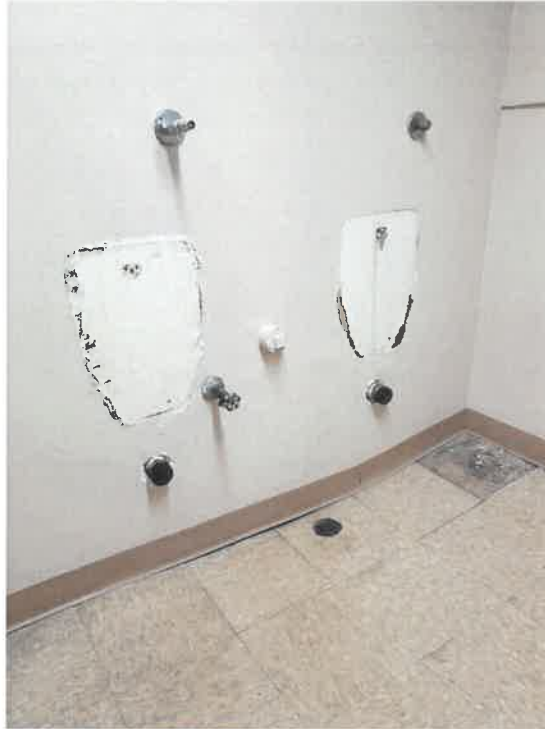
*Figure 20 - Kitchen Grease Trap*

3. Plumbing Fixtures:

- a. There is a toilet room in the basement that is equipped with a water closet and two (2) lavatories. The water closet was replaced in august of 2020. There is signage above the water closet indicating it has been problematic in the past. The lavatories are self-rimming countertop type with manual metering faucets and appear in good condition. It is evident there were two urinals in this toilet room but have since been removed.



*Figure 21 - Basement Water Closet*



*Figure 22 – Location of former Basement Urinal (since removed)*



*Figure 23 - Basement Lavatories*

- b. There is a men's toilet room on the first floor that is equipped with a water closet, lavatories. The water closet is a floor mount tank type that appears in good condition. The urinals are wall hung with flushometers and appear in good condition. The lavatories are self-rimming countertop type with manual metering faucets and appear in good condition.



*Figure 24 - Men's Water Closet*



*Figure 25 - Men's Urinal*



*Figure 26 - Men's Lavatories*

- c. There is a women's toilet room on the first floor that is equipped with water closets and lavatories. The water closets are floor mount tank type that appear in good condition. The lavatories are self-rimming countertop type with manual metering faucets and appear in good condition.



*Figure 27 - Women's Water Closet*



*Figure 28 - Women's Lavatories*

- d. There is a toilet room on the second floor that is equipped with two (2) water closet and two (2) lavatories. The water closets are floor mount tank type in which one (1) appears quite old. There is signage on one (1) water closet indicating it has been problematic in the past. Staff report this water closet has been problematic from a long time. The lavatories are wall hung type with manual metering faucets and appear in fair condition



*Figure 29 - Second Floor Water Closet*



*Figure 30 - Second Floor Lavatories*

4. **Natural Gas System:**

- a. The gas meter is located outside the building. Natural gas piping is routed through the building to supply the boiler, water heater and kitchen equipment. The gas supply to kitchen equipment is equipped with an emergency shut-off valve that is interfaced with the hood suppression system. This system is required to be tested and certified on a regular basis.



*Figure 31 - Kitchen Gas Emergency Shutoff Valve*

**D. FIRE PROTECTION:**

- 1. No automatic sprinkler systems exist in the building.

**E. ELECTRICAL:**

1. Power Distribution:

- a. The aerial electrical service to the facility is located on the east side of the building and is provided by National Grid. The service is 400 amps, 208/120 volt, three phase, and feeds a distribution switchboard via service safety switch and utility metering all of which is located in the western portion of the Basement. The main distribution panel "MDP" was installed approximately 20 years ago and appears to be in good condition.



*Figure 32 - MDP, Utility Meter and Service Disconnect*

b. Throughout the facility branch panelboards that serve lighting and branch circuit loads. Most are approximately 20 years old and appear to be in good condition, with proper working clearance. However, there are a few panels that have reached the end of their useful life expectancy of approximately 30-40 years, and/or do not have proper working clearances required by code. These panels include:

- 1) "OLD MAIN DIST", located in the basement mechanical room, has reached the end of its useful life. Circuit breakers in this panel are obsolete and are no longer available from the manufacturer.



*Figure 33 - Old Main Distribution Panelboard*

- 2) "LPBRM-1", located in the Boiler Room, has reached the end of its useful life, and does not have proper working clearances in front of the panelboard.



*Figure 34 - Panelboard LPBRM-1*

- 3) "Kitchen Panel", located in the Kitchen, has reached the end of its useful life, and does not have proper working clearances in front of the panelboard.



*Figure 35 - Panelboard Kitchen Panel*

- 4) The fused load center, located near the Choir Loft, has reached the end of its useful life.



*Figure 36 - Fused Loadcenter*

- c. It appears as renovations have occurred, feeders and branch wiring has been replaced with thermoplastic insulated wiring. There were no apparent older cloth and tar insulated cabling observed.
  - d. Metal Clad (MC) cable was observed laying on the floor in the area of the pipe organ on the second floor. Current installation poses a safety hazard and is non-code compliant installation.
  - e. In general, the majority of receptacles observed have a ground pin, and receptacle coverage seems generally adequate, with exception of the Undercroft area, where several extension cords were observed to serve dehumidification units.
  - f. GFCI protected receptacles are located where required by Code at the time of installation. However as renovations occur, specifically in the Kitchen, additional GFCI receptacles will be required to meet current Code requirements.
  - g. There is no emergency/ standby generator installed at the facility.
2. Lighting:
- a. Emergency Lighting:
    - 1) Emergency lighting is provided using battery wall packs. Although most battery packs appear to be at least 10 years old, however, when tested, most appear to be in operational order, suggesting ongoing maintenance is being performed. The typical life

expectancy for batteries in the units is 5-10 years.

2) Although existing conditions are grandfathered, to comply with current emergency lighting coverage requirements as defined by the New York State Building Code, emergency light coverage is required in the following areas:

- a) Building exterior at paths of egress.
- b) Boiler Room 009.
- c) Passage 012 and 114.
- d) Undercroft B23 (path of egress).
- e) Parish Hall 109.
- f) Kitchen 111 and adjoining passage.
- g) Sanctuary 118.

b. Exit Signage:

1) There is powered exit signage installed throughout the building, with either an LED or incandescent lamp source. In general, exit signage is located where required. There are several devices observed with damaged lenses or that are beginning to deteriorate. Due to the age, it is suspected the batteries will require maintenance.

c. General Interior Lighting:

- 1) In office areas, and toilet rooms, fluorescent luminaires are generally installed and appear to be in fair condition, estimated to be approximately 20 years old. Although approaching the end of their useful life expectancy, routine maintenance can extend the life. Most office and classrooms have automatic on/off switch controls installed, while other areas have a standard non-automatic switch controls.
- 2) Lighting in mechanical and storage areas is performed with porcelain lamp holders with LED lamps, or fluorescent strip luminaires of various vintages. The remaining T12 type fluorescent luminaires have reached the end of their useful life.
- 3) The interior vestibule of the Elmwood entrance lacks artificial illumination.

d. Sanctuary Lighting:

- 1) Decorative pendants provide accent lighting in the space and are beautifully maintained. As fixtures age, interior wiring may begin to deteriorate. Proper maintenance shall continue to be conducted on fixtures.
- 2) LED pendant lights provide much of the ambient illumination. The LED pendants are relatively new, approximately 5 years old and

are in good working order. While conducting the site visit, it was noted that the controller was out for refurbishment/repair.

- 3) Incandescent floodlighting illuminates Choir Loft and is dimmer controlled. Equipment is in fair condition.

e. Exterior Lighting:

- 1) HID façade/accent flood lighting is installed on the south side of the building. Luminaires are showing age and reaching the end of their useful life. It is understood that there is a current project underway to replace this lighting with new LED flood lighting and bollards.
- 2) Illumination on the north side of the facility at the parking area is minimal, and illumination is mostly reliant on the adjoining parking lot lighting standards.

3. Fire Alarm:

- a. The facility has two (2) fire alarm control panels; an addressable Fire-Lite MS-9200 control panel appears to serve the entire building with exception to the Sanctuary beam detectors which is served by a non-addressable Potter control panel. Both panels are, at minimum 25 years old and have reached the end of their useful life.
- b. Smoke/heat detection is provided throughout the facility. All detectors observed appear to be greater than 10 years old, which is the typical recommended life expectancy of a smoke detector.
- c. Beam type detectors provide coverage for the sanctuary.
- d. Notification appliances appear to be installed in all public egress paths with the exception of the Sanctuary. Although most may be functional, most devices are showing their age and are approaching the end of their useful life expectancy.
- e. There are several battery operated stand-alone carbon monoxide (CO) detectors installed in the basement first and second floors. Detectors should be placed at the source of all CO producing equipment, i.e. Boiler Room, Kitchen etc. Refer to recommendations for integration of CO detection and notification into the fire alarm system.



*Figure 37 - Existing Fire Alarm Control Panels*

4. Network:
  - a. Two (2) small under desk network racks are located in Office 102. Both racks are fully enclosed and are approximately 4 years old. One rack (right side), contains a majority of the network equipment and has internal fans to help cool the equipment contained within. Fans are controlled by a thermostat mounted with the rack. The second rack (left side) contains a server and uninterruptable power supply (UPS), and does not have internal ventilation fans. Consideration should be given to provide fan assemblies to the second rack to allow for air movement or providing a full height rack to allow for ease of maintenance.
  - b. A total of five (5) Cisco wireless access points are located throughout the facility, and are approximately 3 years old. They are located in the Office, Parish Hall, Second Floor Passage, Alliance Room and Sanctuary. It was reported that there are several "dead zones" within the facility, which include the basement, south end of the Sanctuary and Choir Loft. Although functional, there are reports of ongoing operational issues, such as devices randomly dropping off the network, and authentication issues.
5. CCTV:
  - a. There are no surveillance cameras installed in the facility.
6. Inner-Building Intercom
  - a. There is no inner-building intercom system in the classroom areas that report/call a central location.

7. Access Control:
  - a. There is one (1) exterior door on the south side of the building, that when working properly, has the ability to allow for key pad entry or remote release from Office 102. It appears the mag-lock does not function properly, allowing the door to open without proper credentials. The system appears to be approximately 20 years old and is reaching the end of its useful life.
8. Security System:
  - a. There is an existing security system that is installed to monitor doors leading to Office 102, choir loft, and bell tower only. A motion sensor provides coverage in Office 102. The system appears to be at minimum 20 years old and is reaching the end of its useful life. It is reported that the security systems serves as the automatic dialer for the Fire-Lite fire alarm control panel.

## II. RECOMMENDATIONS AND PRIORITIZATION

The following are recommendations based on our observations. Each recommendation has been provided with a rough order of magnitude (ROM) cost based on current market values and a priority level of 1, 2, or 3. A rough order of magnitude cost can be defined as an approximate cost to build and design the items/ systems described at the time of the issuance of this report and with traditional building materials and systems. Depending on the scale of project, those costs may vary greatly, especially as further items are uncovered (when opening walls or replacing systems, for example) or when grouped together into a larger project.

Priority level 1 indicates the item should be addressed within 0-5 years.

Priority level 2 indicates the item should be addressed within 5-10 years.

Priority level 3 indicates the item should be addressed as funding becomes available.

The associated spreadsheet assessment tool provided with this report indicates condition of individual assets irrespective of the urgency of need. It should be noted that many poorly or non-functioning assets may not be high priority as they do not affect the code compliance or functioning of the existing facility.

Please note that the quantities and pricing have been roughly estimated for the purposes of this report and future client budgeting.

### A. ARCHITECTURAL

1. Exterior
  - a. Stone Façade
    1. See attached recommendations from R.E. Kelley in Appendix 1.
      - 1) ROM Cost: \$100,000 (Priority 1)
  - b. Roof
    1. Garage Roof

- 1) The garage roof should be replaced if the structure is to continue to be used. Because of the unoccupied nature of the structure, it is listed as a lower priority.

(1) ROM Cost of Roof Replacement and existing joist repair/ replacement: \$15,000 (Priority 2)

## 2. Main Building Roof

- 1) Almost the entire roof of the facility has been repaired or replaced recently. The only section of “approaching end of useful life” roofing is the EPDM valley at the west transept which was installed in 2010. Therefore, no action is currently needed unless issues arise. It is recommended that the church consider implementing a roof inspection and preventative maintenance program to proactively identify and address roof issues before they become larger, more costly problems.

- 2) The roof gutter systems require greater routine maintenance; stoppages from leaves and debris backing up the drainage accelerates the degradation of the lining of the gutters and therefor the anchors underneath. Additionally, measures can be taken to slow or even halt the corrosion of these anchors and, therefore, reduce the risk of damage elsewhere in the façade. Manufacturer consultation is recommended to best pick a strategy to stop the corrosion of these pins and discover how many should be removed and replaced.

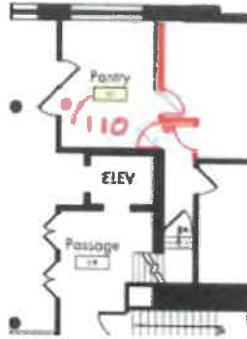
(1) Epoxy based gutter lining may be a candidate.  
ROM Cost: \$12,000 (Priority 2)

## 2. Interior

### a. Basement

1. Per Fire Code of New York State Section 1016.2.5, egress shall not pass through kitchens or storage rooms. Therefore, the areaway exit through the boiler room must be considered the second means of egress from the basement. The door into the boiler room must be made to swing in the direction of travel and exit signs must be placed accordingly. Alternatively, the pathway currently through the kitchen can be addressed to create a compliant condition.

- 1) ROM cost of modifications depicted below along with exit sign at stair in basement: \$6,000 (Priority 1)



2. An extensive investigation of the source of water infiltration is needed to ensure the future preservation of any newly installed finishes. Exploration must be done into site drainage to see if there are rotted or collapsed pipes that are causing a surplus of water pressure against the foundation walls. Exploration efforts should also consider reviewing: improper window well infills; improper slope & grade at building exterior resulting in ponding along foundations; improper slope of church parking lot toward building; proper maintenance of window well drains (4 locations); inadequate caulking at concrete-to-foundation interfaces; inadequate gutter & downspout performance due to lack of routine cleaning & maintenance. Church members have prepared PowerPoint and video documentation of "real time" and "aftermath" basement flooding events to assist this effort. (not reflected in spreadsheet)

- 1) ROM cost of water infiltration mitigation (investigation & repair):  
\$75,000 (Priority 1)

3. Installation of water-damaged finishes in basement classrooms and storage spaces

- 1) ROM of removal and replacement of existing vct tile and floor base: \$15,000 (Priority 2)

4. While no there is no urgent need for structural analysis or repair, facility staff should monitor the condition of the existing stone foundation and determine extent/ need for repointing of stone foundation if further cracking and damage is observed.

- 1) ROM for repointing existing stone foundation  
Unknown, investigation required (Priority 3)

5. Restore Youth Room (Room 020), to address long-standing, high visibility concerns, to include: waterproofing east & south walls (new waterproof membrane & underfloor drainage to existing sump in adjacent Room 018); mold remediation; removal and replacement of damaged/moldy east & south walls with upgraded, mold resistant finishes; restoration of south window well trim; floor & ceiling

refinishing; and painting; south window well cover (galvanized steel grating with clear Lexan covering)

1) ROM to restore Youth Room: \$35,000 (Priority 1)

b. First Floor

1. Restrooms on first floor near the Elmwood Ave. entrance require minor adjustments to be appropriately ADA compliant as detailed by church personnel and review by IDeA Center at SUNY at Buffalo. Per the Americans with Disabilities Act, any alteration that affects the primary function of the facility should, to the maximum extent feasible, increase accessibility to/ from restrooms as well. An future project should include the minor alterations necessary to bring these restrooms into compliance with ANSI A117.1. Additional alteration to incorporate aspects of Universal Access and Inclusion guidelines are not within the scope of this review, but can be incorporated at additional cost per direct and agreement with UUCB during the detailed design phases of this recommendation.

1) ROM Cost for ADA Compliance (but not including additional upgrades to achieve universal access and inclusion criteria)  
\$15,000 (Priority 1)

2. Restoration/ repair required at several wood doors throughout the floor level as well as the wood floor base in the Parrish Hall. These assets should not be replaced, but rather refinished in order to maintain the building's historic character.

1) ROM Cost for door refinishing  
\$10,000 (Priority 2)

3. In this area, the use of salt to melt snow has increased both to increase safety and reduce risk of lawsuit. The use of salt, while effective at reducing ice, is also effective at wearing away otherwise intact flooring materials. The stone floor in the Sanctuary appears to have weathered this corrosive cocktail well over the years, likely due to the distance of travel from outside into the sanctuary, as well as the use of carpet within the sanctuary. Still, future maintenance of the floor may become necessary if left unchecked, and degradation, once it begins, will accelerate into a fairly serious issue. Proper monitoring and steps taken to reduce salt's entry into the sanctuary will eliminate any need for this restoration.

1) ROM Cost for Repair of Stone Floor:  
\$55,000 (Priority 3)

4. Finishes in the kitchen have significant wear, and the function of the space means the finishes will continue to undergo significant exposure to grease, water, and high temperature. Finishes rated for this use should be provided when convenient.

1) ROM Cost for replacing flooring, ceiling tile, countertops, cabinets, and repainting pantry and kitchen:

\$20,000 (Priority 3) (finishes ONLY, does not include any equipment)

5. Sanctuary is not accessible other than via the elevator. The West Ferry entrance is not accessible and does not provide emergency accessible egress. This is not required by code, and someone in a wheelchair can still get outside.

1) See Appendix C, 4: ROM Cost of adding accessible exiting to the West Ferry Entrance: \$50,000 (Priority 3)

c. Second Floor

1. Choir Loft

1) One of the most challenging areas to address is the location of the organ and choir overlooking the sanctuary. Access to this space is a major concern due to the limited stair access and the condition/ angle of the stairs. The current space is not in violation of code per Fire Code 1104.10, but if greater accessibility is desired, there are a couple of options available:

(1) See Appendix C, 2: Additional access via a new staircase from the first floor sanctuary, associate modifications to woodwork. ROM Cost for additional access: \$125,000 – \$175,000 (Priority 2)

(2) See Appendix C, 3: Alternatively, the choir can be relocated to elsewhere in the space. Limiting the need to access the space to specifically the organist reduces the risk of falling on the stairs. ROM Cost: \$30,000 - \$50,000(Priority 2)

2) The finishes in the choir loft and the adjacent storage space have some worn finishes. The space is not visible from the sanctuary itself, so replacing worn finishes is not a high priority for these spaces.

(1) ROM Cost for new finishes for choir loft: \$5,000 (Priority 3)

d. Elevator

1. Elevator appeared to be in acceptable condition, and although it cannot be used for emergency egress per code, it does provide access to spaces of primary function. The regular inspections indicate that the elevator is in good working order and meets or exceeds all criteria to be safe and acceptable. Finishes appeared to be in acceptable condition based on Foit-Albert's visual assessment.

3. **Windows & Doors**

a. Windows

1. Most of the windows throughout the building are wood, and therefore, can be repaired rather than replaced. The windows along the north elevations appeared to have the direst need for repair.
  - 1) Restoration/ repair required at several wood windows in Parrish Hall.
    - (1) ROM Cost for Wood window repair: \$300 per window (Priority 1)
  - 2) Restoration/ repair required at several stained-glass windows in Sanctuary and adjacent vestibule.
    - (1) ROM Cost for Stained Glass window repair: see attached Stained Glass Window assessment. Includes: window repairs: operable window upgrades; and Lexan covering replacement \$81,000 (Priority 2)
- b. Doors
  1. There was 1 poorly functioning door observed at the facility
    - 1) ROM for repair of existing wood door and frame at Storage Room 016: \$500 (Priority 2)
  2. Several wood doors were observed to have surface scratches and light frame damage.
    - 1) ROM for refinishing doors throughout facility: \$15,000 (Priority 3)

**B. MECHANICAL:**

1. Basement:
  - a. The Basement Office, Library and meeting rooms' air handling unit (located in Area B23), is in good condition and its continued use is recommended. The systems outside air damper should be modified to automatically open and close based upon the system's operation corresponding to the area's occupancy. The addition of a CO2 monitoring system to regulate the outside air based upon the occupancy, is also recommended. The condensing unit associated with the air handling unit has reached the end of its useful life. Its replacement, along with all refrigeration piping, is recommended. Interior duct cleaning for the supply, return and outside air intake ductwork is also recommended.
    1. ROM Cost: For replacing the condensing unit and its associated refrigeration piping: \$42,000.00 (Priority 2).
    2. Although there is an existing outside air damper motor it does not have control logic or automated controls to provide ventilation during the systems operation: \$5,000 (Priority 1).

3. Addition of a CO2 monitoring system to regulate the air flow quantity of ventilation outside air:  
\$5,000 (Priority 2).
  4. ROM Cost: Cleaning of the air distribution system:  
\$4,000.00 (Priority 1).
- b. The exhaust fan serving the Men's Room 004 should be replaced.  
ROM Cost: \$1,500.00 (Priority 2).
  - c. Provide condensate drain wall supports:
    1. ROM Cost: \$3,000 (Priority 1).
  - d. Area B23: Steam traps for the Sanctuary's six gravity field fabricated plenum steam radiators were repaired or replaced in the 2015 renovation. These traps should be monitored for future repair or replacement when necessary.
    - 1) ROM Cost: \$4,200.00 (Priority 3).
  - e. Areas B22, B23 and B24: Clean the interior air distribution ductwork serving the Sanctuary.
    - 1) ROM Cost: \$4,000.00 (Priority 1).
  - f. Areas B22 Air Handling Room: Steam coil control valves and steam traps were replaced in the 2015 renovation. Repair or replacement of control valves and steam traps should be monitored for future replacement when necessary.
    - 1) ROM Cost: \$4,200.00 (Priority 3).
  - g. Replace the existing low pressure steam and condensate piping due to age.
    - 1) ROM Cost: \$100,000.00 (Priority 2).
  - h. Areas B22, B23 and B24: The existing steam and condensate piping insulation should either be removed or encapsulated with a PVC jacket if the insulation contains hazardous materials. The piping should be insulated in accordance with the current 2020 New York State Mechanical Code.
    - 1) ROM Cost: Add PVC Jacketing to the Piping Distribution System:  
\$4,000.00 (Priority 1).
  - i. Area B22: Repair existing damaged air distribution system insulation.
    - 1) ROM Cost: \$2,000.00 (Priority 2).
  - j. Provide insulation on steam and condensate piping in accordance with the current 2020 New York State Mechanical Code. Insulation thickness shall be based on pipe sizes:
    - 1) ROM Cost: \$10,000.00 (Priority 1).

2. First Floor Spaces:

- a. Office 102: The Office area control valves and steam traps were replaced in the 2015 renovation. Repair or replacement of radiator valves and steam traps should be monitored for future replacement when necessary.
  - 1) ROM Cost: \$700.00 (Priority 3).
- b. Men's and Women's Lavatories 104 and 108: The lavatory area control valves and steam traps were replaced in the 2015 renovation. Repair or replacement of radiator valves and steam traps should be monitored for future replacement when necessary. A new exhaust system with a LoSone ceiling fan ducted to a louver within a new double wall insulated window panel located at the existing exterior window is recommended for each lavatory.
  - 1) ROM Cost: Replace Radiator Valves and Steam Traps: \$1,400.00 (Priority 3).
  - 2) ROM Cost: Provide Two Ceiling Fan Systems: \$4,000.00 (Priority 1).
- c. Parish Hall 109: The Parish Hall steam control valves and steam traps were replaced in the 2015 renovation. Repair or replacement of radiator valves and steam traps should be monitored for future replacement when necessary. Ventilation will continue to be provided from the exterior operable windows. If air conditioning is to be provided four (4) floor standing console VRF fan coil units (three (3) along the north exterior wall and one (1) on the west wall opposite Men's Room 104), are recommended. The associated VRF condensing units would be located next to the existing basement air conditioning system's condensing unit, on a new concrete pad.
  - 1) ROM Cost: VRF System: \$65,000.00 (Priority 3).
  - 2) ROM Cost: Replace Radiator Valves and Steam Traps: \$3,500.00 (Priority 3).
- d. Meeting 112: The Meeting Room. Provide three (3) 2ft. by 4ft., 750 watt electric radiant ceiling panels for heating in shoulder months. The existing ceiling exhaust fan is also recommended to be replaced with a LoSone ceiling fan and its ductwork cleaned. Ventilation will continue to be provided from the exterior operable windows.
  - 1) ROM Cost: Replace Ceiling Fan: \$1,000.00 (Priority 1).
  - 2) ROM Cost: Electric radiant ceiling panels: \$3,000.00 (Priority 2).
  - 3) ROM Cost: Ductwork Cleaning: \$200.00 (Priority 1).
- e. Sanctuary 118: If air conditioning is desired for the Sanctuary, an air conditioning cooling coil, air-cooled condensing unit (adjacent to the existing office condensing unit), refrigeration piping, condensate drain

pipng, temperature control wiring, power wiring, etc. will be added. The forced air heating systems air distribution system and the gravity field fabricated plenum steam convection housings will be removed and replaced with a single supply and return air distribution system. The six natural convection gravity field fabricated plenum steam convection housings locations will be modified with four (4) locations utilized for supply air within the Sanctuary and two (2) locations utilized for return air located within Entry 121. There will be an additional three (3) heavy duty decorative floor registers on both the east and west front area exterior walls and two (2) heavy duty floor mounted decorative return air grilles in the floor along the north side on either side of the alter.

1) ROM Cost: Add Air Conditioning:  
\$194,000.00 (Priority 3).

f. Foyer 119: The steam control valves and steam traps were replaced in the 2015 renovation. Repair or replacement of radiator valves and steam traps should be monitored for future replacement when necessary.

1) ROM Cost: \$700.00 (Priority 3).

3. Second Floor:

a. Office 212: The steam control valves and steam traps were replaced in the 2015 renovation. Repair or replacement of radiator valves and steam traps should be monitored for future replacement when necessary.

1) ROM Cost: \$1400.00 (Priority 3).

b. Meeting Rooms 203, 205, 209 and 211: The steam control valves and steam traps were replaced in the 2015 renovation. Repair or replacement of radiator valves and steam traps should be monitored for future replacement when necessary.

1) ROM Cost: \$3,500.00 (Priority 3).

c. Storage 206: The steam control valves and steam traps were replaced in the 2015 renovation. Repair or replacement of radiator valves and steam traps should be monitored for future replacement when necessary.

1) ROM Cost: \$700.00 (Priority 3).

d. Office 204 and 210: The steam control valves and steam traps were replaced in the 2015 renovation. Repair or replacement of radiator valves and steam traps should be monitored for future replacement when necessary.

1) ROM Cost: \$1,400.00 (Priority 3).

e. Meeting Room 207: The steam control valves and steam traps were replaced in the 2015 renovation. Repair or replacement of radiator valves and steam traps should be monitored for future replacement when necessary.

1) ROM Cost: \$1,400.00 (Priority 3).

f. Office 201: The steam control valves and steam traps were replaced in the 2015 renovation. Repair or replacement of radiator valves and steam traps should be monitored for future replacement when necessary. A new ductless split system as requested during the project building conditioning survey visit is to be installed.

1) ROM Cost: Replace Radiator Valves and Steam Traps:  
\$700.00 (Priority 3).

2) ROM Cost: Add Ductless Split System:  
\$15,000.00 (Priority 1).

**C. PLUMBING:**

1. Domestic Cold and Hot Water Systems:

a. Provide backflow prevention devices on the existing domestic water service. These devices will eliminate the chance for water to backflow and contaminate the municipal water system. Most municipalities require backflow prevention devices.

1) ROM Cost: \$15,000.00 (Priority 1).

b. Provide replacement of all galvanized steel domestic water piping with copper piping. Some of the existing domestic cold water piping is galvanized steel original to the building. Galvanized piping systems of this age generally build up corrosion inside the piping that reduces inside pipe diameter and negatively affects water flow characteristics. This is not something that needs to be addressed until water flow and pressure to plumbing fixtures in the building are noticeably impacted.

1) ROM Cost: \$50,000.00 (Priority 3).

c. Replace existing domestic water heater as the existing water heater is at the end of its useful life.

1) ROM Cost (Direct Replacement):  
\$4,000.00 (Priority 1).

2) ROM Cost: (High Efficiency ASME Tank Type):  
\$15,000.00 (Priority 3).

2. Sanitary and Storm Drainage Systems:

a. Replace grease trap in kitchen as the existing unit appears to have reached its useful life and is showing signs of corrosion.

a. ROM Cost: \$3,000.00 (Priority 1).

b. Provide a cleanout at the base of each downspout at 1'-0" above finished grade to facilitate sewer cleanout.

a. ROM Cost: \$3,000.00 (Priority 1).

3. Plumbing Fixtures:

- a. Install two (2) new urinals in basement toilet room to replace removed units as they have reached the end of their useful life and are not functioning properly. New fixtures are flushometer type.
  - 1) ROM Cost: \$9,000.00 (Priority 1).
- b. Replace water closet and lavatories in second floor toilet room as they have reached the end of their useful life and are not functioning properly. New fixtures are flushometer type.
  - 1) ROM Cost: \$8,000.00 (Priority 1).

**D. FIRE PROTECTION:**

- 1. Fire Service:
  - 1) Provide new fire protection water service to support automatic sprinkler system within building. Service to include connection to municipal water main and new service fire protection water line to building. Provide double check detector assembly backflow preventer on service line.
    - a) ROM Cost: \$50,000.00 (Priority 2).
- 2. Automatic Sprinkler Systems:
  - a. Provide automatic sprinkler systems throughout the building. The primary objective of most automatic sprinkler systems is fire control. Fire control is achieved by limiting the size of a fire by distribution of water so as to decrease the heat release rate and pre-wet adjacent combustibles, while controlling ceiling gas temperatures to avoid structural damage. Although sprinkler systems have extinguished numerous fires, sprinkler systems generally are designed to limit the size of a developing fire and prevent it from growing and spreading beyond its general area of origin. In most installations, sprinklers are of the automatic type. Automatic sprinklers are equipped with a glass bulb filled with a thermosensitive fluid that expands with a rise in temperature. At the designated temperature, the expanded fluid forces the glass bulb to burst, thus allowing water to discharge. Each sprinkler operates independently based on this principle. By controlling the size of the fire, sprinklers provide a level of protection for the building until the fire department arrives to provide full extinguishment. Sprinklers also improve life safety by extended the time the building is tenable during a fire to assist in occupant evacuation. In an existing building, sprinklers are not required to be installed until a sufficiently sized renovation is planned. Churches (A-3 Occupancy) built today that contain fire areas greater than 12,000 square feet or have an occupant load of 300 and more require sprinklers.
    - 1) ROM Cost: \$175,000.00 (Priority 2).

**E. ELECTRICAL:**

- 1. Power Distribution:
  - a. Replace four (4) electrical panels identified in report that has reached the end of its useful life, and are lacking proper working clearance.
    - 1) ROM Cost: \$20,000.00 (Priority 1).

- b. Provide additional receptacles in basement/Undercroft to support dehumidification units that are utilizing extension cords.
  - 1) ROM Cost: \$2,000.00 (Priority 1).
- c. Re-route MC cabling laying on floor near Choir Loft.
  - 1) ROM Cost: \$5,000.00 (Priority 2).
- 2. Emergency Lighting and Exit Signage:
  - a. Provide additional battery emergency lighting units to provide minimum egress illumination in spaces identified previously in report. In an effort to avoid seeing wall mounted battery units in the Sanctuary, we would recommend providing UPS battery backup with transfer devise to circuit(s) serving LED lighting in Sanctuary. The system would be configured to by-pass local controls to bring designated fixtures to full brightness upon loss of utility power.
    - 1) ROM Cost: \$13,000.00 (Priority 1).
- 3. Lighting:
  - a. Replace existing fluorescent and incandescent luminaires that are approaching the end of their useful life throughout the facility. The replacement of the luminaires can be staged by room or area to minimize cost impact. When greater than 50% of the lighting within a space is replaced, the 2020 New York State Energy Code requires new automatic lighting controls be installed, such that the lighting within a room does not automatically come on to a level greater than 50%, but will automatically turn off lighting after a set time after the space is unoccupied. Currently installed automatic controls are not configured in this manner. Included in the ROM value are new lighting controls to comply with the current energy code.
    - 1) ROM Cost: \$80,000.00 (Priority 2).
  - b. Provide additional LED exterior lighting to provide illumination for the parking lot, and rear entrance to Kitchen.
    - 1) ROM Cost: \$5,000.00 (Priority 2).
  - c. Provide additional LED interior vestibule lighting at Elmwood entrance.
    - 1) ROM Cost: \$3,000.00 (Priority 2).
- 4. Fire Alarm System:
  - a. Provide one addressable fire and carbon monoxide alarm system with new initiating and notification devices throughout the facility to comply with current building codes.
    - 1) ROM Cost: \$50,000.00 (Priority 1).
- 5. Network:

- a. Upgrade wireless access points and add additional devices to provide coverage in "dead zones" identified. Includes new cabling for new locations and configuration of equipment.
  - 1) ROM Cost: \$8,000.00 - \$11,000.00+ depending on equipment selected. (Priority 3).
- 6. CCTV:
  - a. Expand coverage of existing CCTV camera system to provide coverage at entrance doors and parking lot.
    - 2) ROM Cost: \$10,000.00 - \$20,000.00+ based on system and camera quantity. (Priority 2).
- 7. Access Control:
  - a. Provide access control on one (1) exterior door on south side of building, with access control reader, intercom to Office with the ability to release door remotely. Consideration can be given to add a second door to the system, such as the Kitchen entrance for staff.
    - 1) ROM Cost: \$10,000.00 dependent on features selected. (Priority 2).
- 8. Security System:
  - a. Provide new security system to provide door contacts on all exterior doors, and interior motion detection.
    - 1) ROM Cost: \$15,000.00 dependent on features selected. (Priority 2).
- 9. Inner-Building Intercom:
  - a. Provide intercom system between classrooms and central location in the facility to allow for emergency communications between classrooms and one central location.
    - 1) ROM Cost: \$20,000.00 dependent on type of system selected. (Priority 3)

# Appendix A

## ⌘ Recommendations from R.E. Kelley