
RESERVE STUDY
for
SAINT PETRONILLE PARISH
at
420 GLENWOOD LANE
GLENN ELLYN, ILLINOIS 60137

KGH NO. 19-11-454

November 11, 2019



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INTRODUCTION

As authorized by the Saint Petronille Parish in Glenn Ellyn, Illinois, Kellermeyer Godfryt Hart, P.C. (KGH) performed an assessment study of the condition of the common property architectural and structural elements, as well as mechanical, electrical, plumbing systems (MEP) for the Saint Petronille Parish building located in Glen Ellyn, Illinois. The findings of the study, which largely consisted of visual examinations of the property supplemented by a review of available construction drawings, property maintenance documents, and other pertinent observations performed during various recent projects (inspections, replacement programs), are presented herein. The buildings that make up the complex include the following:

- Church – located at the southeast corner
 - Church steeple
 - Church sloped slate roof
- Grade School – 425 Prospect Avenue located at the northwest corner
 - Roofs
- Parish Office - 420 Glenwood Lane located at the northeast corner
 - Roofs
- Parish Library – previously the convent located at the southwest corner
 - Roofs
- Parish Life Center
 - Roofs
- Rectory **(not included)**
- Pool **(not included)**

The opinions expressed in this report are based on the observed visual conditions of the building elements and systems included in the study. A more detailed analysis of the property systems that would require the disassembly or testing (destructive or non-destructive) of building components or the development of engineering calculations were beyond the scope of this study. We make no representations regarding latent or hidden defects. In addition, this study does not address random, isolated conditions that may require the attention of a routine or general maintenance nature. Furthermore, it should be noted this study does not address the potential presence of asbestos containing materials (ACM), formaldehyde, mold, lead based materials or other toxic substances within the building structure or property site, nor does it include an investigation to determine if any abandoned fuel storage tanks are buried within the boundaries of the Saint Petronille Parish property. Our opinions in this report assume there are no hazardous materials on the property since we are not qualified to identify such hazards or to provide costs for their remediation.

You agree, to the fullest extent permitted by law, defend, indemnify and hold KGH, its officers, directors, employees, agents, and subconsultants harmless from and against any and all damage, liability and costs, including reasonable attorney's fees and defense costs, arising out of or in any way connected with the performance of its services except only those damages, liabilities, or costs attributable to the sole negligence or willful misconduct of KGH, its officers, directors, and employees.

This study has been commissioned and prepared solely for Saint Petronille Parish. The use of this study or any portion of the study, by any entity or individual other than Saint Petronille Parish, is expressly prohibited.

CONDITION SURVEY OBSERVATIONS

Common property elements for the Saint Petronille buildings were visually examined by KGH on September 11, 2019. Representatives of our MEP consultant, Sunnyside Design Group Inc., visually examined the common property elements. KGH also viewed the roofs close-up on September 27, 2019. Following are summaries of our observations and opinions relative to the condition(s) of the major components and systems included within this study.

RESERVE STUDY SUMMARY

The Saint Petronille Parish property was found to be, in our opinion, generally well designed, constructed, but does require repairs to some deferred maintenance. The continuation of appropriate maintenance and replacement programs will help ensure the property continues to provide proper and serviceable performance for an extended period.

EXTERIOR CONDITIONS

Exterior Structural Concrete Elements

| | |
|---------------------------------|----------------------------------------------------|
| <u>Location</u> | Stairwells to basement Exposed foundation areas |
| <u>Overall Condition</u> | Fair |

Description

The exposed concrete related to the complex varies by location but typically consists of exterior stairs and exposed foundations. Concrete related to walkways around the complex are included in Landscaping Section. Foundations and stairs are typically in fair condition with locations of cracks and delaminations that require repair.

Concrete is located at:

- 1) Kindergarten - Exposed concrete stairs and stoop at west side of kindergarten.
- 2) Kindergarten - Exposed concrete foundation and stairs to the basement of the kindergarten at northwest corner.
- 3) Church - At the south elevation of the church, the exterior stairwell to the basement is in poor condition.
- 4) Church Steeple - An exposed concrete slab separates the masonry base of the spire from the wood cladding at the clock level. The concrete slab was unpainted and was capped with sheet metal along the topside surface. The concrete appeared to be in fair condition.
- 5) School - Exposed concrete footing and landing for the first-floor door exit to the northeast corner of school.
- 6) School - Exposed concrete foundations for below grade light wells at north and south elevations of the church and north elevation of the school addition and Life Center.
- 7) Concrete stoop at the south kindergarten entry has 9 x 9 quarry tile and mortar joints and a limestone surround that has significant efflorescence from moisture and salt intrusion.

Scheduled Repair and Priority Recommendations

| | |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| 1) Church - South elevation of church, exterior stairwell to basement. | |
| Recommendation year 2021 | \$35,000 |
| a) Concrete repairs to include the following: | |
| i) Concrete stairs to basement in poor condition require significant repair / replacement. | |
| ii) Concrete at multiple railing post embedment was observed to be spalled and post bases appeared corroded. | |
| iii) Rout and seal and cracks in existing walls, include urethane injection at retaining walls. | |
| iv) Staining at the lower level slab suggests the area does not drain properly. Maintain clean drains. Recommendation - Monitor | NA |
| v) The exterior location of the drain makes it susceptible to freezing and ice damming. Recommendation - Monitor | NA |

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| 2) Church Steeple – Exterior slab edge requires routing and sealing of concrete slab cracks and painting/waterproofing of concrete. Recommendation year 2025 a) (Coordinate with masonry repairs at Steeple). | \$15,000 |
| 3) Parish Life Center - Evaluate cracks at Southeast Stair to determine if they allow water infiltration from the exterior. Recommendation year 2020 a) Possible infiltration through electrical. i) Replace conduit below grade if corroded ii) Replace/repair waterproofing around electrical conduit penetrations b) Possible rout and seal cracks at the exterior to prevent water infiltration to the interior c) Possible inject cracks with urethane to prevent water infiltration from below grade | \$7,500 |
| 4) Parish Life Center - Evaluate crack at chimney cap and repair or replace cap. Recommendation year 2023 | \$5,500 |
| 5) Kindergarten - Exposed concrete stairs and stoop at west side of kindergarten. Recommendation year 2022 a) Void at north side of stair at intersection of building where bees appear to be dwelling requires repair i) Elimination of bees. b) Foundation for stair at south side of stair stoop deteriorating i) Repair concrete foundation ii) Caulk construction joints around stoop. | \$2,500 |
| 6) Kindergarten - Exposed concrete foundation and stairs to the basement of the kindergarten at northwest corner a) Concrete cracks. Recommendation - Monitor | NA |
| 7) Evaluate the concrete foundations at church light wells. Recommendation - Monitor | NA |

Scheduled Maintenance

- Building staff to review:
 - Annually.
 - Review condition of concrete in basement during rainstorms and snow melting.
- Contractor
 - As needed, based on architectural/engineering review,
- Architectural and engineering professional condition survey.
 - Every 5 years.
- Maintenance recommendations for tile.
 - Test scouring powders on a small area first.
 - (not recommended for natural stone).
 - Use a sealer on grout joints.
 - Have any damaged or broken tiles removed and replaced only by a qualified contractor.
 - Beware of the following:
 - Do not use cleansers containing acid or bleach for routine maintenance.

- Do not use wax cleaners, oil-based detergents or sealants to maintain your tile (sealants may be used on grout joints and natural stone).
- Do not use ammonia (it will discolor grout).
- Do not use harsh cleaning aids such as steel wool pads or scouring pads containing metal.
- Do not use a cleaning agent that contains color on unglazed tile.

Architectural and Engineering Recommendations:

- Review structures for concrete cracks, spalls and delaminations.
 - Repairs to concrete should be performed as soon as possible.
 - Loose concrete should be removed or stabilized immediately, or areas should be made off limits to pedestrian access.
- Identify corrosion at reinforcement.
- Exposed corroded reinforcing bars or other corroding metal should be evaluated, cleaned, and painted before repairing the concrete.
 - Replace deteriorated reinforcement or add supplemental steel or metal, if required.

Photos



Fig. 1 - View of leak location in the basement located below the pipe to the south of the northeast stair exit door.



Fig. 2 - View of leak location to the basement located below the pipe to the south of the stair door.



Fig. 3 - View of Parish Life Center chimney cap.



Fig. 4 - View of door and concrete stairwell at kindergarten.



Fig. 5 – View of discolored concrete at Parish Life Center.



Fig. 6 - View of deteriorated concrete at church entrance.



Fig. 7 - View of poorly patched concrete repair at church entrance.

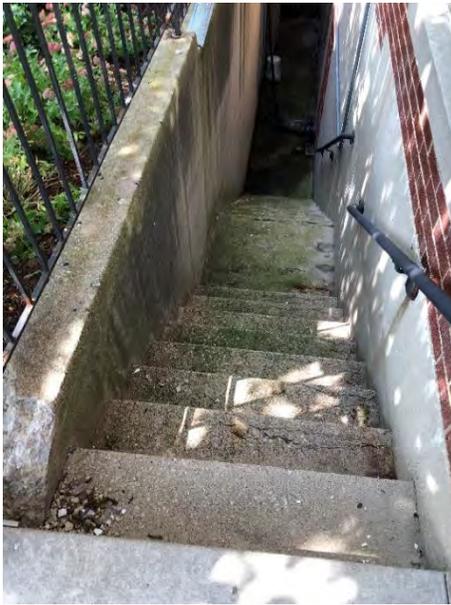


Fig. 8 - View of exterior stairs to church Basement.

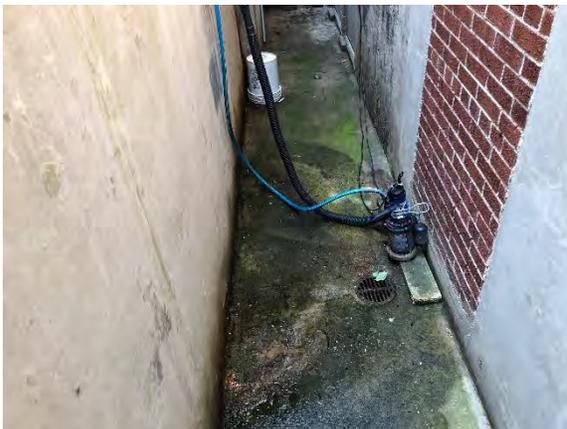


Fig. 9 - View of ejector pump at bottom of exterior church basement stairs.

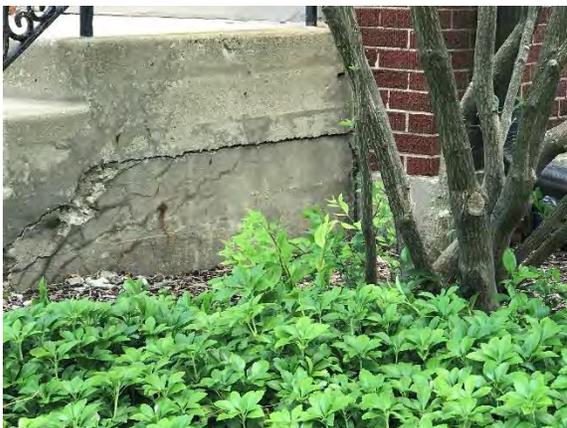


Fig. 10 - View of deteriorated concrete at west
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kindergarten stair stoop.



Fig. 11 - View of corroding steel below the south kindergarten entrance.



Fig. 11 - View of exposed concrete floor slab between wood and brick at church steeple.

Exterior Masonry Elements

Location Exterior wall surfaces of each building

Overall Condition Fair to Poor Varies (see below)

Description

The exterior masonry building components of the Church, Parish Life Center, Mary Chapel, St. Petronille Shrine, School, and Kindergarten buildings at Saint Petronille Parish are typically constructed of:

- 1) A red-brown colored clay face brick,
 - a) The face brick was installed in a running bond fashion.
- 2) Limestone.
 - a) Decorative entablatures, trims, piers, columns, carved signs and plaques, windowsills, stairs, and stoops.
- 3) Church has a niche at the front entrance with a sculpture and limestone plaques at either side.
- 4) Granite steps have been provided at the portico entrance to the south school entrance.
- 5) Mosaic tile at Mary Chapel along with carved limestone panels.

The mortar joints have been tooled in a concave fashion which is most optimal for a cold weather climate such as Glen Ellyn. The walls appear to be well conceived and were not observed to be bulging or noticeably displaced.

During our field study activities, the exterior brick masonry was noted to have random locations of individual cracked brick throughout all elevations. Additionally, the mortar joints were found to be in serviceable condition with isolated instances of cracked or failing joints.

Failed sealant at masonry-to-masonry, masonry-to-wood, and masonry-to-metal joints were also identified. The deficiencies discussed appear to be due to natural aging and shrinkage of the sealant materials.

Scheduled Repair and Priority Recommendations

| <u>Church</u> | <u>Estimated Cost</u> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| 1) Brick masonry cracking at the east corner of the church (north of portico). <ol style="list-style-type: none"> a) Recommend rebuilding the masonry around the structural column and installing a permanent expansion joint to accommodate minor movement. Recommendation year 2021 | \$35,000 |
| 2) In general, the existing brick masonry of the church walls appeared to be in fair condition. <ol style="list-style-type: none"> a) The majority of brick mortar joints appeared serviceable; however, minor deterioration was observed at sporadic locations, particularly below windowsills. Miscellaneous brick replacement and tuckpointing should be considered. Recommendation year 2025 b) At the limestone elements, KGH observed cracking in typical joints. Limestone masonry should be ground and pointed 100%, with | \$60,000 |

skyward facing joints repaired with sealant. **Recommendation year 2023** **\$50,000**

Steeple

Brick Masonry Base:

- 1) Brick masonry at the base of the steeple was observed to be in poor condition. **Recommendation year 2023** **\$40,000**
- a) KGH observed widespread open mortar joints and at isolated locations cracked brick masonry was observed.
- b) Vertical mortar joints at corners of the masonry base were observed to be cracked.
- i) Assume 100% grinding and tuckpointing required at steeple masonry base.
- ii) Assume installation of 50 linear feet of sealant and backer rod at the interior corner joints.
- iii) Assume 50 individual brick replacement and ten (10) square feet of brick replacement.

Mary Chapel

1. Repair stone damage to columns at portico. Grind and tuckpoint mortar joints 100% at portico walls and floors. Perform limestone patch and dutchman repairs to columns. **Recommendation year 2020** **\$35,000**
2. Repair existing poor repairs to shrine. Grind and tuckpoint mortar joints. **Recommendation year 2025** **\$25,000**

Church to School Connection

- 1) At the south wall, upper level masonry was typically washed out. **Recommendation year 2025** **\$12,000**
- a) Grind and tuckpoint mortar joints at south wall 100%.
- 2) Typical limestone joints at decorative window heads, belt courses and the entablature were in poor condition. **Recommendation year 2022** **\$15,000**
- a) Grind and tuckpoint limestone mortar joints 100%.

School (original and addition)

- 1) South Entry Portico: **Recommendation year 2020**
- a) Brick masonry is typically in fair condition. Miscellaneous open mortar joints were observed, particularly near light fixtures. **\$5,000**
- i) Tuckpointing is a low priority at this time.
- b) At the south entrance, mortar joints at the stone masonry of the portico are typically in poor condition. **\$10,000**
- c) At the granite steps and surrounding granite elements at the south portico, typical sealant at stone-to-stone joints is aged and displaying cohesion failures. **\$7,000**
- d) Soffit ceiling is deteriorated at the southwest corner. **\$15,000**
- i) Ceiling should be removed, and hidden area investigated for possible water infiltration.
- ii) Grind and tuckpoint masonry adjacent to ceiling 100%.
- 2) Typical lintels at the original school building show signs of deflection.

- a) KGH recommends flashing repairs at all windows and anticipates lintel replacement will be necessary at 1/3 to 1/2 of lintel locations.
Recommendation year 2025 **\$200,000**
- 3) Masonry at the School building is typically in fair condition.
- a) The west elevation shows evidence of previous localized repair efforts.
- i) Given the large scope of a potential lintel refurbishment project, tuckpointing 100% of the school building should be considered in conjunction with lintel refurbishment. **Recommendation year 2025** **\$155,000**
- 4) At the ground floor, particularly at the west elevation, landscaping creates a slope toward the exterior walls of the school. **Recommendation year 2025** **unknown**
- a) Landscaping should be modified to gently slope away from the building. Cost is undetermined - review and develop plan.
- b) If window replacement at the ground floor is considered, shorter windows may be considered to facilitate raising the level of grade immediately outside the exterior walls.
- 5) School addition:
- a) At the northwest corner, rebuild the masonry at the corner due to observed cracking and brick displacement at the upper levels
Recommendation year 2020 **\$25,000**
- b) Sealant at typical stone spandrel-to-brick masonry joints was in poor condition and should be replaced. **Recommendation year 2024** **\$7,500**
- c) Limestone joints at typical pediment and cornice areas were weathered and should be considered for grinding and tuckpointing.
Recommendation year 2025 **\$17,000**

School-to-Kindergarten Connection

- 1) Masonry was generally in good condition - **Recommendation - Monitor** No Cost
- 2) Staining was observed at the stone cornice level. - **Recommendation – 2030 (10 years)** **\$20,000**
- a) Clean stone.

Kindergarten

- 1) Masonry was generally in fair to poor condition.
- 2) KGH observed areas of washed out mortar joints, particularly at the south elevation and the southern portion of the east and west walls.
Recommendation year 2024 **\$120,000**
- 3) The north elevation (playground wall) appeared washed out, particularly at the ground level below windows. **Recommendation year 2024** **\$80,000**
- a) Grind and tuckpoint.
- 4) KGH did not observe significant deflection of masonry deterioration near typical lintels. **Recommendation - Monitor** No Cost
- 5) Railings along the west elevation were in fair condition and displayed surface corrosion. **Recommendation year 2025** **\$2,500**
- a) Cleaning and painting the railings and applying sealant at the base of typical posts.

Parish Office

- | | |
|------------------------------------------------------------------------------------------------------------------|----------------|
| 1) In general, exterior walls at the Parish Center are in good condition. Recommendation Monitor | No Cost |
| a) KGH did not observe significant areas of deteriorated mortar within the masonry areas. | |
| 2) Typical window and door lintels appeared to be flashing and performing well. Recommendation - Monitor | No Cost |
| 3) At typical expansion joints, sealant appeared aged but still performing. Recommendation – year 2025 | \$8,000 |
| a) Monitor sealant condition and consider replacement in 4 to 6 years. | |
| 4) Install sealant at vertical outside corner joints of two stair towers. Recommendation – year 2025 | \$2,000 |

Dumpster Enclosure

Dumpster enclosure at north side of parking lot.

- | | |
|------------------------------------------------------------------------------------------------------------------------|----------------|
| 1) Consists of red brown face brick with concrete masonry unit back-up, on concrete foundation with limestone copings. | |
| 5) 2 missing copings, other copings loose. Recommendation – year 2019 | \$6,500 |
| i) Remove all loose coping immediately. | |
| ii) Reinstall / replace remaining copings. | |
| iii) Remove soil and plants growing from concrete masonry units (CMU). | |
| 6) Open expansion joints were observed in the masonry walls. Recommendation – year 2025 | \$500 |
| iv) Install sealant and backer rod. | |

Scheduled Maintenance

- Building staff to review.
 - Review masonry annually.
- Architectural and Engineering professional condition survey – every 5 years.

Architectural and Engineering Recommendations

- Limit salt and salt spray onto limestone and granite, if possible.
- Limit attachments to limestone or composite columns at portico entrances.
- Match mortar and brick colors and textures during repairs.
- Repair penetrations immediately.
- Provide slope to allow water to drain as soon as possible.
- KGH recommends the gutters be cleaned a minimum of twice a year.
- Do not install anchors into limestone columns.

Photos



Fig. 1 – View of crack in brick that extends full height at north side of church east elevation.



Fig. 2 – View of poor mortar repair at St. Petronille Shrine.



Fig. 3 – View of school west elevation with previous step cracks from corroding steel lintels.



Fig. 4 – View of school west elevation with unsealed openings and failed sealant at duct.



Fig. 5 – View of crack in brick that extends full height at west side of north elevation.



Fig. 6 – View of weathered and open mortar joints below limestone along the school east elevation.



Fig. 7 – View of limestone corner at southwest corner of the school, south portico entry that requires rebuilding.



Fig. 8 – View of open limestone mortar joints at Copings.



Fig. 9 – View of open granite step paver mortar joints.



Fig. 10 – View of kindergarten north elevation with open mortar joints.



Fig. 11 – View of deteriorated mortar joints at south side of kindergarten west elevation.



Fig. 12 – View of deteriorated limestone joints and tile efflorescence at kindergarten south elevation entrance.



Fig. 13 – View of severe mortar joint deterioration at Mary Chapel entrance.



Fig. 14 – View of severe mortar joint deterioration and limestone patch repairs at columns at Mary Chapel entrance.



Fig. 15 – View of severe mortar joint deterioration at church steeple.



Fig. 15 – View of school west portico entrance and limestone columns and fascia. Fascia has limestone spalls and deteriorated mortar joints.

Window and Door Systems:

Location Exterior wall surfaces of each building

Overall Condition Poor to Fair - Varies (see below)

Description

The window and door components at Saint Petronille Parish consist of:

- Church
 - 1 wood arched transom windows with divided lites and 2 sidelights.
 - 2 interior wood arched transom windows with divided lites (partial height).
 - 8 wood arched transom windows with divided lites.
 - With 2 awning windows each (16 total).
 - 3 wood double doors with arched transom windows above.
 - 1 double hung window.
 - 6 metal light well windows.
 - 1 wood door with vision lite.
 - 1 flush panel metal basement door.
 - 4 clocks.
 - 4 wood louvers.
- Mary Chapel
 - 1 wood arched transom windows with divided lites.
 - 1 thin, wood, arched transom window with divided lites.
 - 1 round wood window.
 - 1 set of wood double doors.
- Parish Life Center
 - 1 roof hatch.
 - 17 double hung windows.
 - 3 masonry opening with 2 wood double hung windows each.
 - 5 full height wood windows with arch and 2 operable awning windows at sill.
 - 4 masonry openings with 2 small awning windows each.
 - 1 double door with arched window.
 - 2 double doors with fixed arched transoms above.
 - 1 metal flush panel door.
- School
 - 1 masonry openings with 1 small awning window.
 - 14 masonry openings with 1 double hung windows.
 - 81 masonry openings with 2 double hung windows.
 - 2 masonry openings with 3 double hung windows.
 - 8 masonry openings with 5 double hung windows.
 - 1 metal flush panel double door.
 - 1 metal flush panel single door.
 - 3 wood single swing doors with vision lite and 2 sidelights each.
 - 2 wood doors with 2 sidelights and a transom.
 - 2 wood single doors with transoms.
 - 10 metal spandrels located between windows.

- Walkway from school to kindergarten.
 - 8 two-story fixed arched windows with divided lites.
 - 8 double hung windows with arch tops.
- Kindergarten - windows are typically newer and original frames have been capped in aluminum.
 - 23 single and double hung windows at first floor.
 - 20 double-hung windows at second floor.
 - 6 double-hung windows at roof floor.
 - 1 round window.
 - 1 octagonal window.
 - South, 1st floor, 1 swing door, 2 sidelites, 1 transom.
 - South, 2nd floor - 1 arched window with 2 sideslites.
 - North, 2nd floor - 1 arched window with 2 sideslites.
 - West - 1 door at 1st floor.
 - 1 door at basement.
- Lunchroom
 - 4 single wood doors with 2 sidelights total.
 - 6 masonry openings with one double hung window each.
 - 2 masonry openings composed of 2 double hung wood windows with a fixed window in between each of the openings.
 - 2 full height, wood, arched windows with divided lites.
 - 1 door with 2 sidelites.
- Dumpster Enclosure
 - 2 metal, louvered swing doors.

The existing windows are typically set into masonry punched openings. The majority of window openings contain a double hung window with two operable sashes. Many of the sashes have been provided divided lites. However, the Life Center and the church have been provided inswing awning windows with fixed lites above.

Sealants have been installed around the perimeters of the respective window and door frames to seal the interface joint between the frame and the abutting masonry construction. Over time, these systems will also begin to break down, requiring maintenance and repairs. Isolated instances of failed sealant joints were identified. The deficiencies appear to be due to natural aging and shrinkage. As such, the sealants appear to be reaching the end of their usable life and should be considered for replacement.

Scheduled Repair and Priority Recommendations

Estimated Cost

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 1) Church - Existing wood windows at the elevations of the church displayed peeling paint, failed putty, failed sealant, and limited areas of deteriorated wood. Recommendation – year 2020 | \$200,000 |
| 2) School - Typical windows at the ground floor of the school are older wood windows. Recommendation – year 2023 | \$10,000 |
| a) In general, the paint at the windows is peeling an in need of recoating. | |
| 3) School – windows at the school addition have 10 metal clad spandrels between the first and second floor windows at the west and north elevations that are deteriorating and have holes in them. Spandrels require replacement. Recommendation – year 2025 | \$40,000 |

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 4) School-to-Kindergarten Walkway Connection - Typical wood window frames displayed peeling paint throughout. Exposed wood should be scraped, primed and painted. Recommendation – year 2024 | \$15,000 |
| 5) Kindergarten - Wood window at the north elevation displayed peeling paint. Recommendation – year 2025 | \$5,000 |
| a) Wood should be scraped, primed, and painted. Wood replacement could be required at locations. | |
| 6) Kindergarten, 2 nd floor, south center window at the balcony has bird nests on the wood trim above the windows as well as a manmade bird house secured to the sidelight frame. Recommendation – year 2025 | \$in-house |
| a) The bird nests and feces could contribute to the accelerated deterioration of the wood trim. | |
| 7) Kindergarten - West 2 nd floor window missing one shutter. Recommendation – year 2025 | \$1,500 |
| 8) Generally, sealant joints were found to be in poor overall condition. Based on the age of the sealant, KGH recommends a comprehensive sealant replacement program is anticipated in the next 1 to 5 years. Recommendation – year 2025 | \$9,000 |
| 9) Replace putty at bathroom wood window or replace window. Recommendation – year 2025 | \$1,000 |

Scheduled Maintenance (Varies)

- Building staff to review
 - Review windows after major storms and extreme high or low temperatures.
- Architectural and Engineering professional condition survey – every 5 years.

Architectural and Engineering Recommendations:

- Windows that are near or below grade.
 - Slope water away from building and windows.
- Verify windows lock properly.
 - Lock windows at the end of each day and during storms.
- The parish should anticipate the development of guidelines to establish criteria for the visual appearance of replacement doors and windows.
- A maintenance schedule should be discussed and compiled for the building management / engineer to understand the frequency of maintenance, as well as the extent.
- A manufacturer recommends regular maintenance that will assist in windows and doors operating smoothly using the following checklist as an annual maintenance reminder.
 - Weather-stripping is a resilient material designed to act as a barrier in the space between the sash and frame to reduce air and water infiltration.
 - Make sure it is still effective. If not, contact the window manufacturer or service contractor.
 - Examine the window's interior and exterior finish. Occasional repair to a damaged finish may be necessary.
 - (See manufacturer's recommendations for repairs).
 - Also, remember to be careful when using paints, stains, and varnishes to make repairs.

- Never allow these solvent containing materials to come into contact with weather-strip.
- Solvents cause weather-strip to lose its flexible qualities.
- Inspect the exterior caulking around the outer edges of the window frame.
 - Trim off any old, loose caulking and seal any gaps with a good quality caulk.
- Check that all hardware (locks, opening mechanisms, etc.) operates smoothly.
 - Make sure any exposed hardware screws are tightened securely.
 - Clean any sand, dirt or dust from door and window hinges, sills, and tracks.
 - Check any energy panels and storm and screen combinations to make sure screws in turn buttons are securely fastened.
- Check doors for smooth operation. Wood doors require a stabilization period after installation, sometimes taking up to a year to adjust to humidity levels and other environmental factors.
- When performing maintenance, always consider safety first:
 - Use caution on ladders, and always wear protective eyewear and clothing.
 - When working with primers, paints, stains, cleaning solutions, etc., follow all recommended safety precautions (Federal, State, Local, manufacturer) and dispose of these materials according to manufacturer's instructions.

Photos



Fig. 1 – View of deteriorated kindergarten window at north elevation.



Fig. 2 – View of deteriorated church window behind alter.



Fig. 3 – View of deteriorated church window.



Fig. 4 – View of deteriorated school spandrel between windows.



Fig. 5 – View of school window at west elevation requiring painting.



Fig. 6 – View of south elevation kindergarten walkway window frames with peeling paint.

Exterior Wood and Decorative Elements

Location Composite columns at Life Center Entry and gymnasium entry
 Decorative trim at pediment at Life Center and gymnasium entrance
 Decorative frieze at Life Center
 Louvers at school addition attic

Overall Condition Fair and Poor

Description

- Composite columns at porticos.
- Louvers at attics.
- Metal clad dormers.
- Decorative wood around mosaics.
- Decorative wood around clocks and cladding at steeple.

Scheduled Repair and Priority Recommendations

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| 1) Parish Life Center offices - The composite columns entry canopies have been painted and the paint is failing at the seams. Recommendation – year 2020 | \$2,500 |
| 2) School - The exposed arched wood louvers at the east and west sides of the school addition are missing paint and appear to be rotting. Recommendation – year 2020 | \$15,000 |
| 3) School and Kindergarten and Connection: Recommendation – year 2025 | |
| a) Scrape, prime, and paint exposed wood elements. \$10,000 | \$10,000 |
| i) Replace wood, as required. | |
| ii) Includes wood trim around mosaic tile. | |
| b) Kindergarten – Custom painted ceramic tile mosaic with decorative trim in poor condition. Glazing has failed at tiles due to water and freeze-thaw. Wood is rotting and has peeling paint. Recommendation – year 2020 | \$20,000 |
| c) Replace wood and replace portions of mosaic or all of mosaic. | |
| d) Cost is not known since it is custom. | |
| 4) <u>Steeple - Clock Level:</u> Constructed of painted plywood sheathing topped with a decorative wood cornice. Each elevation of the steeple contains a clock face with a decorative wood trim along the perimeter. Recommendation – year 2022 | \$80,000 |
| a) Wood trim around clock was observed to be in poor condition. Wood trim requires replacement due to rot. | |
| b) The wall area surrounding the clock face is constructed of painted plywood. Cracking was observed at plywood seams. | |
| i) Plywood could require replacement. Alternatively, installing a secondary cladding system with waterproofing to prevent water infiltration into the base of the steeple could also be considered. | |
| c) The wood cornice atop the clock level was observed to be in good overall condition. | |

- i) Painting should be performed.
- 5) Steeple - Octagonal Bell Tower:
 The octagonal bell tower is clad with plywood with arched louvered openings on each face of the octagon. A decorative wood key is located at the top of each arched opening. Beneath the arched openings is a ledge clad with sheet metal. Along the top of the octagonal bell tower is a decorative wood cornice. Repair work should be performed in conjunction with clock level.
 - a) Wood louvers were observed to be in good overall condition.
 - i) Painting required in conjunction with any work at surrounding areas. **Recommendation – year 2022** \$5,000
 - b) Plywood wall surfaces were observed to be cracked near the seams. **Recommendation – year 2022** \$10,000
 - c) Decorative cornice appears to be in good overall condition. Requires painting in conjunction with other nearby work.
 - i) **Recommendation – year 2025** \$1,500
 - d) Decorative trim at perimeter of arched openings in good overall condition. Requires painting in conjunction with other nearby work.
 - i) **Recommendation – year 2025** \$1,500

Scheduled Maintenance (Varies)

- Building staff to review:
 - Annually.
- Contractor
 - Per direction.
- Architectural and Engineering professional condition survey
 - Every 5 years.

Architectural and Engineering Recommendations:

- Review areas for paint and sealant failures.
- Allow the base of the columns to vent.
- Paint wood elements every 5 to 8 years.
- Replace sealant, as required and dependent on sealant type.
 - Silicone
 - Urethane
 - Latex/Acrylic

Photos



Fig. 1 – View of clock tower deterioration.



Fig. 2 – View of kindergarten north elevation ceramic tile mosaic with wood trim border.



Fig. 3 – view of peeling paint at parish office columns.

November 2019
KGH No. 19-11-454



Fig. 3 – View of deteriorated wood louver at school.

Roof Membrane Systems**Location** Roof systems**Overall Condition** Poor to Good**Description**

The roof systems at Saint Petronille Parish consist of:

- Slate Roof
 - Church.
 - Mary Chapel.
 - Copper gutters and downspouts.
 - Galvanized downspouts.
 - Step copper flashing.
 - Lead flashing at vents.
- Metal roof:
 - Walkway to kindergarten has metal roof.
 - Walkway to kindergarten has metal clad mansard roof and dormer surrounds.
 - Kindergarten entry.
- Modified Single-Ply Asphalt Roof with Aggregate Ballast (Flat Roof).
 - Flat roofs at northeast wall of church and connecting to original school.
 - Limestone copings.
 - Aluminum copings.
- Modified Single-Ply Asphalt Roof (Flat Roofs).
 - Aluminum copings.
 - Step copper flashing.
 - Lead flashing at vents.
- Asphalt Shingle Roof at Parish Life Center, School, and Kindergarten.
 - Remainder of roofs.
 - Continuous ridge vent.
 - Step copper flashing.
 - Lead flashing at vents.
 - School has gutter leaf protection at locations.
- For the flat roof areas included at the center of the north elevation, water run-off is directed towards interior surface drains and subsequently vertically through the interior of the building to the main drainage system. At this time, it is our understanding no incidences of water infiltration have been reported at areas where the roof system may be a suspected source.
- Gutters and downspouts were observed at the sloped roofs.

Leaks

- Previous leaks reported at the southeast corner of school roof.
- Previous leaks reported at the northeast corner of school roof at valley.

Repair of roofs will assist in preventing further deterioration of structure below, masonry, limestone, and grade level.

Conditions Observed:

- Broken, missing and cracked slate tiles.

- Standing water.
- Debris.
- Patches.
- Liquid emulsion repair.
- Isolated instances of failed sealant at joints were also identified. The deficiencies discussed appear to be due to natural aging and thermal expansion and contraction. As such, these deficiencies do not need to be immediately addressed.

Church Roof:

- Slate was observed to be in fair condition at the time of the review.
- Sealant/roofing cement at ridge appeared to be weathered.
- Replacement slate tiles were observed along the roof edge near gutters. Slate is a poor color match.
- Slate along the projecting roof to the southwest of the main roof level contained a different slate tile. Tiles were smaller and in good overall condition.
 - It appears the slate may have been replaced on the north face of the southwest roof area.
- Copper counterflashing along the steeple was observed to be in fair condition.
- The copper gutter has straps that have been secured to the roof.
 - The copper gutters have been provided copper downspouts that typically extend to a storm drain below grade.
 - However, the southwest corner downspout extends into a leaded pipe penetrating the Mary Chapel roof.

Steeple:

- Clock Level: See Wood Section
- Octagonal Bell Tower: See Wood Section
- Octagonal Steeple Spire: See Exposed Metal Section

Mary Chapel - Sloped Slate Portico Roof:

Slate was observed to be in fair condition at the time of the review.

- Gutters and downspouts were observed at the sloped roofs. Gutters and downspouts require constant cleaning to assist in the evacuation of water from the system.

Life Center and Parish Office – Sloped Roof

- Existing asphalt dimensional shingles were estimated to be a 25-year shingle using shingle gauge.
 - The 20-year guarantee appears to have been installed in 2003.
 - Existing asphalt shingles were observed to be in good overall condition.
- Sheet metal flashing at roof valleys was in good overall condition.
 - Sealant at flashing seams were observed to be in poor overall condition.
 - Most sealant joints were observed to be failed.

- KGH observed isolated locations where shingle fasteners had backed out.
- Sealant at counterflashing along masonry wall of church was observed to be in poor condition with widespread failures.
- Sealant at counterflashing along perimeter of mechanical penetrations observed to be in poor condition.
- Flat roofs located at the north (stair) and east (stair) valleys of the roof were observed to be in fair condition.
 - Areas of ponding were observed at each of the flat roof.
 - Ponding will cause the granular modified bitumen membrane to degrade.
- Gutters and downspouts were observed at the sloped roofs.
 - Gutters and downspouts require constant cleaning to assist in the evacuation of water from the system.

Life Center and Parish Office – Flat Roof

- The two roofs over the stairwells are flat modified bitumen roofs with scuppers that extend to downspouts which then extend to grade.
 - The valleys of the sloped asphalt shingles roofs above also provide water to this roof level.

Gymnasium Entry - Sloped Portico Roof:

- Existing asphalt dimensional shingles.
 - Existing asphalt shingles were observed to be in good overall condition.
 - Gutters and downspouts were observed at the sloped roof.
 - Roof has algae staining.

Lunchroom - Gymnasium Entry - Flat Roof:

- There are four (4) different roof levels that are flat in the center of the complex that are surrounded by the church and Life Center to the east and the school to the west. The roofs over the lunchroom is a flat modified bitumen roof with drains that extend to the internal downspouts.
 - The roof level adjacent to the church has been provided with a gravel ballast on the modified bitumen roof system.
 - Ponding water is evident throughout.
 - Pipes have been placed on wood blocks
 - The roof level adjacent to the north appears to be a granulated single ply modified bitumen roof system.
 - Aluminum copings have been provided to cover the masonry at the exterior and the roof base flashing at the roof level.
 - The roof base flashing appears to terminate under the coping.
 - Ponding water is evident along the south side of the roof.
 - Ponding also located along the west side of the roof.
 - The roof at this location has been provided a scupper along the north elevation through which to drain.

- The far west end of the roof has downspouts providing water to the roof from the school sloped shingle roofs.
- Splash blocks have not been provided.
- A plumbing vent near the asphalt shingles is only 2 to 4 inches above the roof level.
- The center roof level has a granulated single ply modified bitumen roof system with three (3) large mechanical unit placed on curbs, an exhaust duct, and a metal stair provided.
 - Aluminum copings have been provided to cover the masonry at the exterior and the roof base flashing at the roof level.
 - The roof base flashing appears to terminate under the coping.
 - The west side of the roof terminates along the brick masonry wall and has been provided a counterflashing with sealant.
 - Ponding water is evident along the northeast side of the roof.
 - The far southwest end of the roof has a downspout providing water to the roof from the school sloped shingle roof.
 - Splash blocks have not been provided.
- Patches have been installed at various locations on the roof.
 - Liquid applied asphalt has also been applied to one location at the north roof level.

Education Center (Original and Addition) - Sloped Roof

- Existing asphalt dimensional shingles were estimated to be a 25-year shingle using shingle gauge.
 - The 20-year guarantee appears to have been installed in 2003.
 - Existing asphalt shingles were observed to be in poor overall condition.
 - Nail popping.
 - Missing ridge tiles.
 - Areas of caulked shingles.
- Sheet metal flashing at roof valleys was in good overall condition.
 - Sealant at flashing seams were observed to be in poor overall condition.
 - Most sealant joints were observed to be failed.
- Isolated locations where shingle fasteners had backed out.
- Sealant at counterflashing along masonry wall of church was observed to be in poor condition with widespread failures.
- Copper gutter at the west side is bent and allows water to overflow.
- Copper gutter at the north side of the west elevation has had an aluminum gutter inserted inside. Gutter has been clamped to existing with a bar clamp.
- Corroded vent pipe at northwest roof.

Education Center – ENTRY - (Addition) - Portico Flat Roof

- The roofs over the portico is a flat modified bitumen roofs with scuppers through the minimal parapet wall with the coping that extend to downspouts which then extend to grade.

Connecting Walkway – Painted Metal Roof

- Standing seam metal roof between the kindergarten and the original school.
 - Seams are failing.
 - Paint is peeling.

Kindergarten / Library - Sloped Roof

- The 20-year guarantee for the asphalt dimensional shingles appears to have been installed in 2003.
- The dormers on the roof have been provided to coated standing seam metal roofs and the dormer walls have also been clad with standing seam metal siding.
- Sheet metal flashing at roof valleys was in good overall condition.
 - Sealant at flashing seams were observed to be in poor overall condition.
 - Most sealant joints were observed to be failed.
- KGH observed isolated locations where shingle fasteners had backed out.
- Sealant at counterflashing along masonry wall of church was observed to be in poor condition with widespread failures.
- Gutters and downspouts were observed at the sloped roofs.
- Downspouts have been crushed at locations near grade level.

Kindergarten / Library – ENTRY – Metal Standing Seam Roof:

- The standing seam metal roof at the south side of the kindergarten was found to be in serviceable condition.
- Gutters and downspouts were observed at the sloped roofs.

Scheduled Repair and Priority Recommendations

Repair of roofs will assist in preventing further deterioration of structure below masonry, limestone, and grade level.

Church - Roof:**\$20,000**

- 1) Slate was observed to be in fair condition at the time of the review.
 - a) Approximately 100 slate tiles were cracked and requires replacement. **Recommendation – year 2020**
- 2) Sealant/roofing cement at ridge weathered and requires repair. **Recommendation – year 2020**
- 3) Replacement slate tiles along the roof edge near gutters. Slate is a poor color match. Replace poorly matched slate tiles during repair of cracked tiles. **Recommendation – year 2020**
 - a) Approximately 25-35 poorly matched slate tiles. **Recommendation – year 2020**

- 4) Replace sealant joint along the topside of the copper counterflashing was observed to be in poor condition. **Recommendation – year 2020**
- 5) The copper gutter has straps that have been secured to the roof.
 - a) Verify this pipe is a storm drain and not a plumbing vent. **Recommendation – year 2020**
- 6) Replace copper downspout at southwest corner that enters pipe on gravel ballasted flat roof below. **Recommendation – year 2020**

Life Center and Parish Office – Sloped Roof: Recommendation – year 2020 \$5,500

- 1) Sheet metal flashing at roof valleys.
 - a) Replace sealant at flashing seams.
- 2) KGH observed isolated locations where shingle fasteners had backed out.
 - a) Fasteners and shingles should be replaced at these locations.
- 3) Sealant at counterflashing along masonry wall of church and at mechanical penetrations were observed to be in poor condition with widespread failures.
 - a) Cut out and replace sealant.

Life Center and Parish Office – Flat Roof

- 1) The two roofs over the stairwells are flat modified bitumen roofs with scuppers that extend to downspouts which then extend to grade.
 - a) Clean and apply reflective emulsion. **Recommendation – year 2022**

\$2,500

Gymnasium / Lunchroom Entry - Sloped Portico Roof

- 1) Existing asphalt dimensional shingles.
 - a) Clean algae from shingles. Assume trisodium phosphate (TSP) and water. **Recommendation – year 2025**

\$1,500

Lunchroom / Gymnasium Entry - Flat Roof

- 1) There are four (4) different roof levels that are flat in the center of the complex that are surrounded by the church and Life Center to the east and the school to the west. The roofs over the lunchroom is a flat modified bitumen roof with drains that extend to the internal downspouts.
 - a) North Flat Roof (4th level) - The roof level adjacent to the Parish Life Center is a granulated single-ply modified bitumen roof system. The roof is in poor condition and requires a re-roof or replacement roof. **Recommendation – year 2024**
 - b) South Flat Roof (3rd Level) - The roof level adjacent to the church has been provided with a gravel ballast on the modified bitumen roof system. **Recommendation – year 2020**
 - c) West Flat Roof (3rd level) - The roof level adjacent to the school is a granulated single-ply modified bitumen roof system. The roof is in fair condition and has ponding. Clean and apply reflective emulsion. **Recommendation – year 2025**
 - d) Southwest Flat Roof (2nd Level) - The roof level adjacent to the church has been provided with a granulated single-ply modified bitumen roof system. The roof is accessed via a ladder from the

\$75,000

\$35,000

\$1,000

upper roof. The roof is in fair condition and has ponding. Clean and apply reflective emulsion. **Recommendation – year 2025** **\$1,000**

School - Education Center (Original and Addition) - Sloped Roof

Recommendation – year 2023 **\$225,000**

Repairs - **\$7,500**

- 1) The 20-year guarantee appears to have been installed in 2003.
 - a) Existing asphalt shingles were observed to be in poor overall condition.
 - i) Nail popping.
 - ii) Missing ridge tiles.
 - iii) Areas of caulked shingles.
- 2) Sheet metal flashing at roof valleys was in good overall condition.
 - a) Sealant at flashing seams were observed to be in poor overall condition. Most sealant joints were observed to be failed.
- 3) Isolated locations where shingle fasteners had backed out.
 - a) Fasteners and shingles should be replaced at these locations.
- 4) Sealant at counterflashing along masonry wall of church was observed to be in poor condition with widespread failures.
 - a) Sealant should be cut out and replaced.
- 5) Repair and replace gutters.
 - a) Copper gutter at west side is bent and allows water to overflow.
 - i) Repair and replace gutter.
 - b) Copper gutter at north side of west elevation has had an aluminum gutter inserted inside. Gutter has been clamped to existing with a bar clamp.
 - i) Replace gutter properly.
 - c) Repair and replace leaf guards.
- 6) Repaint or replace corroded vent pipe at northwest roof.

School - Education Center – ENTRY - (Addition) – West Portico Flat Roof

Recommendation – year 2020 **\$20,000**

- 1) The roofs over the portico is a flat modified bitumen roofs with scuppers through the minimal parapet wall with the coping that extend to downspouts which then extend to grade.
 - a) Replace roof and repair downspouts at west entrance.

Connecting Walkway – Painted Metal Roof

Recommendation – year 2021 **\$25,000**

- 1) The standing seam metal roof between the kindergarten and the original school requires repair of the seams and painting.
 - a) Seams are failing.
 - b) Paint is peeling.

Kindergarten / Library - Sloped Roof

Recommendation – year 2025 **\$60,000**

- 1) The 20-year guarantee appears to have been installed in 2003.
 - a) Existing asphalt shingles were observed to be in poor overall condition.

- 2) Replace failed sealant at valley flashing seams.
- 3) KGH observed isolated locations where shingle fasteners had backed out.
 - a) Fasteners and shingles should be replaced at these locations.
- 4) Sealant at counterflashing along masonry wall of church was observed to be in poor condition with widespread failures.
 - a) Sealant should be cut out and replaced.
- 5) Repair downspouts at seams and where they have been crushed.

Kindergarten / Library – ENTRY – Metal Standing Seam Roof

Recommendation – year 2022

\$25,000

- 1) The standing seam metal roof at the south side of the kindergarten was found to be in serviceable condition.
 - a) Repair seams, replace sealant, caulk fasteners, clean/prime/paint panels.

Scheduled Maintenance

- Building staff.
 - Walk attics during/after a rain to verify if water leaks are present.
 - Kindergarten.
 - Original school.
 - School addition.
 - Church.
 - Steeple/clock tower.
 - Walk basement during/after a rain to verify if water leaks are present.
 - Review semi-annually.
 - Review flat roof and drains on a monthly basis.
 - Gutters and downspouts require constant cleaning to assist in the evacuation of water from the system.
- Architectural and Engineering professional condition survey.
 - Per warranty.
 - As necessary.

Architectural and Engineering Recommendations

- It is our recommendation Ownership implements an in-place maintenance program to assist in achieving the maximum serviceable life for the existing membrane systems.
- Maintenance should be performed as deficient conditions are identified in order to eliminate avenues of moisture penetration and reduce the potential for localized instances of accelerated deterioration.
- Maintenance inspections are recommended to be performed twice a year by a qualified roofing contractor.
- Depending on the coverage and language of the warranties, deficiencies observed during the lifetime of the applicable warranties may be covered by the manufacturer, so long as it is documented by the manufacturer's representative and repairs performed by a qualified, certified roofing contractor, approved by the manufacturer.
- Eliminate ponding.
- Maintain drain screens.
- Maintain plumbing vent heights at above 8-inches.
- Maintain equipment curb heights at above 8-inches.

- Maintain perimeter sealant at base flashings.
- Maintain step flashing sealant.
- Maintain copper butt joints at valley flashings.
- Water should not remain on a roof 48 hour after precipitation. Manufacturers recommend a positive drainage system. Ponding can exceed structural design weight allowances and freezing over seams can apply stress that may lead to seam failure.
- Illinois energy code could require additional insulation at roof replacement areas.
 - Areas which are recovered typically do not require additional insulation.
 - The number of roofs is limited to the weight allowed by the roof structure.
 - White membrane is typically used on buildings where there are concerns for thermal heat transfer or even possibly condensation under the membrane. The white coating assists in maintaining a cooler surface to minimize heat gain and to also possibly assist with the control of condensation from forming under the membrane. White membranes, whether original or painted, can be as much as 80 degrees cooler than black, which can translate to significant energy savings.

Photos



Fig. 1 – View of broken church slate roof tile.



Fig. 2 – View of staining and algal growth on brick masonry due to overflowing roof gutters.



Fig. 3 – View of school metal valley joint failure.



Fig. 5 – View of school corroded roof vent.



Fig. 6 – View of school roof gutter repair with clamp.



Fig. 7 – View of school missing roof shingle.



Fig. 8 – View of school nail pop and shingle damage.



Fig. 9 – View of failed sealant at school step flashing.



Fig. 10 – View of previous repairs to school asphalt shingles.



Fig. 11 – View of worn metal mansard roof at kindergarten walkway.



Fig. 12 – View of deteriorated southwest church downspout connection at gravel ballasted roof.



Fig. 13 – View of worn kindergarten asphalt shingles.



Fig. 14- View of failed soldered seam at kindergarten metal roof.



Fig. 15 – View of worn paint and failed seam at kindergarten walkway roof.



Fig. 16 – View of kindergarten walkway mansard roof peeling paint and nail pop.

Isolated instances of failed sealant at joints were also identified. The deficiencies discussed appear to be due to natural aging and shrinkage. As such, these deficiencies do not need to be immediately addressed.

Scheduled Repair and Priority Recommendations

- **Octagonal Steeple Spire:** The octagonal steeple spire consists of sheet metal segments supported by an interior structural frame.
Recommendation year 2020 **\$50,000**
 - KGH noted open seams between the sheet metal segments that may be susceptible to water infiltration.
 - Open seams should be sealed.
 - Interior structure was observed to be corroded.
 - Interior structural components should be cleaned and painted.
 - Fasteners attaching sheet metal segments were observed to be severely corroded.
 - Fasteners should be replaced with stainless steel fasteners.
- Smokestack at southwest corner of church of walkway to original school building. **Recommendation year 2020** **\$15,000**
 - Inspect and paint.
- Railings at southwest corner of walkway from church to original school building. **Recommendation year 2025** **\$6,000**
 - Paint – Perform in conjunction with roof replacement.
- Railings at balcony above kindergarten entrance and at south side of library level. **Recommendation year 2025** **\$3,500**
 - Paint.
- Steel stairs at south lower roof with mechanical units. **Recommendation year 2025** **\$3,000**
 - Paint.
- Steel ladder at south lower roof with mechanical units. **Recommendation year 2025** **\$1,500**
 - Paint.
- Church and Parish Life Center - Several lower level window wells are covered with steel grates. **Recommendation - Monitor**

Scheduled Maintenance

- Building staff to review:
 - Annually.
- Contractor.
 - Paint every 3-years.
 - Touch-up.
- Architectural and Engineering professional condition survey.
 - Every 5 years.

Architectural and Engineering Recommendations:

- Review structures and connections for reduction in the original thickness of the materials.

- Corrosion problems are generally in the areas of overlapping metal.
 - Consider correct use of paint, sealant, galvanizing or rust resistant materials such as aluminum, copper, stainless steel, etc.

Photos



Fig. 1 – View of worn corroding steel elements in the church spire.



Fig. 2 – Closeup view of corroding fasteners in church spire.



Fig. 3 – View of corroding railings, chimney stack and ladder.



Fig. 4 – View of corroding railings at Mary Chapel.



Fig. 5 – View of corroding railings at west kindergarten stoop.



Fig. 6 – View of railing at kindergarten balcony.



Fig. 7 – View of church lightwell grate with screen.

Site Landscaping, Driveways, Parking and Walkways:

| | |
|---------------------------------|---------------------------|
| <u>Location</u> | Throughout |
| <u>Overall Condition</u> | Fair - Varies (see below) |

Description

Sidewalks and Walkways

- 1) Conventional concrete walkways around the property.
- 2) Stamped concrete walkways around the property.
- 3) Concrete sidewalks at the church entrance did have signs of deterioration and previous repairs at this time.
 - a) Areas of raised concrete and concrete cracks were observed.
 - i) We recommend the cracks be filled and raised areas be ground to avoid tripping hazards.
 - b) Concrete spalls/delamiantions (missing concrete) are present typically at construction joint intersections.
 - i) Requires concrete patching.
 - c) Previous patches do not appear to match the existing surrounding concrete.
 - d) Existing cracks in the concrete.
 - e) Rust on concrete appears to be from shovels and plow blades.
- 4) Concrete sidewalks at Life Center entrance did not observe signs of significant deterioration at this time.
 - a) However, we did observe areas of raised concrete and concrete cracks.
 - i) We recommend the cracks be filled and raised areas be ground to avoid tripping hazards.
 - b) Two concrete panels have been replaced, skim coated, and are discolored.
 - i) These panels require monitoring and could require replacement in 5 years depending on the cause of discoloration and scaling.
 - c) Public sidewalk along Life Center has soil that is displaced along the sidewalk that requires repair to prevent possible trip hazards
- 5) Concrete sidewalks at north and south gymnasium entrance did not observe signs of significant deterioration at this time.
- 6) Concrete sidewalks at school entrance did not observe signs of significant deterioration at this time.
- 7) Concrete sidewalks at kindergarten entrance did not observe signs of significant deterioration at this time.
- 8) **Retaining Walls**
 - a) The retaining wall along the north elevation is currently rotated to the north and has been investigated as part of other reports.
 - b) Concrete block retaining wall around air conditioning unit at west side of school.
 - i) Wood fence along north and west.
 - ii) Aluminum fence along south and west.
- 9) Site landscaping mulch and soils at the landscaped areas were observed to provide a slope towards the building instead of away from the buildings. The soils, mulch, and landscaping against the building footprint should be pitched away from the building to allow water to drain away from the building.

10) Benches

- a) Benches at gymnasium entrance – 4.
- b) Large arched painted metal benches at the kindergarten entrance – 1.
- c) Wood bench at playground.
- d) Composite bench at education center entrance.
- e) Stone benches at the St. Petronille shrine at the Life Center.
- f) Stone benches at the exterior sculpture wall of Mary Chapel.

11) North parking lot appears in good to poor condition.

- a) The north side of the parking lot is terminated with a concrete retaining wall that is topped with a fence.
 - i) The retaining wall is settling and leaning towards the north.
 - ii) The deterioration and movement of the wall has caused cracks and movement at the asphalt near the wall.
 - (1) Saint Petronille is currently investigating the retaining wall repair and the repair of the asphalt parking pot surface near the retaining wall.
- b) West portion of the north parking lot appears to have been recently replaced and restriped and appears in good condition.
- c) East portion of the north parking lot appears not to have been replaced, restriped or seal coated recently.
 - i) Cracks appear to have been previously striped with a sealant but has worn away.
 - (1) Reseal asphalt parking lot.

12) Artificial grass at the gymnasium entrance – not reviewed.

13) Decorative irregular flagstone pavers at gymnasium entrance.

14) Decorative irregular flagstone pavers at May Chapel entry.

15) Concrete porous paver set in the soil adjacent to the sidewalk entry for the Life Center.

16) Limestone and masonry signage at west side of north parking lot.

17) Limestone and masonry signage at southeast corner of church entrance.

18) Lamp Posts – Quantity – 4.

19) Bollards at northwest corner double door entry of school addition – Quantity – 2.

20) Mailboxes at Education Center west entrance - Quantity – 8.

- a) Mailbox at parish office.

21) Trash cans – Quantity – 3.

22) Bike Racks – Quantity – 1.

Playground

23) KGH identified a tree branch over the playground jungle gym that had a crack. KGH notified St. Petronille the tree branch should be removed.

- a) Tree branches are very low and appear to be able to be climbed by children.
 - i) Consider modifications.
 - ii) Children should always be monitored.
- b) KGH did not identify other conditions of note during our observations.

Scheduled Repair and Priority Recommendations**Estimated Cost**

- | | |
|----------------------------------------------------------------------|----------------|
| 1) Prune tree in playground – Recommendation year 2019 | \$500 |
| 2) East portion of the north parking lot to be repaired and sealed. | Budgeted |
| 3) Concrete sidewalks at the church. Recommendation year 2020 | \$5,000 |
| a) Caulk joints. | |
| b) Grind areas that are uneven. | |
| c) Replace concrete patch. | |

- d) Repair holes in concrete.
- 4) Concrete Sidewalks at the Life Center. **Recommendation year 2020** **\$2,500**
- a) Caulk joints.
 - b) Grind areas that are uneven.
 - c) Replace 2 panels.
- 5) Repair uneven soils at parkway along the east and west sidewalks. **Recommendation year 2019** **\$1,500**

Scheduled Maintenance (Varies)

- Building staff.
 - Encourage sloping of site and site elements away from buildings.
 - After landscaping changes.
 - After installation of mulch.
 - Before and after installation of large elements.
 - During and after heavy rains, snows, etc.
- Architectural and Engineering professional condition survey – every 5 years.
 - In conjunction with facade evaluations.

Architectural and Engineering Recommendations:

- Salt.
 - Can influence environment and landscape materials.
 - Damages concrete and stone elements such as limestone and granite.
 - Accelerates corrosion of steel and dissimilar metals.
 - Can damage vegetation.
 - Efflorescence of asphalt products.
- Rust on concrete appears to be from shovels and plow blades.
- Loose fill surfacing materials such as wood chips require significantly more routine maintenance than unitary surfacing materials. If not regularly and continuously maintained, loose fill materials may also lose much of their resiliency.
 - For example, a wood chip surface installed at a 12-inch depth may not provide protection from falls off a high platform if allowed to decompose or become compacted or rutted.
 - Good drainage is essential to maintaining loose fill surfacing. Standing water with surfacing material reduces effectiveness and leads to material compaction and decomposition.
 - Never use less than 9 inches of loose fill material. Shallower depths are too easily displaced and compacted.
 - Wood mulch containing chromated copper arsenate (CCA) treated wood products should not be used; mulch where the CCA content is unknown should be avoided.
- Playgrounds to be evaluated on an annual basis:

Playground ASTM Standard - *ASTM F1487 - 17ae1 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use. This standard does not purport to address all the safety concerns, if any, associated with its use. It is the responsibility of the user of this*

standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

Federal Standards

36CFRPart1191 Americans with Disabilities Act Disability Accessibility Guidelines

(ADAAG) for Buildings and Facilities; Section 15.6 Play Areas

UL Standard UL969 Standard for Safety: Marking and Labeling Systems

National Playground Maintenance Service (NPMS) Recommendations:

Educate staff or owners of playground safety. Playground safety classes are sometimes available.

The fundamental purposes of playground maintenance are:

1. *Safety*
2. *Functional utility and operation*
3. *Sanitation*
4. *Hygiene*
5. *Aesthetics*

The most important reason for playground maintenance is to ensure users are safe:

1. *When equipment is allowed to deteriorate, crucial parts can malfunction or break, creating a hazardous condition.*
2. *Children are not deterred by "broken" equipment but may attempt to use it regardless of its condition.*
3. *Damaged equipment is more likely to break, but what's more, a child may try to compensate for the damage and use the equipment in an unusual or unanticipated way. This would place them in danger of an accident.*
4. *The presence of extraneous or foreign items, such as suspended jump ropes or leashes, broken glass, empty cans and hypodermic needles, constitute safety hazards to users.*
5. *Similarly, when a piece of motion equipment no longer operates as it was designed to, due to the failure of a suspension link, a rotational device or a roller, it may occupy a large area of the playground without providing any play value.*
 - i. *Examples include empty swing frames, immobile merry-go-rounds or track rides with immovable trolleys.*
6. *Some devices and components on playground equipment require periodic replacement of parts, or lubrication to reduce wear and corrosion.*
7. *Sanitation and hygienic conditions on the playground are also maintenance concerns.*
 - i. *A playground with equipment in full compliance of the ASTM F1487 standard can present a public health hazard if it contains toxic or unwholesome conditions.*
 1. *Typical examples include the presence of animal or human feces, infestations of noxious animal, insect or vegetative pests, and contamination by toxic chemicals.*

A Comprehensive Maintenance Needs Assessment (recommend this is performed on an ongoing basis).

The function of the maintenance needs assessment is to identify the type of deterioration or problematic condition, determine the extent and severity of structural or functional damage relative to the use of each material, and the probable consequences of the problem. It is best to record your findings and conclusions using a manual or computerized check sheet or data form. Be specific. For example, where there is rust, it is not enough to just record the presence of metallic corrosion. It is essential for proper maintenance that the inspector notes the following:

1. *Location of corrosion –*
2. *Is it on footers, outside frame posts, inside frame posts, on beams or on sheet metal?*
 - a. *Is the corroded item a fastener, bearing, bushing, pivot pin, spring or wheel?*
 - b. *The location and function of the corroded part will affect maintenance decisions.*
 - c. *This can be determined by visual, audio, and tactile investigation.*
3. *Type of metal corroded –*
 - a. *Is it high or low-alloy steel, aluminum, zinc, brass, cast iron, copper or other metal?*
 - b. *This is determined by appearance and hardness tests.*
4. *Type of coating on the metal surface –*
 - a. *Does the corroded metal have powder coating, hot-dip zinc coating, electroplated zinc galvanization, enamel paint, vinyl or some other protective coating?*
 - b. *There may be catalytic chemical reactions or concealed corrosion underneath.*
5. *Type of metallic corrosion –*
 - a. *It may be external surface oxidation, galvanic corrosion, pitting, crevice corrosion, deposit corrosion, weld decay, fretting corrosion, internal oxidation, exfoliation, "white rust" or microbial corrosion.*
 - b. *Each type is indicative of a different problem.*
6. *Extent of corrosion -- Is the corrosion localized in a limited area or generalized over a large portion of the part?*
7. *Severity of corrosion –*
 - a. *Is the corrosion evident only by pinholes, by shallow or deep pitting, by blistering or scaling, by tubercles and nodules, by peeling, or by substrata embrittlement, porosity or cavities?*
 - b. *This will determine the type and degree of maintenance needed.*
8. *Contiguous contact surfaces –*
 - a. *Is the corrosion in contact with other metallic parts?*
 - b. *If so, what is the other metal, the function of the item in contact and its condition?*
 - c. *This is an important observation, especially for galvanic corrosion.*
 - d. *Does the metal touch soil or other highly acidic or caustic materials?*
9. *Environmental and use conditions -*
 - a. *What are the micro-environmental conditions near the corroded item?*
 - i. *Especially regarding salinity, humidity, skin contact by users and abrasions.*
10. *Maintenance priority –*
 - a. *Does the corrosion presently or potential significantly affect the safety of users, the utility of the item, the health of users, or the attractiveness of the equipment?*
 - b. *Can realistic probabilities be determined for such things as: complete equipment collapse due to this corrosion; breakage of a play component on the equipment; inability of the equipment to move in the manner for which it was constructed;*

infection or bad bleeding from a cut caused by the corroded part; increased unsightliness?

The importance of each of these issues is interrelated with one or more other concerns. This example is for metal corrosion; similar maintenance needs assessments must be done for all other forms of damage or deterioration.

*In addition to how to perform a comprehensive maintenance needs assessment, the new National Playground Maintenance Service Training Course reveals basic maintenance procedures and repair techniques, maintenance schedules, recommended maintenance supplies, tools and equipment and help resources for special problems. The text for the course is *Maintaining Child's Play*. The course will be offered by NRPA through the National Playground Safety Institute and an executive summary session will be offered at the 2002 NRPA Annual Congress in Tampa, Florida. Full programs will be offered at venues around the country soon thereafter. Look for scheduling announcements in future issues of *Parks & Recreation*. They will also be posted on the NPSI page of the NRPA website (NRPA.org)*

"Playground Maintenance Needs Assessment: Initial Steps to Maintain Child's Play" (page 84) author Monty Christiansen, CPRP, CPSI, is an associate professor of recreation and park management in the School of Hotel, Restaurant and Recreation Management at Penn State University. He has served as president of the National Society of Park Resources (NSPR) and was twice elected to the NSPR Board of Directors.

CLEANING PLAY EQUIPMENT

Playground sand can become contaminated with many items including, not surprisingly, bodily fluids. We recommend the sand be monitored and clean and sanitized, when necessary. Monitoring, cleaning, and sanitizing the areas of the play structures is also required so the children who play on your equipment are not putting themselves at risk of acquiring infectious diseases. In addition to the play structures appearing in good condition, if it's properly maintained, it will also provide greater longevity. Safety audits and monthly inspections will assist in providing equipment that is both safe and in good condition. The NRPA (National Recreation and Park Association) estimates that maintenance programs can help avoid 30–40% of playground accidents. It has been reported that approximately 60% of playground litigation alleges poor or lack of maintenance as the primary cause for the accident.

Cleaning of play equipment could include spraying all surfaces with an antimicrobial cleaning agent, scrubbing all surfaces to remove germs and debris and pressure washing to verify an additional degree of cleanliness

Currently, only two loose fill materials, engineered wood fiber and engineered rubber fiber, have passed the ASTM F1951 test and are determined to be accessible under certain conditions. Each of these materials are accessible only if the play area is well drained and without standing water, if the surfacing material is compacted when installed, and if the surfacing material is regularly and continually maintained. Again, the Project Team must verify accessibility by asking the manufacturer for test results. It is important to note wood chips and shredded rubber tires are not accessible and should not be used in new or altered playgrounds. In order for wood and rubber mulch to be considered accessible, it must be engineered to meet specified requirements. Other

common playground surfacing materials such as sand and pea gravel are also not considered to be accessible and should not be used in new or altered playgrounds.

Certified Playground Safety Inspector Program One of NRPA and NPSI's major initiatives in raising playground safety awareness is the administration of the Certified Playground Safety Inspector (CPSI) training and certification program. In 1991, the first Certified Playground Safety Inspector Program was held in Baltimore, Maryland. Now ten plus years later NRPA has more than 8,000 Certified Playground Safety Inspectors worldwide. Certified Playground Safety Inspectors are certified to inspect playgrounds for safety issues; making sure each playground they inspect is up to current national standards, developed by the ASTM and CPSC.

12 Playground hazards as outlined by the NRPA

1. Improper protective surfacing (soft).
 - a. No standing water or debris.
2. Inadequate use zone.
 - a. Minimum of 6 feet from equipment.
 - b. Same as slide.
 - c. 8-feet for max.
 - d. Swings different – 2 times the height.
3. Protrusion and entanglement hazard.
 - a. No draw strings for children.
 - b. Bolt threads should not extend more than 2 threads beyond the face of the nut.
 - c. Hardware configurations should not form a hook or leave a gap between components that could lead to entanglements.
 - d. Eyes.
 - e. No loops or noose possibilities.
4. Entrapment in openings (head entrapment hazard).
 - a. No openings between 3.5 and 9 inches.
 - b. Beware:
 - i. Top of slide.
 - ii. Between platforms.
 - iii. On climbers between rungs.
 - iv. Partially bounded openings such as at the top of a picket fence.
5. Insufficient equipment spacing.
 - a. Causing overcrowding.
 - b. Some overlap allowed.
 - i. Equipment less than 30–inches in height may overlap with 6-feet in between.
 - ii. Equipment more than 30–inches in height may overlap with 9-feet in between each structure.
 - iii. No overlap of use zones at:
 1. To-fro swings.
 2. Fall zone for slides.
 3. Merry go round.
 4. Standing rocking equipment.
 - iv. Swings and merry go round should be near the boundary of the playground.
6. Trip hazards.
 - a. Exposed concrete footings.

- b. Abrupt changes in surface elevations.
- c. tree stumps.
- d. Rocks.
- e. Remove loose debris.
- 7. Lack of supervision.
 - a. 40% related to improper use of equipment.
 - b. Easily seen.
- 8. Age inappropriate activities.
 - a. Ages 2-12.
 - b. Appropriate for each age.
 - i. Separate school age equipment from toddler equipment.
 - c. Not recommended for toddlers:
 - i. Flexible climbers (log climb with rope).
 - ii. Arch climbers (twist ladder).
 - iii. Chain and cable walks.
 - iv. Rolling log.
 - v. Fulcrum and see saw.
 - vi. Vertical sliding poles (fireman pole).
 - vii. Track rides.
- 9. Lack of maintenance.
 - a. Program of maintenance.
 - i. No missing parts or broken parts.
 - ii. Secure hardware – nothing loose.
 - iii. No fatigue or deterioration.
 - iv. Stable surfaces and equipment.
 - v. Surfacing maintained.
 - vi. Check for vandalism.
- 10. Sharp edge shear and crush (fingers, etc.) hazards (wear and tear will develop these issues).
- 11. Suspension bridges, swings, merry go round, see saw, climbing.
- 12. Platforms with no guard rails.
 - a. Pre-school needs.
 - i. Elevated platforms higher than 20-inches.
 - ii. Platforms higher than 30-inches.
 - b. School age.
 - i. Elevated platforms higher than 30-inches.
 - ii. Platforms higher than 48-inches.
- 13. Equipment not recommended with playgrounds.
 - a. Heavy equipment swings (animals).
 - b. Multiple occupancy swings / glider type.
 - c. Free swings ropes.
 - d. Swinging exercise rings and trapeze bars.
 - e. Overhanging short chains (7-inches) are allowed.

Photos



Fig. 1 – View of landscaping draining to window systems.



Fig. 2 – View of splash onto windows from drainage and gutter system above.



Fig. 3 – View of shifted limestone coping and missing copings atop the dumpster enclosure.



Fig. 4 – View of deteriorated retaining wall and deteriorated asphalt at northeast side of parking areas.



Fig. 5 – View of severely deteriorated retaining wall.



Fig. 6 – View of landscaping soils missing adjacent to sidewalks.



Fig. 7 – View of tree with branch over the play area that has split and requires pruning.

INTERIOR CONDITIONS

CHURCH

Location Church is located at the southeast corner of the property

Overall Condition Fair

Cost Estimated as:

| | |
|-------------------------------|---------------------|
| Paint Interior Windows - | \$180,000 |
| Wood Floor Refinishing – | \$2,500 |
| Repair Wood Door - | \$1,500 |
| Repair Railing Repair: | \$2,500 |
| Repair Wood Base Plates: | \$50,000 (estimate) |
| Repair Sacristy Wall/ceiling: | \$2,500 |

Description

- Carpet
- Plaster walls and suspended plaster ceilings
- Gypsum board walls
- Marble floors and walls
- Terrazzo floor
- Wood floor
- Wood paneling, baseboard, trim and crown molding
- Wood windows – painted. Wood sills – stained.
- Wood stair, railings and pickets
- Wood pews
- Choir loft
 - Wood floor
 - Gypsum board walls
 - Wood paneling
- Attic
 - Steel trusses, purlins and framing with gypsum planks
 - Concrete masonry units and brick masonry
 - Cellulose loose spray insulation
 - Improvised wood catwalk
 - Plywood floor at attic room storage - Room 305
- Bathrooms: - The bathroom partition walls are covered with painted gypsum board. The floor is tiled, and wood base trim is provided. A toilet fixture, wall mounted sink, wall mounted mirror and wall mounted cabinet is provided within the space. The ceiling consists of suspended gypsum board ceiling tiles with recessed canned light fixtures. In general, the bathroom appeared to be in a serviceable condition.

Scheduled Repair and Priority Recommendations

- 1) Nave and Sanctuary - Clean, prime and paint all window interiors. Refinish wood sills.
Recommendation year 2021
- 2) Sanctuary – wall crack at southwest corner of sanctuary near ceiling. **Recommendation - Monitor**

- 3) Peeling paint on ceiling and cracks on sacristy walls
 - a) Repair cracked walls and paint. Scrape, clean and paint ceiling. **Recommendation - 2024**
- 4) Third level - choir loft wood flooring in poor condition.
 - a) Refinish wood floor. **Recommendation year 2025**
- 5) Third level - Cracks in concrete masonry unit interior walls at attic level above choir loft. **Recommendation - Monitor**
- 6) Third level – Room 305 - Replace door to flat roofs to the west of church from church storage room to the north of the sanctuary. **Recommendation - 2025**
 - a) Third level – Room 305 - CMU wall crack at beam support adjacent to door to flat roofs to the west of church from church storage room to the north of the sanctuary. **Recommendation - Monitor**
 - b) Fourth level - Cracks in concrete masonry unit interior wall column enclosures at attic level above choir loft. **Recommendation - Monitor**
- 7) Fourth level – Wood railing around ships ladder access opening in floor at attic level above choir loft is not rigid. Wood floor typical at this level.
 - a) Monitor and plan to replace with guardrail that meets current structural code requirements. **Recommendation - 2025**
- 8) Fifth level - Cracks in concrete floor and efflorescence at underside of floor.
 - a) Monitor water infiltration. **Recommendation - Monitor**
- 9) Fifth level – Wood base plates for the framing below louvers, around the clock tower room is deteriorated and requires evaluation and repair. Replace rotted wood elements, as required. Repair in conjunction with exterior of clock tower room.
 - a) Monitor water infiltration. **Recommendation - 2020**

Scheduled Maintenance (Varies)

- Building staff to review:
 - Daily/Weekly/Monthly/Annually
- Contractor
 - Per direction
- Architectural and Engineering professional condition survey
 - As Necessary

Architectural and Engineering Recommendations:

- No comments

Photos



Fig. 1 - View of crack in CMU in bell tower.

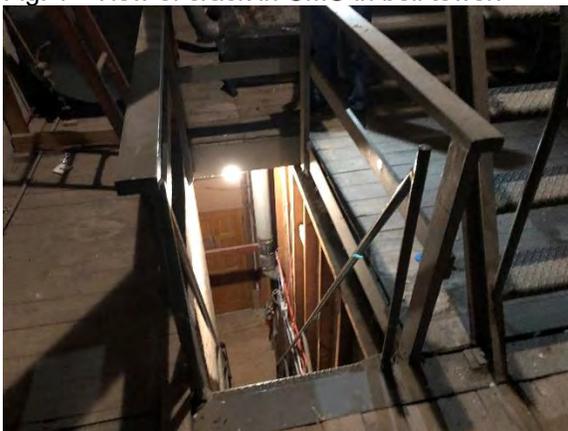


Fig. 2 - View of stair railing in bell tower.



Fig. 3 - View of deteriorated wood base plate on bell tower clock room.



Fig. 4 - View of crack of CMU wall below beam and adjacent to door to flat roofs.



Fig. 5 - View of crack in wall at upper level of chapel.



Fig. 6 - View of wood floor at choir loft.



Fig. 6 - View of deteriorated interior window paint.



Fig. 7 - View of plaster corner crack below wood cornice.



Fig. 8 - View of door to lower flat roofs.



Fig. 9 - View of peeling ceiling paint.

MARY CHAPEL

| | |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Location</u> | Mary Chapel is part of the church located at the southwest corner |
| <u>Overall Condition</u> | Fair |
| <u>Cost Estimated as:</u> | Door Repair - \$1,500 Ceramic Tile Repair - \$2,500 Wall Repair - \$2,500 (unknown repair if source is determined to be more complicated) |

Description

- 1) Chapel can be entered from the sanctuary of the church where there is seating and an altar at the south.
 - a) Fire door between sanctuary and chapel hidden in ceiling and tracks in the wall.
 - b) Stairs at the southeast corner of the chapel lead to the chapels entrance from the exterior and the south secondary exit for the church.
 - c) Small bathroom with tile floor, tile wainscot, wallpaper walls and tile ceiling.
 - Terrazzo floor.
 - Vinyl floor.
 - Carpeted floor.
 - Wood rail.
 - Steel railing pickets.
 - Wood cabinetry.
 - Wood window.
 - Wood wainscot and base.
 - Gypsum board and painted walls and ceilings.
 - Marble stairs and railings.
 - Rubber protectors.
 - Wood rail.

Scheduled Repair and Priority Recommendations

- 1) Crack in second level wall and door frame of chapel entrance. **Recommendation year 2021**
 - a) Investigate cause of crack.
 - b) Repair crack and paint wall.
 - i) Possible location of gypsum board butt joints.
 - (1) Create joint at crack.
- 2) Crack in ceramic tile above baseboard at the west side of the alter. **Recommendation year 2025**
 - a) Investigate cause of tile adhesion failure.
 - b) Repair tile area.
- 3) Broken panel door. **Recommendation year 2025**
 - a) Investigate cause of crack.
 - b) Repair crack and paint wall.

Scheduled Maintenance (Varies)

- Building staff to review:
 - Daily/Weekly/Monthly/Annually
- Contractor
 - Per direction
- Architectural and Engineering professional condition survey
 - As necessary

Architectural and Engineering Recommendations:

- No comments

Photos



Fig. 1 – View of deteriorated ceramic tile west of Alter.



Fig. 2 – View of deteriorated finish on wood sill.

GYMNASIUM

| | |
|----------------------------------|--------------------------------------|
| <u>Location</u> | Below church |
| <u>Overall Condition</u> | Fair |
| <u>Cost Estimated as:</u> | \$80,000 – Gymnasium Storage Ceiling |
| | \$15,000 – Gymnasium Storage Column |

Description

Gymnasium is located below the church and adjacent to the pool.
 Gymnasium has a men's and women's changing room, bathroom, and showers.
 Gymnasium has storage located below the pool and adjacent to gymnasium.

- Railings.
- Stairs.
- Windows.
- Folding grandstands.
- Foam around walls.
- Pad and pour athletic floor.
- Scoreboards.
- Basketball nets/frames.
- Acoustic ceiling panels.
- Concrete masonry units.
- Exposed ductwork.

Scheduled Repair and Priority Recommendations

Gymnasium storage

- 1) Remove loose concrete from ceiling. **Recommendation year 2019**
 - a) Repair concrete ceiling.
 - b) Repair steel reinforcing bars.
 - c) Possible through slab repairs required onto pool deck above.
 - i) Repair pool tile?
- 2) Cracked tile around columns. **Recommendation year 2025**
 - a) Remove tile and expose columns.
 - b) Evaluate columns.
 - c) Repair columns, if necessary.
 - d) Clean, prime, paint columns.
 - e) Reinstall tile system to replicate existing fire rated column enclosure.
- 3) Repair/replace corroded sprinkler pipes. **Recommendation year 2019**
 (See attached mechanical recommendations).
- 4) Gymnasium - No recommended repairs.
- 5) Gymnasium bath/shower/locker room - No recommended repairs.

Scheduled Maintenance (Varies)

- Building staff to review:
 - Daily/Weekly/Monthly/Annually
- Contractor
 - Per direction
- Architectural and Engineering professional condition survey

November 2019

KGH No. 19-11-454

- As necessary

Architectural and Engineering Recommendations:

- Waterproofing between pool and gymnasium storage is important to maintain concrete.

-

Photos



Fig. 1 - View of deteriorated concrete ceiling in gymnasium storage ceiling.



Fig. 2 - View of cracked tile column enclosure with concrete spall above.

POOL

Location Below church

Overall Condition Fair to Poor

Cost Estimated as: \$ - To be determined

Description

Pool located below the church is not operational.

Scheduled Repair and Priority Recommendations

- 1) Feasibility study required.
- 2) Maintain pipes and drains within pool areas.
- 3) Maintain concrete.

Scheduled Maintenance (Varies)

- Building staff to review:
 - Daily/Weekly/Monthly/Annually
- Contractor
 - Per direction
- Architectural and Engineering professional condition survey
 - As necessary

LUNCHROOM

| | |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Location</u> | Adjacent to Gymnasium |
| <u>Overall Condition</u> | Fair |
| <u>Quantity Estimated as:</u> | 25 Linear Feet |
| <u>Cost Estimated as:</u> | \$15,000 repair of flooring crack and spalls \$10,000 Investigation of structure relating to crack (unknown) \$2,500 cleaning of efflorescence from wall (Can be performed in house as well). |

Description

The lunchroom is also known as a gathering room since it has multiple purposes. Lunchroom entrance is located at the north elevation between the Parish Life Center and the school. This is also the entrance to the gymnasium. A concessions/kitchen area is located at the east side of the lunchroom.

Cementitious-urethane concrete resurfacing
Ceramic tile walls
Formica cabinets
Formica counters
Ceiling tile
Interior windows
Rolling doors at counter
Bifold shutters at counter

Scheduled Repair and Priority Recommendations

- 1) Urethane floor system has cracks and spalls of the urethane finish system.
Recommendation year 2020
 - a) Repair cracks in urethane floor system. Could require an expansion joint but requires further investigation. The crack does intersect a column to the east of the entrance, but it does not appear to follow a beam line. The area below the crack is unexcavated according to the drawings provided.
 - i) Contact Jaeger / Nickola and Larson Engineering for investigation of crack and possible causes based on existing structural design information.
- 2) Efflorescence at north wall of passageway 101, located at the south side of the lunchroom exit stair requires cleaning.
 - a) Investigate source of water.
 - i) Exterior masonry and limestone wall.
 - ii) Gravel ballasted roof above.
 - b) Coordinate with roof repair or replacement.

Scheduled Maintenance (Varies)

- Building staff to review:

- Daily/Weekly/Monthly/Annually
- Contractor
 - Per direction
- Architectural and Engineering professional condition survey
 - As necessary

Architectural and Engineering Recommendations:

- Clean regularly



Fig. 1 - View of deteriorated lunchroom floor.



Fig. 2 - View of crack at lunchroom floor



Fig. 3 - View of efflorescence at north wall of passageway 101 located at the south side of the lunchroom exit stair.

PARISH LIFE CENTER

Location Adjacent to church and lunchroom

Overall Condition Good

Cost Estimated as: See exterior concrete repair

Description

The Parish Life Center (PLC) building consists of:

- Basement storage rooms, maintenance shops, HVAC and offices
- Second level - parish offices
- Third level – parish center, stage, kitchen, storage, bathrooms and gathering space

Scheduled Repair and Priority Recommendations

- 1) A leak was reported at the northeast stair of the Parish Life Center.
 - a) See exterior concrete repair.

Scheduled Maintenance (Varies)

- Building staff to review:
 - Daily/Weekly/Monthly/Annually
- Contractor
 - Per direction
- Architectural and Engineering professional condition survey
 - As necessary

Architectural and Engineering Recommendations:

- No comments

Photos None

PARISH OFFICES

| | |
|----------------------------------|-------------------------------------------------|
| <u>Location</u> | Adjacent to church and lunchroom |
| <u>Overall Condition</u> | Fair |
| <u>Cost Estimated as:</u> | \$ - no costs have been attributed to this item |

Description

The parish offices are located within the Parish Life Center building and is located below the parish hall. The entrance to the parish offices are from the northeast corner of the property and to the north of the church entrance. The offices include; pastor offices, conference rooms, nursery, staff offices, kitchen and storage. The space includes:

- Ceramic tile
- Carpet
- Wood trim around windows
- Painted gypsum board
- Ceiling tile
- Metal window systems
- Formica cabinets
- Linoleum floor tile
- Vinyl base board
- Water fountains
- Bathrooms
 - Ceramic tile
 - Mirrors
 - Vanities,
 - Tissue dispensers
 - railings

Scheduled Repair and Priority Recommendations

1) None at this time

Scheduled Maintenance (Varies)

- Building staff to review:
 - Daily/Weekly/Monthly/Annually
- Contractor
 - Per direction
- Architectural and Engineering Professional condition survey
 - As necessary

Architectural and Engineering Recommendations:

- No comments

SCHOOL

| | |
|----------------------------------|--------------------------------------------------------------|
| <u>Location</u> | Adjacent to church and lunchroom |
| <u>Overall Condition</u> | Fair |
| <u>Cost Estimated as:</u> | \$5,000 - Custodial closet |
| | \$4,000 - Mezzanine level ceiling |
| | \$30,000 – cracking of CMU in stairwell |
| | \$3,500 – Replace north door at northeast corner of addition |

Description

The school consist of an original school building to the south and a school addition to the north. The school has four levels and an attic. The lower level consists of Colonial Hall, parent resource rooms, storage and bathrooms

Finishes include:

- Painted gypsum board
- Linoleum flooring
- Acoustical ceiling tile
- Wood trim around windows
- Carpeting
- Vinyl tile
- Formica cabinets
- Ceramic tiles, tissue dispensers, mirrors
- Painted steel railings
- Polished aluminum railings
- Lockers
- Wood and steel doors
- Wood sills and vertical mullions
- Steel windows with and without wire glass
- Wood paneling trim and ornamentation
- Chalk boards
- Vinyl baseboard
- Terrazzo
- Metal grate enclosures

Attics:

Steel trusses in school addition

Wood trusses in original school

Scheduled Repair and Priority Recommendations

1) 2nd floor custodial closet – damaged gypsum board and worn vinyl floor tile.

Recommendation year 2021

a) Replace floor tile.

- b) Replace gypsum board.
 - i) Add waterproof wall board/show enclosure for “slop” basin.
- 2) Mezzanine level stairwell ceiling missing. **Recommendation year 2025**
 - a) Replace ceiling.
 - b) Repair walls.
 - c) Cover outlet.
- 3) CMU cracking in stairwell. **Recommendation year 2022**
 - a) Rebuild and paint steel.
- 4) 1st floor exterior door is corroding and requires replacement. **Recommendation year 2025**
 - a) Below grade with concrete curb at landing.

Scheduled Maintenance (Varies)

- Building staff to review:
 - Daily/Weekly/Monthly/Annually
- Contractor
 - Per direction
- Architectural and Engineering professional condition survey
 - As necessary

Architectural and Engineering Recommendations:

- No comments

Photos



Fig. 1 – View of 2nd floor custodial closet and damaged gypsum board and worn tile.



Fig. 2 – View of mezzanine stair ceiling and wall.



Fig. 3 – View of west stairwell cracked CMU.



Fig. 4 – View of north door and frame corrosion.

KINDERGARTEN / LIBRARY

| | |
|----------------------------------|----------------------------------|
| <u>Location</u> | Adjacent to church and lunchroom |
| <u>Overall Condition</u> | Fair |
| <u>Cost Estimated as:</u> | \$4,000 - door |

Description

The kindergarten is located at the southwest corner of the property. There are four levels to the building.

- First level (basement) – meeting room, bathroom, HVAC, and electric.
- Second level – kindergarten classrooms, bathroom.
- Third level – library / computer lab.
- Fourth level – attic, HVAC, storage.
- Stairs.

Finishes include:

- Painted gypsum board.
- Linoleum flooring.
- Acoustical ceiling tile.
- Wood trim around windows.
- Carpeting.
- Vinyl tile.
- Formica cabinets.
- Ceramic tiles, tissue dispensers, mirrors.
- Painted steel railings.
- Lockers.
- Wood and steel doors.
- Steel windows.
- Wood paneling trim and ornamentation.

Scheduled Repair and Priority Recommendations

1) Replace basement door and frame. **Recommendation year 2023**

Scheduled Maintenance (Varies)

- Building staff to review:
 - Daily/Weekly/Monthly/Annually
- Contractor
 - Per direction
- Architectural and Engineering Professional condition survey
 - As necessary

Architectural and Engineering Recommendations:

- Remove storage from stairwells.



Fig. 1 – View of deteriorated door/frame/threshold at basement.



Fig. 2 – View of deteriorated door/frame/threshold at basement.

KINDERGARTEN WALKWAY

| | |
|----------------------------------|----------------------------------------------|
| <u>Location</u> | Walkway link between kindergarten and school |
| <u>Overall Condition</u> | Fair |
| <u>Cost Estimated as:</u> | \$500 – south door |

Description

- Upper level walkway
 - Wood trim around windows
 - Painted gypsum board
 - Wood trim
 - Painted steel surround and grates at arched windows near floor
 - Vinyl tile
 - Railings
- Lower level of walkway
 - Terrazzo stairs
 - Brick masonry
 - Limestone
 - Wood railings
 - Metal railings

Scheduled Repair and Priority Recommendations

- 1) Lower level walkway door to exterior has corrosion at bottom of door. **Recommendation year 2020**
 - a) Clean/prime and paint door.

Scheduled Maintenance (Varies)

- Building staff to review:
 - Daily/Weekly/Monthly/Annually
- Contractor
 - Per direction
- Architectural and Engineering Professional condition survey
 - As necessary
 -

Architectural and Engineering Recommendations:

- No comments

Photos



Fig. 1 – View of corrosion at bottom of south door of the lower level walkway.

ELEVATOR

| | |
|----------------------------------|------------------------------------------------------------|
| <u>Location</u> | Parish Life Center |
| <u>Overall Condition</u> | Good |
| <u>Cost Estimated as:</u> | See elevator contractor who has provided service agreement |

Description

- The Parish Life Center is serviced by one (1) passenger hydraulic elevator for the four levels.
- One (1) lift for gaining access to the stage in the Parish Life Center.

Scheduled Repair and Priority Recommendations

1) See elevator contractor who has provided service agreement.

Scheduled Maintenance (Varies)

- Building staff to review:
 - Daily/Weekly/Monthly/Annually
- Contractor
 - Per SERVICE AGREEMENT
- Architectural and Engineering professional condition survey
 - As necessary

Architectural and Engineering Recommendations:

- No comments.
- For the passenger elevators, the interior walls of the cabs are stainless steel, with three sides finished with decorative wood paneling. The flooring surface is vinyl tiling. Lighting inside the passenger cabs is provided by light fixtures hidden behind the suspended ceiling translucent metal panels. In general, the interior finishes appear to be in good condition. Periodic cleaning, refinishing and/or polishing should be anticipated to maintain the appearance of the stainless steel, decorative panels, as well as the flooring surfaces.
- General Recommendations for elevator systems.
 - The elevator contractor should perform monthly periodic inspections and services on the elevators and associated machinery in accordance with the elevator manufacturer's recommendations and should include the applicable items listed under preventative maintenance.
 - The elevator contractor should carry out other periodic tests as required by the Village of Glen Ellyn and the State of Illinois Department of Labor and Industries for the elevators.
 - The elevator contractor should provide a 24-hour emergency call out service to make repairs as, required. Work should be accomplished in accordance with American Society of Mechanical Engineers (ASME) standard A17.1 and federal, state, and local laws, in particular, the State of Illinois.
 - Findings during periodic inspections or emergency service calls should be reported in writing to Management. Performance results of periodic tests as required by local codes should also be submitted to Management.

Mechanical, Electrical and Plumbing (MEP) Systems:

The condition of the mechanical, electrical, and plumbing (MEP) systems for the Saint Petronille Parish was assessed by the Sunnyside Design Group. The complete text of the Sunnyside report is enclosed as Appendix A.

RESERVE FUNDING
AND
RECOMMENDED INFORMATION

RESERVE FUNDING

Provided in Appendix C of this report is a Table of Values and Associated Table of Values Notes presently recommend time schedules and estimated budget costs presented in 2019 dollars to address the maintenance, repair, and/or replacement of building components and systems. Work items that are projected to occur in excess of five (5) years should be periodically reviewed to update their actual condition and required scope of work.

Funds for repair and replacement projects, particularly those with significant associated costs, can be accrued in various ways including:

- Funds can be gradually accrued for repair and replacement projects. Accrued monies would ideally be placed in an interest-earning accounts to assist in achieving necessary funding.
- Commencement in the accrual of funds for individual projects could be deferred with necessary monies accrued at an accelerated rate over a condensed period.
- Necessary funding for projects could be assembled through special assessments at the time the work is to be performed.
- Construction loans can be secured with payback occurring over a period after the completion of the specific repair task.

In our opinion, it is desirable to gradually accrue funds for repair and replacement projects over extended time frames, with additional benefits realized through funds from interest bearing accounts. The accrual of funding in this fashion would allow the Parish to maintain relatively consistent assessments for residents.

It should be noted the budget estimate projections included within the Table of Values are based on 2019 prevailing labor rates, published cost data indexes, and unit costs established for similar types of repair/rehabilitation projects located within the Glen Ellyn area. The indicated budget estimate projections may vary from actual costs because of concealed conditions, phasing requirements, changes in labor and/or material costs, site constraints, or other factors perceived by contractors. The cost budget estimates provided within the revised Table of Values should not be construed as the maximum costs required for the associated component line item. Also, please note the budget estimate projections do not include fees for consulting services relative to the

preparation of repair documents or contract administration services rendered during the execution of the associated work activities.

The information, opinions, and recommendations contained within this report are for the exclusive use of the Saint Petronille of Glen Ellyn in relation to the Saint Petronille church and school building campus and no other party has the right to rely on this information without written consent from Kellermeyer Godfryt Hart, P.C. (KGH).

RECOMMENDED INFORMATION:

KGH recommends the following items be requested from the developer, if not already obtained by the parish

Recommended Document Archive - I (we recommend these be scanned to digital copies)

1. Certificate of Occupancy from the Village of Glen Ellyn.
2. Certificate of Fire Sprinkler Installation from the contractor sent to the Village of Glen Ellyn to verify the sprinklers have been installed per permit drawings.
 - o Fire alarm testing information.
 - o Battery back-up log information.
3. Elevator testing information.
4. Copy of Village of Glen Ellyn approved permit drawings.
5. Plat of Surveys.
6. Civil engineering drawings.

Recommended Document Archive - II (we recommend these be scanned to digital copies)

KGH recommends all drawings and warranties related to the building be obtained, and the Parish listed as the Owner. Drawings and warranties would include, but are not limited to the following:

1. Specifications
2. Architectural Drawings
3. Permit Drawings, if separate from Architectural Construction Drawings
4. As-built Drawings
5. Electrical Drawings
6. Mechanical Drawings
7. Fire Safety and Sprinklers
8. Window Shop Drawings
9. Warranties for:
 - a. Roof Membrane Systems
 - b. Window Systems
 - c. Mechanical units
 - d. Elevators
 - e. Boilers, Air Conditioners, Condensing Units, and Furnaces
 - f. Elevators and Garage Doors (Mechanisms)
 - g. Emergency Generator and Pumps
 - h. Electronic Fire Panel System
 - i. Appliances (stove, oven, refrigerator, dishwasher, disposal,

- j. washer/dryer, hot tubs, etc.)
Etc.

Recommended Maintenance Information:

A maintenance schedule should be discussed, compiled and posted for building management / engineer to understand the frequency of maintenance, as well as the extent. Maintenance items would include, but are not limited to, the following:

1. Provide an onsite fire rated filing cabinet with limited access to store vital building documents. Documents should not be given or loaned to individuals, management, consultants, etc. Rather, copies should be made by the Parish and those copies provided to individuals for use and analysis. Copies should then be returned to the Parish and provided to others, as needed, until new copies are again required of the originals. Copies could also be copied digitally and stored digitally on computers and compact discs (CD).
2. Copies of all permits, certificates of occupancy from OHJ.
3. Life Safety Maintenance documents.
 - a. Sprinkler inspections.
 - b. Emergency lighting and battery back-up monthly inspections log.
 - c. Fire extinguisher inspections.
 - d. Fire command panel inspections.
 - e. Elevator inspections.
4. Playground Maintenance
 - a. Monthly and annual review of playground equipment.
5. Roofing inspections and maintenance.
 - a. Is there a roof maintenance agreement with the roof installer?
 - b. Perform annual or bi-annual review of roof systems?
 - c. Should snow melt systems be installed at locations?
6. Cleaning and rodding of drains and sewers.
 - a. Perform a minimum of 2 times per year.
7. Cleaning and maintenance of heaters, furnaces and condensing units for common elements.
8. Exterior facade repairs.
9. Window and door cleaning.
10. Aluminum metal maintenance.
11. Painted metal maintenance.
 - a. Provide budget to touch-up fences and gates each year.
12. Sealant repairs.
13. Waterproof membrane maintenance.
14. Paver cleaning and maintenance.
15. Site drainage maintenance.
16. Lighting maintenance.
17. Painting touchups for:
 - a. Steel elements.
 - b. Concrete.
 - c. Concrete Masonry Units (sealer).
 - d. Parking striping and signage.
18. The Parish should anticipate the development of guidelines to establish criteria for the visual appearance of:
 - a. Replacement doors.

- i. Manufacturers.
 - b. Replacement windows.
 - i. Manufacturers.
 - c. Horizontal finish materials.
 - d. Painting of various elements.
- 19. The Parish should anticipate the development of guidelines to establish criteria for the visual appearance of:
 - a. Appurtenances that can be seen from grade.
- 20. We recommend the Parish retain legal counsel and engineering and architectural consultants to review key milestones during the construction of new buildings if additional buildings will be built in the future that will be incorporated into the Parish complex. The key construction milestones to be reviewed would be determined by the consultants prior to breaking ground and should be included as part of agreements with the General Contractor for those buildings. These reviews would be to ensure the construction of these future buildings will minimize future expense and frustration by the parish.

Very truly yours,

KELLERMEYER GODFRYT HART, P.C.

Hans P. Kiefer
Principal

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APPENDIX A

CAPITAL ASSETS RESERVE STUDY

**** HEATING, VENTILATION, AIR-CONDITIONING SYSTEMS ****

**** PLUMBING SYSTEMS ****

**** ELECTRICAL SYSTEMS ****

**** FIRE SUPPRESSION SYSTEMS ****

SAINT PETRONILLE PARISH

**CATHOLIC CHURCH, SCHOOL & PARISH CENTER
420 GLENWOOD AVENUE
GLEN ELLYN, ILLINOIS**

SUNNYSIDE DESIGN GROUP PROJECT NO. 19-044

0.00 - GENERAL -

0.01 - This 28-page Capital Assets Reserve Study (with 105 Photographs) focuses on the facility's Heating, Ventilation, Air-Conditioning Systems; Plumbing Systems; Electrical Systems & Fire Suppression Systems.

0.02 - A survey was conducted in September 2019 and available drawings reviewed.

0.03 - Each major item, per category, is listed with its performance and duty indicated. Per item, each has its projected remaining useful life and related cost to replace, in part or in its entirety.

1.00 - AIR-HANDLING UNITS (see Photos #1-01 through #1-13) -

1.01 - Air-Handling Unit tagged "**AH-1**" is a Trane M-Series *Climate Changer*[™] Model No. MC-17, Serial No. K02K65644A, 7600 cfm (cubic feet [of air] per minute), 240 mbh (thousands of British thermal units per hour) cooling, 280 mbh heating, 10 hp (horsepower) supply air fan motor, VFD (variable frequency drive) controlled.

1.01.1 - This air-cooled remote split-system DX (direct expansion [refrigerant]) electric cooling and hot water heating Air-Handling Unit is located in Mechanical Room 029 (**see Photo #1-01**).

1.01.2 - It is teamed with Air-Cooled Condensing Unit "**CU-1**" Trane Model No. TTA-240-B-400BA, 240 mbh (20-tons) cooling, Refrigerant R-22 which is located outdoors on Grade outside and northwest of Stair 112 (**see Photo #1-02**).

1.01.3 - This HVAC Air-Handling Unit and its mixed air distribution system serves Youth 115; Nursery 116; Corridors 121, 126, 141 & 142; Music Room 122; Liturgy Room 123; Staff Room 124; Business Manager Room 125; Stairs 127 & 150; Bookkeeping Room 128; Reception Room

139, Entry 140; Christian Services Room 139; Parish Board Room 136; Work Room 132; Conference Offices 130 & 131; Pastor Room 143; Associate Pastor Room 146; and Associate Pastor Room 148.

1.01.4 - Air-Handling Unit **"AH-1"**, installed in 2002, based on the observed condition - in our judgement - has components with a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to partially replace Air-Handling Unit **"AH-1"** would be (in today's dollars) between **\$ 36,000.00** to **\$ 39,600.00**.

1.01.5 - Air-Cooled Condensing Unit **"CU-1"**, also installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to replace Air-Cooled Condensing Unit **"CU-1"** in its entirety would be (in today's dollars) between **\$ 16,400.00** to **\$ 18,100.00**.

1.02 - Air-Handling Unit tagged **"AH-2"** is a Trane Model No. LPCA, Serial No. T02K75050, 2000 cfm, 60 mbh cooling, 60 mbh heating, 2 hp supply air fan motor, VFD controlled.

1.02.1 - This air-cooled remote split-system DX (direct expansion [refrigerant]) electric cooling and hot water heating Air-Handling Unit is located in Mechanical Room 033 (see **Photo #1-03**).

1.02.2 - It is teamed with Air-Cooled Condensing Unit **"CU-2"** Trane Model No. TTA-0060-A4000-AA, 60 mbh (5-tons) cooling, Refrigerant R-22 which is located outdoors on Grade outside and northwest of Associate Pastor Room 146 (see **Photo #1-04**).

1.02.3 - This HVAC Air-Handling Unit and its mixed air distribution system serves Lobbies 024, 026 & 027; Maintenance Shop 025; P.E. Office 030, Storage Room 028, Team 031; and Team Locker Room 032.

1.02.4 - Air-Handling Unit **"AH-2"**, installed in 2002, based on the observed condition - in our judgement - has components with a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to partially replace Air-Handling Unit **"AH-2"** would be (in today's dollars) between **\$ 9,000.00** to **\$ 9,900.00**.

1.02.5 - Air-Cooled Condensing Unit **"CU-2"**, also installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to replace Air-Cooled Condensing Unit "CU-2" in its entirety would be (in today's dollars) between **\$ 4,300.00** to **\$ 4,700.00**.

1.03 - Air-Handling Unit tagged "AH-3" is a Trane T Series Size 10, 5000 cfm, 500 mbh heating, 10 hp supply air fan motor, 5 hp return air fan motor, VFD controlled.

1.03.1 - This heating-only hot water Air-Handling Unit is located outdoors on the roof above Office 210.

1.03.2 - This Air-Handling Unit and its 100% outdoor air distribution system serves Gym 007 (see **Photo #1-05**).

1.03.3 - Air-Handling Unit "AH-3", installed in 2002, based on the observed condition - in our judgement - has components with a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to partially replace Air-Handling Unit "AH-3" would be (in today's dollars) between **\$ 5,000.00** to **\$ 5,500.00**.

1.04 - Air-Handling Unit tagged "AH-4" is 900 cfm, 30 mbh cooling.

1.04.1 - This cooling-only Air-Handling Unit is located is the ceiling of, and is used to air-cool & ventilate, AV Room 307 (see **Photo #1-06**). In 2002 this was specified as a Mitsubishi Model No. PLH-30-FK.

1.04.2 - It is teamed with Air-Cooled Condensing Unit "CU-3" Sanyo Model No. CL3632A, Serial No. 0007032, 30 mbh (2.5 tons) cooling Refrigerant R22 unit is located on the roof above AV Room 307 (see **Photo #1-07**). In 2002 this was specified as a Mitsubishi Model No. PUH-30-EK.

1.04.3 - Air-Handling Unit "AH-4", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to replace Air-Handling Unit "AH-4" in its entirety would be (in today's dollars) between **\$ 4,100.00** to **\$ 4,500.00**.

1.04.4 - Air-Cooled Condensing Unit "CU-4", also installed in 2002, based on the observed condition - in our judgement - is passed it projected useful life of [say] 15 years.

- It is estimated that the cost to replace Air-Cooled Condensing Unit "CU-3" in its entirety would be (in today's dollars) between **\$ 3,700.00** to **\$ 4,100.00**.

1.05 - Air-Handling Unit also tagged "AH-3" is a Chrysler Airtemp Model No. AH-25, Serial No. 31E2659 with a 10 hp supply air fan motor.

1.05.1 - This Air-Handling Unit is located in the Basement Mechanical Room (see Photo #1-08) and is believed to serve a portion of the Church.

1.05.2 - This Air-Handling Unit "AH-3", based on the observed condition - in our judgement - has a projected remaining useful life of 2 years.

- It is estimated that the cost to replace this Air-Handling Unit "AH-4" in its entirety would be (in today's dollars) between \$ 14,800.00 to \$ 16,200.00.

1.05.3 - It is believed to be teamed with Air-Cooled Condensing Unit "CU" Trane Model TTA240B400EA, Serial No. 2412UCRAD, 20 tons cooling (Refrigerant R22) unit located at Grade (see Photo #1-09).

1.05.4 - Air-Cooled Condensing Unit "CU-4", based on the observed condition - in our judgement - also has a projected remaining useful life of 2 years.

- It is estimated that the cost to replace this Air-Cooled Condensing Unit "CU" in its entirety would be (in today's dollars) between \$ 13,000.00 to \$ 14,300.00.

1.06 - Air-Handling Unit tagged "AH" is a York Model No. H3CE, with a 10 hp supply air fan motor.

1.06.1 - This Air-Handling Unit is located in the School's Basement Mechanical Room (see Photo #1-10) and is believed to serve a portion of the School.

1.06.2 - This Air-Handling Unit "AH", is 1998-vintage and based on the observed condition - in our judgement - is passed its projected useful life of (say) 25 years.

- It is estimated that the cost to replace this Air-Handling Unit "AH" in its entirety would be (in today's dollars) between \$ 11,200.00 to \$ 12,300.00.

1.06.3 - It is believed to be teamed with Air-Cooled Condensing Unit "CU" York Model No. H3CE180A46A, Serial No. NEGM051957, 12 tons cooling (Refrigerant R22) located at Grade along side of the School (see Photo #1-11).

1.06.4 - Air-Cooled Condensing Unit "CU", is also 1998-vintage and based on the observed condition - in our judgement - is passed its projected useful life of (say) 20 years.

- It is estimated that the cost to partially replace this Air-Cooled Condensing Unit "CU" in its entirety would be (in today's dollars) between \$ 9,100.00 to \$ 10,000.00.

1.07 - There are numerous Window Air-Conditioning Units used throughout, especially in the School (see Photos #1-12 & #1-13).

1.07.1 - It is likely that (say) five will fail and need to be replaced each year. As such, based on a replacement cost of \$ 2,400.00 to \$ 2,640.00 each, the annual replacement cost could be \$ **12,000.00** to \$ **13,200.00**.

2.00 - ROOF-TOP HVAC UNITS (see Photos #2-01 through #2-10) -

2.01 - Roof-Top Unit tagged "**RT-1**" is a Trane Model No. YCD-240-C-4-H, 7600 cfm, 240 mbh (20-tons) cooling, 400 mbh (input) heating with power exhaust.

2.01.1 - This air-cooled electric cooling, natural gas-fired heating Roof-Top Unit is located outdoors on the roof above Gathering Room 100 (**see Photo #2-01**).

2.01.2 - This Packaged Unitary HVAC Roof-Top Air-Handling Unit and its mixed air distribution system serves Gathering Room 100, Tuition Credit Room 109, Lobbies 108 & 114, Concession Room 110, Entry 111 and Stair 112.

2.01.3 - Roof-Top Unit "**RT-1**", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace Roof-Top Unit "**RT-1**" in its entirety would be (in today's dollars) between \$ **30,000.00** to \$ **33,000.00**.

2.02 - Roof-Top Unit tagged "**RT-2**" is a Trane Model No. YCD-060-C-4-H, 2000 cfm, 60 mbh (5-tons) cooling, 135 mbh (input) heating with power exhaust.

2.02.1 - This air-cooled electric cooling, natural gas-fired heating Roof-Top Unit is located outdoors on the roof above Music Room 219 (**see Photo #2-02**).

2.02.2 - This Packaged Unitary HVAC Roof-Top Air-Handling Unit and its mixed air distribution system serves Music Rooms 219 & 219A; and Office 210.

2.02.3 - Roof-Top Unit "**RT-2**", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace Roof-Top Unit "**RT-2**" in its entirety would be (in today's dollars) between \$ **10,000.00** to \$ **11,000.00**.

2.03 - Roof-Top Unit tagged "**RT-3**" is a Trane Model No. YSC-120-ARHA-14-E, 3800 cfm, 120 mbh (10-tons) cooling, 250 mbh (input) heating with power exhaust. -

2.03.1 - This air-cooled electric cooling, natural gas-fired heating Roof-Top Unit is located outdoors on the roof above Music Rooms 219 (**see Photo #2-03**).

2.03.2 - This Packaged Unitary HVAC Roof-Top Air-Handling Unit and its mixed air distribution system serves Corridor 221; Stair 223; Corridors 224 & 227; Gathering Room 227; Entries 228 & 229; Mens Room 225; and Womens Room 226.

2.03.3 - Roof-Top Unit "RT-3", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace Roof-Top Unit "RT-3" in its entirety would be (in today's dollars) between **\$ 15,000.00** to **\$ 16,500.00**.

2.04 - Roof-Top Unit tagged "RT-4" is a Trane Model No. YCD-420A4HK2A-2-CD1A, Serial No. C02K09098, 12800 cfm, 420 mbh (35-tons) cooling (Refrigerant R-22), 600 mbh (input) heating with a 10 hp supply air fan motor and power exhaust.

2.04.1 - This air-cooled electric cooling, natural gas-fired heating Roof-Top Unit is located outdoors on the roof above Storage 304 (see **Photo #2-04**).

2.04.2 - This Packaged Unitary HVAC Roof-Top Air-Handling Unit and its mixed air distribution system serves Kitchen 235; Storage Rooms 237 & 234; Stair 233; and Parish Center 230.

2.04.3 - Roof-Top Unit "RT-4", installed in 2002, based on the observed condition and the condition of the Condenser Coils that have been severely damaged by hail - in our judgement - has a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace Roof-Top Unit "RT-4" in its entirety would be (in today's dollars) between **\$ 61,200.00** to **\$ 67,400.00**.

2.05 - Roof-Top Unit tagged "RT-5" is a Trane Model No. YCD-420A4HK2A-6-CD1A, Serial No. C02K09097, 12800 cfm, 420 mbh (35-tons) cooling (Refrigerant R-22), 600 mbh (input) heating with a 10 hp supply air fan motor and power exhaust.

2.05.1 - This air-cooled electric cooling, natural gas-fired heating Roof-Top Unit is located outdoors on the roof above Storage 304 (see **Photo #2-06**).

2.05.2 - This Packaged Unitary HVAC Roof-Top Air-Handling Unit and its mixed air distribution system serves Parish Center 230; Stair 231; Stage 232; and AV Room 301.

2.05.3 - Roof-Top Unit "RT-5", installed in 2002, based on the observed condition and the condition of the Condenser Coils that have been severely damaged by hail (see **Photo #2-07**) - in our judgement - has a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace Roof-Top Unit "RT-5" in its entirety would be (in today's dollars) between \$ 61,200.00 to \$ 67,400.00.

2.06 - Roof-Top Unit tagged "RT-6" is a Trane Model No. YCD-075-C-4-H, 2400 cfm, 75 mbh (6.25-tons) cooling (Refrigerant R-421A [converted for R-22 in 2011]), 205 mbh (input) heating with power exhaust.

2.06.1 - This air-cooled electric cooling, natural gas-fired heating Roof-Top Unit is located outdoors on the roof above Corridor 303 (see Photo #2-07).

2.06.2 - This Packaged Unitary HVAC Roof-Top Air-Handling Unit and its mixed air distribution system serves Corridors 301 & 303; Stair 302; Storage Rooms 304 & 306; and Attic 305.

2.06.3 - Roof-Top Unit "RT-6", installed in 2002, based on the observed condition and the condition of the Condenser Coils that have been severely damaged by hail (see Photo #2-08)- in our judgement - has a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace Roof-Top Unit "RT-6" in its entirety would be (in today's dollars) between \$ 11,500.00 to \$ 12,600.00.

2.07 - Roof-Top Unit tagged "RT" is a York Model No.D2CG240N3204ECE, Serial No. NFGM065687, 8000 cfm, 240 mbh (20-tons) cooling (Refrigerant R-22), 400 mbh (input) heating with power exhaust.

2.07.1 - This air-cooled electric cooling, natural gas-fired heating Roof-Top Unit is located outdoors at Grade (see Photo #2-09).

2.07.2 - This Packaged Unitary HVAC Roof-Top Air-Handling Unit and its mixed air distribution system is believed to serve portions of the School.

2.07.3 - Roof-Top Unit "RT", installed in 1998, unlike the other RTUs, is equipped with a hail guard - preventing damage to the condenser coil. Nevertheless, based on the observed condition - in our judgement - is passed it projected useful life of (say) 25 years.

- It is estimated that the cost to replace this Roof-Top Unit "RT" in its entirety would be (in today's dollars) between \$ 38,200.00 to \$ 42,000.00.

2.08 - Another Roof-Top Unit is the Make-Up Air Unit "MUA" for the Kitchen Grease Hood.

2.08.1 - Specifics for this equipment have not been secured.

2.08.2 - This 100% outdoor air roof-top, natural gas-fired heating Roof-Top Unit is located on the roof next to its related Exhaust Air Fan (see Photo #2-10).

2.08.3 - It is used to supplement the compensating Kitchen Grease Hood operation.

2.08.4 - Based on the normal expectations - in our judgement - this has a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace this Make-Up Air Unit "MUA" in its entirety would be (in today's dollars) between **\$ 12,800.00** to **\$ 14,100.00**.

3.00 - EXHAUST AIR FANS (see Photos #3-01 through #3-09) -

3.01 - "Mushroom" Exhaust Air Fan tagged "EF-1", was specified as an Acme Model No. PRN-126-E, 1340 cfm, 1/4 hp exhaust air fan motor. The installed unit is manufactured by Carnes.

3.01.1 - This Roof Exhauster is located on the roof above Storage 301 (see Photo #3-01).

3.01.2 - It is used to exhaust Men Room 225 & Women Room 226.

3.01.3 - Exhaust Air Fan "EF-1", installed in 2002, based on the observed condition - in our judgement - is passed its projected useful life of (say) 15 years.

- It is estimated that the cost to replace Exhaust Air Fan "EF-1" in its entirety would be (in today's dollars) between **\$ 2,700.00** to **\$ 2,970.00**.

3.02 - In-Line Exhaust Air Fan tagged "EF-2", was specified as an Acme Model No. XD-161-E-6, 1770 cfm, 1/6 hp exhaust air fan motor. The installed unit is a Carnes Model No. VIDK16M3A1UL20S, Serial No. 41032.004 with a 1/3 hp exhaust air fan motor.

3.02.1 - This In-Line Exhauster is located at the ceiling of Mechanical Rm 004 (see Photo #3-02).

3.02.2 - It is used to exhaust Girls Locker Room 003; Girls Toilet Room 003A; Girls Shower Room 005; Boys Locker Room 001, Boys Toilet Room 001A; and Boys Shower Room 002.

3.02.3 - Exhaust Air Fan "EF-2", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace Exhaust Air Fan "EF-2" in its entirety would be (in today's dollars) between **\$ 2,500.00** to **\$ 2,750.00**.

3.03 - In-Line Exhaust Air Fan tagged "EF-3", was specified as an Acme Model No. XD-137-E-6, 1030 cfm, 1/4 hp exhaust air fan motor.

3.03.1 - This In-Line Exhauster is located in the Attic above Janitor's Closet 120.

3.03.2 - It is used to exhaust Team Locker Rooms 031 & 032.

3.03.3 - Exhaust Air Fan "EF-3", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace Exhaust Air Fan "EF-3" in its entirety would be (in today's dollars) between **\$ 1,600.00 to \$ 1,750.00**.

3.04 - In-Line Exhaust Air Fan tagged "EF-4", is an Acme Model No. XD-137-B-8, 850 cfm, 1/12 hp exhaust air fan motor.

3.04.1 - This In-Line Exhauster is located in the Attic above Janitor's Closet 120.

3.04.2 - It is used to exhaust Nursery Toilet Room 116; Men Room 116; Women Room 119; and Janitor's Closet 120.

3.04.3 - Exhaust Air Fan "EF-4", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace Exhaust Air Fan "EF-4" in its entirety would be (in today's dollars) between **\$ 1,500.00 to \$ 1,650.00**.

3.05 - "Mushroom" Exhaust Air Fan tagged "EF-5", is an Acme Model No. V-150, 130 cfm, 100 watts exhaust air fan motor.

3.05.1 - This Roof Exhauster is located on the Roof above Toilet Room 144 (see Photo #3-03).

3.05.2 - It is used to exhaust Toilet Room 144.

3.05.3 - Exhaust Air Fan "EF-5", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to replace Exhaust Air Fan "EF-5" in its entirety would be (in today's dollars) between **\$ 650.00 to \$ 710.00**.

3.06 - Ceiling Exhaust Air Fan tagged "EF-7", is an Acme Model No. V-150, 130 cfm, 100 watts exhaust air fan motor.

3.06.1 - This Ceiling Exhauster is located in the ceiling of, and is used to exhaust Mechanical Room 021.

3.06.2 - Exhaust Air Fan "EF-7", installed in 2002, based on the observed condition - in our judgement - is passed it projected useful life of [say] 15 years.

- It is estimated that the cost to replace Exhaust Air Fan "EF-7" in its entirety would be (in today's dollars) between \$ 650.00 to \$ 710.00.

3.07 - Ceiling Exhaust Air Fan tagged "EF-9", is an Acme Model No. V-300, 270 cfm, 100 watts exhaust air fan motor.

3.07.1 - This Ceiling Exhauster is located in the ceiling of Mechanical Room 413.

3.07.2 - It is used to exhaust Mechanical Room 413.

3.07.3 - Exhaust Air Fan "EF-9", installed in 2002, based on the observed condition - in our judgement - is passed its projected useful life of [say] 15 years.

- It is estimated that the cost to replace Exhaust Air Fan "EF-9" in its entirety would be (in today's dollars) between \$ 800.00 to \$ 880.00.

3.08 - Another Roof Exhauster "DWE-1" is that for the Kitchen Dishwasher.

3.08.1 - Specifics for this equipment have not been secured.

3.08.2 - This Roof Exhauster is located on the roof near the Kitchen Hood Exhaust Air Fan and Make-Up Unit (see Photo #3-04).

3.08.3 - It is used to exhaust the Kitchen Dishwasher (see Photo #3-05).

3.08.4 - Based on the normal expectations - in our judgement - this has a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to replace this Kitchen Dishwasher Exhauster "DWE-1" in its entirety would be (in today's dollars) between \$ 3,100.00 to \$ 3,400.00.

3.09 - Another Roof Exhauster "HE-1" is that for the Kitchen Grease Hood.

3.09.1 - Specifics for this equipment have not been secured.

3.09.2 - This Roof Exhauster is located on the roof near the Kitchen Hood Make-Up Unit and Kitchen Dishwasher Exhausters (see Photo #3-06).

3.09.3 - It is used to exhaust the Kitchen Grease Hood (see Photo #3-07).

3.09.4 - Based on the normal expectations - in our judgement - this has a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to replace this Kitchen Grease Hood Exhauster "HE-1" in its entirety would be (in today's dollars) between \$ 4,200.00 to \$ 4,600.00.

3.10 - Another In-Line Exhaust Fan tagged "EF-15" is that believed to serve the School.

3.10.1 - Specifics for this equipment have not been secured.

3.10.2 - This In-Line Exhaust Fan is located on the School Basement (see Photo #3-08).

3.10.3 - Based on the normal expectations - in our judgement - this has a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace this In-Line Exhaust Fan "EF-15" in its entirety would be (in today's dollars) between \$ 2,700.00 to \$ 3,000.00.

3.11 - Another In-Line Exhaust Fan "EF" is that also believed to serve the School.

3.11.1 - Specifics for this equipment have not been secured.

3.11.2 - This In-Line Exhaust Fan is located on the School Attic (see Photo #3-09).

3.11.3 - Based on the normal expectations - in our judgement - this has a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace this In-Line Exhaust Fan "EF" in its entirety would be (in today's dollars) between \$ 2,900.00 to \$ 3,200.00.

4.00 - UNIT HEATERS (see Photos #4.01 through #4.03) -

4.01 - Electric Unit Heater tagged "EH-1", was (in 2002) initially specified as a Markel Model No. HF285110CA1L, 700 cfm, 10 kW (34.1 mbh) heating, 1/50 hp supply air fan motor. It is believed that it was replaced and re-tagged as "UH-5" which is a Berke Model No. HUHAA1010, 10 kW, 1/3 hp exhaust air fan motor.

4.01.1 - This (say 2015-vintage) Suspended Unit Heater is located in, and is used to heat Storage Room 309 (see Photo #4-01).

4.01.2 - Electric Unit Heater "UH-5", based on the observed condition - in our judgement - this has a projected remaining useful life of 5 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to replace Electric Unit Heater "UH-5" in its entirety would be (in today's dollars) between \$ 4,400.00 to \$ 4,800.00.

4.02 - Hot Water Unit Heater tagged "**UH-1**", is a Sterling Model No. HS-84, 1400 cfm, 6.1 gpm, 61 mbh heating, 1/20 hp fan motor.

4.02.1 - This Suspended Unit Heater is located in, and is used to heat, Mechanical Room 029 (see **Photo #4-02**).

4.02.2 - Hot Water Unit Heater "**UH-1**", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to replace Hot Water Unit Heater "**UH-1**" in its entirety would be (in today's dollars) between **\$ 2,100.00** to **\$ 2,300.00**.

4.03 - Two Hot Water Unit Heaters both tagged "**UH-2**", are each Sterling Model Nos. HS-132 - H5B 13211, 2000 cfm, 9.6 gpm, 95.8 mbh heating, 1/3 hp fan motor.

4.03.1 - These Suspended Unit Heaters are located in, and is used to heat, Basement 034 (see **Photo #4-03**).

4.03.2 - Two Hot Water Unit Heaters "**UH-2**", both installed in 2002, based on the observed condition - in our judgement - have a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to replace both Hot Water Unit Heaters "**UH-2**" in their entirety would be (in today's dollars) between **\$ 6,000.00** to **\$ 6,600.00**.

4.04 - Hot Water Unit Heater tagged "**UH-3**", is a Sterling Model No. HSUA-HSB20411, Serial No. LO2-333080003001, 2900 cfm, 14.8 gpm, 148.1 mbh heating, 1/20 hp fan motor.

4.04.1 - This Suspended Unit Heater is located in, and is used to heat, Mechanical Room 033.

4.04.2 - Hot Water Unit Heater "**UH-3**", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to replace Hot Water Unit Heater "**UH-3**" in its entirety would be (in today's dollars) between **\$ 3,350.00** to **\$ 3,700.00**.

4.05 - Steam Unit Heater (lets call it) "**SUH**" is located in, and is used to heat, the School Attic

4.05.1 - Specifics for this equipment have not been secured.

4.05.2 - This In-Line Exhaust Fan is located on the School Attic (see **Photo #4-04**).

4.05.3 - Based on the normal expectations - in our judgement - is passed its projected useful life of [say] 25 years.

- It is estimated that the cost to replace this Steam Unit Heater "SUH" in its entirety would be (in today's dollars) between **\$ 2,900.00 to \$ 3,200.00**.

5.00 - PUMPS (see Photos #5.01 through #5.05) -

5.01 - Sewage Ejector Pumps tagged "SE-1" is a Weil Model No. 2108, two pumps each 100 gpm, 1 hp pump motor.

5.01.1 - This Duplex Sewage Ejector is located in Mechanical Room 029 (see Photo #5-01), used to pump out below grade sanitary waste drainage.

5.01.2 - Sewage Ejector Pumps "SE-1", installed in 2002, based on the observed condition - in our judgement - has parts with a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to partially replace Sewage Ejector Pumps "SE-1" would be (in today's dollars) between **\$ 3,100.00 to \$ 3,400.00**.

5.02 - Sump Pump tagged "SP-1" is Weil Model No. 1431, 1/3 hp pump motor.

5.02.1 - This Simplex Submersible Sump Pump is located in Elevator 023, used to pump out drainage from the Elevator Pit.

5.02.2 - Sump Pump "SP-1", installed in 2002, based on the observed condition - in our judgement - has parts with a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to partially replace Sump Pump "SP-1" would be (in today's dollars) between **\$ 600.00 to \$ 660.00**.

5.03 - Sump Pump tagged "SP-2" is Weil model no. 1200, 70 gpm, 3/4 hp pump motor

5.03.1 - This Simplex Sump Pump is located in Basement 034 (see Photo #5-02), used to pump out below grade sub-soil and storm drainage.

5.03.2 - Sump Pump "SP-2", installed in 2002, based on the observed condition - in our judgement - has parts with a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to partially replace Sump Pump "SP-2" would be (in today's dollars) between **\$ 800.00 to \$ 880.00**.

5.04 - Domestic Water Circulating Pump tagged "**P-1**" is Bell & Gossett Series 100, 1/12 hp pump motor.

5.04.1 - This Bronze recirculation pump is located in Mechanical Room 033, used to circulate domestic hot water between the domestic water heaters and distribution system to maintain even water temperatures.

5.04.2 - Circulating Pump "**P-1**", installed in 2002, based on the observed condition - in our judgement - has parts with a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to partially replace Circulating Pump "**P-1**" would be (in today's dollars) between **\$ 500.00 to \$ 550.00**.

5.05- Coil Circulation In-Line Pump also tagged "**P-1**", is a Bell & Gossett Model "HD-3", 28 gpm, 1/3 hp pump motor.

5.05.1 - This In-Line Pump is located in Mechanical Room 029, used to circulate heating hot water thru the local duct-mounted re-heat coil.

5.05.2 - Coil Circulation In-Line Pump "**P-1**", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to replace Coil Circulation In-Line Pump "**P-1**" in its entirety would be (in today's dollars) between **\$ 750.00 to \$ 820.00**.

5.06 - Air-Handler Circulation In-Line Pump tagged "**P-2**", is a Bell & Gossett Model "LD-3", 6 gpm, 1/4 hp pump motor.

5.06.1 - This In-Line Pump is located in Mechanical Room 033, used to circulate hot water thru the heating coil in Air-Handling Unit "AH-2".

5.06.2 - Air-Handler Circulation In-Line Pump "**P-2**", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to replace Air-Handler Circulation In-Line Pump "**P-2**" in its entirety would be (in today's dollars) between **\$ 600.00 to \$ 660.00**.

5.07 - Coil Circulation In-Line Pump tagged "**P-3**", is a Bell & Gossett Model "PD-35", 50 gpm, 1/2 hp pump motor.

5.07.1 - This In-Line Pump is located at the ceiling of Music Room 219, used to circulate hot water thru the local duct-mounted re-heat coil.

5.07.2 - Coil Circulation In-Line Pump "P-3", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 2 years (based on an original life expectancy of [say] 20 years).

- It is estimated that the cost to replace Coil Circulation In-Line Pump "P-3" in its entirety would be (in today's dollars) between **\$ 1,000.00** to **\$ 1,100.00**.

5.08 - Main Circulation Base-Mounted Pumps tagged "P-4" & "P-5", are each Bell & Gossett Series 3510-2-1/2AB, 203 gpm, 3 hp pump motor.

5.08.1 - This Primary Horizontal Split-Case Pumps are located in Mechanical Room 033 (see **Photo #5-03**), used to circulated water thru Boilers "B-1" & "B-2".

5.08.2 - Main Circulation Base-Mounted Pumps "P-4" & "P-5", both installed in 2002, based on the observed condition - in our judgement - have a projected remaining useful life of 12 years (based on an original life expectancy of [say] 30 years).

- It is estimated that the cost to replace parts of both Main Circulation Base-Mounted Pumps "P-4" & "P-5" would be (in today's dollars) between **\$ 9,000.00** to **\$ 9,900.00**.

5.09 - Expansion Tanks tagged "SE-1" & "SE-2" (see **Photo #5-04**), each 220 gallons, have extended predictable remaining lives.

5.09.1 - These Expansion Tanks maintain even pressure inside the Boilers, giving the Main Facility's heating hot water distribution system a place to expand and a cushion to absorb pressure.

5.10 - Expansion Tanks (lets call it) "SE" (see **Photo #5-04**), 44 gallons, has an extended predictable remaining life.

5.10.1 - This Expansion Tank maintains even pressure inside the Boiler, giving the School's heating hot water distribution system a place to expand and a cushion to absorb pressure.

5.11 - Sewage Ejector Pumps tagged "SE" Is a Metropolitan Pump Model No. 30MPG-30, Serial No. 7980-2, two pumps each 3 hp pump motor.

5.11.1 - This Duplex Sewage Ejector (see **Photo #5-05**) is used to pump out below grade sanitary waste drainage related to the School.

5.11.2 - Sewage Ejector Pumps "SE", based on the observed condition - in our judgement - portions are passed their projected useful life of [say] 25 years.

- It is estimated that the cost to partially replace Sewage Ejector Pumps "SE" would be (in today's dollars) between **\$ 4,200.00** to **\$ 4,600.00**.

6.00 - VARIABLE AIR VOLUME BOXES -

6.01 - Twenty-Four VAV (Variable Air Volume) Boxes tagged “V-1” thru “V-24”, are Trane Models VCWE.

6.01.1 - These Single-Duct VAV *VariTrane*™ Hot Water Heat Units are associated with the air distribution from Air-Handling Unit “AH-1”.

6.01.2 - Their airflows range from 150 cfm to 660 cfm, with fifteen 5-inch boxes, eight 6-inch boxes and one 8" box.

6.01.3 - VAV Boxes “V-1” thru “V-24”, all installed in 2002, based on the observed condition - in our judgement - have components with a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to partially replace portions of all twenty-four VAV Boxes “V-1” thru “V-24” would be (in today’s dollars) between **\$ 24,000.00** to **\$ 26,400.00**.

7.00 - BASEBOARD RADIATION (see Photos #7-01 and #7-02) -

7.01 - Heating Hot Water Finned-Tube Baseboard Radiation tagged “A”, are Sterling Style S *Versa-Line*™ Models JVB-S-20, 1560 btuh/ft.

7.01.1 - Baseboard Heat exists in Classroom 406 (42'), Classroom 405 (56'), Tutorial 400 (20') & Corridor 404 (8') and elsewhere throughout the facility,

7.01.2 - Finned-Tube Baseboard Radiation, in general, has an extended predictable remaining life with the exception of the enclosure (covers).

7.01.3 - A few example of damaged enclosures/covers are in the Church Toilet Rooms (see **Photos #7-01 & #7-02**).

- It is suggested that for the replacement of any damaged enclosures/covers, an annual budget of **\$ 4,000.00** be allowed for those situations.

8.00 - CONVECTORS / CABINET UNIT HEATERS (see Photos #8-01 through #8-04) -

8.01 - Three Heating Hot Water Convectors were installed in 2002, also tagged “A”, are Sterling Type SF-A, 4.3 mbh. These are located in Stair 036, Stair 035 & Classroom 405.

8.01.1 - Others (older units) are located elsewhere in the facility.

8.01.2 - Convectors & Cabinet Unit Heaters, in general, have an extended predictable remaining life with the exception of the enclosure (covers).

8.01.3 - There are to least four types of Convectors & Cabinet Unit Heaters in use.

- Those with the bottom open on a carpeted floor (see **Photo #8-01**).
- Those with an integral grille down to the floor (see **Photo #8-02**).
- Those with the bottom open & elevated off the floor (see **Photo #8-03**).
- Those with the bottom open on a tile floor (see **Photo #8-04**).

8.01.4 - It is suggested that for the limited repairs, an annual budget of **\$ 3,000.00** be allowed for those situations.

9.00 - BOILERS (see Photos #9-01 through #9-05) -

9.01 - Heating Hot Water Boilers tagged "**B-1**" & "**B-2**", are each Hurst Model LPE-X-50-15/30W, Serial Nos. LPE2-15p-54 & LPE2-15p-55, 220 sq.ft. heating surface, 2092 mbh with a Forced-Draft Burner. In 2002, these were specified as Kewanee Models V-15-G, 1883 mbh (input) (56.25 boiler horsepower), 1506 mbh (output) each.

9.01.1 - These Gas-Fired Boilers are located in Mechanical Room 033 (see **Photo #9-01**).

9.01.2 - They are used as the heating source for the hot water delivered to Air-Handling Units "AH-1", "AH-2" & "AH-3"; Unit Heaters "UH-1", "UH-2" & "UH-3"; Duct & VAV Box Coils; Finned-Tube Baseboard Radiation & Convectors.

9.01.3 - Heating Hot Water Boilers "**B-1**" & "**B-2**", both installed in 2002, based on the observed condition - in our judgement - have a projected remaining useful life of 17 years (based on an original life expectancy of [say] 35 years).

- It is estimated that the cost to replace both Heating Hot Water Boilers "**B-1**" & "**B-2**" in their entirety would be (in today's dollars) between **\$ 137,000.00** to **\$ 151,000.00**.

9.02 - Heating Hot Water Boiler (lets call it) "**B-3**", is located in Basement of the School (see **Photo #9-02**).

9.02.1 - It is used as the heating source for the hot water delivered to School's Heating Units, Baseboard Radiation & Convectors.

9.02.2 - Heating Hot Water Boiler "**B-3**", based on the observed condition - in our judgement - has passed its projected useful life of [say] 25 years.

- It is estimated that the cost to replace School House Boiler "**B-3**" would be (in today's dollars) between **\$ 16,200.00** to **\$ 18,000.00**.

9.03 - Combustion Air Intake Dampers "**CAI-1**" & "**CAI-2**", located in Mechanical Room 033 (see **Photo #9-03**) are gravity relief intakes used to supply "fresh" outdoor make-up air to Heating Hot Water Boilers "B-1" & "B-2" for the natural gas products of combustion that are vented out the stack.

9.04 - The related Indoor Stack (see **Photo #9-04**) appears to be intact, however, the Outdoor Stack (see **Photo #9-05**) is probably in need of replacement, both from an aesthetics viewpoint and operation standpoint.

9.04.1 - As such, it is estimated that the cost to replace the Outdoor Stack in its entirety would be (in today's dollars) between **\$ 16,000.00** to **\$ 17,600.00**.

10.00 - DOMESTIC WATER HEATERS (see Photos #10-01 through #10-04) -

10.01 - Water Heaters tagged "**WH-1**" & "**WH-2**" are Lochnivar Model Nos. CNR-250-085-DF9, Serial Nos. ZB279670 & ZB279671, each 85 mbh natural gas input, 82.4 gph at 100° F recovery, 100 gallon storage. In 2002, these were specified as Lochnivar Model Nos. CNA-250-100-DF9, each 250 mbh natural gas input, 242 gph at 100° F recovery, 98 gallon storage.

10.01.1 - These Natural Gas-Fired Domestic Water Heaters are located in Mechanical Room 033 (see **Photo #10-01**), used to generate domestic hot water for the 2002 remodeled facility.

10.01.2 - Domestic Water Heaters "**WH-1**" & "**WH-2**", installed in 2002, based on the observed condition - in our judgement - have a projected remaining useful life of 7 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace both Water Heaters "**WH-1**" & "**WH-2**" in their entirety would be (in today's dollars) between **\$ 16,000.00** to **\$ 17,600.00**.

10.02 - Water Heater (lets call it "**WH-3**") is a Rheem Model No. 21V40-7, Serial No. RHNG-1098A06225, 31 mbh natural gas input, 40 gallon storage.

10.02.1 - This Natural Gas-Fired Domestic Water Heater is located in the School Basement (see **Photo #10-02**), used to generate domestic hot water for portions of the School House.

10.02.2 - Domestic Water Heater "**WH-3**", installed in 1998, based on the observed condition - in our judgement has passed its projected useful life of [say] 25 years.

- It is estimated that the cost to replace Water Heater "**WH-3**" in its entirety would be (in today's dollars) between **\$ 1,200.00** to **\$ 1,300.00**.

10.03 - Water Heater (lets call it "**WH-4**") is an A.O. Smith Model No. GPVL-50-200, Serial No. 182311072 5223, 40 mbh natural gas input, 45 gph at 100° F recovery, 50 gallon storage.

10.03.1 - This Natural Gas-Fired Domestic Water Heater (**see Photo #10-03**) installed in 2018, based on the observed condition - in our judgement - has a projected remaining useful life of 23 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace Water Heater "**WH-4**" in its entirety would be (in today's dollars) between **\$ 1,600.00 to \$ 1,750.00**.

10.04 - Water Heater (lets call it "**WH-5**") is a Richmond Model No.12G50P40E2, Serial No. 12G50P40E2, 40 mbh natural gas input, 50 gallon storage.

10.04.1 - This Natural Gas-Fired Domestic Water Heater is located in the School (**see Photo #10-04**), used to generate domestic hot water for portions of the School House.

10.04.2 - Domestic Water Heater "**WH-5**", installed in 2015, based on the observed condition - in our judgement - have a projected remaining useful life of 20 years (based on an original life expectancy of [say] 25 years).

- It is estimated that the cost to replace Water Heater "**WH-1**" in its entirety would be (in today's dollars) between **\$ 1,600.00 to \$ 1,750.00**.

11.00 - GREASE INTERCEPTOR -

11.01 - Grease Interceptor tagged "**GT-1**" is a Zurn Model No. Z-1173-R *Ejector-Matic*™.

11.01.1 - This Grease Interceptor is located in Associate Pastor 148 ceiling, used to trap & collect grease for the Kitchen 235 plumbing fixtures (3-comp sink, hand sink. floor drains and floor sinks).

11.01.2 - Grease Interceptor "**GT-1**", installed in 2002, based on the observed condition - in our judgement - has a projected remaining useful life of 17 years (based on an original life expectancy of [say] 35 years).

- It is estimated that the cost to replace portions of the Grease Interceptor "**GT-1**" would be (in today's dollars) between **\$ 1,400.00 to \$ 1,500.00**.

12.00 - ELECTRICAL DISTRIBUTION (see Photos 12-01 thru #12-25) -

12.01 - Distribution Panel "DPSL" (**see Photo #12-01**) -

12.01.1 - Panels "MLSA", "MLSB", "ULSA", "ULSB", "Colonial Hall by Kitchen", "LLSA" & "LLSB".

12.02 - Distribution Panel "DPMH" (**see Photo #12-02**) -

12.02.1 - Condensing "CU-1", Air-Handling Unit in Attic "AH-1" & 75 kVA Transformer Feed

12.03 - Distribution Panel "DPSH" (see Photo #12-03) -**12.03.1** - Untagged Breakers.**12.04** - Service Distribution Panel "SDP-BA" 277/480V-3PH, 600A in Electrical Room 019 -.**12.04.1** - Panel "PP-01", Elevator "EV-1" & Transformer "T-B1".**12.05** - Service Distribution Panel "SDP-B1" 120/208V-3PH, 600A (see Photo #12-04) -**12.05.1** - Panels "LP-B1", "LP-B2", "LP-1A", "LP-1B", "LP-1C" & "RP-1B", Boilers "B-1" & "B-2", Sump Pumps "SP-1" & Ejector Pit Pumps "SE-1".**12.06** - Service Distribution Panel "SDP-3A" 120/208V-3PH, 600A (see Photo #12-06) -**12.06.1** - Condensing Unit "CU-3".**12.07** - Power Panel "Pp-1b" -**12.07.1** - Receptacles, Lighting, Outside Irrigation System Timer & Trane VAV Power.**12.08** - Power Panel "PP-B1" - 277/480V-3PH, 225A in Mechanical Room 033 (see Photo #12-07) -**12.08.1** - Air-Handling Units "AH-1" & "AH-2", Condensing Units "CU-1" & "CU-2", Pumps "P-4" & "P-5".**12.09** - Power Panel "PP-3A" 277/480V-3PH, 600A in Storage 304 -**12.09.1** - Roof Top Units "RT-1", "RT-2", "RT-3", "RT-4", "RT-5" & "RT-6", Transformer "T-3A", Air-Handling Unit Supply Fan "AH-3S" & Air-Handling Unit Return Fan "AH-3R".**12.10** - Emergency Panel "EM" (Battery & Exit Lights) 120/208V-1PH, 100A, 20CCT (see Photo #12-08) -**12.10.1** - 1st Floor Offices, 1st Floor School, Main Floor School, Upper Level School & Ministry Building.**12.11** - Kitchen Panel "KP-2A" 120/208V-3PH, 225A in Storage 237 (see Photo #12-09) -**12.11.1** - Kitchen Lights, Storage Rm Lights, Coffee Urn, Kitchen Island Power, Convection Oven, Refrigerator, Fire Suppression System, Braising Pan, Deep Fryers, Fire Alarm Relay, Office Receptacles, Make-up Air, Hood Lights, Dishwasher Exhaust, Hood Fan, Kitchen Receptacles, Ice Maker, Kitchen GFI, Microwave, Disposal & Dishwasher.**12.12** - Panel "DP-1" 120/208V-3PH, 175A in Storage 304 -

12.12.1 - Downlights, Large Pendants, Soffit Lights, Emergency Lights & Exit Signs.

12.13 - Panel "DP-2" 120/208V-3PH, 125A Storage 304 -

12.13.1 - Cylinders & Track Lights.

12.14 - Panel "LLMA" (see Photo #12-10) -

12.14.1 - Lighting Rms M101 & M102, Corridor & Basement, Fire Alarm Panel, Control CCT for "AH-1", Receptacles, Outside Ground Lighting, sub-feed for Panel "ULMA", A/C Unit, Contactor & Timeclock, Refrigerator & Room 101 Wiremold.

12.15 - Panel "LLSA" (see Photo #12-11) -

12.15.1 - Receptacles, Lighting, Room S032 Wiremold, Fire Alarm Box (Rm S017), Fire Alarm Bell & Parking Lot Lighting.

12.16 - Panel "LLSB" (see Photo #12-12) -

12.16.1 - Receptacles, Lighting, Kitchen Dishwasher, Temperature Reducer, Washroom Fan & Timebox, Kitchen Refrigerator, Oven Fan, School Outside Lighting, Hot Water Pump & Temperature Control Panel.

12.17 - Panel "LP-1A" 120/208V-3PH, 225A in Lobby 114 (see Photo #12-13) -

12.17.1 - Receptacles, Lighting, Electric Water Cooler, Outside Mandoor Lights, Outside Pole Lighting, Outside Canopy Lighting, Building Flood Lights, High Flood Lights & Television Outlets.

12.18 - Panel "LP-1B" 120/208V-3PH, 225A in Storage 134 (see Photo #12-14) -

12.18.1 - Receptacles, Lighting & Exhaust Fan "EF-5".

12.19 - Panel "LP-1C" 120/208V-3PH, 225A in Storage 408 -

12.19.1 - Receptacles, Lighting & Exhaust Fan "EF-5".

12.20 - Panel "LP-2A" 120/208V-3PH, 225A - Room Northwest of Sacristy (see Photo #12-15) -

12.20.1 - Receptacles, Lighting, Pump "P-3", Dimming System 120V, NAC Panel, Outside GFI Outlets, Electric Water Coolers & Clock Bells.

12.21 - Panel "LP-2B" 120/208V-3PH, 125A in Stage 232 (see Photo #12-16) -

12.21.1 - Parish Center Receptacles, Stage Receptacles, Stage Lighting, "CL-1", Exhaust Fans "EF-1", "EF-2", "EF-3" & "EF-4" & Electric Shades.

12.22 - Panel "RP-1B" 120/208V-3PH, 125A in Storage 134 (see Photo #12-17) -

12.22.1 - Receptacles, Lighting & NAC.

12.23 - Panel "LP-2C" -

12.23.1 - Unit Heater "EH-1", Air-Handling Unit "AH-4", Condensing Unit "CU-3", Panels "DP-1", "DP-2", "KP-2A" & "LP-2A".

12.24 - Panel "LP-B1" 120/208V-3PH, 225A in Maintenance Shop 025 (see Photo #12-18) -

12.24.1 - Receptacles, Lighting, Bathroom Hand Dryers, Elevator Car Lights & Shunt.

12.25 - Panel "LP-B2" 120/208V-3PH, 225A in Storage 028 (see Photo #12-19) -

12.25.1 - Receptacles, Lighting, Domestic Water Heaters "WH-1" & "WH-2", Sump Pump "SP-1", Recirc Pump "RP-1", Pumps "P-1" & "P-2", Elevator Machine Room Lights, Elevator Cars, Fire Alarm Control Panel, Exhaust Fans "EF-2" & "EF-7", Unit Heaters "UH-1", (2) "UH-2" & "UH-3", Motor Dampers "MD-1" & Sump Pump Battery.

12.26 - Church Lighting Control Panel - Attic (see Photo #12-20) -

12.26.1 - Church Outlets, Control Center, Attic Lights, Exhaust Fan "E-6", Attic GFI, Church Power, Church Fan & Exhaust Equipment Receptacles.

12.27 - Panel by Kitchen (see Photo #12-21) -

12.27.1 - Receptacles & Projectors.

12.28 - Church Lighting Panel (see Photo #12-22) -

12.28.1 - 56 circuits.

12.29 - Labeled Conduits (see Photo #12-23) -

12.29.01 - Acknowledged.

12.30 - Compromised Junction Box (see Photo #12-24) -

12.30.01 - Needs further investigation as to the void that exist, also see Photo #16-03.

12.31 - Uncovered panel (see Photo #12-25) -

12.31.01 - Needs immediate attention.

12.32 - Most of the electrical component's predictable remaining life is "very extended". This includes the Motor Control Centers, Electrical Main Panels, Electrical Sub-Panels, Circuit Breakers, Wiring, Conduit, Switches, Fuse Blocks (Emergency & Exit Signs, plus Alarms) and Transformers.

12.33 - The primary maintenance items are the Testing of the Emergency Alarm Systems , plus Lamp Replacements & Lens Cleanings, followed by the Servicing & Maintenance of Electrical Panels & Motor Control Centers (MCCs).

12.34 - It is suggested that for the replacement of any Circuit Breakers, Wiring, Conduit, Switches, Fuse Blocks, etc., that fail and need to be replaced, an annual budget of \$ 18,000.00 be allowed for those issues.

13.00 - PLUMBING FIXTURES (see Photo #13-01 thru #13.10) -

13.01 - In general, there are 10 basic types of plumbing fixtures used throughout, as follows:

- Bathroom Countertop Lavatory Trim with Sensors (see Photo #13-01).
- Wall Hung Lavatory (see Photo #13-02).
- Wall-Hung Flush Valve Water Closet with Sensor (see Photo #13-03).
- Youth Tank Type Floor Mount Water Closet (see Photo #13-04).
- Youth Flush Valve Water Closet (see Photo #13-05).
- Wall-Hung Flush Valve Water Closet (see Photo #13-06).
- Bathroom Urinals with Sensors (see Photo #13-07).
- Shower (see Photo #13-08).
- High-Low Electric Water Coolers (see Photo #13-09).
- Mop Sink (see Photo #13-10).

13.01.1 - There are no suggestions on replacements or replacement costs.

14.00 - FIRE SUPPRESSION (see Photo #14-01 thru #13-05) -

14.01 - A Double-Detector Valve Assembly (**see Photo #14-01**) is used to prevent backflow from being pumped or siphoned into the potable water supply.

14.01.1 - There are no suggestions on replacements or replacement costs.

14.02 - The Fire Suppression System Backflow Preventer (**see Photo #14-02**) keeps the facility's fire suppression water system from flowing back into the Glen Ellyn municipal water line.

14.02.1 - There are no suggestions on replacements or replacement costs.

14.03 - Fire Suppression System Hose Standpipe & Sprinkler Valve Assemblies (**see Photo #14-03**) connects the fire suppression system water supply to hose connections for used by Fire Fighters.

14.03.1 - There are no suggestions on replacements or replacement costs.

14.04 - Kitchen Grease Hood Fire Suppression System (**see Photo #14-04**) uses wet chemicals, discharging them through nozzles (**see Photo #14-05**) directly over the source of any uncontrolled fire within the Kitchen Grease Hood.

14.04.1 - There are no suggestions on replacements or replacement costs, however, we trust that an outside vendor is contracted for testing, service & repairs.

15.00 - KITCHEN PLUMBING EQUIPMENT (see Photo #15-01 thru # 15-03) -

15.01 - The Kitchen Hand Sink (**see Photo #15-01**) is located for convenient place and is use by employees who work in food preparation, food dispensing, and warewashing areas.

15.01.1 - There are no suggestions on replacements or replacement costs.

15.02 - A Kitchen Single-Compartment Sink with Disposal (**see Photo #15-02**) is used for food preparation and is not to be used for hand washing, utensil washing, the disposal of mop water or other wastes.

15.02.1 - There are no suggestions on replacements or replacement costs.

15.03 - A Kitchen Three-Compartment Sink (**see Photo #15-03**) is where pots, pans and utensils are typically washed manually. The first compartment is for pre-soaking, the second compartment is for washing and the third compartment is for sanitizing.

15.03.1 - There are no suggestions on replacements or replacement costs.

16.00 - MISCELLANEOUS CONCERNS (see Photo #16-01 thru # 16-05) -

16.01 - One example of Bad Piping in Pool Area (see Photo #16-01).

16.02 - Another example of a Bad Piping Situation in Pool Area (see Photo #16-02).

16.03 - Leakage at Water Service Penetrations (see Photo #16-03).

16.04 - An example of a Soiled Ceiling Panel (see Photo #16-04).

16.05 - An example of a Soiled Return Air Grille (see Photo #16-05).

16.06 - Each of the preceding, in most cases are only examples, yet all will require service and/or investigation.

17.00 - SUMMARY OF REPLACE COSTS (TODAY'S DOLLARS) & SCHEDULE (YEAR TO BE CONSIDERED) -

17.01 - AIR-HANDLING & CONDENSING UNITS -

| | Cost Range | Year |
|------------------------------------------|------------------------------|--------|
| - Air-Handling Unit "AH-1" | \$ 36,000.00 to \$ 39,600.00 | 2029 |
| - Air-Cooled Condensing Unit "CU-1" | \$ 16,400.00 to \$ 18,100.00 | 2022 |
| - Air-Handling Unit "AH-2" | \$ 9,000.00 to \$ 9,900.00 | 2027 |
| - Air-Cooled Condensing Unit "CU-2" | \$ 4,300.00 to \$ 4,700.00 | 2022 |
| - Air-Handling Unit "AH-3" | \$ 5,000.00 to \$ 5,500.00 | 2027 |
| - Air-Handling Unit "AH-4" | \$ 4,100.00 to \$ 4,500.00 | 2022 |
| - Air-Cooled Condensing Unit "CU-3" | \$ 3,700.00 to \$ 4,100.00 | 2022 |
| - Church Air-Handling Unit "AH" | \$ 14,800.00 to \$ 16,200.00 | 2022 |
| - Church Air-Cooled Condensing Unit "CU" | \$ 13,000.00 to \$ 14,300.00 | 2022 |
| - School Air-Handling Unit "AH" | \$ 11,200.00 to \$ 12,300.00 | 2020 |
| - School Air-Cooled Condensing Unit "CU" | \$ 9,100.00 to \$ 10,000.00 | 2020 |
| - Window Air-Conditioning Units | \$ 12,000.00 to \$ 13,200.00 | Annual |

17.02 - ROOF-TOP HVAC UNITS -

| | Cost Range | Year |
|---------------------------------------|------------------------------|------|
| - Roof-Top Unit "RT-1" | \$ 30,000.00 to \$ 33,000.00 | 2027 |
| - Roof-Top Unit "RT-2" | \$ 10,000.00 to \$ 11,000.00 | 2027 |
| - Roof-Top Unit "RT-3" | \$ 15,000.00 to \$ 16,500.00 | 2027 |
| - Roof-Top Unit "RT-4" | \$ 61,200.00 to \$ 67,400.00 | 2027 |
| - Roof-Top Unit "RT-5" | \$ 61,200.00 to \$ 67,400.00 | 2027 |
| - Roof-Top Unit "RT-6" | \$ 11,500.00 to \$ 12,600.00 | 2027 |
| - School Roof-Top Unit "RT" | \$ 38,200.00 to \$ 42,000.00 | 2020 |
| - Kitchen Hood Make-Up Air Unit "MUA" | \$ 12,800.00 to \$ 14,100.00 | 2027 |

CAPITAL RESERVE STUDY

HVAC, P, E & FS

SAINT PETRONILLE PARISH

17.03 - EXHAUST AIR FANS -

| | Cost Range | Year |
|-------------------------------------------------------|----------------------------|------|
| - Exhaust Air Fan "EF-1" | \$ 2,700.00 to \$ 2,970.00 | 2022 |
| - Exhaust Air Fan "EF-2" | \$ 2,500.00 to \$ 2,750.00 | 2027 |
| - Exhaust Air Fan "EF-3" | \$ 1,600.00 to \$ 1,750.00 | 2027 |
| - Exhaust Air Fan "EF-4" | \$ 1,500.00 to \$ 1,650.00 | 2027 |
| - Exhaust Air Fan "EF-5" | \$ 650.00 to \$ 710.00 | 2022 |
| - Exhaust Air Fan "EF-7" | \$ 650.00 to \$ 710.00 | 2020 |
| - Exhaust Air Fan "EF-9" | \$ 800.00 to \$ 880.00 | 2020 |
| - Kitchen Dishwasher Exhauster "DWE-1" | \$ 3,100.00 to \$ 3,400.00 | 2022 |
| - Kitchen Grease Hood Exhauster "HE-1" | \$ 4,200.00 to \$ 4,600.00 | 2022 |
| - School Basement located In-Line Exhaust Fan "EF-15" | \$ 2,700.00 to \$ 3,000.00 | 2027 |
| - School Attic located In-Line Exhaust Fan "EF" | \$ 2,900.00 to \$ 3,200.00 | 2027 |

17.04 - UNIT HEATERS -

| | Cost Range | Year |
|----------------------------------------|----------------------------|------|
| - Electric Unit Heater "UH-5" ("EH-1") | \$ 4,400.00 to \$ 4,800.00 | 2025 |
| - Hot Water Unit Heater "UH-1" | \$ 2,100.00 to \$ 2,300.00 | 2022 |
| - Both Hot Water Unit Heaters "UH-2" | \$ 6,000.00 to \$ 6,600.00 | 2022 |
| - Hot Water Unit Heaters "UH-3" | \$ 3,350.00 to \$ 3,700.00 | 2022 |
| - Steam Unit Heater "SUH" | \$ 2,900.00 to \$ 3,200.00 | 2020 |

17.05 - PUMPS -

| | Cost Range | Year |
|-----------------------------------------------------|----------------------------|------|
| - Sewage Ejector Pumps "SE-1" | \$ 3,100.00 to \$ 3,400.00 | 2022 |
| - Sump Pump "SP-1" | \$ 600.00 to \$ 660.00 | 2022 |
| - Sump Pump "SP-2" | \$ 800.00 to \$ 880.00 | 2022 |
| - Domestic Water Circulating Pump "P-1" | \$ 500.00 to \$ 550.00 | 2022 |
| - Coil Circulation In-Line Pump "P-1" | \$ 750.00 to \$ 820.00 | 2022 |
| - Air-Handler Circulation In-Line Pump "P-2" | \$ 600.00 to \$ 660.00 | 2022 |
| - Coil Circulation In-Line Pump "P-3" | \$ 1,000.00 to \$ 1,100.00 | 2022 |
| - Main Circulation Base-Mounted Pumps "P-4" & "P-5" | \$ 9,000.00 to \$ 9,900.00 | 2032 |
| - Sewage Ejector Pumps "SE " | \$ 4,200.00 to \$ 4,600.00 | 2020 |

17.06 - VAV BOXES -

| | Cost Range | Year |
|-------------------------------|------------------------------|------|
| - VAV Boxes "V-1" thru "V-24" | \$ 24,000.00 to \$ 26,400.00 | 2027 |

17.07 - BASEBOARD RADIATION -

| | Cost | Year |
|-----------------------------------|-------------|--------|
| - Finned-Tube Baseboard Radiation | \$ 4,500.00 | Annual |

CAPITAL RESERVE STUDY**HVAC, P, E & FS****SAINT PETRONILLE PARISH****17.08 - CONVECTORS -**

Cost Year

- Heating Hot Water Convector **\$ 4,000.00** Annual

17.09 - BOILERS -

Cost Range Year

- Heating Hot Water Boilers "B-1" & "B-2" **\$ 137,000.00 to \$ 151,000.00** 2037
- School House Boiler "B-3" **\$ 16,200.00 to \$ 18,000.00** 2020
- Outdoor Stack **\$ 16,000.00 to \$ 17,600.00** 2020

17.10 - DOMESTIC WATER HEATERS -

Cost Range Year

- Domestic Water Heaters "WH-1" & "WH-2" **\$ 16,000.00 to \$ 17,600.00.** 2027
- Domestic Water Heater "WH-3" **\$ 1,200.00 to \$ 1,300.00** 2020
- Domestic Water Heater "WH-4" **\$ 1,600.00 to \$ 1,750.00** 2043
- Domestic Water Heater "WH-5" **\$ 1,600.00 to \$ 1,750.00** 2040

17.11 - GREASE INTERCEPTOR -

Cost Range Year

- Grease Interceptor "GT-1" **\$ 1,400.00 to \$ 1,500.00** 2037

17.12 - ELECTRICAL DISTRIBUTION -

Cost Year

- Power & Lighting Panel & other Electrical Components **\$ 18,000.00** annual

18.01 - QUALIFICATIONS -

18.01 - It is suggested that Item 12.31 along with the Miscellaneous Concerns listed under Items 16.00 be addressed immediately and that the Equipment listed under Summary Items 17.00 with the year 2020 noted, be entertained to be replaced within this upcoming year.

18.02 - It is understood that and/or see no evidence that any of the installed Common Area Mechanical, Electrical, Plumbing or Fire Suppression systems are inadequate in capacity.

18.03 - Even though the Mechanical, Electrical, Plumbing or Fire Suppression systems and equipment they appear to be in relatively good condition; eventually will wear and erode becoming unstable or unusable. Proper maintenance and repair can increase the original useful life of equipment. On the other hand, the original useful life of equipment can be decreased by improper maintenance and lack of repair.

18.04 - Replacement cost, for certain mechanical items/cases, only includes portions of system (i.e.; mechanical-related equipment) and not structural, architectural or electrical related items.

18.05 - In regard to the Electrical - Lamp Replacements is required, as is Lens Cleanings, Servicing & Maintenance of Panels; along with a program/agreement for Exit & Emergency Light Maintenance & Testing; along with similar work related to Smoke Detectors and other Alarm Devices. Those costs are not presented in this Report.

18.06 - Installed Costs, in most cases, do not reflect certain devices and system support equipment such as housekeeping pads, electric feeds, hangers & supports, controls, etc.; in that the replacement of the equipment may not need to include replacement of those supporting item.

19.00 - IN CLOSING -

19.01 - This Mechanical/Electrical/Plumbing/Fire Suppression Reserve Study provides capital reserve funding recommendations to the Saint Petronille Parish based on projected expenditures and on site evaluation of equipment (as described herein).

19.02 - This Mechanical/Electrical/Plumbing/Fire Suppression Reserve Study anticipates and allows the Saint Petronille Parish to prepare for major replacement expenses to ensure the timely replacement of listed major common area components.

19.03 - This Mechanical/Electrical/Plumbing/Fire Suppression Reserve Study was created to provide the Saint Petronille Parish with accurate and authoritative information in regard to the estimated useful life of the systems and components listed. It is intended that this information be reviewed by the Saint Petronille Parish. Any modifications or additions to this Reserve Study should be highlighted, and discussed with, the Sunnyside Design Group and Kellermeyer Godfryt Hart.

*** * END OF CAPITAL ASSETS RESERVE STUDY * ***



SAINT PETRONILLE PARISH - PHOTO #1-01

AIR-HANDLING UNIT "AH-1"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #1-02

AIR-COOLED CONDENSING UNIT "CU-1"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #1-03

AIR-HANDLING UNIT "AH-2"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #1-04

AIR-COOLED CONDENSING UNIT "CU-2"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #1-05

AIR-HANDLING UNIT "AH-3"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #1-06

AIR-CONDITIONER "AH-4"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #1-07

AIR-COOLED CONDENSING UNIT "CU-3"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #1-08

AIR-HANDLING UNIT "AH-3"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #1-09

AIR-COOLED CONDENSING UNIT

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #1-10

SCHOOL AIR-HANDLING UNIT

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #1-11

AIR-COOLED CONDENSING UNIT "CU"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #1-12

WINDOW AIR-CONDITIONER

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #1-13

TYPICAL CLASSROOM WINDOW AIR-CONDITIONER

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #2-01

ROOF-TOP HVAC UNIT "RT-1"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #2-02

ROOF-TOP HVAC UNIT "RT-2"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #2-03

ROOF-TOP HVAC UNIT "RT-3"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #2-04

ROOF-TOP HVAC UNIT "RT-4"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #2-05

ROOF-TOP HVAC UNIT "RT-4" DAMAGED CONDENSER COIL

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #2-06

ROOF-TOP HVAC UNIT "RT-5"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #2-07

ROOF-TOP HVAC UNIT "RT-6"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #2-08

ROOF-TOP HVAC UNIT "RT-6" DAMAGED CONDENSER COIL

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #2-09

GRADE SCHOOL ROOF-TOP HVAC UNIT

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #2-10

KITCHEN GREASE HOOD MAKE-UP AIR UNIT

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #3-01

ROOF EXHAUSTER "EF-1"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #3-02

EXHAUST AIR FAN "EF-2"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #3-03

EXHAUST AIR FAN "EF-5"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #3-04

KITCHEN DISHWASHER EXHAUST AIR FAN

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #3-05

KITCHEN DISHWASHER HOOD

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #3-06

KITCHEN GREASE HOOD EXHAUST AIR FAN

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #3-07

KITCHEN GREASE HOOD

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #3-08

SCHOOL EXHAUST AIR FAN "EF-15"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #3-09

SCHOOL "ATTIC" EXHAUST AIR FAN

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #4-01

ELECTRIC UNIT HEATER "UH-5" ("EH-1")

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #4-02

HOT WATER UNIT HEATER "UH-1"

TAKEN 11 SEP 2019



SAINT PETRONILE PARISH - PHOTO #4-03

SUSPENDED UNIT HEATER "UH-2"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #4-04

STEAM UNIT HEATER

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #5-01

SEWAGE EJECTOR

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #5-02

SUMP PUMP

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #5-03

HEATING HOT WATER PUMPS "P-4" & "P-5"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #5-04

EXPANSION TANKS

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #5-05

EXPANSION TANK (SCHOOL)

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #5-06

SEWAGE EJECTOR

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #7-01

BASEBOARD RADIATION

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #7-02

BASEBOARD RADIATION

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #8-01

CABINET HEATER (BOTTOM OPEN ON CARPETED FLOOR)

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #8-02

CABINET HEATER (INTEGRAL GRILLE DOWN TO FLOOR)

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #8-03

CABINET HEATER (BOTTOM OPEN & ELEVATED)

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #8-04

CABINET HEATER (BOTTOM OPEN ON TILE FLOOR)

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #9-01

SPACE HEATING BOILERS "B-1" & "B-2"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #9-02

SCHOOL HOUSE SPACE HEATING BOILER

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #9-03

COMBUSTION AIR INTAKES "CAI-1" & "CAI-2"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #9-04

BOILER STACK (INDOORS)

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #9-05

BOILER STACK (OUTDOORS)

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #10-01

DOMESTIC WATER HEATERS

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #10-02

SCHOOL DOMESTIC WATER HEATER

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #10-03

DOMESTIC WATER HEATER

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #10-04

DOMESTIC WATER HEATER

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-01

PANEL "DPLS"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-02

PANEL "DPMH"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-03

PANEL "DPSH"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-04

PANEL "SDP-B1"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-05

PANEL "SDP-3A"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-06

PANEL "PP-B1"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-07

PANEL "PP-3A"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-08

PANEL "EM"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-09

PANEL "KP-2A"

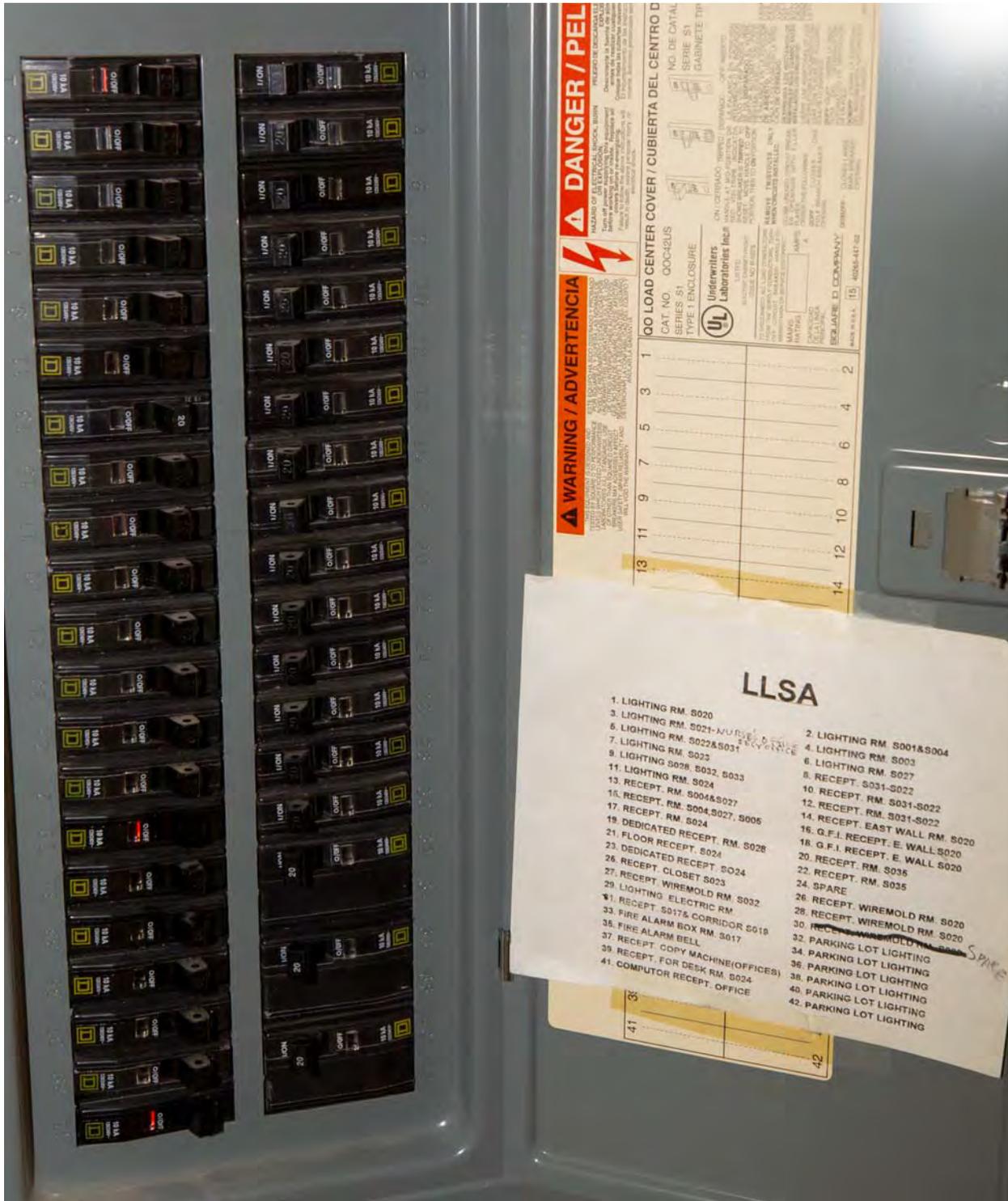
TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-10

PANEL "LLMA"

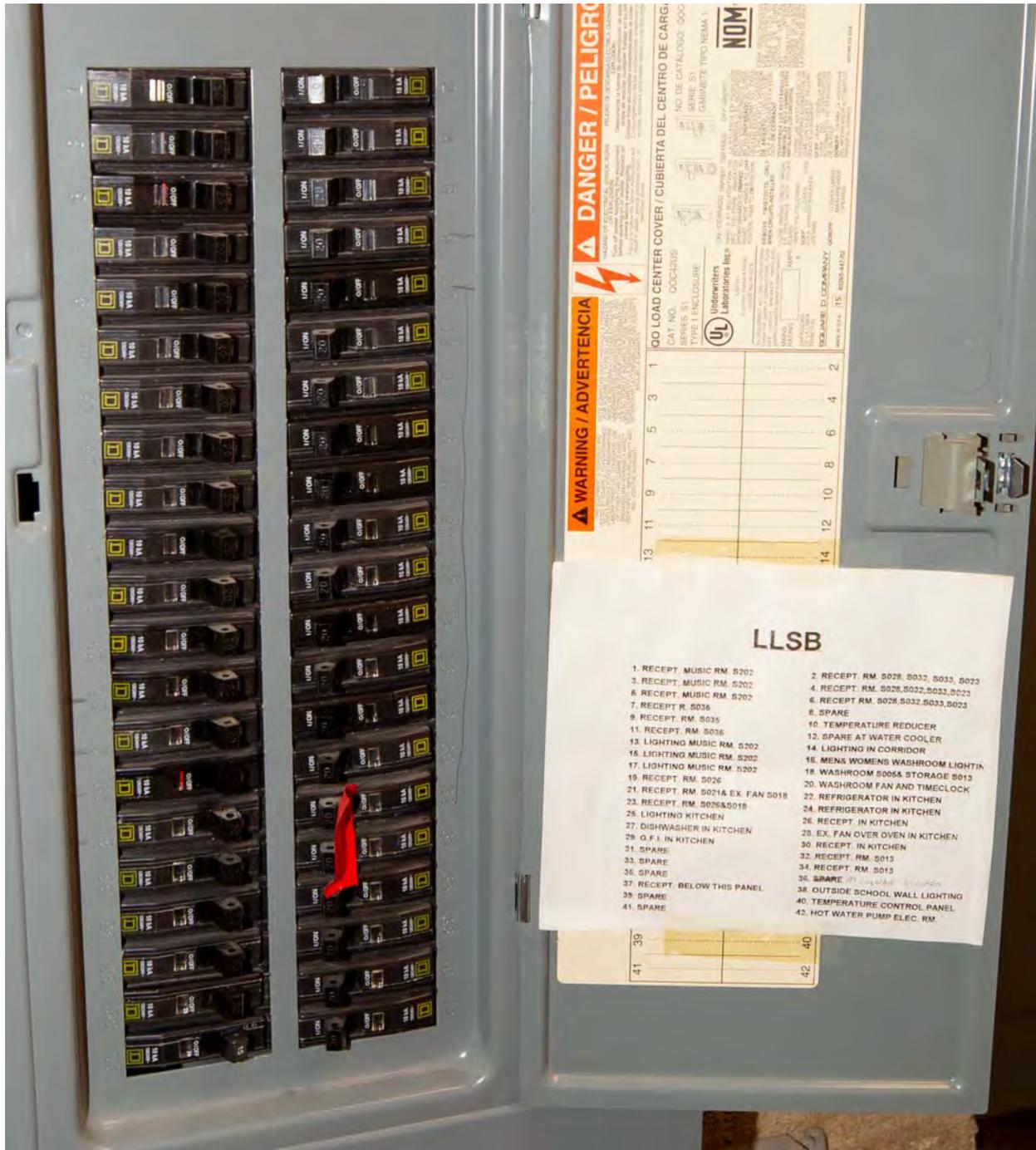
TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-11

PANEL "LLSA"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-12

PANEL "LLSB"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-13

PANEL "LP-1A"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-15

PANEL "LP-2A"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-16

PANEL "LP-2B"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-17

PANEL "RP-1B"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-18

PANEL "LP-B1"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-19

PANEL "LP-B2"

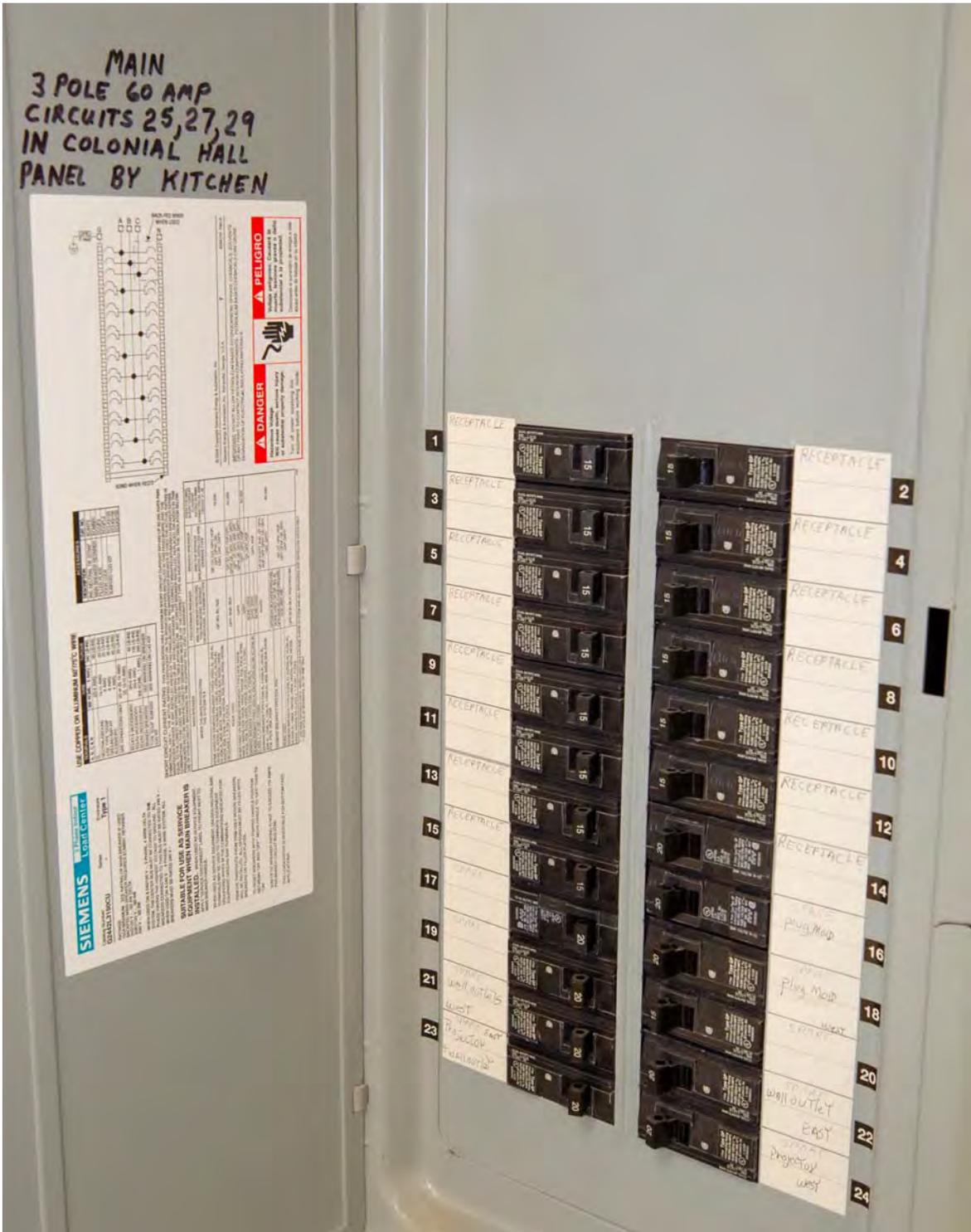
TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-20

PANEL "ATTIC"

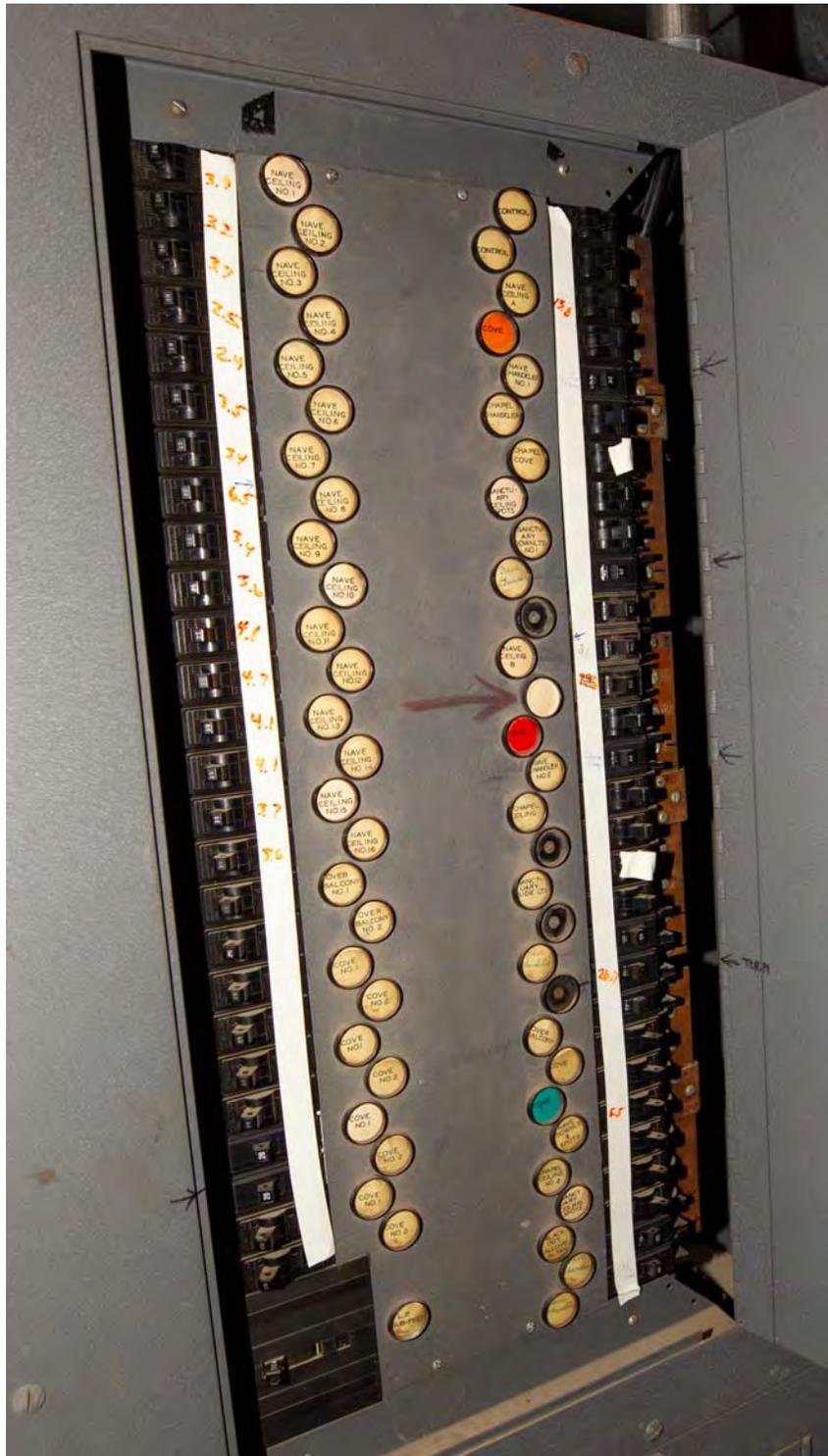
TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-21

PANEL "COLONIAL HALL BY KITCHEN"

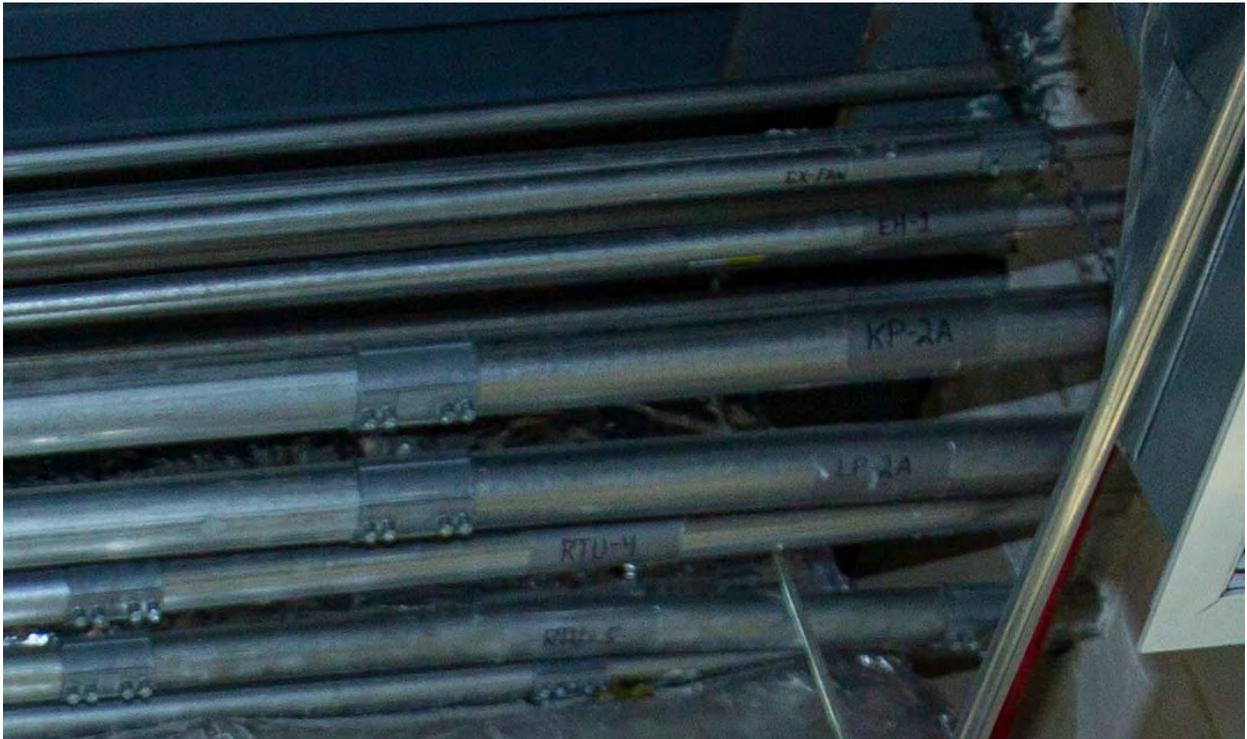
TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-22

PANEL "CHURCH"

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-23

LABELED CONCUITS

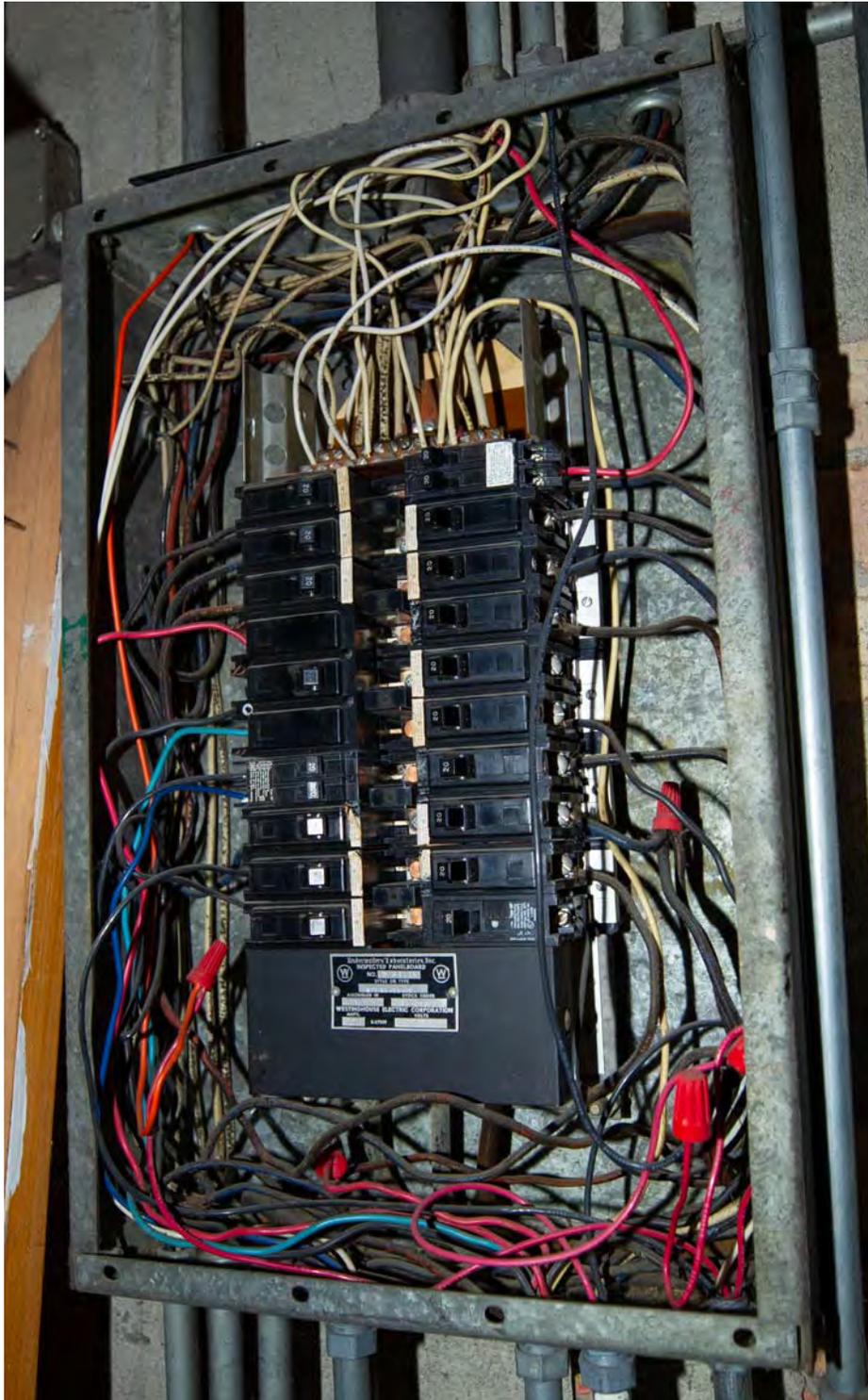
TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-24

COMPROMISED JUNCTION BOX

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #12-25

UNCOVERED ELECTRICAL PANEL

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #13-01

BATHROOM COUNTERTOP LAVATORY TRIM WITH SENSORS

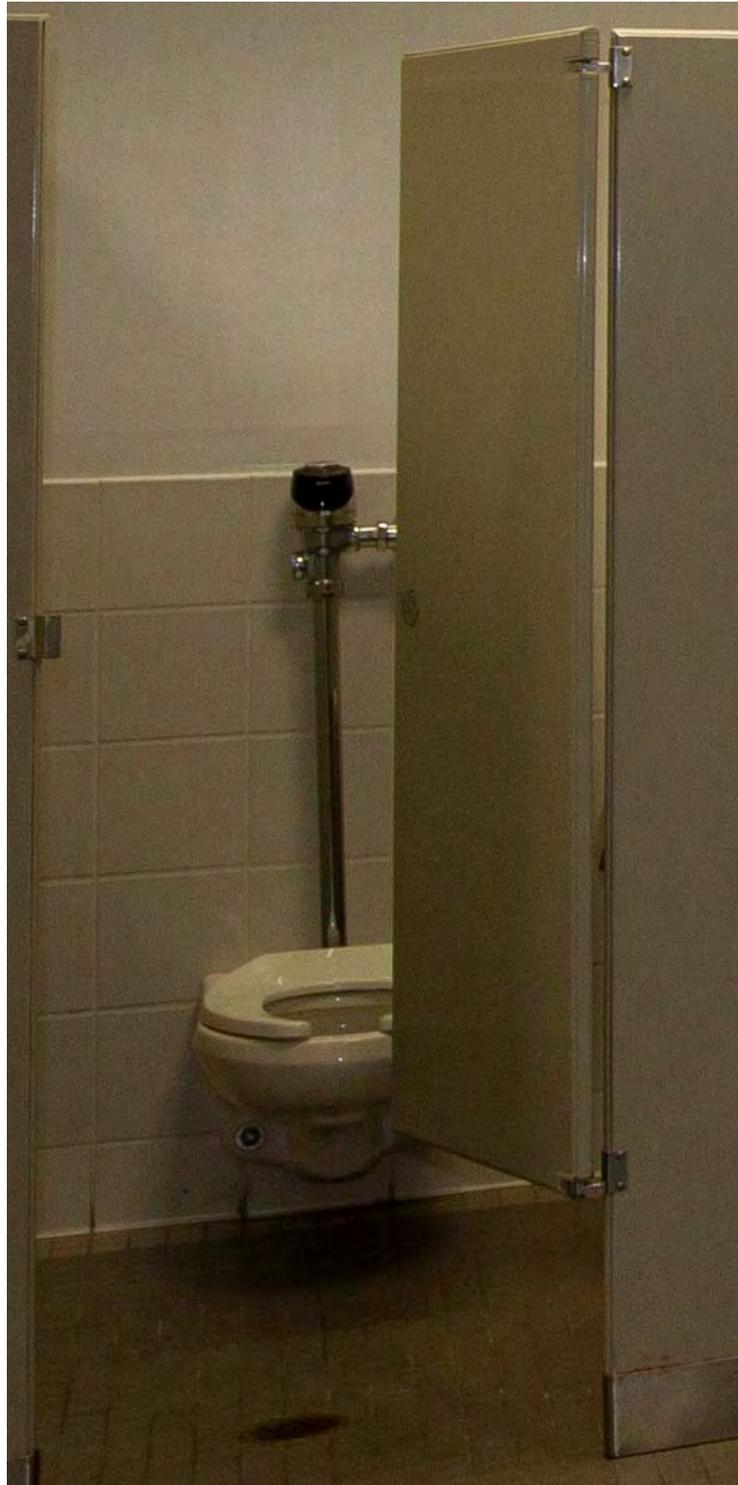
TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #13-02

WALL HUNG LAVATORY

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #13-03

WALL-HUNG FLUSH VALVE WATER CLOSET WITH SENSOR

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #13-04

YOUTH TANK TYPE FLOOR-MOUNT

WATER CLOSET TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #13-05

YOUTH FLOOR MOUNT VALVE WATER CLOSET

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #13-06

WALL-HUNG FLUSH VALVE WATER CLOSET (POOL AREA)

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #13-07

BATHROOM URINALS WITH SENSORS

TAKEN 11 SEP 2019



SAINT PETRONILE PARISH - PHOTO #13-08

SHOWER (POOL AREA)

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #13-09

HIGH-LOW ELECTRIC WATER COOLERS

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #13-10

FLOOR MOUNT MOP SINK (SCHOOL)

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #14-01

DOUBLE-DETECTOR VALVE ASSEMBLY

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #14-02

FIRE SUPPRESSION SYSTEM BACKFLOW PREVENTER

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #14-03

FIRE SUPPRESSION SYSTEM HOSE STANDPIPE & SPRINKLER VALVE ASSEMBLY

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #14-04

KITCHEN GREASE HOOD FIRE SUPPRESSION SYSTEM

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #14-05

KITCHEN GREASE HOOD FIRE SUPPRESSION NOZZLES

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #15-01

KITCHEN HAND SINK

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #15-02

KITCHEN SINGLE-COMPARTMENT SINK W/ DISPOSAL

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #15-03

KITCHEN THREE-COMPARTMENT SINK

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #16-01

AN EXAMPLE OF BAD PIPING (IN POOL AREA)

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #16-02

ANOTHER EXAMPLE OF A BAD PIPING SITUATION (IN POOL AREA)

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #13-03

LEAKAGE AT WATER SERVICE PENETRATIONS

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #16-04

AN EXAMPLE OF A SOILED CEILING PANEL

TAKEN 11 SEP 2019



SAINT PETRONILLE PARISH - PHOTO #16-05

AN EXAMPLE OF A SOILED RETURN AIR GRILLE

TAKEN 11 SEP 2019

APPENDIX B

SAINT PETRONILLE PARISH
 420 Glenwood Lane
 Glenn Ellyn, Illinois 60137
 KGH NO. 19-11-454
RESERVE STUDY FUNDING - TABLE OF VALUES

| DESCRIPTION | Notes | ANNUAL REPAIR, REPLACEMENT, MAINTENANCE COSTS (IN 2019 DOLLARS) OVER THE NEXT 5 YEARS | | | | | | | |
|------------------------------------------------------|-------|---------------------------------------------------------------------------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|------------------------|
| | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 5 YEAR TOTAL |
| EXTERIOR BUILDING CONDITIONS | | | | | | | | | |
| Exterior Structural Concrete | | | \$ 7,500.00 | \$ 35,000.00 | \$ 2,500.00 | \$ 5,500.00 | | \$ 15,000.00 | \$ 65,500.00 |
| Exterior Masonry | | \$ 6,500.00 | \$ 97,000.00 | \$ 35,000.00 | \$ 15,000.00 | \$ 90,000.00 | \$ 207,500.00 | \$ 482,000.00 | \$ 933,000.00 |
| Exterior Window and Door Systems | | | \$ 200,000.00 | | | \$ 10,000.00 | \$ 15,000.00 | \$ 56,500.00 | \$ 281,500.00 |
| Exterior Wood and Decorative Elements | | | \$ 37,500.00 | | \$ 95,000.00 | | | \$ 13,000.00 | \$ 145,500.00 |
| Exterior Roof Membrane Systems | | | \$ 88,000.00 | \$ 25,000.00 | \$ 27,500.00 | \$ 225,000.00 | \$ 75,000.00 | \$ 63,500.00 | \$ 504,000.00 |
| Exterior Exposed Architectural and Structural Metals | | | \$ 65,000.00 | | | | | \$ 14,000.00 | \$ 79,000.00 |
| Site Landscaping, Driveways, Parking and Walkways | | \$ 2,000.00 | \$ 7,500.00 | | | | | | \$ 9,500.00 |
| SUBTOTAL | | \$ 8,500.00 | \$ 502,500.00 | \$ 95,000.00 | \$ 140,000.00 | \$ 330,500.00 | \$ 297,500.00 | \$ 644,000.00 | \$ 2,018,000.00 |

| | | | | | | | | | |
|------------------------------------------------------------------------------|--|---------------------|---------------------|----------------------|---------------------|--------------------|--------------------|---------------------|----------------------|
| INTERIOR BUILDING CONDITIONS | | | | | | | | | |
| Interior Church Conditions | | | \$ 50,000.00 | \$ 180,000.00 | | | \$ 2,500.00 | \$ 6,500.00 | |
| Interior Mary Chapel Conditions | | | | \$ 2,500.00 | | | \$ 1,500.00 | \$ 2,500.00 | \$ 6,500.00 |
| Interior Gymnasium Conditions | | \$ 80,000.00 | | | | | | \$ 15,000.00 | \$ 95,000.00 |
| Interior Pool Conditions (not included - not in use) | | na | na | na | na | na | na | na | \$ - |
| Interior Lunchroom Conditions | | | \$ 25,000.00 | | | | | \$ 2,500.00 | \$ 27,500.00 |
| Interior Parish Life Center | | | | | | | | | |
| Interior Parish Offices | | | | | | | | | |
| Interior School Conditions | | | | \$ 5,000.00 | \$ 30,000.00 | | | \$ 7,500.00 | \$ 42,500.00 |
| Interior Kindergarten / Library Conditions | | | | | | \$ 4,000.00 | | | \$ 4,000.00 |
| Interior Kindergarten Walkway Conditions | | | \$ 500.00 | | | | | | \$ 500.00 |
| Interior Elevator Conditions (not included - see existing Service Agreement) | | na | na | na | na | na | na | na | \$ - |
| SUBTOTAL | | \$ 80,000.00 | \$ 75,500.00 | \$ 187,500.00 | \$ 30,000.00 | \$ 4,000.00 | \$ 4,000.00 | \$ 34,000.00 | \$ 176,000.00 |

APPENDIX C



Church Overall



Church Overall



Church Overall



Church Overall



School Overall



School Overall



School Connection Overall



Kindergarten Overall



Chapel - Interior



Chapel - Window



Chapel - Stairs



Chapel - Bathroom



Chapel - Window



Chapel - Window



Chapel - Interior



Chapel - Interior



Church Attic Crawl Space



Church Attic Crawl Space



Church Attic Crawl Space



Church Attic Crawl Space



Church Attic Crawl Space



Church Attic Crawl Space



Church Attic Crawl Space



Church Attic Crawl Space



Church Attic Crawl Space



Church Attic Crawl Space



Church Attic Crawl Space



Church Attic Crawl Space



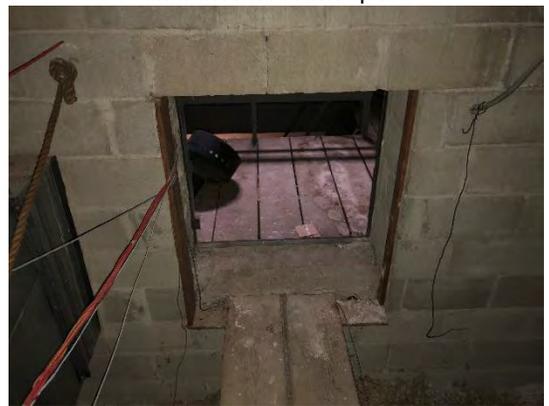
Church Attic Crawl Space



Church Attic Crawl Space



Church Attic Crawl Space



Church Attic Crawl Space

St. Petronille Glen Ellyn, IL

Interior – Church Attic Main Floor



Church Attic Main Floor



Church Attic Main Floor



Church Attic Main Floor



Church Attic Main Floor



Church Attic Main Floor



Church Attic Main Floor



Church Attic Main Floor



Church Attic Main Floor



Church Attic Storage



Church Attic Storage – CMU Staining



Church Attic Storage – CMU Cracking



Church Attic Storage



Church Attic Storage



Church Attic Storage



Church Attic Storage



Church Attic Storage – Drywall Damage



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower



Church Bell Tower Access Hatch



Church Bell Tower Access Hatch



Church Bell Tower Access Hatch



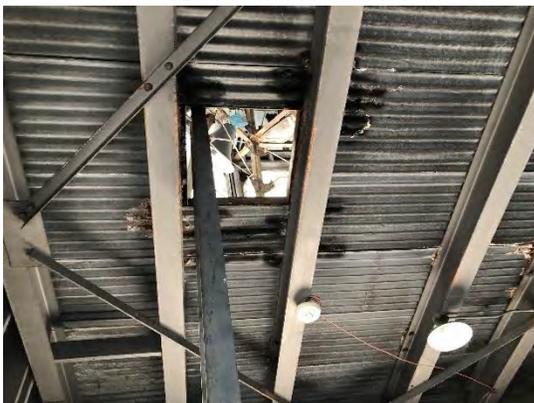
Church Bell Tower Access Hatch



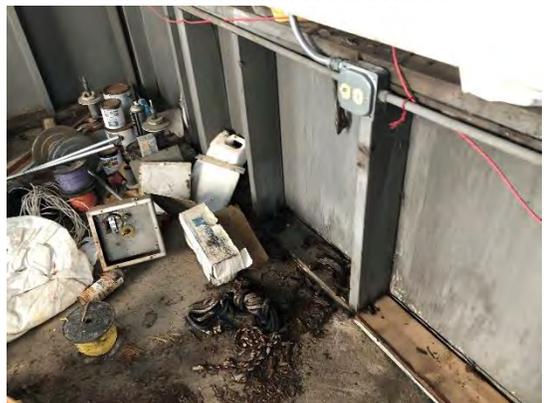
Church Bell Tower Access Hatch



Church Bell Tower Access Hatch



Church Bell Tower Access Hatch



Church Bell Tower Access Hatch



Church Bell Tower Access Hatch



Church Bell Tower Access Hatch



Church Bell Tower Access Hatch



Church Bell Tower Access Hatch



Church Bell Tower Access Hatch



Church Bell Tower Access Hatch



Church Bell Tower Access Hatch



Church Bell Tower Access Hatch



Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



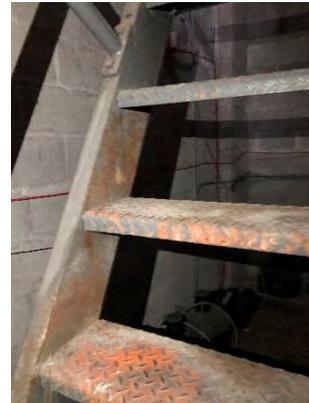
Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



Church Crawl Space Access Hatch



Church Entrance



Church Entrance



Church Entrance



Church Entrance



Church Entrance



Church Entrance



Church Entrance



Church Entrance



Church Entrance



Church Entrance



Church Entrance



Church Entrance



Church Entrance



Church Entrance



Church Entrance



Church Entrance Bathroom



Church Entrance Bathroom



Church Entrance Bathroom



Church Entrance Bathroom



Church Entrance Bathroom



Church Organ Room



Church Organ Room



Church Organ Room



Church Organ Room



Church Organ Room



Church Organ Room



Church Entrance Roof Overhang



Church Entrance Roof Overhang



Church Entrance Roof Overhang



Church Entrance Roof Overhang



Church Entrance Roof Overhang



Church Entrance Roof Overhang



Church Entrance Roof Overhang



Church Entrance Roof Overhang



Gathering Room



Gathering Room



Gathering Room



Gathering Room



Gathering Room – Ceiling Tile Staining



Gathering Room



Gathering Room



Gathering Room

St. Petronille Glen Ellyn, IL

Interior – Gathering Room Entrance



Gathering Room Bathroom



Gathering Room Bathroom



Gathering Room Bathroom



Gathering Room Bathroom



Gathering Room Bathroom

St. Petronille Glen Ellyn, IL

Interior – Gathering Room Entrance



Gathering Room Entrance



Gathering Room Entrance



Gathering Room Entrance



Gathering Room Entrance



Gathering Room Entrance



Gathering Room Entrance



Gathering Room Entrance



Gathering Room Entrance

St. Petronille Glen Ellyn, IL

Interior – Sanctuary



Sanctuary



Sanctuary



Sanctuary



Sanctuary



Sanctuary



Sanctuary



Sanctuary



Sanctuary

St. Petronille Glen Ellyn, IL

Interior – Sanctuary



Sanctuary



Sanctuary



Sanctuary



Sanctuary



Sanctuary



Sanctuary



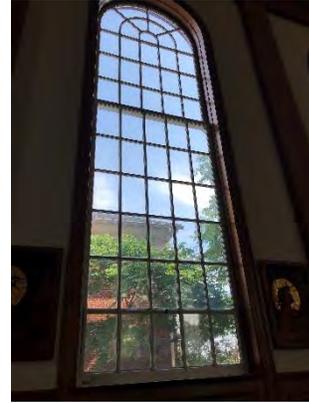
Sanctuary



Sanctuary



Sanctuary



Sanctuary



Sanctuary



Sanctuary



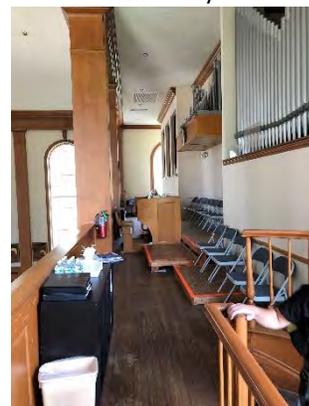
Sanctuary



Sanctuary



Sanctuary



Sanctuary

St. Petronille Glen Ellyn, IL

Interior – Sanctuary



Sanctuary



Sanctuary



Sanctuary



Sanctuary



Sanctuary



Sanctuary – Window Peeling Paint



Sanctuary – Window Peeling Paint



Sanctuary



Sanctuary – Window Peeling Paint



Sanctuary – Stone Crack



Sanctuary – Window Peeling Paint



Sanctuary – Window Peeling Paint



Sanctuary – Window Peeling Paint



Sanctuary



Sanctuary



Sanctuary



Mary Chapel



Mary Chapel



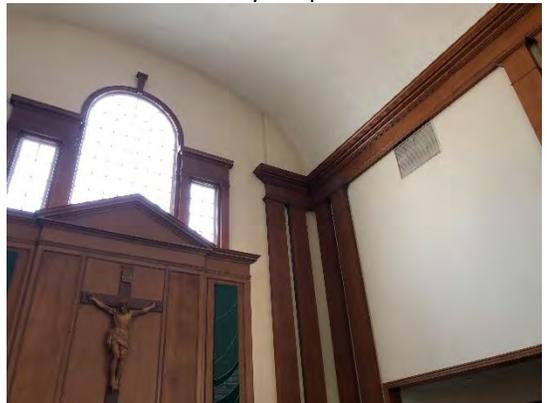
Mary Chapel



Mary Chapel



Mary Chapel



Mary Chapel



Music Room



Music Room



Music Room



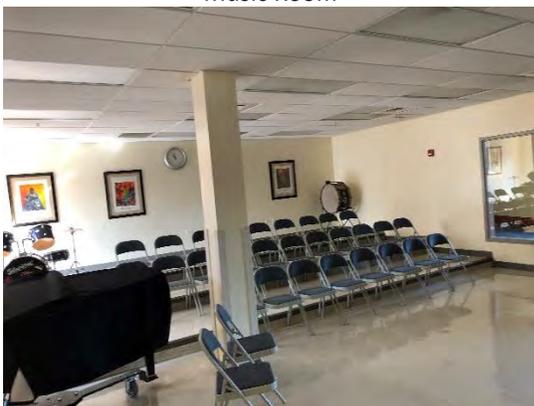
Music Room



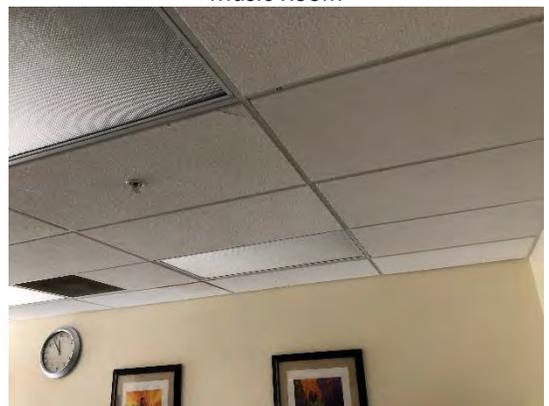
Music Room



Music Room



Music Room



Music Room



Niche



Niche



Niche



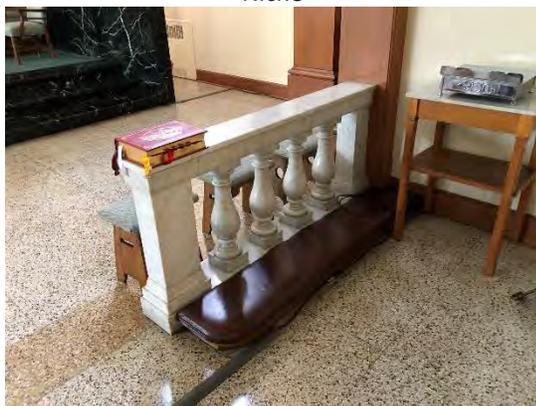
Niche



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Niche



Niche Bathroom



Niche Bathroom



Niche Bathroom



Niche Bathroom



Niche Passage



Niche Passage



Niche Passage



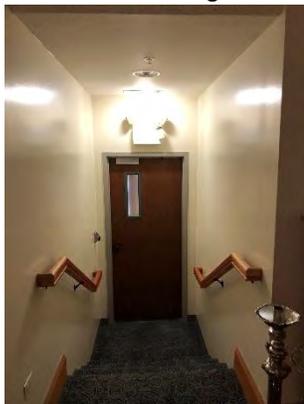
Niche Passage



Niche Passage



Niche Passage



Niche Passage

St. Petronille Glen Ellyn, IL

Interior – Parish Center



Parish Center



Parish Center



Parish Center



Parish Center



Parish Center



Parish Center



Parish Center



Parish Center

St. Petronille Glen Ellyn, IL

Interior – Parish Center



Parish Center



Parish Center



Parish Center



Parish Center



Parish Center



Parish Center



Parish Center



Parish Center Kitchen



Parish Center Kitchen



Parish Center Kitchen



Sacristy Priest Quarters



Sacristy Priest Quarters



Sacristy Priest Quarters



Sacristy Priest Quarters



Sacristy Priest Quarters – Peeling Paint



Sacristy Priest Quarters



Sacristy Kitchen



Sacristy Kitchen



Sacristy Kitchen



Sacristy Kitchen



School Fire Stairway



School Fire Stairway



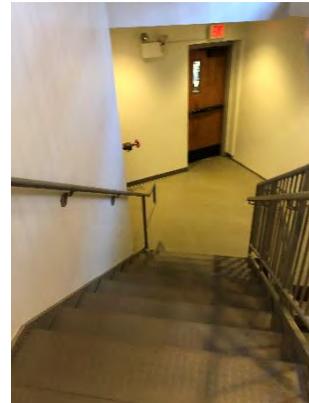
School Fire Stairway



School Fire Stairway



School Fire Stairway



School Fire Stairway



School Fire Stairway



School Fire Stairway



Kindergarten Overall



Kindergarten Overall



School Overall



Kindergarten Overall



School Overall



School Overall



School Overall



Gym Overall



Parish Overall



Parish Overall



Parish Overall



Parish Overall



Parish Overall



Garbage Overall



Roof Overall

St. Petronille – Glen Ellyn

Exterior - Church



Church Entrance - Sidewalk



Church Entrance – Sidewalk Cracking



Church Entrance - Columns



Church Entrance - Statue



Church – North Windows



Church – North Steps



Church – South Elevation



Church – South Window Peeling Paint



Church – South Stair Deterioration



Church – South Drain Ponding



Church – South Stair Deterioration



Church – South Stair Concrete Cracking



Church – South Window Peeling Paint



Church – South Entrance



Church – South Entrance



Church – South Entrance Failed Sealant



Ministry Center – East Windows



Ministry Center – East Sidewalk



Ministry Center – North Mosaic Peeling Paint



Ministry Center – North Masonry Dirty



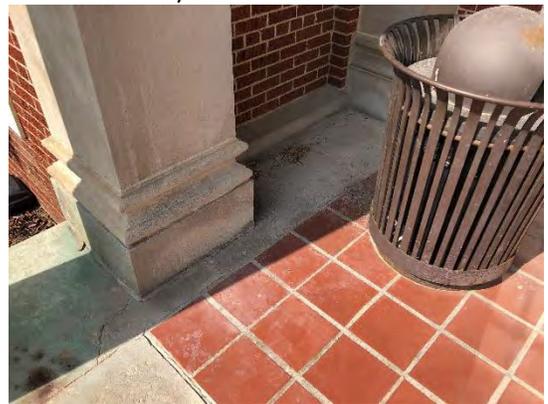
Ministry Center – South Entrance



Ministry Center – South Entrance



Ministry Center – South Entrance Cracked Concrete



Ministry Center – South Entrance Cracked Concrete



Ministry Center -South Balcony



Ministry Center – South Entrance



Ministry Center – West Elevation



Ministry Center – West Railings Corrosion



Ministry Center – West Stair Corrosion



Ministry Center – West Door



Ministry Center – West Pit Ponding

St. Petronille – Glen Ellyn

Exterior – Parish Life Center



Parish – East Elevation



Parish – East Retaining Wall



Parish – North Elevation



Parish – North Elevation



Parish – West Window



Parish – West Elevation

St. Petronille – Glen Ellyn

Exterior - School



School – East Elevation



School – East Windows



School – North Elevation



School – North Door



School – North Convent Connection



School – North Convent Connection



School – North Convent Connection



School – South Convent Connection



School – South Church Connection



School – South Church Connection



School – South Church Connection



School – South Entrance



School – South Terrace Staining



School – South Column



School – South Column



School – West Elevation

St. Petronille – Glen Ellyn

Exterior - School



School – West Window



School – West Elevation



School – West Elevation



School – West Elevation



School – West Entrance



School – West Entrance



School – West Entrance



School – West Entrance

St. Petronille – Glen Ellyn

Exterior - Miscellaneous



Gymnasium Entrance - Park



Gymnasium Entrance



North Parking Lot



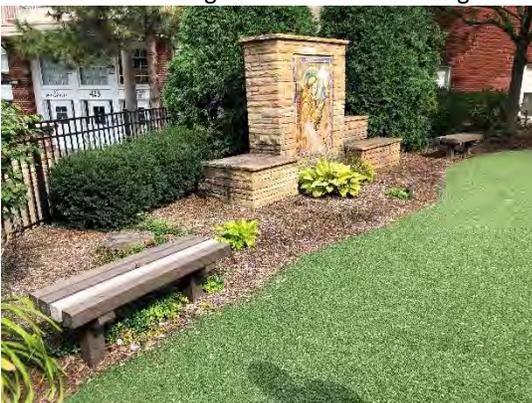
North Parking Lot - Signage



North Parking Lot Pavement Cracking



North Parking Lot Pavement Cracking



North Parking Lot - Garden



North Parking Lot - Garden

St. Petronille – Glen Ellyn

Exterior - Miscellaneous



North Parking Lot - Garden



South Parking Lot - Garden



South Parking Lot - Garden



South Parking Lot - Garden



South Parking Lot – Garden



Roof – Mechanical Equipment



Roof - Door



Roof – Louver Deterioration



Roof – Window Peeling Paint



Roof – Window Peeling Paint



Roof - Counterflashing



Roof – Railing Corrosion



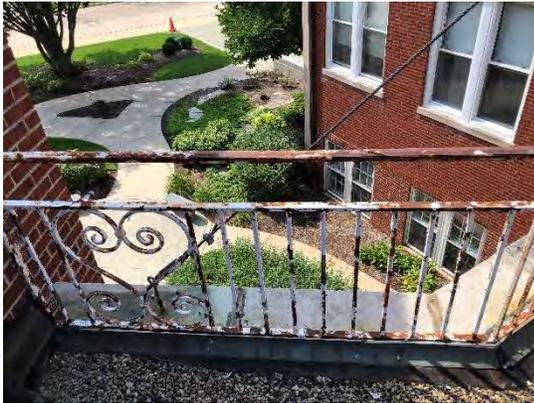
Roof - Coping



Roof - Downspout



Roof – Chimney Corrosion



Roof – Railing Corrosion



Roof – Masonry Infill



Roof – Mechanical Equipment



Roof - Penetrations



Roof – Caulking Deterioration



Roof – Downspout Corrosion



Roof - Chimney



Roof – Chimney Counterflashing



Roof – Ridge and Valleu



Roof – Ridge



Roof – Gutter



Roof - Ridge



Roof – Valley



Roof – Field Staining



Roof – Displaced Shingles



Roof – Step Flashing



Roof – Flashing Failed Sealant



Roof – Valley



Roof – Chimneys



Roof – Vent Corrosion



Roof – Vent



Roof – Chimney



Roof – Valley Failed Joint



Roof – Shingle Displacement



Roof – Coping Joint



Roof – Valley Failed Joint



Roof – Loose Slate Tile



Roof - Copings



Roof – Dormer



Roof – Parapet



Roof – Flashing Failed Sealant



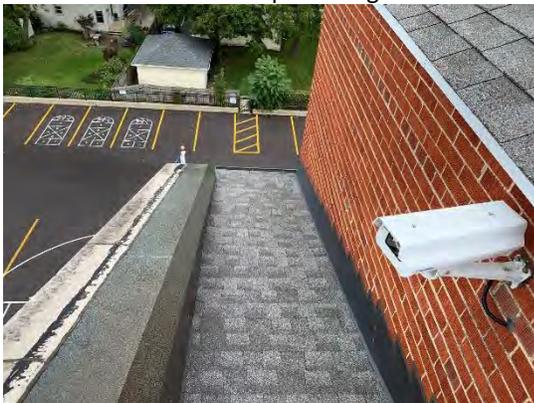
Roof – Flashing and Dormer



Roof – Step Flashing



Roof – Failed Seam



Roof – Security Camera



Roof - Valley



Roof – Ridge



Roof – Interior Framing



Roof – Flat Roof Ponding



Roof – Water Table Failed Sealant



Roof – Copper Gutter



Roof – Failed Sealant



Roof – Ridge



Roof – Cracked Slate Tiles



Roof – Staining at Vent



Roof – Staining



Roof - Clocktower



Roof – Flashing



Roof – Clocktower



Roof –Flashing



Roof – Clocktower



Roof – Clocktower masonry staining



Roof – Ridge Damage



Roof – Displaced Slate Tile