

Comparative Analysis Executive summary

Saint Paul's Complex
Garden City, NY, 11530



EXECUTIVE SUMMARY

September 28, 2023,

Dear the Incorporated Village of Garden City,

We recognize that the disposition of the St. Paul's school building has been a challenge to the administrators and residents of the Village of Garden City for some time. We were engaged to provide budgets for three possible dispositions of the structure. With reference to the Request for Proposal issued by the Village of Garden City on September 26, 2022 (and subsequently authorized in our purchase order dated November 23rd, 2022) they are:

“The report shall cover, at a minimum, the following topics:

1. *Financial costs of adaptive reuse – reference exhibits and floor plan exhibits*
2. *Financial costs of both historic demolition and wrecking ball demolition*
3. *Energy savings of demolition vs. adaptive reuse*
4. *Environmental impact of demolition vs. adaptive reuses, to include sampling of any hazardous materials, particularly of asbestos, lead paint, and mold also the cost of remediation of the same.*
5. *Include alternate proposals for maintaining existing East, West and South facades with the structural design concept to support the facades prepared by a NYS licensed structural engineer.”*

It is important to note that this task order contains nothing with respect to new structures, for either the adaptive re-use or the facadism. We provided rough square foot costs for the possibility of new structures without any direction as to design and detailed programmatic use. The numbers we issued are purely speculative for these structures and just give the administrators and residents a very rough guide as to what the costs could be. Fundamentally given no direction, these structures could be any size at any cost.

With respect to our budgets this is a summary of what is included. We have developed general diagrams to help explain the 3 possible proposed directions of Saint Pauls. An abbreviation list is also included at the end of this Executive Summary :

General:

The estimated costs presented here are a reworking of prior issued costs. Costs have not been modified.

In all three choices we include complete abatement of all asbestos containing material in the building in the prescribed manner. Mold infected wood and lead coated finishes would be removed.

All labor is figured at the prevailing wage which is generally based on the trade union rate in a given region. These wages are two to four times greater than a homeowner might expect to pay for a renovation.

Programmatic or use scope of work indicated here is purely conceptual and could be changed. This scope was identified by our team and information available from the Village of Garden City's website for the practical reason of costing. Please do not make a literal interpretation of any programming or uses. The village will have to decide if and when the time comes.

Demolition

- Salvaging distinctive components of the interior and exterior architectural details to be carefully removed and stored for future use. Cost of determining this is included.
- Removal of the building
- Filling the former basement with top soil
- Planting mature trees and grass similar to what is currently in the immediate environs of the building.

The estimated cost for this would be \$17,678,312

The estimated cost of this without salvage would be \$12,803,356

Adaptive reuse

The following scope of work relies on choices our team felt were required for this approach. This is necessary to provide costs. There could be many design approaches to this.

- The entire exterior, and interior masonry of the building would be restored including the mansard roofs, the clock tower, the portico, and the front entrance.
- The interior non-load bearing partitions would be substantially removed in order to provide access to fix the floor joists and façade, and also to facilitate future use.
- All the ceilings throughout the building would be removed. The ceiling construction consists of a thick cementitious product applied to a wood system secondary to the structure that is generally compromised.
- The flooring throughout the building would be removed
- Based on the engineer's recommendation 30% of the floor joists in the building will need to be replaced due to rot.
- Window openings will be repaired, and boarded up. 50 new windows will be provided in the usable spaces only. The remaining 584 windows will be boarded up.
- 50% of the floor area in the non-useable spaces will be covered by plywood in a checkerboard pattern. This will allow for air movement to keep the inside dry and free of rot which will preserve it for future phases.
- Walls to be left with exposed brick in non-conditioned spaces and covered in gypsum board in finished spaces. Ceiling to be covered with gypsum board.
- The finishes and furnishings in the chapel will be removed.
- A sprinkler system will be installed throughout the entire building
- Electrical, plumbing and heating services will be completely replaced.
- The useable or "white box" area is:
 - We figured approximately 33,000 square feet (approximately 26%) of usable space from the cellar to the third floor generally around the main stair. This includes all of the space such as corridors, bathrooms, vestibules etc. (see attached graphic)
 - ADA access from the east parking lot.
 - New 4 stop ADA compliant elevator
 - 4 bathrooms
 - Engineered wood flooring over plywood subfloor in all the rooms and corridor of the first, second and third floor.
 - Painted drywall partitions and ceilings, and some cleaned exposed brick.
 - Heating and limited localized air-conditioning in the rooms on the 1st, 2nd and 3rd floors.
- The work would take approximately 20 months to complete after design

The estimated cost of Adaptive reuse with 33,000 square feet of white box useable space suitable for a variety of functions: \$49,526,287

Adaptive reuse -restore the building only with NO white box useable space suitable for a variety of functions: \$39,615,351

Add white box usable space suitable for a variety of functions at \$300 a square foot. Maximum cost could be approximately \$30,000,000

Add 584 new windows throughout the building in the unusable areas would be approximately \$3,000,000.

Facadism

- Each wing has two exterior bearing walls and two interior bearing walls. Looking from above, if the building were a sideways E we figured removing 90 % of all the upper and lower short legs, removing the center leg entirely and reducing the front of the building to the exterior and first interior or south most bearing wall.
- Our budget presumes that what is left would need to have minimal services to preserve it until such time as it would be connected to a new, completely indeterminate new structure.
- There would be no usable space, but the building would be safe to be entered to be looked after by Village staff, and would be presentable to the community for an indefinite time. The non usable space is a temporary enclosed area usable for safety inspections of the remaining facade and support structure.
- This choice has a multitude of options and variables. Therefore, it can be figured in any number of ways. We figured simply "maintaining existing East, West and South facades." As stated above.

The estimated cost of Facadism where the building is reduced to a Façade that will sustain itself for years is \$46,444,836.

The estimated cost of Facadism where the building is reduced to a Façade that will not sustain itself unless an addition is attached within 2 years is \$37,508,337.

Attached to that, a box of 100,000 square feet at \$500 a square foot that looks like a warehouse added to the above estimate: \$50,000,000. Attaching a distinctive building of 100,000 square feet at \$1,200 a square foot add to the above: \$120,000,000

In summary:

Our review has been developed based on the available information available by the Village of Garden City through their website and public meetings. The previously submitted Comparative Analysis dated June 14, 2023 creates a detailed review of the existing St. Paul's School along with the options for Demolition, Adaptive Re-use, and Facadism. Additional clarification to the programming and use of the spaces needs to be provided by the Village in order to develop a full scope of comparisons and the next steps for the future of St. Paul's. It is clear from our review that a decision for the next steps of St. Paul's has to be made as the building is at a critical juncture in order to be salvaged.

As a matter of simplification for financial impacts to the Village we have determined that Demolition is the least expensive option but removes the building entirely from existence. Adaptive Re-use creates a usable building with options to expand at a measurable cost, and Facadism allows for a portion of the building to remain with an indeterminate amount of options to expand at an indeterminate cost. There is enough space there to do practically anything.

Option 01 : Total Demolition and Salvage

CONCEPT ONLY

- Option A :

Demolition with salvage* and site to match the existing immediate surroundings:

~ \$17,678,312

Existing site

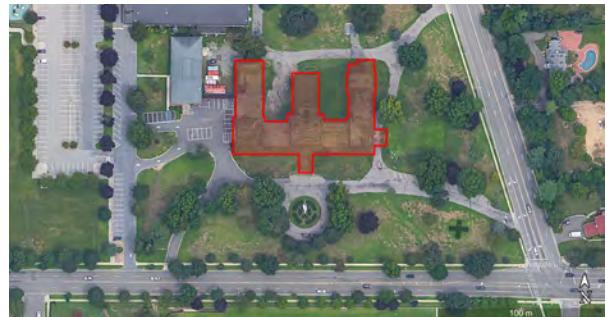


- Option B :

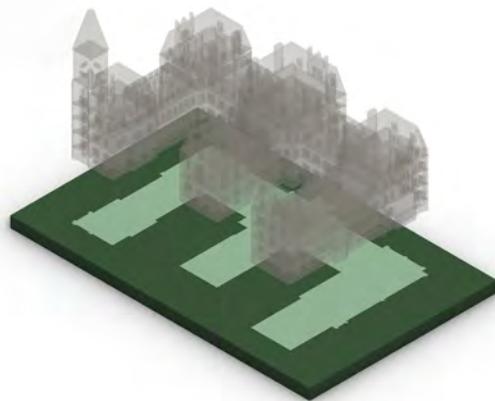
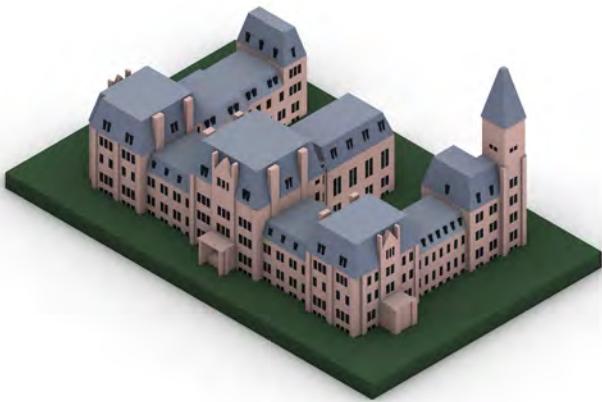
Demolition, no salvage and site to match the existing immediate surroundings:

~ \$12,803,356

Demolition area



Site completion



Option 02 : Adaptive Re-use

CONCEPT ONLY

- Option A :

33,000 square feet of white box useable space suitable for a variety of functions:

~ \$49,526,287

- Option B :

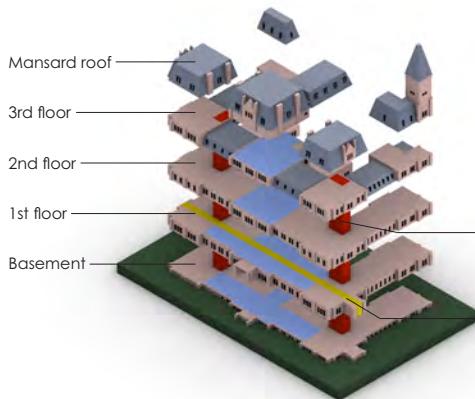
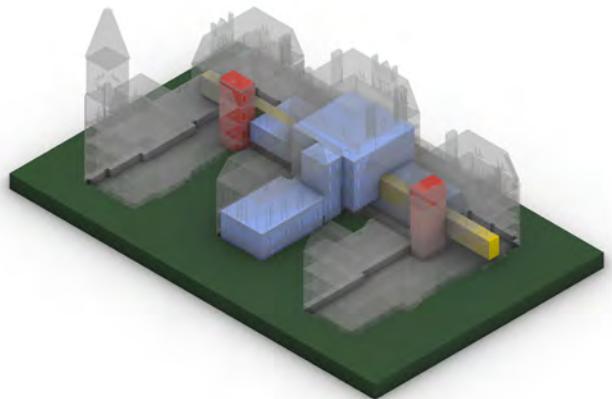
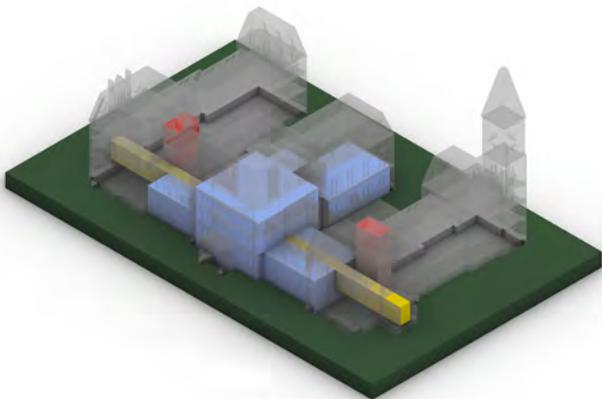
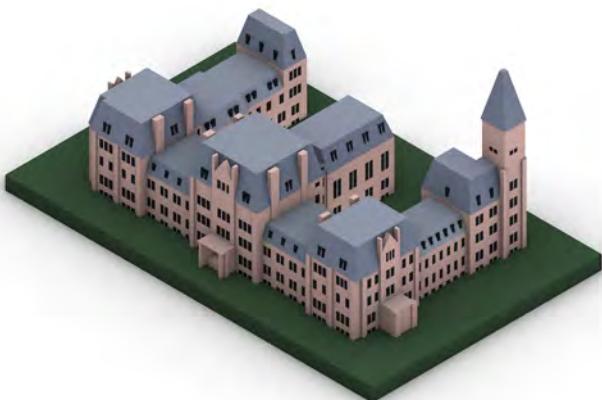
Restore the building only with NO white box useable space suitable for a variety of functions:

\$39,615,351

- Additional :

White box useable space suitable for a variety of functions :

\$300 / Sq. ft.

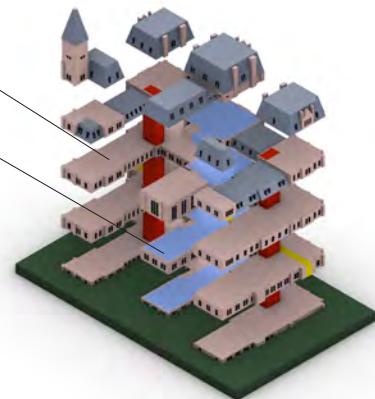


Stabilized conditioned space

Phase 01 finished space

Vertical circulation

Hallway



Option 03 : Facadism CONCEPT ONLY

- Option A :

Building reduced to a Façade that will sustain itself for years:

~ \$46,444,836

- Option B :

Building reduced to a Façade that will not sustain itself, and contemplates an addition being attached to it within 2 years:

~ \$37,508,337

100,000 Sq. ft. = approximate amount lost in the building's demolition



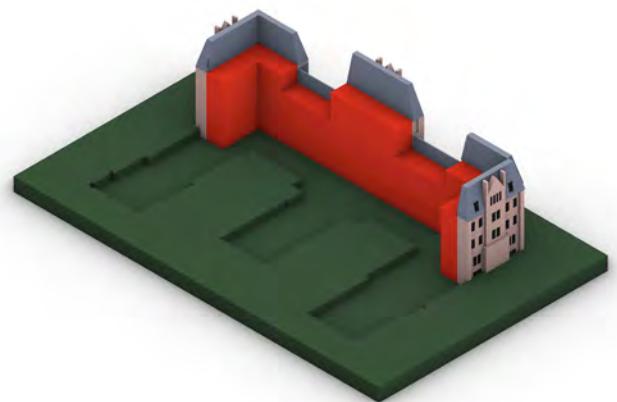
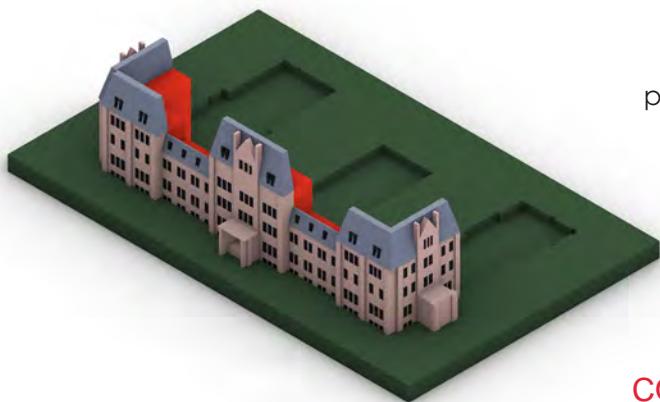
CONCEPT

Support structure :

Temporary

or

part of the new facility

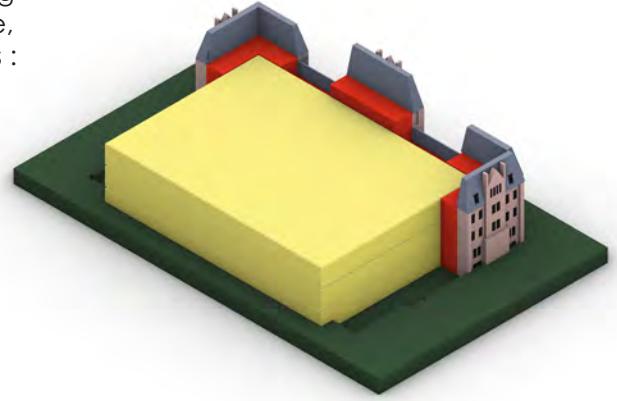
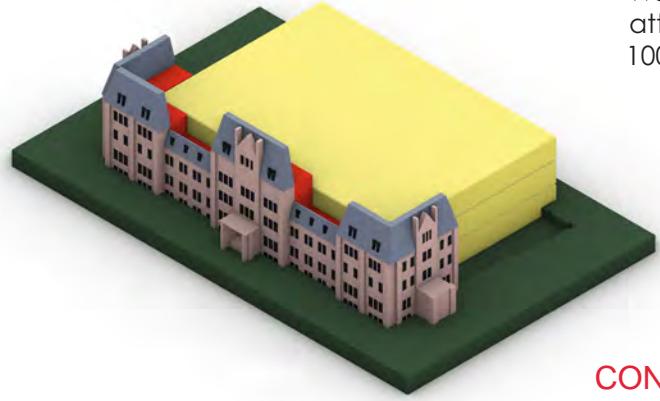


CONCEPT

Warehouse type building attached to the facade,

100,000 Sq. ft. on 3 floors :

~ \$50,000,000

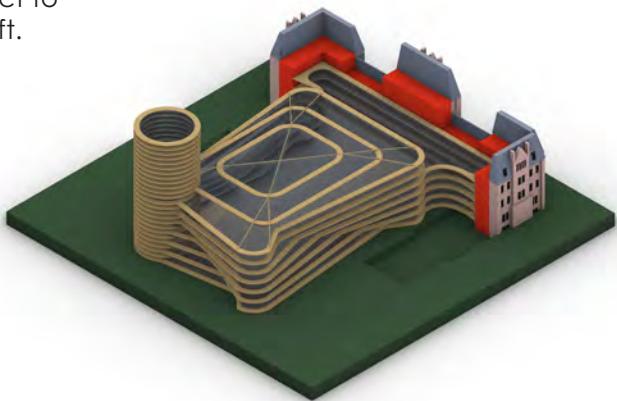
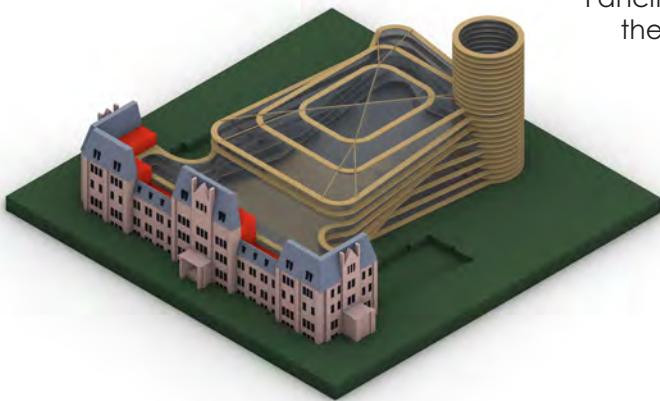


CONCEPT

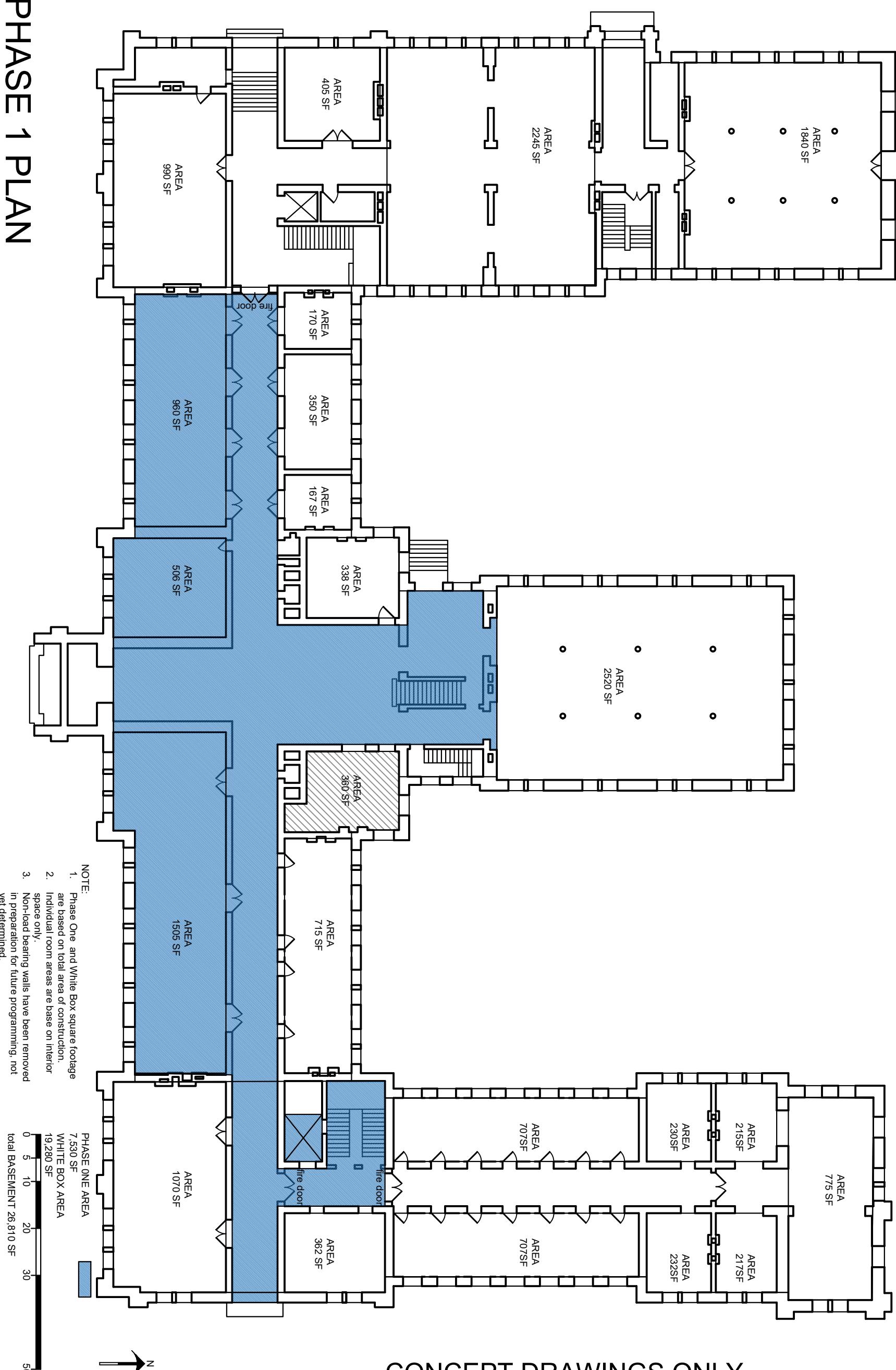
Fanciful type building distinct to the facade, 100,000 Sq. ft.

on 3 floors :

~ \$120,000,000



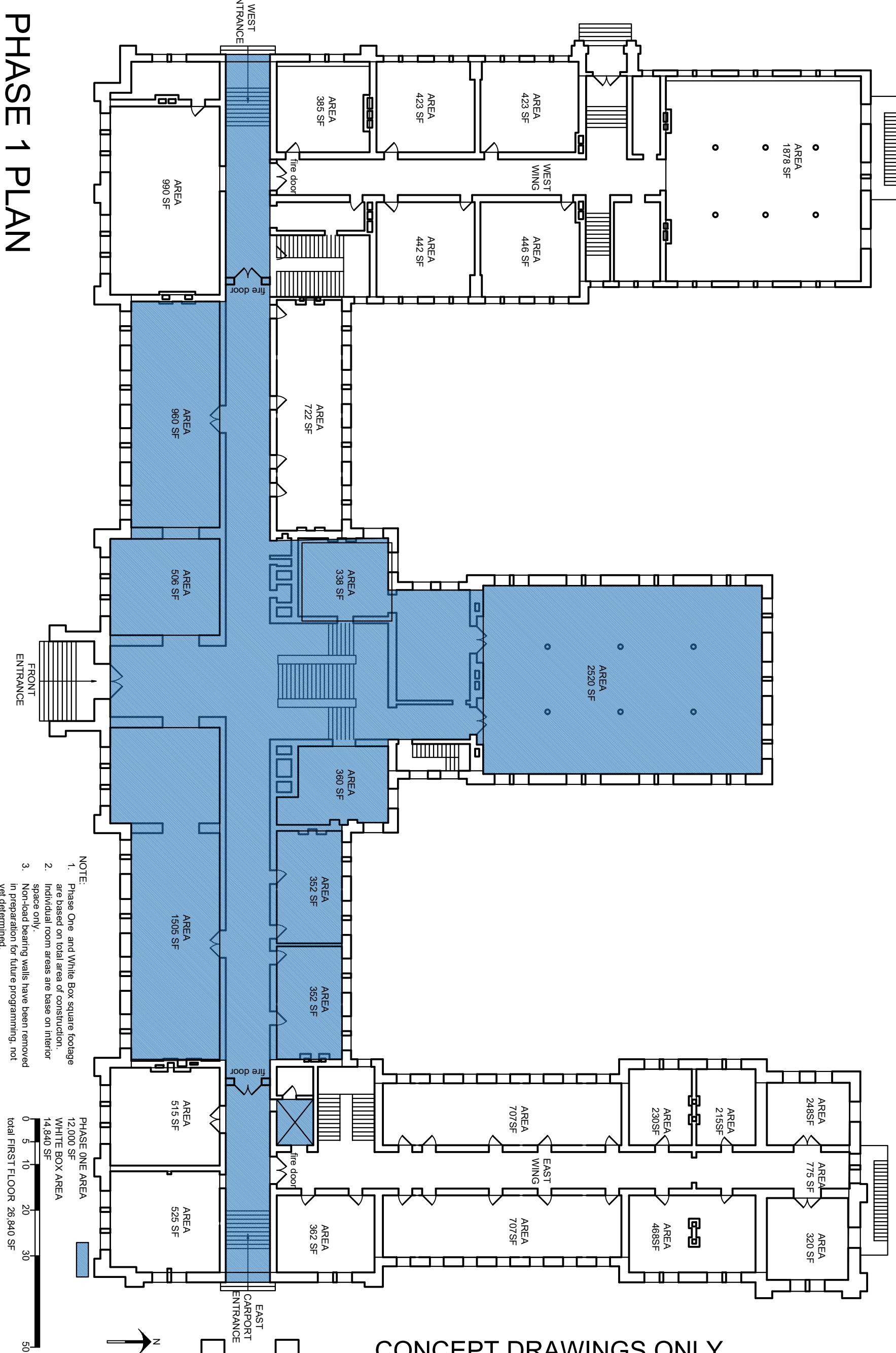
PHASE 1 PLAN



BASEMENT NOTES:

1. BASEMENT SHOULD HAVE ALL MATERIALS AND FURNISHES REMOVED
2. REMOVE ABANDONED PIPING AND DUCTWORK
3. WALLS FLOORS AND CEILINGS SEEM STRUCTURALLY SOUND BUT AFTER DEBRIS REMOVAL A FULL STRUCTURAL EVALUATION SHOULD BE COMPLETED.

PHASE 1 PLAN



CONCEPT DRAWINGS ONLY

ST PAULS

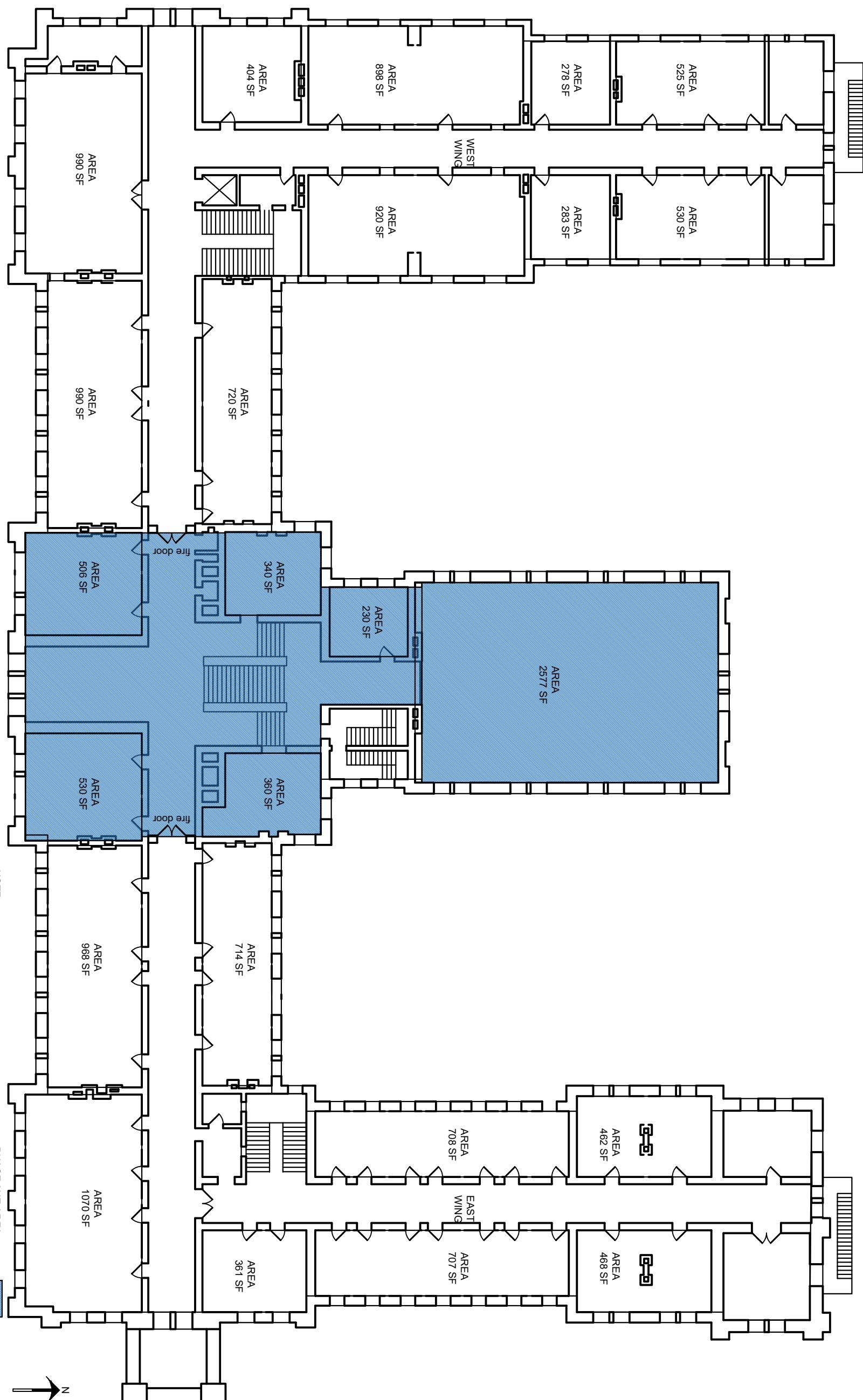
RENOVATION

FIRST FLOOR PLAN

A- 101.01

VAKOTA

PHASE 1 PLAN



SECOND
FLOOR PLAN

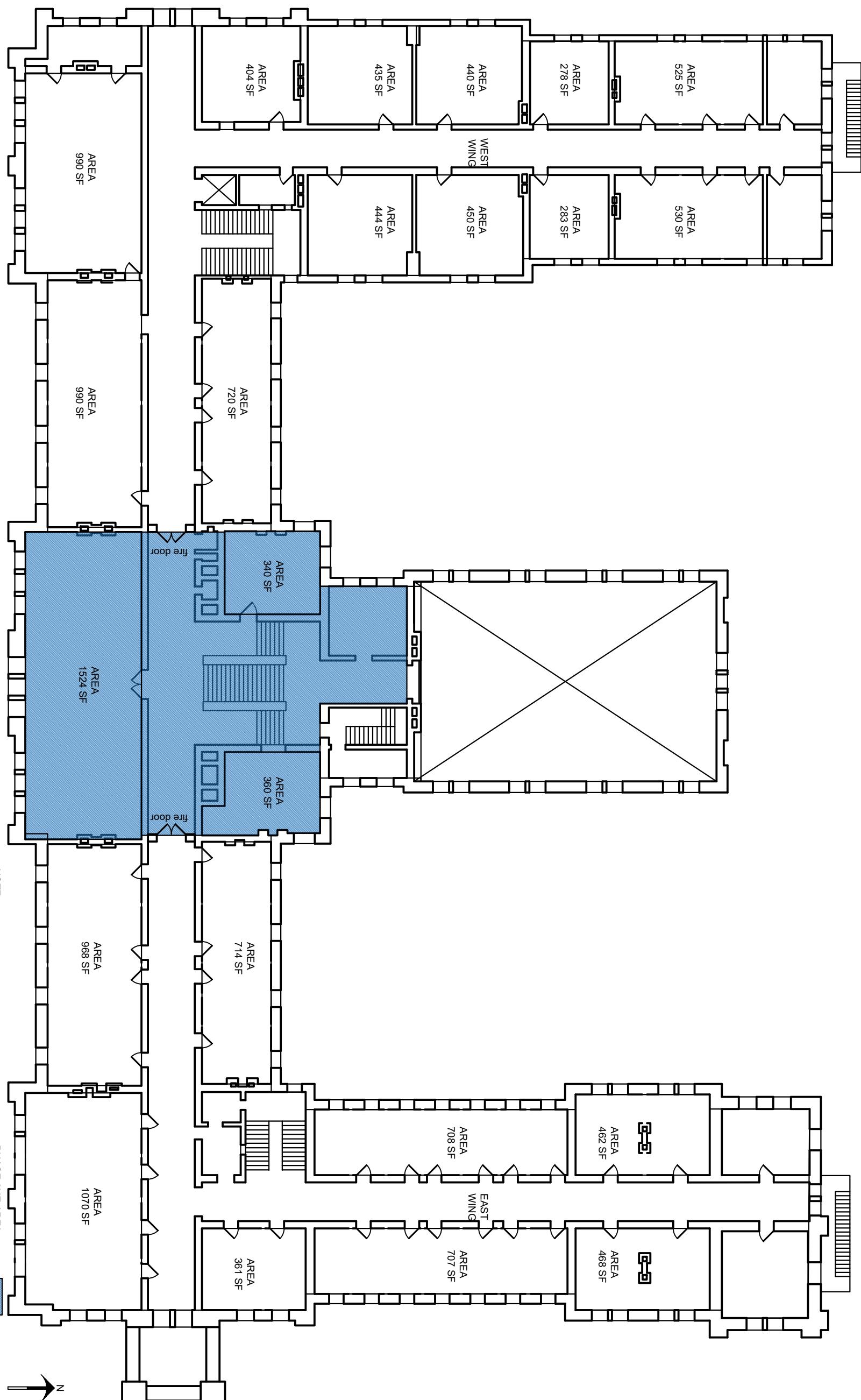
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Scale: 3/64" = 1'-0"
Date: 09/15/2023

VAKOTA

www.vakota.com

PHASE 1 PLAN



CONCEPT DRAWINGS ONLY

ST. PAULS

RENOVATION

THIRD
FLOOR PLAN

A - 103.01

Scale: 3/64" = 1'-0"
Date: 09/15/2023

VAKOTA

www.vakota.com

x

VAKOTA

41 East 11th Street 11th Floor
New York, NY 10003
212.655.9875



80 Eighth Avenue, Suite 1001
New York, NY 10011
212-337-0995

ABBREVIATION LIST

| | |
|--------|---|
| ADA | American with Disabilities Act |
| Amp | Ampère |
| ANSI | American National Standards Institute |
| ASHRE | American Society of Heating and Refrigeration Engineers |
| Attn | Attention |
| BTU | British Thermal Unit |
| CFM | Cubic Feet Minute |
| Ea | Each |
| EPDM | Ethylene Propylene Diene Monomer rubber (roof membrane) |
| Etc. | Etcetera |
| FCU | Fan Coil Unit |
| Fls | Floors |
| GAF | General Aniline & Film (US company) |
| GC | General Contractor |
| GWB | Gypsum Wall Board (aka "sheetrock") |
| Hr | Hour |
| HVAC | Heating Ventilation Air Conditioning |
| KW | Kilowatt |
| Lb | Pounds |
| Lf | Linear Feet |
| Ls | Lump Sum |
| MEP/FP | Mechanical Electrical Plumbing/Fire Protection |
| Mh | Man Hours |
| Mo | Month |
| No. | Number |
| NY | New York |
| PE | Professional Engineer |
| PLLC | Professional Limited Liability Corporation |
| PSF | Pounds Per square Foot |
| QTY | Quantity |
| RFP | Request for Proposal |
| RTU | Roof Top Unit |
| Sf | Square Feet |
| St. | Saint |
| U/M | Unit Material |
| V | Volt |
| VCT | Vinyl Composite Flooring |
| VRF | Variable Refrigerant Flow |
| VRV | Variable Refrigerant Volume |
| Wks | Weeks |

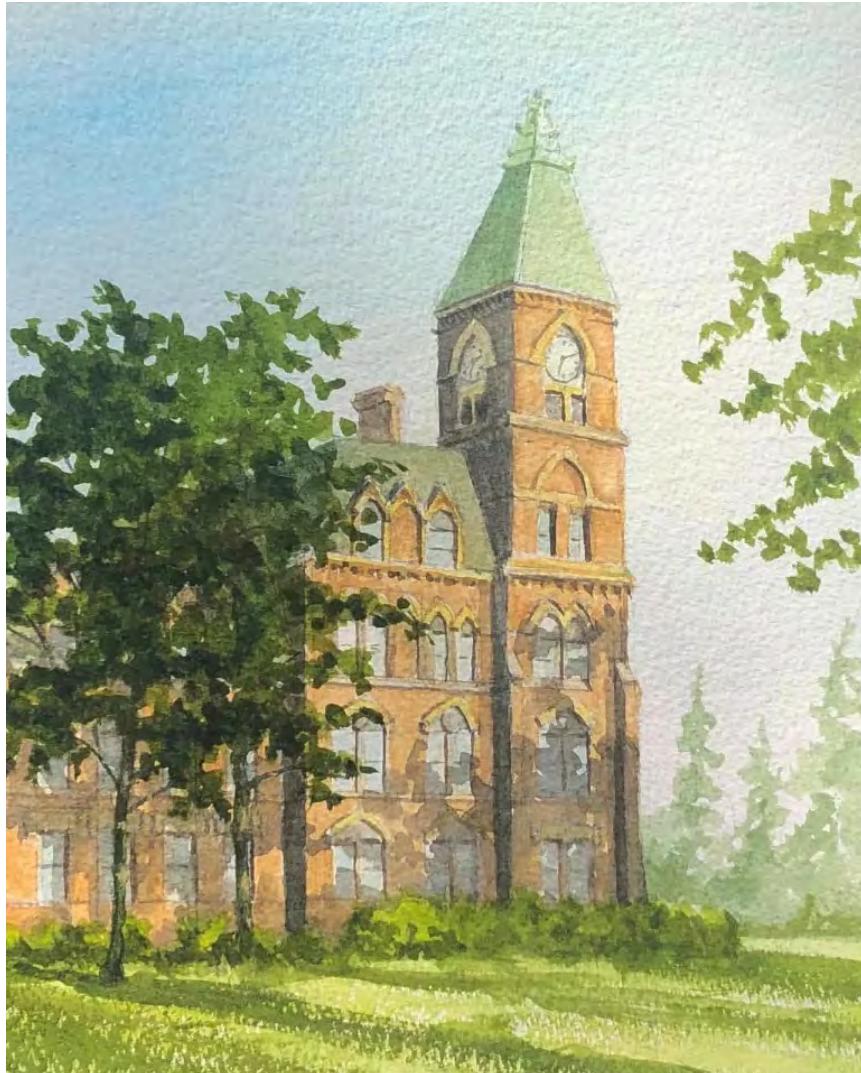
Comparative Analysis

Building Alteration and Renovation versus Demolition
Saint Paul's Complex, Garden City, NY 11530

FINAL ISSUE : June 14, 2023



FENNELL ENGINEERING, PLLC
1250 Broadway 36th Floor
New York, NY 10001 | 212-639-9300



Incorporated Village of Garden City:
351 Stewart Avenue
Garden City, NY 11530
Attn.: Village Administrator

Copy to:

Cosmo Veneziale, Mayor
Ralph V. Suozzi, Village Administrator
Giuseppe Giovaniello, Superintendent of Buildings
John Borroni, P.E. Superintendent of Public Works

LETTER OF INTRODUCTION

March 15, 2023,

Dear the Incorporated Village of Garden City,

It is with great pleasure that we submit the following report per the Request for Proposal for a *Comparative Analysis - Building Alteration and Renovation versus Demolition of Saint Paul's Complex*. We have collaborated with Westerman Construction, Lehr Engineering, Fennell Engineering, and GDPC for their expertise in this type of project. Westerman Construction is an experienced construction management team working on large scale preservation and cultural buildings. Lehr Engineering specializes in Mechanical, Plumbing, Electrical, and geothermal engineering with experience worldwide. Fennell Engineering brought their expertise in structural engineering on historic buildings and problem solving skills with creative solutions. Gregory Dietrich Preservation Consulting (GDPC) is an award winning historic consultant and planner. VAKOTA architecture is a collaborative architecture firm focusing on cultural and residential projects.

We have reviewed the current state of the Saint Paul's School through visual inspections, minor material sampling, conversations with the Village administrators, and reviewing of the current historical reports provided on the Village website. The purpose of professional involvement was to provide a rough, but empirically thorough framework, from which a conceptual budget could be derived. No design services were provided.

The current state of Saint Paul's School is at a critical phase. We hope that the information provided is helpful in determining the future of this building. Saint Paul's School is a historic part of the Village of Garden City and we are happy to be a part of its future.

Sincerely,



Stephen M. Taylor, AIA, LEED AP BD+C
Principal, VAKOTA architecture, PLLC.



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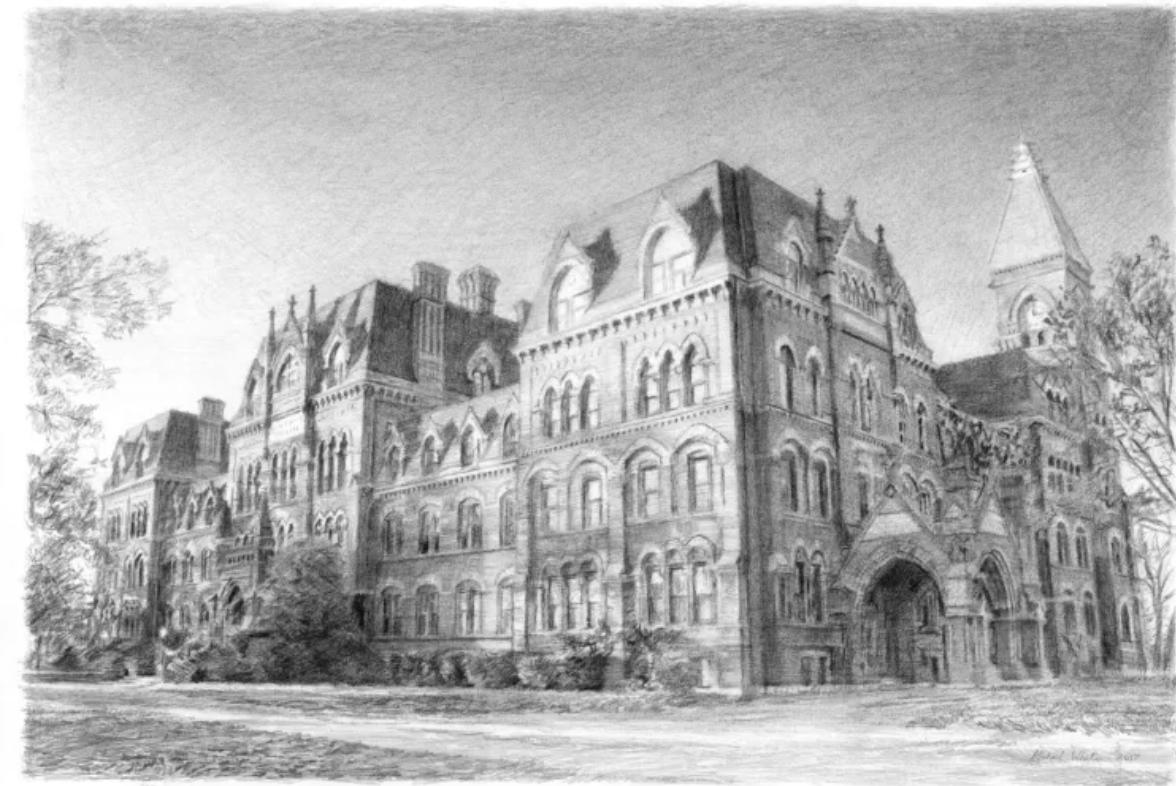
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HISTORY

Saint Paul's School is a High Victorian Gothic building constructed between 1879 and 1883. It was part of the original planned buildings for Garden City as planned by [Alexander Turney Stewart](#). It began operation as an endowed Episcopal School and remained active until it was decommissioned in 1991. It was purchased by the Incorporated Village of Garden City between 1992 and 1993 for 'public and recreational use'. At the time of its purchase, Saint Paul's school was part of a campus that included a library, Ellis Hall, a gymnasium, Cluett Hall, a Field House, and a series of wooden cottages. Ellis Hall has since been demolished. Cluett Hall, the Field house, and the cottages remain in use under various public and private agencies.

Saint Paul's School is listed on the National Register of Historic Places (1978) under A. T. Stewart Era Buildings located in the historic district of Garden City of New York State. Saint Paul's was commissioned by Cornelia Stewart, widow of Alexander Stewart, and was dedicated in his honor. The building was designed by architect William H. Harris. In 2003, the school's main building was chosen by the Preservation League of New York State as one of the "Seven to Save" significant but endangered properties.

The original building housed laboratories, classrooms, libraries, several dining halls, kitchens, a large reception parlor, permanent workspaces for staff, and a gothic chapel. Three hundred students could reside at the school along with apartments for the schoolmasters.



Since 1994, the Village of Garden City has been appointing committees as well as architecture and engineering firms to study possible uses for the main building as well as feasibility on pricing. By 2000, multiple use proposals had been denied and the building was still standing unused and neglected. From 2001 to 2003, another study was conducted for cost and proposals, which concluded that multiple roof and supporting wall conditions would need to be resolved. By 2009, several more studies were conducted, including a proposal to demolish the building. Citizens of the Village fought against demolition in an effort to keep the historic building. In 2012, another report was made, and in 2015 some damages were repaired based on need be status and with public help to refurbish what had been damaged in 2011 by Hurricane Irene. From 2019 to 2020, another study was conducted and firms were hired to do roof repairs. These repairs were to stop further damage while the building sits but not to be the permanent fixes.

History Timeline of Significant Events

- 1883 School constructed
- 1991 School closes
- 1993, March - First study of the property conducted by the Village to determine if they should proceed with the acquisition of the property
- 1993, December - Bond issued, property in possession of the city
- 1994, June - Direction to explore appropriate uses of the historic main building
- 1994, November - After multiple people rejected the use of the building due to various concerns, an architect is engaged to review of the structure for possible uses.
- 1995, December - RFPs put out for possible use as senior assisted living organization
- 1996, October-November - Six senior assisted living facility proposals received
- 1996, December - State law deems the Board of Education has no authority to proceed with its proposal to spend \$35,500,000 to restore and repurpose the building as a high school. State law prohibits spending education funds when the primary purpose is historic preservation.
- 1997-2000 - The Village considers a proposal to convert the school into a senior assisted living facility, but the proposal was ultimately rejected by the Village community.
- 2000, October - The committee decides to contact an architect / space planning consultant.
- 2001, March - Robert Feuer Associates, Ltd, to prepare plans and specifications for the repair of the mansard roof and associated facade stabilization.
- 2001, March - Justice rules that the property is subject to a public trust through acquisition and cannot be used for private operations.
- 2001 - Engagement is authorized for various condition surveys and program studies to be conducted.
- 2002 - February, Einhorn Yaffee Prescott submits cost estimate for demolition and continues to do feasibility studies for different uses throughout the year.
 - Studies conclude with talks of deterioration, renovation needed, fire suppression needed and possible uses
- 2003 - Research, drawings and contracts drawn up for roof repair/replacement

- 2004, April - City engages Sullivan and Nickel Construction Company for another development and review cost estimated for the re-use of the building.
- 2004 - Saint Paul's campus officially designated as park land under ownership of the Village Parks Department.
- 2005, August - The Village engages Karen Backus & Associated for the main building redevelopment, they presented in December
 - Study concluded that \$16 million would be spent on stabilizing the building, \$33 million for menial public use, and \$6 million for demolition
- 2009, January - Village prepares a bond resolution for the demolition of the building
- 2010, June - committee to save the building presents formally their preservation plan to the board of trustees
- 2011, April - Village-wide vote, the school will not be demolished
- 2011 - After Tropical Storm Irene, multiple motions were placed to engage in roofing and facade contractors for damage that had been a result of the storm, all were denied
- 2012 - Erwin & Bielinski were engaged to create an assessment report of repairs and restoration
- 2015 to 2016 - Emergency electrical repairs and several broken windows repaired
- 2017 - Board engaged with architecture and construction firms for proof of concepts of recreation based facilities.
- 2018 - Presentations of possible working concepts conducted. After presentations engagement with current firms ended and were archived as past work conducted.
- 2020 - Many efforts for vine removal, window repair, and stabilization are set in place for work on the main building. RFPs of work have been put on hold at the moment
- 2021 - Stabilization work performed on mansard and flat roofs and adjacent facades.
 - In March an emergency repair was issued so that work will not have any more competitive pricing and will commence.
- 2022, September - motion to spend money and clean the interior of the building was denied.
- 2023, January – motion to spend money and clean the interior of the building was approved.

METHODOLOGY OF REPORT

The following report and subsequent documents have been prepared for the Incorporated Village of Garden City to address the Request for Proposal (RFP), dated August 12, 2022, *For a comparative analysis study of the building alteration and renovation versus demolition of the Saint Paul's Complex*. We have reviewed the existing conditions through visual inspections and photographs, examined existing documents available through the Garden City website, and developed basic assumptions through experience and with consulting engineers and architects for the various options to demolish, facadism (salvage of south facade), or the adaptive re-use of the existing building. No design services or detailed explorations on the existing structure, infrastructure, or potential use were performed.

The information obtained for this report has been used to develop a budgetary cost estimate for the three options requested in the RFP: (1) Demolish the existing Saint Paul's School, (2) Adaptive Reuse the existing building, or (3) Facadism. We made no determination to the best course of action or plan for this work. Additional exploration, drawings, details, and consultants will be required once the Village of Garden City has approved a direction of work for the building.

Demolition work includes the complete demolition and removal of Saint Paul's school as well as the Cottages just north of the school. The majority of work would be performed by hand for the safety of workers, stability of the building, and to reduce dust. Key architectural details would be salvaged, cataloged, and stored off site for future preservation. The foundation would be removed, infilled, and the remaining site planted for grass.

Adaptive Reuse of Saint Paul's school would be an attempt to restore the existing building back to its original grandeur. This would involve restoring the existing facade, chapel, grand staircase, and interior architectural elements. New spaces would be created based on budget and an approved use. Future interior renovations would be phased as part of a master plan to be developed at a later date by the Village of Garden City.. Additional spaces could be added such as a swimming pool or theater as part of the multi-year phased plan.

Heating, plumbing, mechanical equipment, electrical, and sprinklers systems for the entire building should be thought of for space planning as well as floor and wall penetrations. Spaces left as "white box" condition will need to be protected from fire and the environment. They would also need to have minimal heating systems to maintain temperature and protect the building from future deterioration.

Facadism is a concept to demolish the majority of the existing school but maintain the south facade based on the Erwin Bielinski Option III, as proposed in 2012 . This phase prepares the building for a future expansion or simply preserves the south facade. In our assessment, the south facade would be supported by the existing interior masonry structures with additional steel support as required. A new temporary enclosure would be erected around the remaining south wing to maintain temperature and fire protection. This would be imperative for the longevity of the restoration process until a future use can be determined and constructed. As with the Demolition phase, significant architectural details will be salvaged, cataloged, and stored off site for future preservation. It should be noted that our budget estimate assumes that a future addition would align with the existing floor plates and use the proposed supporting structure.

Saving other elements of the building like the clock tower, the front entrance and the porte cochere were not required in the bid document we received. Therefore they were not considered for this report.

Westerman Construction and VAKOTA architecture are active builders in the metropolitan area. Our knowledge of cost is first hand and based on our own bidding and purchasing of work. We received informal guidance from local union contractors, particularly for aspects of the demolition.

BUILDING USE / ENVIRONMENTAL IMPACT

The Saint Paul's Complex is a historical structure of the Village of Garden City and is a significant example of High Victorian Gothic architecture in the United States. It is also a building in great disrepair and degradation. There are pros and cons for the Demolition, Adaptive Reuse, and Facadism of the building. These are based on humanitarian, economic, and physical efforts and options. We have developed a list of pros and cons to help to assess the benefits and disadvantages of preserving Saint Paul's Complex.

Benefits

1. Demolition
 - Village can use minimal funds currently allocated to maintaining the unused structure for other municipal needs.
 - Additional park area can be developed in place of the Saint Paul's complex.
2. Adaptive Reuse
 - Entire historic building is maintained and brought up to code
 - Building can hold multiple uses in a single structure. This could include municipal and public functions. White-box spaces provide flexibility for unforeseen use
 - Creative use of space and programming can attract visitors over a multi-decade phased process.
 - Restoration of the building is more cost effective than demolishing the building and constructing a new facility of similar size and area.
 - Increase of home property values
3. Facadism
 - Historic south facade is maintained.
 - Restoration would allow for new buildings to be constructed. This could be a new community/ recreation center or covered sports facility as determined by the Village.
 - Increase in home property values.

Disadvantages

1. Demolition

- Loss of building would be a removal of the original Village history.
- Cost to demolish and construct a new building may be comparable to the adaptive reuse and thus restoration may be preferable due to the benefits listed above
- Air containment and dust may require adjacent fields and Field house to be protected and potentially limited in use during demolition work.
- Village will continue to incur costs for proper storage of salvaged architectural features.

2. Adaptive Reuse

- Cost
- Building would need to be fully restored to code before adaptive reuse work begins.

3. Facadism

- Cost.
- Although the South facade will be restored, additional key elements that define the building such as the clock tower, chapel, grand stair, and great halls would be lost.

EVALUATION OF EXISTING BUILDING

Our team of consultants have reviewed the existing conditions of the Saint Paul's School. Our observations were visual and documented through photographs in areas that were accessible at the time. No detailed probes or calculations were prepared. Our analysis is based on experience and the available information.

There was extensive information available on the Village of Garden City's website which we used for this report. We have gone through the latest drawings and Thornton Tomasetti's report, as well as the recent William Alisse report, and made the following notes. We feel that the Thornton Tomasetti report dated July 19, 2019, is very comprehensive and relates to the work required as part of the RFP. It seems that the Village of Garden City has performed the bare minimum maintenance tasks over the years and this project can no longer sustain the bare minimum. Please see our bullet point notes summarizing the key elements necessary to maintain the existing structure.

Existing Conditions and Required Maintenance Recommendations

1. It is imperative that the building become watertight and minimum temperature controls are added.
 - a. Mansard roof should either be patched with an asphaltic membrane or a more permanent slate composite shingle roof should be installed. Asphalt shingles are not suitable for steep slopes. If they are to be installed then special attention should be given to the manufacture specifications. See GAF installation requirements for steep roofs as a reference.
https://www.gaf.com/en-us/document-library/documents/productdocuments/residentialroofingdocuments/atticventilationproductsdocuments/exhaustventsdocuments/cobraexhaustventforroofridgedocuments/Guide_SteepSlope_ProField_Guide_Version_20_English.pdf
 - b. Windows should either be replaced or boarded and sealed.
 - c. Roof drainage and flashing needs to be reviewed and corrected as necessary.
 - d. Bricks should be repointed per structural review.
 - e. See additional notes from Thornton Tomasetti's report section 1.02. We feel that Priority 1 and Priority 2 items should be completed as the Building Restoration pricing phase for this RFP. These are further detailed in sections 2.02 and 2.03.
2. Stained glass windows should be shored up or removed and salvaged for future restoration.
3. Egress and stairwells should be shored up, repaired, or replaced.
4. Environmental testing should be completed for asbestos and lead. Bird guano needs to be removed from the site in order to have a proper cleaning crew engaged. This work has recently been completed by Westerman Construction for the Village of Garden City.
5. Minor and major structural repairs need to be completed per Thornton Tomasetti's report section 3.0. We have seen floor collapses where joists have sheared at the masonry walls, roof rafters missing sections, and cracks in the exterior masonry. Some shoring has been installed under floors and stairways, this should be reviewed and inspected.
 - a. Upon initial review and per Thornton Tomasetti's report, section 3.4, debris and the masonry fireproofing on the floor and ceilings should be removed to assist in securing the existing structure. The existing floors are constructed with about a 2" thick layer of compressed ash. The ceilings are covered with a similar fireproofing

panel that is nailed to the existing floor joists. We have seen areas where the nails have failed and the panels have fallen.

In preparation for either phase of work, we recommend the following items to be completed.

Basement

- This should be cleaned out of furnishings and material.
- Floor tile may contain asbestos and should be abated.
- Abandoned piping and ductwork should be removed.

First Floor

- Rooms with structural damage should be shored and fall protection added.
- In general this floor should be clear of debris.
- Ceiling should be secured or a temporary ceiling installed under the existing to prevent sections of masonry fireproofing from falling.
- The Chapel's stained glass should be removed for preservation.

Second Floor and Third Floor

- Bathrooms should be gutted and all fixtures removed.
- Rooms with collapsed floors and structural damage should be shored up and areas closed off. Existing floors should be cleaned out.

Fourth Floor

- Floor and ceilings should be removed.
- Structure needs to be reviewed.
- Possibly install insulation in roof.

Roof

- Existing skylights should be repaired or covered.
- Roof needs to be repaired per engineered specificity for longevity and use.

Hallways

- To protect the hallways we suggest installing a temporary ceiling. This could be used as a plenum area for future ductwork for heating or air conditioning.

In 2021, Thornton Tomasetti developed a report to review the recent roof replacement and repairs. This reviewed all roofs and recent repairs. It seems not all details were followed from the report and the roof will need to be reviewed again during construction.

Code Review

In preparation for the next steps of the process, a simple code review was produced to show how a more in-depth code review will be necessary once the type of work is decided. In general the 2020 Existing Building Code of New York State will be considered, including but not limited to Chapter 12 Historic Buildings. No building shall be less compliant than the original building after repairs, however based on the repair and change in use and occupancy, the type of code compliance in regards to egress and ADA will vary.

In our pre-review according to Section 1203 Fire Safety it is an early assumption that an approved automatic fire-extinguishing system will be necessary. This will help with change of use and occupancy while maintaining many of the exterior features of the building.

Since we are unaware of the future program of the building, which will affect the use and occupancy of the building, proper code review for accessibility and egress will not be able to commence until that time. It should be noted that if the Adaptive Re-use direction is desired the entire building will be brought up to code per non-public assembly/ community use requirements as per the property's legal designation. Other uses such as a school, pre-k, large gatherings, or "non-parkland use" would require approval from legislation. All appropriate measures will need to be taken to make the building as accessible as possible, however some exceptions to some spaces may be rewarded based on the new use and occupancy of the building. Refer to Appendix D for code sections to be referenced when Phase 1 begins.

Structural Review

The current structure of the building is made of wood joists being supported by load bearing masonry walls. These walls are in relatively good condition but require repointing and repair work to ensure continual stability. There are sections where the wood joists have deteriorated and structural failure has occurred. At certain locations of the exterior walls, wood joists have failed and sheared at the wall. This is uncommon and most likely occurred due to moisture and rot in the beam pocket. Further exploration of moisture content should be performed at the floor joists on the exterior walls. There are areas of localized multi-wythe brick collapse that will need to be re-built. It is recommended that a heat source be provided immediately to maintain temperature in the building and reduce the moisture levels in the air and absorbance into the wood and brick.

In some areas the ceiling, consisting of 1-½" thick fireproofing has delaminated from the ceiling. This is a safety concern as it leaves the wood joists exposed to fire but also due to the type of failure we are concerned of more ceiling delamination. The fire-proofing is attached to the wood joists with nails. In the areas where the plaster has fallen, we noticed the nails had rusted and broken away from the structure. It would be our assumption that more areas have this deterioration and further delamination is imminent.

The facade and roof leaking that has occurred at the building over the years has created a condition where moisture is being held against and within the wood floor joists and beams causing an elevated moisture content within the wood. Typical normal moisture contents in older sound wood structural framing in the NorthEast are on the order of 6%-12%. Moisture contents exceeding 20% are considered elevated and provide a breeding ground for microbes to thrive and consume the wood causing wood rot. Rotted wood has no structural value. Insects such as powder post beetles or termites can move into the softened up wood but the whole process starts with water infiltration. Dry wood (less than 20% moisture content) will last for centuries but wood with an elevated moisture content will rot in a matter of a few years.

There were several locations throughout the building where the floors have either collapsed completely or are severely deflected downward as a result of wood rot. It appears that the wet masonry has caused wood rot in the joists to such an extent that they have sheared off where they were pocketed into the brick. For this to have happened under just the weight of the dead load is a verification that the wood rot is extensive in some areas. Typical floors in this building should be able to support a dead load of approximately 20 pounds per square foot (PSF) of floor area as well as a live load likely on the order of 60 PSF for a total load capacity of 80 PSF. The fact that the floors sheared off under just that dead load (20 PSF/80 PSF) or just 25% of its likely rated capacity means that the rot is extensive.

To verify which joists and beams are rotted and which are not would be an extensive investigation. We could come back and do an extensive study in which we use a resistograph (such as an IML ResiPD400) to drill tiny holes through the wood and measure changes in density across the structural member. The ceilings would need to be removed in the areas this testing is done to provide access to the wood framing. We would likely need a small electric lift to provide access to the underside of the structural members. Given the large size of the building this testing could take weeks and cost over \$100,000 in addition to the cost of removing the ceilings.

Alternatively we could load test the floors using a system of water-filled bladders in which water is pumped in from a remote location to load the floors up to their design load with an appropriate factor of safety to see if the floors hold. This would likely be a similar engineering fee exceeding \$100,000 but would not require removal of the ceilings for access from below.

A non-penetrating moisture meter was used and numerous areas of elevated moisture in plaster and masonry were identified in the building. There are ongoing roof and masonry leaks in the building.

The fire escapes on the exterior of the building are in need of demolition and replacement. They are showing signs of structural failure and it is our assumption that minor repairs would not be sufficient.

Mechanical Review

The existing building was constructed and provided with a steam heating system. At the time of construction and subsequently, no central air conditioning was provided. There is evidence that localized split air conditioning units were provided for comfort cooling to certain limited areas.

Heating and cooling for both the refurbished existing building portions and the new construction will utilize high efficiency variable refrigerant flow heat pumps. Those heat pumps will be located in the north portion of the basement of the center wing in a new mechanical equipment room and in the basement of the north portion of the west wing for the smaller load of the west wing only.

A portion of the building will be redeveloped per the scope previously given in the Adaptive Reuse option. However, the remaining portion of the building will not, at present, be developed and in order to prevent further deterioration must be heated to 50 degrees of greater year-round until it is fully rehabbed in the future.

This will be temporary, designed to maintain the needed temperature, at as low a cost as possible, and designed for partial salvage value when the final fit-out occurs. We propose the installation of a small heating plant in the basement of the east and west wings. These will be packaged propane fired (propane used for low initial cost – no new gas service needed, propane supplier to provide the needed storage tanks) condensing hot water boilers vented through the basement window (flue terminating 10 foot above grade). From that location, vertical supply and return risers will feed each floor. Horizontal pipe on the floors will feed several large unit heaters (floor mounted or ceiling hung) circulating heated air. Thermostats will control the unit heaters and the main circulating pump. A version of this system would be proposed for the Facadism to maintain the moisture levels in the masonry repairs.

Two options have been reviewed and should be estimated. The base system would utilize air source heat pumps while the alternative would utilize geo-thermal water source heat pumps employing a series of geo-thermal wells on the adjacent site.

Electrical Review

The existing electrical service to the building is provided by underground feeders that run to service disconnects. The electrical distribution is outdated. The entire electrical system is scavenged and needs to be replaced as it is non-compliant with current electrical loads and code. Most panel locations are not code compliant with regards to mounting heights.

Based on the Adaptive Reuse option being considered, the estimated base electrical load for this re-development is 400KW. However, that does not account for any specialized equipment that may be used in the development fitout. If future additions are to be considered, an allowance for a higher load, say 500KW, would be appropriate. That load would be satisfied by a 2000 amp, 208/120 V, 3 phase service. Depending on actual fit out requirements, any extra capacity could then serve a future phase of the building's renovation.

An emergency generator should also be considered to allow for an emergency power for this construction, especially considering the public use. A minimum sized generator for emergency systems and lighting for the complex would be 75 to 100 KW.

Plumbing Review

The current fire protection system supply is fed from the existing water service. Smoke detectors installed throughout the building are inoperative and do not meet current codes. These cannot be salvaged or reused. Fire hose reels are installed at locations near fire exits. These do not meet current codes and the piping is not suitable for reuse due to age and corrosion. The current building is not protected with a comprehensive sprinkler fire system throughout. Sprinklers are only in the basement and hallways. The current gas service that enters the building is 2" low pressure gas line. That service has been abandoned.

It is proposed for the Adaptive Reuse phase e that the domestic hot water for the various (base building) restrooms, kitchen, and other food service locations be generated from an air or water source heat pump producing 118-degree hot water. Hot water distribution will be provided with a hot water recirculation system for temperature maintenance.

A new sanitary waste and vent system will be provided from fixtures and equipment, with all fixtures trapped and vented to the atmosphere. A new sanitary sewer will be provided from the building to an existing sanitary sewer main in Stewart Avenue. The existing storm drainage system will be re-used. However, if a future construction infill between the east and west wings is being considered, this will result in a higher coefficient of runoff and hence a greater peak stormwater flow. Some allowance for either temporary storm retention or a modification to the existing piping should be provided.

Sprinkler/Fire Protection Systems

The fire alarm system will be an addressable system with each initiating device annunciated as an individual zone. The fire alarm and control panel (FACP) shall provide centralized control and annunciation of fire alarm zones. This location would need to be considered in the phased Rehabilitation plan.

All areas of the building will be served by a total coverage automatic sprinkler system. In addition, standpipes will be installed in all exit stairs and as required to maintain the maximum distance between fire hose valve connections. The building fire protection service connection to the municipal water main.

Historic Preservation Documentation

Initiated in 1933 as part of FDR's New Deal, the Historic American Buildings Survey (HABS) was originally conceived as a means of documenting historic buildings that were vanishing at a rapid rate. Since its inception, HABS documentation has been housed at the Library of Congress where the public can visit the library to view its physical holdings. The public benefit of these programs is far-reaching, enabling amateur and professional historians, architects and conservators the ability to not only understand the breadth of history and context related to a particular property, but also specifics of design, construction and materials that can aid practitioners in the evaluation and treatment of other historic properties.

Fundamental to any salvaging effort is the creation of a salvage plan, which has the capacity to serve as a road map informing the process. Components of the plan that should be addressed include:

- A List of Architectural Ensembles and/or Elements to be Salvaged

Depending on the specific re-use scenario (i.e., reconstruction of an architectural ensemble vs. display of individual elements), the list should be comprised of character-defining features of the building informing its architectural significance. Architectural ensemble examples at St. Paul's School might include its porte-cochère, chapel interior, clock tower, etc., while architectural elements might include its ornamental stone carvings (colonettes with gargoyles, Gothic arches, decorative lintels, cast-iron stair runs, wood paneling,

door/transom/door surround, tile walls/flooring, etc.

- A Process for Inventorying Elements to be Salvaged

Inventory includes the physical tagging of an architectural element, along with the creation of an electronic database for archival purposes to describe and locate it. A numbering system is typically used for inventory, which is also critical to any guide informing a dismantling and reconstruction campaign. At the very least, inventory information should include location, description of the element (material, decorative features, size, shape, condition, etc.) and historic associations (building or structure from which the element originated, architect/builder/craftsman/manufacturer (if known), donor, etc.). The electronic database should also include a bibliography of additional resources in which to learn about the historic property.

- A Process for Salvaging

In addition to offering guidelines for the safe removal of the architectural ensemble or element, this section should also provide specifications for its safe transport and storage in advance of its eventual destination as part of a reconstruction, reconstitution and/or display. Regarding storage, institutions often group salvaged elements into three groups: rooms or structures requiring reconstruction; large objects, such as doors/door surrounds, mantels, windows, etc.; and small objects such as decorative fragments and hardware.

- Disposal of Non-Salvageable Elements

Beyond the salvage plan's focus on the select preservation of character-defining features, it should also address demolition of the remaining portions of the building informed by the owner's overall objectives. For example, if the owner intends to donate or sell any of the remaining elements to a private party, incorporate sustainable practices in the disposal of demolition debris, etc., these plans should be memorialized in the salvage plan.

Environmental Site Assessment

Completed by VHB in 2019 and per Westerman Construction asbestos testing.

1. One elevator was identified within the building and is assumed to be hydraulic-driven. No mechanical room was located to confirm. This causes an assumption that there are PCBs located with the building and the elevator will be considered a BER.
2. Bird guano has recently been removed from the building. Air quality testing should occur before new work begins.
3. No official lead-based paint or asbestos tests were performed; however, one must be considering the building's age.
 - a. Westerman Construction has performed asbestos testing in select areas for a general sample of materials and locations. Positive results have been obtained for the Basement floor tile and hot water pipe insulation. The typical ceiling is made of a cementitious fireproofing. This has tested negative for asbestos.
4. Visual evidence of water damage and potential mold/mildew was observed and is considered as BER.

5. There is uncertainty in global weather predictions commonly attributable to Global Warming. This winter was very mild, but the next few winters could be very bad. The state that St. Paul's is in now, un-heated and partially exposed to the elements will not survive if left as is. Its demise could be accelerated by bad winters, humid summers, and within a few years it will begin to collapse as sections of the building already have.

SCOPE OF WORK

In order for Westerman Construction to develop the following cost estimates and project schedules we have assumed the following scope of work based on conversations with the Village of Garden City, our architects and engineers, and the review of previous reports. This work listed is not an exhaustive list of all items required. Westerman has developed some assumptions based on experience on these types of programs and project scope. Future plans for additions and new public spaces have been discussed by the Village of Garden City but these items have not been included in our estimates.

DEMOLITION

1. The demolition scope should include Saint Paul's school as well as the cottages to the north of the Saint Paul's Structure.
2. Asbestos abatement in the basement and window caulking.
3. Roof, upper floors, and facade to be demolished by hand.
4. Removal of all foundations and footings. The holes left behind will be filled in with clean fill, grass planted and covered with straw.
5. Decorative wood features of hallway panels, doors, chapel, and sitting rooms to be salvaged, numbered, and cataloged. Shipped to a temporary storage facility.
6. Chapel stained glass, stair rails, stone, and woodwork to be salvaged, numbered, and cataloged. Shipped to a temporary storage facility.
7. Masonry salvage to include main entrance to memorial sign, porte cochere. Interior stone elements and tile floor will not be salvaged.
8. Any element added to the building after 1900 will not be salvaged.
9. Provide fill for existing site and grass planting.

ADAPTIVE REUSE

1. We have based on scope of work for the adaptive Reuse plan provided by the Village of Garden City. The areas represented in blue on the plans that were on display in the Village hall will be finished in drywall, hardwood floors, hollow metal doors and frames separating the spaces, basic illumination lighting, wood work repaired and cleaned, new windows, new bathrooms, new elevator for ADA access, heating and cooling. It would be suitable for public use.
2. The rest of the building will be substantially demolished except for the bearing walls, all the joists will be repaired, the inside face of the exterior will be restored. ,
3. The restoration scope will be limited to Saint Paul's school and include all floors and spaces whether programmed or not.
4. Asbestos abatement in the basement and window caulking.
5. Prepare site for new work. Windows be shut and or boarded up, and some form of heating be introduced into the building to prevent further deterioration.
6. Install shoring and emergency repairs were determined by the structural engineer.

7. Remove all interior finishes down to studs and wood joists. Include cellar, floors 1, 2, 3, 4, 5, garrets, and clock tower. Note: It is intended to salvage existing wood panels in the hallways and chapel although these elements will need further investigation.
8. Replace or sister existing joists as required by structural engineer.
9. Install plywood over 50% of floors where joists are exposed. Include temporary railings for safety and access to necessary equipment.
10. Replace two fire escape towers if determined to be required for fire egress.
11. New walls to be metal studs on gypsum board as required for structural stability and fire ratings.
12. Install new fire separations as required by the architect. Separations required in hallways, between floors, and use groups.
13. New gypsum board on ceilings where required for fire separations.
14. Replace roofing and insulation with a new roof for longevity and warranty.
15. Install new windows to meet energy code requirements.
16. Review costing and feasibility for geothermal heating and cooling.
17. Install new heating and cooling system. Minimal heating would be installed in "white box" spaces.
18. Sprinklers, fire protection system, alarms throughout the building.
19. New lighting throughout. Decorative fixtures to be installed on the first floor. Emergency and utility lighting to be installed in "white box" areas.
20. Install new plumbing infrastructure. Include bathrooms for Phase 1 work and extensions and sizing for future work.
21. New elevator as required.
22. ADA ramp or lift for entrance as determined by architect and approved design.
23. New roof drainage system.
24. The rest of the building will be substantially demolished except for the bearing walls, all the joists will be repaired. It will be illuminated to code, have a fire alarm system, fire protection, and heated to maintain 50 degrees in the winter. It will not be suitable for public use.
25. The worst case scenario for adaptive re-use, is after a rigorous evaluation and design process all the mansard structures would have to be removed and rebuilt in kind. Determining the cost of this was not part of the bid document.

FACADISM

1. This work is based on the *St. Pauls Assessment Conditions* by Erwin and Bielinski dated October 24, 2012 Option III
2. The restoration scope will be limited to Saint Paul's school south facade and wing.
3. Asbestos abatement in the basement and window caulking.
4. Review existing masonry bearing walls and additional support as required.
5. Hand demolish north sections of building.
6. Remove floors 2,3, 4, 5, roof, and clock tower.
7. Rebuild mansard roof and dormers for south facade.
8. Repair masonry and repoint all remaining masonry.

9. Decorative wood features of hallway panels, doors, chapel, and sitting rooms to be salvaged, numbered, and cataloged. Shipped to a temporary storage facility.
10. Chapel stained glass, stair rails, stone, organ, and woodwork to be salvaged, numbered, and cataloged. Shipped to a temporary storage facility.
11. Masonry salvage to include main entrance to memorial sign, porte cochere. Interior stone elements and tile floor will not be salvaged.
12. Install new windows for the remaining facade.
13. Install temporary panel system structure to enclose the south wing for protection of restored facade.. Note: For an economical support structure to be designed it would be prudent to have an understanding of the future addition.
14. Install basic temporary HVAC, electrical, and fire control systems for the remaining structure to protect the restored south facade.
15. A new facility building may be erected at a later date behind the south facade.

Review of current proposed phased plan Adaptive Reuse plan

The Village of Garden City has developed a plan for the full building Adaptive Reuse as a multi-phased plan. This work would be achieved through various steps and phases put into place for optimal spending as well as immediate use of the building. Future work would be performed as funding becomes available and program use is approved. The overall approach brings new life and use to the building. The plan incorporates the various discussions over the past 20 years from architects' presentations, engineering reports, and public town meetings.

It is our understanding that Phase 1 will revive the history and grand character of the building. This includes the main entrance, great halls, and the chapel. Restoration work would also be performed on the first floor hallways, grand stairwell, and the second floor community rooms. To do this the entire building needs to go through a restoration to ensure structural stability as well as weather protection. This has been outlined in the Adaptive Reuse phase of this report. The building would also need to go through a building code review to ensure that all safety, fire, and ADA accessibility requirements throughout the building are being addressed within the first phase to prepare for future phases.

Heating, plumbing, mechanical equipment, electrical, and sprinklers systems for the entire building should be thought of for space planning as well as floor and wall penetrations. Space and planning will need to be thought of for future equipment. Spaces left as "white box" condition will need to be protected from fire and the environment. They would also need to have minimal heating systems to maintain temperature and protect the building from future deterioration.

FINANCIAL COSTS

Westerman Construction has developed three cost reviews and proposals as part of this report. These are for the demolition of the existing building, restoring the facade and architectural details, and lastly to rehabilitate the building as part of Phase 1. As reference we have summarized the cost from three previous reports and presentations of similar scope that were made with conclusions on price over the previous years. This is an exercise to show the exponential cost for maintaining the current conditions of the building. The three reports were conducted in 2005, 2010, and 2012.

2005 - The Village engages Karen Backus & Associates for the main building redevelopment; they presented in December. The study concluded it would cost:

- \$6 million for demolition
- \$16 million for building stabilizing
- \$33 million for full rehabilitation

2010 - Committee to save Saint Paul's presented reasons to preserve the building.

- \$8 million for demolition

2012 - Erwin & Beilinski study conclusions:

- Option 1, wing demolition and front and middle restoration - \$31.5 million
- Option 2, demolition of all but center bay and chapel - \$18.7 million
- Option 3, preserve and restore front and east facades only - \$17.3 million
- Option 4, demolish wings and chapel, restore front volume and build - \$12.4 million
- Option 5, full demolition - \$5.8 million

The following pricing summary has been developed based on our interpretation of the RFP. During public meetings it has been asked that we provide assumptions to what future costs of structures could look like depending on the Village of Garden City's desire for St. Paul's. There are multi and infinite options for what can be created with the existing building and the area around it. It is impossible to estimate future phases with accuracy without a clear program, use, code research, and a timeline for when the work is planned to occur. We hope that the base costs as requested in the RFP will assist the Village of Garden City to select a direction from the three options that can ultimately be further investigated.

We are currently in a highly fluctuating unprecedeted market so escalation costs are hard to determine. Typically escalation costs can be between 2 and 4 percent per year.

Westerman's costs are summarized as follows:

These costs have been developed on the above Scope Of Work and experience with similar projects. All work is figured with the publicly funded NYS requirements as union/ prevailing wage. Assumptions have been made with the information provided. If the project is determined to move forward drawings will need to be prepared by an Architect, Structural, MEP, and Fire protection engineers for final pricing. These services are not included in the cost estimates. For this type of historic restoration project, soft costs can range between 15 and 20 percent of the cost of construction depending on the required consultants and design specialists desired.

DEMOLITION (Phase 1)

- \$ 17,678,312 to demolish entire building & cottages, remove foundations, plant grass and trees at site. Although the building is entirely removed this would be a baseline for further development of the area.
 - Future possible phases estimates to be added to above estimated baseline cost.
 - \$15,000,000. The St. Paul's Committees suggested that the area where the building was could be converted to a formal open community park with features,
 - Multiple options are possible.
 - The decorative elements are generally particular to this building. As far as their value the best one could hope for is that a firm would remove what they want for free, which would reduce the cost of demolition and salvage. This can only be determined at the time of contract.

ADAPTIVE REUSE (Phase 1)

- \$ 49,526,287 for restoration of exterior elevations. Interior central bay to be developed for public use. East and West wings to be cleared and fire protected. This is a base line..
 - Future possible phases estimates to be added to above estimated baseline cost.
 - \$5,000,000 simple proscenium type theater inset between chapel and west wing.
 - \$7,000,000 indoor pool complex with appropriate environmental systems inset between chapel and west wing.
 - Multiple options are possible
 - Determining a cost to restore the entire building would be dependent on what the programing of the space would be. If it was to be a simple "white box" as described in our approach to the project above, finishing entire building so it is suitable for public use – with no clearly defined program-, could be , in an order of magnitude, an additional \$60,000,000.
 - To demolish the cottages add \$300,000 (price is higher than the other two schemes because there is no mobilized building demolition contractor.)

FACADISM (Phase 1)

- \$ 46,444,836 for South Facade restoration and temporary enclosure structure
 - Future possible phases options to be added to above baseline estimated cost.
 - \$120,000,000 for a 100,000 sf Moynihan Station style, monumental skylighted building \$1,200/ square foot
 - \$60,000,000 for a 100,000 sf office building like structure at \$600/ square foot
 - \$20,000,000 50,000 sf home depot style big box type structure. At \$400/ square foot
 - Multiple options are possible.
 - To demolish the cottages add \$200,000 (price is lower than above because there is a mobilized demolition contractor)

* Detailed cost estimates are provided in Appendix A

SCHEDULE

Depending on the direction selected by the Village of Garden City, a few issues would first need to be addressed. The interior of the building needs to be cleaned of debris and bird guano. This is imperative to fully access the structure and the building components. The existing structure has been shored but not all areas are fully stabilized. These areas will need to be stabilized to ensure a safe work environment for construction workers. It would also be beneficial for the building to be fully enclosed from the outside elements. Broken windows and roof leaks should be sealed.

Westerman Construction has performed minimal environmental tests for asbestos and lead. These samples were taken from the existing ceiling plaster, hallway walls, and the cellar flooring. Additional testing may be required before construction work begins.

Once a decision has been given from the Village of Garden City, an Architect and engineering team will need to be engaged to prepare drawings and specifications for permits, bidding, and construction. The following schedule is preliminary and will require final review once drawings and permits have been obtained. Note that some durations would be concurrent with other tasks. The computative weeks may not equal the total estimated weeks.

DEMOLITION (26 Weeks)

| | |
|--|----------|
| 1. Mobilization and site security | 2 weeks |
| 2. Abatement removal | 5 weeks |
| 3. Demolition of Saint Paul's and Cottages | 17 weeks |
| 4. Infill site and landscape grassing | 2 weeks |

ADAPTIVE RE-USE (80 Weeks)

| | |
|--|----------|
| 1. Mobilization and site security | 2 weeks |
| 2. Abatement removal | 5 weeks |
| 3. Document existing items for salvage. | 4 weeks |
| 4. Prepare site for new work. | 4 weeks |
| 5. Secure items to be salvaged. | 6 weeks |
| 6. Hand demolish interior finishes. | 10 weeks |
| 7. Install new structural supports as required. | 8 weeks |
| 8. Repair masonry and repoint all remaining masonry. | 10 weeks |
| 9. Install new windows where required. | 8 weeks |
| 10. Install new interior gypsum walls and partitions east, and west elevations. | 16 weeks |
| 11. Install basic HVAC, electrical, and fire control systems for the remaining structure. | 12 weeks |
| 12. Repair roof as required. | 4 weeks |
| 13. New elevator | 12 weeks |
| 14. Landscaping | 2 weeks |

FACADISM (52 Weeks)

| | |
|--|----------|
| 1. Mobilization and site security | 2 weeks |
| 2. Abatement removal | 5 weeks |
| 3. Document existing items for salvage. | 4 weeks |
| 4. Install shoring for the south facade. | 4 weeks |
| 5. Secure items to be salvaged. | 6 weeks |
| 6. Hand demolish north sections of building. Remove floors 2,3, 4, 5, roof, and clock tower. | 24 weeks |
| 7. Rebuild mansard roof and dormers for south facade. Repair masonry and repoint all remaining masonry. | 8 weeks |
| 8. Install new windows for the remaining facade. | 4 weeks |
| 9. Install new panel system structure for south, east, and west elevations. | 16 weeks |
| 10. Install basic HVAC, electrical, and fire control systems for the remaining structure. | 10 weeks |

- *Note: This schedule does not include the timeline for construction of a new community building behind the south facade.*

SUMMARY

Saint Paul's school is a significant building for the Village of Garden City. It is one of the original buildings of the Village, it is part of the A. T. Stewart Era Buildings, and it has become an icon of the Village. Since the Village purchased the building in 1991 there have been multiple studies on how to use the building as well as how to fund its restoration. Over the years the building has deteriorated from lack of maintenance and use. Minor attempts have been made to restore local areas but no extensive restoration project has been approved. After reviewing the existing reports and surveys of the building it has come to a pinnacle moment where a determination to restore or demolish the building must be made.

We have reviewed the building with our construction team, architects, and structural and mechanical engineers. Our reviews have been made from visual inspections and using experience from similar projects. No extensive probes, detailed structural analysis, or design work was performed. We have experience with this type of work and feel comfortable with information provided in this report.

Our analysis has determined that whether or not the building is demolished, restored, or rehabilitated a few immediate actions will need to occur. The interior of the building will need to be cleaned of debris and animal guano. Additional shoring will be required to support the floors where structural failure has occurred. We have also determined that the building will need to become weather proofed and temporary heating needs to be installed. Asbestos will be required to be removed from the locations currently noted to be contaminated.

There is uncertainty in global weather predictions commonly attributable to Global Warming. This winter was very mild, but the next few winters could be very bad. The state that St. Paul's is in now, un-heated and partially exposed to the elements will not survive if left as is. Its demise could be accelerated by bad winters and within a few years it will begin to collapse as sections of the building already have. It could become an extreme hazard and a blight on a thriving affluent community. We therefore highly recommend that action be taken immediately – one way or another – to deal with the future of the building.

If the Demolition option is chosen, the building will need to be hand demolished as a safety measure. This will ensure a safe environment but also allow for key elements to be safely salvaged and stored for posterity.

Adaptive Reuse of Saint Paul's school would be a multi-phased/ multi-year project as determined by the Village of Garden City. The work performed in the Restoration phase would continue into this phase. It is our understanding that this phase of work would include developing a usable series of spaces that would focus on the Chapel, main entrance sequence, and subsequent spaces to make the building operational. The unfinished spaces would become "white box" spaces and be prepared for future renovations. New infrastructure would be

installed with minimal requirements to maintain heat, lighting, and fire protection. This would be considered Phase 1.

The current phased plan, as developed by the Village of Garden City, considers options to infill the “wings” of the school with additional programming. This includes a proposal to create a theater/conference hall between the west and center sections. An open courtyard or pool, are being considered between the east and center sections. If these elements are seriously being considered for some future date, it would be important to plan current infrastructure and structural stabilization for these future uses.

If Facadism is chosen, a similar task will need to occur as noted in the demolition option. The interior of the building will need to be demolished and new structural supports installed. Since the entire building is constructed of supporting masonry the facades are integrated into the interior supports. It is our proposal to maintain as many existing buttracing supports as possible for the south facade. Once the remaining areas are demolished we propose a temporary enclosure to assist in the longevity and protection of the restored south facade. Minimal power and heating will need to be installed to maintain temperature within the remaining building. This will help to minimize additional deterioration of the building.

We leave the determination for the next steps in the hands of the Village of Garden City and hope that this report is helpful in determining the next steps. It is our pleasure to provide more detail if required and assist the Village with determining the best outcome for its needs.

APPENDIX A Project Estimates

St. Paul's School

Conceptual Total Demolition and Salvage Budget

3/7/2023

Prevailing Wage

| CSI | Trade | Budget Amount |
|------------------------|-----------------------------|----------------------|
| 01000 | General Conditions/Staffing | \$ 716,500 |
| 01050 | General Requirements | \$ 430,000 |
| 01150 | Shoring | \$ 225,000 |
| 02110 | Abatement | \$ 947,100 |
| 02220 | Demolition | \$ 5,749,260 |
| 04000 | Salvage Masonry | \$ 1,886,400 |
| 06000 | Salvage Carpentry/Iron | \$ 1,333,250 |
| 08100 | Salvage Stained Glass | \$ 354,000 |
| 15400 | Plumbing | \$ 50,000 |
| 16000 | Electrical | \$ 166,000 |
| 32000 | Site work | \$ 1,750,000 |
| Total Trades | | \$ 13,607,510 |
| GC Insurance | 3.50% | \$ 476,263 |
| GC Bond | | \$ 200,000 |
| GC Overhead and Profit | 10.00% | \$ 1,360,751 |
| Total: | | \$ 15,644,524 |
| Contingency | 10% | \$ 1,564,452 |
| One year Escalation: | 3.00% | \$ 469,336 |
| Grand Total: | | \$ 17,678,312 |

St. Paul's School

Date: 3/7/2023

Conceptual Demolition Budget

| CSI CODE | TRADE // DESCRIPTION | QTY | UNIT | UNIT Cost | TOTAL COST |
|-------------|--|---------|-------|--------------|--------------|
| 1 | | | | | |
| 2 | 01000 General Conditions/Staffing | | | | |
| 3 | | | | | |
| 4 | 26 Weeks | | | | |
| 5 | Project Manager | 26 | Wks. | \$ 5,400 | \$ 140,400 |
| 6 | Superintendent | 26 | Wks. | \$ 5,000 | \$ 130,000 |
| 7 | Admin | 26 | Wks. | \$ 1,800 | \$ 46,800 |
| 8 | Billing | 26 | Wks. | \$ 1,800 | \$ 46,800 |
| 9 | Laborers | 26 | Wks. | \$ 10,000 | \$ 260,000 |
| 10 | Safety | 26 | Wks. | \$ 1,250 | \$ 32,500 |
| 11 | Restoration consultant | 6 | Month | \$ 10,000 | \$ 60,000 |
| 12 | | | | | |
| 13 | | | | | |
| 14 | 01050 General Requirements | | | | |
| 15 | Portable Toilets | 1 | Ls | \$ 20,000 | \$ 20,000 |
| 16 | Field office | 6 | Mo | \$ 5,000 | \$ 30,000 |
| 17 | Site Fence | 1,700 | Lf | \$ 150 | \$ 255,000 |
| 18 | Articulated boom lift for window abatement | 10 | Wks. | \$ 5,000 | \$ 50,000 |
| 19 | Temporary Traffic light system | 1 | Ls | \$ 25,000 | \$ 25,000 |
| 20 | Misc. Material and Equipment | 1 | Ls | \$ 50,000 | \$ 50,000 |
| 21 | | | | | |
| 22 | | | | | |
| 23 | 01150 Shoring | | | | |
| 24 | | | | | |
| 25 | Make building safe for Asbestos removal | 1,000 | Hrs. | \$ 175 | \$ 175,000 |
| 26 | Misc. Materials | 1 | Ls | \$ 50,000 | \$ 50,000 |
| 27 | | | | | |
| 28 | | | | | |
| 29 | | | | | |
| 30 | | | | | |
| 31 | 02110 Abatement | | | | |
| 32 | <i>Pre-demolition:</i> | | | | |
| 33 | Abate friable insulation & vct in basement | 1 | Ls | \$ 500,000 | \$ 500,000 |
| 34 | Misc. abatement | 1 | Ls | \$ 100,000 | \$ 100,000 |
| 35 | Remove window caulk from boom lift | 390 | Ea | \$ 890 | \$ 347,100 |
| 36 | | | | | |
| 37 | | | | | |
| 38 | 02110 Demolition | | | | |
| 39 | | | | | |
| 40 | Mechanical Demolition and removal St. Paul's building | 125,000 | Sf | \$ 15 | \$ 1,875,000 |
| 41 | Mechanical controlled demolition (incl. non-friable ACM) | 125,000 | Sf | \$ 4 | \$ 500,000 |
| 42 | Demolish Cottages | 10,000 | Sf | \$ 12 | \$ 120,000 |
| 43 | Foundation Removal 1/2 rubble fill | 30,000 | Sf | \$ 4 | \$ 120,000 |
| 44 | Engineering | 1 | Ls | \$ 20,000 | \$ 20,000 |
| 45 | Site control/water | 2,076 | Hrs. | \$ 135 | \$ 280,260 |
| 46 | Remove site fence | 1,700 | Lf | \$ 20 | \$ 34,000 |
| 47 | Remove site roadway | Allow | Ls | \$ 300,000 | \$ 300,000 |
| 48 | F&I Clean Fill where foundation removed | 10,000 | Yds. | \$ 250 | \$ 2,500,000 |
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St. Paul's School

Date: 3/7/2023

Conceptual Demolition Budget

| CSI CODE | TRADE // DESCRIPTION | QTY | UNIT | UNIT Cost | TOTAL COST |
|-------------|--|------------|------|--------------|--------------|
| 49 | | | | | |
| 50 | | | | | |
| 51 | 04000 Masonry Salvage | | | | |
| 52 | Scaffold main entrance area (to memorial sign) | 4,900 Sf | \$ | 15 | \$ 73,500 |
| 53 | Scaffold porte cochere | 2,500 Sf | \$ | 15 | \$ 37,500 |
| 54 | Scaffold 4 other representative areas | 4,000 Sf | \$ | 15 | \$ 60,000 |
| 55 | Remove Stone main entrance | 1,400 Hrs. | \$ | 160 | \$ 224,000 |
| 56 | Remove Stone porte cochere | 1,000 Hrs. | \$ | 160 | \$ 160,000 |
| 57 | Remove Stone representative areas | 640 Hrs. | \$ | 160 | \$ 102,400 |
| 58 | Lumber to Crate stone and prepare for storage | 1 Ls | \$ | 30,000 | \$ 30,000 |
| 59 | Crate stone for storage | 1,500 Hrs. | \$ | 150 | \$ 225,000 |
| 60 | Lull and fork lift rental | 1 ls | \$ | 40,000 | \$ 40,000 |
| 61 | Loading and unloading trucks | 700 hrs. | \$ | 120 | \$ 84,000 |
| 62 | Trucking to South west USA | 20 Ea | \$ | 5,000 | \$ 100,000 |
| 63 | Storage South West USA 5 years | 15,000 Sf | \$ | 50 | \$ 750,000 |
| 64 | | | | | |
| 65 | | | | | |
| 66 | | | | | |
| 67 | Total Masonry Salvage: | | | | \$ 1,886,400 |
| 68 | | | | | |
| 69 | 00600 Carpentry/Metal Salvage | | | | |
| 70 | Remove parlor wood work | 600 Hrs. | \$ | 155 | \$ 93,000 |
| 71 | Remove handrails (iron workers) | 600 Hrs. | \$ | 175 | \$ 105,000 |
| 72 | Remove representative wood paneling | 400 Hrs. | \$ | 155 | \$ 62,000 |
| 73 | Remove representative wood doors and details | 400 Hrs. | \$ | 155 | \$ 62,000 |
| 74 | Prepare salvage for shipment | 350 Hrs. | \$ | 135 | \$ 47,250 |
| 75 | Lull and fork lift rental | 1 ls | \$ | 30,000 | \$ 30,000 |
| 76 | Loading and unloading trucks | 700 hrs. | \$ | 120 | \$ 84,000 |
| 77 | Trucking to South west USA | 20 Ea | \$ | 5,000 | \$ 100,000 |
| 78 | Storage South West USA 5 years | 15,000 Sf | \$ | 50 | \$ 750,000 |
| 79 | | | | | |
| 80 | | | | | |
| 81 | Total Wood and iron salvage | | | | \$ 1,333,250 |
| 82 | | | | | |
| 83 | 08100 Stained Glass Salvage | | | | |
| 84 | Scaffolding chapel outside | 10,000 Sf | \$ | 15 | \$ 150,000 |
| 85 | Scaffolding chapel inside | 7,000 Sf | \$ | 12 | \$ 84,000 |
| 86 | Remove and crate stained glass | 22 Ea | \$ | 5,000 | \$ 110,000 |
| 87 | Ship to storage facility | 2 Ea | \$ | 5,000 | \$ 10,000 |
| 88 | | | | | |
| 89 | | | | | |
| 90 | Stained Glass Salvage | | | | \$ 354,000 |

St. Paul's School

Date: 3/7/2023

Conceptual Demolition Budget

| CSI CODE | TRADE // DESCRIPTION | QTY | UNIT | UNIT Cost | TOTAL COST |
|-------------|-----------------------------------|---------|-------|-------------------------|---------------------|
| 91 | | | | | |
| 92 | 15400 Plumbing | | | | |
| 93 | | | | | |
| 94 | Provide temporary water service | 1 | Ls | \$ 40,000 | \$ 40,000 |
| 95 | Provide temporary water hook-ups | 1 | Ls | \$ 10,000 | \$ 10,000 |
| 96 | | | | | |
| 97 | | | | Total Plumbing | \$ 50,000 |
| 99 | | | | | |
| 100 | 16000 Electrical | | | | |
| 101 | | | | | |
| 102 | Power for temporary site lighting | 80 | Mh | \$ 200 | \$ 16,000 |
| 103 | Temporary electric service | 1 | Ls | \$ 50,000 | \$ 50,000 |
| 104 | Temporary site lighting | 10 | Ea | \$ 10,000 | \$ 100,000 |
| 105 | Standby electrician | 26 | Wks | \$ 7,000 | \$ 182,000 |
| 106 | | | | Total Electrical | \$ 166,000 |
| 107 | 32000 Site Work | | | | |
| 108 | Grading | 200,000 | Sf | \$ 0.5 | \$ 100,000 |
| 109 | Discing | 200,000 | Sf | \$ 0.25 | \$ 50,000 |
| 110 | Plant Grass spread hay | 200,000 | Sf | \$ 0 | \$ 50,000 |
| 111 | Plant mature trees | 30 | Ea | \$ 35,000 | \$ 1,050,000 |
| 112 | Benches/walkways | 1 | Allow | \$ 500,000 | \$ 500,000 |
| 113 | | | | Total Site work | \$ 1,750,000 |
| 114 | | | | | |

St. Paul's School
Conceptual Adaptive Re-use Budget

3/7/2023

Prevailing Wage

| Line # | CSI | Trade | BUDGET AMOUNT |
|--------|------------------------|-------------------------------|---------------------|
| 1 | 01000 | General Conditions/Staffing | \$ 3,664,000 |
| 2 | 01050 | General Requirements | \$ 688,000 |
| 3 | 01150 | Shoring | \$ 225,000 |
| 4 | 02110 | Abatement | \$ 947,100 |
| 5 | 02220 | Demolition | \$ 3,002,725 |
| 6 | 03000 | Concrete | \$ 200,000 |
| 7 | 04000 | Masonry | \$ 7,775,000 |
| 8 | 04400 | Stone | \$ 225,000 |
| 9 | 05120 | Structural Steel | \$ 500,000 |
| 10 | 05500 | Architectural Metal and Glass | \$ 524,000 |
| 11 | 05510 | Metal Stairs | \$ 180,000 |
| 12 | 05700 | Ornamental Metal | \$ 100,000 |
| 13 | 06400 | Architectural Woodwork | \$ 360,000 |
| 14 | 07500 | Roofing | \$ 6,200,000 |
| 15 | 07800 | Fireproofing | \$ 94,500 |
| 16 | 08000 | Doors & Windows | \$ 617,200 |
| 17 | 08100 | Metal Doors & Frames | \$ 40,000 |
| 18 | 08710 | Finish Hardware | \$ 25,000 |
| 19 | 09250 | Drywall & Carpentry | \$ 4,250,000 |
| 20 | 09300 | Tile | \$ 60,000 |
| 21 | 09550 | Wood Flooring | \$ 300,000 |
| 23 | 09900 | Painting | \$ 130,000 |
| 24 | 10162 | Toilet Partitions | \$ 16,000 |
| 25 | 10800 | Toilet & Bath Accessories | \$ 10,000 |
| 26 | 13900 | Fire Protection | \$ 1,045,000 |
| 27 | 14200 | Elevators | \$ 300,000 |
| 28 | 15400 | Plumbing | \$ 315,000 |
| 29 | 15700 | HVAC | \$ 3,237,000 |
| 30 | 16000 | Electrical | \$ 3,779,000 |
| 31 | Total Trades | | \$ 38,809,525 |
| 32 | | | |
| 33 | GC Bond | | \$ 750,000 |
| 34 | GC Insurance | | 3.00% \$ 1,164,286 |
| 35 | GC Overhead and Profit | | 8.00% \$ 3,104,762 |
| 36 | Total: \$ 43,828,573 | | |
| 37 | | | |
| 38 | Escalation | | 3.00% \$ 1,314,857 |
| 39 | Contingency | | 10.00% \$ 4,382,857 |
| 41 | Grand Total | | \$ 49,526,287 |
| | | | |
| | New Theater Structure | | |
| | \$ 5,000,000 | | |
| | | | |
| | New Pool building | | |
| | \$ 7,000,000 | | |

St. Paul's School
Conceptual Adaptive Re-use Budget

Date: **3/7/2023**

| Line | CODE TRADE // DESCRIPTION | QTY | U/M | UNIT RATE | TOTAL COST |
|------|--|--------|--------|-----------------------------------|-----------------------|
| 1 | | | | | |
| 2 | 01000 General Conditions/Staffing | | | | |
| 3 | Staffing | | | | |
| 4 | 80 Weeks | | | | |
| 5 | Project Manager | 80 | Wks. | \$ 5,400 | \$ 432,000 |
| 6 | Asst. Project Manager | 80 | Wks. | \$ 4,000 | \$ 320,000 |
| 7 | Superintendent | 80 | Wks. | \$ 5,000 | \$ 400,000 |
| 8 | Asst. Superintendent | 80 | Wks. | \$ 4,000 | \$ 320,000 |
| 9 | Admin | 80 | Wks. | \$ 3,600 | \$ 288,000 |
| 10 | Billing | 80 | Wks. | \$ 1,800 | \$ 144,000 |
| 11 | Laborers | 80 | Wks. | \$ 20,000 | \$ 1,600,000 |
| 12 | Safety | 80 | Wks. | \$ 1,250 | \$ 100,000 |
| 13 | Restoration consultant | 6 | Months | \$ 10,000 | \$ 60,000 |
| 14 | | | | \$ | - |
| 15 | | | | \$ | - |
| 16 | | | | \$ | - |
| 17 | | | | Total General Conditions | \$ 3,664,000 |
| 18 | | | | | |
| 19 | 01050 General Requirements | | | | |
| 20 | | | | | |
| 21 | Portable Toilets | 18 | Ls | \$ 1,000 | \$ 18,000 |
| 22 | Field office | 18 | Mo | \$ 5,000 | \$ 90,000 |
| 23 | Site Fence | 1,700 | Lf | \$ 150 | \$ 255,000 |
| 24 | Articulated boom lift for window abatement | 10 | Wks. | \$ 5,000 | \$ 50,000 |
| 25 | Temporary Traffic light system | 1 | Ls | \$ 25,000 | \$ 25,000 |
| 26 | Misc. Material and Equipment | 1 | Ls | \$ 50,000 | \$ 50,000 |
| 27 | Scaffold main stair | 1 | Ls | \$ 200,000 | \$ 200,000 |
| 30 | | | | \$ | - |
| 31 | | | | \$ | - |
| 32 | | | | Total General Requirements | \$ 688,000 |
| 33 | | | | | |
| 34 | 01150 Shoring | | | | |
| 36 | Make building safe for Asbestos removal | 1,000 | Hrs. | \$ 175 | \$ 175,000 |
| 37 | Misc. Materials | 1 | Ls | \$ 50,000 | \$ 50,000 |
| 38 | | | | Total Shoring | \$ 225,000 |
| 39 | | | | | |
| 40 | 02110 Abatement | | | | |
| 41 | | | | | |
| 42 | Abate friable insulation & vct in basement | 1 | Ls | \$ 500,000 | \$ 500,000 |
| 43 | Misc. abatement | 1 | Ls | \$ 100,000 | \$ 100,000 |
| 44 | Remove window caulk from boom lift | 390 | Ea | \$ 890 | \$ 347,100 |
| 45 | | | | \$ | - |
| 46 | | | | Total Abatement | \$ 947,100 |
| 48 | 02220 Demolition | | | | |
| 49 | | | | | |
| 50 | Basement clean out | 25,690 | Sf | \$ 10 | \$ 256,900 |
| 51 | Remove all non-bearing partitions, ceilings and flooring 1st floor | 25,769 | Sf | \$ 25 | \$ 644,225 |
| 52 | Remove all non-bearing partitions, ceilings and flooring 2nd floor | 24,477 | Sf | \$ 25 | \$ 611,925 |
| 53 | Remove all non-bearing partitions, ceilings and flooring 3rd floor | 22,908 | Sf | \$ 25 | \$ 572,700 |
| 54 | Remove all non-bearing partitions, ceilings and flooring 4th floor | 14,664 | Sf | \$ 25 | \$ 366,600 |
| 55 | Remove all non-bearing partitions, ceilings and flooring 5nd floor | 3,675 | Sf | \$ 25 | \$ 91,875 |
| 56 | Remove all finishes garrets, clock tower | 1 | Ls | \$ 300,000 | \$ 300,000 |
| 57 | Remove Windows | 634 | Ea | \$ 250 | \$ 158,500 |
| 58 | | | | \$ | - |
| 59 | | | | Total Demolition | \$ 363,002,725 |

St. Paul's School Conceptual Adaptive Re-use Budget

Date: 3/7/2023

| Line | CODE TRADE // DESCRIPTION | QTY | U/M | UNIT RATE | TOTAL COST |
|------|---|---------|------|------------------------------------|---------------------|
| 61 | 03000 Concrete | | | | |
| 62 | | | | | |
| 63 | Stair tower footings | 8 | Ea | \$ 10,000 | \$ 80,000 |
| 64 | Pads for heat pumps | 12 | Ea | \$ 10,000 | \$ 120,000 |
| 65 | | | | Total Concrete | \$ 200,000 |
| 66 | | | | | |
| 67 | 04000 Masonry | | | | |
| 68 | Scaffold entire building | 125,000 | Sf | \$ 15 | \$ 1,875,000 |
| 69 | General repointing/façade maintenance | 65,000 | Sf | \$ 40 | \$ 2,600,000 |
| 70 | Rebuild dormers window/structure | 20 | Ea | \$ 30,000 | \$ 600,000 |
| 71 | Replace stones | 100 | Ea | \$ 7,000 | \$ 700,000 |
| 72 | Jahn Mortar stone | 300 | Ea | \$ 300 | \$ 90,000 |
| 73 | Repair clock tower | 1 | Ls | \$ 450,000 | \$ 450,000 |
| 74 | Repoint interior brick 50% | 32,000 | sf | \$ 30 | \$ 960,000 |
| 75 | Misc. interior masonry repair | 1 | Ls | \$ 100,000 | \$ 100,000 |
| 77 | Repair joist pockets | 4,000 | Ea | \$ 100 | \$ 400,000 |
| 78 | | | | Total Masonry | \$ 7,775,000 |
| 79 | | | | | |
| 80 | 04400 Stone | | | | |
| 81 | | | | | |
| 82 | Repair replace stair treads | 150 | Ea | \$ 1,500 | \$ 225,000 |
| 83 | | | | | \$ - |
| 84 | | | | Total Stone | \$ 225,000 |
| 85 | | | | | |
| 86 | 05120 Structural Steel | | | | |
| 87 | | | | | |
| 88 | Misc. Structural steel repair | 1 | Ls | \$ 100,000 | \$ 100,000 |
| 89 | Repair stair towers | 10 | land | \$ 40,000 | \$ 400,000 |
| 90 | | | | | \$ - |
| 91 | | | | Total Structural Steel | \$ 500,000 |
| 92 | | | | | |
| 93 | 05500 Architectural Metal and Glass | | | | |
| 94 | | | | | |
| 95 | Scaffolding chapel inside | 7,000 | Sf | \$ 12 | \$ 84,000 |
| 96 | Remove restore reinstall stained glass | 22 | Ea | \$ 20,000 | \$ 440,000 |
| 97 | | | | | \$ - |
| 98 | | | | | \$ - |
| 99 | | | | Total Arch. Metal and Glass | \$ 524,000 |
| 100 | | | | | |
| 101 | 05510 Metal Stairs | | | | |
| 102 | Reinforce and repair stairs | 800 | Hrs. | \$ 175 | \$ 140,000 |
| 103 | Materials | 1 | Ls | \$ 40,000 | \$ 40,000 |
| 104 | | | | | \$ - |
| 105 | | | | Total Metal Stairs | \$ 180,000 |
| 106 | | | | | |
| 107 | 05700 Ornamental Metal | | | | |
| 108 | Misc. Ornamental metal repair (skylight etc.) | 1 | Ls | \$ 100,000 | \$ 100,000 |
| 109 | | | | Total OM | \$ 100,000 |
| 110 | | | | | |

St. Paul's School
 Conceptual Adaptive Re-use Budget

Date: 3/7/2023

| Line | CODE TRADE // DESCRIPTION | QTY | U/M | UNIT RATE | TOTAL COST |
|------|---------------------------------------|--------|------|---------------------------------------|---------------------|
| 111 | 06400 Architectural Woodwork | | | | |
| 112 | | | | | |
| 113 | Repair interior wood work | 1,200 | Hrs. | \$ 200 | \$ 240,000 |
| 114 | Repair entry doors | 6 | Ea | \$ 20,000 | \$ 120,000 |
| 115 | | | | \$ | \$ - |
| 116 | | | | Total Arch. Woodwork | \$ 360,000 |
| 117 | | | | | |
| 118 | 07500 Roofing | | | | |
| 119 | Re-roof main roof | 26,000 | Sf | \$ 100 | \$ 2,600,000 |
| 120 | Re-roof mansards | 30,000 | Sf | \$ 110 | \$ 3,300,000 |
| 121 | New gutter and leaders | 1 | Ls | \$ 300,000 | \$ 300,000 |
| 122 | | | | Total Roofing | \$ 6,200,000 |
| 123 | | | | | |
| 124 | 07800 Fireproofing | | | | |
| 125 | Misc. Firestopping | 700 | Hrs. | 135 \$ | 94,500 |
| 126 | | | | Total Fireproofing | \$ 94,500 |
| 127 | | | | | |
| 128 | | | | | |
| 129 | 08000 Windows | | | | |
| 130 | New windows | 50 | Ea | \$ 3,000 | \$ 150,000 |
| 131 | Board up other window locations | 584 | Ea | \$ 800 | \$ 467,200 |
| 132 | | | | \$ | \$ - |
| 133 | | | | Total Doors & Windows | \$ 617,200 |
| 134 | | | | | |
| 135 | 08100 Metal Doors & Frames | | | | |
| 136 | Pair door and frame | 10 | Ea | \$ 2,000 | \$ 20,000 |
| 137 | Single | 20 | Ea | \$ 1,000 | \$ 20,000 |
| 138 | | | | Total Metal Doors & Frames | \$ 40,000 |
| 139 | | | | | |
| 140 | | | | | |
| 141 | 08710 Finish Hardware | | | | |
| 142 | | | | | |
| 143 | Sets of hardware | 25 | Ea | \$ 1,000 | \$ 25,000 |
| 144 | | | | \$ | \$ - |
| 145 | | | | Total Finish Hardware | \$ 25,000 |
| 146 | | | | | |
| 147 | | | | | |
| 148 | 09250 Drywall & Carpentry | | | | |
| 149 | Replace joists | 2,000 | Ea | \$ 1,000 | \$ 2,000,000 |
| 150 | plywood sub floor throughout (50%) | 50,000 | Sf | \$ 15 | \$ 750,000 |
| 151 | 2 layer 3/4" GWB fire stop ceiling | 33,000 | Sf | \$ 30 | \$ 990,000 |
| 152 | Drywall partition | 200 | Lf | \$ 250 | \$ 50,000 |
| 153 | Drywall furring | 2,000 | Lf | \$ 200 | \$ 400,000 |
| 154 | Install doors and hardware | 40 | Ea | \$ 1,500 | \$ 60,000 |
| 155 | | | | \$ | \$ - |
| 156 | | | | \$ | \$ - |
| 157 | | | | \$ | \$ - |
| 158 | | | | Total Drywall & Carpentry | \$ 4,250,000 |
| 160 | 09300 Tile | | | | |
| 161 | | | | | |
| 162 | Bathrooms | 4 | Ea | \$ 15,000 | \$ 60,000 |
| 163 | | | | \$ | \$ - |
| 164 | | | | Total Tile | \$ 60,000 |
| 165 | | | | | |
| 166 | | | | | |

St. Paul's School
 Conceptual Adaptive Re-use Budget

Date: 3/7/2023

| Line | CODE TRADE // DESCRIPTION | QTY | U/M | UNIT RATE | TOTAL COST |
|------|--|--------|-------|--|---------------------|
| 167 | 09550 Wood Flooring | | | | |
| 168 | | | | \$ | - |
| 169 | Engineered wood flooring | 20,000 | Sf | \$ 15 | \$ 300,000 |
| 170 | | | | \$ | - |
| 171 | | | | \$ | - |
| | | | | Total Wood Flooring | \$ 300,000 |
| 172 | | | | | |
| 173 | | | | | |
| 174 | 09900 Painting | | | | |
| 175 | | | | | |
| 176 | paint drywall | 30,000 | Sf | \$ 2 | \$ 60,000 |
| 177 | Paint ceilings | 35,000 | Sf | \$ 2 | \$ 70,000 |
| 178 | | | | | |
| 179 | | | | Total Painting & Wallcovering | \$ 130,000 |
| 180 | | | | | |
| 181 | 10162 Toilet Partitions | | | | |
| 182 | Toilet partitions | 8 | Ea | \$ 2,000 | \$ 16,000 |
| 183 | | | | \$ | - |
| 184 | | | | Toilet Partitions | \$ 16,000 |
| 185 | 10800 Toilet & Bath Accessories | | | | |
| 186 | | | | | |
| 187 | Toilet & Bath Accessories | 1 | ls | \$ 10,000 | \$ 10,000 |
| 188 | | | | \$ | - |
| 189 | | | | Toilet Accessories | \$ 10,000 |
| 190 | | | | | |
| 191 | 13900 Fire Protection | | | | |
| 192 | | | | | |
| 193 | New Sprinkler distribution throughout | 1,300 | Heads | \$ 650 | \$ 845,000 |
| 194 | Standpipe Siamese and check | 1 | ls | \$ 200,000 | \$ 200,000 |
| 195 | | | | Total Fire Protection | \$ 1,045,000 |
| 196 | | | | | |
| 197 | 14200 Elevators | | | | |
| 198 | New elevator | 4 | Stops | \$ 75,000 | \$ 300,000 |
| 199 | | | | \$ | - |
| 200 | | | | Total Elevators | \$ 300,000 |
| 201 | | | | | |
| 202 | 15400 Plumbing | | | | |
| 203 | | | | | |
| 204 | New service | 1 | ls | \$ 50,000 | \$ 50,000 |
| 205 | Main waste | 200 | lf | \$ 500 | \$ 100,000 |
| 206 | New Domestic water and detector check | 1 | ls | \$ 75,000 | \$ 75,000 |
| 207 | Fixtures | 18 | Ea | \$ 5,000 | \$ 90,000 |
| 208 | | | | \$ | - |
| 209 | | | | \$ | - |
| 210 | | | | Total Plumbing | \$ 315,000 |
| 211 | | | | | |

St. Paul's School Conceptual Adaptive Re-use Budget

Date: 3/7/2023

| Line | CODE TRADE // DESCRIPTION | QTY | U/M | UNIT RATE | TOTAL COST |
|------|---|---------|-----|------------|--------------------------------------|
| 212 | 15700 HVAC | | | | |
| 213 | | | | | |
| 214 | piping LL | 600 | Lf | \$ 200 | \$ 120,000 |
| 215 | piping 1 | 600 | Lf | \$ 200 | \$ 120,000 |
| 216 | Piping 2 | 600 | Lf | \$ 200 | \$ 120,000 |
| 217 | Piping 3 | 600 | Lf | \$ 200 | \$ 120,000 |
| 218 | Piping 4 | 500 | Lf | \$ 200 | \$ 100,000 |
| 219 | Piping 5 | 200 | Lf | \$ 200 | \$ 40,000 |
| 220 | Fan coil units LL | 30 | Ea | \$ 3,000 | \$ 90,000 |
| 221 | Fan coil units 1 | 30 | Ea | \$ 3,000 | \$ 90,000 |
| 222 | Fan coil units 2 | 30 | Ea | \$ 3,000 | \$ 90,000 |
| 223 | Fan coil units 3 | 30 | Ea | \$ 3,000 | \$ 90,000 |
| 224 | Fan coil units 4 | 15 | Ea | \$ 3,000 | \$ 45,000 |
| 225 | Fan coil units 5 | 4 | Ea | \$ 3,000 | \$ 12,000 |
| 226 | Air source heat pumps | 12 | Ea | \$ 125,000 | \$ 1,500,000 |
| 227 | Controls | 1 | Ls | \$ 100,000 | \$ 100,000 |
| 228 | RTU unit (ventilation and heat recovery) and allowance for duct | 2 | Ea | \$ 75,000 | \$ 150,000 |
| 229 | Ductwork | 1,500 | Lf | \$ 300 | \$ 450,000 |
| 230 | | | | | \$ - |
| 231 | | | | | \$ - |
| 232 | | | | | \$ - |
| 233 | | | | | \$ - |
| 234 | | | | | \$ - |
| 235 | | | | | Total HVAC \$ 3,237,000 |
| 236 | | | | | |
| 237 | 16000 Electrical | | | | |
| 238 | | | | | |
| 239 | New electrical distribution and main switch | 1 | Ls | \$ 350,000 | \$ 350,000 |
| 240 | Lighting and general electric to useable areas | 33,000 | sf | \$ 35 | \$ 1,155,000 |
| 241 | Lighting and general electric to future areas | 90,000 | sf | \$ 15 | \$ 1,350,000 |
| 242 | Temporary power and light | 125,000 | Sf | \$ 5 | \$ 625,000 |
| 243 | Power to FCU | 12 | Ea | \$ 5,000 | \$ 60,000 |
| 244 | Power to air source heat pumps | 139 | Ea | \$ 1,000 | \$ 139,000 |
| 245 | Site lighting | 1 | Ls | \$ 100,000 | \$ 100,000 |
| 246 | | | | | \$ - |
| 247 | | | | | \$ - |
| 248 | | | | | Total Electrical \$ 3,779,000 |

St. Paul's School

Conceptual Facadism Budget

3/7/2023

Prevailing Wage

| Line # | CSI | Trade | BUDGET AMOUNT |
|--------|-------|-----------------------------|----------------------|
| 1 | 01000 | General Conditions/Staffing | \$ 1,882,600 |
| 2 | 01050 | General Requirements | \$ 652,000 |
| 3 | 01150 | Shoring | \$ 525,000 |
| 4 | 02110 | Abatement | \$ 947,100 |
| 5 | 02220 | Demolition | \$ 7,965,000 |
| 6 | 03000 | Concrete | \$ 900,000 |
| 7 | 04000 | Masonry | \$ 3,080,000 |
| 9 | 05120 | Structural Steel | \$ 5,400,000 |
| 11 | 05510 | Metal Stairs | \$ 160,000 |
| 13 | 06400 | Woodwork Salvage | \$ 1,333,250 |
| 14 | 07500 | Roofing | \$ 2,700,000 |
| 15 | 07800 | Façade system | \$ 3,000,000 |
| 16 | 08000 | Windows | \$ 240,000 |
| 17 | 08100 | Stained Glass Salvage | \$ 354,000 |
| 19 | 09250 | Drywall & Carpentry | \$ 4,180,000 |
| 26 | 13900 | Fire Protection | \$ 228,000 |
| 28 | 15400 | Plumbing | \$ 175,000 |
| 29 | 15700 | HVAC | \$ 1,700,000 |
| 30 | 16000 | Electrical | \$ 1,066,000 |
| 31 | | Total Trades | \$ 36,487,950 |
| 32 | | | |
| 33 | | GC Bond | \$ 600,000 |
| 34 | | GC Insurance | 3.00% \$ 1,094,639 |
| 35 | | GC Overhead and Profit | 8.00% \$ 2,919,036 |
| 36 | | Total: | \$ 41,101,625 |
| 37 | | | |
| 38 | | Escalation | 3.00% \$ 1,233,049 |
| 39 | | Contingency | 10.00% \$ 4,110,162 |
| 40 | | | |
| 41 | | Grand Total | \$ 46,444,836 |

**Integrate new building into existing façade :
with space frame and tensile bubble structure and monumental skylight**

100,000 Square feet \$ 1,200 \$ 120,000,000

\$ 166,444,836

St. Paul's School
Conceptual Facadism Budget

Date: 3/7/2023

| Line | CODE TRADE // DESCRIPTION | QTY | U/M | UNIT RATE | TOTAL COST |
|------|--|--------|--------|-----------------------------------|-----------------------|
| 1 | | | | | |
| 2 | 01000 General Conditions/Staffing | | | | |
| 3 | Staffing | | | | |
| 4 | 52 Weeks | | | | |
| 5 | Project Manager | 52 | Wks. | \$ 5,400 | \$ 280,800 |
| 6 | Asst. Project Manager | 52 | Wks. | \$ 4,000 | \$ 208,000 |
| 7 | Superintendent | 52 | Wks. | \$ 5,000 | \$ 260,000 |
| 8 | Asst. Superintendent | 52 | Wks. | \$ 4,000 | \$ 208,000 |
| 9 | Admin | 52 | Wks. | \$ 3,600 | \$ 187,200 |
| 10 | Billing | 52 | Wks. | \$ 1,800 | \$ 93,600 |
| 11 | Laborers | 52 | Wks. | \$ 10,000 | \$ 520,000 |
| 12 | Safety | 52 | Wks. | \$ 1,250 | \$ 65,000 |
| 13 | Restoration consultant | 6 | Months | \$ 10,000 | \$ 60,000 |
| 14 | | | | | \$ - |
| 15 | | | | Total General Conditions | \$ 1,882,600 |
| 16 | | | | | |
| 17 | 01050 General Requirements | | | | |
| 18 | | | | | |
| 19 | Portable Toilets | 12 | Ls | \$ 1,000 | \$ 12,000 |
| 20 | Field office | 12 | Mo | \$ 5,000 | \$ 60,000 |
| 21 | Site Fence | 1,700 | Lf | \$ 150 | \$ 255,000 |
| 22 | Articulated boom lift for window abatement | 10 | Wks. | \$ 5,000 | \$ 50,000 |
| 23 | Temporary Traffic light system | 1 | Ls | \$ 25,000 | \$ 25,000 |
| 24 | Misc. Material and Equipment | 1 | Ls | \$ 50,000 | \$ 50,000 |
| 25 | Scaffold main stair | 1 | Ls | \$ 200,000 | \$ 200,000 |
| 26 | | | | | \$ - |
| 27 | | | | | \$ - |
| 28 | | | | Total General Requirements | \$ 652,000 |
| 29 | | | | | |
| 30 | 01150 Shoring | | | | |
| 31 | Shoring during steel erection | 1 | Ls | \$ 300,000 | \$ 300,000 |
| 32 | Make building safe for Asbestos removal | 1,000 | Hrs. | \$ 175 | \$ 175,000 |
| 33 | Misc. Materials | 1 | Ls | \$ 50,000 | \$ 50,000 |
| 34 | | | | Total Shoring | \$ 525,000 |
| 35 | | | | | |
| 36 | 02110 Abatement | | | | |
| 37 | | | | | |
| 38 | Abate friable insulation & vct in basement | 1 | Ls | \$ 500,000 | \$ 500,000 |
| 39 | Misc. abatement | 1 | Ls | \$ 100,000 | \$ 100,000 |
| 40 | Remove window caulk from boom lift | 390 | Ea | \$ 890 | \$ 347,100 |
| 41 | | | | | \$ - |
| 42 | | | | Total Abatement | \$ 947,100 |
| 43 | | | | | |
| 44 | 02220 Demolition | | | | |
| 45 | | | | | |
| 46 | Hand demolition north sections of the complex | 95,000 | Sf | \$ 60 | \$ 5,700,000 |
| 47 | Demolish Cottages | 10,000 | Sf | \$ 12 | \$ 120,000 |
| 48 | Prepare south remaining portion for steel | 30,000 | Sf | \$ 30 | \$ 900,000 |
| 49 | Remove all non-bearing partitions, ceilings and flooring 1st floor | 12,000 | Sf | \$ 25 | \$ 300,000 |
| 50 | Remove all non-bearing partitions, ceilings and flooring 2nd floor | 12,000 | Sf | \$ 25 | \$ 300,000 |
| 51 | Remove all non-bearing partitions, ceilings and flooring 3rd floor | 12,000 | Sf | \$ 25 | \$ 300,000 |
| 52 | Remove all non-bearing partitions, ceilings and flooring 4th floor | 12,000 | Sf | \$ 25 | \$ 300,000 |
| 53 | Remove all non-bearing partitions, ceilings and flooring 5nd floor | 1,000 | Sf | \$ 25 | \$ 25,000 |
| 54 | Remove Windows | 80 | Ea | \$ 250 | \$ 20,000 |
| 55 | | | | | \$ - |
| 56 | | | | Total Demolition | \$ 427,965,000 |

St. Paul's School Conceptual Facadism Budget

Date: 3/7/2023

| Line | CODE TRADE // DESCRIPTION | QTY | U/M | UNIT RATE | TOTAL COST |
|------|--|--------|------|-------------------------------|---------------------|
| 57 | | | | | |
| 58 | 03000 Concrete | | | | |
| 59 | | | | | |
| 60 | New footings for columns | 60 | Ea | \$ 15,000 | \$ 900,000 |
| 61 | | | | \$ | - |
| 62 | | | | Total Concrete | \$ 900,000 |
| 63 | | | | | |
| 64 | 04000 Masonry | | | | |
| 65 | Scaffold south portion of entire building | 30,000 | Sf | \$ 15 | \$ 450,000 |
| 66 | General repointing/façade maintenance | 30,000 | Sf | \$ 40 | \$ 1,200,000 |
| 67 | Rebuild dormers window/structure | 15 | Ea | \$ 30,000 | \$ 450,000 |
| 68 | Replace stones | 50 | Ea | \$ 7,000 | \$ 350,000 |
| 69 | Jahn Mortar stone | 100 | Ea | \$ 300 | \$ 30,000 |
| 70 | Repoint interior brick 50% | 15,000 | sf | \$ 30 | \$ 450,000 |
| 71 | Misc. interior masonry repair | 1 | Ls | \$ 50,000 | \$ 50,000 |
| 72 | Repair joist pockets | 1,000 | Ea | \$ 100 | \$ 100,000 |
| 73 | | | | Total Masonry | \$ 3,080,000 |
| 74 | | | | | |
| 75 | | | | | |
| 76 | 05120 Structural Steel | | | | |
| 77 | | | | | |
| 78 | Thread structural support system thorough building | 40,000 | Sf | \$ 100 | \$ 4,000,000 |
| 79 | Tie structure to new support system hilti anchor | 2,000 | ea | \$ 500 | \$ 1,000,000 |
| 80 | Crane | 3 | Mo | \$ 100,000 | \$ 300,000 |
| 81 | Misc. Structural steel repair | 1 | Ls | \$ 100,000 | \$ 100,000 |
| 82 | | | land | \$ 40,000 | \$ - |
| 83 | | | | | \$ - |
| 84 | | | | Total Structural Steel | \$ 5,400,000 |
| 85 | | | | | |
| 86 | | | | | |
| 87 | 05510 Metal Stairs | | | | |
| 88 | Access stair tower | 4 | Fls | \$ 40,000 | \$ 160,000 |
| 89 | | | Ls | \$ - | \$ - |
| 90 | | | | | \$ - |
| 91 | | | | Total Metal Stairs | \$ 160,000 |
| 92 | | | | | |

St. Paul's School
Conceptual Facadism Budget

Date: 3/7/2023

| Line | CODE TRADE // DESCRIPTION | QTY | U/M | UNIT RATE | TOTAL COST |
|------|--|------------|-----|---------------------------------------|---------------------|
| 93 | 06400 Woodwork Salvage | | | | |
| 94 | Remove parlor wood work | 600 Hrs. | \$ | 155 | \$ 93,000 |
| 95 | Remove handrails (iron workers) | 600 Hrs. | \$ | 175 | \$ 105,000 |
| 96 | Remove representative wood paneling | 400 Hrs. | \$ | 155 | \$ 62,000 |
| 97 | Remove representative wood doors and details | 400 Hrs. | \$ | 155 | \$ 62,000 |
| 98 | Prepare salvage for shipment | 350 Hrs. | \$ | 135 | \$ 47,250 |
| 99 | Lull and fork lift rental | 1 Ls | \$ | 30,000 | \$ 30,000 |
| 100 | Loading and unloading trucks | 700 hrs. | \$ | 120 | \$ 84,000 |
| 101 | Trucking to South west USA | 20 Ea | \$ | 5,000 | \$ 100,000 |
| 102 | Storage South West USA 5 years | 15,000 SqF | \$ | 50 | \$ 750,000 |
| 103 | | | | \$ | \$ - |
| 104 | | | | Total Arch. Woodwork | \$ 1,333,250 |
| 105 | | | | | |
| 106 | 07500 Roofing | | | | |
| 107 | Re-roof left over main roof | 12,000 SqF | \$ | 100 | \$ 1,200,000 |
| 108 | Re-roof mansards | 10,000 SqF | \$ | 110 | \$ 1,100,000 |
| 109 | New gutter and leaders | 1 Ls | \$ | 400,000 | \$ 400,000 |
| 110 | | | | Total Roofing | \$ 2,700,000 |
| 111 | | | | | |
| 112 | 07600 Façade system | | | | |
| 113 | Panelized exterior system to the north | 30,000 SqF | | 100 | \$ 3,000,000 |
| 114 | | | | | |
| 115 | | | | Total Fireproofing | \$ 3,000,000 |
| 116 | | | | | |
| 117 | 08000 Windows | | | | |
| 118 | New windows | 80 Ea | \$ | 3,000 | \$ 240,000 |
| 119 | | | | \$ | \$ - |
| 120 | | | | Total Doors & Windows | \$ 240,000 |
| 121 | | | | | |
| 122 | 08100 Stained Glass Salvage | | | | |
| 123 | Scaffolding chapel outside | 10,000 SqF | \$ | 15 | \$ 150,000 |
| 124 | Scaffolding chapel inside | 7,000 SqF | \$ | 12 | \$ 84,000 |
| 125 | Remove and crate stained glass | 22 Ea | \$ | 5,000 | \$ 110,000 |
| 126 | Ship to storage facility | 2 Ea | \$ | 5,000 | \$ 10,000 |
| 127 | | | | \$ | \$ - |
| 128 | | | | Total Metal Doors & Frames | \$ 354,000 |
| 129 | | | | | |
| 130 | | | | | |
| 131 | 09250 Drywall & Carpentry | | | | |
| 132 | Replace joists | 1,000 Ea | \$ | 1,000 | \$ 1,000,000 |
| 133 | plywood sub floor throughout | 12,000 SqF | \$ | 15 | \$ 180,000 |
| 134 | Rebuild roof system | 15,000 SqF | \$ | 200 | \$ 3,000,000 |
| 135 | | | | \$ | \$ - |
| 136 | | | | Total Drywall & Carpentry | \$ 4,180,000 |
| 137 | | | | | |
| 138 | | | | | |
| 139 | 13900 Fire Protection | | | | |
| 140 | | | | | |
| 141 | Sprinkler distribution | 120 Heads | \$ | 650 | \$ 78,000 |
| 142 | Service and siamese | 1 Ls | \$ | 150,000 | \$ 150,000 |
| 143 | | | | \$ | \$ - |
| 144 | | | | Total Fire Protection | \$ 228,000 |

St. Paul's School
Conceptual Facadism Budget

Date: 3/7/2023

| Line | CODE TRADE // DESCRIPTION | QTY | U/M | UNIT RATE | TOTAL COST |
|------|--|---------|-----|------------|--------------------------------------|
| 145 | 15400 Plumbing | | | | |
| 146 | | | | | |
| 147 | Provide temporary water service | 1 | Ls | \$ 40,000 | \$ 40,000 |
| 148 | Provide temporary water hook-ups | 1 | Ls | \$ 10,000 | \$ 10,000 |
| 149 | New service | 1 | Ls | \$ 50,000 | \$ 50,000 |
| 150 | New Domestic water and detector check | 1 | Ls | \$ 75,000 | \$ 75,000 |
| 151 | | | | | \$ - |
| 152 | | | | | Total Plumbing \$ 175,000 |
| 153 | | | | | |
| 154 | | | | | |
| 155 | 15700 HVAC | | | | |
| 156 | Distribution to keep building at minimal acceptable temperatures | 12,000 | Sf | \$ 100 | \$ 1,200,000 |
| 157 | Air source heat pumps (7.5 tons each) | 4 | Ea | \$ 125,000 | \$ 500,000 |
| 158 | | | | | \$ - |
| 159 | | | | | Total HVAC \$ 1,700,000 |
| 160 | | | | | |
| 161 | 16000 Electrical | | | | |
| 162 | | | | | |
| 163 | New electrical distribution and main switch | 1 | Ls | \$ 150,000 | \$ 150,000 |
| 164 | Temporary power and light | 125,000 | Sf | \$ 5 | \$ 625,000 |
| 165 | Power to FCU | 30 | Ea | \$ 1,000 | \$ 30,000 |
| 166 | Power to air source heat pumps | 4 | Ea | \$ 5,000 | \$ 20,000 |
| 167 | Site lighting | 1 | Ls | \$ 100,000 | \$ 100,000 |
| 168 | Power for temporary site lighting | 80 | Mh | \$ 200 | \$ 16,000 |
| 169 | Temporary electric service | 1 | Ls | \$ 25,000 | \$ 25,000 |
| 170 | Temporary site lighting | 10 | Ea | \$ 10,000 | \$ 100,000 |
| 171 | | | | | \$ - |
| 172 | | | | | Total Electrical \$ 1,066,000 |

APPENDIX B **MEP Engineer/ Consultant Reports**

**Existing MEP/FP Condition Evaluation
&
Adaptive Reuse Analysis**

ST. PAUL'S SCHOOL OF GARDEN CITY, NY

**289 STEWART AVENUE
GARDEN CITY, NEW YORK 11530**



February 24, 2023

Existing MEP/FP Condition Evaluation & Adaptive Reuse Analysis

INTRODUCTION

Lehr Engineering DPC has been retained by Lloyd Westerman to provide for an evaluation of the existing conditions at the St. Paul's School in Garden City, New York, located at 289 Stewart Avenue, Garden City, New York 11530, and provide information to identify the required new mechanical, electrical, plumbing and fire protection work to accommodate the adaptive reuse program provided.

The evaluation of existing conditions was reviewed during a site visit on February 13, 2023. The following report provides for the options associated with the adaptive reuse and allows for development of an appropriate cost for the required work.

EXISTING SYSTEM CONDITION EVALUATION

Mechanical Systems

The existing building was constructed and provided with a steam heating system. At the time of construction and subsequently, no central air conditioning was provided. There is evidence that localized split air conditioning units were provided for comfort cooling to certain limited areas.

- A. Natural Ventilation: The building utilized natural ventilation to provide for required outside air to all areas of the building. This approach cannot be utilized in a retro-fit program as it will not meet current codes and especially energy conservation requirements.
- B. Air Conditioning: A Split-system HVAC was observed on site. The unit cannot be reused for any purpose.
- C. Boiler:



Existing boiler manufacturer by Preferred utilities

The existing heating plant consisted of two (2) steam boilers as per the nameplate above. These were installed in 1947 and are unusable for any purpose in a retro-fit program.

D. Heating System Overview:

The heating media used is steam from the boiler. Rooms are provided with steam cast iron two pipe radiators which cannot be reused.

The building currently utilizes two boilers manufactured by Preferred Utilities as heating source. There are no ventilation or cooling systems in the building. All of the systems are old and should be replaced. As noted above, the system also lacks modern code-required ventilation. The control of the system is not automatic and no energy savings strategies are provided.

Plumbing/Fire Protection



The current fire protection system supply is fed from the existing water service.

- A. Any Smoke Detectors installed throughout the building are inoperative, do not meet current codes and cannot be reused.
- B. Fire hose reels are installed at locations near fire exits. These do not meet current codes and the piping is not suitable for reuse due to age and corrosion.
- C. The current building is not protected with a comprehensive sprinkler fire system throughout. Sprinklers are only in the basement and hallways.
- D. The current gas service that enters the building is 2" low pressure gas line. That service has been abandoned.

- E. The plumbing piping system including waste, vent, water piping is original to the building. Systems show signs of failure, waste, and vent piping (cast iron) is cracking. There is some evidence of more updated piping in some areas where replacement was done due to failure. These systems cannot be reused.
- F. The plumbing fixtures in the building are original. Existing plumbing fixtures in the bathrooms include floor mounted tank type water closets. Urinals are wall hung type with flush valve. These fixtures do not conform to current water conservation code requirements.

Electrical



- A. The existing electrical service to the building is provided by underground feeders that run to service disconnects the electrical distribution is outdated. Most panel locations are not code compliant with regards to mounting heights.
- B. The entire electrical system is scavenged and needs to be replaced as it is non-compliant with current electrical loads and code. See photos above.

SALVAGE OF MEP EQUIPMENT

There is little salvage value for the existing installation. This is at best scrap and cannot be reused. The one exception might be that some of the radiators could be collectors' items.



ADAPTIVE REUSE ALTERNATIVE SYSTEMS

The adaptive reuse approach evaluated herein is in accordance with the *Pricing Program for Phase 1 Adaptive Reuse Option* provided on the set of colored drawings defining the Scope of the Phase 1 work.

In addition to the work in the existing building, this evaluation includes the addition of infill construction in the courtyard between the west and center wings of the existing building. That infill could alternatively be an auditorium or an enclosed swimming pool.

The following two (2) tables define the heating, cooling and ventilation loads for the refurbished existing building sections and the new construction.



Load Calculation Sheet

| | | | | | | | | | |
|--|-----------------------------------|---------------|-----------|-----------|------------|----|----------------|--------------|----|
| Project No. | 5096 | Date | 2/15/2023 | Sheet No. | 1 | of | 1 | Computed by: | JL |
| Subject | St. Pauls School | | | | | | | Checked by: | MP |
| | Phase 1 - Adaptive Reuse Analysis | | | | | | | Approved by: | VL |
| FLOOR SPACE OCCUPANCY AREA(sq. ft.) Height(ft.) Cooling Load [sq ft/ton] [tons] Heating Load [btu/hr/sq ft] Equipment Units | | | | | | | | | |
| EXIST. BLDG. | | | | | | | | | |
| <u>Basement</u> | Kitchen | 2,650 | 12'-0" | 400 | 6.8 | 20 | 53,000 | VRV-1 | |
| | Warehouse/Storage | 2,000 | | 750 | 2.7 | 10 | 20,000 | VRV-3 | |
| | Mechanical Space | 1,530 | | 1,000 | 1.5 | 5 | 7,650 | - | |
| | Electrical Space | 650 | | 1,000 | 0.7 | 5 | 3,250 | - | |
| | IT Room | 720 | | 200 | 3.6 | 0 | 0 | VRV-2 | |
| | Corridor/Transition | 2,615 | | 500 | 5.2 | 15 | 39,225 | VRV-3 | |
| | Restrooms | 325 | | 550 | 0.8 | 15 | 4,875 | VRV-3 | |
| | Total Floor Area | 10,490 | | | 20.9 | | 128,000 | | |
| <u>1st Floor</u> | Entrance Atrium(Double Height) | 420 | 31'-0" | 225 | 1.9 | 30 | 12,600 | VRV-4 | |
| | Reception | 550 | 18'-0" | 225 | 2.4 | 30 | 16,500 | VRV-4 | |
| | Exhibit Hall | 1,085 | | 225 | 4.8 | 30 | 32,550 | VRV-5 | |
| | Multi-purpose Rm. | 2,060 | | 225 | 9.2 | 30 | 61,800 | VRV-6 | |
| | Community Senior Center | 3,542 | | 225 | 15.7 | 30 | 106,260 | VRV-7 | |
| | Restrooms | 885 | | 550 | 1.8 | 15 | 13,275 | VRV-3 | |
| | Corridor/Transition | 2,655 | | 500 | 5.3 | 15 | 39,825 | VRV-3 | |
| | Dining Hall | 2,650 | | 150 | 17.7 | 25 | 86,250 | VRV-8 | |
| | Total Floor Area | 13,847 | | | 58.6 | | 349,060 | | |
| <u>2nd Floor</u> | Chapel | 2,655 | 15'-0" | 225 | 11.8 | 30 | 79,850 | VRV-9 | |
| | Main Stairwell/Transition | 695 | | 500 | 1.4 | 15 | 10,425 | VRV-3 | |
| | Community/Multipurpose Rm | 1,485 | | 225 | 6.8 | 30 | 44,550 | VRV-10 | |
| | Dept of Recreation Office | 1,250 | | 400 | 3.1 | 25 | 31,250 | VRV-10 | |
| | Corridor/Transition | 1,435 | | 500 | 2.9 | 15 | 21,525 | VRV-3 | |
| | Stairway | 280 | | 1,000 | 0.3 | 5 | 1,400 | - | |
| | Total Floor Area | 7,800 | | | 26.1 | | 188,800 | | |
| TOTAL AREA | | 32,137 | | | 106 | | 665,860 | | |
| NEW BLDG. | | | | | | | | | |
| <u>1st Floor</u> | Auditorium (Option A) | 6,600 | 25'-8" | 200 | 33.0 | 30 | 198,000 | VRV-11A | |
| | Swimming Pool (Option B) | 6,600 | 25'-8" | 175 | 37.7 | 35 | 231,000 | VRV-11B | |


Ventilation Calculation Sheet

| Project No. | 5096 | Date | 2/21/2023 | Sheet No. | 1 | of | 1 | Computed by: | JL |
|-----------------------------------|--------------------------------|-----------------|-----------------|-------------------------|------------------------|----------------------|----------------------|-----------------------|----------------------|
| Subject | St. Pauls School | | | | | | Checked by: | MP | |
| Phase 1 - Adaptive Reuse Analysis | | | | | | | | | |
| FLOOR | SPACE OCCUPANCY | AREA (sq ft) | Height (ft.) | People/ (1000 sq ft) | Estimated Occupants | People cfm/person | OA Rate cfm/sf ft | OA Vent Req. (cfm) | Ventilation Units |
| EXIST. BLDG. | | | | | | | | | |
| Basement | Kitchen | 2,650 | 12'-0" | | | | | 0 | |
| | Warehouse/Storage | 2,000 | | | | | | 0 | |
| | Mechanical Space | 1,530 | | | | | | 0 | |
| | Electrical Space | 650 | | | | | | 0 | |
| | IT Room | 720 | | 4 | 3 | 5.0 | 0.06 | 58 | RTU-1 |
| | Corridor/Transition | 2,815 | | | | | 0.06 | 157 | RTU-1 |
| | Restrooms | 325 | | | | | | 0 | |
| | Total Floor Area | 10,490 | | | | | | 215 | |
| 1st Floor | Entrance Atrium(Double Height) | 420 | 31'-0" | 10 | 4 | 5.0 | 0.06 | 48 | RTU-1 |
| | Reception | 550 | 16'-0" | 30 | 17 | 5.0 | 0.06 | 116 | RTU-1 |
| | Exhibit Hall/Multi-purpose Rm | 1,085 | | 100 | 109 | 7.5 | 0.06 | 879 | RTU-1 |
| | Multi-purpose Rm. | 2,060 | | 100 | 206 | 7.5 | 0.06 | 1,669 | RTU-1 |
| | Community Senior Center | 3,542 | | 100 | 354 | 7.5 | 0.06 | 2,880 | RTU-2 |
| | Restrooms | 885 | | | | | | 0 | |
| | Corridor/Transition | 2,655 | | | | | 0.06 | 159 | RTU-1 |
| | Dining Hall | 2,850 | | 100 | 285 | 7.5 | 0.18 | 2,465 | RTU-1 |
| | Total Floor Area | 13,847 | | | | | | 8,202 | |
| 2nd Floor | Chapel | 2,655 | 15'-0" | 120 | 319 | 5.0 | 0.06 | 1,752 | RTU-1 |
| | Main Stairwell/Transition | 695 | | | | | 0.06 | 42 | RTU-1 |
| | Community/Multipurpose Rm | 1,485 | | 100 | 149 | 7.5 | 0.06 | 1,203 | RTU-1 |
| | Dept of Recreation Office | 1,250 | | 5 | 6 | 5.0 | 0.06 | 108 | RTU-1 |
| | Corridor/Transition | 1,435 | | | | | 0.06 | 88 | RTU-1 |
| | Stairway | 280 | | | | | | 0 | |
| | Total Floor Area | 7,800 | | | | | | 3,189 | |
| TOTAL AREA | | 32,137 | | | | | | 11,606 | |
| NEW BLDG. | | | | | | | | | |
| 1st Floor | Auditorium (Option A) | 6,600 | 25'-0" | 75 | 495 | 5.0 | 0.06 | 2,871 | RTU-3A |
| | Swimming Pool (Option B) | 6,600 | 25'-0" | 0 | 0 | 0.0 | 0.06 | 396 | RTU-3B |



REQUIRED WORK FOR NEW CONSTRUCTION

In reviewing the most effective systems for the new construction work several options were considered. An important factor is that this project will proceed in multiple phases rather than a complete reconstruction of the building at one point. That consideration strongly suggests that a central heating and cooling plant is inappropriate as such an approach would require significant additional costs in the first phase to permit the central plant expansion for the later work, which in fact may not occur.

Additionally, current changes in energy supply utilities, the thrust for reduced and or zero carbon systems, and the most recent advances in heat pumps strongly suggest this type of approach for the heating and cooling of the building. Heat pumps fully conform to the latest energy and carbon reduction objectives, are incremental allowing for multi-phase expansion in the building, and completely eliminate the need for fossil fuel (oil or gas) supply to the building.

While air source heat pumps are an excellent choice for heating and cooling, geo-thermal water source heat pumps can be considered for this site as well. These have a lower operating cost (lower KW per ton) and depending on the well installation cost, a lower life cycle cost. There is sufficient site area to accommodate a geo-thermal field, and the added efficiency of water source equipment over air source should provide economic viability.

1. HVAC Equipment

Heating and cooling for both the refurbished existing building portions and the new construction will utilize high efficiency variable refrigerant flow heat pumps. Those heat pumps will be located in the north portion of the basement of the center wing in a new mechanical equipment room and in the basement of the north portion of the west wing for the smaller load of the west wing only.

Two options have been reviewed and should be costed. The base system would utilize air source heat pumps while the alternative would utilize geo-thermal water source heat pumps employing a series of geo-thermal wells on the adjacent site. The summary of the equipment required for these alternatives is presented in the Table below. This shows the detail of the individual heat pump unit, either air source or geothermal water source, needed for the designated space. From these units, three pipe allowing for either heating or cooling, refrigerant piping will run to the multiple terminal units needed to accommodate the specific final layout of each space.

A manufacturer supplied Automatic Temperature Control system will also be provided.

**Equipment Sheet**

| | | | | | | | | | | | | | | | | |
|--------------------------|---|------|-----------------|-----------|--|--------------|----|--|--|--|--|--|--|--|--|--|
| Project No. | 5096 | Date | 2/23/2023 | Sheet No. | 1 of 1 | Computed by: | JL | | | | | | | | | |
| Subject | St. Pauls School Phase 1 - Adaptive Reuse Analysis | | | | Checked by: | MP | | | | | | | | | | |
| | | | | | Approved by: | VL | | | | | | | | | | |
| Equipment | [tons] | | OA (cfm) | | Remarks/Notes: | | | | | | | | | | | |
| EXISTING BUILDING | | | | | | | | | | | | | | | | |
| VRV Units: | | | | | | | | | | | | | | | | |
| VRV-1 | 7 | | | | Serves basement kitchen | | | | | | | | | | | |
| VRV-2 | 4 | | | | Serves basement IT Room | | | | | | | | | | | |
| VRV-3 | 20 | | | | Serves corridor/transition, restrooms | | | | | | | | | | | |
| VRV-4 | 4 | | | | Serves 1st floor atrium & main reception | | | | | | | | | | | |
| VRV-5 | 5 | | | | Serves 1st floor exhibit halls | | | | | | | | | | | |
| VRV-6 | 9 | | | | Serves 1st floor multi-purpose rooms | | | | | | | | | | | |
| VRV-7 | 16 | | | | Serves 1st floor community senior center | | | | | | | | | | | |
| VRV-8 | 18 | | | | Serves 1st flr dining hall | | | | | | | | | | | |
| VRV-9 | 12 | | | | Serves 2nd floor chapel | | | | | | | | | | | |
| VRV-10 | 10 | | | | Serves 2nd floor multi-purpose/office | | | | | | | | | | | |
| NEW BUILDING | | | | | | | | | | | | | | | | |
| VRV Units: | | | | | | | | | | | | | | | | |
| VRV-11A | 33 | | | | Serves 1st Floor auditorium(option A) | | | | | | | | | | | |
| VRV-11B | 38 | | | | Serves 1st Floor swimming pool(option B) | | | | | | | | | | | |
| 12,000 | | | | | | | | | | | | | | | | |

Please note the two (2) options for the new construction:

Option A – A new Auditorium

Option B – An indoor swimming pool. The pool application requires a special “Pool” unit designed for de-humidification and corrosion control.

2. Ventilation

Per ANSI/ASHRE Standard 62.1-2016. The maximum allowable CO₂ concentration per ASHRE indoor CO₂ concentration be maintained at or below 800 ppm in office.

Ventilation air will be supplied from rooftop mounted primary air units, providing the ventilation air defined in the preceding table. The rooftop primary air units will be equipped with an ERV energy recovery unit which will temper the incoming outside air with exhaust air flow from the building (toilet exhaust and general exhaust). The following equipment will be required for the Fresh Outside Air for Ventilation:



| Equipment Sheet | | | | | | | | | | |
|--------------------------|---|----------|--|-----------|-----------------|-----------------|--|--|--|--|
| Project No. | 5096 | Date | 2/23/2023 | Sheet No. | 1 of 1 | Computed by: JL | | | | |
| Subject | St. Pauls School Phase 1 - Adaptive Reuse Analysis | | | | Checked by: MP | | | | | |
| | | | | | Approved by: VL | | | | | |
| Equipment | [tons] | OA (cfm) | Remarks/Notes: | | | | | | | |
| EXISTING BUILDING | | | | | | | | | | |
| Ventilation Units | | | | | | | | | | |
| RTU-1 | 67 | 8,522 | Assumption: $\Delta h = 21 \text{ btu/lb}$ | | | | | | | |
| RTU-2 | 23 | 2,869 | $\text{btu/hr} = \frac{\text{cfm} \times 4.5 \times \Delta h}{12,000}$ | | | | | | | |
| NEW BUILDING | | | | | | | | | | |
| Ventilation Units | | | | | | | | | | |
| RTU-3A | 23 | 2,871 | Serves 1st Floor auditorium(option A) | | | | | | | |
| RTU-3B | 3 | 396 | Serves 1st Floor swimming pool(option B) | | | | | | | |

Again, please note Options A and B for Auditorium or Pool

3. Restrooms

The restrooms in the building will be provided with mechanical exhaust ventilation in accordance with code. Each set of restrooms will be equipped with a dedicated exhaust fan and ductwork system connected to the ERV.

4. Fire Command Center (FCC)

The FCC located on the ground level will be fully conditioned using a water source heat pump. Outside ventilation air will be ducted to the unit from a make-up on the main roof. The space will be balanced to maintain a positive pressure with respect to the surrounding spaces. The heat pump unit will be served for an emergency power source.

5. Electrical Rooms

The main electrical switch gear equipment rooms located in the basement will be provided with cooling from horizontal suspended water source heat pumps located outside of the room and ducted into the space with supply and return ductwork and grilles.

6. Domestic Hot Water

Domestic hot water for the various (base building) restrooms, and for kitchen and other food service locations will be generated from an air or water source heat pump producing 118-degree hot water. Hot water distribution will be provided with a hot water recirculation system for temperature maintenance.



7. Sanitary Waste

A sanitary waste and vent system will be provided from fixtures and equipment, with all fixtures trapped and vented to atmosphere. A new sanitary sewer will be provided from the building to an existing Sanitary Sewer Main in Stewart Avenue

8. Storm Drainage

The existing Storm Drainage system will be re-used. However, as the construction of a new building between the West and Center wings will result in a higher coefficient of runoff and hence a greater peak stormwater flow, some allowance for either temporary storm retention or a modification to the existing piping should be provided.

9. Fire Alarm System

The fire alarm system will be an addressable system with each initiating device annunciated as an individual zone. The fire alarm and control panel (FACP) shall provide centralized control and annunciation of fire alarm zones.

10. Fire Suppression Systems

All areas of the building will be served by total coverage automatic sprinkler system. In addition, standpipes will be installed in all exits stairs and as required to maintain the maximum distance between fire hose valve connections. The building fire protection service connection to the municipal water main.

11. New Electrical Service

Based on the program now being evaluated, the estimated base electrical load for this re-development is 400KW. However, that does not account for any specialized equipment that may be used in the development fitout. This could include special theatrical lighting in the auditorium, provision for Television Broadcasting, etc. In terms of estimating, an allowance for a higher load would be appropriate, say 500KW. That load would be satisfied by a 2000 amp, 208/120 V, 3 phase service. Depending on actual fitout requirements, any extra capacity could then serve a future phase of the building's renovation.

12. Emergency Generator

It would also be advisable to allow for an emergency generator for this construction, especially considering a large auditorium with public



presentations. A minimum sized generator for emergency systems and lighting for the complex would be 75 to 100 KW.

13. Geo-Thermal Wells

The diversified peak loads for the heating and cooling requirements of both the renovated and the new construction could be, on preliminary estimate to be confirmed by a geo-technical test program, provided by approximately 120 wells drilled to a depth of 100 feet. Wells would be space on a grid of between 15 feet and 20 feet apart, again to be confirmed when the geo-technical information is available.

GDPC Proposal Insert re: Demolition Scenario for St. Paul's School entailing Building Documentation and Inventory/Salvage of Architectural Ensembles/Elements (3/7/23)

The prospect of demolishing St. Paul's School, a historic property that possesses historical, architectural and cultural significance, should entail a thorough mitigation that encompasses building documentation, along with the inventory/salvage of architectural ensembles and/or architectural elements. The following offers explanations and justifications for both mitigations:

HABS Building Documentation

Initiated in 1933 as part of FDR's New Deal, the Historic American Buildings Survey (HABS) was originally conceived as a means of documenting historic buildings that were vanishing at a rapid rate, while addressing unemployment wrought by the Great Depression. Today, it has become an integral part of the regulatory process when historic buildings are slated for demolition. In 1969, it was augmented by the introduction of the Historic American Engineering Survey (HAER), and more recently, by the introduction of the Historic American Landscape Survey (HALS) in 2000. To date, tens of thousands of historic properties have been documented, ranging from vernacular to high-style buildings, structures and landscapes.

For buildings, recordation typically consists of professional photographs, drawings (or photographed original drawings) and a history. Photography consists of an overall view of the building's exterior, elevations, representative rooms and details of character-defining features. Drawings typically consist of a site plan, elevations, floor plans, as well as details of architectural elements or ensembles. Histories can range from summaries to detailed narratives. Since the requirement to complete HABS-level documentation is usually an outgrowth of a regulatory process culminating in a mitigation or mitigations, the level of documentation (i.e., basic versus intensive-level) is usually determined by a representative from the State Historic Preservation Office or the National Park Service, who is tasked with review and approval of the permit for redevelopment.

Since its inception, HABS documentation has been housed at the Library of Congress where the public can visit the library to view its physical holdings. By contrast, HABS, HAER and HALS documentation are now available through the Library of Congress website (loc.gov), thereby expanding these programs' access to a global audience. The public benefit of these programs is far-reaching, enabling amateur and professional historians, architects and conservators the ability to not only understand the breadth of history and context related to a particular property, but also specifics of design, construction and materials that can aid practitioners in the evaluation and treatment of other historic properties.

Inventory and Salvage of Architectural Elements

In 1993, the National Park Service devoted an entire issue of its newsletter, CRM [Cultural Resource Management], to the subject of inventory and salvage. Entitled "Architectural Study Collections: Material Worth of a Second Life", this issue featured a collection of articles penned by a wide array of museum professionals, examining both domestic and foreign trends in architectural inventory and salvage practiced by such world-class institutions as Colonial Williamsburg, Society for the Preservation of New England Antiquities (SPNEA), Smithsonian and English Heritage's New Study Centre. It also offered perspectives from various individuals working in Historic Preservation, including a craftsman, an architectural historian, a preservation architect, an engineer and a curator. It bears noting that the salvaging of architectural elements was fundamental to the founding of SPNEA in 1910, resulting in a collection of over 3,000 architectural elements at the time this newsletter was produced.

In absence of being able to preserve, restore or rehabilitate a historic building, inventory and salvage of architectural elements can provide a means maintaining a tangible record of a building's history, whether it be via the reconstruction of an entire building (or a portion of a building) in an outdoor museum; a historic room reconstituted in an indoor museum; and/or the display of select architectural elements as part of a museum display.

Fundamental to any salvaging effort is the creation of a salvage plan, which has the capacity to serve as a road map informing the process. Components of the plan that should be addressed include:

- A List of Architectural Ensembles and/or Elements to be Salvaged

Depending on the specific re-use scenario (i.e., reconstruction of an architectural ensemble vs. display of individual elements), the list should be comprised of character-defining features of the building informing its architectural significance. Architectural ensemble examples at St. Paul's School might include its porte-cochère, chapel interior, clock tower, etc., while architectural elements might include its ornamental stone carvings (colonettes with gargoyles, Gothic arches, decorative lintels, cast-iron stair runs, wood paneling, door/transom/door surround, tile walls/flooring, etc.

- A Process for Inventorying Elements to be Salvaged

Inventory includes the physical tagging of an architectural element, along with the creation of an electronic database for archival purposes to describe and locate it. A numbering system is typically used for inventory, which is also critical to any guide informing a dismantling and reconstruction campaign. At the very least, inventory information should include location, description of the element (material, decorative features, size, shape, condition, etc.) and historic associations (building or structure from which the element originated, architect/builder/craftsman/manufacturer (if known), donor, etc.). The electronic database should also include a bibliography of additional resources in which to learn about the historic property.

- A Process for Salvaging

In addition to offering guidelines for the safe removal of the architectural ensemble or element, this section should also provide specifications for its safe transport and storage in advance of its eventual destination as part of a reconstruction, reconstitution and/or display. Regarding storage, institutions often group salvaged elements into three groups: rooms or structures requiring reconstruction; large objects, such as doors/door surrounds, mantels, windows, etc.; and small objects such as decorative fragments and hardware.

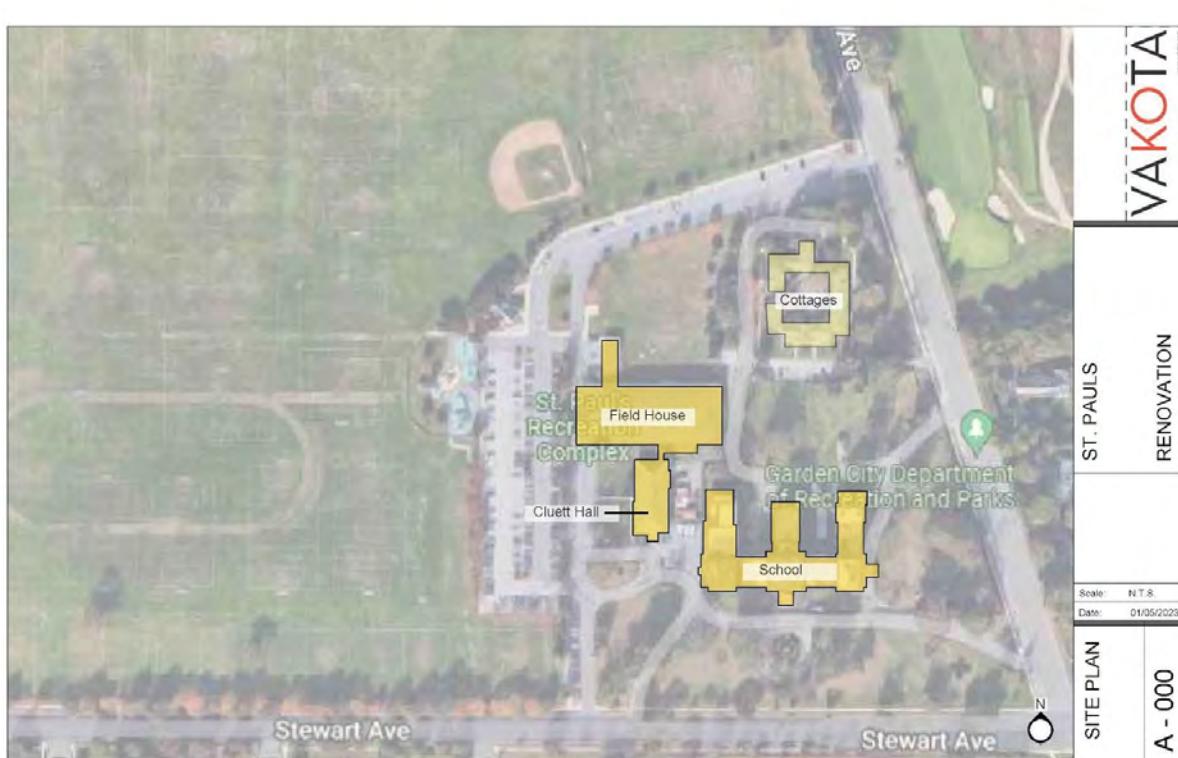
- Disposal of Non-Salvageable Elements

Beyond the salvage plan's focus on the select preservation of character-defining features, it should also address demolition of the remaining portions of the building informed by the owner's overall objectives. For example, if the owner intends to donate or sell any of the remaining elements to a private party, incorporate sustainable practices in the disposal of demolition debris, etc., these plans should be memorialized in the salvage plan.

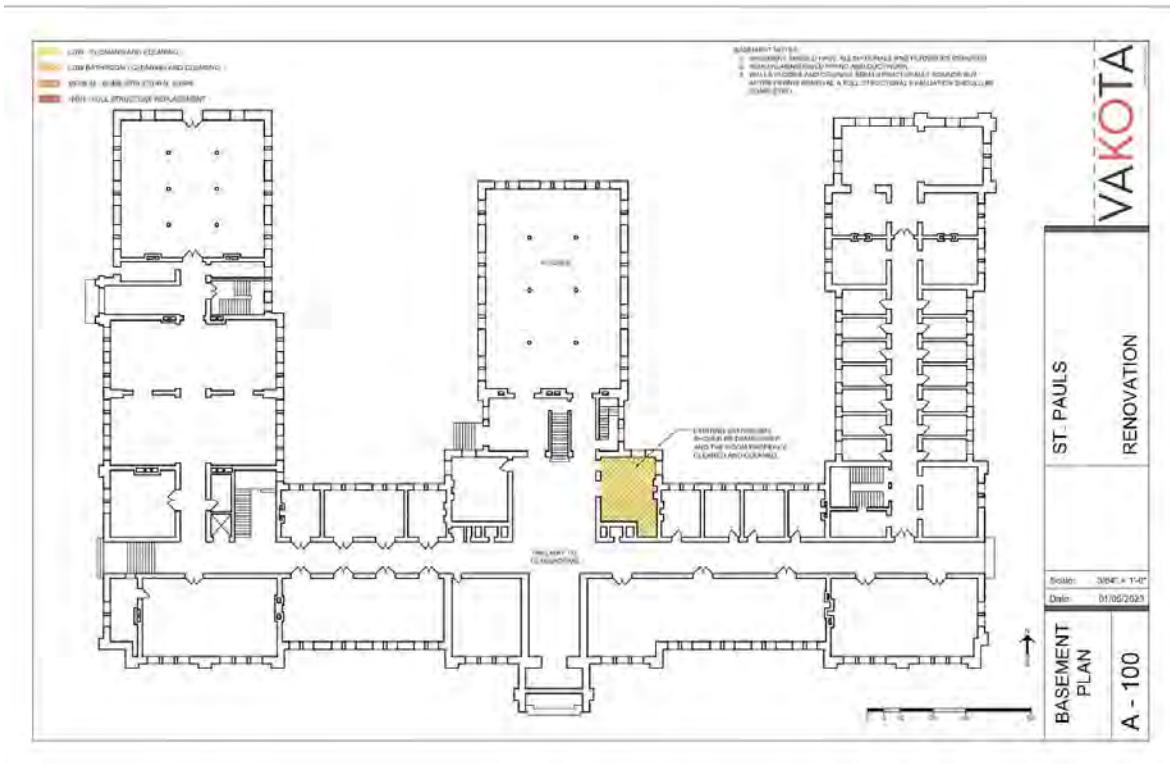
Similar to documentation, the salvaging of architectural ensembles or elements not only has the capacity to educate individuals about design, but also about materials, craftsmanship, fabrication and construction through the physical object. In addition, preservation practitioners have noted that architectural elements can form the basis for molds for future replication of severely deteriorated elements on other properties; aid in the development of drawings for other building restorations; reveal stylistic and technical aspects of design trends; and provide an authentic understanding of the lost building through tangible examples of its design and craftsmanship.

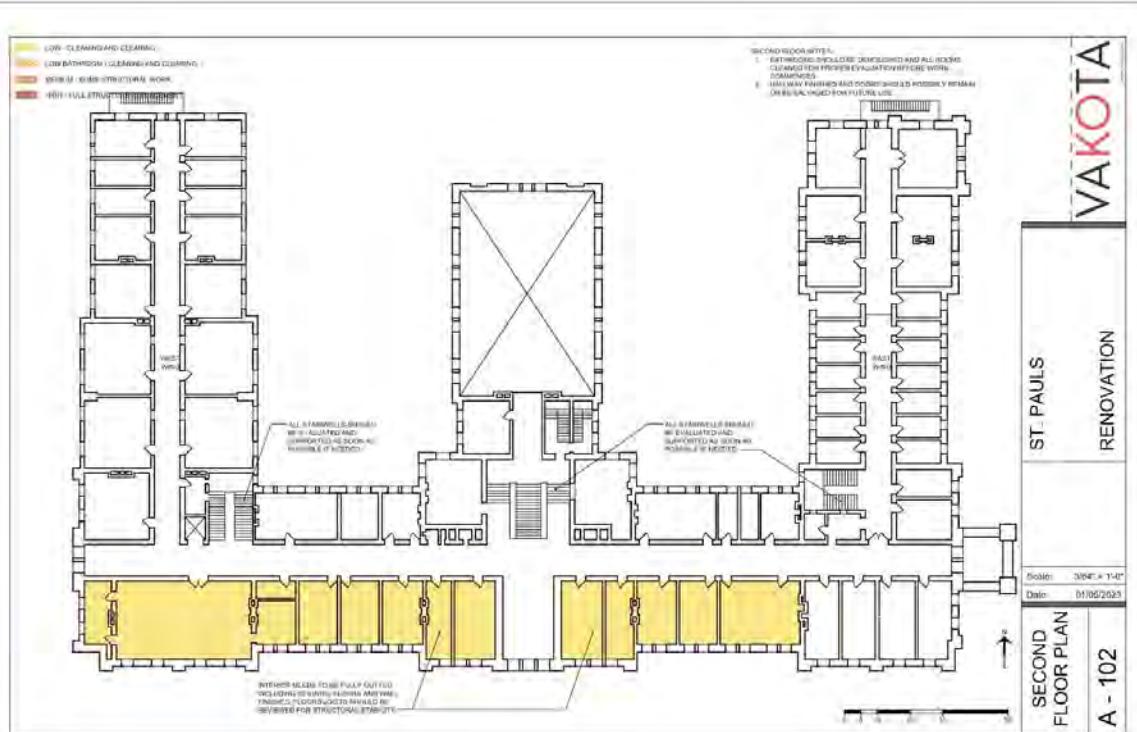
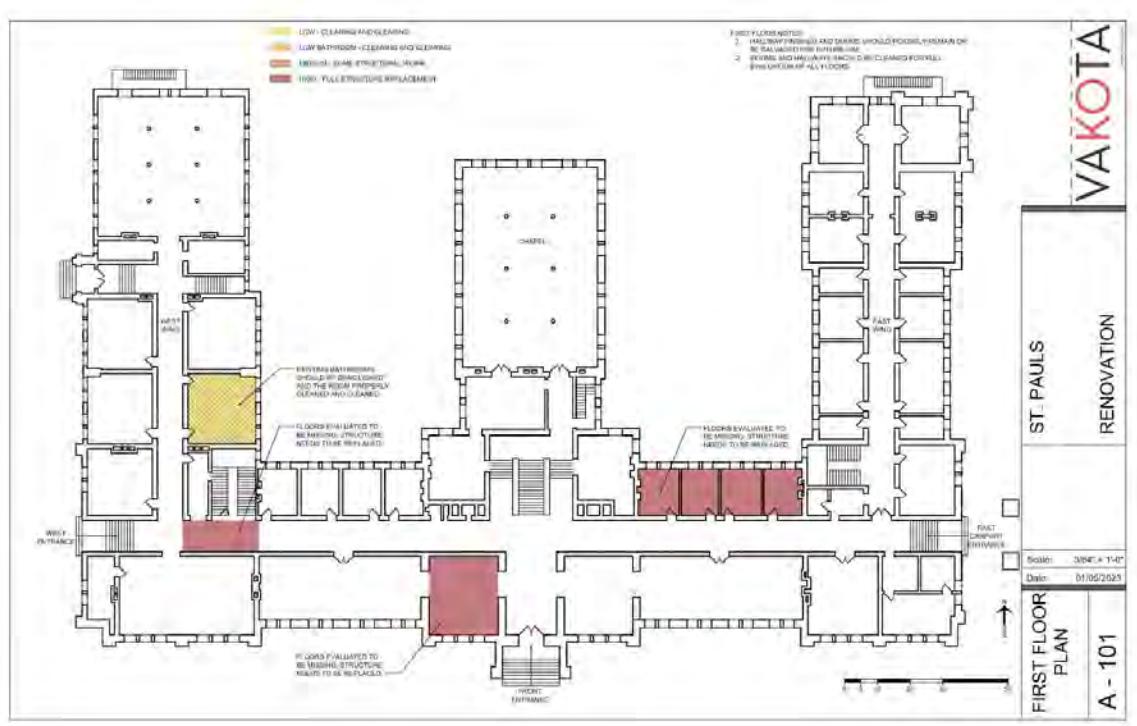
APPENDIX C Plan diagrams

Existing Site



The following diagrams show the existing conditions as observed on December 09, 2022. No extensive probes or reviews were performed. Areas with noticeable deterioration, environmental hazards, and structural compromise have been highlighted. An extensive structural review was not performed although random samples of walls, ceilings, and floors were taken for asbestos and moisture testing.



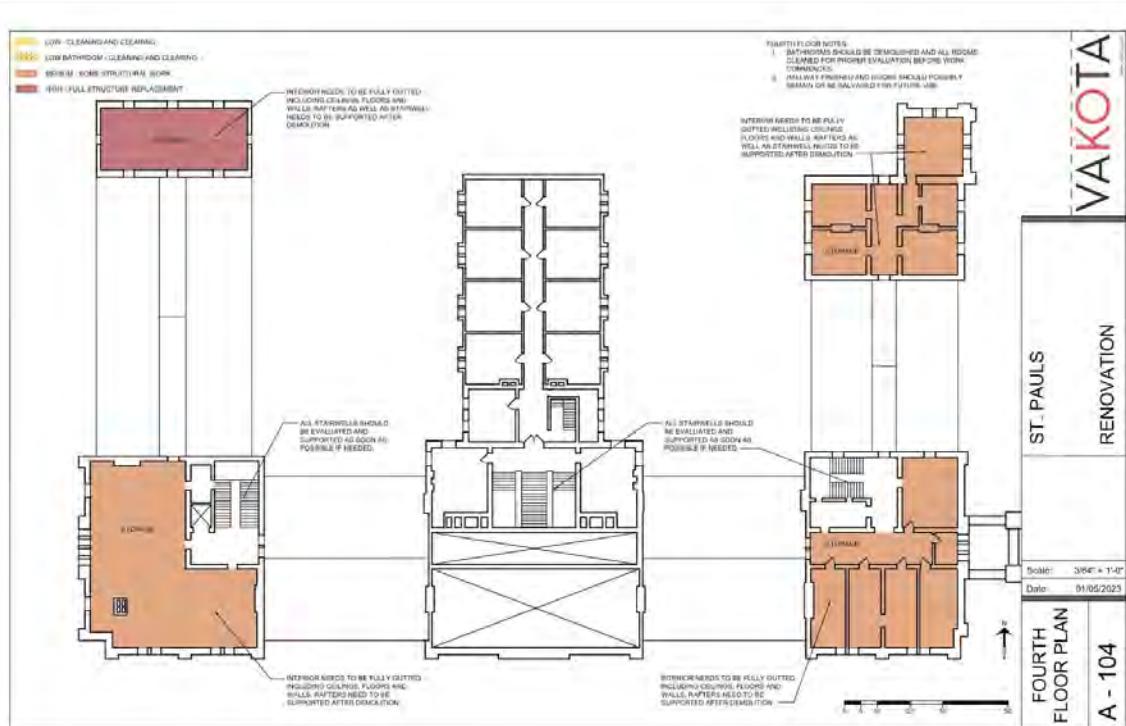
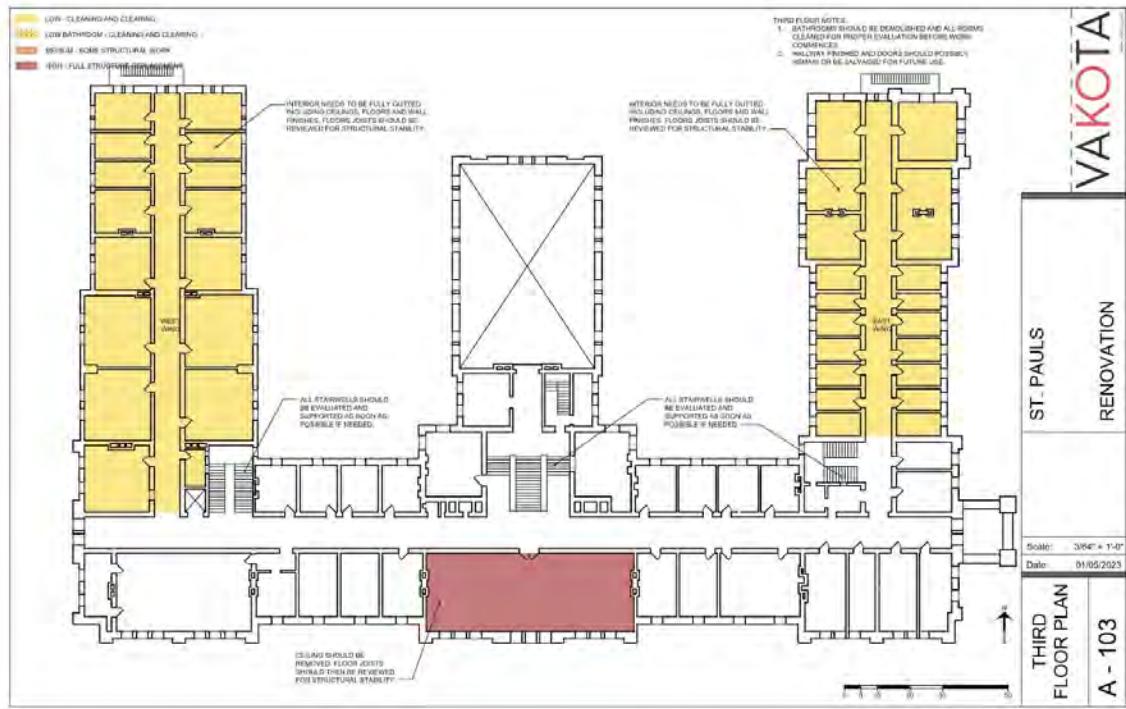


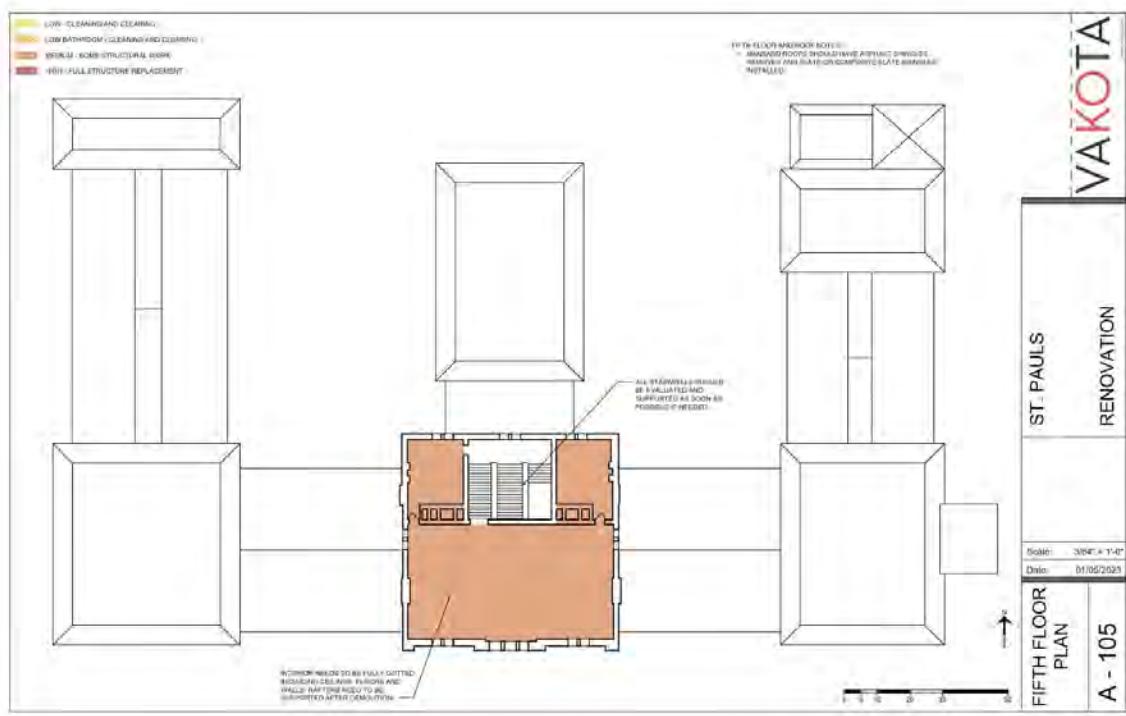
LOW - CLEANING AND CLEARING

LOW BATHROOM - CLEANING AND CLEARING

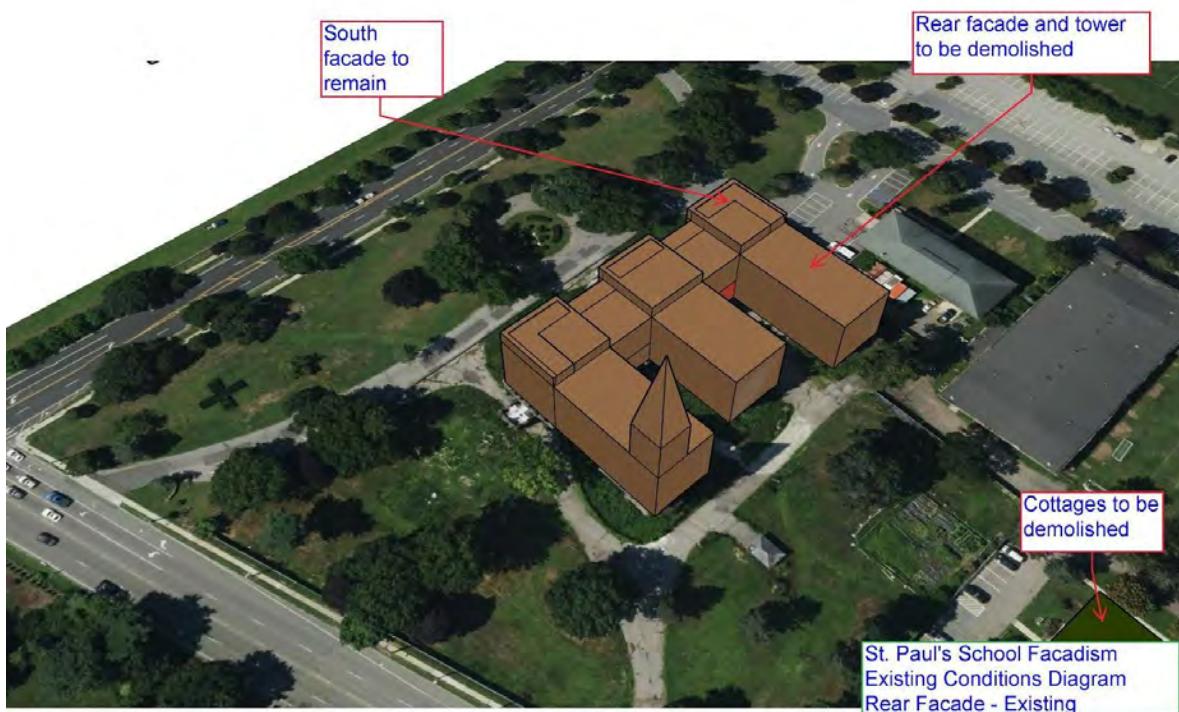
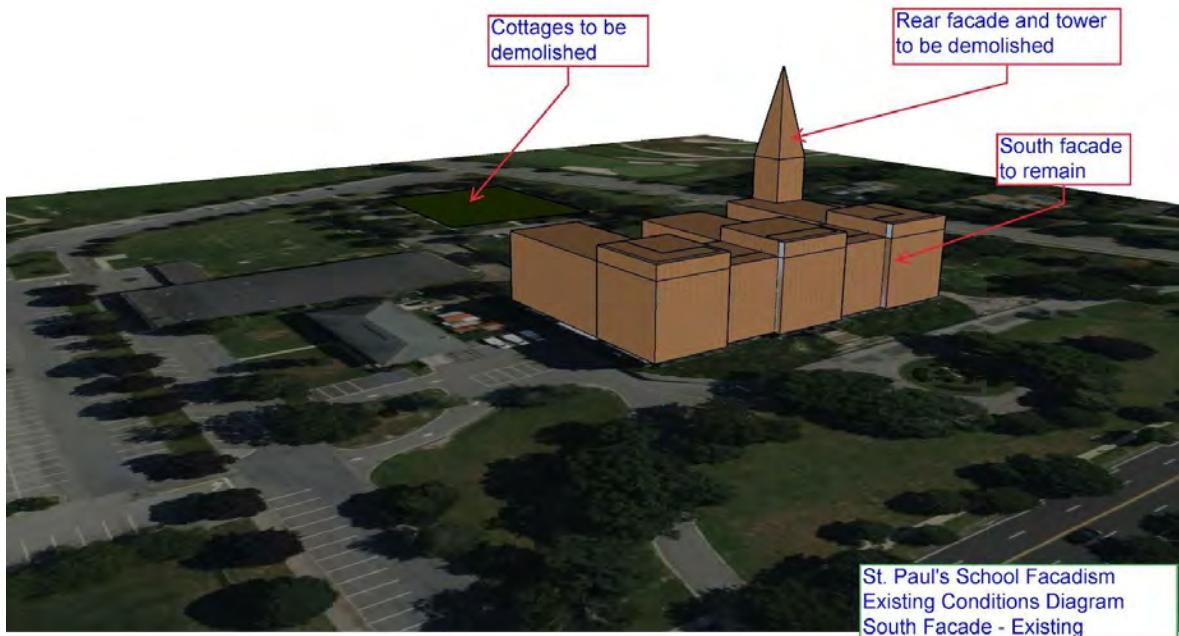
MEDIUM - SOME STRUCTURAL WORK

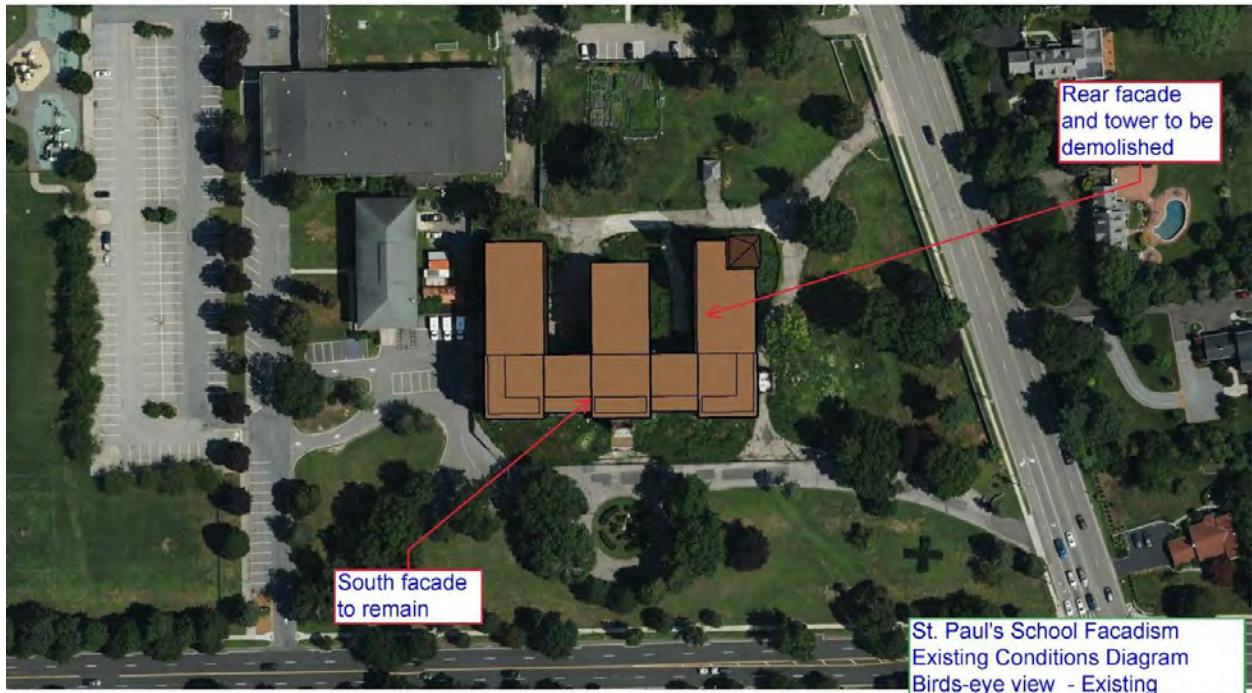
HIGH - FULL STRUCTURE REPLACEMENT

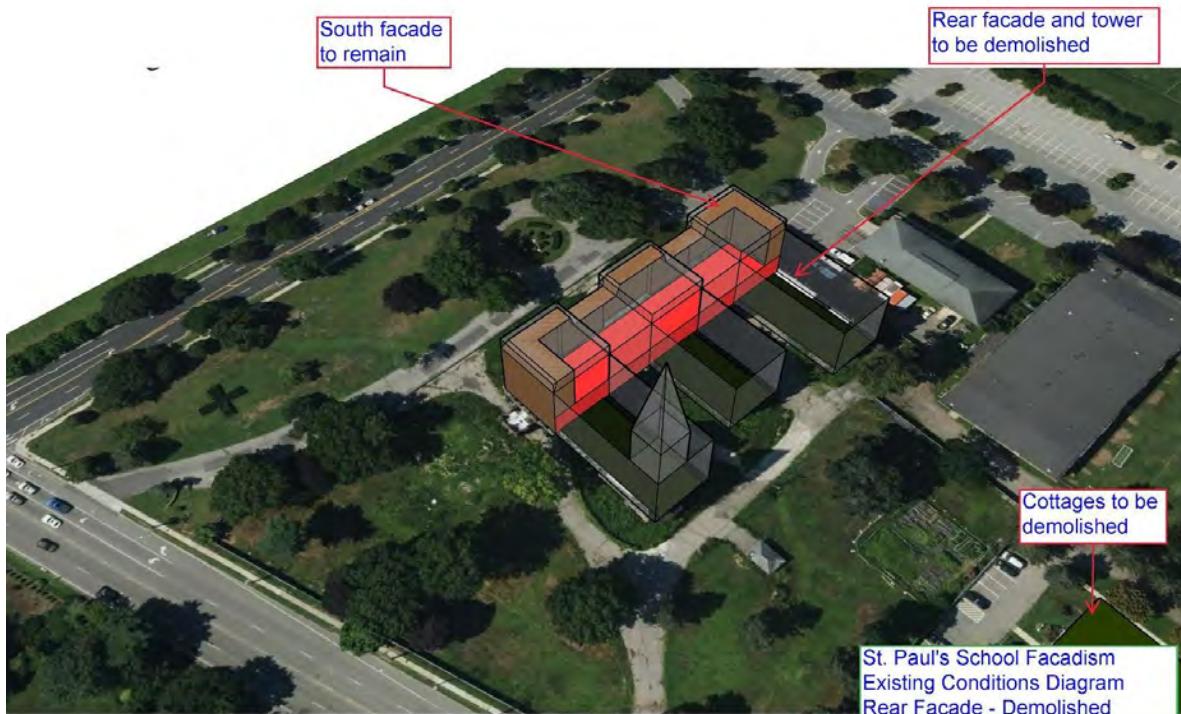
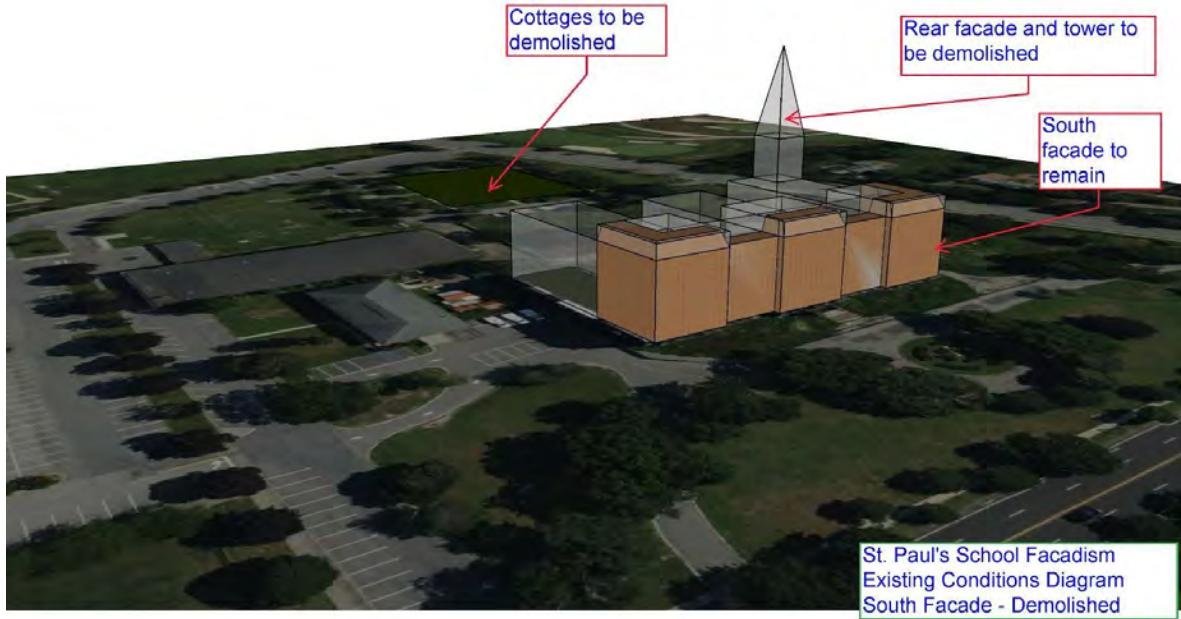


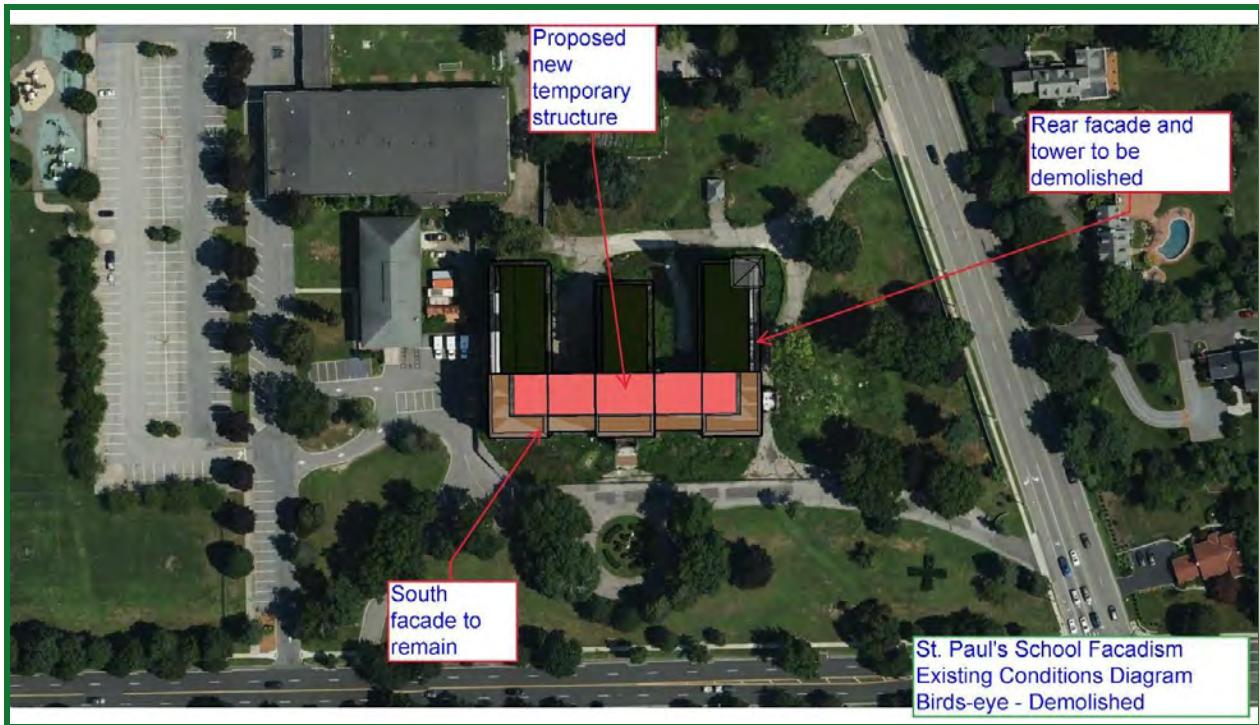


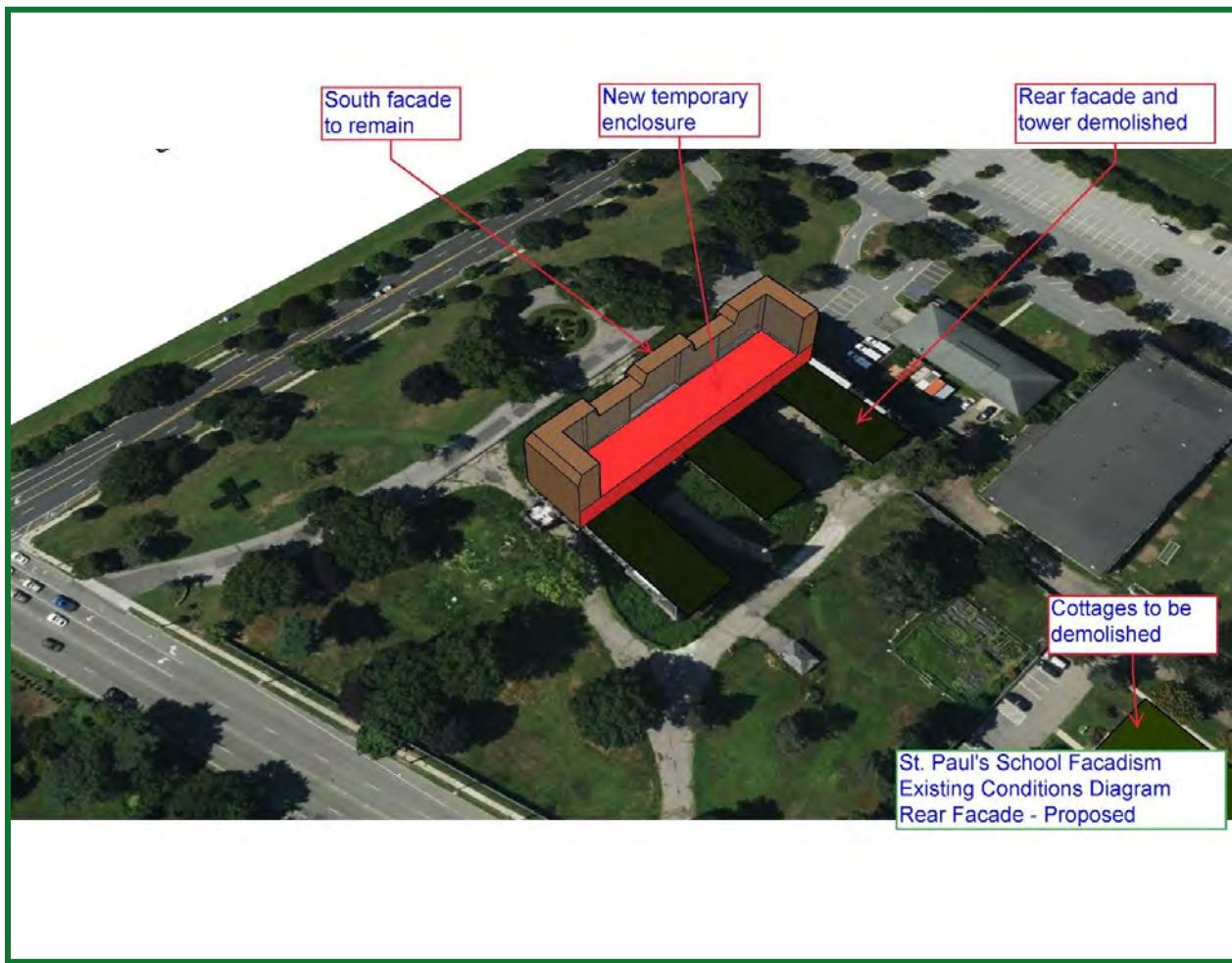
FACADISM DIAGRAMS VERSUS EXISTING CONDITIONS

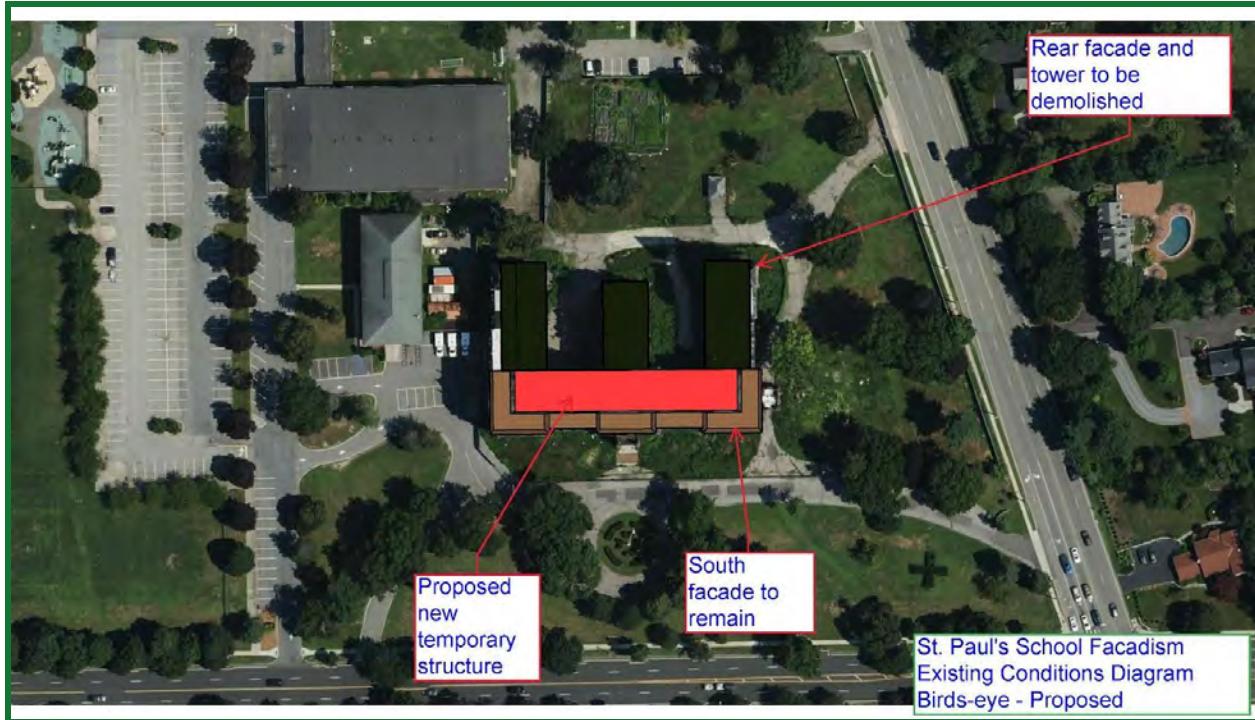


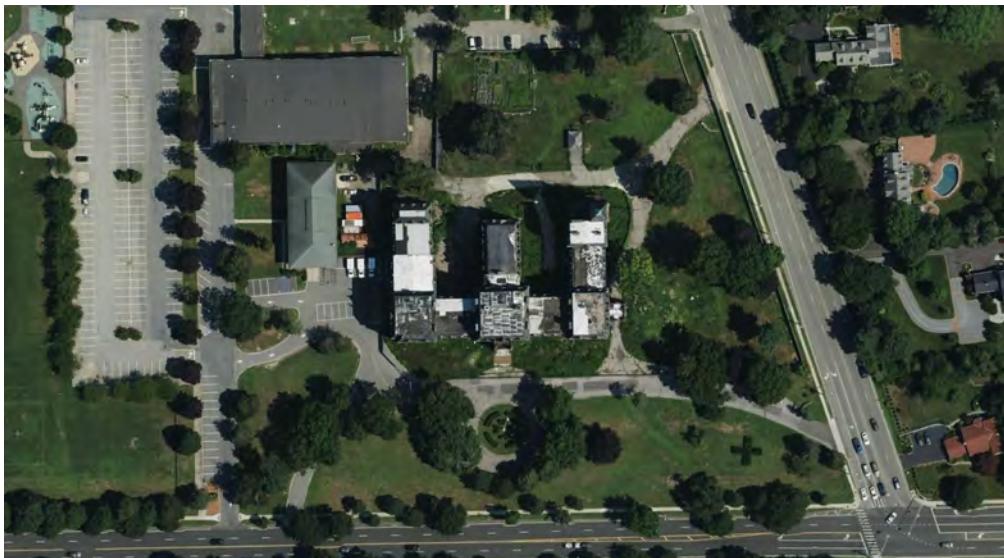




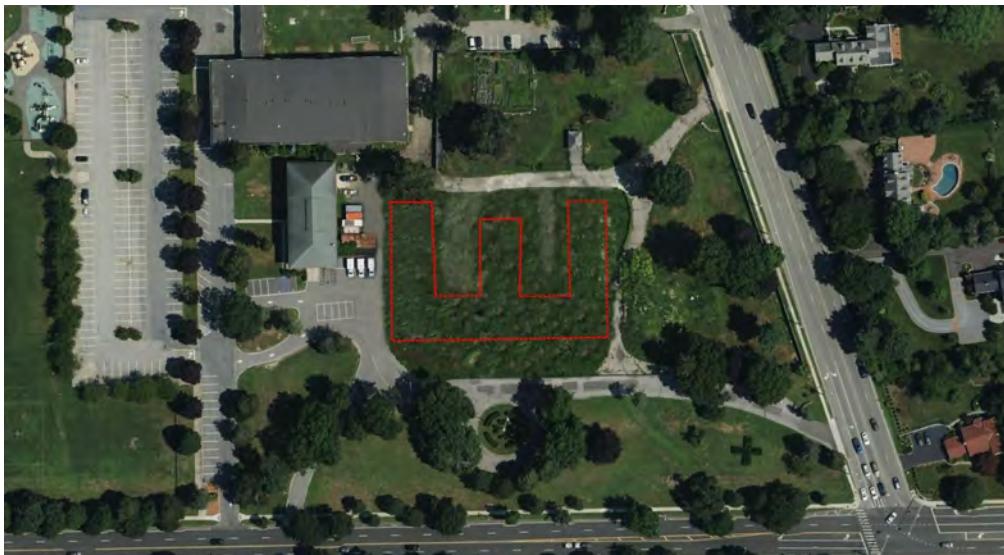




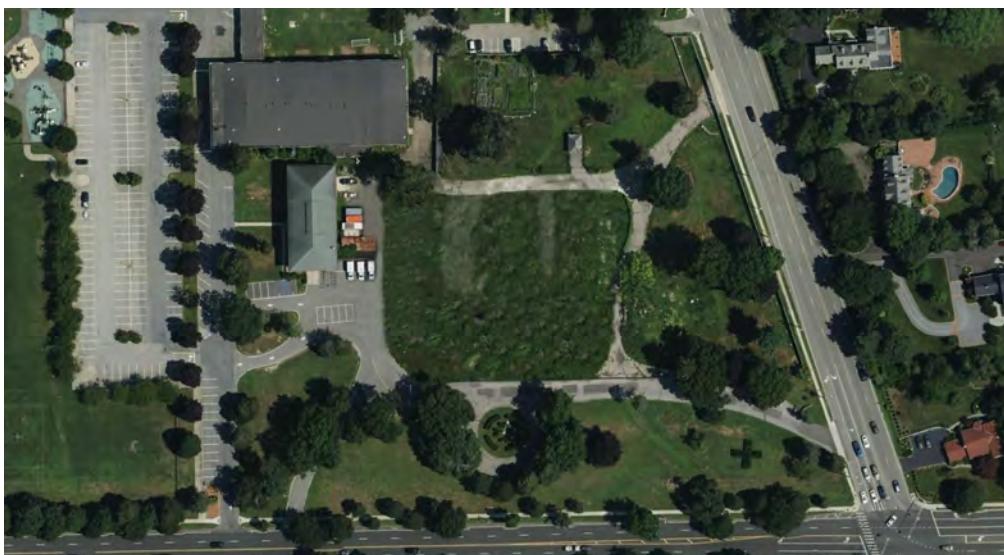




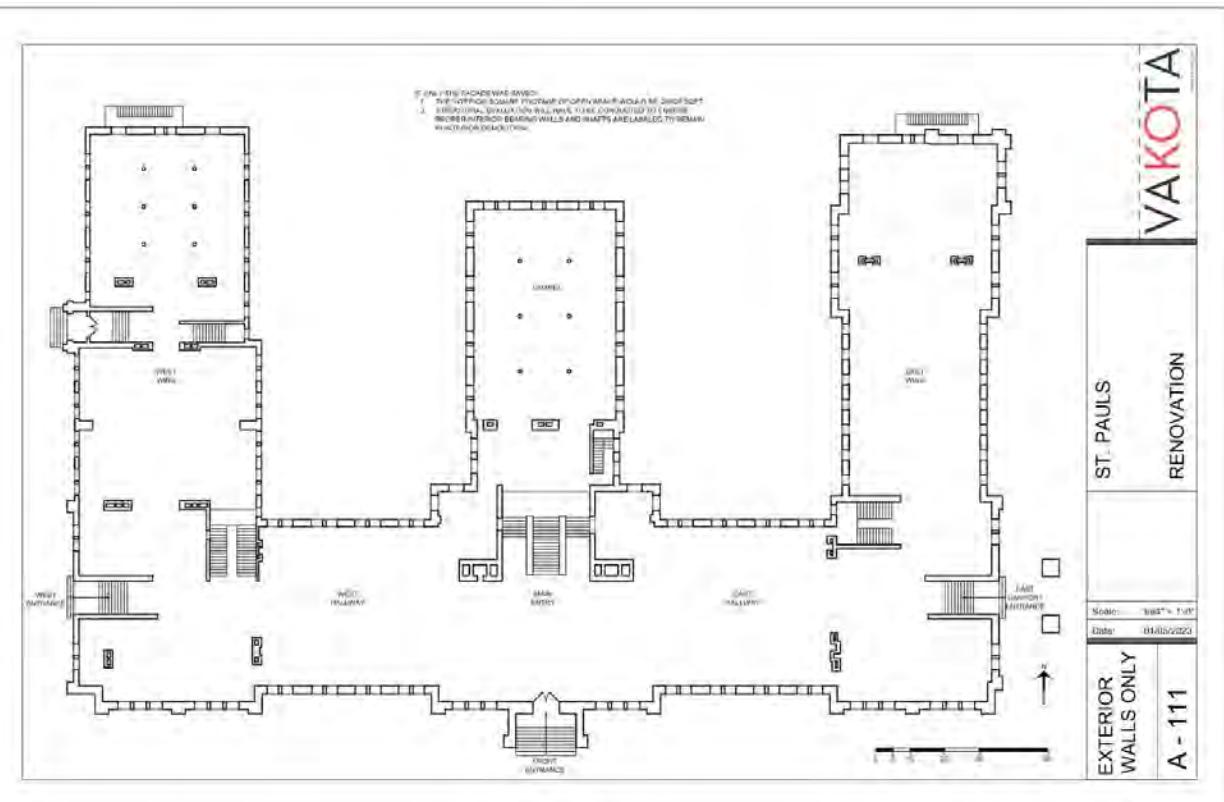
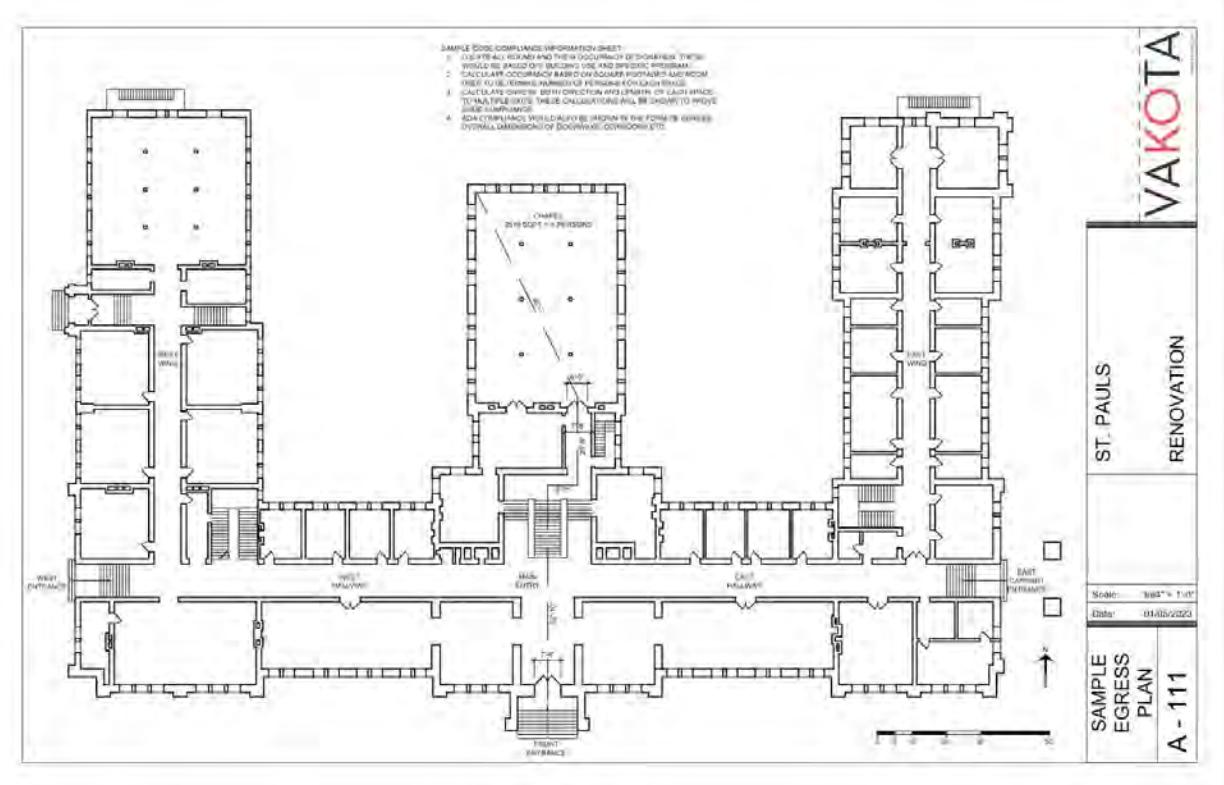
EXISTING SITE



**DEMOLITION
AREA**



**SITE
COMPLETION**



APPENDIX D Code References

2020 Existing building Code New York State Chapter 12 Historic Buildings

Section 1202 Repairs

1202.1 General

Repairs to any portion of a historic building or structure shall be permitted with original or like materials and original methods of construction, subject to the provisions of this chapter.

Hazardous materials, such as asbestos and lead-based paint, shall not be used where the code for new construction would not permit their use in buildings of similar occupancy, purpose and location.

1202.2 Replacement

Replacement of existing or missing features using original materials shall be permitted.

Replacement glazing in hazardous locations shall comply with the safety glazing requirements of [Chapter 24](#) of the *Building Code* of New York State.

Section 1203 Fire Safety

1203.2 General

Every historic building that does not conform to the construction requirements specified in this code for the occupancy or use and that constitutes a distinct fire hazard as defined herein shall be provided with an [approved](#) automatic fire-extinguishing system as determined appropriate by the [building official](#). However, an automatic fire-extinguishing system shall not be used to substitute for, or act as an alternative to, the required number of exits from any [facility](#).

1203.3 Means of Egress

Existing door openings and corridor and stairway widths less than those specified elsewhere in this code may be [approved](#), provided that, in the opinion of the [building official](#), there is sufficient width and height for a person to pass through the opening or traverse the means of egress. Where [approved](#) by the [building official](#), the front or main exit doors need not swing in the direction of the path of exit travel, provided that other [approved](#) means of egress having sufficient capacity to serve the total occupant load are provided.

1203.12 Automatic Fire-Extinguishing Systems

Every historic building that cannot be made to conform to the construction requirements specified in the *Building Code* of New York State for the occupancy or use and that constitutes a distinct fire hazard shall be deemed to be in compliance if provided with an [approved](#) automatic fire-extinguishing system.

Section 1204 Change of Occupancy

1204.4 Occupancy Separation

Required occupancy separations of 1 hour may be omitted where the building is provided with an [approved](#) automatic sprinkler system throughout.

1204.14 Natural Light

Where it is determined by the [building official](#) that compliance with the natural light requirements of [Section 1010.1](#) will lead to loss of historic character or historic materials in the building, the existing level of natural lighting shall be considered to be acceptable.

Section 1205 Structural

1205.1 General

[Historic buildings](#) shall comply with the applicable structural provisions for the work as classified in [Chapter 4](#) or [5](#).

Exceptions:

1. The [building official](#) shall be authorized to accept existing floors and existing live loads and to approve operational controls that limit the live load on any floor.
2. [Repair](#) of [substantial structural damage](#) is not required to comply with Sections [405.2.3](#) and [405.2.4](#). [Substantial structural damage](#) shall be repaired in accordance with [Section 405.2.1](#).

1205.2 Dangerous Conditions

Conditions determined by the [building official](#) to be [dangerous](#) shall be remedied. Work shall not be required beyond what is required to remedy the [dangerous](#) condition.

Chapter 4 Repairs

401.2 Compliance

The work shall not make the building less complying than it was before the [repair](#) was undertaken.

Section 405 Structural

405.2 Repairs to Damaged Buildings

[Repairs](#) to damaged buildings shall comply with this section.

405.2.1 Repairs for Less Than Substantial Structural Damage

Unless otherwise required by this section, for damage less than [substantial structural damage](#), the damaged elements shall be permitted to be restored to their pre-damage condition.

Chapter 15 Construction Safeguards

1501.3 Alterations, Repairs and Additions

Required exits, existing structural elements, fire protection devices and sanitary safeguards shall be maintained at all times during [alterations](#), [repairs](#) or [additions](#) to any building or structure.

Exceptions:

1. Where such required elements or devices are being altered or repaired, adequate substitute provisions shall be made.
2. Maintenance of such elements and devices is not required where the [existing building](#) is not occupied.

2020 Energy Conservation Code of NYS

Section 503 Alterations

R503.1 General

[Alterations](#) to any building or structure shall comply with the requirements of the code for new construction. [Alterations](#) shall be such that the existing building or structure is not less conforming to the provisions of this code than the existing building or structure was prior to the [alteration](#).

Section R505 Change of Occupancy or Use

R505.1 General

Spaces undergoing a change in occupancy that would result in an increase in demand for either fossil fuel or electrical energy shall comply with this code.

R505.2 General

Any space that is converted to a [dwelling unit](#) or portion thereof from another use or occupancy shall comply with this code.

Exception: Where the simulated performance option in [Section R405](#) is used to comply with this section, the annual [energy cost](#) of the [proposed design](#) is permitted to be 110 percent of the annual [energy cost](#) allowed by [Section R405.3](#).

ADA - Access points have distances for entrances and all will need to be adhered to.

Based on Previous Adaptive Reuse Plans:

Building would include but not be limited too:

- Community Center
- Performance Center
- Athletics
- Youth Center
- Senior Center
- Department of Recreation

Building would become mixed-use with multiple fire-separation zones being made. Depending on total occupancy of these separate programs ADA code would have to ensure multiple accessible entrances as well as multiple elevator shafts. Additional work proposed would also encourage the [entire](#) building to be brought up to code with no exceptions being made if the percentage of new construction is high enough. Egress would need to be measured to ensure all occupants are within proper distances of exits.

APPENDIX E Images

Photos taken during site visit December 09, 2022



South Facade Looking East



South Facade looking west

South Facade entry



North Facade



East port cochère



Grand Stair



East Hall



West Hall



First Floor Hallway



Chapel



First Floor Hallway masonry details



Service stair

West exit first floor



Basement Hallways and Kitchen



Second floor hallway details



Shoring example on second floor

Floor damage



Typical ceiling



Typical room conditions



Interior damage towards roofs



Typical restrooms

