Comparative Analysis
Executive summary

Saint Paul's Complex
Garden City, NY, 11530

VAKOTA architecture, PLLC

WESTERMAN CONSTRUCTION MANAGEMENT + CONSULTING

September 15, 2023

EXECUTIVE SUMMARY

September 15, 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, 2023 (and subsequently authorized in our purchase order dated November 23rd, 2023) 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 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.

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 where 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 through 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. New windows will be provided in the usable spaces only.
- 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.
- 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 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
    - 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 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.
- 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 reduced to a Façade that will not sustain itself, and contemplates an addition being attached to it 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:

The least expensive option is demolition

Adaptive re-use is in the middle of cost in the three choices. If the entire building was put into use it would be less expensive than Facadism, as Facadism MUST rely on a new building being built. If that new building were significantly smaller than the existing St. Paul's structure then these two choices could be very close.

Facadism coupled with a building of the approximate square footage of the existing St. Paul's building, whether a box like a Home Depot or the appearance of a distinctive structure like an airline terminal, for example would be the most expensive. There is enough space there to do practically anything.

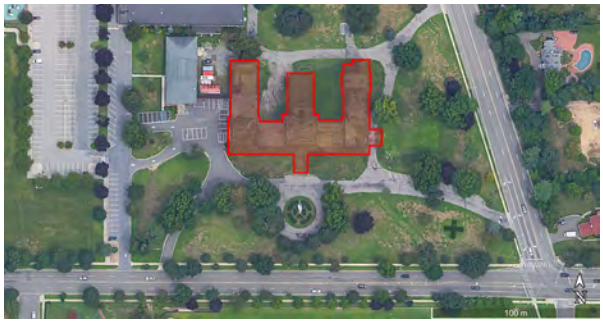
Option 01 : Total Demolition and Salvage

- Option A :
Demolition with salvage* and site to match the existing immediate surroundings:
~ $17,678,312

Existing site

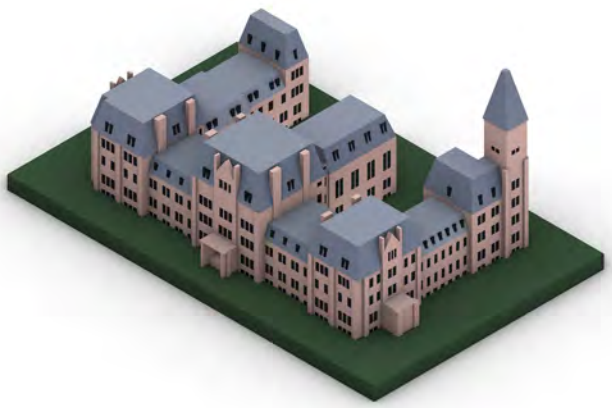
- Option B :
Demolition, no salvage and site to match the existing immediate surroundings:
~ $12,803,356

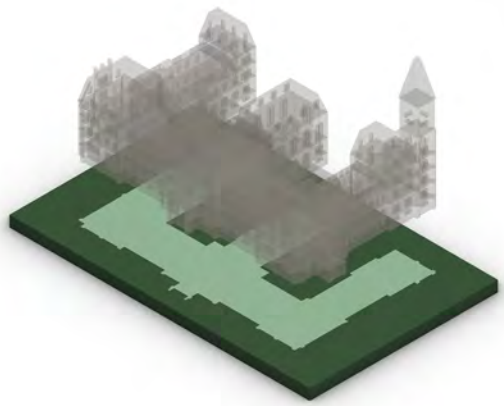
Demolition area

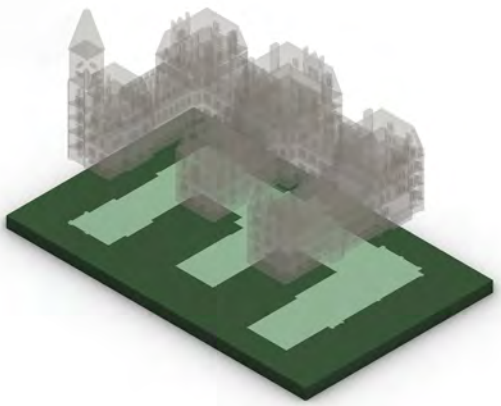


Site completion

* Refer to page 20 of the report







Option 02 : Adaptive Re-use

- 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

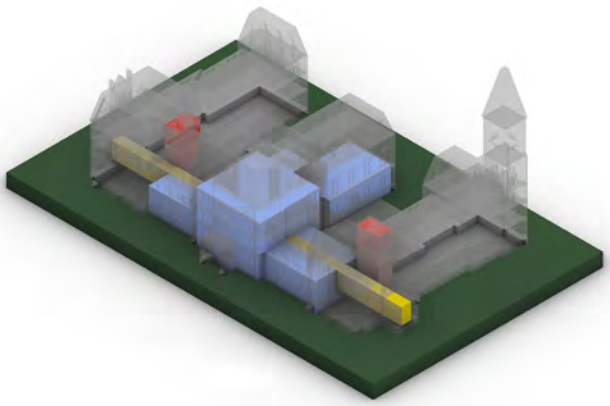
- Additional :
White box useable space suitable for a variety of functions :
$300 / Sq. ft.

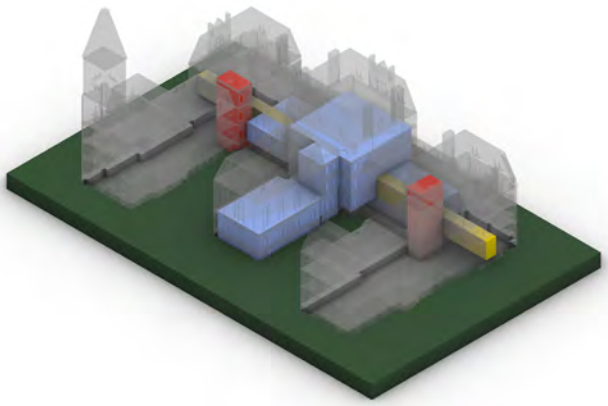
Stabilized conditioned space

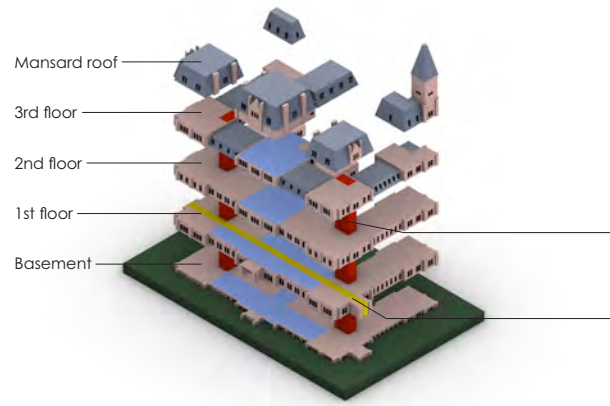
Phase 01 finished space

Egress Vertical circulation

Egress Hallway





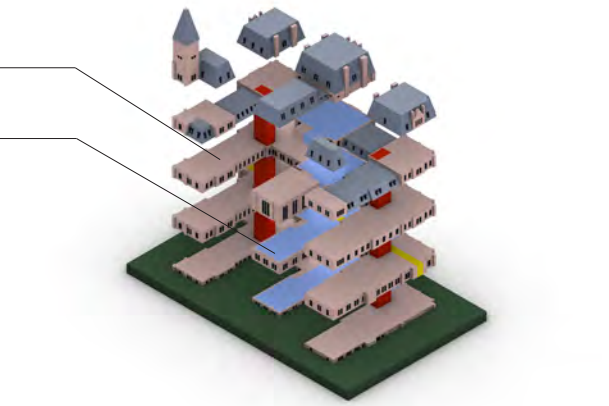


Stabilized conditioned space

Phase 01 finished space

Vertical circulation

Hallway

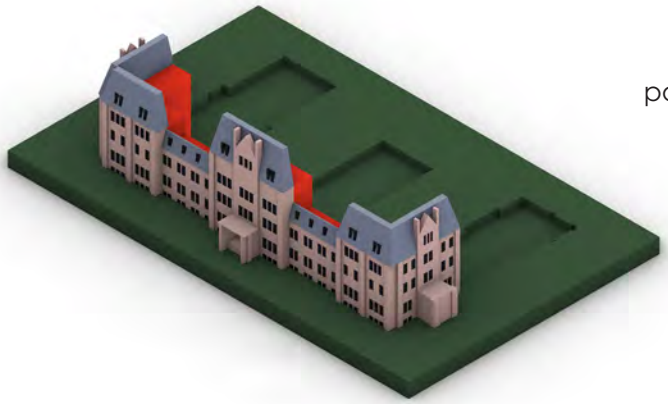


Option 03 : Facadism

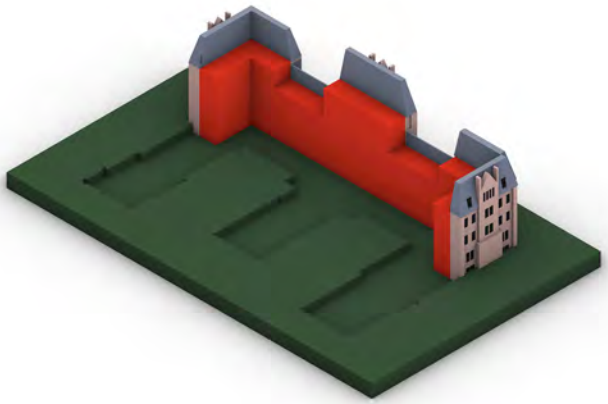
- Option A :
Building reduced to a Façade that will sustain itself for years:
~ $46,444,836

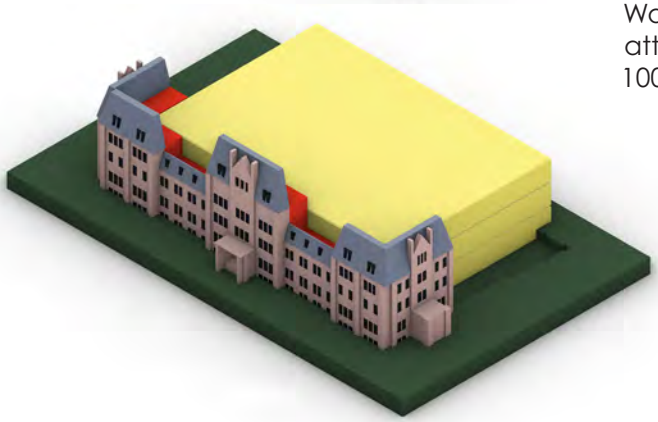
- Option B :
Building reduced to a Façade that will not sustain itself, and contemplates an addition being attached to it within 2 years:
~ $37,508,337

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

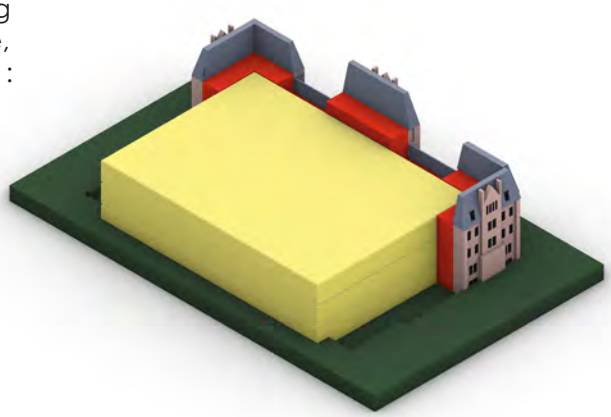


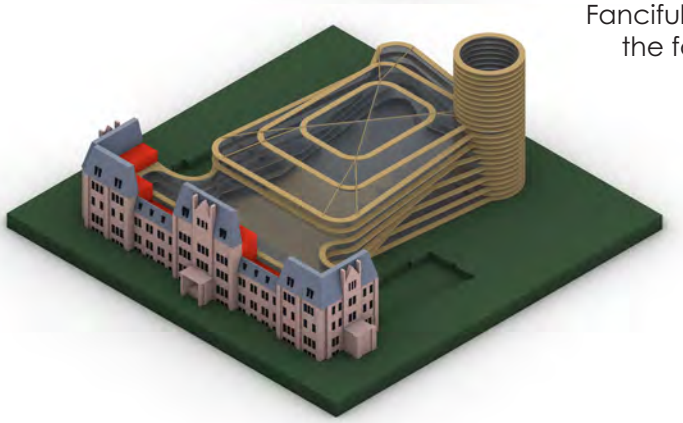
Support structure :
Temporary
or
part of the new facility



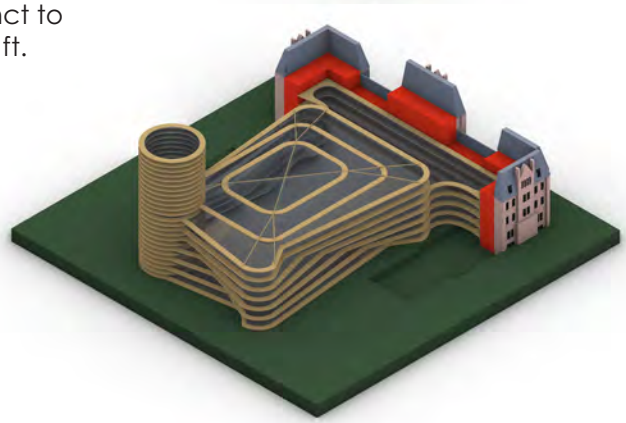


Warehouse type building attached to the facade, 100,000 Sq. ft. on 3 floors :
~ $50,000,000





Fanciful type building distinct to the facade, 100,000 Sq. ft. on 3 floors :
~ $120,000,000



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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

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GDPC
GREGORY DIETRICH
PRESERVATION CONSULTING

FENNELL ENGINEERING, PLLC
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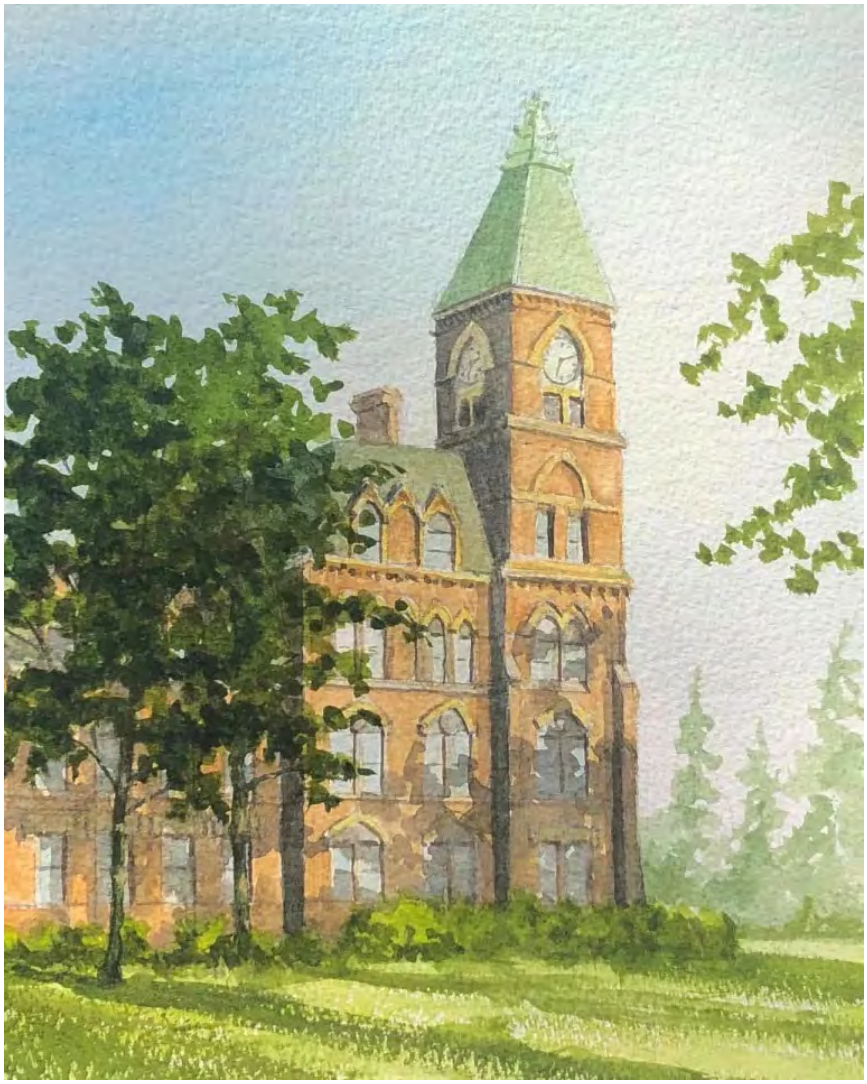
New York, NY 10001 I 212-639-9300



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 Giovanniello, 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.

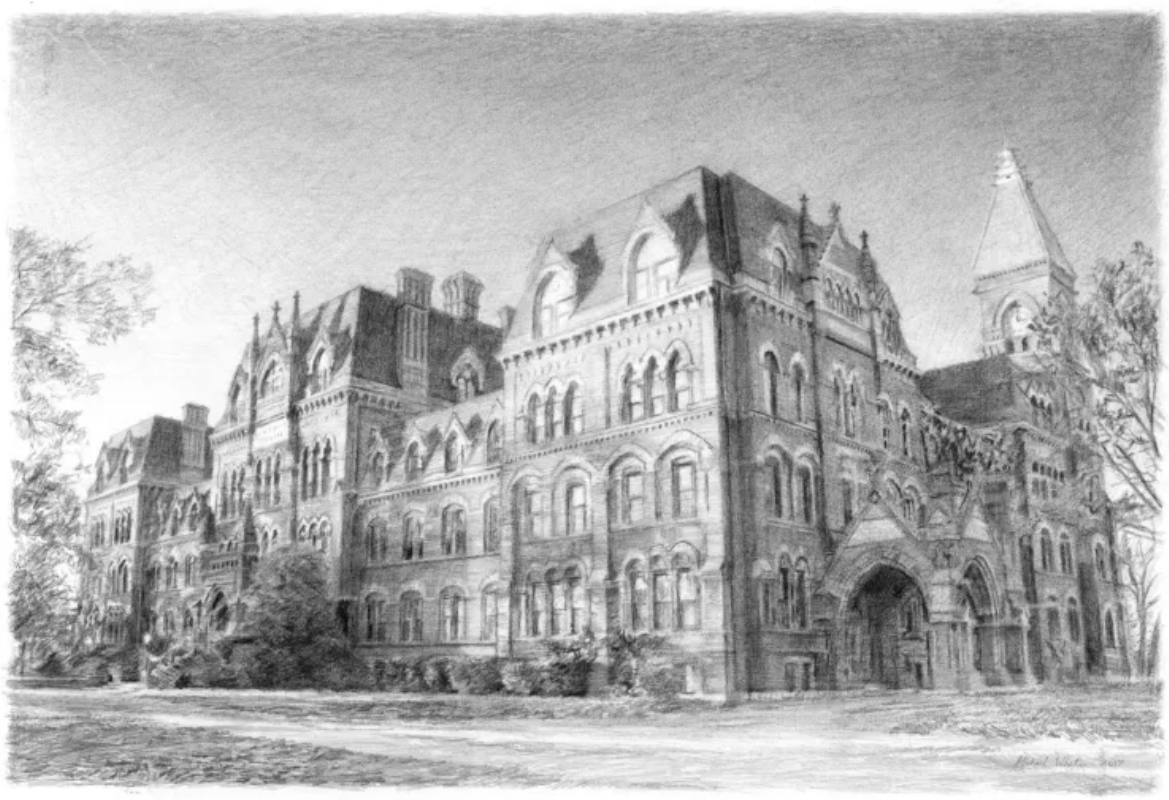
TABLE OF CONTENTS

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.

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 Tomasett'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 inorder 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 Tomasett'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 of 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 of 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. Iit 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 & Associated 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 unprecedented 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)

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* 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

The Village of Garden City
Contract No: 120269

WESTERMAN CONSTRUCTION CO. INC
MANAGEMENT+CONSULTING

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**

The Village of Garden City
Contract No: 120269

WESTERMAN CONSTRUCTION CO. INC. MANAGEMENT+CONSULTING

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				**Total General Conditions**		**$ 716,500**
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				**Total General Requirements**		**$ 430,000**
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					**Total Shoring**	**$ 225,000**
30						
31	02110	**Abatement**				
32		*Pre-demolition:*				
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					**Total Abatement**	**$ 947,100**
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
		Remove site roadway	Allow	Ls	$ 300,000	$ 300,000
47		F&I Clean Fill where foundation removed	10,000	Yds.	$ 250	$ 2,500,000
48					**Total Demolition**	**$ 5,749,260**

The Village of Garden City
Contract No: 120269

WESTERMAN CONSTRUCTION CO. INC. MANAGEMENT+CONSULTING

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					Stained Glass Salvage	**$ 354,000**
90						

The Village of Garden City
Contract No: 120269

WESTERMAN CONSTRUCTION CO. INC. MANAGEMENT+CONSULTING

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						

The Village of Garden City
Contract No: 120269

WESTERMAN CONSTRUCTION CO. INC. MANAGEMENT+CONSULTING

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
40					
41		Grand Total		**$**	**49,526,287**
		New Theater Structure		$	5,000,000
		New Pool building		$	7,000,000

The Village of Garden City
Contract No: 120269

WESTERMAN CONSTRUCTION CO. INC MANAGEMENT+CONSULTING

St. Paul's School

Date: **3/7/2023**

Conceptual Adaptive Re-use Budget

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 floo	25,769	Sf	$ 25	$ 644,225
52		Remove all non-bearing partitions, ceilings and flooring 2nd floc	24,477	Sf	$ 25	$ 611,925
53		Remove all non-bearing partitions, ceilings and flooring 3nd floc	22,908	Sf	$ 25	$ 572,700
54		Remove all non-bearing partitions, ceilings and flooring 4th floo	14,664	Sf	$ 25	$ 366,600
55		Remove all non-bearing partitions, ceilings and flooring 5nd floc	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**	**$ 3,002,725**

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						
127					**Total Fireproofing**	**$ 94,500**
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						
139					**Total Metal Doors & Frames**	**$ 40,000**
140						
141	**08710**	**Finish Hardware**				
142						
143		Sets of hardware	25	Ea	$ 1,000	$ 25,000
144						$ -
145						
146					**Total Finish Hardware**	**$ 25,000**
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
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						

WESTERMAN CONSTRUCTION CO. INC MANAGEMENT+CONSULTING

St. Paul's School

Date: **3/7/2023**

Conceptual Adaptive Re-use Budget

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						

WESTERMAN CONSTRUCTION CO. INC MANAGEMENT+CONSULTING

St. Paul's School

Date: **3/7/2023**

Conceptual Adaptive Re-use Budget

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**

The Village of Garden City
Contract No: 120269

WESTERMAN CONSTRUCTION CO. INC
MANAGEMENT+CONSULTING

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

The Village of Garden City
Contract No: 120269

WESTERMAN CONSTRUCTION CO. INC MANAGEMENT+CONSULTING

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 3nd 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**	**$ 7,965,000**

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						

WESTERMAN CONSTRUCTION CO. INC MANAGEMENT+CONSULTING

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	Sf	$ 50	$ 750,000
103						$ -
104					**Total Arch. Woodwork**	**$ 1,333,250**
105						
106	**07500**	**Roofing**				
107		Re-roof left over main roof	12,000	Sf	$ 100	$ 1,200,000
108		Re-roof mansards	10,000	Sf	$ 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	Sf	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	Sf	$ 15	$ 150,000
124		Scaffolding chapel inside	7,000	Sf	$ 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	Sf	$ 15	$ 180,000
134		Rebuild roof system	15,000	Sf	$ 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		Distrubution 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

LEHR ENGINEERING, DPC
170 OLD COUNTRY ROAD • MINEOLA, N.Y. 11501
1350 AVENUE OF THE AMERICAS • NEW YORK, N.Y. 10019 • T 212.947.8050

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]	Cooling Load *[tons]*	Heating Load [btu/hr/sq ft]	Heating Load *[btu/hr]*	Equipment Units
EXIST. BLDG.								
Basement	Kitchen	2,650	12'-0"	400	6.6	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	0.6	15	4,875	VRV-3
	Total Floor Area	**10,490**			**20.9**		**128,000**	
1st Floor	Entrance Atrium(Double Height)	420	31'-0"	225	1.9	30	12,600	VRV-4
	Reception	550	16'-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	1.6	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	66,250	VRV-8
	Total Floor Area	**13,847**			**58.6**		**349,060**	
2nd Floor	Chapel	2,655	15'-0"	225	11.8	30	79,650	VRV-9
	Main Stairwell/Transition	695		500	1.4	15	10,425	VRV-3
	Community/Multipurpose Rm	1,485		225	6.6	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.								
1st Floor	**Auditorium (Option A)**	**6,600**	25'-6"	200	33.0	30	198,000	VRV-11A
	Swimming Pool (Option B)	**6,600**	25'-6"	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								Approved by:	VL

FLOOR	SPACE OCCUPANCY	AREA (sq ft)	Height (ft.)	People/ (1000 sq ft)	Estimated Occupants	People OA Rate cfm/person	Area 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	2,615					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	46	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	2,869	RTU-2
	Restrooms	885						0	
	Corridor/Transition	2,655					0.06	159	RTU-1
	Dining Hall	2,650		100	265	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	106	RTU-1
	Corridor/Transition	1,435					0.06	86	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'-6"	75	495	5.0	0.06	2,871	RTU-3A
	Swimming Pool (Option B)	**6,600**	25'-6"	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**					Checked by:	MP
	Phase 1 - Adaptive Reuse Analysis					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
		12,000	
NEW BUILDING			
VRV Units:			
VRV-11A	33		Serves 1st Floor auditorium(option A)
VRV-11B	38		Serves 1st Floor swimming pool(option B)

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 CO_2 concentration per ASHRE indoor CO_2 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					Checked by:	MP
	Phase 1 - Adaptive Reuse Analysis					Approved by:	VL

Equipment	*[tons]*	OA *(cfm)*	Remarks/Notes:
EXISTING BUILDING			
Ventilation Units			
RTU-1	67	8,522	Assumption: Δh = 21 btu/lb
RTU-2	23	2,869	btu/hr = cfm x 4.5 x Δh / 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 of 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. Pauls' 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.

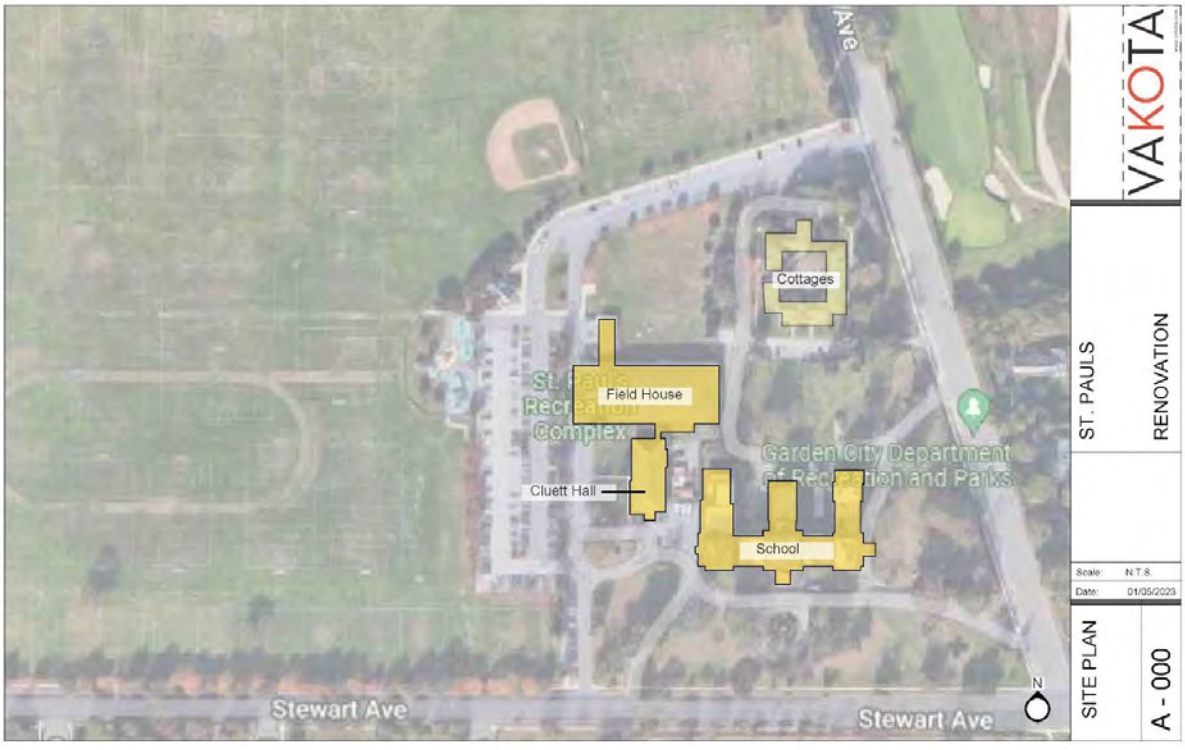
- Disposal of Non-Salvageable Elements

  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.

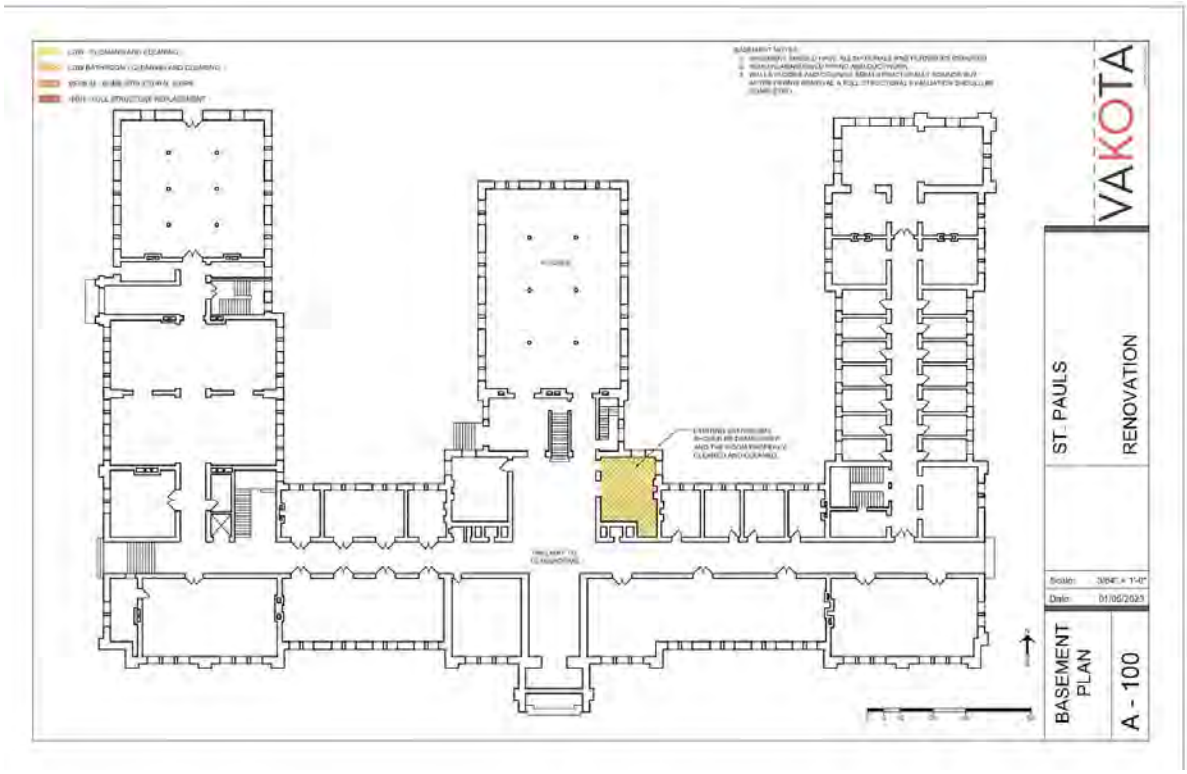
Similar to documentation, the salvaging of architectural ensembles or elements not only has the capacity to educate individuals about design, but also about materials, craftsmanship, fabrication and construction through the physical object. In addition, preservation practitioners have noted that architectural 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.

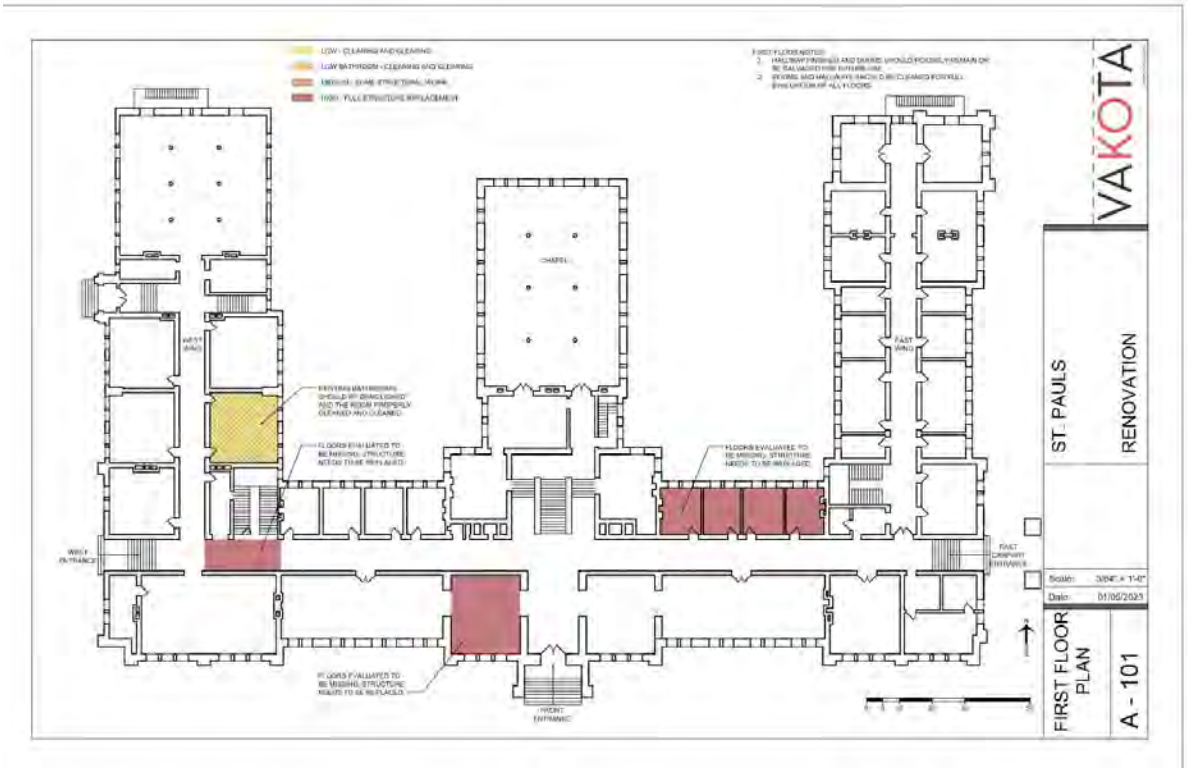
APPENDIX C Plan diagrams

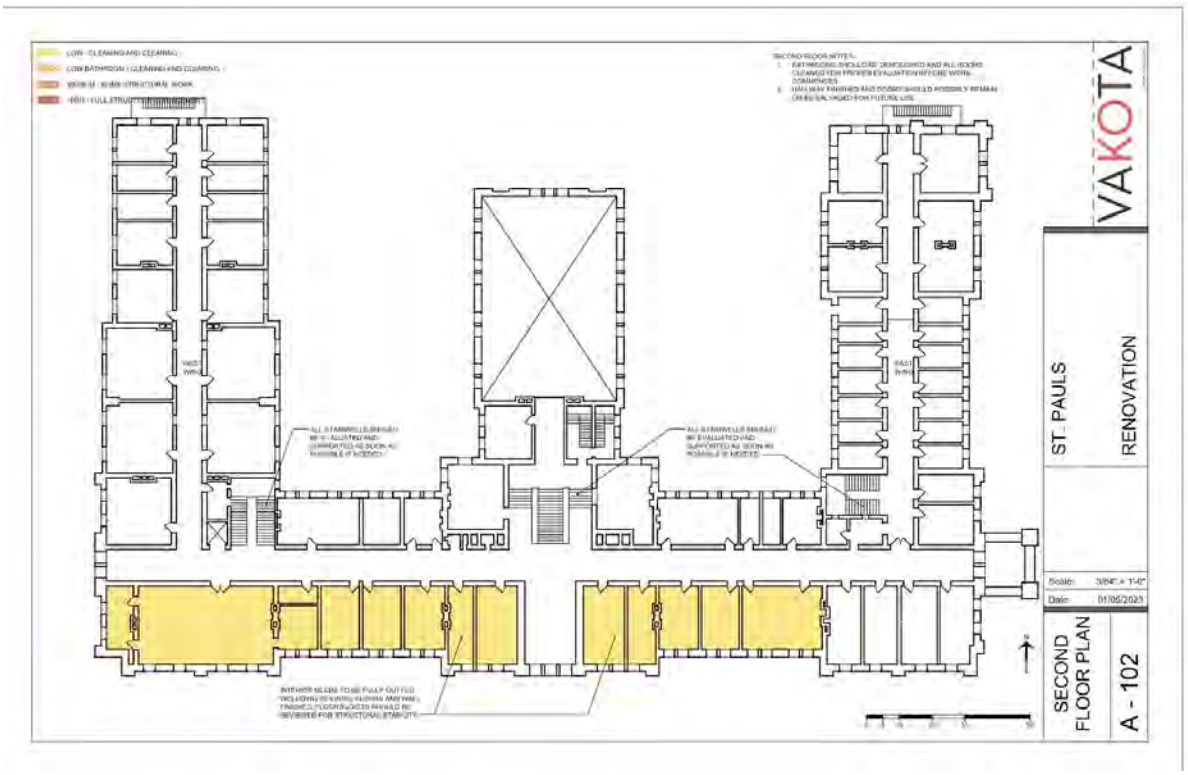
Existing Site



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.





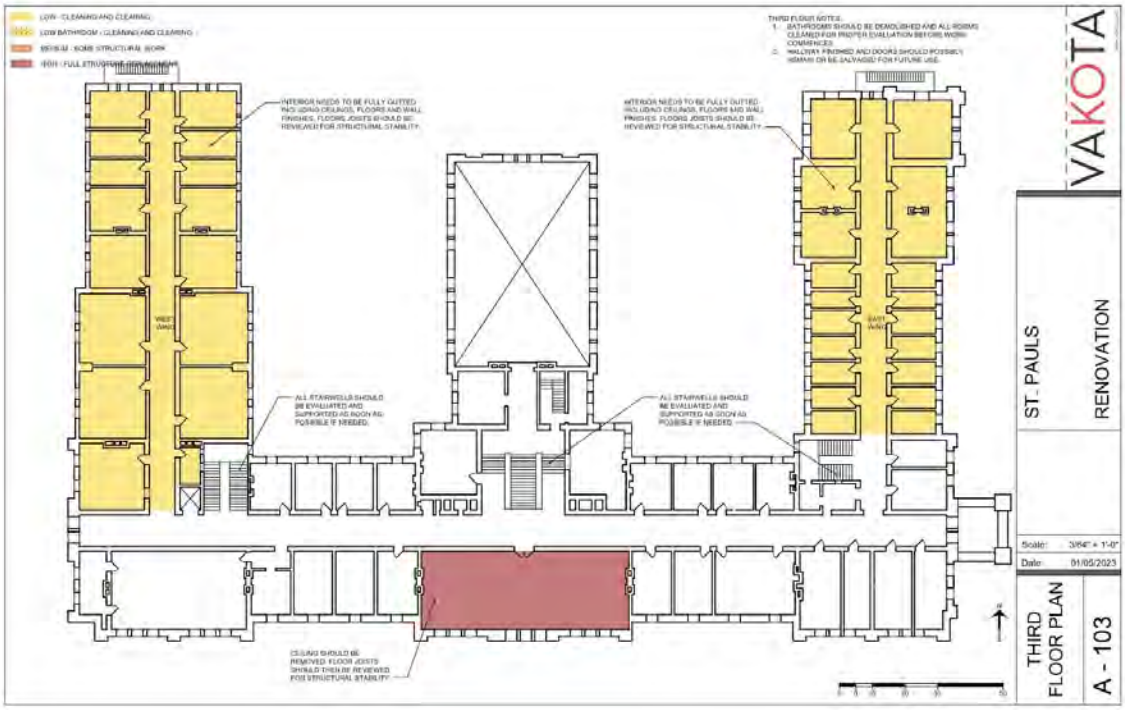


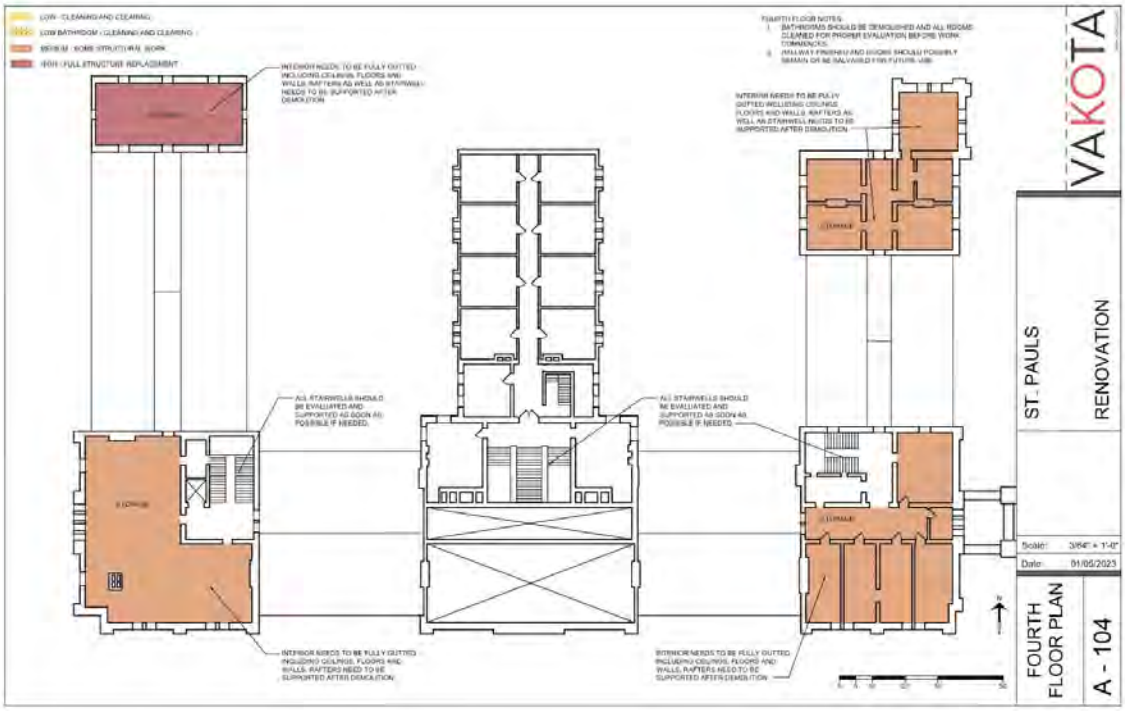
LOW - CLEANING AND CLEARING

LOW BATHROOM - CLEANING AND CLEARING

MEDIUM - SOME STRUCTURAL WORK

HIGH - FULL STRUCTURE REPLACEMENT



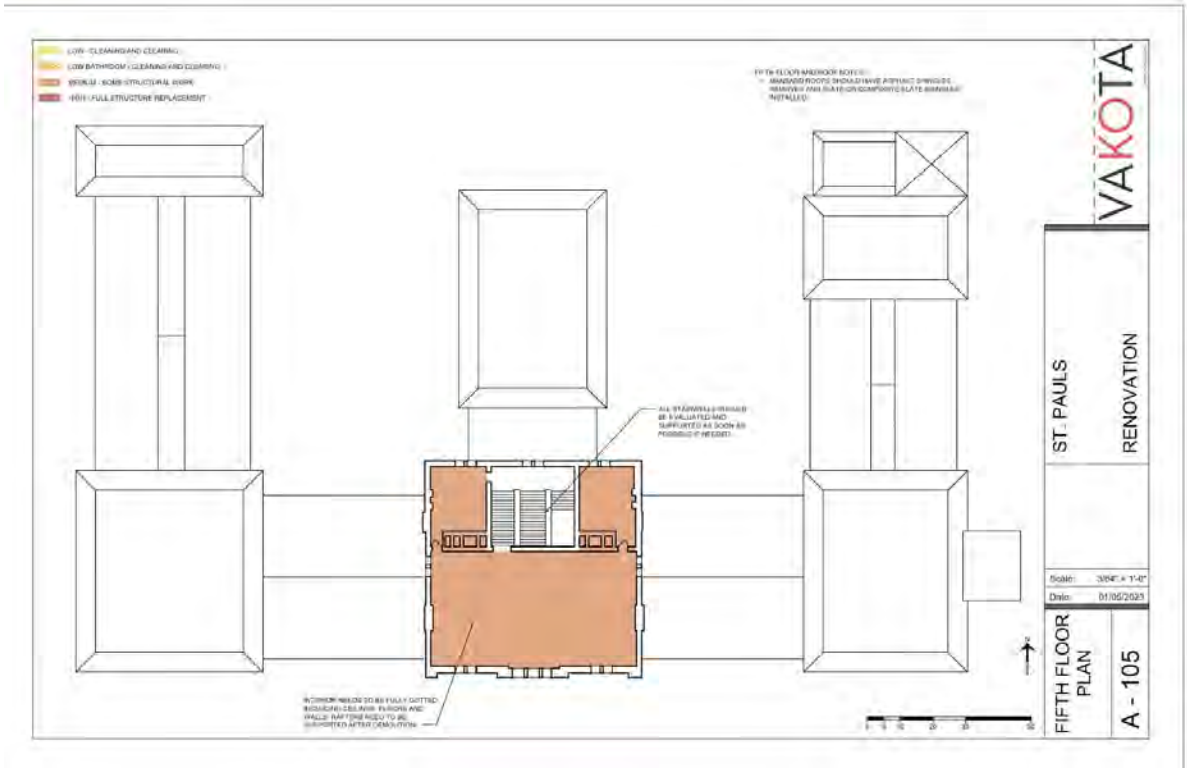


LOW - CLEANING AND CLEARING

LOW BATHROOM - CLEANING AND CLEARING

MEDIUM - SOME STRUCTURAL WORK

HIGH - FULL STRUCTURE REPLACEMENT



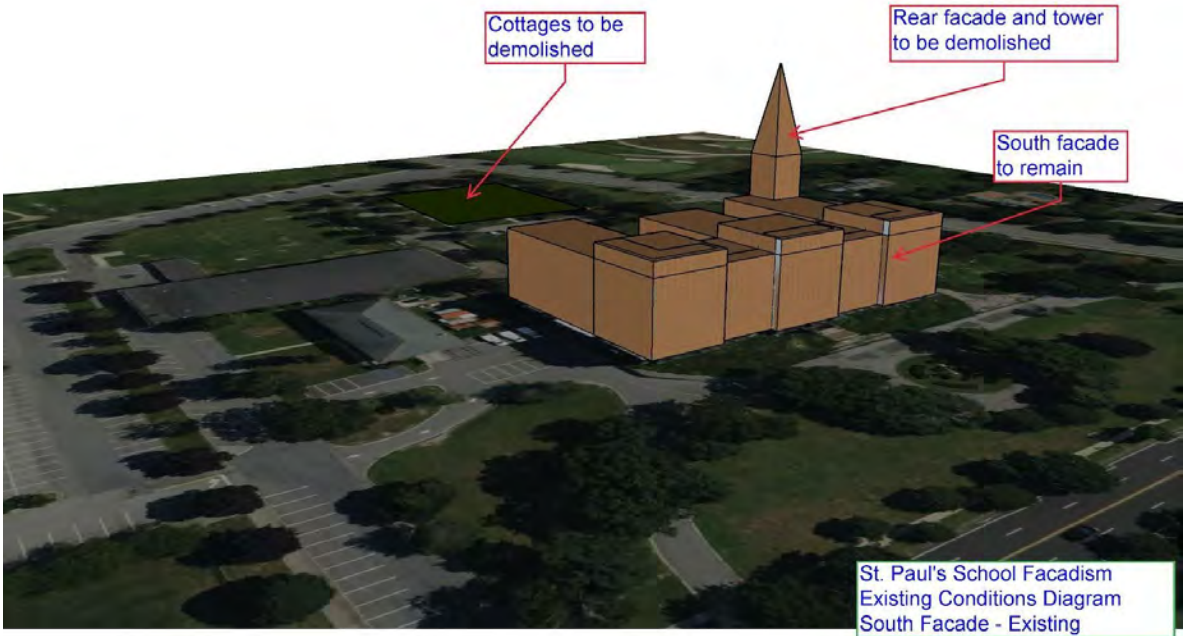
LOW - CLEANING AND CLEARING

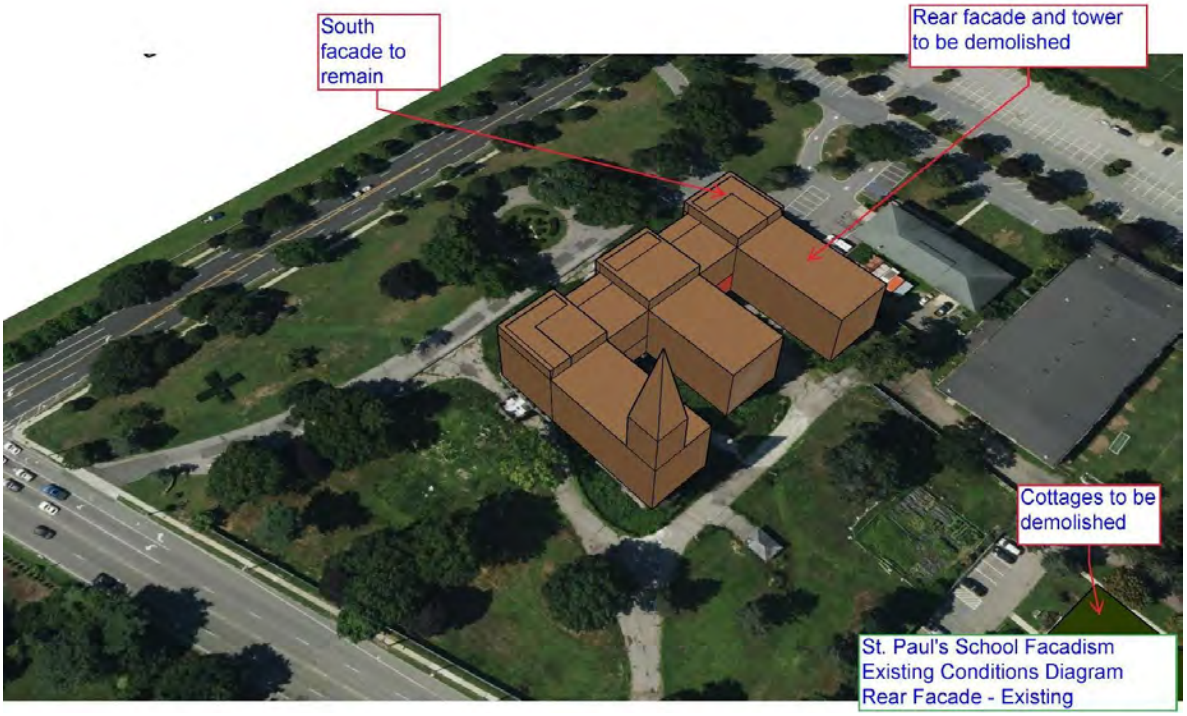
LOW BATHROOM - CLEANING AND CLEARING

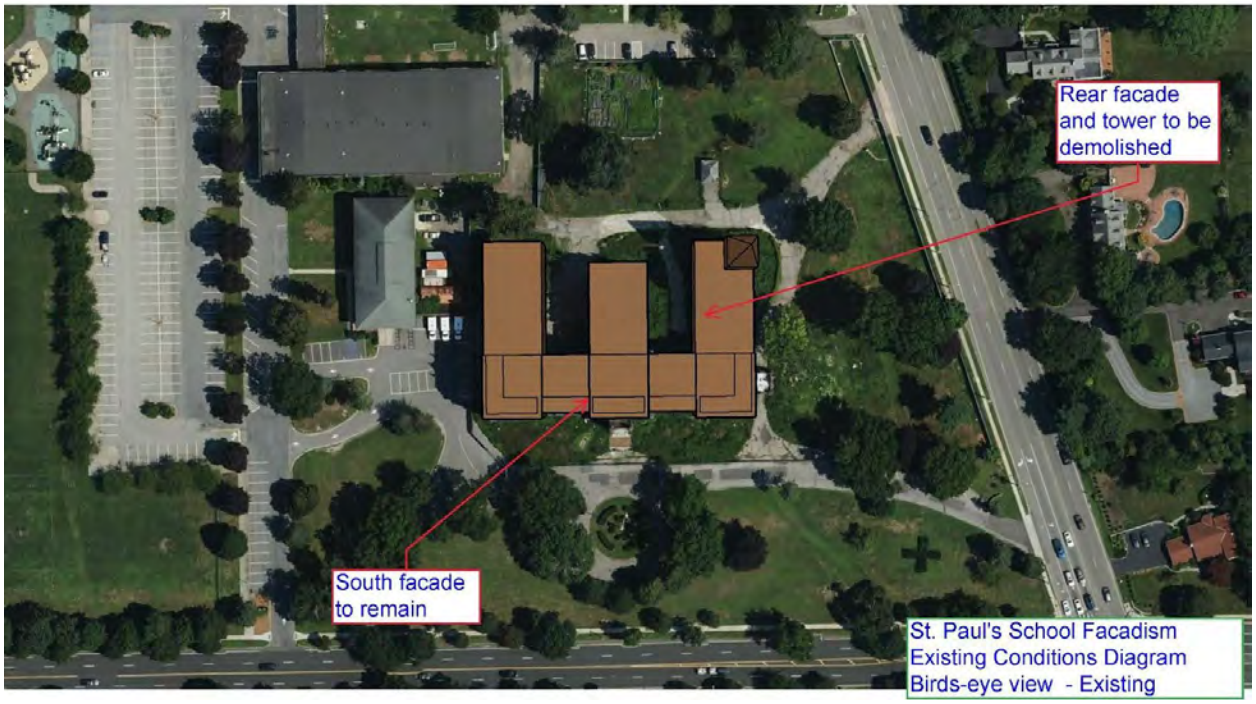
MEDIUM - SOME STRUCTURAL WORK

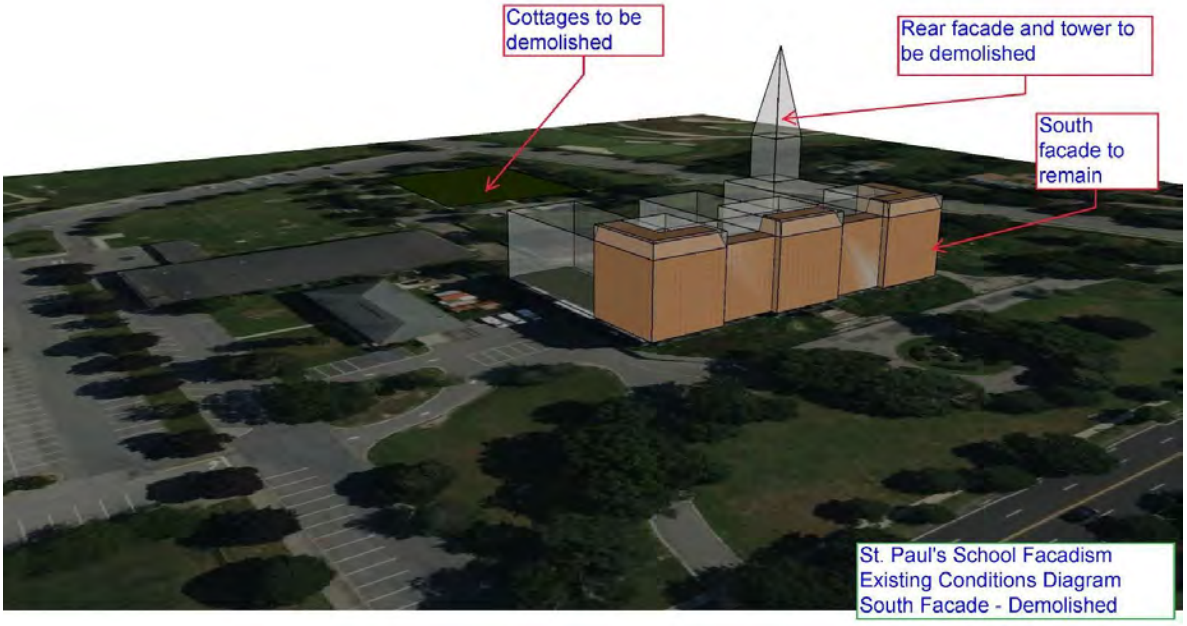
HIGH - FULL STRUCTURE REPLACEMENT

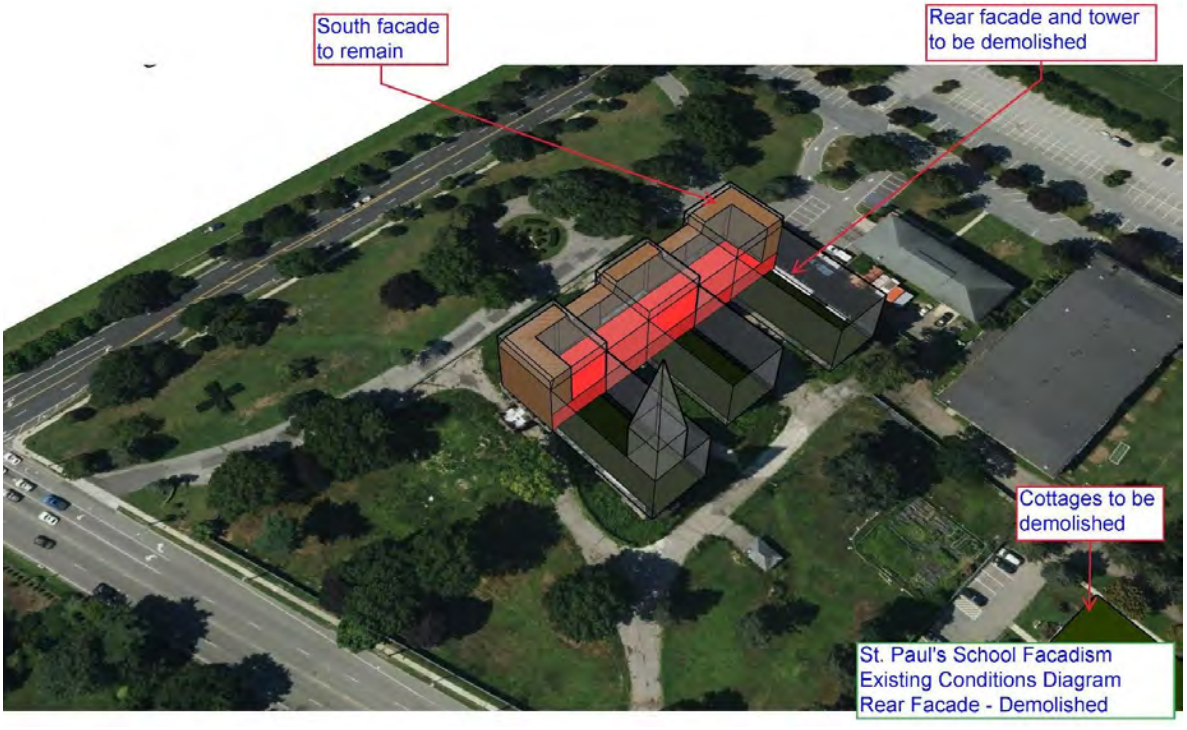
FACADISM DIAGRAMS VERSUS EXISTING CONDITIONS

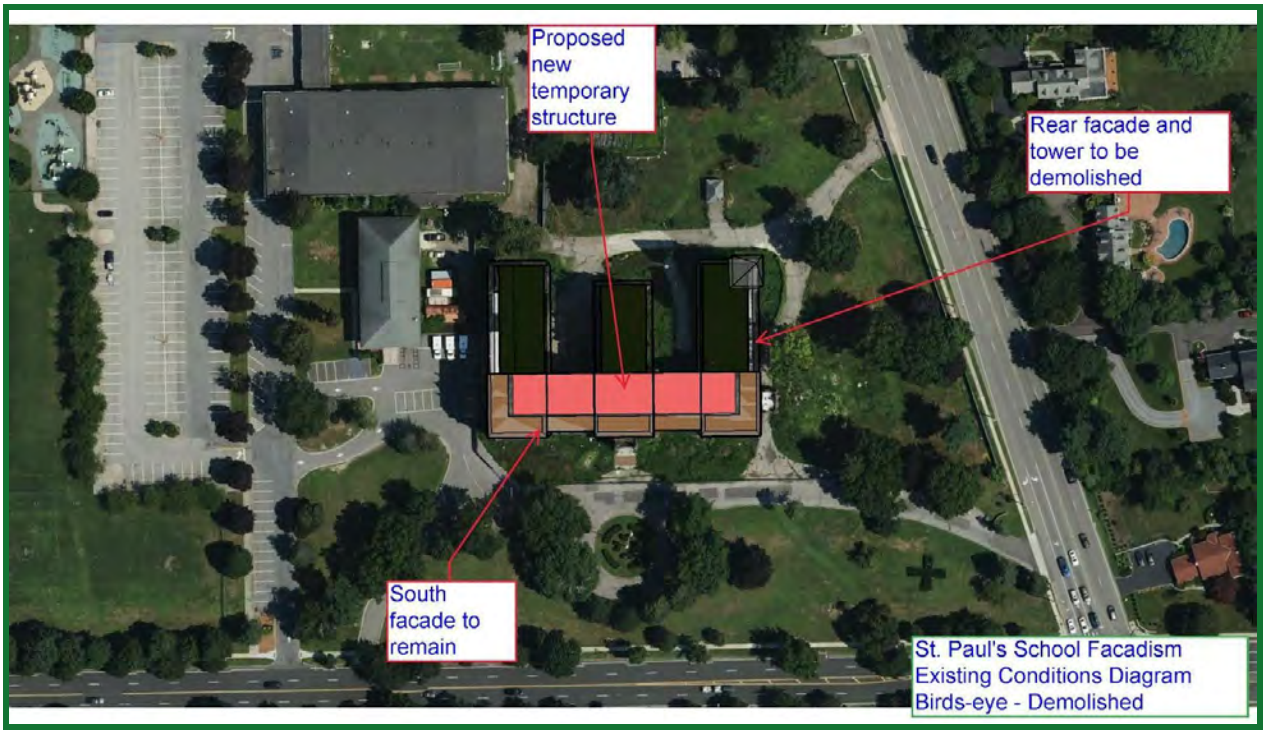


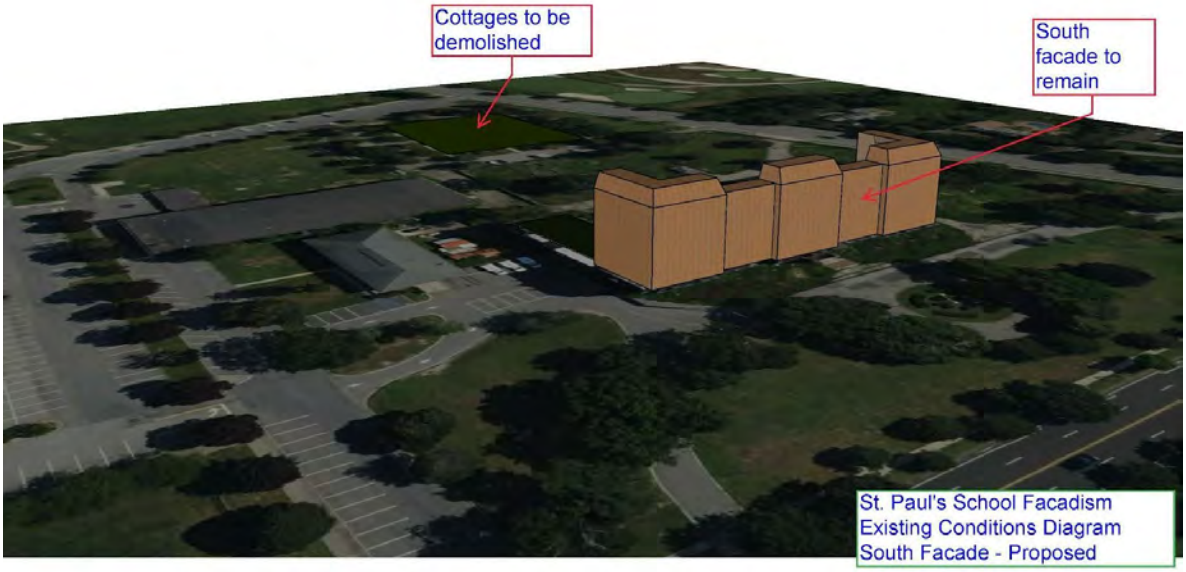


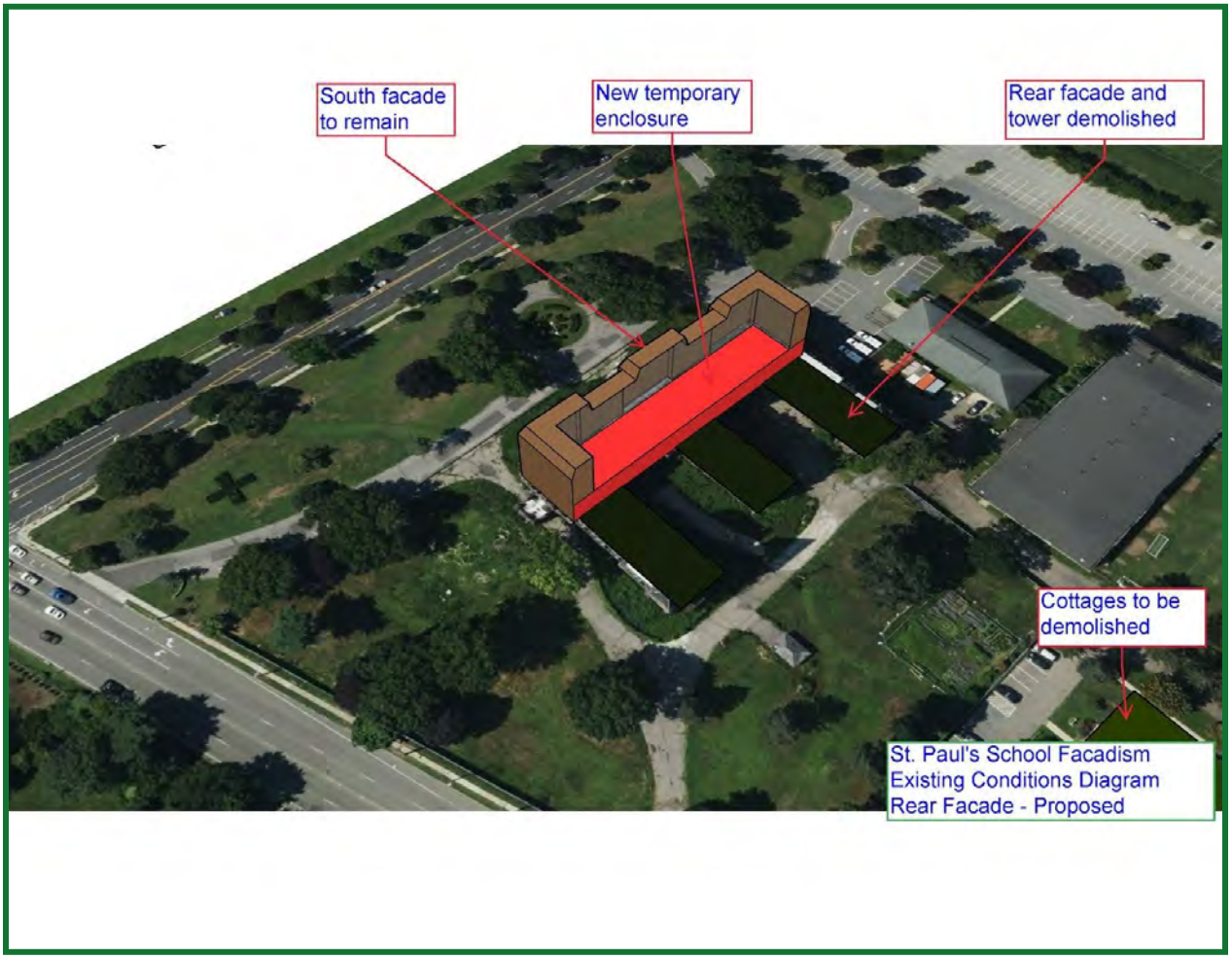

Rear facade
and tower to be
demolished
South facade
to remain
St. Paul's School Facadism
Existing Conditions Diagram
Birds-eye view - Existing

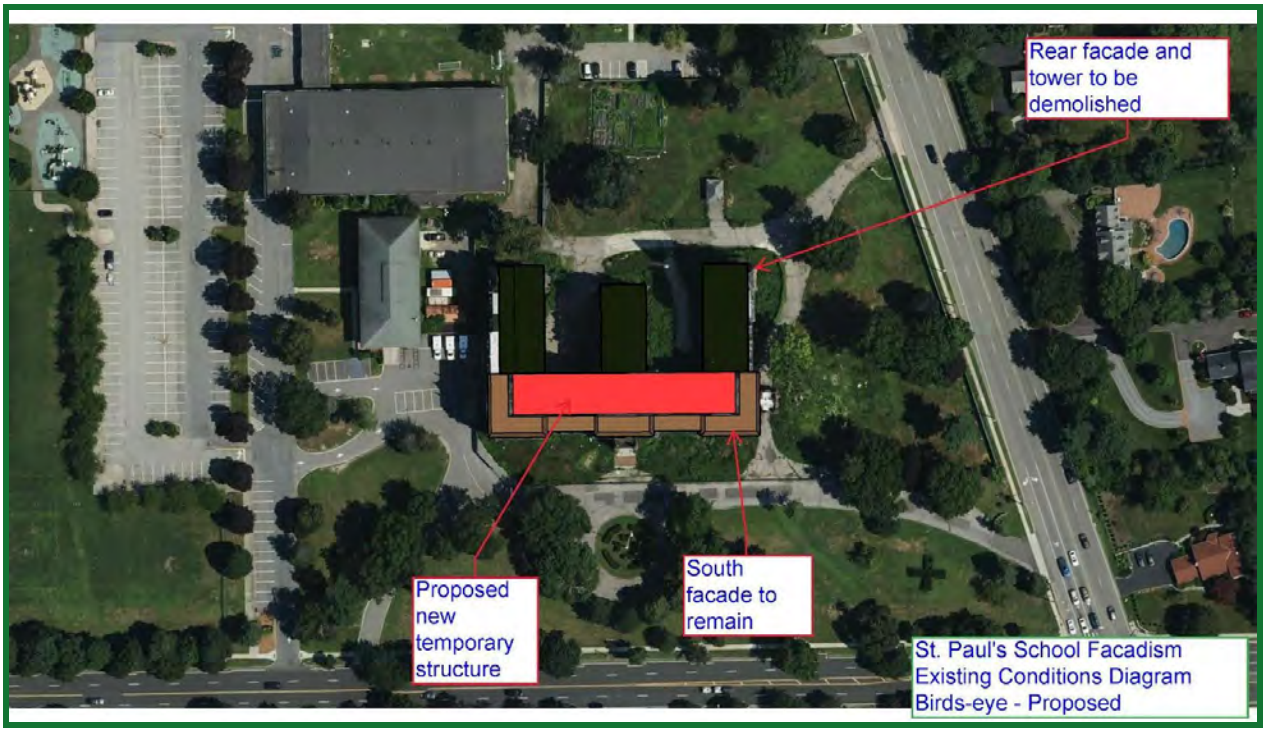

Cottages to be demolished
Rear facade and tower to be demolished
South facade to remain
St. Paul's School Facadism
Existing Conditions Diagram
South Facade - Demolished


South facade to remain
Rear facade and tower to be demolished
Cottages to be demolished
St. Paul's School Facadism
Existing Conditions Diagram
Rear Facade - Demolished

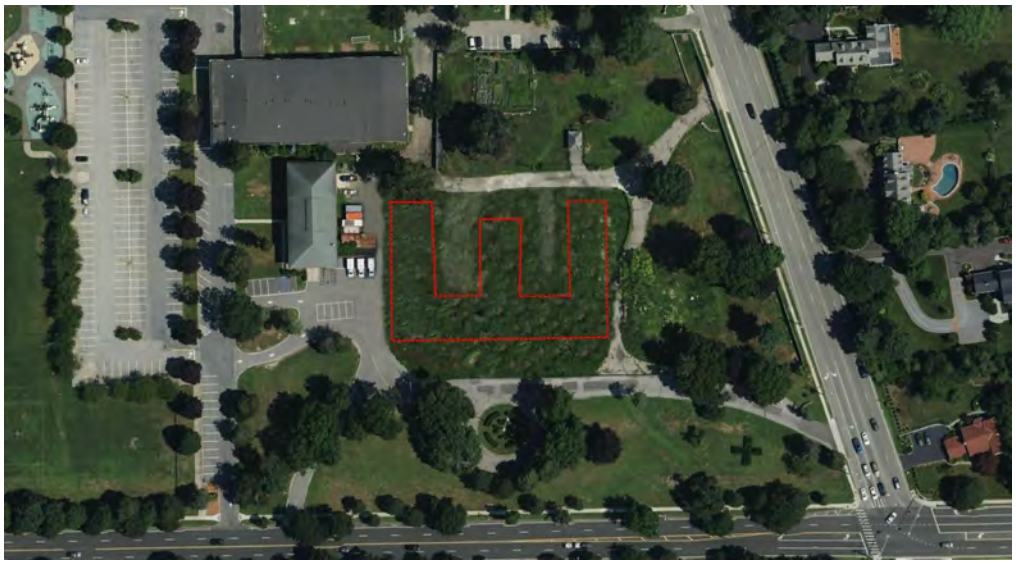

Proposed new temporary structure
Rear facade and tower to be demolished
South facade to remain
St. Paul's School Facadism
Existing Conditions Diagram
Birds-eye - Demolished


Cottages to be demolished
South facade to remain
St. Paul's School Facadism
Existing Conditions Diagram
South Facade - Proposed


South facade to remain
New temporary enclosure
Rear facade and tower demolished
Cottages to be demolished
St. Paul's School Facadism
Existing Conditions Diagram
Rear Facade - Proposed

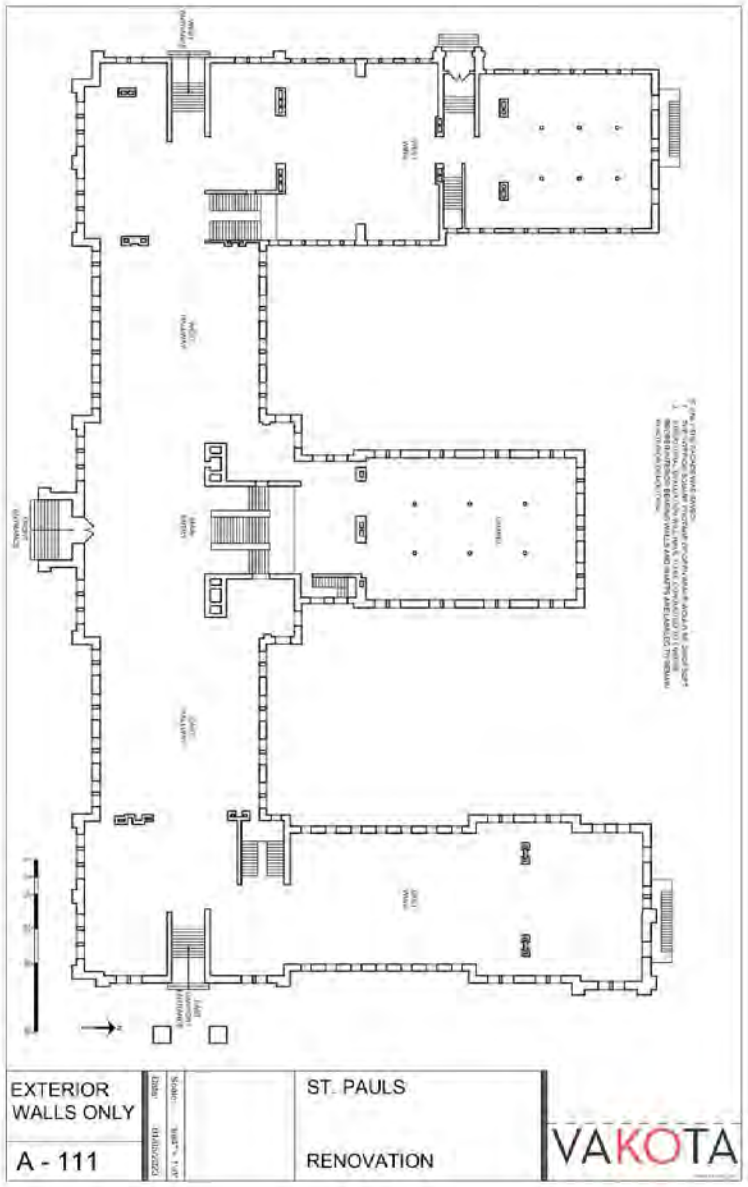

Rear facade and tower to be demolished
Proposed new temporary structure
South facade to remain
St. Paul's School Facadism
Existing Conditions Diagram
Birds-eye - Proposed

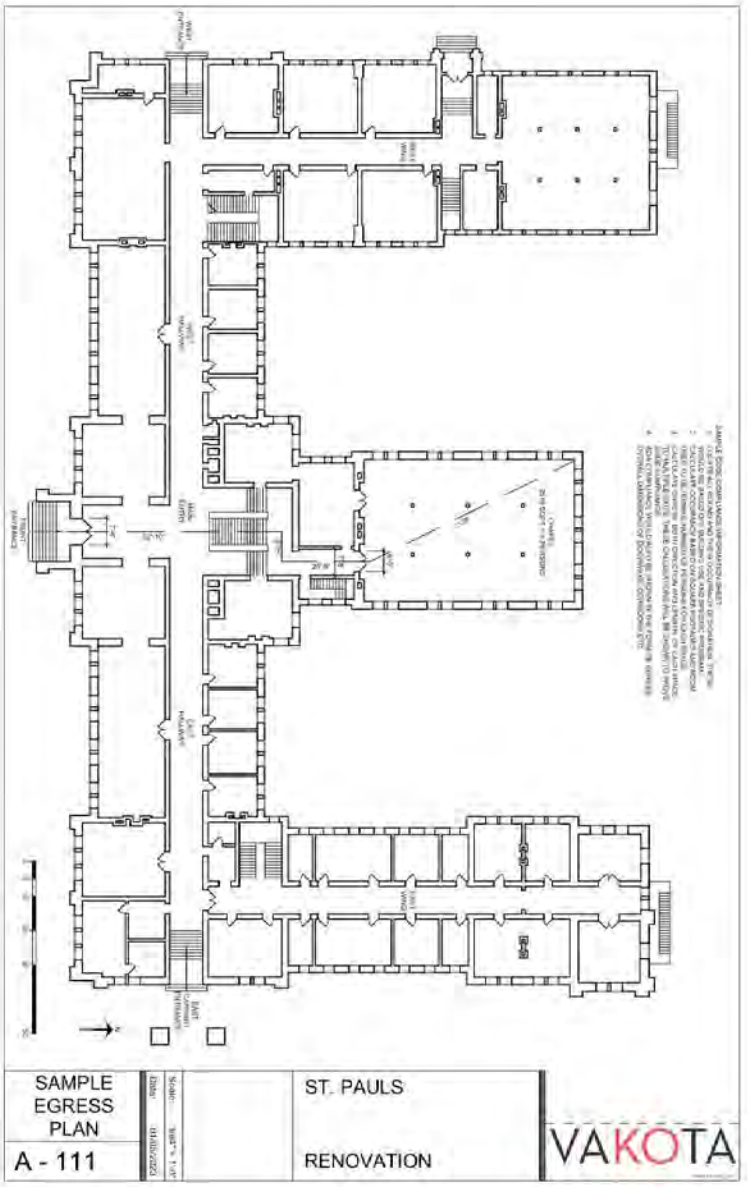
EXISTING SITE



DEMOLITION AREA

SITE COMPLETION


EXTERIOR WALLS ONLY
A - 111
ST. PAULS
RENOVATION
VAKOTA


SAMPLE EGRESS PLAN
A - 111
ST. PAULS
RENOVATION
VAKOTA

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

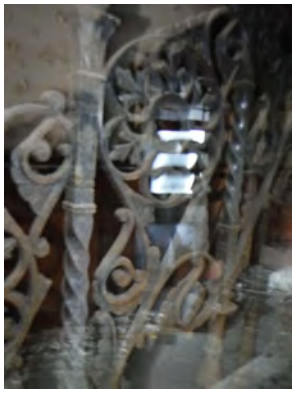
South Facade Looking East

South Facade looking west

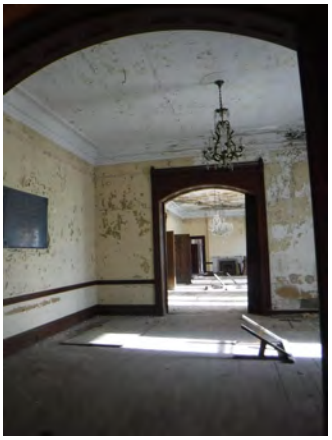
South Facade entry

North Facade

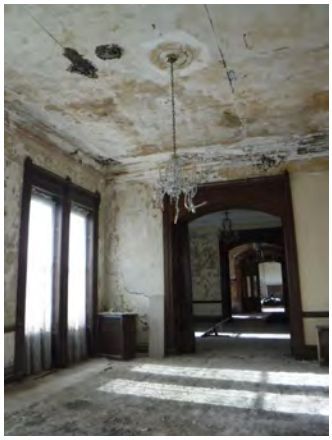
East port cochère



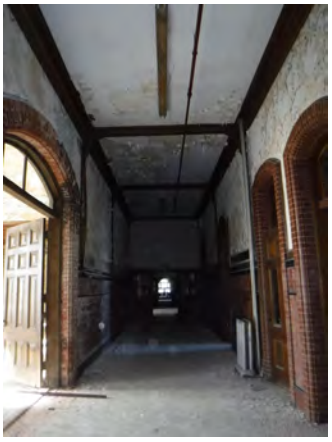
Grand Stair



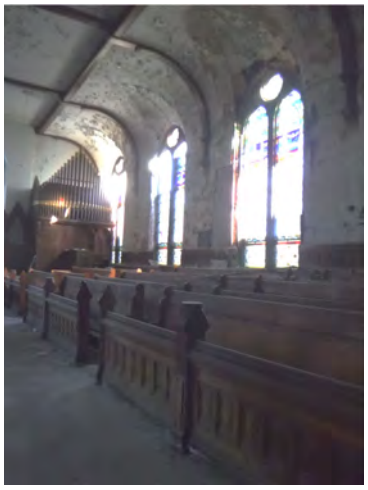
East Hall



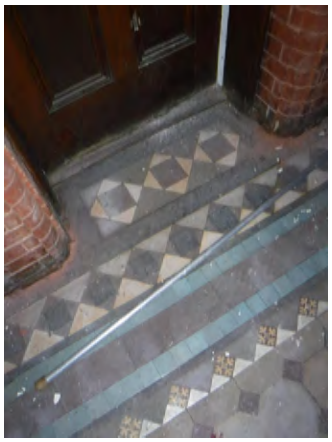
West Hall



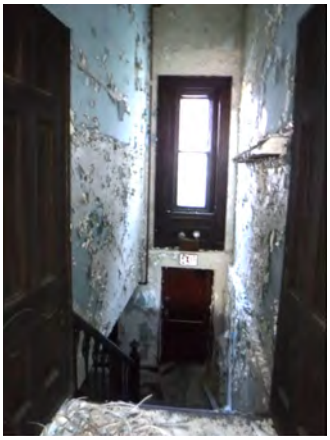
First Floor Hallway



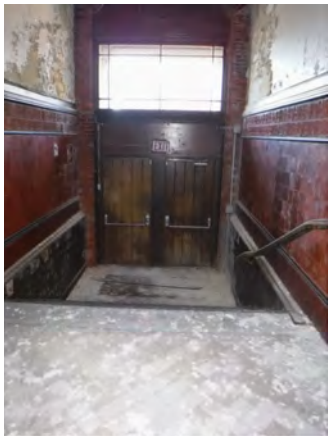
Chapel



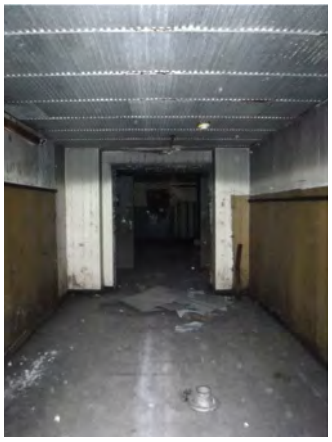
First Floor Hallway masonry details



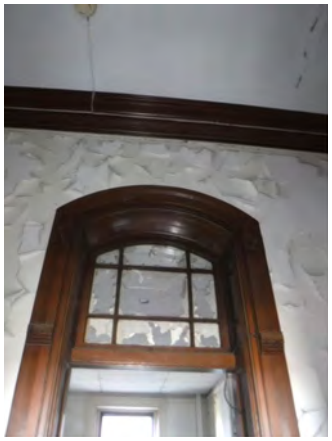
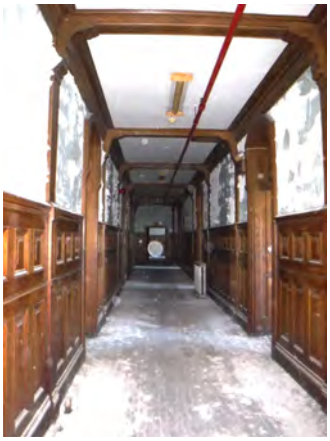
Service stair



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