HERITAGE VAUGHAN COMMITTEE MARCH 22, 2017

RESTORATION AND ALTERATIONS TO KLEINBURG UNITED CHURCH
DESIGNATED UNDER PART V, ONTARIO HERITAGE ACT
10418 ISLINGTON AVENUE, KLEINBURG-NASHVILLE HERITAGE CONSERVATION
DISTRICT
WARD 1 - VICINITY OF ISLINGTON AVENUE AND STEGMAN'S MILL ROAD

Recommendation

The Director of Development Planning and the Manager of Urban Design and Cultural Heritage recommend:

- That the recommended restoration and alterations to the former Kleinburg United Church located at 10418 Islington Avenue as shown on Attachment #5 BE APPROVED, subject to the following conditions:
 - the final building material specifications shall be approved to the satisfaction of the Vaughan Development Planning Department, Urban Design and Cultural Heritage Division; and
 - b) any significant changes to the proposal by the Owner, may require reconsideration by Heritage Vaughan Committee, which shall be determined at the discretion of the Director of Development Planning in consultation with the Manager of Urban Design and Cultural Heritage.

Contribution to Sustainability

This report is consistent with the goals and objectives within *Green Directions Vaughan*, the City's Community Sustainability and Environmental Master Plan, specifically:

Goal 4: To create a vibrant community where citizens, business and visitors thrive

Objective 4.1: "To foster a city with strong social cohesion, an engaging arts scene, and a clear sense of its culture and heritage"

Economic Impact

There are no requirements for new funding associated with this report.

Communications Plan

All materials related to the Heritage Vaughan Committee are posted on the City's website.

Purpose

To seek approval from the Heritage Vaughan Committee for the proposed restoration and alterations to the former Kleinburg United Church at 10418 Islington Avenue within the Kleinburg-Nashville Heritage Conservation District as shown in Attachment #5.

Timeline

This application is subject to the 90 day review under the *Ontario Heritage Act*. This application was declared complete on March 14, 2017, and must be deliberated upon by June 12, 2017, to meet the 90 day timeline.

Background - Analysis and Options

Built in 1926 by the Kleinburg United Church congregation and local builders, the Kleinburg United Church located at 10418 Islington Avenue as shown on Attachment #3, has long been a significant structure within the Village of Kleinburg. The property remains Listed on the City's Register and is identified as a contributing property in the Kleinburg-Nashville Heritage District Conservation District. The Kleinburg United Church functioned from 1926 to 2004 before being closed and was put up for sale shortly afterwards.

The Pierre Berton Heritage Centre project began in 2005 with the establishment by Vaughan Council of one of several task forces that was mandated to recommend to Council, how the City could pay tribute to the late Canadian icon, Pierre Berton (1920-2004), a 55-year resident of the City of Vaughan and an active member of the Kleinburg community. From 2006-2015, the City commissioned two feasibility studies, held several public meetings, focus groups, and consulted industry professionals to develop program and facility models.

In 2012, the City purchased the Kleinburg United Church site at 10418 Islington Avenue with the intention of housing an exhibit to honour the late Pierre Berton and create a multi-use facility that can be rented for events, meetings and activities. The building was built in the Gothic Revival style and is designated under Part V of the Ontario Heritage Act.

The existing structure is currently vacant and is in need of repair, restoration and life safety upgrade work in order to be suitable for the proposed public use. As the property is designated under Part V of the Ontario Heritage Act, all exterior works require a heritage permit as stated in Section 42 of the Ontario Heritage Act. Interior alterations, so long as they do not affect the exterior, do not require heritage review but are included in the drawings in Attachment #5 to provide context as to the overall restoration and readaption of the building.

In 2016, the City of Vaughan posted the Request for Proposal (RFP) on the City of Vaughan website for the restoration of the existing structure and its conversion to the Pierre Berton Heritage Centre, and subsequently received a number of submitted proposals. The winning proposal was approved by Council in November of 2016 and work began on the project shortly thereafter. The consultants prepared a Building Condition Assessment (Attachment #4) that outlined existing building conditions and recommended works for restoring the existing structure and alterations to readapt it to the City of Vaughan standards for community buildings.

Recommended restoration and alteration works includes the following actions:

- a) Rebuilding the caps and courses on existing cornices;
- b) Replacement of 12 bricks in the structure;
- c) Repointing where needed (as seen on submitted drawings);
- d) Restoration of 18 stained glass windows;
- e) Removal of the north side vestibule and conversion of a door into window;
- f) Removal of the lower window on west side to convert into a rear door salvaged brick to be used as replacement of brick elsewhere on the structure;
- g) Two lower floor windows to be covered on the interior of the west and south elevations to accommodate an accessibility elevator and new stairs (reversible):
- h) Reconstruction of the front steps to ensure safety and accessibility;
- i) Staining of the mortar to match the overall existing colour;
- j) Construction of a ramp to the front entrance;
- k) Installation of new signage on the tower facing east and north onto Islington Avenue;
- Installation of a new patio and pathways;
- m) Replacement of the existing front doors with a new larger door to match original door design and meet the criteria for weatherproofing and accessibility. The existing front doors will be refurbished and used inside church, and
- n) Replacement of existing transom with glass to match the original design.

All proposed work meets the Kleinburg-Nashville Heritage Conservation District Plan and Guidelines for the repair and alterations to heritage properties in Section 9.3. The form of the Church is not a typical residential building form, as those outlined in the District Guidelines. However, it is a unique example of vernacular Gothic Revival form, uniting a series of elements that were commonly found in protestant churches at that time and representing the then "new" United Church of Canada by the local building team The consultants have conserved these elements and the resulting form will continue to contain the overall built heritage values.

Where alterations such as the ramp are proposed, it is in the interest of promoting reasonable accessibility for all visitors to the proposed museum and community centre. Much of the existing form of the front stairs will be retained and the ramp's design will allow the Church's original stone to be visible. The new entrance in the rear will allow barrier-free access the new outdoor patio area. The existing north vestibule that is proposed to be removed is not original to the Church and has not been identified as having a contributing character value of the church. The door on the north elevation will be removed, the foundation filled using existing masonry materials and the portion above grade restored to function as window. The surrounding grade will then be raised to match the existing grade and proposed landscaping.

The recommended works outlined in this report meet the City's Delegation By-law criteria and therefore, there is no need to be advanced to Vaughan Council for deliberation unless the Committee advises against the approval of the proposed changes.

Relationship to Term of Council Service Excellence Strategy Map (2014-2018)

The application supports the following priorities set forth in the Term of Council Service Excellence Strategy Map (2014-2018):

· Support and promote arts, culture, heritage and sports in the community

Regional Implications

N/A

Conclusion

The Urban Design and Cultural Heritage Division of the Development Planning Department has reviewed the proposed restoration and alterations to the former church located at 10418 Islington Avenue and has determined it is consistent with the Kleinburg-Nashville Heritage Conservation District Plan and Guidelines. Accordingly, the Urban Design and Cultural Heritage Division can support the approval of the proposed restoration and alterations under Section 42 of the *Ontario Heritage Act*.

<u>Attachments</u>

- 1. Location and Context Map
- 2. Kleinburg United Church 10418 Islington Avenue
- 3. Historic photo
- 4. Building Condition Assessment
- 5. Site Plan & Elevations
 - a) Site Plan Proposed
 - b) Basement Plan Interior and North Vestibule Demolition
 - c) Ground Floor Plan Interior and Northern Vestibule Demolition
 - d) Basement Plan Existing
 - e) Basement Plan Proposed
 - f) Basement Plan Proposed with Patio

- g) Ground Floor Plan Existing
- h) Ground Floor Plan Proposed
- i) Roof Plan Existing
- j) East Elevation Existing
- k) East Elevation Proposed Works
- I) North Elevation Existing
- m) North Elevation Proposed Works
- n) West Elevation Existing
- o) West Elevation Proposed Works
- p) South Elevation Existing
- q) South Elevation Proposed Works
- r) East Elevation Interior Stairs and Elevator
- s) Sections
- t) Ground Floor Interior Elevations

Report prepared by:

Katrina Guy, Cultural Heritage Coordinator, ext. 8115 Moira Wilson, Senior Urban Designer, ext. 8353

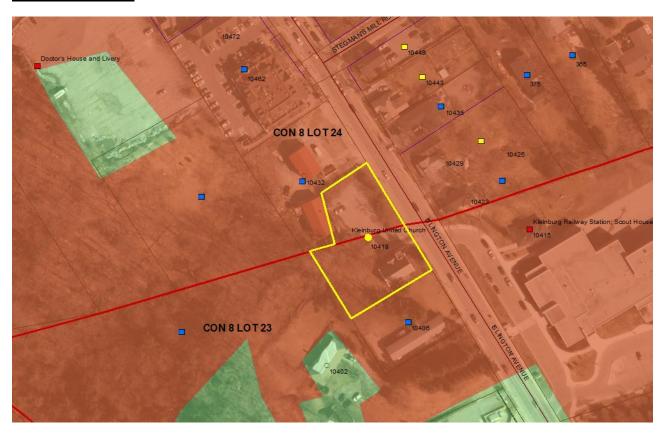
Respectfully submitted,

MAURO PEVERINI Director of Development Planning ROB BAYLEY Manager of Urban Design and Cultural Heritage

/LG

Attachment 1

Location & Context



Attachment 2

Kleinburg United Church – 10418 Islington Avenue, Kleinburg



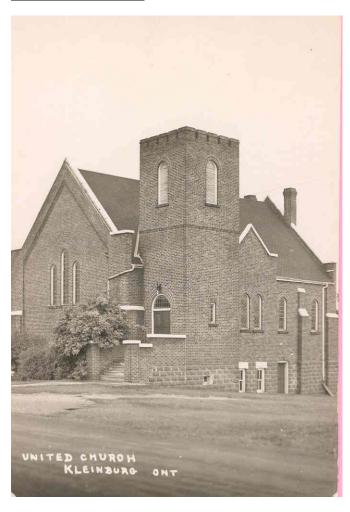






Attachment 3

Historic Photo (1953)



Building Condition Assessment Kleinburg United Church | KLEINBURG

City of Vaughan



Prepared by: Lynch + Comisso: Architecture + Light 23 January 2017

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Introduction

On 13 December 2016, the City of Vaughan engaged Lynch + Comisso: Architecture + Light (L+C) for the Kleinburg United Church Restoration and Addition. As part of this work, L+C was to complete a building condition report based on an earlier report by +VG (2012) entitled, "Feasibility Study for The Pierre Berton Discovery Centre". Visits to review the building condition and to document the facility were conducted on 15 December 2016, 19 December 2016 and 21 January 2017. These site visits included the following team members:

Architectural

Steven Comisso, OAA

Jennifer Anderson, OAA

Warren G. Brown

Sarah McLennan

Lynch + Comisso: Architecture + Light

The primary focus of the visit was to document the current state of various building components and determine the extent of necessary, recommended and desired repairs and/or improvements to the building. Photographs were taken and notes were made on each of the building components

Existing documentation, a building condition assessment and DSS reports were provided by Adriana Tantalo Project Manager, City of Vaughan. Please refer to Existing Plans in the Appendices for clarification of detailed items in this report.

Once L+C had done their preliminary assessment, a visit was scheduled with all the consultants including:

Structural

Moe Gursahani AMR Engineering Ltd.
Denis Kotobelli AMR Engineering Ltd.

Mechanical

Cory Paiuk Mat4Site Engineering Ltd.

Electrical

Jerry Mobilio E-Lumen International Inc.

Stained Glass

John Wilcox Vitreous Glassworks

The consultants reviewed the existing conditions and their findings and recommendations are summarized in this report.

Executive Summary

This summary generally describes current conditions of the Kleinburg United Church building and property and how they might be improved for safety, code compliance, efficiency, comfort, accessibility and enhanced aesthetics. The main body of the report goes on to describe in detail the specific repairs and new materials that could be implemented. Please refer to the attached existing building plans.

Existing Areas Listed Below:

Existing Ground Floor

Existing Chancel and Sanctuary

Existing Entry Stairwell (Northeast)

Existing Stairwell (Northwest)

Existing Basement

Existing Kitchen

Existing Washrooms (2 separate rooms)

Existing Mechanical (3 separate rooms)

Existing Basement Multi-Purpose Area

Existing Vestibule (North)

Existing Exit Stair (South)

Existing Storage (NorthEast)

Existing Bell Tower

The church was constructed c1926 from solid brick and concrete masonry with plaster interior, wood frame floors, wood columns and wood ceiling structure. The attic above the wood ceiling was not accessible at the time of this assessment. The exterior of the Church is in fairly good condition with the exception of some of the stain glass windows, masonry spalling, brick pointing and the active surface water runoff on the masonry walls associated with the leaders and storm water management system. These items need to be addressed to create a weather tight enclosure to protect the Church and its interior. The asphalt shingled roof system of the Church was observed to be in good condition, as it was replaced in 2016. There are active leaks around the downspouts where the water flow exceeds the provided gutters & downspouts. The storm water management requires further review and rectification.

The exterior masonry is in good condition considering the age of the building. Brick masonry units have deteriorated and spalled around the caps of the pilaster and buttresses at the building corners. The previously parged angled brick caps are recommended to be removed and replaced with limestone caps. Damaged courses of brick below the masonry caps on the pilasters and buttresses are recommended to be removed and replaced with salvaged brick or brick specified to match the existing. Brick window sills that have deteriorated are recommended to be replaced. The Northeast and Southwest corner parapet walls are also leaning towards the building and are recommended to be re-built. All areas of missing mortar should be repointed with a lime based mortar suitable for this age of building.

The main exterior stairs (East) are in poor condition showing signs of rot. Plywood has been added to temporarily address this issue. Wood stairs require replacement with wood or concrete stairs to provide a stable and durable means of egress from the building.

To create a weather tight enclosure, all sealants surrounding doors and windows on all buildings require replacement.

The condition of the Church windows vary and require different levels of rectification. In general the protective glazing does not provide ventilation between the stain glass and the exterior glazing. The lack of ventilation may be the main cause of the buckling and bowing that is seen in some of the windows. We recommend the protective glazing be removed and the existing windows be repaired to create an airtight seal. Refer to the attached Stain Glass report by Vitreous Glassworks.

The wood frame floors, wood columns and wood framed ceiling structure of the Church appear to be in good condition. Reinforcing of all the beams in the Basement is required to meet current code requirements.

The Church's interior is in good condition on the Ground Floor with the exception of minor cracks in the plaster. The wood ceiling above the Sanctuary/ Chancel area appears to be in good condition and refinishing is recommended due to the high level of existing gloss finish applied which creates glaring reflections. The wood wainscoting also has been exposed to wear and tear, requiring refinishing. The Basement finishes are not in good condition and require replacement. Generally the Church walls have been exposed to the usual wear and tear and require repainting in all locations. The existing paint contains lead. Refer to the attached Designated Substance Report provided by the City of Vaughan.

The floor finish of the Ground Floor is carpet and shows signs of wear. The Chancel is a raised platform on the sanctuary floor which is also carpeted. With the exception of the Basement, the finishes in the Church are in good condition. We recommend removing the carpet on the Ground Floor and refinishing the existing wood floor below. The washrooms require renovation and we recommend a barrier-free unisex washroom be provided in the Basement along with other washrooms to meet OBC requirements.

The Basement Hall has poor air quality, poor finishes and poor washroom conditions that renders it unusable at present. The foundation walls appear to be sound but localized waterproofing repairs from the interior of the foundations walls is recommended. The slab on grade of the Basement appears to be in poor condition and we recommend replacement. A DSS report was completed and hazardous substances were found in the Church, including but not limited to non-friable asbestos containing vinyl floor tile under vinyl sheet flooring in kitchen, lead in the paint and mould on the walls of the existing storage room in the Basement.

The flexibility to utilize the Basement for different functions could be maximized with the renovation to the finishes, renovations to the washrooms and reorganization of the space.

The Church is equipped with two natural gas forced air furnaces that are not adequate for the space. The system should be replaced with one new gas fired furnace to service both the Ground Floor and Basement floor area. Consideration should be given to the installation of larger ceiling fans in the Sanctuary with high volume/low speed capability. These fans would provide a comfortable cooling breeze and would also help circulate warm air in the winter months. New air-conditioning is proposed as well as the installation of an energy recovery ventilator to increase the air circulation and amount of fresh air. We recommend a new exhaust system complete with duct work, exterior wall louvers and controls be installed in the men's and women's washrooms.

The domestic hot and cold water piping distribution system requires revision to accommodate the renovated and relocated washrooms to meet current standards. We recommend a back flow prevention assembly be added and all plumbing fixtures be replaced with new low flow types and low flow aerators should replace existing faucet aerators.

There is no current fire alarm system in the Church. We recommend a fire alarm system be added. Emergency lighting and signage should also be updated to meet the Ontario Building Code.

General lighting on the Ground Floor is inadequate and although aesthetically appropriate it does not provide the required light levels for the new proposed use. There is minimal lighting at the exterior of building at night and all internal lighting is off making for a completely dark building. This is unsafe as well as being neglectful of this beautiful building. The Church would benefit from a lighting overhaul which would create an immediate and lasting impression within the church. The existing light fixtures in the Sanctuary should be retrofitted to accommodate LED lamps to improve light quality and energy efficiency. Additional supplementary lighting should be designed to provide additional ambient light as well as exhibit/ task lighting. Additional exterior lighting along the north and east elevation, by all doors and stairs should be provided for security and safety.

Methodology

This report is divided into sections and subsections each addressing a different building component and sub-component respectively and based on the Construction Specifications Institute Masterformat 16 Division System. Each sub-section outlines the evaluation and recommends a solution or strategy.

Reports from the sub-consultants are summarized in this report. Existing Drawings are included in the Appendices along with the associated order of magnitude costing.

DIVISION I: GENERAL CONDITIONS 01100 Summary of Building Condition

Evaluation

The church was constructed c1926 of solid brick and concrete masonry with plaster interior, wood frame floors, wood columns and wood ceiling structure. It is now approximately 90 years old. Various changes and repairs have been undertaken over the years with the most recent of these being the completion of a new asphalt shingle roof in 2016. A hazardous study was completed and substances were found in the Church. Refer to the attached Designated Substances Survey by exp Services Inc dated September 28, 2016.

Recommendations

The exterior of the Church is in fairly good condition with the exception of some of the pointing, masonry spalling, some of the stain glass windows and the active water overflow issues associated with the roof drain pipes and storm water management system. These items need to be addressed to create a weather tight enclosure to protect the Church and its interior. The Church's interior is in good condition with the exception of some minor plaster cracks and the Basement which has poor air quality, deteriorating finishes and poor washroom condition that renders it unusable at present. Removal of the hazardous building materials found in the Church is recommended as per the attached Hazardous Building Materials Report by EXP Services Inc. As mentioned in this report, there are numerous repairs and improvements that are recommended to enhance and improve the safety of the users and enjoyment of all areas of the Church. Please refer to pertinent sections of this report for specific recommendations.

01101 Ontario Building Code Analysis

OBC refers to the Ontario Building Code 2012 and OFPPA refers to the Ontario Fire Protection and Prevention Act, 1997

Evaluation

The Church is classified as an Assembly Occupancy, Group A Division 2 building based on Part 3 of the OBC. The building area is 306m2 and is considered one storey (Ground Floor: Chancel, Sanctuary, and Exit Stairs) for exiting and fire safety purposes. It is not sprinklered and is constructed of both combustible and non-combustible materials. It has one storey below grade (Basement Level: Church Hall, Washrooms, Mechanical rooms and Storage).

The existing floor assembly between Sanctuary and the Basement consists of wood joists with wood subfloor and carpet on floor side and acoustical ceiling tile at ceiling side.

The existing stairs in the Entry Vestibule to the Basement do not meet the required code width and stair run dimensions so cannot be utilized as an exit stair. The existing exit stair from the Basement to grade on the South elevation meets the required exit width but does not have nosings and does not have a landing at the top of the stair. Stair tread surfaces must be non-skid and the nose of each tread must be clearly visible. All stair handrails are required to be revised for compliancy.

Occupant Load

The Church at present is no longer being used as a place of worship and is proposed to be used as a multi- functional space containing the Pierre Berton Heritage Centre. Therefore the following assumptions have been made:

Ground Floor 80 (Proposed Occupancy by Design)

Basement 20

Total 100 persons

(An alternate proposal increases the occupancy of the building to 150 people.)

Based on this occupant load, two exits are required from each floor. A second means of egress is required from the Ground Floor. The south exit stair from the Basement requires modification to meet current code requirement. The existing exit stair from the Basement to the east requires replacement with a code compliant exit stair. Barrier-free access to the Ground Floor is currently not provided at the main East entrance door and the clear width of one leaf of the doors is not sufficient. Barrier-free access to the Basement is currently not provided.

Washroom Requirements

Water closets for Assembly occupancy up to 50 of each sex, requires I male and 2 female water closets. The provision of the required universal washroom allows the washroom requirements to be revised to one universal, one male and one female water closet. If the alternate proposed plan with an occupancy of 150 people is selected the washroom requirements increase to one male, two female and a universal w/c. The existing washrooms (I per sex) do not meet the requirements, are not barrier free and no universal washroom is provided.

Light Levels

Minimum light levels in exiting stairs should be provided to ensure safety. Emergency lighting and exit sign requirements require updating (refer to Electrical Emergency Lighting sections below).

Fire Alarm Requirements

The current occupancy of less than 150 people does not require a fire alarm by code but due to the proposed public use of the building, it is strongly recommended. Refer to Section 16 for fire alarm requirements below.

Recommendation

To meet the proposed Occupancy, a second means of egress is to be provided from the Ground Floor. The existing exit stair from the Basement to the south requires minor revisions and a new second exit stair to grade is required.

Barrier-free access to both the Ground Floor and Basement should be provided in the proposed renovation of the Church to the Pierre Berton Heritage Centre. At minimum a barrier free entrance to the Ground Floor is required and if the Basement is to be used by the public and house new barrier free washrooms, barrier free access is required to the Basement. If the East Entry is to be used as an exit door, the existing door shall be revised to provide a clear width of 860mm. Barrier free washrooms and the provision of a universal washroom is to be provided as required by code.

DIVISION 2: SITE WORK 02800 Site Improvements and Amenities

Evaluation

The grounds around the Church are generally divided into 5 areas: Front Yard (East), South Side Yard, North Side Yard, Rear Yard, and Parking Lot. Review of the Parking Lot is not included in this report. The landscaping is primarily lawn with small bushes and mature trees. There are sidewalks and concrete walkways to the East and North side of the building.

The grounds of the facility are generally divided into 5 parts:

- Front Yard (East) includes walkway to front door, mature pine tree, chain link fence at property line, concrete pad with bench and grass areas and sidewalk along the street.
- South Side Yard includes sloped grassed area to rear, emergency exit from Basement, numerous service penetrations
- North Side Yard includes stepped ramps and concrete walkways to existing side entry door and parking lot.
- Rear Yard includes sloped areas down to Humber River with chain link fence demarcation. The rear yard is partially in in the TRCA regulated area.
- Parking Lot This area adjoins a home on the West side and is landscaped with bushes and saplings on the North and West sides. It also includes the existing sign for the Kleinburg United Church.

Recommendation

Front Yard

Presently, there are many transitions and steps with some uplifted sections of concrete sidewalk. This area will require some work to make the area accessible. A ramp will be required to access the Ground Floor of the facility or a separate structure is needed at the North Side Yard for this purpose.



East Entrance from street



Sidewalk along East Elevation (Front Yard)

South Side Yard

The covered walk-out concrete exit stair from the Basement needs to be re-built to have a level landing at the top of the stairs. If this encroaches on the property line then a minor variance will be needed or the stair needs to be reconfigured to exit towards the front or rear lot lines. Some re-grading is necessary to ensure that water flows away from the building.



Covered Basement walk-out (South Side Yard)



South Side Yard

Rear Yard

The west backyard consists of a sloping lawn with mature trees along the back of the property. The west backyard is partially in the TRCA regulated area. To avoid lengthy permits, any new construction should be completed outside the regulated area.



Rear yard viewed from parking lot



Rear Yard viewed from SW corner of building

North Side Yard

This yard includes access to the Basement and a number of stepped concrete ramps and stairs to access it. In addition there is a catch basin. This area appears to be a source of some water infiltration to the building. It is recommended to remove the existing exit enclosure, remove the exit which does not meet code, and re-grade as necessary to ensure that water flows away from the building.



North East corner of Church



North side of Church

Parking Lot

The parking lot is situated to the north of the building and is at a higher grade than the church. The grade slopes down to the west so there are existing steps in the concrete sidewalks to accommodate the change in grade. There is also a retaining wall around the southwest corner of the parking lot. This retaining wall is formed of 6x6 pressure treated wood. members and requires repair. In addition, there are no handrails along the retaining wall and the drop to the grade below exceeds 2'. Please note that the parking lot is to be reviewed and renovated under a separate project and is not included in this report.

02820 Chain Link Fences

Evaluation

The site is ringed by a chain link fence on the South, West and part of the North sides. For discussion purposes, we will assume that it is on the facility property; this will need to be confirmed with a site survey indicating the property line prepared by an OLS. All these fences show signs of rust but are still serviceable.

Recommendation

There are some locations at the rear of the site where they should be replaced as they have been collapsed by either tree root growth or fallen branches. From an aesthetic standpoint, the City should consider replacing the first 30ft (9m) with a metal fence to improve the appearance of the site when approached from the South. Complete replacement of the chain link fence will be required within the next 5 years.

DIVISION 3: CONCRETE 03300 Concrete

Church Basement Slab

Evaluation

Slab on grade at Basement appears to be slightly sloping to the west. Carpet was pulled out in one location and a wood floor was observed. At door between existing kitchen and stairwell at northwest corner, Basement floor construction could be partially observed and appears to be 2x2 wood strapping at 16" o/c with a wood decking on top. Thickness of concrete layer underneath is not known and was not visible. Concrete floor has rough rubble surface. In the kitchen and washroom areas the wood floor was covered with asbestos vinyl tile concealed with sheet linoleum. The wood floor appears to be damaged. Refer to the designated substances Survey completed by EXP Services for the City of Vaughan on September 28, 2016.



Test hole in existing carpet at Basement level wood floor below



Space below existing NW stair at door to kitchen shows existing 2x2 sleepers at 16" o.c. with wood floor above.

We recommend the wood floor and existing concrete floor be removed. Provide new services as needed and a new concrete slab be poured on grade c/w vapour retarder.

Church South Side Exit Stair

Evaluation

The existing concrete stair from the Basement to grade at the south elevation is in good condition. The masonry walls appear to have been built at a later date as the brick used is not the same as the Church building and is veneer on wood framing. The riser of the stairs are vertical and do not have the I" nosing required by code. There is no landing at the top of the stair before the exit door.



South stair from Basement - lower landing



South stair from Basement - no upper landing

Recommendation:

If the Basement south stair is to be used as an exit, we recommend the enclosure be enlarged to accommodate a landing at the top of the stair. We furthermore recommend a non-slip nosing be provided that both meets the required I" overhang and contrasting change in colour at the nosing that is required by code.

Church Concrete Sidewalks

Evaluation

The existing concrete sidewalks to the East and North Entrances are in good condition. The existing sidewalks have the occasional step in order to accommodate the change in grade.



Recommendation:

With the introduction of a barrier free entrance to the church the sidewalks will require revisions to provide a barrier free path of travel to the entry.

Church Exterior Stair - East Entrance

Evaluation

The main exterior stairs have been removed and replaced with temporary plywood stairs which are showing signs of rot. The stair side walls are masonry and are cracking at the joint with the existing church building. The front stair tread appears to be bearing on the concrete sidewalk. Refer to the masonry section for further comments.



Northeast stair – temporary wood stair bearing on sidewalk



Temporary wood stair between existing masonry side walls.

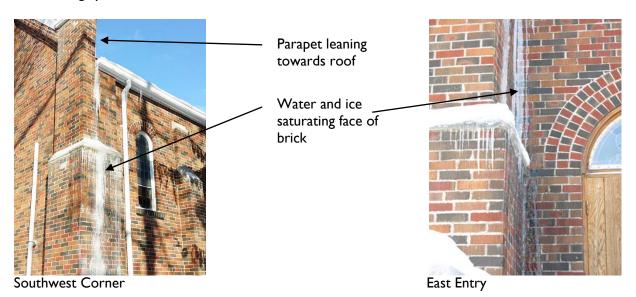
Recommendation

We recommend the temporary plywood stairs be replaced with concrete stairs that meet OBC requirements.

DIVISION 4: MASONRY 04900 Masonry Restoration + Cleaning

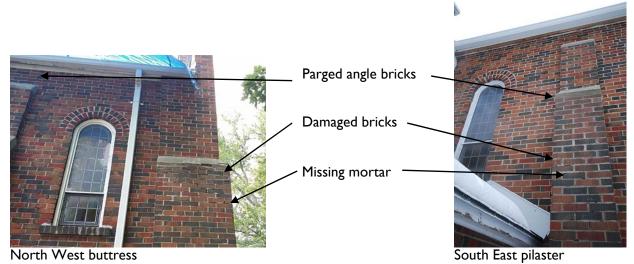
Evaluation

Exterior masonry and concrete block stone walls of the building are generally in good condition considering exposure and age of building (approximately 90 years old). Some minor cracking and damage due to water penetration was noted on all sides. Masonry or mortar damage was more noticeable below window sills and exterior corners of walls and buttresses. Typically the mortar joints have washed out allowing the water to enter in the wall causing the spalling of the mortar and the bricks during freezing and thawing cycles.



The existing bricks at the top of the pilasters and buttresses have been parged creating the appearance of a stone cap. The parging is cracking and failing. Signs of moisture penetration within the masonry walls

are visible. The brick courses below the caps have significant amounts of missing mortar and the bricks have spalled in many locations. In some areas the spalled and damaged bricks have been left in place and patched with mortar. The parapet wall at the Southwest corner and North East corner are also not straight and true but leaning towards the building. Damaged brick and missing mortar is visible in these locations.



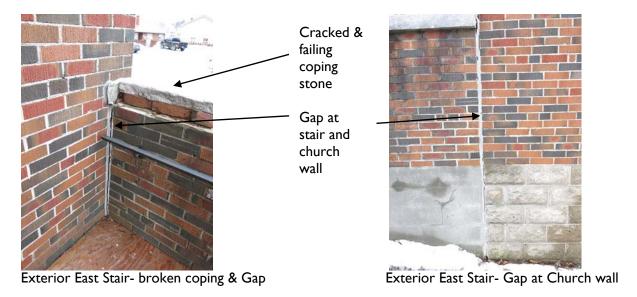
The existing windows sills are made of angled row lock black bricks. The sills on the south side and east side of the building show signs of deterioration. The bricks have been previously patched with mortar. There is also a brick missing from the window arch on the south side.



Bottom of masonry and stone walls which are in direct contact with base are in slightly worse condition than the rest of the walls. Due to snow building up at the bottom these walls are in direct contact with water and chlorides (salt) and have undergone more freezing and thawing cycles therefore causing the mortar joints between the units to deteriorate and a few masonry units to spall.

At the north-east corner of the building, a gap can be observed between the two masonry stair walls at the east entry and existing east masonry wall. It appears that stair walls have not been adequately tied to the building masonry wall having caused the wall to pull away over time. The gap is very noticeable (almost I" in some locations). It appears that the two stair walls and bottom of stairs are bearing on grade or stone paving. Due to excessive settlement cracks have developed in masonry walls and the excessive gap created.

Roman stone coping over the stair walls has developed cracking and is crumbling in some areas. It appears that stone coping is not adequately tied to the stair wall as cracking can be observed at the locations where stone coping is bearing on the masonry wall.



A south exit stair complete with a new enclosure of masonry veneer on wood framing on concrete block foundation has been built at a later date from the church. A window was removed and a door added to access the new stair. It appears that the top two courses of the block wall are cantilevering and are picking up the stone header at the east end.



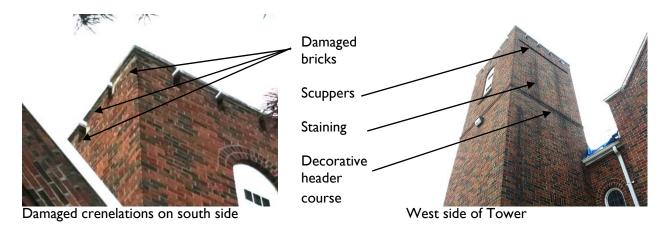
South concrete stair



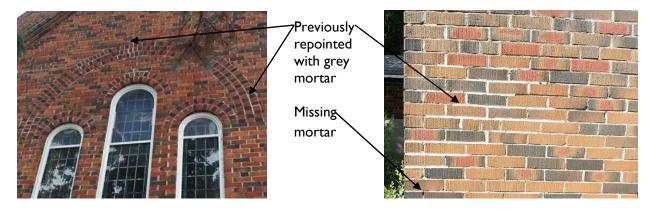
with cantilevered lintel

Both of the two existing chimneys on the rear/ west side top three courses also show signs of deterioration.

The masonry of the Bell Tower also appears to be in good condition with the exception of the three sections of the crenelations / parapet wall at the South side of the tower which are deteriorating. The tower bricks are stained from the water runoff below the scuppers on the west side.



Some of the existing joints have been repointed in the past and the joints were not properly tooled, nor does the mortar colour or aggregate match the existing. Mortar is flush and overlapping the brick face. Exterior masonry is stained due to atmospheric pollution and residue from flashing.



Recommendation

Loose and damaged bricks should be taken out and replaced with new bricks. We recommend that existing missing mortar be repointed to prevent further deterioration and affect the long-term performance of the building. Areas of new repointing should be raked to prevent pressure on the face of the brick to discourage spalling. New pointing to be a portland cement, lime and sand type mortar appropriate for the age of the building.

Where the angled brick caps at the tops of the pilasters and corner buttresses have been parged, we recommend the bricks be removed to the line of the header course below where no missing mortar is visible. The pilasters and stepped buttresses are recommended to be capped with limestone sized to reflect the current shape of the parged angled bricks. Limestone cap to have a drip edge and flashing below. On the corners and south pilaster that tends to be approximately 14 courses. We recommend the existing parapet walls that are not straight and true to be rebuilt if the budget permits. All existing brick that can be salvaged is to be retained for reuse and new brick is to be specified to match existing. Where existing tie-back bricks are broken, brick ties are to be installed.

The damaged brick windows sills on the South side and one on the East side require replacement with new brick sills. New flashing complete with a drip edge is to be installed under the new sill. On the South side the missing brick from the arched window opening needs to be replaced and the arch made good.

As the exterior East stair does not appear to have a proper foundation, we recommend that existing stair should be replaced with new stair with proper foundation and stair walls be adequately tied to the building structure. We recommend that damaged roman stone (concrete) coping shall be removed immediately to prevent spalling off and falling causing injuries and/or damages to pedestrians. The existing

solid concrete block that forms the foundation is typical of the period. Replacement textured blocks are available in the U.S. market but may not be suitably close to the existing or made from molds from a later time. We recommend salvaging blocks from any new openings into the Basement. If this is not possible, then the new foundations should be built of parged concrete block to match existing and this approach reviewed with heritage authorities.

At the entrance door to the new South exit stair from the Basement, we recommend new steel lintel be provided to support brick wall above with proper bearing on the existing masonry wall on both sides. Temporary shoring to brick wall above will need to be provided prior to the removal of exiting lintel.

Sections of the crenelations / parapet wall at the South side of the Bell Tower are deteriorating and require replacement. The tower bricks should be cleaned of the stains from the water runoff below the scuppers on the west side. Scuppers need to be reflashed to provide an extended drip edge to allow the water to fall clear of the decorative brick header course and brick below. In regards to the two chimney's, we recommend the top three course be removed and a limestone cap be installed as they are no longer in use.

In many areas where the existing joints have been repointed in the past, mortar extends into the grooves and onto the face of the brick. Due to the textured nature of the brick, removal of the mortar from the brick face could cause damage to the brick. In prominent areas such as the East street elevation, consideration to staining the mortar should be given. Where bricks are damaged, consideration to replacement of the mortar and bricks should also be given. We further recommend the masonry be cleaned on all elevations of staining.

4900 New Masonry Walls

Evaluation

The Church does not contain interior masonry walls suitable for the installation of a new elevator.

Recommendation

To provide barrier free accessibility from the Ground Floor to the Basement, an elevator is proposed. New masonry walls are required to form the required shaft wall for the new elevator. Refer to the elevator section below for further details.

DIVISION 5: METALS 05100 Structural Steel

Evaluation

There is no structural steel visible within the church

Recommendation

Additional structural steel is recommended to modify the existing structure to meet current Ontario Building Codes. Refer to the rough carpentry section below.

DIVISION 6: WOOD 06100 Rough Carpentry

Evaluation

Rough Carpentry is located in the following areas;

- all interior non-load bearing partitions
- Roof Structure access was not provided at time of review
- Chancel Floor on Ground Floor level removal recommended to meet new program
- Ground Floor does not meet current code in middle section

- Basement columns do not meet current codes
- Bell Tower intermediate floor and roof structure intermediate floor is missing boards and access to high level roof was not possible at time of review

Ground Floor consists of existing 2 1/2"x10" full size joists at +/-24" o/c spanning east-west supported on solid timber beams spanning north-south. Timber beams are supported on two exterior north and south walls and one row of columns at the center of the Basement space. Because of notches in these beams, we assume they were salvaged from a timber post and beam structure. Existing Ground Floor joists and beams were measured where possible to confirm the existing sizes provided. Columns are 8x8 solid timber. The Basement was generally finished so structural members and walls are not visible in most locations.



Basement - columns and beams



Underside of wood beam exposed

Ground Floor framing at the raised platform is built at a higher level. It appears that a knee wall has been built on top of the main floor framing level and new joists have been provided at the higher level to support the stage floor. It is unclear whether the knee wall is built on top of the existing beam line on gridline B or is being transferred on the floor joists below. The intent is to take out the raised platform and re-build the floor level with the balance of the Ground Floor thereby eliminating any accessibility concerns in this area.

The Bell Tower intermediate floors are missing boards and the height of the access hatch above floor level makes it difficult to reach. Access to the high level roof was not available at time of review.

KUC Ground Floor Structural Assessment and Recommendations (By AMR Engineering Ltd.):

Minimum design live load requirements in accordance with current Ontario Building Code for the contemplated occupancies are as follows;

(a) Assembly Occupancy - 4.80 kPa (100 psf)

AMR's calculations to determine structural adequacy of existing floor structure have assumed dead load of Ground Floor construction to be 0.76 kPa (16 psf). Also, for their calculations, existing floor joists and beams are assumed to be of SPF Grade #1 or #2 or better.

We have carried out a preliminary design check of existing Ground Floor structure (assumed joists 2 I/2"x10" full size at 24" o/c) of the original building based on our visual field review and framing as indicated. Our calculations indicate that existing Ground Floor structure in its present state is adequate to support design live and dead loads in accordance with Ontario Building Code (OBC) for the intended occupancies.

Full size 11 7/8"x11"d and 7 $\frac{1}{2}$ "x10"d timber beams spanning in north-south direction are adequate to support a maximum design live load of 1.92 kPa (40 psf). As adding a row of column on each side to reduce the span of the beams does not seem like a feasible option with your space layout we

recommend that existing beams be reinforced by through bolting steel channels on each side to strengthen the timber section. All reinforcing can be done from below.

Recommendation

We recommend the Basement beams be reinforced as described in the Structural Assessment above. In regards to the raised floor of the chancel area, the proposed program presently requires this to be demolished and re-built at the main Ground Floor lower level. The floor finish should be salvaged and re-used to maintain a consistent floor throughout the Ground Floor level. The Bell Tower intermediate floors should be rectified to provide a solid floor while maintaining the existing access hatch. We recommend a new ladder be permanently installed between the intermediate floors of the tower as budget permits.

06400 Architectural Woodwork

Evaluation

Throughout the Ground Floor level of the Church there is wood wainscoting on all perimeter walls. The wainscoting is in good condition and shows the expected signs of wear and tear due to its age.



Ground Floor wainscoting around perimeter



Ground Floor wainscotting

Recommendations.

We recommend retaining the wood wainscoting and making good as required. It is a durable finish in good condition. Where renovations are required, the wainscoting is to be patched with matching material and made good.

06470 Architectural Wood Screens and Shutters

Evaluation

The original wood louvers in the Bell Tower were removed and the masonry arched areas were filled in with plywood. Smaller metal grilles were installed in the plywood infill panels for ventilation. The Bell Tower intermediate floor at the louver level is wood framed and, although not available for review, we understand it is not sealed to the elements with roofing material. Therefore any wind driven rain from the louvers penetrates the interior of the church.

Recommendations.

We recommend the plywood infill be removed and decorative wood louvers be installed to match the original louvers. The wall behind the louvers is recommended to be closed up to prevent water infiltration and additional venting added in the roof and rear wall as described in section 07750 below.

DIVISION 7: THERMAL AND MOISTURE PROTECTION 07150 Damproofing

Church Basement

Evaluation

The facility foundation walls are composed of decorative concrete blocks with a plaster and lath finish on the interior. Foundations are not waterproofed on either side resulting in a great deal of dampness in the Basement.

Recommendations

A new waterproofing system is required in this facility along with better exterior drainage to better manage the moisture entering the building. There are two approaches to waterproofing: from the exterior and from the interior. Exterior waterproofing involves excavating around the foundation and installing a waterproof membrane, drainage membrane and weeping tile to manage the moisture against the building. Typically this is the preferred method however, in this case, we face the difficulty of the textured surface of the foundation which projects up to 2" (50mm) from the wall face. In this situation a fluid applied waterproofing will work but is more costly. Also the drainage membrane would be difficult to install and result in pockets of water sitting against the block and not draining into the weeper. The second method is to waterproof from the inside. This consists of a drainage layer attached to the inside face of the block leading down to an interior weeper and into a catch basin and sump pump. The water is then pumped out onto grade. This system requires a battery powered backup and/or a domestic water flow backup pump. Since the Basement is not insulated and damp-proofing is required, then this application is a feasible and less costly option.

07210 Insulation

Evaluation

The exterior walls of the KUC do not have any insulation. We were able to access the Bell Tower hatch and no insulation was present there. The hatch to the main roof is not accessible. Scaffolding or a lift is required to access this area to review the insulation content, if any. Additionally, during a recent freeze thaw cycle, we witnessed a great deal of ice damming in the Southwest corner of the building.

Recommendations

The Basement walls will be stripped to the foundations and new interior water management, insulation and drywall installed.

Due to the historic nature of the Ground Floor interior, specifically the design of the beams and brackets, it would be difficult to remove the plaster walls and insulate to current standards without drastically changing the space. Therefore, we recommend not insulating the walls of the Ground Floor.

The condition of the attic insulation needs to be reviewed to assess if and how it would be insulated. The Bell Tower attic is easily insulated and we recommend doing so with batt insulation.

We recommend that AFB Roxul sound attenuation and fire-resistant batt insulation be installed in between joists in the floor, when the ceiling is replaced in Basement. This will help in a number of ways; to reduce sound transmission between floors, increase thermal barrier for air conditioning in the Basement and increase fire resistance between floors.

07310 Asphalt Shingles

Evaluation

Asphalt shingles were installed in 2016 along with new vents, flashing, gutters and downspouts. As such, the asphalt shingled roof system of the Church was observed to be in good condition. It is not clear if the vents installed properly ventilate the attic space. Typically soffit vents or roof edge vents would be installed to promote airflow within the attic.



Further investigation is required to make a recommendation. This can be studied once access is available to the attic hatch or during the re-building of the parapets at the corners of the building.

07550 Modified Bitumen Membrane Roofing

Evaluation

We were provided with a drone photo of the roof that shows a great deal of wear on the Bell Tower roof, however, this photo is inconclusive. It appears to show a membrane roof with an aged surface. There is also a speaker system installed of indeterminate purpose. From the ground, we noted that the flashing for the scupper at the Bell Tower is badly aged and appears to be leading to some staining of the brick wall on the West side. The existing Bell Tower roof does not have any vents and is vented from modified wall louvers on the tower walls as discussed in section 06470 above.

Recommendation

The scupper flashing requires replacement. As to the membrane roofing, further evaluation is required. This can be undertaken when the speaker system is removed and brick repairs are done on the tower. It is recommended to carry an allowance to replace this roof membrane.

In regards to the ventilation, we recommend the wall area behind the masonry openings where the original lovers were located be closed up and sealed. We recommend a gooseneck vent be added to the top of the tower and the addition of another vent at the rear wall of the tower to ventilate it while protecting from the elements and vermin.

07620 Sheet Metal Flashing and Trim

Evaluation

The flashing was installed on all parapets but done in an ad-hoc way; face fastened and relying on caulking vs reglets to prevent water ingress. While the gutters are sized correctly the downspouts appear to be undersized and insufficient in number. The south side only contains 2 downspouts serving the entire elevation and ice formation is visible on the southwest corner. The East elevation has one downspout at the entrance which is undersized and ice formation is visible on the face of brick. Refer to the additional photos of the ice formation included in the masonry section above.



Single downspout on East Elevation



Two downspouts on South side

Rework flashing at horizontal concrete caps (4 corners). Re-work flashing to interior of wall with step flashings into new reglets to provide a better barrier to water ingress. Remove cap flashings on parapet walls and provide new without face fastening as budget permits.

Re-work cricket between tower and roof to minimize water flowing to the gutter at the Northeast corner. This should alleviate rainfall overflow in this area.

Re-size and replace downspouts and add additional downspouts as budget permits.

07630 Sheet Metal Roofing Specialties - Snow Guards

Evaluation

There are no snow guards on the roof of the Church.

Recommendation

Snow guards are designed to prevent large quantities of snow and ice from avalanching off roofs, causing extensive damage to property and pedestrians below. The entrances are not located below areas of sloped roof but consideration of the installation of snow guards may be made to protect the landscaping below.

07900 Joint Sealants

Evaluation

Joint sealants have typically reached the end of their lifespan. All exterior sealants require replacement on all doors, windows and other penetrations and joints.

Recommendation

For wood windows that are remaining, remove all sealants and replace with chinking caulking. This material can also be used to seal any cracks within the window frames. For metal door frames, elastomeric latex caulk is recommended.

All holes and cracks around pipe penetrations in both interior and exterior walls are required to be filled.

DIVISION 8: DOORS AND WINDOWS 08200 Wood Doors - Main Entry

Evaluation

The front doors are not the original ones installed on the building. The original pair of doors appear to be a raised panel design with a one over one arrangement judging from the limited photo inventory provided. The current front door has two leaves comprised of vertical solid oak staves. It has decorative carvings on the front in two staves that are about 1/2" (13mm) deep. The door was commissioned for the church in the recent past and occupies an important place in the hearts of many who attended services at the KUC. With respect to building code and technical requirements, the door does not meet code and is not barrier free. In addition, the doors do not provide an adequate seal against the elements. The door hardware is not of commercial quality and the hinges are deteriorating.



East Entry Door

Recommendations

There are two approaches that can be taken here keeping in mind that the door needs to be of sufficient width to allow the passage of a wheelchair, allow for the installation of door operators, and provide a seal against the elements. The first is replacement of the two leaves with a new door similar in design to the original. The existing door panels would be salvaged and re-worked as decorative elements within the building protecting and preserving them for future generations. The second approach is to de-mount and re-work the two oak leaves into one leaf and re-install it with the necessary hardware. Because it is a wood door subject to expansion and contraction to a greater degree than a steel door, additional weather-stripping measures would have to be taken. Since the doors are not original, we recommend the first option of replacing them with a new unit that will provide a good seal against the elements while requiring little or no maintenance.

08200 Wood Doors - Others

Evaluation

There is a set of double wood doors to the Sanctuary from the East Entry which is in fair condition. The door width does not meet barrier free standards. All other wood doors in the Basement show signs of deterioration and are in poor condition.



Interior East Entry to Sanctuary Doors

We recommend this pair of doors be removed to provide barrier free access to exit if the East Entry is to be renovated for barrier free use. We recommend the Basement doors be removed and replaced with new doors as required.

08600 Windows

Evaluation

It is assumed that the windows are approximately 90 years old. Generally the stain glass windows are well made, with quality leading and in good maintainable condition. Some units had been repaired in the past but were mostly untouched except for the addition of caulking. The units do not appear to be suffering additional loading from the structure except in a couple of areas. The panes are secured with wood stops. Where operable sashes are present, the bottom of the fixed pane is supported on the steel sash frame. There are over three dozen glass breaks throughout the collection and one or two panes that have been replaced previously with coloured glass that does not match the original.

Refer to the attached report by Vitreous Glass outlining in detail the condition of the existing stain glass windows.



North Interior Elevation of stain glass windows



East & West Elevations of stain glass windows



Typical Transept stain glass window (fixed)



Typical operable stain glass window

We discussed one idea of adding an outer thermal pane then supporting the stained glass panes on the inside with a ventilated air gap. However, the payback for new fixed thermal windows would not fall within their warranty period and would obscure the beauty of the windows from the outside. Since the windows are relatively small compared to the wall area, an alternate approach was considered; restore the glass and seal the operable sashes so that a good weather barrier is created. The operable sashes could be sealed in such a way as to preserve their operability in the future, if for some reason it was needed. This would be done with a set screw in the frame. The steel operable sash frame should be cleaned and painted with oil based paint which is compatible with the materials used in the stained glass windows. Some windows could be restored in-situ while others require de-mounting and repair in a shop. On the exterior, it is suggested to strip and paint the existing wood frames.

If restored, these windows will last for decades with leaded glass maintenance every 30 to 50 years and frame painting every 5 to 10 years. In addition, removal of all exterior plexiglass and glass sashes will allow the public to see and enjoy their faceted appearance. Restoration and leaving the stained glass as the main weather barrier is also supported in the Feasibility Study for the Pierre Berton Discovery Centre by +VG Architects and another stained glass consultant contacted to review this facility.

DIVISION 9: FINISHES 09200 Plaster Details

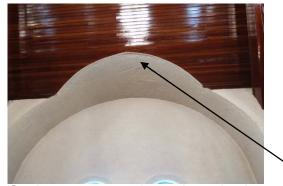
Evaluation

Lath and plaster is located throughout the building. The plaster has a stippled finish on the Ground Floor. Generally, it is in good condition on the Ground Floor with the following exceptions:

- Minor cracks are visible at some windows on the Ground Floor
- Minor cracks at the plaster transept arches where the plaster arch meets the wood ceiling in the Ground Floor Nave.



Cracks in plaster above East Entry Arch



Cracks at transept arches and wood ceiling





Cracks above stain glass windows

Cracks at transept arches

In the Basement the paint finish on the plaster is peeling and the finishes show signs of deterioration in the Basement.

The Designated Substance Survey has indicated that the paint contains lead. Refer to the Designated Substance Survey by EXP Services Inc dated September 28, 2016 provided by the City of Vaughan,

Recommendations

We recommend all finishes be replaced in the Basement due to their age and condition. We recommend the plaster be retained in the Ground Floor. The minor cracks should be filled by a traditional lime plaster contractor with care taken to match the texture of the existing plaster. New paint finish to all walls is recommended.

09260 Gypsum Wallboard

Evaluation

There is no gypsum wallboard within the facility, the exception being within the two furnace rooms. Recommendations

New drywall will be required at new partitions and on exterior perimeter walls in Basement to maintain the new heating and cooling within the space. New asphalt building paper or drainage layer installed against foundation walls, new wood studs, R13 batt insulation and $\frac{1}{2}$ drywall finish at these walls.

New 5/8" Type X fire rated drywall on resilient channels is recommended at ceiling of the Basement to attain fire rating between floors and provide new flat finished ceiling. Install AFB Roxul sound attenuation and fire-resistant batt insulation between joists.

All new partitions to be finished with ½" drywall. Bathroom areas to be finished with greenboard water resistant drywall or cement board to full height.

09300 Tile

Evaluation

There is Vinyl Asbestos Tile (VAT) under vinyl sheet flooring in the kitchen and bathroom areas (assumed). Please consult DSS for more information.



Basement Kitchen



Basement Washroom

The VAT will need to be remediated.

New porcelain tile is recommended in the front vestibule, the washrooms, and the proposed servery to provide a more resilient surface.

09570 Linear Wood Ceilings

Evaluation

The Basement has a painted linear wood ceiling that conceals service spaces and the wood structure supporting the building.

The Ground Floor has a decorative wood ceiling with a glossy stained finish. The ceiling is in good condition.



Ground Floor wood ceiling



Ground Floor Wood Ceiling

Recommendation

Remove and replace painted linear wood ceiling in Basement with gypsum wall board on furring channels including S.A.Bs for noise and thermal comfort.

At the Ground Floor and in the tower, repair, sand and re-finish ceilings with low-sheen coating including beam covers and brackets. Although the ceiling is in good condition the high gloss finish on the ceiling creates glare and will adversely effect the lighting for the proposed new program

096429 Wood Strip Flooring

Evaluation

The flooring of the Church Ground Floor is carpet over hardwood flooring. The carpet shows signs of wear and tear and removal is recommended. The Basement floor is carpet on wood flooring on 2x2 sleepers on existing concrete slab. The carpet in the Basement also shows signs of deterioration.

Remove all carpet, vinyl sheet flooring and VAT. Remove wood floor on sleepers in Basement. The proposed program no longer requires the raised floor area in the Chancel area. The raised floor area is proposed to be removed and floor framed to provide a level Ground Floor area. The existing wood flooring on the raised floor area is to be salvaged for reuse. Salvage wood as necessary to repair Ground Floor wood, taking necessary steps to remove lead paint from planks. Sand, stain and refinish the wood floors to remain with commercial level finish.

09900 Painting

Evaluation

The paint in the Church is in fair condition on the Ground Floor. The paint in the Basement is in poor condition and is peeling in numerous locations. The paint was found to contain lead in the Designated Substance Survey provided by the City of Vaughan.



Basement North Wall



Peeling paint in Basement

Recommendations

Stabilize and repair plaster to be retained on the Ground Floor. Remove loose and peeling paint, sand, patch, clean and make good all surfaces before priming and painting. In the Basement the plaster surfaces are to be removed and the walls furred out, insulated and new gypsum wallboard finish installed as outlined in the gypsum wallboard section above. Contractor to follow all regulations in the removal and refinishing of the lead containing paint. Refer to the Designated Substance Survey provided by the City of Vaughan.

DIVISION 10: SPECIALTIES 10800 Toilet Bath Accessories

Evaluation

The public washrooms located in the Basement vestibule are in very poor condition and need to be improved and made accessible. They contain inefficient fixtures, bad lighting, ventilation and inadequately finished doors. The washrooms are raised above the floor level and have a step up at the door. The washrooms are too small to contain wheelchair access. The number of washrooms are not adequate for the proposed program.







Basement Washroom

New washrooms should meet the goals of efficiency, ease of use, servicing, cleaning and accessibility. We recommend public washrooms be located in the Basement to retain as much program space on the Ground Floor as possible. One universal washroom will be required along with other washrooms based on occupancy and their fixture counts. These should include change tables and toddler seats (if space allows) to meet the needs of families with young children. The washrooms should also have metered faucets and automatic flush valves and be well lit. All new washrooms should include adequate ventilation, water efficient fixtures, provisions for accessories that can hold multiple rolls of paper and larger trash cans. Floor and wall finishes should be selected to minimize grout joints and substrates should be installed that resist moisture damage. We suggest porcelain tile to all wall surfaces. Partitions, where provided, should be hung from ceiling members as should all fixtures so that the spaces are both accessible and easy to keep clean.

DIVISION II: EQUIPMENT I 1400 Food Service Equipment

Basement Servery

Evaluation

The existing servery contains a refrigerator, electric range, dishwasher, and stainless steel double sink. It has both upper and lower cabinets for storage and a drop down service counter.

Recommendations

A new redesigned servery is required to facilitate the use of this building as an event venue and program space. If a range is contemplated as an appliance, a range hood should be installed. A permanent service counter should be installed with a coiling door closure.

DIVISION 12: FURNISHINGS 12600 Furniture

Evaluation

All existing furniture is to be removed from the building. This includes the pews, a piano, a folding table as well as the lecturn. The lecturn may be of some historical value and should be evaluated by City staff as to whether it should be kept. The pews can be offered up for sale to the community. City to advise on what they wish to do with the piano.





Lecturn

The proposed renovations for the facility include the flexibility for the program space to be used for lectures, concerts, art programs and banquets. Once the potential uses of the hall have been determined, furniture can be specified. At a minimum there should be a stock of stacking chairs and folding tables that can be stored on carts to support various types of events.

DIVISION 13: SPECIAL CONSTRUCTION 13700 Security

Evaluation

There currently is no security system in the Church.

Recommendations

We recommend the addition of a security system.

13850 Fire Detection and Alarm

Evaluation

There currently is no fire alarm in the Church.

Recommendations

The current occupancy of less than 150 people does not required a fire alarm by code but due to the proposed use of the building, it is strongly recommended. We understand this building is proposed to be rented out for events and includes a servery, (food warming area) in the Basement. We recommend a new fire alarm system be installed, including fire alarm pull stations, smoke detectors, heat detectors, horns and strobe lights.

13900 Fire Suppression

Evaluation

There are no sprinklers installed in the building. There is no fire suppression in the servery.

Recommendations

Sprinklers are not required nor contemplated. The servery as such does not require a fire suppression system for the limited use it will support.

DIVISION 14: CONVEYING EQUIPMENT 14200 Elevator

Evaluation

There currently is no elevator in the Church

Evaluation

In order to provide public barrier free access to both the Ground Floor and the Basement we recommend an elevator be installed.

DIVISION 15: MECHANICAL 15410 Plumbing – Domestic Water System

Evaluation

The domestic hot and cold water piping distribution system appears to be of copper piping and fittings and in good condition. A ½" (12.7mm) copper water line complete with water meter enters the Basement in the south-west corner for domestic cold water which is undersized. The utilities plan for the street indicates there is a ¾"(19mm) line to this site. An existing 40 gallon (150L) electric hot water tank is located via the Basement, below the stair in the north-west corner of the Basement. There are two washrooms and a kitchen located at the west end of the Basement which domestic hot and cold water are serving. Plumbing is routed through the ceiling space of the Basement from the water meter to serve this area. The plumbing fixtures in the existing men's and women's washrooms are in poor condition. The existing domestic water main is not equipped with a back flow prevention assembly.



Electric hot water tank below stair in north-west corner Basement



Entering water main and meter at southeast corner of Basement

Recommendations

The existing kitchen and washrooms will be relocated to the east side of the Basement as part of this project, therefore new plumbing throughout the building will be provided to accommodate the renovation. In addition, new plumbing fixtures are recommended to suit and replace the old, outdated fixtures currently in use. A new hi-efficiency gas fired hot water tank or instantaneous water heater is recommended to replace the existing electric hot water tank.

The existing water main does not have any backflow prevention and this would be provided as part of life safety upgrades for this project. The existing water line in the Church should be upgraded to 3/4" to match the service from the street.

15420 Storm and Sanitary Drainage System

Evaluation

The existing washrooms and kitchen sanitary drainage are routed below the Basement floor in the south-west corner of the building and exit the building at the south-west corner. It appears that there is an existing septic system which the sanitary drainage was connected to, however this could not be

confirmed at the time. The City of Vaughan has confirmed the sanitary main has been connected to the municipal sewer system in the past and the septic system may have been abandoned.

The existing church utilizes eaves trough and downspouts throughout the perimeter of the building to direct storm drainage from the peaked roof.

Recommendations

Existing sanitary drainage shall be abandoned where drainage is removed as part of the renovation. New buried drainage lines shall be installed to accommodate the new washroom and kitchen layout. It is recommended to have buried utility locates and a CCTV camera inspection on the existing buried drainage leaving the building to determine existing pipe sizes and material conform to current codes, and if the sanitary is connected to the municipal sewer system or a septic system. Once determined, as part of this project the sewer main could be upgraded to determine if a municipal connection can be made.

15500 HVAC

Evaluation

The existing building is served by two forced air gas-fired furnaces located in the Basement. Each furnace is located in a closet and serves the south and north sides, respectively, of the building providing heating via round diffusers for the Basement and rectangular registers for the main floor. The existing gas meter is located on the south side of the building and gas piping is routed into the building and through the Basement to serve each furnace.



Existing forced air gas fired furnace



Typical floor register serving main floor throughout perimeter

Recommendation

The existing furnaces appear to be 15+ years old and as part of this project are recommended for replacement due to their age. The existing closets serving the furnaces are anticipated to be demolished as part of this project, therefore it is recommended to provide new heating equipment in one consolidated new location determined, with the following options to accommodate the new layout:

- New re-sized gas-fired forced air furnace complete with remote condensing unit for cooling to serve the building. Ductwork revisions to suit. The advantages of this option are that it is the least expensive.
- 2. New exterior packaged heating and cooling unit located on a concrete pad outside to serve the building. Ductwork revisions to suit. The advantages of this option are that it allows for more room within the building since the unit will be located outside. Ductwork is still required.
- 3. New Basement and main floor in-floor and perimeter radiant heating system complete with new hot water boiler. The advantages of this option are that it eliminates any ductwork distribution

required, is energy efficient with lower operational costs but it is more expensive to install. A/C would be supplied with mini-split systems.

We are recommending to proceed with option No. I above due to budgetary constraints. In each case above, ventilation will be properly designed to accommodate washroom and kitchen exhaust requirements. In addition, a residential fresh air heat exchanger would be provided to meet outdoor air requirements.

DIVISION 16: ELECTRICAL 16200 Electrical Power

Evaluation

Main incoming Electrical Equipment Service is located on Basement Level. Main incoming electrical service voltage is 120/240V, 1Phase, 3wires Distribution System c/w outdoor metering socket. The Main electrical service ampacity is rated @ 200A, 1 Phase, 3 Wires complete with 40 circuits Panelboard and with a 200A-2P Main Breaker. The Electrical Panelboard is being fed via underground ductbank from nearest outdoor pad mounted transformer. The electrical distribution panel is supplying power to building circuits, like duplex receptacle outlets, miscellaneous loads, lighting and mechanical heating equipment (furnaces). Wall mounted receptacle outlets are installed but do not meet code requirement.

Recommendations

We recommend the main incoming electrical service to be disconnected, removed and upgrade c/w new electrical panelboard and Hydro metering cabinet. Service application to POWERSTREAM Hydro. Receptacle outlets are to be provided throughout the Basement and main floor level to meet code requirement. Dedicated single receptacle outlets or remote fusible disconnect switches to be provided for special mechanical and electrical equipment as required.

16500 Lighting

Evaluation

General lighting in the Nave is aesthetically appropriate for the use as a church, though the light level is low. Single and cluster pendant fluorescent lighting fixtures are installed throughout the main floor level and controlled by wall mounted remote switches. Surface ceiling mounted strip fluorescent lighting fixtures (8' c/w 2-T12 lamps) are installed on Basement level and controlled by remote and pull chained switches. Indoor stairs are equipped with wall mounted fluorescent lighting fixtures. Vestibule areas are equipped of wall mounted LED lighting fixtures c/w photo sensor switch. Outdoor wall mounted lighting luminaires are installed at front & north sides of the building.



Ground Floor Sanctuary Lighting – center pendant light fixture



Ground Floor Sanctuary Lighting – typical pendant

Recommendations

The Church would benefit from a lighting overhaul which would create an immediate and lasting impression of the building. The lighting scheme should bring out the best in the building and enhance its most significant architectural features and proposed exhibits. The existing light fixtures in the Sanctuary should be retrofitted to accommodate LED lamps to improve light quality and energy efficiency. Additional supplementary lighting should be designed to provide additional ambient light as well as exhibit/ task lighting. Detail specific lighting is to be installed in areas such as stairwells and vestibule areas. LED and fluorescent lighting fixtures is to be installed on Basement level. Occupancy sensors in storage and service rooms are recommended. Lighting controls are recommended to be added to the Ground Floor and Basement level as required. Additional exterior lighting along the north elevation, by all doors and stairs should be provided for security and safety. Ground mounted exterior lighting is recommended to illuminate the building at night and additional post mounted lighting at the Entry and exit doors is recommended. Exterior lighting is to be controlled by timer/photo sensor lighting control system.

16530 Emergency Lighting

Evaluation

The building has no emergency lighting system and exit lights are installed but do not meet code requirement.

Recommendations

In order to provide safe passage during utility failures, a fire situation and/or during other crises where utility power is not available, exit signs and remote DC heads are required throughout the building and on the building exterior to ensure that the emergency light levels within the spaces satisfy the minimum requirements outlined in the OBC. The emergency lighting system should be based on centralized DC battery units, exit signs and remote DC heads. Either night lighting circuits or emergency lighting control panels are required to ensure that the DC heads are energized whenever the local utility lighting circuits are disconnected.

Emergency lighting system of battery units and LED remote heads c/w green pictogram exit lighting system are to be installed throughout the Basement and main floor level as required to meet code requirements.

16710 Voice Communications

Evaluation

Wall mounted telephone outlet installed at kitchen area. LAN system is not installed.

Recommendations

Telephone and data receptacle outlets to be provided as required & needed.

16710 Audio/ PA

Evaluation

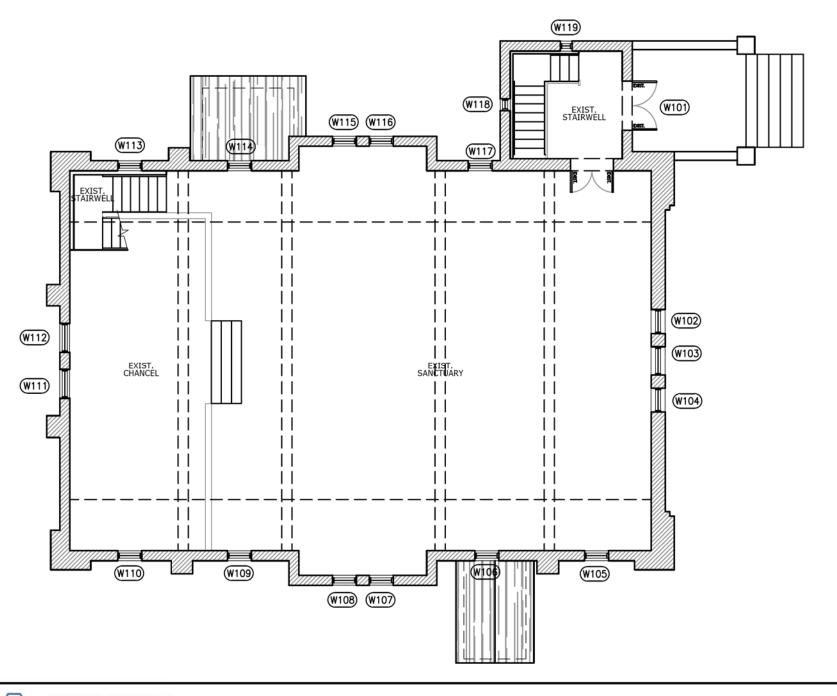
Wall mounted audio speakers are installed in main floor chancel area. Equipment outlets @ main floor back sanctuary area.

Recommendations

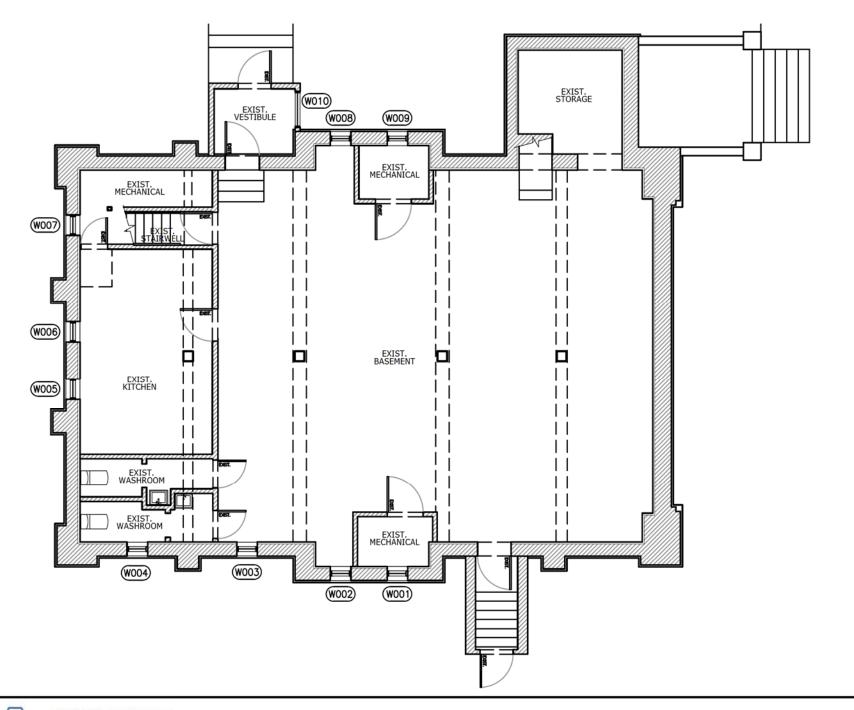
Existing system is to be removed and an Audio/PA system to be provided as required by the proposed program.

END OF MAIN REPORT

 $\label{eq:APPENDIX 2-Existing building Drawings} APPENDIX 2-Existing building Drawings$







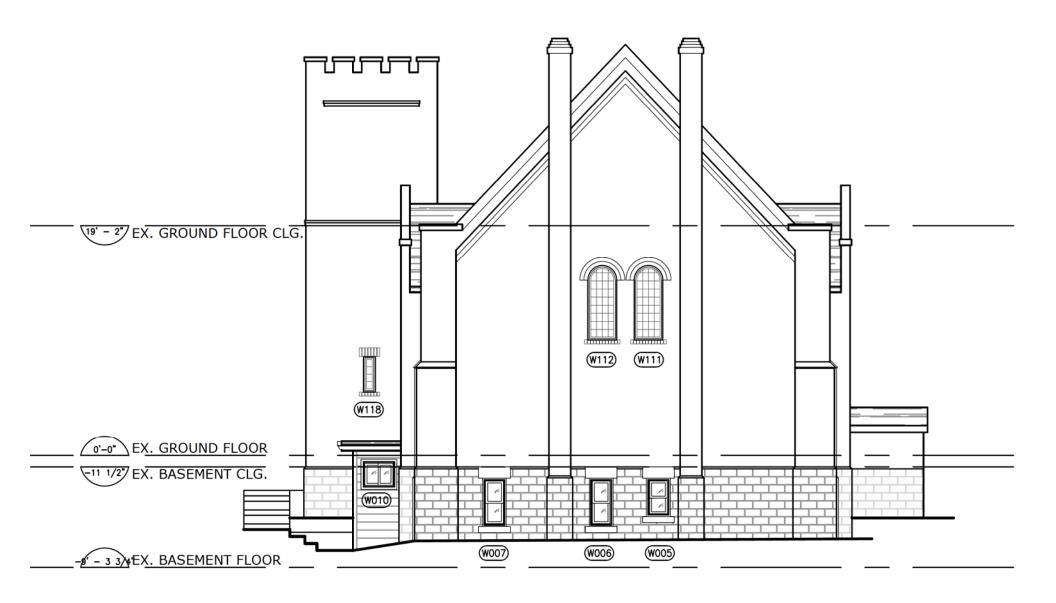




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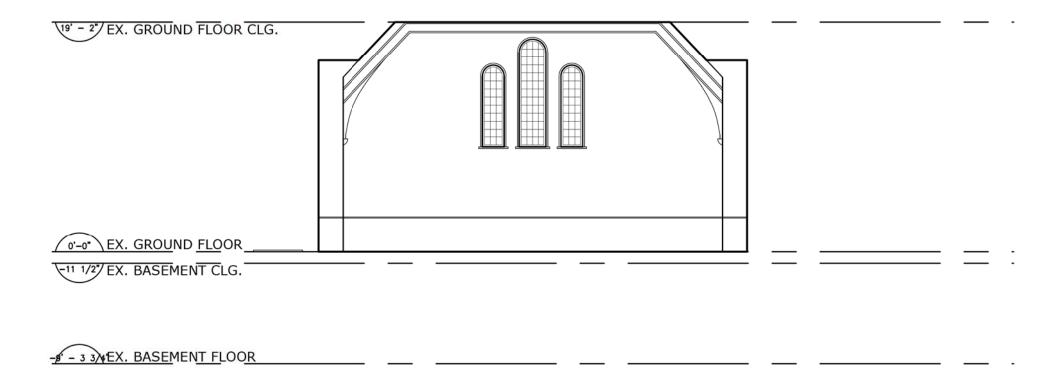


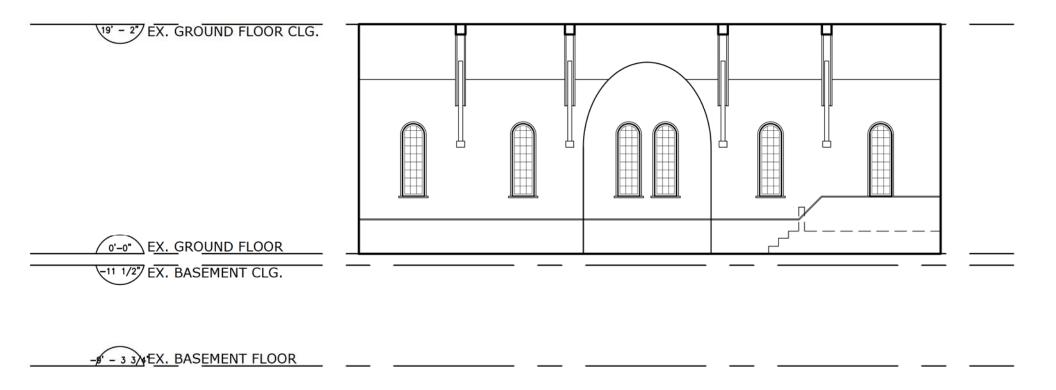


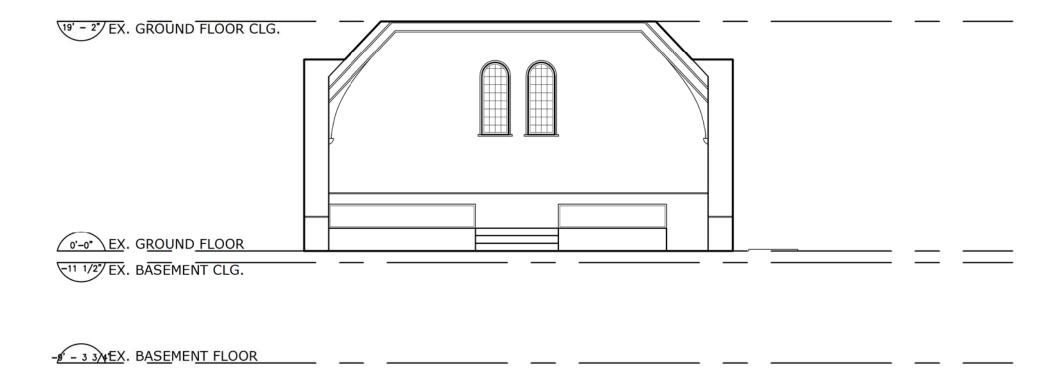














0'-0' EX. GROUND FLOOR
11 1/2' EX. BASEMENT CLG.



APPENDIX 3 - Kleinburg United Church Stain Glass Window Report by Vitreous Glassworks

vitreous glassworks

500 keele st. unit 201 toronto on M6N-3C9 416-737-4527 www.vitreous.ca john@vitreous.ca

Stained Glass Window Report

Kleinburg United Church

Prepared by: John Wilcox CAHP Vitreous Glassworks

January 21, 2017

RE:

Condition of 19 leaded glass windows of Kleinburg United Church

Nos. W101 to W119

The 18 original leaded glass windows, W102 to W119, of the church are emblematic of the reason why we have been making this kind of window for millennia. Though rather neglected they are still strong and capable. With some considered conservation and maintenance they can be made to withstand another century.



The Windows

Round arch openings approx.21"wide and 69" tall excepting one central east window(w103- approx. 20" taller) 2 small rectangular foyer windows (w118,w119).

They are constructed of puttied leaded glass panels, stopped into a wooden frame. Eight of the windows have operable centre-pivot steel ventilators. The nineteenth window is a new work within the entrance transom with some connection to the carving on the wooden entrance doors.

Glass

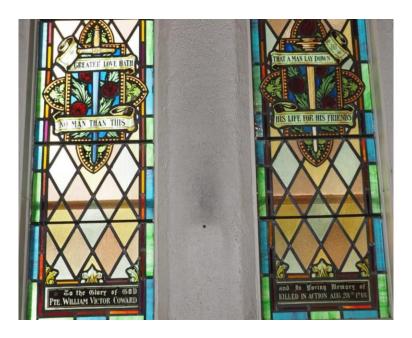
The majority of glass is unpainted/stained - rolled cathedral glass of various amber hues with two multicoloured fillet borders, one inner thin- multicoloured (orange/purple/red) and one outer wider

fillet wider various opal-turquoises.

Nine of the eighteen windows, within the east & west walls and north & south transepts each have a central painted and stained iconographic medallion and inscription plate on antique glass.

The east (altar window) was donated by the Sabbath school and dedicated to the pioneers of the church.

The window pair of the south transept portray symbols of valour and are dedicated to the memory of a Mr. Coward who died in battle during the First World War.



The pair in the north wall are in memory of 18 year old William Albert Devins.

Although there have been several campaigns of broken glass repair throughout the decades, almost 100% of the original glass is existing. Some close matches to this glass exist today, but the supply might not continue for long due to the modern constraints of an old world procedure.

Lead



The lead matrix supporting the glass is in excellent condition, with no identifiable material fatigue and deformation only occurring at repair interventions and unsupported bottoms at ventilators.

Selective re-leading is required for previous repairs / failing ventilator panels and any compromised perimeter lead.

Putty

The sealant is the third component of a leaded glass panel. It comprises of a powdered stone and oil glazing putty forced between the cames of the lead and the glass to form stiff and flexible weathertight bond.

The putty of all the windows is failing dramatically and at minimum requires a complete two sided slurry and cleaning.

Metal Ventilators



The metal ventilators are showing surface corrosion without any significant depth of rust. Putty and later applied sealants are failing

These ventilators require removal, rust reformation and oil painting.

Frames





The wooden frames are in excellent condition. There is no major rot and only some degradation due to lack of maintenance. Putty and later applied sealants are failing. Unvented plastic exterior sashes are causing condensate oxidization

Summary

With a minimum of carpentry and preparation these regularly painted wood windows can function another century. Removal of all leaded glass panels provides better results for wood frame conservation.

Window Condition Matrix:

East Elevation

	Glassbreaks / repair est.	Lead	Putty	Vent	General	Reputty	Total Relead	Selective Relead	
W101	0	G	G	Х	G-clean Only	N	N		
102	Est. 1	F	Р	Х	Fair	Υ	-	Υ	
103	Est. 1	F	Р	1	Fair	Υ	-	Y	
104	Est. 1	F	Р	Х	Fair	Υ	-	Υ	

South elevation

W105	0	F	Р	1	Fair	Υ	-	N	
106	1	F	Р	1	Fair	Υ	-	Ν	
107	1	F	Р	Х	Fair	Υ	-	Ν	
108	1	F	Р	Х	Fair	Υ	-	Ν	
109	2	F	Р	1	Fair	Υ	-	Ν	
110	4	Р	Р	1	Poor	Υ	-	Υ	

West elevation

W111	5	F	Р	Fair/poor	Υ	_	Υ	
112	1	F	P	Fair/poor	Υ	_	Υ	

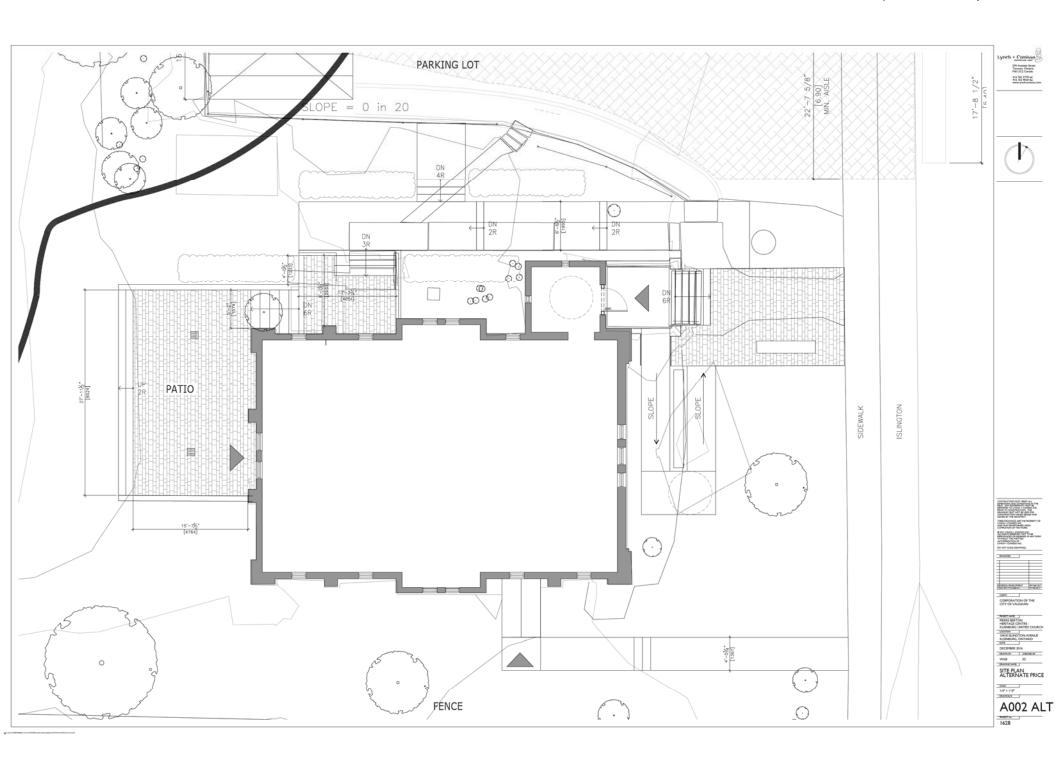
North elevation

W113	1	F	Р	1	Fair	Υ	-	N	
114	1	Р	Р	1	Fair/poor	Υ	-	Υ	
115	1	F	Р	Х	Fair	Υ	-	Ν	
116	2	F	Р	Х	Fair	Υ	-	N	
117	5	Р	Р	1	Fair/poor	Υ	-	Υ	

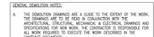
Tower

W118	1	Р	Р	Χ	Poor	Υ	Υ	-	
119	3	Р	Р	Χ	Poor	Υ	Υ	-	

P=Poor, F=Fair, G=Good, X=N/A



Attachment #5 b) Basement Plan - Interior and North Vestibule Demolition



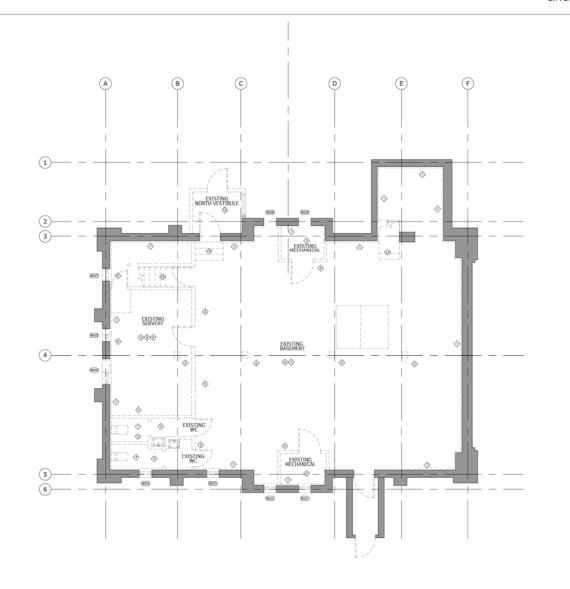
- REMOVAL TO BE CAREFULLY EXECUTED NOT TO DAMAGE ADJACENT AREAS, ADJACENT WALLS, FLOORS, COLING AND TRIM TO BE PROTECTED.
- NO DEMOLITION OF STRUCTURAL WALLS IS TO OCCUR WITHOUT WRITTED APPROVAL BY THE CONSULTANT.

- REFER TO DESIGNATED SUBSTANCE REPORT.
- CONTRACTOR TO DISPOSE OF ALL ITEMS NOTED TO BE REMOVED UNLESS OTHERWISE NOTED.

- REMOVE EXISTING PLASTER AND LATH TO EXPOSE MASONRY FOUNDAT WALL TYPICAL THROUGHOUT BASEMENT
- REMOVE EXISTING REMOVE EXISTING WOOD FURRING TO EXPOSE EXISTS WOOD BEAMS AND COLUMNS
- TEMOVE EXISTING CEILING AND ASSOCIATED FRAMING

- REMOVE EXISTING WINDOW AND CREATE WIDER OPENING IN EXISTING MASONRY WALL REFER TO STRUCTURAL.
- THE REMOVE EXISTING PLUMBING FIXTURES AND CAP. SEE MECHANICAL REMOVE EXISTING SERVERY CABINETRY
- REMOVE EXISTING APPLIANCES
- REMOVE EXISTING RAISED FLOOR AND ASSOCIATED STRUCTURE. REFER TO STRUCTURAL.

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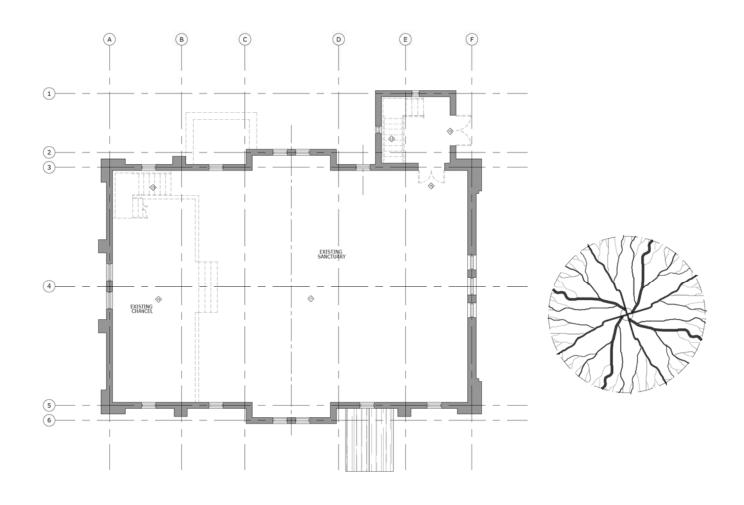
Attachment #5 c) Ground Floor Plan - Interior and Northern Vestibule Demolition

GENERAL DEMOLITION NOTES:

- CONTRACTOR TO DIRECT MECHANICAL AND ELECTRICAL TRADES TO COORDINATE WITH ARCHITECTURAL DEADLITION DRAWINGS.
- REMOVAL TO BE CAREFULLY EXECUTED NOT TO DAMAGE ADJACENT ARRAS. ADJACENT WALLS, FLOORS, COLING AND TRIM TO BE PROTECTED.
- NO DEMOLITION OF STRUCTURAL WALLS IS TO OCCUR WITHOUT WRITTED APPROVAL BY THE CONSULTANT.

- REFER TO DESIGNATED SUBSTANCE REPORT.
- CONTRACTOR TO DISPOSE OF ALL ITEMS NOTED TO BE REMOVED UNLESS OTHERWISE NOTED.

- REMOVE EXISTING PLASTER AND LATH TO EXPOSE MASONRY FOUNDATION WALL TYPICAL THROUGHOUT BASEMENT
- PEMOVE EXISTING REMOVE EXISTING WOOD FURRING TO EXPOSE EXISTING WOOD BEAMS AND COLUMNS
- S REMOVE EXISTING CEILING AND ASSOCIATED FRAMING
- TREMOVE EXISTING PARTITION WALL TO UNDERSIDE OF STRUCTURE
- REMOVE EXISTING WINDOW AND CREATE WIDER OPENING IN EXISTING MASONRY WALL REFER TO STRUCTURAL.
- TREMOVE EXISTING PLUMBING FIXTURES AND CAP. SEE MECHANICAL REMOVE EXISTING SERVERY CABINETRY
- REMOVE EXISTING APPLIANCES
- REMOVE EXISTING RAISED FLOOR AND ASSOCIATED STRUCTURE. REFER TO STRUCTURAL.
- PROTECT WOOD FLOORING AS REQUIRED.
- REMOVE EXISTING WOOD FRAMED VESTIBLE
- REMOVE EXISTING CONCRETE STAIR
- REMOVE EXISTING DOORS AND SALVAGE FOR REUSE





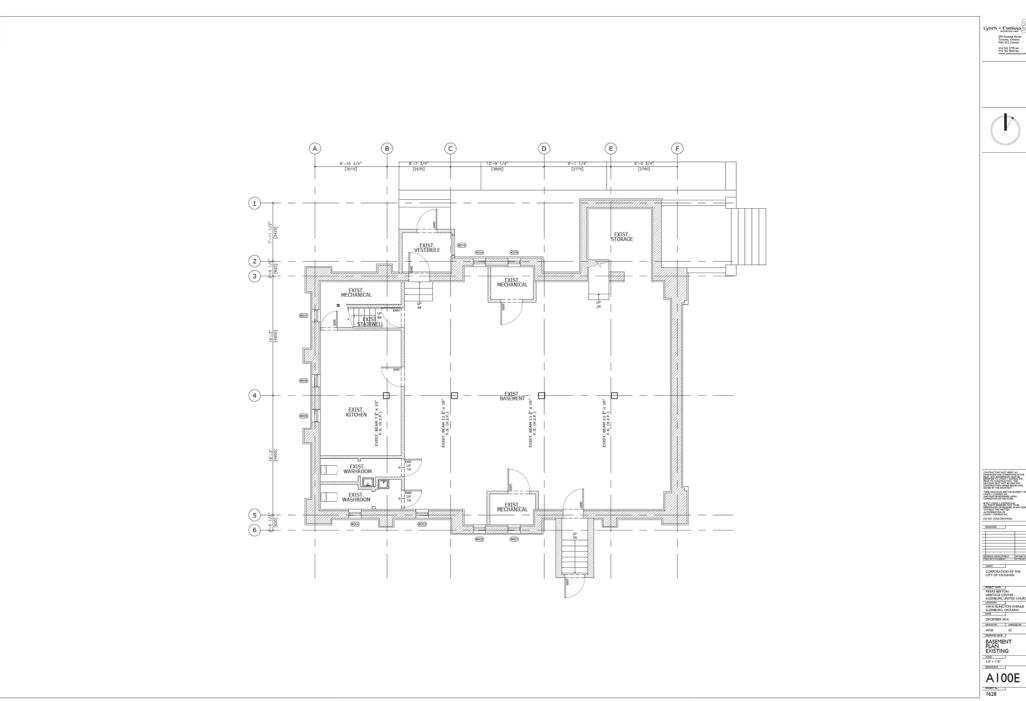




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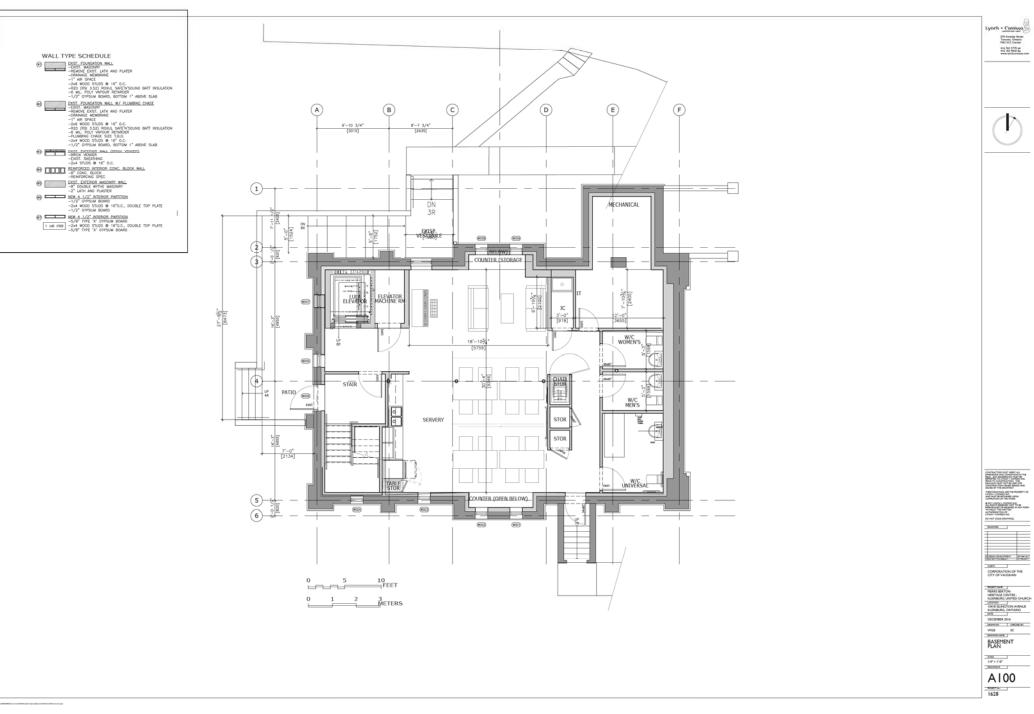
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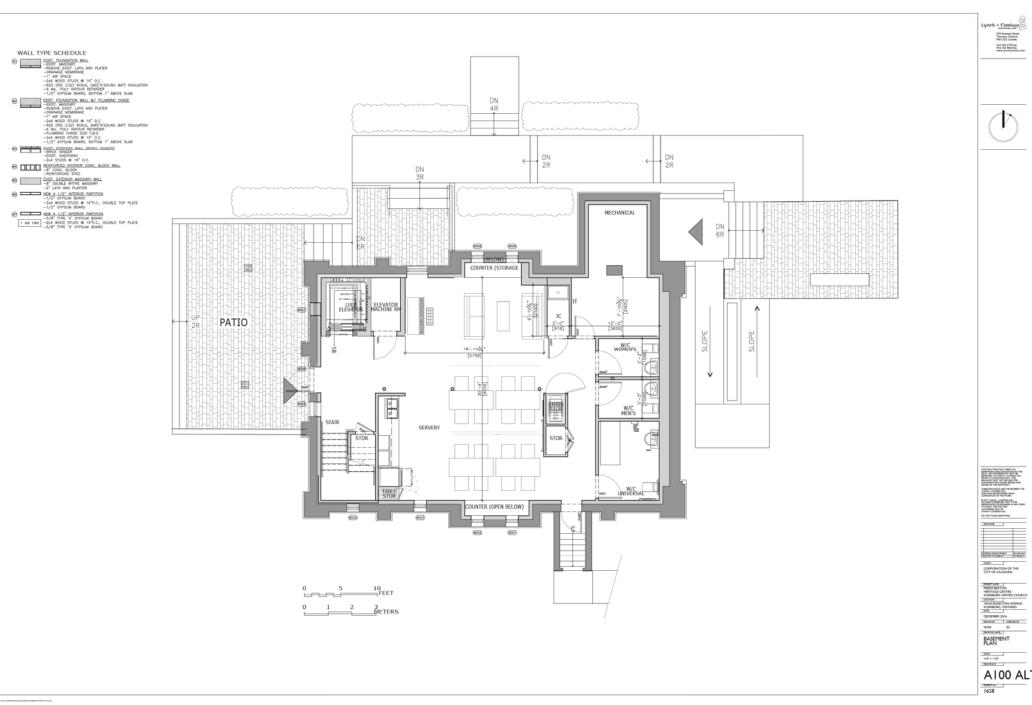






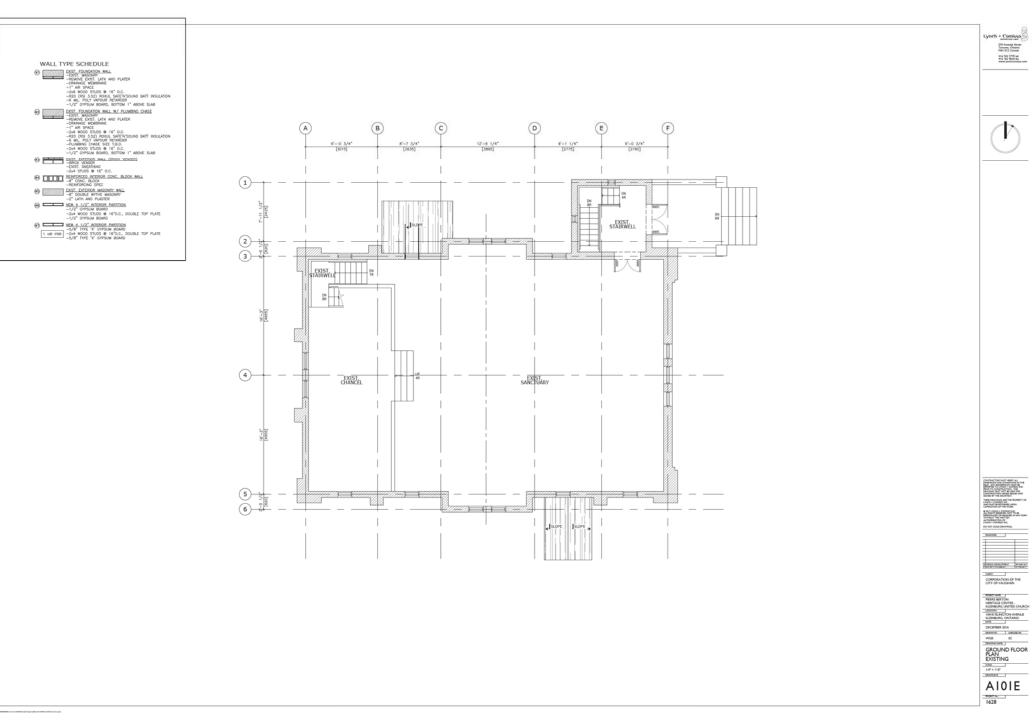
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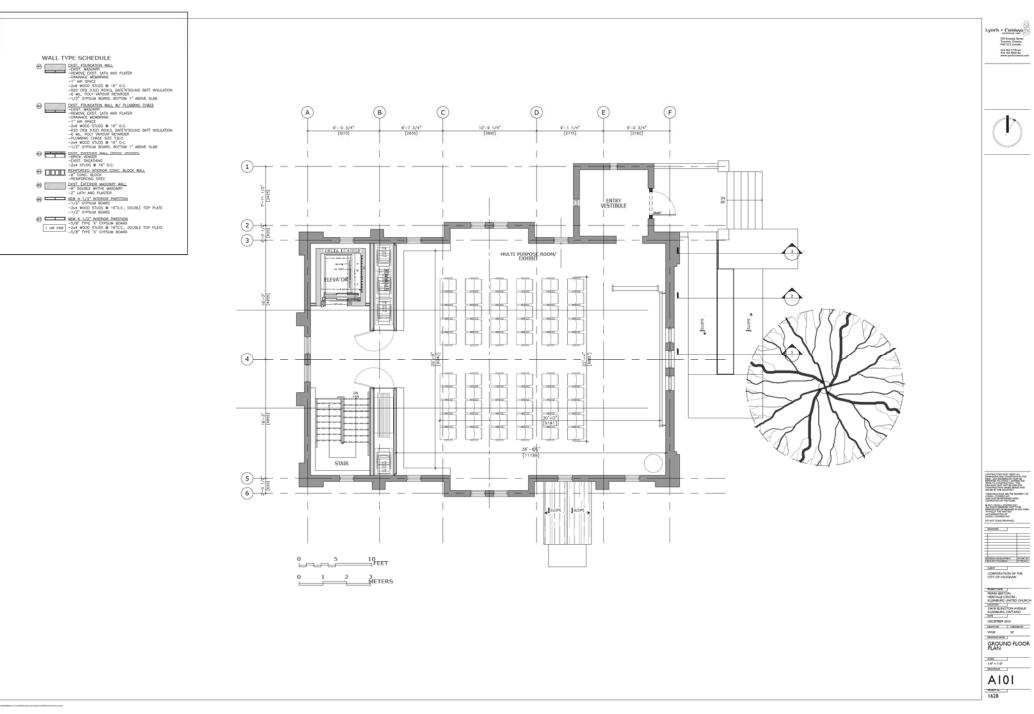
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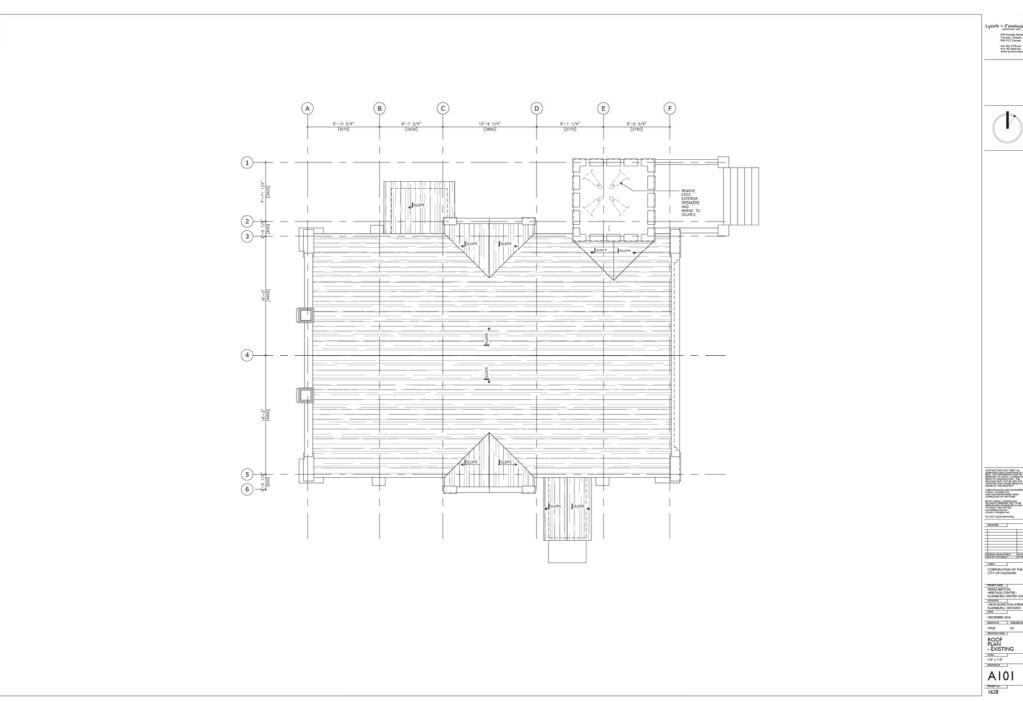
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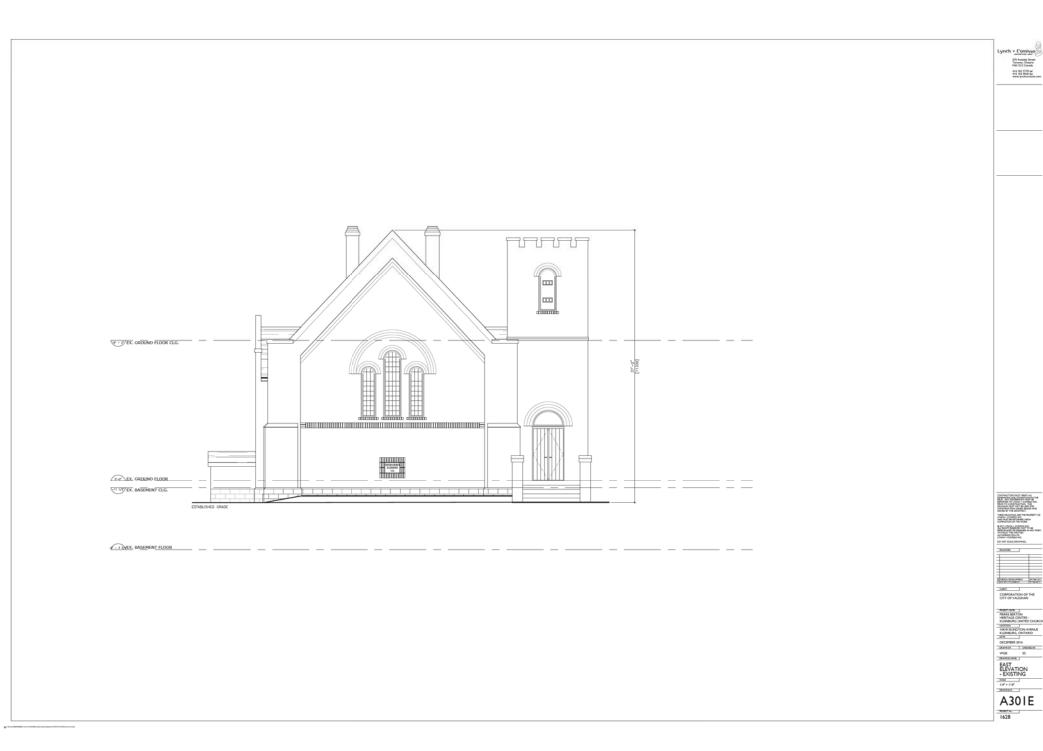


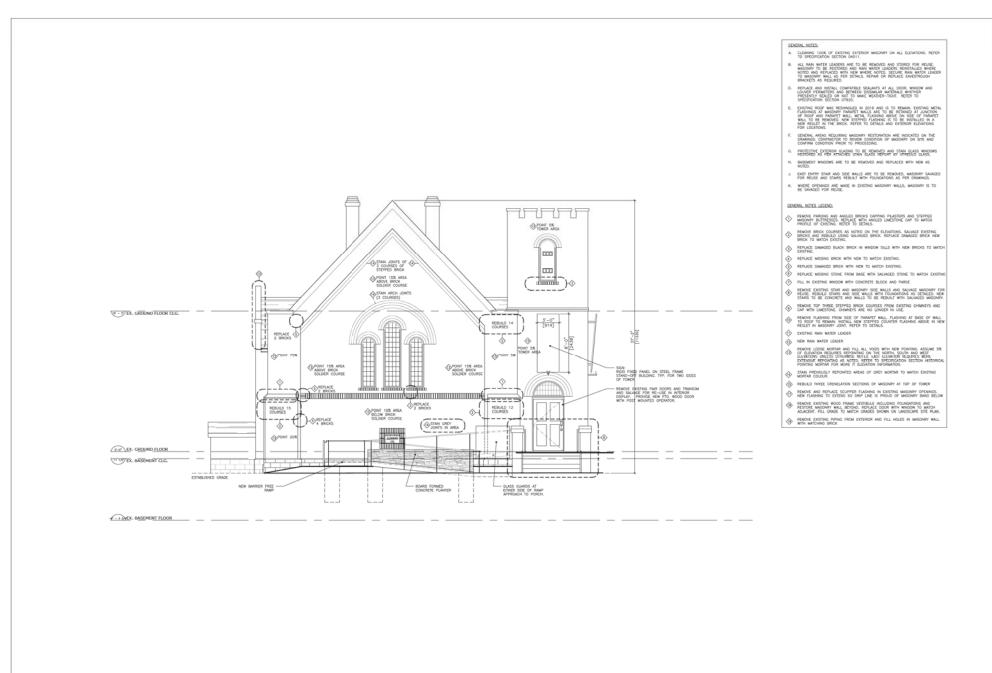


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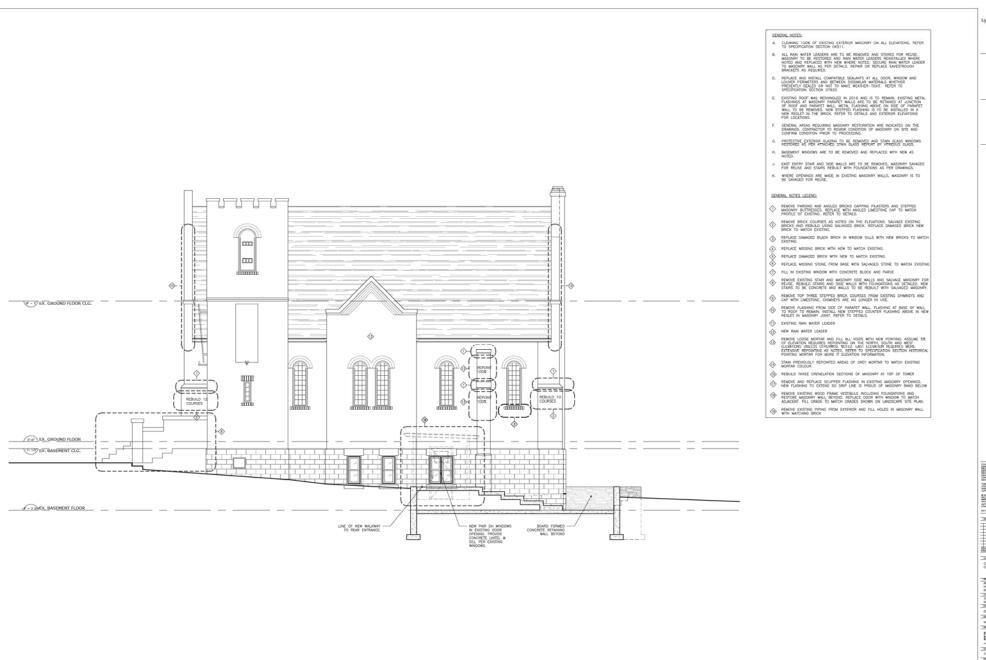
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Attachment #5 m) North Elevation - Proposed Works



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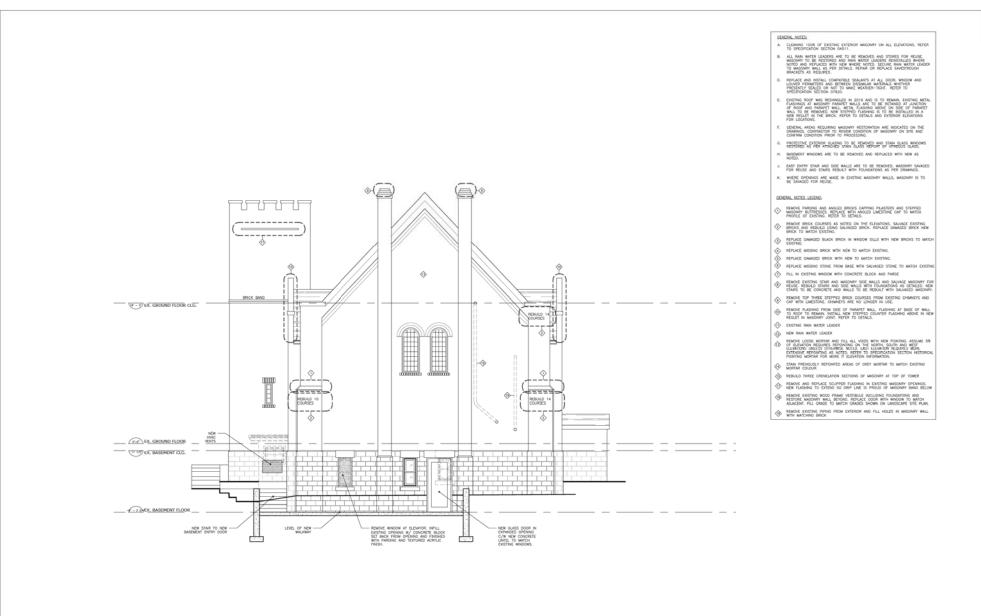
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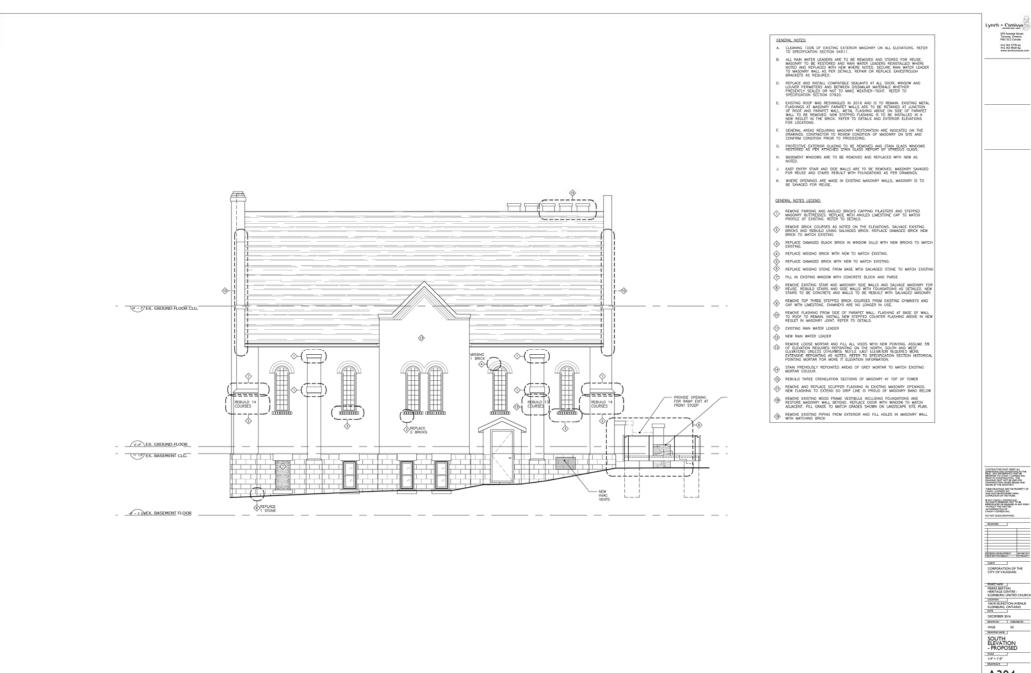
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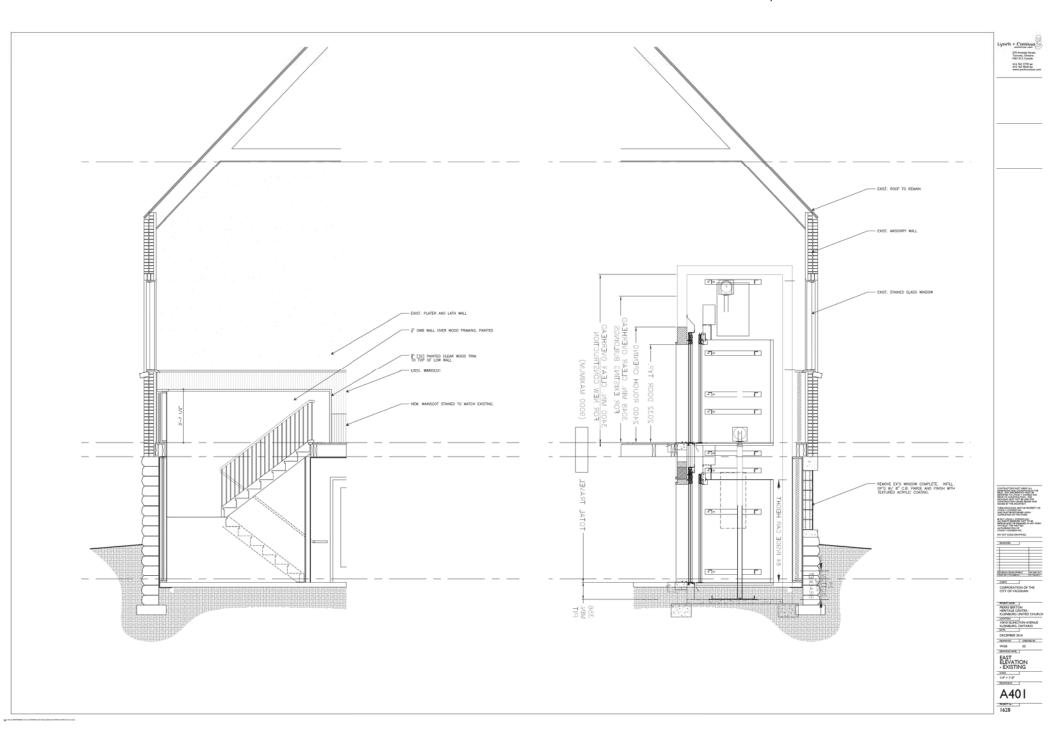
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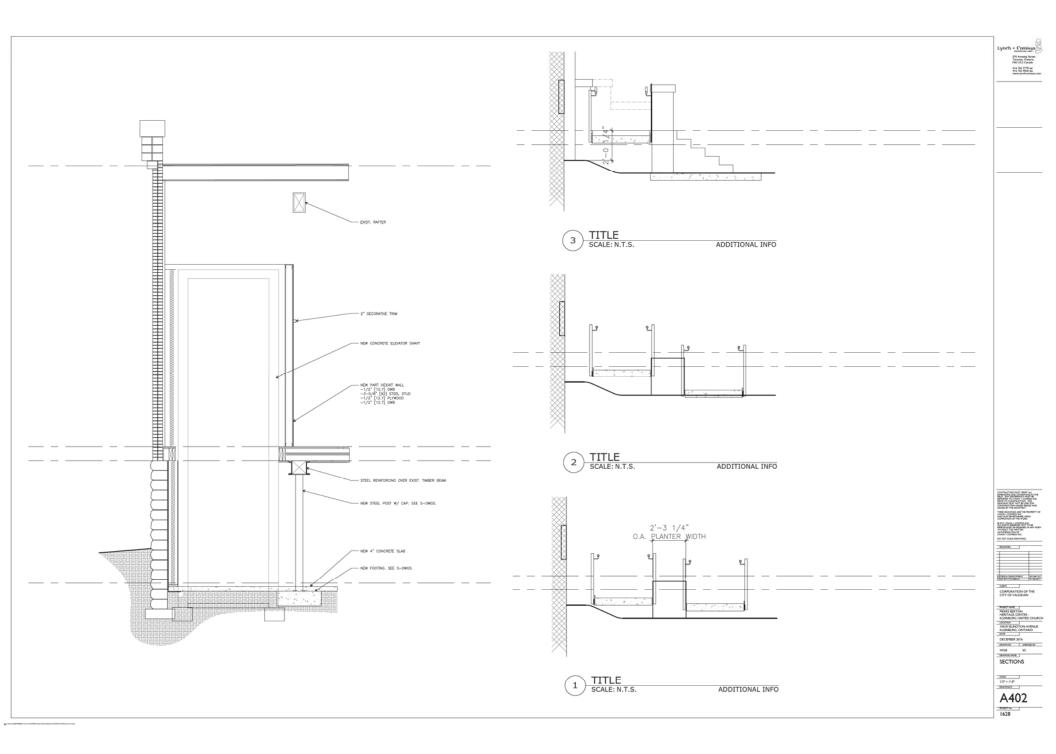




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