ADVANTIS STUDIO CONSULTING INC.

Heritage Conservation Management Plan

Adamson Estate Barn, 875 Enola Avenue, Mississauga

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April 30th, 2021

Heritage Conservation Management Plan – Roof assembly, Second Floor Exterior Wall and Ground Floor Exterior Wall repairs at the Adamson Estate Barn located at 875 Enola Avenue, Mississauga Ontario

1. Introduction

Executive Summary

The proposal is to replace or repair deteriorated, failing components of the roof and wall assembly and mortar joints at the ground floor walls of the barn.

The roof assembly has deteriorated causing at this point minor roof leaks and damages of the roof deck. Proposed scope of roof assembly repairs and replacement would create a watertight assembly and create the required conditions for intended use of the building.

The work at the eaves troughs and downspouts will consist of replacement of the existing aluminum deteriorated eaves troughs and the water leaders. New downspouts and eaves troughs would be fabricated from galvanized steel and sized to function properly.
Deteriorated mortar joints at the exterior ground floor walls will also be repaired and damaged joints replaced with new to match existing by using the same type of material and matching the appearance of the mortar joints in the areas where foundation wall mortar joints were previously repaired. Once mortar joints are repaired exterior wall will be painted to match existing.
Wall siding has deteriorated beyond repairs at the east, north and west elevations. We propose to replace the deteriorated wood boards and battens with new to match south elevation boards and battens previously replaced.

The structural review of the building reviled the structural deficiencies caused by the modifications made in past and deterioration of the structural components would require urgent action.

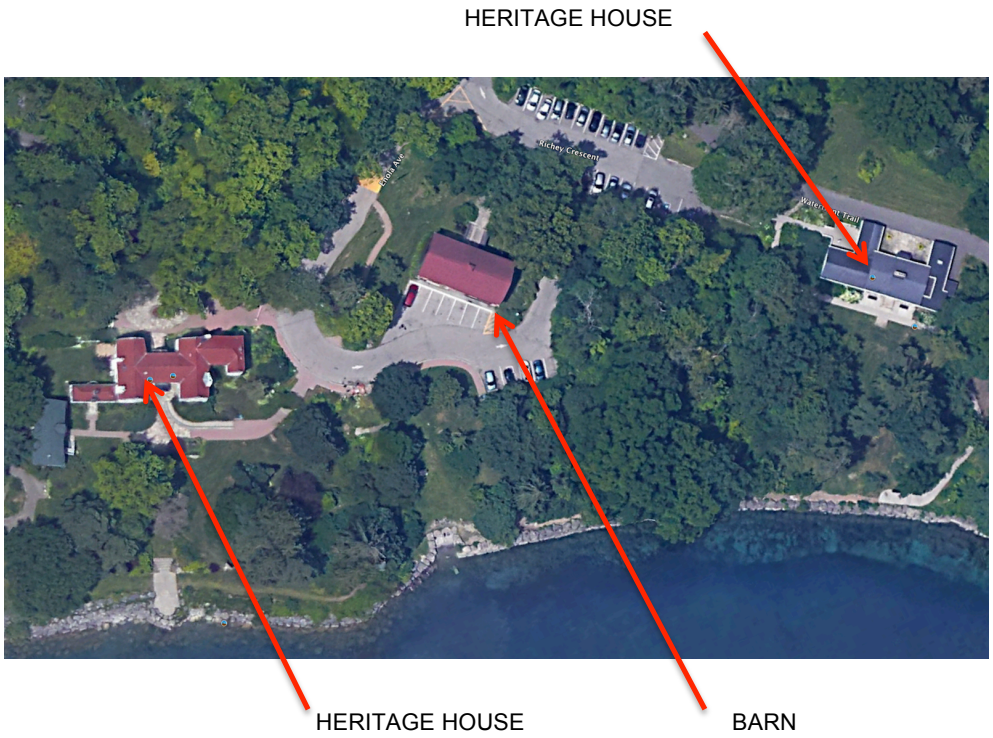
2. Property Description

The barn is located at 875 Enola Avenue is owned by City of Mississauga and is being used as a storage for the equipment, furniture and tools.

The building represents a two-storey wood framed structure with the rubble stonewalls at the perimeter of the ground floor and wood frame above.

Ground floor framing is spanning between the rubble stonewalls and the intermediate wood beam. The roof structure is a gable in the north-south direction supported by purlings. The structure is supported by four wood trusses, two in the middle and one at each end. The structure at the second floor was found in good condition but there was a missing middle post under the west middle truss. Also additional deficiencies were found at the middle wood column where solid blocking or any other support was not found.

Mortar joints at the exterior side of the ground floor rubble walls were found in poor condition where joints were empty, loose or cracked.



The description of the building from the Canadian Register of Historic Places:

LISTED ON THE CANADIAN REGISTER: 2008/08/28

DESCRIPTION OF HISTORIC PLACE

The Adamson Estate, now a public park and campus for the Royal Conservatory of Music, backs directly onto Lake Ontario, at 850 Enola Ave., in the City of Mississauga. This 13.2 acre parcel, is what remains of the original 300 acre summer property, of the Cawthra family. It contains a two-storey manor house, in the Colonial Revival and Flemish style, a wooden gatehouse or folly, a barn, a pet cemetery and the remains of a pool.

It has been recognised for its heritage value by the City of Mississauga By-law 461-78.

HERITAGE VALUE

The remnants of the original estate, with its house, barn outbuildings and grounds are a significant waterfront cultural landscape. They provide a window into the past, of an important pioneer family, and the lifestyle associated with an early twentieth century country estate.

The Adamson Estate is associated with the Cawthras, a prominent family involved in the development of York, (now Toronto) and Toronto Township (now Mississauga). The Crown granted Joseph Cawthra, an English immigrant from Yorkshire, approximately 200 acres of land shortly after the 1805 Mississauga Purchase. Cawthra, a prominent York merchant, did not settle this land, but used it primarily as a summer residence, renting the majority of the property, in 1830, to William Duck for farming purposes. The property remained in Cawthra's ownership until 1971, with Duck's descendants farming it until the 1940s. Mabel Cawthra received the property as a wedding gift upon her marriage to Agar Adamson in 1899. After spending the First World War in Flanders, the Adamsons returned to Canada, in 1919, choosing to live permanently on the subject land. They replaced the c. 1860 cottage with a new manor. Sproatt and Rolph designed it in the Colonial Revival style with Flemish elements. The Adamsons requested Flemish features be included to commemorate their years abroad.

The two-storey house, completed in 1920, is comprised of two long gabled structures joined together and extended on the east by an orangey. A red tile roof caps the pale stucco walls. Metal windows are plentiful and multi-paned; most are casement. The semi-circular blind above the upper-storey windows adds height and detailing. Cut stone adorns the peak of the gables and lakefront entrance, referencing Flemish bell-cast gables.

The gatehouse or folly was constructed in 1904 as a summer nursery, doubling as a guesthouse. It is one of only three gatehouses of this design in Canada. (The others are at the Ottawa residences of both the Governor General and the Prime Minister.) It is also Canada's only wooden folly. Thus, this structure is valued for being an architectural rarity. It spans the driveway that leads to the rear of the main structure. The green roof shingles and wood trim stand out against the cream-coloured stucco and

complement the exterior colours of the house. An exterior staircase accesses the upper floor and leads to a wrap-around balcony.

Since the 1960s, the barn was used for theatrical productions, seating 100, with the granary serving as the bar. This use continued when the City of Mississauga acquired the site in 1971. The Royal Conservatory of Music (RCM) began leasing the main house in 1996 and the folly shortly thereafter. The school converted the house into classrooms and the folly into a studio. Mississauga Parks and Recreation retained the barn for storage. The City created a pet cemetery by gathering monuments disbursed throughout the property, into one place.

Source: CS.08-ENO, Enola Avenue 850, City of Mississauga.

3. Project Objectives

- Outline what is to be achieved by this project.

The intention of this project is to conserve the components of the building found in fair and good condition and replace deteriorated beyond repair roof deck sheathing, boards and battens at the east, north and west elevation, repair and replace mortar joints at the ground floor exterior walls and replace asphalt shingles, undersized eave troughs and downspouts.

- Provide short term and long term goals and objectives

The project most important objective is to make urgently required repairs at the barn structure that would be limited to reinstating the structural integrity of the previously modified wood frame structure. Proposed repairs will create the conditions that would prevent further deterioration of the building structure so that building could continue to be used by the community.

- Proposed solutions for conservation of the property's heritage attributes

Recommendations:

Roof assemblies:
Existing roof assemblies must be removed so that the deteriorated roof deck could be replaced. All elements of the roof deck or the structure that show deterioration will be inspected and determine if replacement is required.
New roof assembly and metal flashing will be designed to match the appearance of the existing assembly. Self-adhesive membrane that would not be visible will be installed at the roof perimeter and cupola details below the exposed metal flashing. Metal flashing will match the colour and profiles of the existing metal flashing at all details. Cupola will be repaired and deteriorated components replaced to match existing.

Eaves troughs and downspouts:
Existing eaves troughs and downspouts are undersized typical aluminum residential eaves and downspouts.
We recommend replacing deteriorated eaves troughs and downspouts with new round properly sized eaves troughs and rainwater leaders fabricated from galvanized metal.

Wood boards and battens:
Upper floor exterior wall wood frame structure will remain. Existing deteriorated boards and battens would be replaced with new to match existing and those previously replaced at the south elevation.
Urgently needed structural repairs required in the interior of the building will reinstate structural integrity of the deteriorated components of the structure and correct incorrectly modified building structure. The new components will match and be installed in place of those previously removed.
Please refer to the appendix B, structural report for the proposed scope of work.

Mortar joints at the ground floor exterior wall:
Area where the mortar joints are deteriorated and damaged will be removed. New mortar joints will match existing. The surface of the exterior wall will be painted to match existing.

North barn door:
Existing wood door will be repaired. All rotten boards will be removed and replaced with new. Door structural components that are found in fair or good condition would remain. Existing hardware will be reused and missing components replaced with new to match existing and those used at the new south elevation door.

- Provide the conservation policies to be used in this project (i.e. what conservation principles will be used to ensure long term conservation, maintenance, monitoring, and sustainable use of the property)

To prevent further deterioration of this building we propose previously identified scope of work. Proposed scope of roof assembly repairs and replacement would create a watertight assembly and create the required conditions for proper long-term use of the building.
Based on the findings of this report, we recommend implementing repair / replacement program as soon as possible to address identified deficiencies found at the roof, wall, ground floor exterior walls and structural components of the building. The intention of this project is to conserve the components of the building found in fair and good condition and replace deteriorated beyond repair roof deck sheathing, boards and battens at the east, north and west elevation, repair and replace mortar joints at the ground floor exterior walls and replace asphalt shingles, undersized eave troughs and downspouts.
All deteriorated materials will be repaired and replaced with new to match existing by using the same type of material and matching the appearance of the deteriorated components.

4. Statement of Heritage Intent

- An explanation is required that proposes the reasoning and considerations behind the choice of conservation treatments.

This scope of work is proposed in order to repair existing building envelope and correct structural deficiencies found and create a watertight assembly that would prevent water intrusion into the building envelope and interior of the building, stop further deterioration of the building.

- Statement as to why one period of restoration over another was selected, rationale for new interventions, background resources used such as principles and conventions of heritage conservation.

There is no choice of period proposed as part of this project. The intention here is to restore structural integrity of the building structure and stop roof leaks and water infiltration through the wall and foundation assembly.

- Statement as to the recording, inventory and disposition/retention of moveable cultural heritage resources (e.g. artifacts, archival material, salvaged material) and its incorporation into the conservation project.

It is recommended that only deteriorated materials that no longer could be restored and conserved should be replaced with new materials. All new materials will be fabricated to match the profiles of the existing.

5. Condition Assessment of the Cultural Heritage Resource(s)

- Condition report of the cultural heritage resource(s) and specific attributes, identifying any deficiencies or concerns.

Previously discussed above.

- Detailed recommendations to mediate and prevent further deterioration. Direction as to use or change in use and how that relates to conserving the heritage attributes.

Previously discussed above.

- Outline opportunities and constraints with relation to all aspects of the project (i.e. budget, planning issues, public access, long term needs)

There are no planning issues or other similar considerations.

- Recommendations for conservation treatments that reference the framework provided in Parks Canada Standards and Guidelines for the Conservation of Historic Places In Canada.

See the attached Appendix A.

6. Building System and Legal Considerations

- Statement to explain the building and site use from a practical, logistical and legal perspective.

The building is being used as storage for the equipment and tools used for the maintenance of the property. There is no public access to the building.

- Input from structural, mechanical, electrical, planning, geotechnical, trades, and all other required fields of expertise to ensure the project is viable and sustainable. Building and site system review may include:

- Site Work (e.g. landscaping, drainage, servicing)

The condition of the existing structure was reviewed by a structural engineer during the initial condition assessment and emergency scope of work was development as well as required structural repair scope of work that is attached to this document.
See the attached Appendix B.

- Trees, shrubs, other plantings

There is no impact on trees and planting material in the vicinity of the building.

- Archaeological concerns and mitigation

Proposed scope of work does not include any excavation or disturbance of archaeological resources.

- Structural elements (e.g. foundation, load bearing)

The condition of the existing structure was reviewed by a structural engineer during the development of the design for the proposed repairs.
See the attached Appendix B.

- Building Envelope (roof, wall cladding, window type), Ontario Building Code, Accessibility

Previously discussed above.

- Mechanical, Plumbing, Electrical

No mechanical, plumbing or electrical work is proposed.

- Finishes and Hardware

New paint finish, metal flashing, eaves troughs shall match the existing.

- Fire Safety and Suppression

No fire safety or suppression work is proposed.

- Environmental Considerations, Lighting, Signage and Wayfinding, Security

The lighting, signage, wayfinding or security is not a part of this proposal.

- Legal Considerations (e.g. easements, encroachments, leasing, etc.)

There are no changes to existing arrangements proposed.

7. Work Plan

- Timeline to describe, in chronological order, to meet the objectives and goals Statement as to specialized trades or skills that will be required to complete the work

The work will consist of:

The proposed work is summarized above. This project will be tendered to the prequalified general contractors who have worked on the similar projects for the City of Mississauga.

- Proposed budget to meet and sustain the goals and timeline; long term and short term maintenance schedule

The funding for this project was allocated but budget has not been finalized. The City of Mississauga owns a number of heritage buildings and maintenance department is aware of the cost of maintenance.

- Monitoring schedule, process and identify those responsible for monitoring

Previously discussed above.

8. Qualifications

- Heritage Conservation Management Plans will only be prepared by accredited, qualified professionals with demonstrated experience in the field of heritage conservation

- Conservation Plans are usually a multidiscipline exercise whereby all consultants on the project must demonstrate accredited professionalism, experience and knowledge in their chosen field of expertise

9. Additional Information - Bibliography of all documentation resources - List of consultants and other professionals related to the project

A CV for Zoran Vondrus of Advantis Studio Consulting is included.

10. Additional Reports that may be required: - Archaeological report, Arborist's report, Structural engineering report

Previously noted above.

11. Approval Authority

The City of Mississauga will be the approval authority for a Heritage Conservation Management Plan

Appendix A

Commentary based on Parks Canada Standards and Guidelines
for the Conservation of Historic Places in Canada

APPENDIX A:

Commentary based on Parks Canada Standards and Guidelines for the Conservation of Historic Places In Canada

1. Conserve the heritage value of a historic place. Do not remove, replace or substantially alter its intact or repairable character-defining elements. Do not move a part of a historic place if its current location is a character-defining element.

All character-defining elements will remain. In order to replace deteriorated roof deck existing asphalt shingles will be replaced with new to match existing. Only damaged and deteriorated metal flashing will be replaced with new to match existing. Existing deteriorated components of the cupola will be replaced with new to match existing. Damaged and deteriorated wood boards and battens, as well as mortar joints at the ground floor exterior walls are proposed for replacement.

2. Conserve changes to a historic place that, over time, have become character- defining elements in their own right.

No changes to character-defining elements are proposed.

3. Conserve heritage value by adopting an approach calling for minimal intervention.

The proposed intervention to the building will be limited to the reinstating structural integrity of the wood frame system, repairs and replacement of the beyond repair deteriorated components of the building envelope.

4. Recognize each historic place as a physical record of its time, place and use. Do not create a false sense of historical development by adding elements from other historic places or other properties, or by combining features of the same property that never coexisted.

There is no attempt to create a false sense of development.

5. Find a use for a historic place that requires minimal or no change to its character-defining elements.

The ongoing use of the building appears to be an excellent and appropriate use.

6. Protect and, if necessary, stabilize a historic place until any subsequent intervention is undertaken. Protect and preserve archaeological resources in place. Where there is potential for disturbing archaeological resources, take mitigation measures to limit damage and loss of information.

As a result of the proposed work the watertight properties of the building envelope will be reinstated so this building will be protected.

7. Evaluate the existing condition of character-defining elements to determine the appropriate intervention needed. Use the gentlest means possible for any intervention. Respect heritage value when undertaking an intervention.

Proposed scope of work calls for removal of deteriorated materials and installation of new to match existing.

8. Maintain character-defining elements on an ongoing basis. Repair character- defining elements by reinforcing their materials using recognized conservation methods. Replace in kind any extensively deteriorated or missing parts of character-defining elements, where there are surviving prototypes.

The purpose of the proposed intervention is to restore and conserve the appearance of the existing building.

9. Make any intervention needed to preserve character-defining elements physically and visually compatible with the historic place and identifiable on close inspection. Document any intervention for future reference.

The proposed scope of work includes replacement of the deteriorated elements and repairs of those elements that are in such condition that could remain. The proposed scope of work does not include any character-defining element changes.
All proposed repairs and replacements would address urgently required work in order to achieve water tightness and correct the structural deficiencies.

Repairs and replacement in the interior of the building are limited to the urgently needed structural repairs.
All replacement elements visible from outside will be fabricated and installed to preserve character-defining elements physically and visually compatible with the historical building.

Appendix B

Building structural review

RG ENGINEERING LTD.
VICTORY BY DESIGN
2A PEARSON AVENUE, RICHMOND HILL, L4C 8T9
Tel:(905)763-6712 Fax:(905)763-9285 e-mail:r.reng@yahoo.ca

February 22, 2021

Advantis Studio Consulting Inc.,
997 Kipling Avenue,
Toronto, Ontario,
M9B 3L3

Attention: Zoran Vondrus

Re: Structural Review of parts of building
875 Enola Avenue, Mississauga
Our File No. 21-512

To Whom It May Concern:

At the request of Zoran Vondrus of Advantis Studio Consulting Inc., we visited the above noted site on Thursday, February 18th, 2021 in order to review the structural condition of the barn located at the property. Zoran Vondrus accompanied us during the visit.

The following report is based on visual observations only.

The building represents a two-storey wood framed structure with rubble stone walls at the perimeter of the ground floor and wood frame above.

We started our review with the interior of the ground floor.

The ground floor framing 2x10 @ 16" c/c joists were spanning in north-south direction between the rubble stone walls (or beam) and the intermediate wood beam. The north span is approximately 14'-6" and the south span is approximately 13'-4". The subfloor/floor has been constructed with layer of 2x8 and layer of 2x10 on top.

The existing central beam has been constructed with 10"x10" sawn lumber. The beam was done with several pieces with key-connections. This beam is supported by 3 wood columns. The beam spans vary from 17'-6" at west to 20'-6" in the middle.

The middle portion of the beam had been reinforced in the past with 2 steel plates of 10"x ¼" connected with through bolts @ 28" staggered.

Previously, this beam was supported by greater number of columns, with spans not exceeding approximately 13'.

R. ROBTSER, B.SC., P.ENG.

The floor joists, in our opinion, are in acceptable condition, though there was a noticeable deflection at the north bay. We checked the existing joists with mechanical equipment occupancy load of 75psf (3.6 KPa), and in our opinion, the south bay of joists is acceptable, and the north bay joists require reinforcement.

The wood beam shows significant deflection. We also found at least one area of decay and crack that suggest the beam failure.

We checked the existing beam with mechanical equipment occupancy load of 75psf (3.6 KPa), and in our opinion, the beam fails. **In our opinion, the existing condition is not safe! We recommend installing temporary shoring immediately.**

The situation should be reviewed by a professional engineer and proper structure shall be designed.

Then we reviewed the roof structure.

The roof structure is a gable in north-south direction, supported by purlings. The structure is supported by 4 wood trusses, 2 middle and at each end.

The structure, overall, is in acceptable condition. However, there was a missing middle post under the west middle truss. Also, the connection of the middle wood columns should be checked, because we did not find any solid blocking or other supports under the existing wood column at east middle frame.

We noted many areas of empty, loose or cracked mortar joints in the rubble stone walls. In our opinion, they require re-pointing.

Finally, we reviewed the north entrance ramp.

The 2x12 @ 16" c/c joists were spanning in north-south direction, supported by concrete wall at north and 2 wood frames. The mid-frame on two posts is more narrow than the ramp. The south frame is supported by 4-6x6 posts and 6x6 beam on top. It is approximately 20" off of the barn wall, and 5' off the mid frame.

The existing concrete wall, in our opinion, is in acceptable condition.

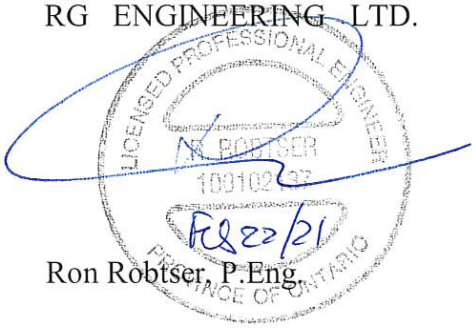
We checked the existing ramp with exit bridge load of 100psf (4.8 KPa), and in our opinion, it is not adequate and requires reinforcement or replacement.

This concludes our report.

Use of this report by any third party or any decisions or reliance based on this report by such parties shall be solely their responsibility.

Respectfully yours,

RG ENGINEERING LTD.



Ron Robtser, P.Eng.

South Bay of Ground Floor Framing (2x10)

Reinforced Beam of Ground Floor Framing

Decayed Area of Ground Floor Framing Beam

Exterior Wall To Be Re-pointed

North Portion of the Ramp

South Portion of the Ramp

APPENDIX C

Photographs and Drawings


Images of southwest & south elevation – previously replaced boards and battens at south elevation


Images of southeast & east elevation – previously replaced boards and battens at south elevation


Images of northeast & north elevation


Images of northwest & west elevation







Images of typical deterioration found at the barn door located at the north elevation


Images of typical board and batten deterioration found





Images of typical board and batten deterioration found

Images of typical board and batten details - recently replaced assembly at the south elevation

Images of typical mortar joints deterioration found

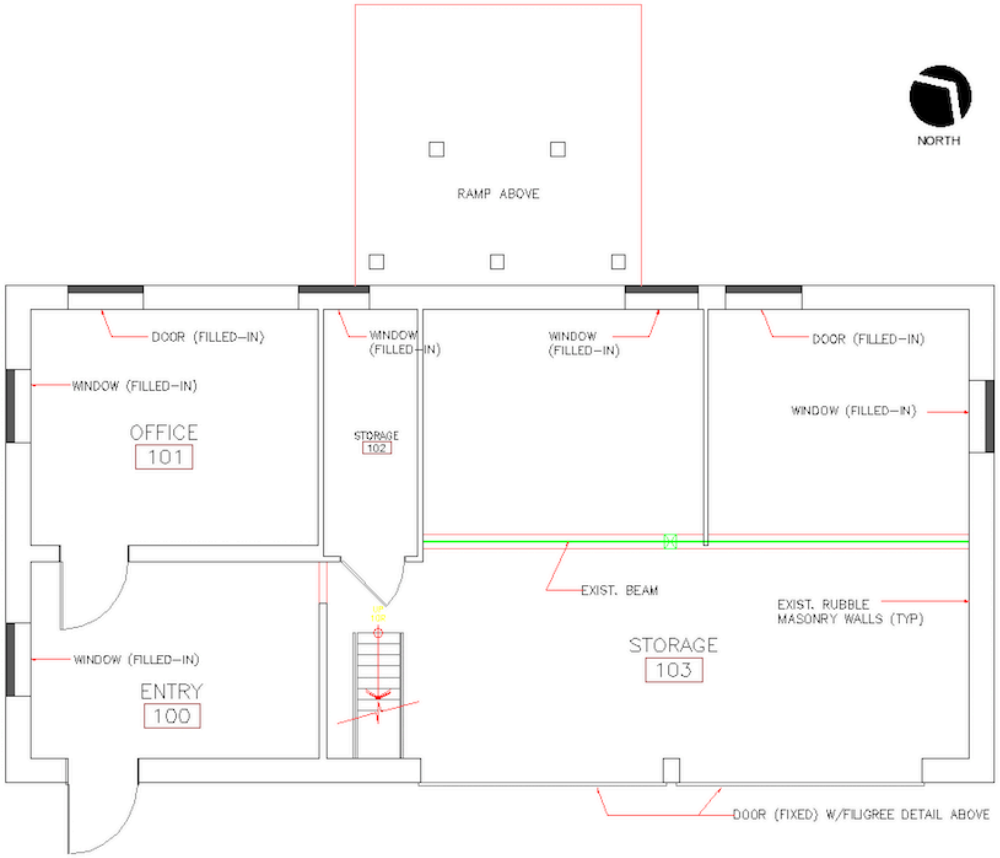
Images of typical mortar joints deterioration found at the east and north elevation



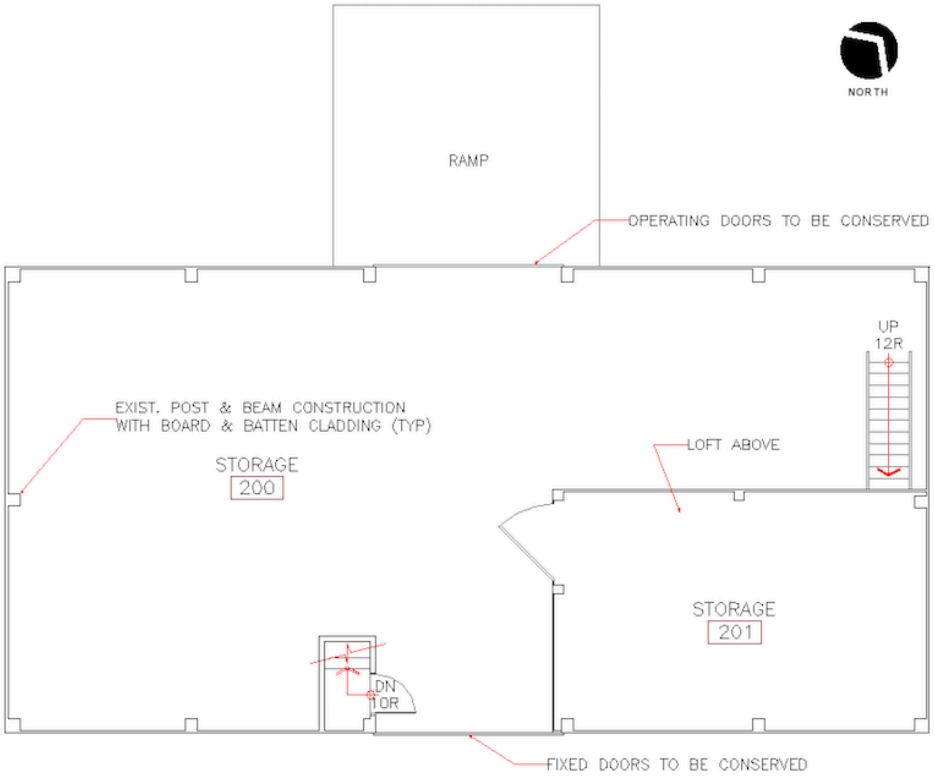
Images of typical mortar joints deterioration found at the north and west elevation

Images of typical mortar joints deterioration found at the south elevation

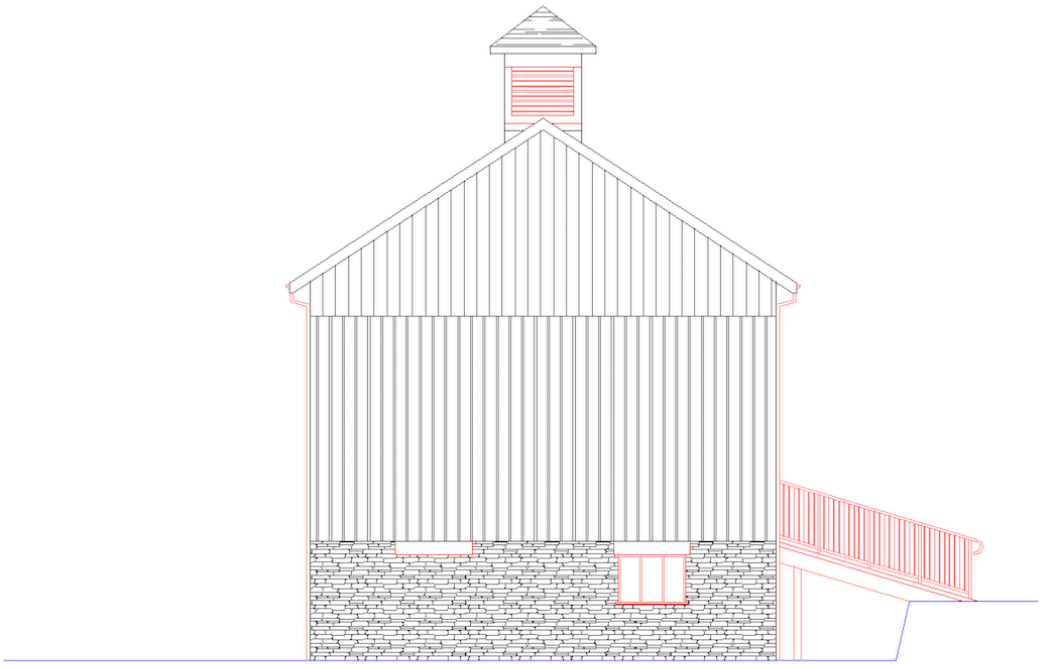
Images of typical mortar joints deterioration found at the south elevation



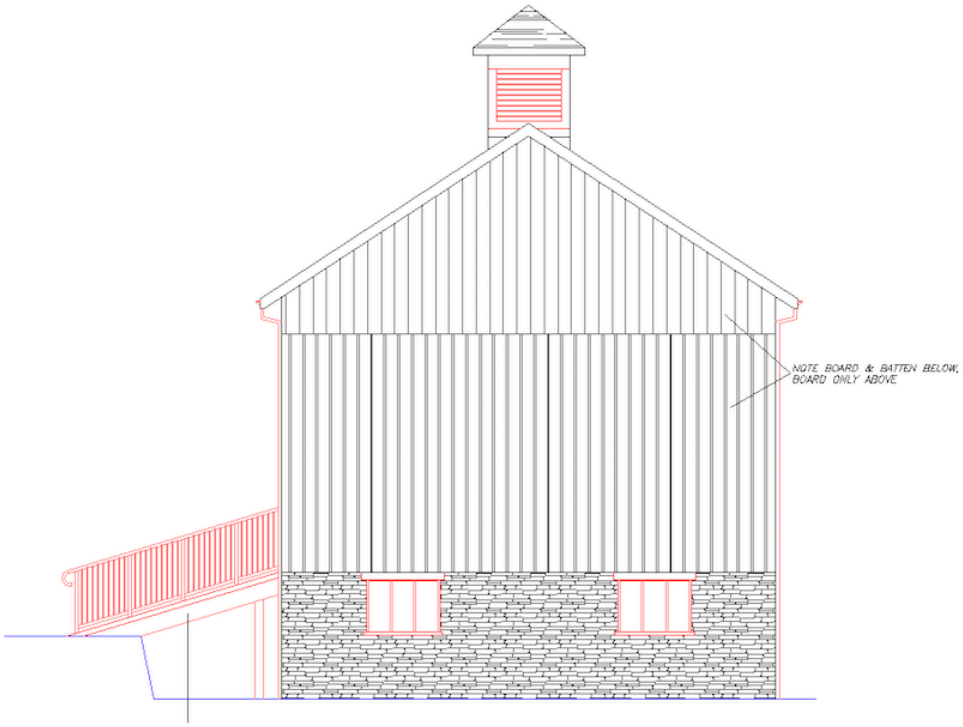
GROUND FLOOR PLAN



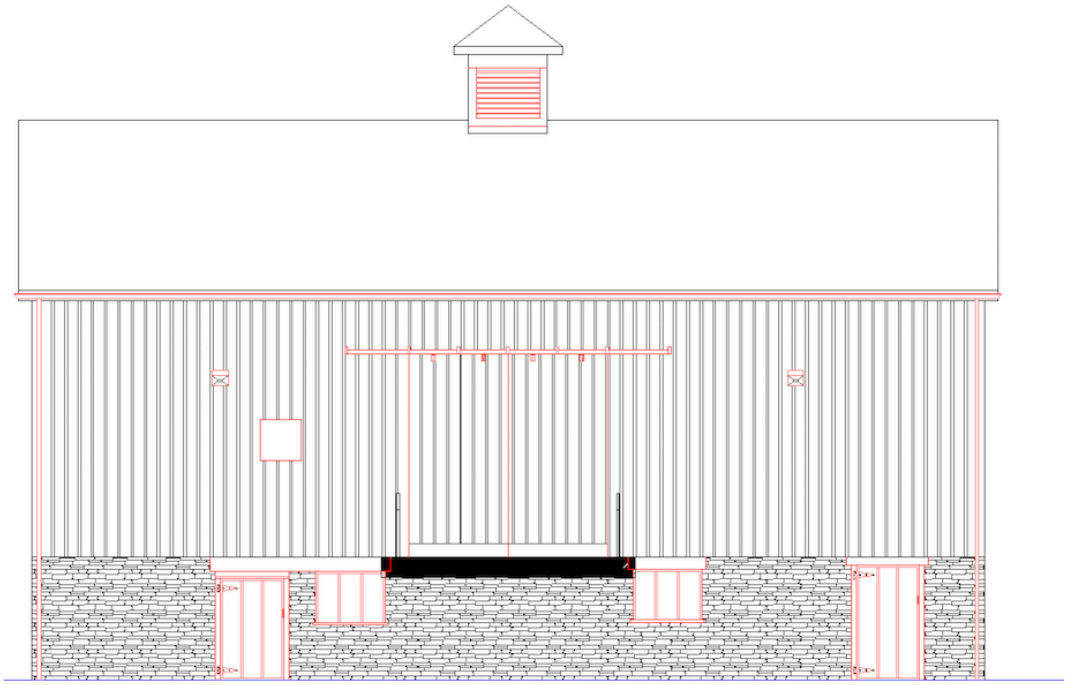
SECOND FLOOR PLAN



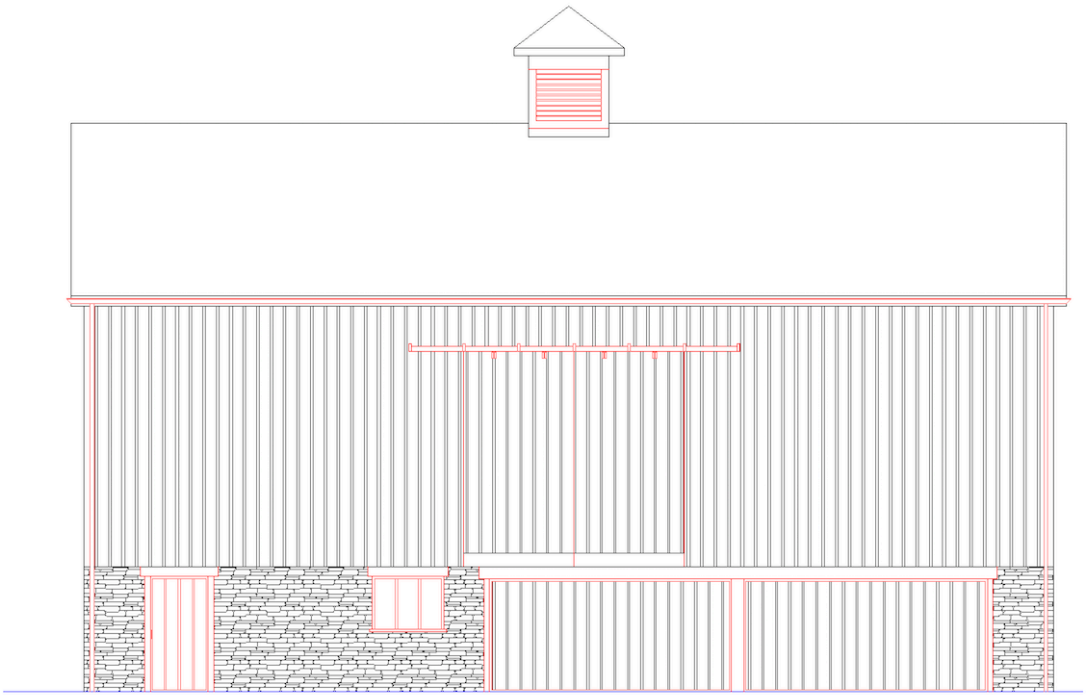
EAST ELEVATION



WEST ELEVATION



NORTH ELEVATION



SOUTH ELEVATION

Appendix D

Corporate Profile

Project Leader Curriculum Vitae

CORPORATE INFORMATION – CORPORATE PROFILE

About us…

Advantis Studio Consulting Inc. is a firm dedicated to advancement of building science technology through the design and maintenance of building envelope systems.
Founded in 1994, the company has been serving institutional, commercial, industrial and government organizations. The company offers a full range of building envelope services that provide innovative, affordable solutions to the resolution of building envelope deficiencies. The team was formed to develop required design for the large and complex projects as well as deliver a rapid response service for the design of an urgently needed repair or replacement project, when required by our clients.
The members of the team have diversified backgrounds in building science, condition assessment, design, construction, testing and computer technology and draw on over 100 years of experience in building envelope projects for the optimal resolution of building envelope deficiencies.

Since 1994 the company has been engaged in the building envelope projects providing services that include following:

- Development of building envelope design and site review during the construction.
- Building envelope deficiencies and failures investigation
- Destructive test sampling
- Thermo-graphic scan
- Building envelope analysis, life cycle costing and life expectancy analysis
- Maintenance surveys and maintenance program developments
- Forensic engineering and expert testimony
- Feasibility studies
- Review and coordination of architectural design and building envelope details

With over 25 years of providing services in building science, Advantis Studio Consulting Inc. offers a wealth of expertise in condition evaluation, design and quality assurance during construction.

In 2009 our team assisted in quality assurance on $148,000,000.00 Sunnybrook Hospital addition project providing site review during installation of roof assembly, wall cladding assembly, window assembly, vapour barrier and fireproofing insulation.

Last year our team worked on several projects for City of Mississauga and completed successfully on time and budget. This year we have completed design for six projects that included wall assemblies repairs, window, skylights and roof assemblies repairs and replacements.

Advantis Studio has a record of successfully completing projects of historical and cultural importance, both in Canada and abroad. Most recently, we have designed a family home in Croatia. The project site is located inside a fourteenth-century fortification currently under consideration for the UNESCO World Heritage List. The approved design was created with great sensitivity to the building's surroundings, as well as respect for the remnants of the original structure, which was constructed in the seventeenth century. Advantis Studio has been working on a further two projects in this area, originally dating between the sixteenth and seventeenth centuries with the same level of care and consideration.

Closer to home, we have been involved in the replacement of a slate roof at McMaster University in 2015. The graduated grey and green slates were originally installed in the early twentieth century, presenting us with a project that involved extensive communication and collaboration with the owner to ensure the careful preservation of such a culturally valuable site. Advantis Studio undertakes such heritage projects with the aim to protect and celebrate their architectural significance.

Providing services to Toronto and Peel District School Board, York University and other clients in over 25 years we completed more than 2000 projects and had only a few change orders (due to unknown condition of the existing building envelope systems). In 2014 Advantis Studio designed and project managed 126 roof replacement and repair projects, 8 window replacement projects, 2 door replacement projects and 5 wall other building envelope projects on time and budget. There were no change orders and extras.

We are confident our team has the long-standing experience needed to successfully deliver building sciences services for this project.

Zoran Vondrus B.Arch.

Total Number of Years Experience: 35 (26 years at Advantis Studio)

Senior Consultant, Project Manager

Responsible for the day to day operations of Advantis Studio and the provision of select building science products to clients: cost estimating, budgeting, condition reporting and preparation of tender documents.

York University

- Roof replacement projects at Atkinson College Building, Behavioral Sciences Building, Academic Building, Health, Nursing & Environmental Studies Building, York Hall Glendon Campus Building, Graduate Residences Building, 2 Assiniboine Residences Building and 6 Assiniboine Residences Building. Evaluated condition of existing roof assemblies in the process of preparing budget estimates.
- Developed the construction documentation.
- Provided design and drafting assistance to York University team in developing construction documentation for Winters College basement, first and second floor interior renovation.

McMaster University

- Roof replacement and wall assembly repair projects at Hamilton Hall, Chester New Hall, Gilmour Hall, Keneth Taylor Centre, University Hall, A.N. Burns Science Building, H.G. Thode Library Building.
- Designed the technical documentation for construction and maintenance of the building envelope components.
- Worked with the administrators and university staff, project supervisors, and contractors to ensure that the design and construction meet all university needs.

Peel District School Board

- Assisted in establishing a program that resulted in detailed building condition assessments, provided assistance to the Maintenance Department in development of proposed project lists for over 280 projects.
- Designed the technical documentation for construction and maintenance of the building envelope components.
- Worked with the administrators and school staff, project supervisors at the maintenance and the construction department, and contractors to ensure that the design and construction meet all school needs.

Toronto District School Board

- Visited numerous schools and evaluated the condition of the building envelope components in the process of preparing budget. Prepared the 1998-2019 Conservation Maintenance Project List for the building envelope components.
- Designed the technical documentation for construction and maintenance of the building envelope components. Undertook the completion of all construction documentation.
- Advised in-house trades and operations providing technical support for the resolution of repair difficulties. Provided assistance to the Maintenance Department work group in establishing a procedure for reporting roof leaks and scheduling repairs. During the implementation of this project successfully prepared tender documentation for emergency roof repairs tender, and assisted in the tender evaluation process.
- Helped in establishing the fast track process for emergency projects. As a part of this process, performed field reviews of the school building envelopes, on site material sampling and investigations.

City of Mississauga

- Following destructive and non-destructive roof condition assessment established a scope of work and budget for skylight and roof replacement at Central Library, City Hall and fifteen other sites. Designed the technical documentation and reviewed on site the roof replacement.
- Designed the technical documentation for several building envelope projects in last several years.

Moffet & Duncan Architects Inc., Moffat Kinoshita Architects, Taylor Smyth Architects, Robbie/Young+Wright IBI Group Architects, CS&P Architects, Bruce Straton Architects, HOK, G&G, SedArc Incorporated Architects, Snyder Architects, Stafford Haensli Architects Inc., Hossack & Associates Architects, and many others.

- Worked on a wide variety of projects collaborating with great teams designing building envelope components including those of McBride Public School, Thornwood Public School, James S Bolton PS, Macville PS, Ridgeview PS, Vista PS and Clark Boulevard Public School, Sunnybrook Hospital, Glenforest SS, Progress House Shelter Retrofit etc .
- Provided building science expertise in designing building envelope components.

MCD Design Group Ltd.

Prepared and coordinated with other major disciplines, working drawings, including those for the Ministry of Health building in Kingston, Ontario, Marathon Realty Ltd. corporate offices in Toronto, and Collingwood General and Marine Hospital.

Trow Consulting Engineers Ltd., Coffey Geotechnics Inc., Technology Support Services Inc. & SPL Consultants Ltd.

Working for Building Science & Rehabilitation Group providing design, site review and project coordination for roof replacement projects and other building envelope components.

Education

Roof Consultants Institute Inc.
Wind, Drainage & Advanced Thermal and Moisture, Humber College, Toronto

Roof Consultants Institute Inc.
Advanced thermal calculation methods, including: annual energy estimates, cooling loads calculations, and calculations of temperatures within cross-sections
Cool and reflective roofing technology
Principles of moist air and the effects of moisture on building insulation and other materials
Fundamentals of using vapor retarders and air barriers
Mold concerns associated with roofing and building envelope designs

Roof Consultants Institute Inc.
Rooftop Quality Assurance, Humber College, Toronto

Ryerson University
Building Science for Architectural Preservation and Conservation

University of Sarajevo
Bachelor of Architecture

Associations and Memberships

Professional Member: RCI, Incorporated. The Institute of Roofing, Waterproofing & Building Envelope Professionals (RCI).
Professional Member: Ontario Building Envelope Council (OBEC).