



**TOWN OF LUNENBURG
RFP #TOL2024015**

REQUEST FOR PROPOSALS
Lunenburg Academy Roof Upgrades

Proposals will be received no later than:
2:00 p.m. LOCAL TIME
Friday May 17, 2024

Addressed to:
Cali Beck, BBA, PCP
Procurement Officer
Town of Lunenburg
119 Cumberland Street
Lunenburg, NS B0J 2C0

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1.0 GENERAL TERMS AND CONDITIONS

Section 1 of this proposal document sets out a summary of requirements and outlines the general terms and conditions. The Town of Lunenburg shall be referred to as the “Town” throughout this document.

1.1 Purpose

The Town is seeking proposals with regard to the preparation of a tender package, complete with drawings and specifications for the Lunenburg Academy Roof Upgrades, with supplying Class “A” cost estimates, Tendering support, and construction support, as further specified within this Request for Proposal (RFP).

This RFP sets out the instructions for submitting proposals and procedures and criteria by which the successful Proponent may be evaluated, subject to the Town’s overriding discretion to determine what is in its best overall interests.

This RFP is a non-binding process. The successful Proponent may be invited to negotiate to enter into an agreement with the Town for the provision of Services.

The information contained in this RFP is supplied solely as a guideline for Proponents. While every reasonable attempt has been made to ensure its accuracy, the Town does not guarantee or warrant its accuracy.

1.2 Proposal Submissions

Any change notices, appendices and addenda issued for this RFP shall be considered part of this proposal document. The proposal is to be submitted, clearly marked with “**Lunenburg Academy Roof Upgrades RFP**” and proposal document number **TOL2024015**, to Cali Beck, Procurement Officer at 119 Cumberland Street, Lunenburg, NS, B0J 2C0 before the closing time on the closing date (Closing Time). Proponents must submit one (1) PDF copy via email to purchasing@townoflunenburg.ca or on a USB drive. Erasure, overwriting or strike-outs must be initialed by the person signing on behalf of the Proponent. Proposals will not be accepted after the Closing Time. The Town shall have the right in its absolute and unfettered discretion to determine whether a proposal has been received prior to the Closing Time. Proposal prices must remain open and available for acceptance by the Town for 90 days after the Closing Time. All proposals shall become the property of the Town of Lunenburg. It is the responsibility of each Proponent to submit all required documents as outlined in this RFP. Failure to quote on all options set out may disqualify your proposal.

1.3 Irrevocable Offer

The Proponent hereby acknowledges that offers contained within your response to this RFP shall remain open for acceptance by the Town of Lunenburg for a period of not less

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than ninety (90) days from the Closing Time specified in Section 1.6. Proponents may not make modifications to their Proposals after the Closing Time.

1.4 Proposal Costs

The Proponent shall be solely and fully responsible for all costs associated with the development, preparation, transmittal, submission of proposal, and any work performed prior to official appointment by the Town of Lunenburg.

1.5 Municipal Contact for RFP

It shall be the Proponent’s responsibility to clarify any points in question with the Town of Lunenburg prior to submitting the proposal. Deadline for all inquiries is May 14, 2024, at 4:30pm. Inquiries regarding the specifications of the RFP and the RFP process should be directed to:

Name: Cali Beck
Title: Procurement Officer
Email Address: purchasing@townoflunenburg.ca

If a Proponent discovers any inconsistency, discrepancy, ambiguity, error, or omission in this Request for Proposal, they must notify the Town of Lunenburg immediately in writing.

Any revision to this Request for Proposal will be issued as an addendum to all known potential Proponents.

Please check the Town website townoflunenburg.ca/purchasing.html to determine if any addendums have been issued prior to the submission deadline. RFP and addendums also posted on the Nova Scotia Procurement Portal, at <https://procurement-portal.novascotia.ca/>.

1.6 Opening

Proposals will only be received by:

Name: Cali Beck
Title: Procurement Officer
Email Address: purchasing@townoflunenburg.ca

One (1) PDF copy of your proposal must be received by email prior to **2:00 p.m.** local time, **Friday May 17th, 2024**. Proposals will be signed by an official authorized to bind the document. Proponents will provide the name(s), title(s), address, and telephone number of the individual(s) to be contacted during the evaluation process. Proposals received later than the specified Closing Time may be returned unopened to the Proponent.

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There will not be a public opening for this RFP. As this is a proposal document for which a number of criteria will be evaluated, only the names of the Proponents who have submitted a proposal will be identified after the opening, upon request.

1.7 Selection Process

Selection – Subject to Section 1.10 of this RFP, the Town will not necessarily accept the lowest price or any proposal. Any implication that the lowest price or any proposal will be accepted is hereby expressly negated. The successful Proponent(s) will be selected based upon evaluation criteria developed by the Town which in its sole discretion will determine the manner in which each response to this RFP meets the evaluation criteria. The proposal may be awarded to one Proponent only or more as the Town determines.

Evaluation Process

The evaluation process involves three stages:

Stage 1: Assessment of Mandatory Submission Requirements

Proposals received by the Submission Deadline will be assessed to determine which fulfill the mandatory submission requirements of this RFP. Proposals that are not completed in accordance with the requirements of this RFP will, in the Town's sole discretion, be disqualified and not evaluated further.

Stage 2: Evaluation of Proposals and Ranking of Proponents

Each Proposal that fulfills the mandatory submission requirements will be evaluated in accordance with the evaluation criteria. The evaluation committee reserves the right to perform any of the following and to take the information obtained into account in evaluating a Proposal:

- Seek clarification or verify information provided by a Proponent with respect to this RFP;
- Interview either via teleconference or at the Town's offices any or all of the Key Personnel proposed by a Proponent; and
- Request additional detail(s) on any element(s) of any submission(s).

Stage 3: Assessing Past Performance

A Proponent's record of past performance will be a factor in the Town's determination of the Proponent's qualifications to provide the Services. The record of past performance of the top-ranked Proponent will be assessed.

The Town may, at its discretion, contact the references provided by the top-ranked Proponent and may consult those who have had dealings with the Proponent or proposed Sub-contractors. The Town may determine, in its sole and absolute discretion, that a

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Proponent's record of past performance is unsatisfactory based on factors which may include, but are not limited to:

(a) A Proponent or proposed Sub-contractor is debarred from participating in the public procurement process of any of the following:

- Another municipality in Nova Scotia;
- A department, branch or division of Nova Scotia;
- A Nova Scotia Crown Corporation or agency; or
- An academic institution, health authority or other entity providing education, health or social services funded by Nova Scotia.

(b) A Proponent's performance of a project or agreement for which a reference was checked by the Town was unacceptable, deficient, improper, incomplete or late according to such reference.

(c) A Proponent or proposed Sub-contractor is a party to a legal proceeding that discloses or concerns improper, incomplete or negligent implementation of a project or part of a project or failure to comply with the term or condition of the agreement governing the project, and such legal proceeding has been initiated by any of the following:

- Another municipality in Nova Scotia;
- A department, branch or division of Nova Scotia;
- A Nova Scotia Crown Corporation or agency; or
- An academic institution, health authority or other entity providing education, health or social services funded by Nova Scotia.

(d) A Proponent or proposed Sub-contractor has initiated a legal proceeding against any entity listed above, and the Town is of the opinion that its existence is likely to adversely affect working relationships under the Agreement.

If the Town determines that a Proponent's record of past performance is unsatisfactory, the Town may, in its absolute discretion, disqualify the Proponent and reject the Proposal. If a Proponent is disqualified on the basis of past performance, the Town may proceed to assess the past performance of the next-best-ranked Proponent.

Evaluation Criteria – Subject to Section 1.10 of this RFP, each response to this RFP will be evaluated by the Town to determine the degree to which it responds to the requirements as set out herein. Because this is an RFP other factors in addition to price will be considered when submissions are evaluated.

Please indicate any requirements not met in your proposal with a brief description and reasons therefor.

The Town will read, review and evaluate each proposal. The below evaluation criteria table should be used as a reference only. The Town may in its sole and absolute discretion use or alter the below criteria or use some other evaluation criteria in its entirety.

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Selected Proponents may be asked to make a presentation of their proposal to the Town’s selection team.

Evaluation Criteria	Percentage
Knowledge, experience, and technical competence of the Proponent.	15%
Knowledge, experience, and technical competence of the proposed project team members as well as their ability to complete all RFP components.	25%
Demonstrated understanding of project, work plan, and methodology	25%
Price – value for money	25%
Project timeline	10%
TOTAL	100%

The selection team may make a recommendation to Town Council for the award of this RFP or components thereof.

1.8 Modification and Withdrawal of Proposals

Proposal prices must remain open and available for acceptance by the Town for 90 days after the Closing Time. Proponents may not make modifications to their proposals after this. Proponents will not have the right to change conditions, terms or prices of the proposal once the proposal has been submitted in writing to the Town. All proposals shall become the Town’s property. It is the responsibility of each Proponent to submit all required documents as outlined in this RFP.

1.9 Requests for Information

All inquiries and requests for clarification (“Requests for Information”) must be directed to the RFP Contacts and received in writing during the Request for Information Period, from the RFP release date to May 14, 2024 at 4:30pm. If the Town, in its sole discretion, determines that a Request for Information will be of interest to all Proponents, it will be communicated via a written addendum prior to the Submission Deadline. The Town assumes no responsibility for verbal instructions and any such responses are only binding when confirmed by written addenda.

If a Request for Information is received after the Request for Information Period, the Town may respond but is not obligated to provide a response. If a Proponent has sent a Request for Information and has not received an acknowledgement, the Proponent should follow up with the RFP Contacts. The Town is not responsible if a Proponent’s inquiry does not reach the Town by the close of the Request for Information Period.

1.10 Acceptance and/or Rejection of Proposals and Reservation of Rights

The Town reserves the right to:

- (a) make public the names of any or all Proponents;

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- (b) waive minor formalities that do not constitute mandatory submission requirements or mandatory technical requirements;
- (c) verify with any Proponent or with a third party any information set out in a Proposal;
- (d) suspend or cancel this RFP at any time for any reason without penalty;
- (e) modify the terms of this RFP at any time in its sole discretion;
- (f) reject any and all Proposals or accept any Proposal or part thereof and may award all or a portion of the work to one or more Proponents;
- (g) accept a Proposal other than the highest scoring Proposal;
- (h) name a successful Proponent on the basis of initial offers received or to further request from Proponents a “best and final offer”;
- (i) reject any or all Proposals and to award the contract in its entirety, or in part, whichever, in its opinion, best serves the interests of the Town;
- (j) waive any informalities, formalities, technicalities or to reject any or all Proposals based on incomplete proposals, the Proponent’s lack of proven experience, performance on similar projects or the suitability of proceeding with the execution of the work;
- (k) reject the proposal of any Proponent if, after an investigation of the information submitted by the Proponent, the Proponent fails to satisfy the Town that the Proponent is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein;
- (l) issue a new RFP for the same or similar Services;
- (m) amend the RFP by posting written addenda no later than 48 hours before the submission deadline, which Proponents are responsible for accessing and reviewing. RFP and addenda are posted at <https://www.townoflunenburg.ca/purchasing.html> and on the Nova Scotia Procurement Portal at <https://procurement-portal.novascotia.ca/>.
- (n) accept a proposal that is not strictly compliant with the instructions in the RFP document.

The Town is not under any obligation to award a contract and reserves the right to terminate this RFP at any time for any reason, and to withdraw from discussions with all or any of the Proponents who have responded. The receipt and opening of a proposal does not constitute acceptance of any proposal.

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The Town reserves the right to negotiate, after the RFP Closing Time, with any Proponent to finalize service arrangements in the best interests of the Town. Any negotiations will not constitute a legally binding offer to enter into a contract on the part of the Town or the Proponent. Negotiations may include requests by the Town for supplementary information from the Proponent to verify, clarify or supplement the information provided in its Proposal or confirm the conclusions reached in the evaluation and may include requests by the Town for improved pricing or performance terms from the Proponent. The Proponent and the Town shall conduct all negotiations expeditiously. Should either party decide at any time that negotiations are not proceeding satisfactorily, either party may cease negotiations without prejudice.

The Town shall not be bound by trade or custom in dealing with and/or evaluating the responses to the RFP. The Town reserves the right to interpret any and all aspects of this RFP as may be most favorable to the Town.

Proponents will be deemed to have familiarized themselves with existing conditions and any other conditions which may affect performance of the contract. No plea of ignorance of such conditions as a result of failure to make all necessary examinations will be accepted as a basis for any claims for extra compensation.

The submission of a Proposal shall be considered agreement to all the terms and conditions provided herein. Any Proposal containing exceptions to the terms and conditions of the RFP or the resulting contract may be rejected by the Town for non-compliance.

Proponents hereby irrevocably waive any claim against the Town for compensation of any kind whatsoever as a result of its participation in or providing a response to this RFP process, including without limitation any claim for costs of proposal preparation or participation in negotiations, or for loss of anticipated profits, whether based in contract including fundamental breach, tort, equity, breach of any duty, including, but not limited to breach of the duty of fairness, breach of any obligation not to accept non-compliant proposals or any other cause of action whatsoever.

In submitting a proposal, the Proponent has accepted the reservation of rights as set out herein and agrees to be bound by same.

1.11 Governing Law and Jurisdiction

Any contract resulting from this RFP shall be governed by and interpreted in accordance with the laws of the Province of Nova Scotia. Any disputes shall be determined in the courts of Nova Scotia.

1.12 Proposal Form and Content

The attached Proposal Form (3.0) must be completed and submitted with all proposals for consideration. Failure to complete and submit the proposal form could lead to the rejection of the proposal.

The Proposal content should be organized in the same sequence as the Proposal contents set out below. Proposals may be given a lower evaluation rating if this sequence is not followed in content submission.

A Proponent should ensure that information provided in its Proposal is stated clearly and concisely. Simplicity and clarity of responses are important. Proponents should avoid including extraneous or irrelevant information.

The entire content of the Proponent's Proposal must be submitted in a "fixed form" in that the content of websites or other external documents referred to in the Proponent's Proposal but not attached will not be considered to form part of its Proposal.

Proponents are advised to carefully review the evaluation criteria set out in this RFP prior to preparing their Proposals in response to this RFP.

The Proposal should include the following:

- An organizational chart of the proposed project team;
- Information about the Proponent's related municipal experience (including specific projects);
- Information about the Proponent's experience in providing services comparable to those requested in this RFP within the last 5-10 years; Including a minimum of two relevant project references. Proponents must provide the corporate contact information including name, title, organization, address, phone/cell and email.
- For the Proponent and each of the Sub-contractors, provide resumes for each of the key personnel listed (including those proposed to have direct responsibility to principal management of the Proponent), which includes commentary on their ability, expertise and suitability for the Services and ability to work collaboratively in providing the Services. Resumes shall include, at a minimum, the following:
 - Name and credentials;
 - Training and experience;
 - Position in firm; and
 - Area of practice in the firm
- The use of Sub-contractors is acceptable, provided the Sub-contractors report directly to the Proponent and the Proponent agrees to be held responsible for the actions and performance of the Sub-contractors and their respective officers,

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employees or agents. Sub-contractors, if to be used, must be identified in a Proponent's Proposal and cannot be changed without the approval of the Town. Where no list of Sub-contractors is submitted, it is deemed that the Proponent will use its own forces to perform the Services.

- Proponents should provide a detailed project work plan which outlines the deliverables to be provided, timelines, and the Proponent's methodology for proceeding with the various stages of the Services. The work plan should include sufficient detail to ensure that the merits of the work plan and the likelihood of success can be evaluated. It should further include information on specific activities, tasks and timeframes and allocated human resources for each activity and stage of the Services;
- Services that do not directly meet the Services requested, but which the Proponent feels will benefit the Town's strategic or operational objectives, should be submitted under a separate section labeled "Additional Services" and priced separately in the Proponent's cost submission;
- Proponents should describe their project management methodology, including:
 - Methods of cost control throughout all stages of providing the Services;
 - Method of schedule control throughout all stages of the Services, including but not limited to, establishing and tracking of milestones, provision of adequate consultant resources to the project within the current and future workloads of the Proponent and Sub-contractor entities; and
 - Information on monitoring and reporting systems, performance measurements and quality control.
- Proponents are encouraged to prepare a Proposal that will provide the best possible results. Proponents should provide a detailed assessment of the potential risks and a mitigation plan for ensuring the Services are delivered in accordance with the requirements of this RFP.
- Provide a total detailed estimated cost including fees, expenses, and disbursements. Provide a schedule of fees for professional services, plus disbursements, including an estimate of the amount of time each member will devote to a particular task, and an estimate cost of each budget item.

1.13 Freedom of Information and Protection of Privacy Act

The Town of Lunenburg is subject to the Municipal Government Act provisions relating to the freedom of information and protection of privacy provisions Freedom of Information and Protection of Privacy Act (FOIPOP) and associated Provincial legislation. Any proposal submitted to the Town may be required to be disclosed publicly if any request is

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to be made under FOIPOP. All proposals received in response to this RFP will be considered public.

1.14 Insurance Requirements

The successful Proponent shall at its own expense obtain and maintain until the completion of the contract and provide the Town with a Certificate of Insurance providing proof of:

- a. Professional Liability insurance covering the work and services described in this Agreement for an amount not less than \$2.0 Million per occurrence;
- b. Comprehensive General Liability insurance for an amount not less than \$2.0 Million per occurrence;
- c. Automobile Liability insurance for an amount not less than \$2.0 Million covering all vehicles used in any manner in connection with the performance of the work described in this RFP.

1.15 Conflict of Interest

The Proponent warrants that no conflict of interest exists with any Town staff, Council or Committee member regarding their RFP submission or with the Town's evaluation process. Should a conflict of interest exist or arise, the Town at its sole discretion may disqualify the proposal submission and/or contract as applicable.

1.16 Nova Scotia Worker's Compensation

The successful Proponent must be registered and remain in good standing with NS WCB throughout the term of a contract issued pursuant to this RFP.

1.17 Human Rights Act

The successful Proponent shall ensure full observance of the NS Human Rights Act in all dealings related to this project.

1.18 Ownership of Data and Information

All data, other information and all resulting reports and materials prepared by the successful Proponent shall be the exclusive property of the Town who reserves ownership rights to all ideas, plans, concepts, etc.

1.19 Representations and Warranties of the Proponent

By submitting a proposal, the Proponent represents and warrants that:

- (a) It has read, understood and considered this RFP and all associated addenda prior to the Submission Deadline.

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(b) Such Proposal is genuine and not false or collusive or made in the interest or on behalf of any person not therein named, and that the Proponent has not, directly or indirectly, induced or solicited any other Proponent to put in a false bid, or any other person, firm or corporation to refrain from bidding, and that the Proponent has not in any manner sought by collusion to secure to the Proponent an advantage over any other Proponent.

(c) It has sufficiently informed itself in all matters affecting the performance of the work or the furnishing of the labour, supplies, materials, equipment or service called for in the procurement documents.

(d) It has checked its Proposal for errors and omissions.

(e) The amounts stated in its Proposal are correct.

(f) It is familiar with and will abide by all Federal and Provincial laws and regulations and all bylaws and policies of the Town that may affect the performance of the Proponent in fulfilling the contract or the persons engaged or employed in the performance of the Agreement, including but not limited to the NS Environmental Facility Classification Standards, the provincial erosion and sedimentation control measures/guidelines, all environmental legislation and guidelines, and any other such legal requirements that are relevant to the Services.

1.20 No Contract “A” and No Claims

This RFP process is not intended to create and shall not create a formal, legally binding bidding process and shall instead be governed by the law applicable to direct commercial negotiations. For greater certainty and without limitation:

(a) This RFP shall not give rise to any Contract “A” based tendering law duties or any other legal obligations arising out of any process contract or collateral contract; and

(b) Neither the Proponent nor the Town shall have the right to make any claims (in contract, tort or otherwise) against the other with respect to the outcome of the RFP process, including any decision by the Town to enter into an Agreement with a Proponent, any decision by the Town not to enter into an Agreement with a Proponent or a decision by a Proponent to withdraw its Proposal.

(c) The Town makes no guarantee of the value or volume of work to be assigned to the successful Proponent. The Agreement may not be an exclusive contract for the provision of the described Services. The Town may contract with others for goods and services the same as or similar to the Services or may obtain such goods and services from the Town’s own resources.

2.0 SPECIFICATIONS AND REQUIREMENTS

2.1 Background and Overview

The Lunenburg Academy is a National Historic Site of Canada. All interventions must meet the Standards and Guidelines for the Conservation of Historic Places in Canada. Currently, the roof of the Lunenburg Academy leaks in several locations during rain events. A Building Envelope Assessment was completed on the Lunenburg Academy in 2023, see Attachment A. It has been determined from both visual assessment and the Building Condition Assessment, that several roofing systems require upgrades to stop water damage to this building and ensure the long-term structural integrity of critical roof sections.

It is important to note that no destructive testing was undertaken as part of the 2023 Lunenburg Academy Building Envelope Assessment Report.

2.2 Scope of Work

The intended scope of work for construction this Project includes:

(a) Localized Shingle and Roll Roof Repair and Replacement In-Kind

Localized shingle repairs and roll roof replacement are imperative to address reported leaks near the roofs of all four towers and five remaining dormers at the Lunenburg. On the South Elevation and partially on the East Elevation, roll roofing portions were replaced with lead-coated copper flashing in 2018 and remain in good condition. Thus, the scope of this project encompasses replacing the remaining deteriorated roll roofing sections on all four elevations. This also includes cedar shingle replacement as needed and replacement lead-coated copper flashing to ensure a comprehensive and watertight restoration.

(b) Bitumen System Replacement

The two-ply SBS modified Bitumen system on the flatter roof section at the top of the Mansard roof, above the dormer windows, and around the base and inside the towers was installed in 2014, replacing an EPDM system from the 1990s. This system is in poor condition and likely has no more than 3 to 5 years of service remaining.

(c) Scraping, Sanding and Re-Staining Roof Shingles, Replacement In-Kind as Necessary

Scraping, sanding, and re-staining the roof shingles and in-kind replacement of deteriorated shingles on all elevations as necessary. In 2017 and 2018, staining was applied to all roofing on the North, South, and West elevations. In 2020, spot replacement and staining of wood roofing shingles on the lower mansard and tower of the East Elevation were performed. Unfortunately, premature stain failure is evident on the upper section of the mansard roof on the South Elevation, as well as signs of fading and wear on the tower roof. Similarly, the North Elevation displays premature

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stain failures on the red roof shingles, possibly exacerbated by the Academy's hilltop location and heightened environmental pressures due to climate change.

(d) Sanding and Repainting Other Wooden and Metal Roof Elements

As scaffolding is already in place for roof-related work, it would be beneficial to undertake additional maintenance, as required. This involves repainting any wooden and metal features needing repair, such as tower pilasters and roof finials, to enhance the aesthetic appeal and ensure they are sealed against water infiltration.

The objective of this project is to:

- Provide the Town with a ready to issue tender package, complete with design drawings and specifications for the construction work. The design is to meet any guidelines or standards associated with doing this work in Nova Scotia.
- Provide a Class "A" cost estimate.
- Provide support during Tendering.
- Provide support during Construction. This would include (but not be limited to) reviewing and responding the technical and contractual items from the Primary Contractor/Sub-Trades/Suppliers, reviewing submission documents including (but not limited to) schedules, samples, Shop Drawings, Process Estimates, Change Order Requests, etc., attending Site Meetings and writing Status Update Reports for the Project as required, and providing detailed cashflows, performing site inspection during construction works, commissioning of new infrastructure/processes, etc.
- Provide record drawings and construction deficiencies.

The successful Proponent may also be required to provide additional services as may be agreed upon in writing by the successful Proponent and the Town in accordance with the Agreement.

3.0 PROPOSAL FORM

NAME OF PROPONENT: _____

Do not include HST in the Amount of Proposal. All of the below pricing is to be in Canadian Dollars.

Amount of Proposal..... \$ _____

HST..... \$ _____

Total..... \$ _____

Please attach the following additional information:

- Organizational Staffing Chart
- Information about Related Municipal Experience
- Information about comparable service in the last 5-10 years
- Two relevant work references and contact phone numbers.
- Resumes of Key Personnel
- Detailed Work Plan (including design and engineering deliverables)
- Project Timeline, including start and end time required to complete the work and/or deliver goods.
- Description of Project Management Methodology
- Risk and Mitigation Plan
- Detailed Pricing Schedule
- Certificates of insurance as detailed in Section 1.14
- Letter of good standing from NS WCB per Section 1.16

Mailing Address _____

Phone Number _____

Email Address _____

Signature _____

Print Name & Title _____

Date _____

Witness _____

Date _____

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Details of Proposal – please attach your submission details as required in this RFP.

4.1: Attachment A

TOWN OF LUNENBURG

LUNENBURG ACADEMY



Building Envelope Assessment Report

97 Kaulbach Street,
Lunenburg, Nova Scotia B0J 2C0

SUBMITTED
December 11, 2023

PREPARED BY
DSRA Architecture Inc.
Ste 100 – Purdy's Wharf Tower 1
1959 Upper Water St, Halifax, NS B3J 3N2

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PROJECT SUMMARY

1.1 Introduction

DSRA was engaged by the Lunenburg Academy Foundation (LAF) to: conduct an exterior assessment of Lunenburg Academy: provide an architectural exterior assessment report, and; make recommendations for the exterior repairs and maintenance of the historic Lunenburg Academy. DSRA has been involved with the ongoing conservation and maintenance of the Academy as far back as 1984.

The goal of the condition assessment is to provide the LAF with information on the performance of the recent conservation work at the Academy, plus anticipated future repairs and infrastructure improvements.

This report contains findings resultant of the Site Review, and cost estimates for the recommended repair / restoration work and a general maintenance schedule for the next 25 years.

LAF may pursue funding opportunities to make anticipated repairs/maintenance and continue safe use of the Academy. This Building Condition Assessment Report is provided to aid in the management of exterior building envelope's maintenance. Recommended conservation and maintenance repairs are to meet the Standards and Guidelines for the Conservation of Historic Places in Canada (SGCHPC).

The assessment focused on recommendations related to the following key outcomes:

- Review of building envelope conditions and recent conservation work,
- Overall code & accessibility review,
- Replace or restore failing elements with heritage consideration,
- Anticipated future repairs and infrastructure improvements.

1.2 Assessment Approach

The scope of work includes an on-site exterior envelope assessment to review construction and current condition of the building, inclusive of a report of our findings. The report includes prioritized recommendations for repair and conservation, an estimated timeline for required repair and maintenance, and an opinion of probable cost.

The site review carried out by DSRA is generally based on the ASTM Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process (ASTM E 2018-08). This standard defines a 'physical deficiency' as a conspicuous defect or significant deferred maintenance of a subject property's material, systems, components, or equipment as observed during field observer's walk-through survey. Included within this definition are material systems, components, or equipment that are approaching, have reached, or have exceeded their typical Expected Useful Life (EUL) or whose Remaining Useful Life (RUL) should not be relied upon in view of actual or effective age, abuse, excessive wear and tear, exposure to the elements, lack of proper or routine maintenance, etc. This definition specifically excludes "de minimis" conditions (of minimum importance) that generally do not constitute a material physical deficiency of the site.

A Site Review was conducted by Mr. Graeme Duffus, and Mr. David Doyle on February 9th, 2023. Mr. Duffus, and Mr. Doyle conducted a visual survey from the ground. There was a brief basement review to confirm the location and present status of leaks in the foundation. The roof access hatch was locked but due to winter conditions DSRA would not have been able to freely walk about to confirm the condition. The use of a bucket lift was organized, however the operator came down with Covid and could not come. DSRA does not believe we could have used a lift effectively due to the high winds and extreme cold. The purpose of the visit was, however, to collect visible data from the exterior of the building.

The assessment of the building was based on a visual assessment of accessible components of the property and Academy. The accessible building components, exterior, roof, and decorative elements were visually reviewed to assess their condition and to identify if any obvious physical deficiencies were present. The review did not include any intrusive investigation of structural assemblies, ceiling cavities, or any other enclosed spaces. No physical tests were conducted, and no samples of building materials were collected to confirm or support the findings presented in this report.

Recommendations and estimates for additional testing or investigations may be presented as part of the report when, in the assessor's opinion, a condition may exist that would substantially alter the findings and cannot be adequately assessed by non-intrusive visual means. A detailed evaluation of the property's compliance with National and Provincial Building Codes and/or Fire Codes is not part of the scope of this assessment.

1.3 Definition of Observed Conditions

Poor: Where the condition requires a substantial investment to improve the architectural, structural, mechanical, and electrical systems in the immediate future (one to five years). NBC requirements and Health and Safety issues must be addressed to bring the facility to a good state of repair for a duration of 25 years.

Fair: Where the condition requires a limited cost investment to maintain or improve the structure, building envelope, and electrical/ mechanical systems, in a good state of repair for an additional 25 years. Investments are offset beyond the five-year time period and are applied to the six to ten year or the 11 to 15-year time periods.

Good: Where the condition requires little or no investment to maintain the structure or building envelope, in a state of good repair for a duration of 25 years. Most Health and Safety issues and Building Code requirements have been addressed.

1.4 Priority Repairs

The recommendations made in this report are based on visual observations made by the assessors during the site review and are limited to the areas of the Lunenburg Academy observed and accessible during the review. Concealed, inaccessible, and unobserved areas may be in a different condition than what is reported herein.

The recommendations in this report are prioritized according to the following criteria:

Priority One (P-1): Recommended to be addressed within one year

Priority Two (P-2): Recommended to be addressed within two-five years.

Priority Three (P-3): Recommended to be addressed within five-ten years.

Priority repair costs are for deficiencies noted or observed during the site review requiring action to prevent further deterioration of the Lunenburg Academy and to prevent possible injury due to unsafe conditions and/or code violations.

Site improvements, wood repairs or replacements, that are not deemed critical for the immediate stabilization and protection of the asset are recommended for assessment within a five-year period as a best practice suggestion, but they are not part of the Scope of Work in this report.

We recommend funding be made available within one year to perform the Priority One repairs. These repairs may be critical for public safety and the mitigation of further deterioration of the Academy. We recommend financial planning commence within one to two years for items identified as Priority Two and Three repairs.

1.5 Opinion of Probable Costs

Probable Costs are an opinion of the anticipated costs for restoration and repairs to Academy elements and systems that have exceeded their typical Expected Useful Life (EUL), over a 10-year future projection. Building material quantities and areas are estimated based on field observations and provided drawing; detailed measurements were not taken onsite. The costs have been estimated from professional knowledge and industry cost rulers. These opinions are intended for global budgeting purposes only. Actual costs for work recommended can only be determined after preparation of tender documents and/or soliciting quotations from qualified contractors.

2 PROPERTY INFORMATION

2.1 General Description

2.1.1 Property Observations & History

The Lunenburg Academy is located on the top of Gallows Hill, at the corner of Kaulbach Street and Unity Lane in Lunenburg. The building is surrounded by open space, with a cemetery on the west and south, a playground and parking area. The main entrance to the school faces East fronting on Kaulbach Street. The site and surrounding open space is designated as a Character Defining Element of this Historic Place in Canada.

The Lunenburg Academy was designed by H.H. Mott, a well-known New Brunswick architect, in 1893. The building was completed in 1895 and opened for class on November 7, 1985. It was constructed as part of Nova Scotia's shift from one room schoolhouses to public Academies.

The Lunenburg Academy is a Municipally registered heritage property and was registered as both a Provincial Heritage Property and a National Historic Site in 1983. The building is now the only intact 19th century Academy building surviving in Nova Scotia. It operated continuously as an educational building from 1895 until March of 2012. The Academy is currently used for education, cultural and community spaces. The Academy is also the home of the Lunenburg Public Library.

2.1.2 Property Information Table

Property Name	Lunenburg Academy
Street Address	97 Kaulbach Street
City, Province	Lunenburg, Nova Scotia
Primary Use	Historic Use: Education Current Use: Education, cultural, commercial, and community spaces
Number of Buildings on Site	One
Number of Stories	Three
Foundation	Brick & stone perimeter foundation with concrete slab on grade
Superstructure	Heavy timber
Cladding	Painted wood clapboard and painted wood shingle
Roof Material(s)	Stained wood shingles & 2 ply Mod. Bit.
Reported Year Built	1893-1895
Total Building Area (footprint)	7880 sq. ft.
Evaluation Period	25 Years
Assessment Conducted by	Peter Connell, Graeme Duffus, David Doyle, and Oleh Merzlyka
Site Review Dates	February 9, 2023 (basement, elevations) October 29 th , 2023 (roof)

2.1.3 Building Design & Construction

The Lunenburg Academy is a three-storey wooden Victorian building, in the Second Empire style. The imposing scale of the Academy is enhanced by its location on the top of Gallows Hill and the open space that surrounds the building. The long standing colour scheme of white and black with red foundation, doors and roof remains intact. This colour scheme highlights the high level of detail and decorative variety found on the exterior of the building and has become a Character Defining Element of the building. According to an Architect's report, Historic photos imply the original colour was not white.

The long elevations of the east and west facades both feature a central projection that is flanked by two towers which, in contrast to the large mansard roof and horizontal decorative elements, provide the building with a vertical emphasis. Each of these towers contain a staircase, which together with the additional two stairs leading to the doors on the North and South Elevations, are of particular importance to the historic use of the building. The six individual entrances to the building and their adjoining staircases, along with interior dividers in the hallways, allowed the building to be used by both genders, yet maintain their complete separation, until the children entered the classrooms.

The interior of the building is flooded with daylight by means of the large wood windows that dominate the facades. The majority of the windows are three-part windows with a fixed transom over a double hung sash, with the notable exception of a separate semi-circular and two oval windows found on both the north and south facades. The Serlian and single dormer windows, topped by intricate brackets or pediments, both continue the rhythm of the lower windows and the ornamental quality of the building up to the level of the roof.

The interior of the Lunenburg Academy building was not included in this assessment.

2.2 Former Building Envelope Conservation/Repair Work

The 1895 building was repaired and maintained several times during its lifetime. The major conservation and alteration to the building during the last decade are listed below:

- Roof Repair and replacement – 2014
 - EPDM roof from the 90s, on the flatter sections at the top of the Mansard roof, above the dormer windows, and around the base and inside the towers, was replaced with a two-ply SBS modified Bitumen system;
 - Installation of a new roof hatch;
 - Brick repairs and repointing of the brick chimney;
 - Installation of the chimney capping and flashing;
 - Installation of two Selkirk chimneys from furnace room.
- Installation of the wood gutters – 2015
- Reconstruction of Entry steps – 2016
- Installation of the new code-compliant handrails at east entry steps –2018.
- Envelope conservation and window restoration/installation (Phase 1) – 2017 & 2018
 - Restoration of the North Elevation was completed as the first elevation since the least number of conservation works were required on this elevation;
 - As the second step, restoration of the West Elevation was stretched from the northeast corner to the southeast corner as the number of required repairs and replacement works increased;
 - Installation of new doors at the right-hand side entry on the West Elevation;
 - Installation of the new doors on the East Elevation.
 - All roofing shingles on the North, South and West Elevations were stained;
 - Existing roll roofing was replaced by Lead Coated Copper at all designated roof of decorative dormers or towers;
- Restoration of the South Elevation was completed as the last part of Phase 1. The conservation work included the replacement of large sections of the upper mansard roof shingles and the partial replacement of the clapboard and shingles.
- Envelope conservation and window restoration/installation, barrier-free entry (elevator) at South Elevation (Phase 2) – 2020
 - Restoration of East Elevations was a compromise of replacement of all shingles (white), clapboard (where needed), and horizontal wood bands.
 - Installation of the new door operator at the South Elevation barrier-free entry. The interior vestibule floor was repaired, and a new floor finish was installed.
 - The wood roofing shingles were replaced on East Elevation's upper mansard.
 - Spot replacement and staining of the wood roofing shingles on East Elevation lower mansard and tower.
 - Installation of the Lead Coated Copper at the base of the mansard roof at gutters

2.3 On-going Building Envelope Conservation/Repair Work

Lunenburg Academy Foundation (LAF) is conducting a new project for the replacement of the drainage system installed some time ago. The tender package issued for this project only includes the installation of the drainage system. Observation of the basement/ foundation interior walls

indicates paint failure in the brick section of the exterior foundation wall, paint failure on the lower stone section of the wall, and locations of efflorescence visible on the interior wall in the basement (see Appendix B). It is essential for the exterior perimeter of the foundation to be exposed and inspected for structural evaluation, re-pointing and grout fill repair, and placement of Cementitious parging above grade, and protective waterproofing below grade.

3 BUILDING CONDITION ASSESSMENT & COST ESTIMATE

3.1 Building Envelope As-found Conditions

3.1.1 Above Grade Brick Foundation Walls and Base Stone Bands

The basement level of the building is of brick masonry construction, with stone & granite foundations placed at and below grade and brick walls built above grade. The brick has been painted in a uniform shade of red to match the colour of the roof. The new brick foundation wall section was re-installed in 2018, where old access doors used to be. The old above-grade brick foundation walls are in poor condition for most parts and should be stripped, restored and repaired. Observation of the basement/ foundation walls at interior side indicates paint failure in the brick section of the foundation wall, paint failure on the lower stone section of the wall, and locations of interior efflorescence (Appendix B, Figures 48, 49, 52, 54, 55, 56 &57).

The following exterior deficiencies are observed as listed below:

- Typical paint failures (peeled and cracked paint) and heavy paint build-up are observed on most parts of the brick foundation walls (Appendix B, Figures 2, 3 &7).
- Broken & spalled bricks are observed at the North-East Corner, North-West Corner, and South-West Corner and should be replaced. Some areas of deterioration are probably from the use of salt and should be stopped as an ongoing practice. The two north corners have likely been damaged by snow removal vehicles and in need repairs (Appendix B, Figures 11, 12, 16, 20, 21, 35, 37 &38).
- There are small open joints in stone bands below basement stone windowsills and large open joints in exposed stone bands at the base of the exterior brick walls (Appendix B, Figures 19, 28, 35, 37 &38).
- Plugs from staging support remain in brick walls at several locations on the east and should be removed (Appendix B, Figure 2), also noted on East elevation drawing Appendix C.

3.1.2 Exterior Walls

The second and third floors of the building are clad in painted cedar shingles, some are decorative patterns. For the most part, the shingles & ground floor clapboards appear to be in good condition. However, minor paint failures are observed in the following locations:

- Minor paint chips and environmental staining are observed on the curved section of shingles above ground floor windows, typically across the North Elevation (Appendix B, Figures 22, 23, 24 &25).
- Paint failure on plywood panel on East Elevation (Appendix A, Figure 3).

- The exterior wood trim elements, such as corner boards and brackets, are in good condition. Some sections of wood trims, corner boards and some watertable bands have typical paint failures (paint flaking) or minor paint failures (paint flakes and chips) and should be repaired (Appendix B, Figure 29).

3.1.3 Exterior Landings and Stairs

The exterior landings and stairs were originally built from wood on top of a granite base which forms the bottom step. All entry stairs were reconstructed in 2016 - 2018, and guardrails installed in 2018. All entry stairs are generally in good condition. However, the paint and stain used on the wooden steps and landing has failed at several locations and required re-application to protect the wood from accelerated deterioration – annual re-paint is needed to maintain these features to heavy use and winter wear (Appendix B, Figures 5, 6, 9, 10, 17, 29, 37, 39 & 40).

3.1.4 Roofing

The main mansard roof is one of the Character Defining Elements of the Academy that gives the greatest visual impact as the bright red colour of the stain on the cedar shingles can be seen from a long distance. The upper section of the mansard roof was replaced in 2018, and the cedar shingles on the South Elevation are in good condition.

Portions of roll roofing are used over many dormer window pediments. On the South Elevation and partially on the West Elevation, the roll roofing portions were replaced with lead-coated copper flashing in 2018 and remains in good condition.

The two-ply SBS modified Bitumen system flatter roof section at the top of the Mansard roof, above the dormer windows, and around the base and inside the towers was installed in 2014 - replaced an EPDM system installed circa 1990's. The system is in fair to poor condition and likely has no more than 3 to 5 years of service remaining.

The stain finish on the upper section of the mansard roof on the South Elevation is failing prematurely. The tower roof beyond also exhibits signs of faded and worn stain finish. Also, on the North Elevation, premature stain failures are observed red roof shingles are (Appendix B, Figures 26 & 47). Likely reasons for the early failure would include excessive weathering due to the Academy's hilltop location and insufficient stain penetration when applied, but there may also be a product issue. We recommend the installing paint contractor review the failure with the stain manufacturer to determine if the failure is covered under the product warranty. At the very least, scrapping and re-application of stain in these failing areas is needed to maintain appearance and protect the wood shingles from mildew and premature rot.

Rolled roofing on the high side of the East & West towers is deteriorated and needs to be replaced with lead-coated copper flashing, similar to South Elevation, when the shingles are replaced. Local repairs may be needed, to keep water out, in the next few years. Note: Building occupants report leaks near the roof of all four towers, at the writing of this report, so clearly roof replacement needs to be accelerated in these locations.

3.1.5 Gutters and Flashing

Gutters were replaced with improved fiberglass coating and flashing detail in 2015/16 and are generally performing well. The downspouts all appear to be in good condition and do not require

any work at present. However, the 4" SBS piping is not historically correct and might be considered for replacement in the future as they age.

3.1.6 Windows

All the windows were restored or replaced in 2018 & 2020 conservation work, except the basement, and appear to be in good condition. Minor deficiencies are observed in sashes and windowsills as listed below:

- Peeled paint on the top of the wood sill is observed at several locations (Appendix B, Figures 4 & 8).
- Paint at replaced basement windows is faded (Appendix B, Figure 32).
- Basement storm/security windows are in fairly poor condition and need to be replaced, it is typical condition at all locations on basement windows (Appendix B, Figure 19).
- Paint failure is observed on transom sashes of the upper floor windows (Appendix B, Figures 45 & 46).
- Some sashes appeared to have deteriorated on the south & east and may need repairs or replacement in the short term. See drawings for locations.

3.1.7 Doors

There are double doors located at each of the six entrances. The doors on the least used entrances are located at West Elevation. Most doors have been replaced in the last decade or repaired in the recent Phase 1 & 2 work program, appear to be in good condition. However one door on the west elevation north entrance appears to have failed and will likely need major repairs or replacement in the near future. A new barrier-free door and operator panel was installed at the south entrance in 2020. Minor deficiencies are observed at door sills, thresholds and hinges as listed below:

- There are gaps at the thresholds and between doors that need to be closed (Appendix B, Figure 30).
- Paint failure is observed at door wood sills (Appendix B, Figures 4, 30 & 31).
- Rust on the door hinges is observed at several locations.

3.1.8 Dormers

The dormers come in four sizes based on the configuration of the windows in each case. The dormers have single and double windows with a pediment, a triple Serlian window with an elaborate arched roof, and a five-window Serlian like the triple. The dormers were restored in 2018 & 2020, and they appear in good condition.

3.1.9 Towers

The four towers, two on the East Elevation and two on the West Elevation, are character-defining features of the original design of the Academy. Each elevation has one bell tower, which is taller than the other on that elevation, although only the east bell was ever installed. One tower is a replica (NE), rebuilt between 1996 and 1998. The woodwork on all towers and roof-to-tower wall intersections were restored in 2018 & 2020, and they are in good condition.

3.1.10 Chimney

The chimney was 100% repointed in 2014, and two stainless steel flues were installed to prevent a possible fire, as these were originally vents for the Smith-Dowd system, not flues. A leaded copper cap was also added at this time to seal off the flow of (warm) air exiting the building. New vents were inserted in the sides of the masonry for the new ventilation systems required for the building in the 2015 upgrade program. The chimney is in fair condition and does not require any work at present.

3.1.11 Site Work

Brick paver stones are present within pedestrian walkway areas along the south and east areas of the property, including the south barrier-free ramp and entrance. Brick paver stone walkways are sunken and "heaved" at several locations, which creates an uneven walking surface and a potential tripping hazard and needs to be repaired (Appendix A, Figures 13, 14, 43 & 44).

3.2 RECOMMENDATIONS AND COST ESTIMATE

As referred to the scope of work, the fundamental goal for this report is to provide LAF with a building envelope assessment and a plan of action, inclusive of all phases by Priority, along with cost estimates per phase. The four pillars of this Project Phase Planning & Priorities Report are:

- Establish & record the "as found" condition of the Heritage Asset,
- Recommend the appropriate scope of work consistent with the Standards and Guidelines for the Conservation of Historic Places in Canada (SGCHPC),
- Establish the Priorities for repair & maintenance going forward for 25 years,
- Provide cost estimates for repairs noted within this report.

The existing building envelope is generally in good condition since the building was repaired and restored under envelope conservation and window restoration/installation projects, Phases 1 & 2 in 2018 & 2020. A few major issues and several minor deficiencies are observed during the visual assessment of the building envelope that needs to be considered.

The repair work priority is rated as below.

- Priority One Repairs (P-1): Within one year,
- Priority Two Repairs (P-2): Urgent within 2-5 years,
- Priority Three Repairs (P-3): Least urgent within 5-10 years.

3.2.1 Opinion of Probable Costs

The Opinion of Probable Costs present in are based on observations made during the Site Review completed on February 9th, 2023 and followup assessment of the roof areas by drone footage on October 29th, 2024. Areas units are based on measured drawings both from digital scans and from the field observations, which have been transposed onto these drawings. Replacement and repair costs are approximate, based on observations on site and consideration of industry standards. It is recommended that quotations from qualified contractors be obtained before any specific item identified for replacement is repaired or replaced.

Probable Costs are an opinion of the anticipated costs for restoration and repairs to building elements and systems that have exceeded their typical Expected Useful Life (EUL), and projections

for maintenance & costs, following a full Restoration Program, over the next twenty-five-year maintenance cycle.

Costs associated with site and scheduling restriction and impacts to ongoing operations have not been considered in determining probable costs. The restoration, repair, or maintenance recommendations in this report should be confirmed with a more detailed site investigation, document review (videos & photographs included as back-up with this Report) and project evaluation (Design Development) prior to implementation.

The Opinion of Probable Costs are intended for global budgeting and fund-raising purposes primarily, but are considered reliable to the date of the Report. Actual costs for work recommended can only be determined after preparation of tender documents and/or soliciting quotations from qualified contractors.

Opinions of Probable Costs are provided for the major site and building components requiring action within a five-year period and can generally be defined as:

- The responsibility of the Property Owner.
- Components for which major repair or replacement costs are anticipated to be incurred during the five-year period.

3.2.2 Priority One Repairs (P-1)

Priority repairs recommended for action within one year (2024) include:

- 1- Observation of the basement/ foundation walls at the interior side indicates paint failure in the brick section of the foundation wall, paint failure on the lower stone section of the wall, and locations of interior efflorescence which indicates water/moisture penetration and required immediate action.

R1	<p>Recommendation: Provide waterproofing/moisture protection at foundation walls</p> <p>- Regarding the ongoing project of installing the new drainage system at the exterior perimeter of the building, it is recommended that the exterior perimeter of the foundation to be excavated, inspected, repaired & grouted where necessary, then waterproofed before a functional drainage system is installed or the existing is upgraded.</p>	P-1	\$200,000
Sum Total			\$200,000

- 2- Repair and restore the exposed brick foundation walls and large open joints in exposed stone bands at the base of the exterior brick walls as well as small open joints at stone band below basement stone windowsills.

R2	<p>Recommendation: Remove paint & other heavy staining</p> <p>Remove paint & other heavy staining to the next sound layer at all exposed brick foundation walls, using the gentlest method possible such as low-pressure water. Determine if the paint is oil-based or water-based, and subsequently apply compatible paint removal methods such as peeling strips, chemical paint stripper, etc.</p>	P-1	\$12,000
R3	<p>Recommendation: Repoint open & cracked joints</p>	P-1	\$2500

	Allow for 25% deep void back-pointing. Cut out & point using lime mortar mix to match width, profile & colour of existing joints.		
R4	Recommendation: Replace damaged brick units Replace brick units where damage or deterioration is visible (i.e., significant cracks, holes, etc.) and where significant masonry features are missing or severely altered. Use salvaged bricks retained on-site or replace them with in-kind material (like for like).	P-1	\$6500
R5	Recommendation: Remove plugs from staging support Replace plugs from staging supports, fill the holes & point using lime mortar mix to match the width, profile & colour of existing joints. Replace brick units that are damaged or deteriorated (See R3)	P-1	\$1500
R6	Recommendation: Repair open joints at stone bands Clean all existing stone surfaces before other masonry restoration work to loosen cracked mortar joints, eliminate efflorescence & remove dirt & detritus, and repoint open & cracked joints. Cut out & point using lime mortar mix to match the width, profile & colour of existing joints.	P-1	\$5000

Sum Total \$27,500

3- Replace the deteriorated roll roofing portions at East and West Elevations with lead-coated copper flashing similar to the South Elevation.

R7	Replace the deteriorated roll roofing portions at East and West Elevations, where noted. Then, along with cedar shingle replacement, refinish with lead-coated copper flashing similar to the South Elevation.	P-1	\$85,000
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Sum Total \$85,000

3.2.3 Priority Two Repairs (P-2)

Priority repairs recommended for action within two to four years (2025–28) include:

- 1- Repair all deficiencies regarding the environmental staining and paint failure on wood elements such as wood stairs and landings, wood windowsills & wood window sashes, wood door sills, wood trims, corner boards & water table bands, wood panels, cedar shingles, etc. Also repair paint coverage on metal elements such as steel handrails and roof finials.

R8	Recommendation: Clean environmental staining (The curved section of shingles above ground floor windows, typically across the North Elevation) - use soft washing with a low-pressure stream and eco-friendly solution, cleans the surface without damaging the wood - Repaint/re-stained; Colour match to existing. - For the cedar shingles to remain in good condition, this process should be repeated every 3 years.	P-2	\$1500
R9	Recommendation: Refinish existing woodwork - Strip & clean off faded, worn, chipped, peeling, blistering, or flaking paint to bare wood. Sand and level wood surface with fine-grit sandpaper.	P-2	\$3500

	- Repaint/re-stain, Colour match to existing.		
R10	<p>Recommendation: Repair/replace woodwork (poor window sashes)</p> <p>- Spot repair of exterior woodworks: Apply epoxy wood consolidant on minor damages. Use epoxy in small quantities to deter heat build-up. Use a fine grit and paper to smoothen the surface once the epoxy has cured.</p> <p>- Replace irreparable woodworks with dutchman or larger components. New replacement wood members to match species, profile, and detailing of existing original.</p> <p>- Paint/stain, Colour match to existing.</p>	P-2	\$6500
R11	<p>Recommendation: Repair/paint metal elements</p> <p>- Handrails and roof finials.</p>	P-2	\$3500

Sum Total \$15,000

2- Replace the basement window screens and repair minor deficiencies at entrance doors.

R12	<p>Recommendation: Replace the basement windows</p> <p>'Replace basement window protective screens (wood frames galvanized mesh screen) 42 total (36" x 52")', estimate for five new windows</p>	P-2	\$9500
R13	<p>Recommendation: Fill gaps between thresholds and doorsills</p> <p>- Replace the door sweep to fix a gap between the bottom of the door and the threshold.</p> <p>- Tighten/adjust the hinges to correct the gap around the top and sides of the Entrance doors, remove the screws and adjust the alignment.</p>	P-2	\$3500
R14	<p>Recommendation: Remove rust on the door hinges</p> <p>- remove the surface rust at door hinges, and coat the surfaces with a rust inhibiting paint to extend the door lifespan</p>	P-2	\$250

Sum Total \$13,250

3- Repair Brick paver stone walkways.

R15	<p>Recommendation: Repair brick paver stone walkways</p> <p>Remove all brick paver stones materials at the east pedestrian walkway and south barrier free accessible walkway, provide new setting bed, complete with detailing to implement a moisture barrier on the underside of the pavers and reinstall brick paver stones and apply sealer on the paver surfaces.</p>	P-2	\$17,500
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Sum Total \$17,500

4- Minor Repair and Re-stain Roof shingles

R16	<p>Recommendation: Minor repair, scrap, and Re-stain roof shingles – assess premature failure with contractor and product manufacturer.</p>	P-2	\$38,000
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Sum Total \$38,000

3.2.4 Priority Three Repairs (P-3)

Priority repairs recommended for action within a period of five to ten years (2027–32) include:

R17	Recommendation: Maintaining existing shingle roof and future metal roofing replacement to some remaining roofs/valleys etc.	P-3	\$16,500
	Maintain the two-ply SBS-modified Bitumen system until the cedar shingles need to be replaced. The lifespan of the roof is between 15-20 years. Since it was replaced around 1995, the roof is likely past their half-life. At the time of roof replacement (approximately in 2034), the non-shingled roof areas need to be replaced with metal roofing.		
R18	Recommendation: Inspect, repair & repaint the gutters and downspouts every 5 years to maintain their condition and performance;	P-3	\$6000
R19	Recommendation: Inspect and touchup paintwork, windows, and doors every 5 years to maintain their condition and performance.	P-3	\$10,000
Sum Total			\$32,500

3.2.5 Class C Cost Estimate

The Class C Estimate is a general estimate of Probable Costs as described in the sections above to remedy observed physical deficiencies and to repair or replace items that will or have exceeded their expected useful life, over the short term of one to five years. Painting, roofing and window maintenance, etc. is also considered for a 25-year period.

Total cost of Priority One Repairs (P-1): \$ 312,500

Total cost of Priority Two Repairs (P-2): \$ 83,750

Total cost of Priority Three Repairs (P-3): \$32,500

Sum Total **\$428,750**

3.3 CLOSING

The Lunenburg Academy building envelope is in generally good condition since the building was repaired and restored under envelope conservation and window restoration/installation projects, Phases 1 & 2 completed in 2018 & 2020. A few major issues and several minor deficiencies are observed during the visual assessment of the building envelope that needs to be considered.

This report rated the repair work by priority and recommended the actions for each as follows:

- Priority One Repairs (P-1): Within one year.
 1. Provide waterproofing/moisture protection at foundation walls: Observation of the basement/ foundation walls at the interior side indicates paint failure in the brick section of the foundation wall, paint failure on the lower stone section of the wall, and locations of efflorescence which indicates water/moisture penetration and required immediate action.

2. Repair and restore the exposed brick foundation walls and large open joints in exposed stone bands at the base of the exterior brick walls as well as small open joints at stone band below basement stone windowsills.
 3. Replace any deteriorated roll roofing portions at East and West Elevations with like roofing products until cedar shingle roofing needs replacement.
- Priority Two Repairs (P-2): Urgent within 2-5 years
 1. Repair all deficiencies regarding the environmental staining and paint failure on the wood elements such as wood stairs and landings, wood windowsills & wood window sashes, wood door sills, wood trims, corner boards and water table bands, wood panels, cedar shingles, etc.
 2. Replace the basement windows and repair minor deficiencies at entrance doors.
 3. Repair Brick paver stone walkways.

 - Priority Three Repairs (P-3): Least urgent within 5-10 years
 1. Maintain or, replace existing shingle roofing with metal roofing replacements to some remaining SBS two ply roofing on various roofs/valleys etc., similar to south elevation done in 2018 and east elevation completed in 2020.
 2. Inspect, repair & repaint the gutters and downspouts every 5 years to maintain their condition and performance.
 3. Inspect the paintwork, windows, and doors every 5 years to maintain their condition and performance.

The Cost Estimates are a general estimate of Probable Costs as described in the section 2-3, above to remedy observed physical deficiencies and to repair or replace items that will or have exceeded their expected useful life, over the short term of one to five years. Painting, roofing, and window maintenance, etc. is also considered for a 25-year period. Furthermore, the updated Maintenance Plan is provided in Appendix D as extra addition to this report.

This assessment report is extensive, and documents attached as appendices present the condition of the building and most items that need to be repaired, replaced or restored. We trust it will provide the direction the Lunenburg Academy Foundation (LAF) requires to both plans, fundraise and budget for the ongoing maintenance of the Lunenburg Academy. Thank you for the opportunity to submit this report. We would be glad to answer any questions that may arise.

End of Report

Appendix A

Historic Photos



South-East view of Lunenburg Academy Building (early 1900s)



West elevation of Lunenburg Academy Building (early 1900s)

Appendix B

Existing Condition Photographs

ELEVATION PHOTOS



Figure 1 – East Elevation: Envelope restoration work completed in 2020. (does not include brick foundation wall)



Figure 2 – Above grade brick foundation: far left-hand side (LHS) typical paint failures, peeled and cracked. Plug remains in wall from previous staging support, removal is recommended



Figure 3 – Brick foundation wall with typical paint failures (peeled and cracked). Paint failure on plywood panel also.

APPENDIX B



Figure 4 – Peeled paint on top of wood sill at LHS entry return.



Figure 5 – LHS entry stair rebuilt in 2017 – good condition.



Figure 6 – Entry stair rebuilt in 2017, Guardrails installed in 2018 – good condition. Failed paint on steps and landing.



Figure 7 – Complete paint failure on brick foundation top of landing.



Figure 8 – Peeled paint on top of wood sill above brick foundation at LHS entry doors. This work completed in 2020.



Figure 9 – RHS (right-hand side) Entry stair rebuilt in 2016, Guardrails installed in 2018 – good condition. Failed paint on steps and landing.

APPENDIX B



Figure 10 – RHS entry stair rebuilt in 2016 – good condition. Guardrails in 2018 – good condition.



Figure 11 – Brick foundation at North-East corner, typical paint failure and heavy paint build up. Plug from staging support remains in brick and should be removed.



Figure 12 – North-East corner, broken & spalled brick. Typical heavy build up of paint and paint failure.



Figure 13 – Brick paver stone walkway. Sunken and “heaved” locations create an uneven walking surface, potential tripping hazard.



Figure 14 – Brick paver stone walkway. Sunken and “heaved” locations create an uneven walking surface, potential tripping hazard. Looking North.

APPENDIX B



Figure 15 – North Elevation: Envelope restoration work completed in 2018. (does not include brick foundation wall)

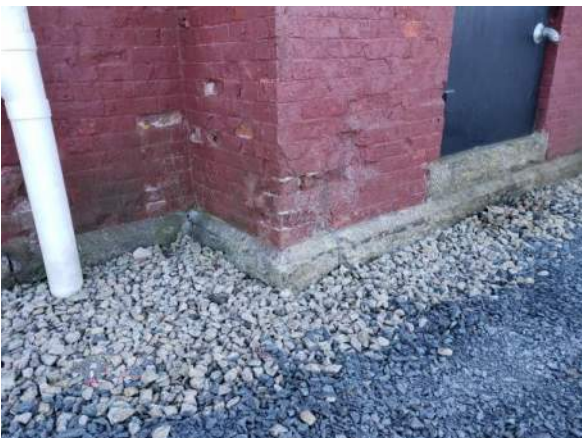


Figure 16 – Above grade brick foundation: brick is cracked, broken, and spalled. Typical paint failures include heavy build up plus peeling and cracking.



Figure 17 – Stairs to North doors rebuilt in 2016 - good condition.

APPENDIX B



Figure 18 - Stairs to North doors rebuilt in 2016 - good condition. Steps and landing paint is worn off.



Figure 19 – Basement storm/security windows fairly poor condition. Typical at all locations on basement windows.



Figure 20 – Brick foundation, far RHS with spalled brick and failed paint finish – typical.



Figure 21 – North-West corner brick foundation: brick is broken, spalled and cracked. Typical paint conditions.



Figure 22 – Minor paint chipping and environmental staining on curved section of shingles above ground floor windows – typical across the North elevation.



Figure 23 – Minor paint chips and environmental staining on curved section of shingles.

APPENDIX B



Figure 24 – Minor paint chips and environmental staining on curved section of shingles.



Figure 25 – Environmental staining.



Figure 26 – Paint peeled at gable trim and some locations of stain failures on red roof shingles.

APPENDIX B



Figure 27 – West Elevation: Envelope restoration work completed in 2018. (does not include brick foundation wall)



Figure 28 – Open joint in stone band below stone sill on far LHS basement window.



Figure 29 – Entry stair LHS rebuilt in 2016 – good condition. Paint on steps and landing is worn.

APPENDIX B



Figure 30 – Doors refinished in 2018. Gaps at threshold and between doors. Paint failure on doors and wood sill.



Figure 31 – Location of rot not repaired in 2018. Peeling paint on wood sill.



Figure 32 – New windows installed in 2018 – faded paint.



Figure 33 – New brick foundation wall section re-installed in 2018 when old access doors used to be.



Figure 34 – Entry stair RHS rebuilt in 2016 – good condition. Paint on steps and landing is worn.



Figure 35 – Small open joint in stone band. Spalled brick and typical paint failure on brick foundation: South-West corner.

APPENDIX B



Figure 36 – South Elevation: Envelope restoration work completed in 2018. (does not include brick foundation wall)



Figure 37 – Open joint in stone band below stone sill and large open joints in exposed foundation stones below band. Typical paint conditions on brick foundation wall.



Figure 38 – Spalled brick and typical paint failures. Open joint in stone band below brick.

APPENDIX B



Figure 39 – Stair rebuilt in 2016 and guardrails installed in 2018 – good condition.



Figure 40 Stair rebuilt in 2016 and guardrails installed in 2018 – good condition.



Figure 41 – Doors re-finished in 2018.



Figure 42 – New door in 2020 and new door operator panel.



Figure 43 – Existing ramp to door – not code compliant.



Figure 44 – Brick paver sidewalk from South “accessible” entrance: Heaving and sunken areas. Potential tripping hazard.

APPENDIX B



Figure 45 – Paint failure on upper transom sash.



Figure 46 – Paint failure on transom, upper and lower sash on right hand side.



Figure 47 – South Elevation: Mansard Roof. Upper section of mansard roof replaced in 2018. Appears that stain is failing. Tower roof beyond also exhibits signs of faded and worn finish stain.

ROOF PHOTOS



Figure 48 – East Elevation. Overall view



Figure 49 – North Elevation. Overall view



Figure 50 – North-West Elevation. Overall view



Figure 51 – West-South Elevation. Overall view



Figure 52 – Aerial Roof plan



Figure 53 – Tower 3. South Elevation. Paint flaking at some areas

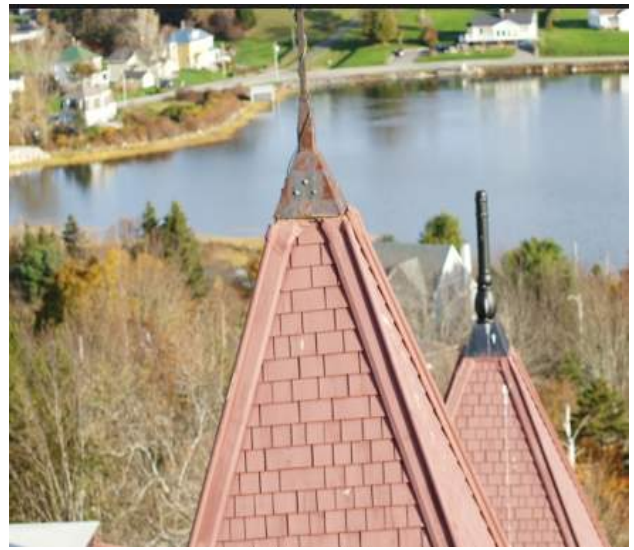


Figure 54 – Tower 3. The top metal element has significant rust on the surface

APPENDIX B



Figure 55 – Tower 3. North Elevation. Shingles at the top areas of the Tower roof are covered with mold



Figure 56 – South elevation. Areas with mold and peeled and faded Red Stain



Figure 57 – Tower 2. South Elevation. A significant area of peeling and faded Red Stain



Figure 58 – Tower 2. North Elevation. Area with the missing shingles, which can be a possible cause of rainwater penetration.



Figure 59 – West elevation. Areas with peeled and faded Red Stain



Figure 60 – Tower 1. South elevation. A significant areas of peeled and faded Red Stain



Figure 61 – Tower 1. East elevation. A significant areas of peeled and faded Red Stain



Figure 62 – Tower 1. North Elevation. Shingles at the top areas of the Tower roof are covered with mold. Some areas of peeled and faded Red Stain

APPENDIX B



Figure 63 – South Elevation (left side). A significant areas of peeled and faded Red Stain



Figure 64 – South Elevation (center). A significant areas of peeled and faded Red Stain



Figure 65 – South Elevation (right side). A significant area of peeled and faded Red Stain



Figure 66 – East Elevation (left side). The Roof condition is satisfactory."

APPENDIX B



Figure 67 – East Elevation (center). The Roof condition is satisfactory.



Figure 68 – East Elevation (left side). The Roof condition is satisfactory.



Figure 69 – North Elevation (Center-view1). A significant areas of peeled and faded Red Stain



Figure 70 – North Elevation (Center-view2). A significant areas of peeled and faded Red Stain

APPENDIX B



Figure 71 – North Elevation (Right side). A significant areas of peeled and faded Red Stain



Figure 72 – West Elevation (Left side). Some areas of peeled and faded Red Stain



Figure 73 – West Elevation (Center). Some areas of peeled and faded Red Stain



Figure 74 – West Elevation (Right side). Significant areas of peeled and faded Red Stain

BASEMENT PHOTOS



Figure 75 – Paint failure in brick section of foundation wall. Paint failure on lower stone section of wall also locations of efflorescence.



Figure 76 – Typical new heavy timber post(s) found throughout basement. Installed prior to renovations for new library above.



Figure 77 – New door in 2020 and new door operator panel. Painted brick and foundation wall. Appears to be in good condition, no wet locations



Figure 78 – Room B24: looking West.

APPENDIX B



Figure 79 – Stone foundation wall below windows show some locations of efflorescence.



Figure 80 Stone sill with new windows installed in 2018. Also see photo 32.



Figure 81 – Heavy efflorescence on interior wall of B24. New heavy timber post in foreground.



Figure 82 – Interior brick wall in room B24. Rising damp at bottom and efflorescence.



Figure 83 – Interior brick wall in room B24, rising damp at base bricks and deteriorating/crumbling brick above.



Figure 84 – Deteriorating / crumbling brick.

APPENDIX B



Figure 85 – Foundation wall outside former boys washroom: No wet or damp locations noted



Figure 86 – Inside former washroom space: room is dry with no damp / wet locations noted .



Figure 87 – Inside former washroom space: room is dry with no damp / wet locations noted.



Figure 88 – Oil tank storage room: Newer drain installed to keep water from sitting. Section of wall beyond in wet.



Figure 89 – Furnace oil line to the exterior (North elevation).



Figure 90 – Room B27 wall is dry and appears to be in good condition.

APPENDIX B



Figure 91 – Room B26 wood sill and knee-wall built over stone foundation wall.



Figure 92 – Hole in floor at base of knee-wall – wet wood is soft.



Figure 93 – Room B25: water on floor against foundation wall.



Figure 94 – Room B25: damp section on floor against foundation wall.



Figure 95 – Sprinkler pump against west wall.



Figure 96 – Sprinkler pump line through stone foundation wall. Wall and floor appear to be damp.



Figure 97 – Room at South-west corner of basement: floor is wet under baseboard.



Figure 98 – Wood baseboard is soft and da



Figure 99 – Rotted door trim and baseboard above damp section of floor.

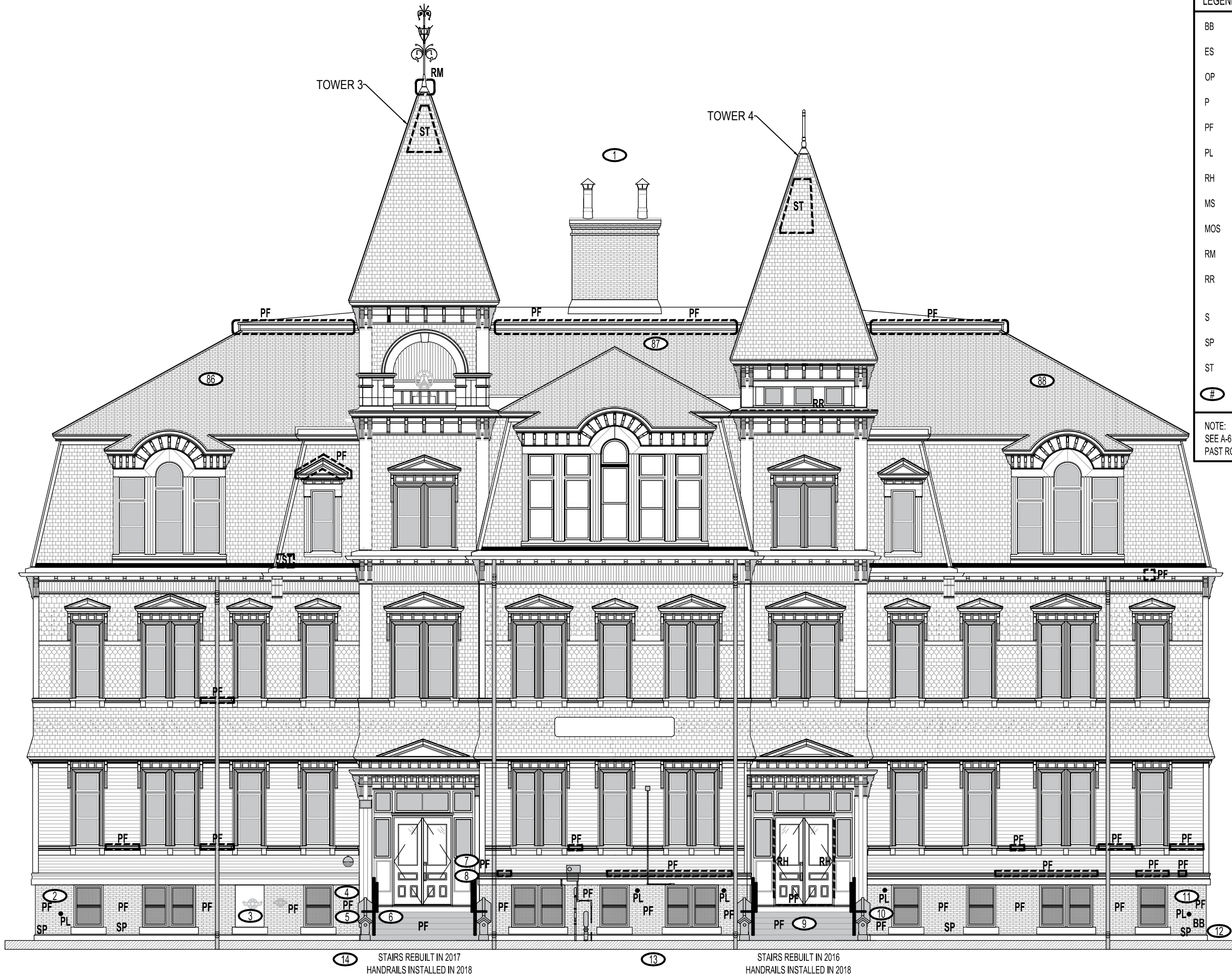
Appendix C

Drawings

LEGEND: ELEVATIONS

- BB BROKEN BRICK
- ES ENVIRONMENTAL STAINING
- OP OPEN JOINT
- P MINOR PAINT FLAKES / CHIPS
- PF PAINT FAILURE / FLAKING
- PL PLUG FROM STAGING
- RH RUST ON HINGES
- MS MISSING SHINGLES
- MOS MOLD ON SHINGLES
- RM RUST ON METAL SURFACE
- RR EXISTING ROLL ROOFING - REPLACE WITH LEAD COATED COPPER
- S SASH - POOR WOOD MEMBER
- SP SPALLED BRICK
- ST RED STAIN - PEELED AND/OR FADED
- # PHOTO REFERENCE - SEE APPENDIX "B"

NOTE:
SEE A-6 FOR ADDITIONAL INFORMATION REGARDING
PAST ROOFING REPAIRS AND EXISTING CONDITIONS



**LUNENBURG
ACADEMY**
BUILDING CONDITION
ASSESSMENT

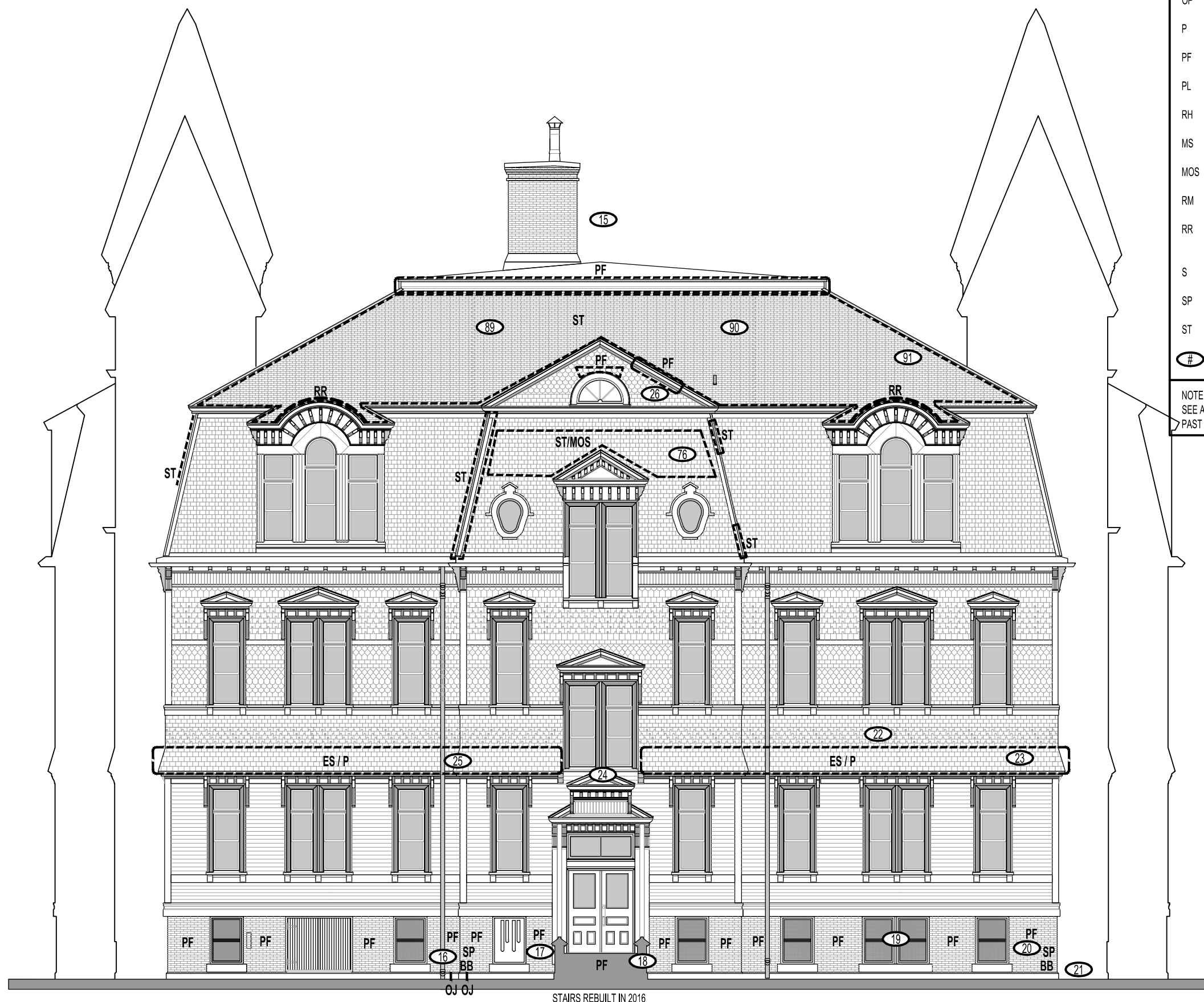
EAST ELEVATION

DATE: 2023.02.28

LEGEND: ELEVATIONS

- BB BROKEN BRICK
- ES ENVIRONMENTAL STAINING
- OP OPEN JOINT
- P MINOR PAINT FLAKES / CHIPS
- PF PAINT FAILURE / FLAKING
- PL PLUG FROM STAGING
- RH RUST ON HINGES
- MS MISSING SHINGLES
- MOS MOLD ON SHINGLES
- RM RUST ON METAL SURFACE
- RR EXISTING ROLL ROOFING - REPLACE WITH LEAD COATED COPPER
- S SASH - POOR WOOD MEMBER
- SP SPALLED BRICK
- ST RED STAIN - PEELED AND/OR FADED
- # PHOTO REFERENCE - SEE APPENDIX "B"

NOTE:
SEE A-6 FOR ADDITIONAL INFORMATION REGARDING
PAST ROOFING REPAIRS AND EXISTING CONDITIONS



**LUNENBURG
ACADEMY**
BUILDING CONDITION
ASSESSMENT

NORTH ELEVATION

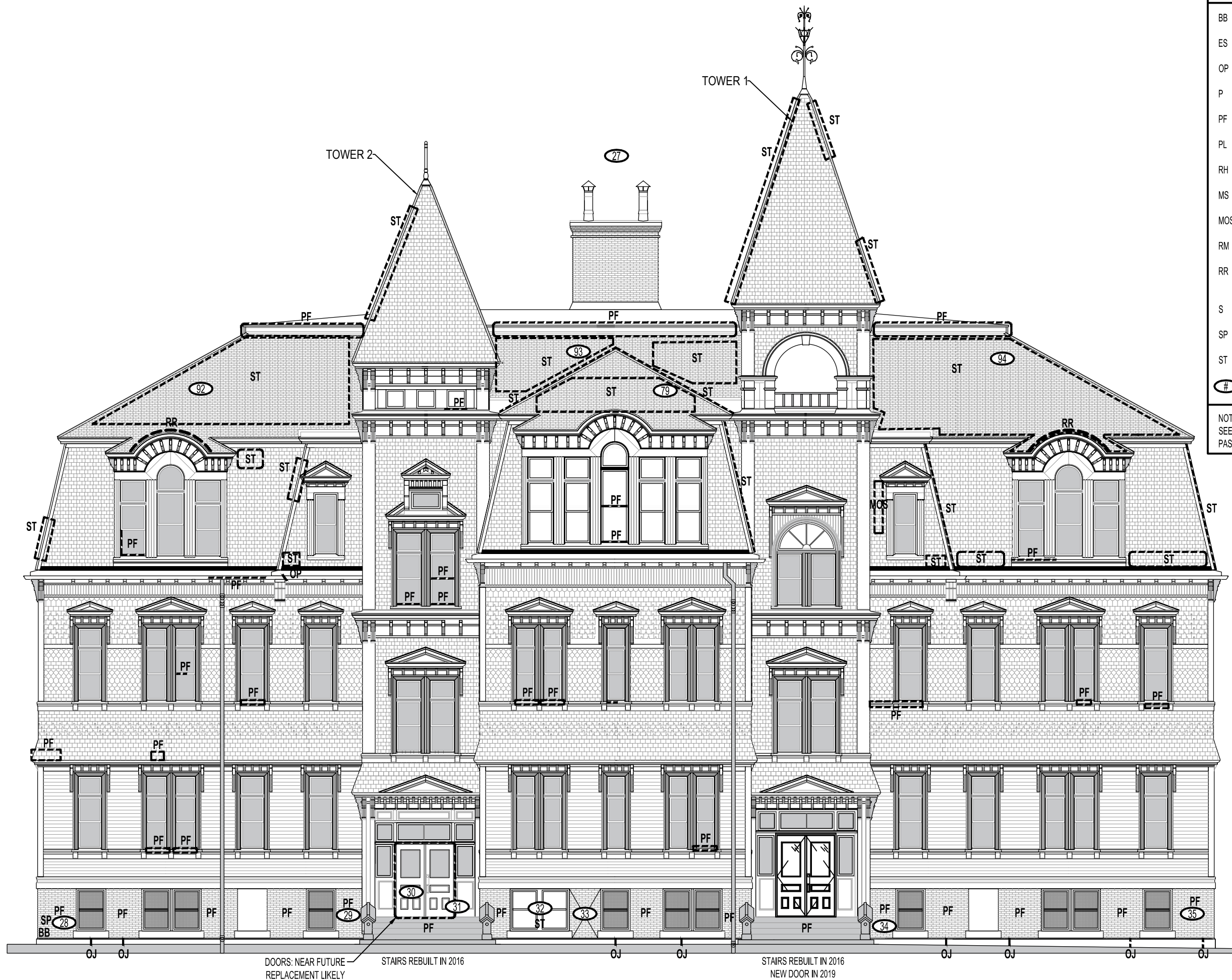
DATE: 2023.02.28

A-2

LEGEND: ELEVATIONS

- BB BROKEN BRICK
- ES ENVIRONMENTAL STAINING
- OP OPEN JOINT
- P MINOR PAINT FLAKES / CHIPS
- PF PAINT FAILURE / FLAKING
- PL PLUG FROM STAGING
- RH RUST ON HINGES
- MS MISSING SHINGLES
- MOS MOLD ON SHINGLES
- RM RUST ON METAL SURFACE
- RR EXISTING ROLL ROOFING - REPLACE WITH LEAD COATED COPPER
- S SASH - POOR WOOD MEMBER
- SP SPALLED BRICK
- ST RED STAIN - PEELED AND/OR FADED
- # PHOTO REFERENCE - SEE APPENDIX "B"

NOTE:
SEE A-6 FOR ADDITIONAL INFORMATION REGARDING
PAST ROOFING REPAIRS AND EXISTING CONDITIONS



**LUNENBURG
ACADEMY**
BUILDING CONDITION
ASSESSMENT

WEST ELEVATION

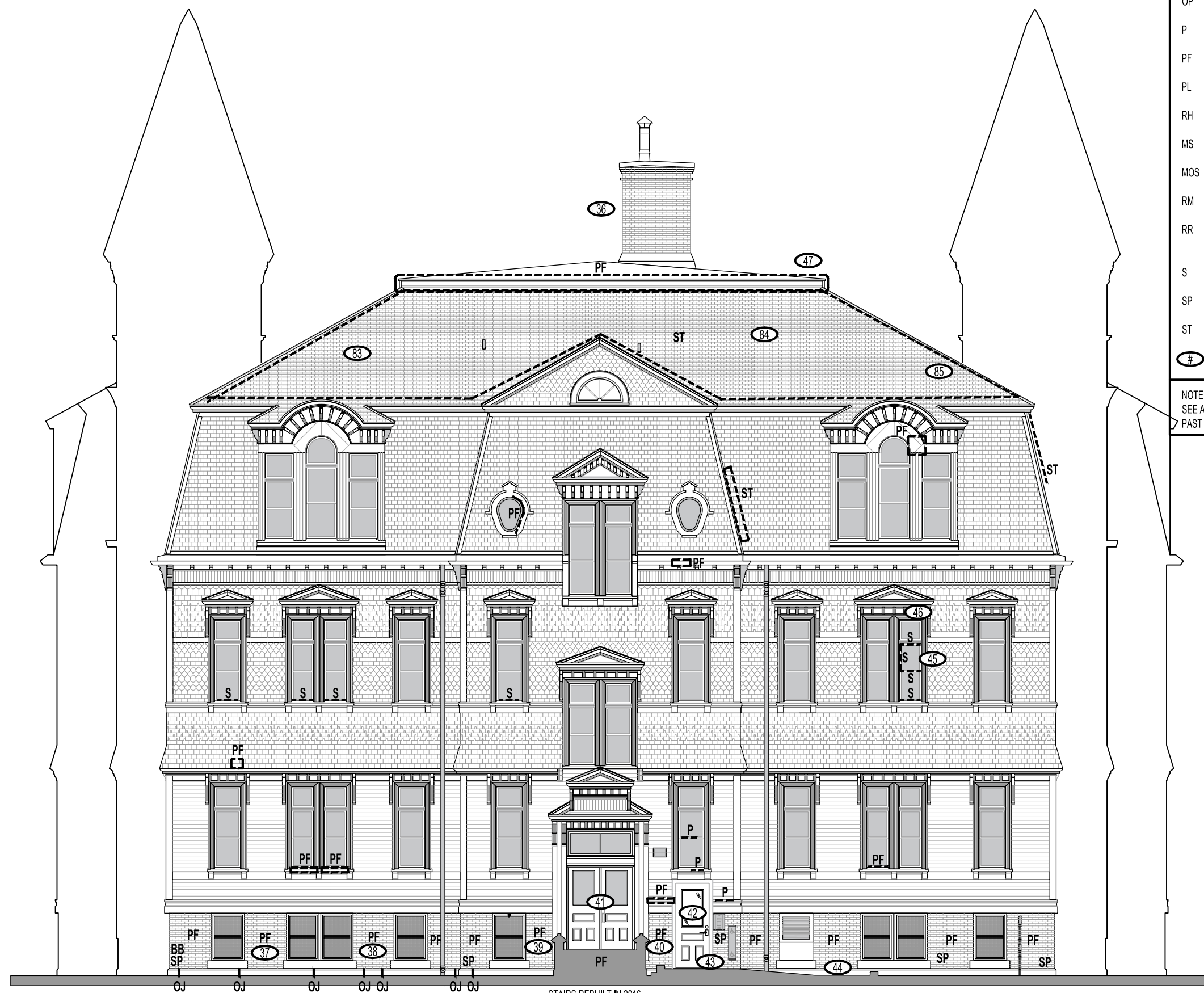
DATE: 2023.02.28

A-3

LEGEND: ELEVATIONS

- BB BROKEN BRICK
- ES ENVIRONMENTAL STAINING
- OP OPEN JOINT
- P MINOR PAINT FLAKES / CHIPS
- PF PAINT FAILURE / FLAKING
- PL PLUG FROM STAGING
- RH RUST ON HINGES
- MS MISSING SHINGLES
- MOS MOLD ON SHINGLES
- RM RUST ON METAL SURFACE
- RR EXITING ROLL ROOFING - REPLACE WITH LEAD COATED COPPER
- S SASH - POOR WOOD MEMBER
- SP SPALLED BRICK
- ST RED STAIN - PEELED AND/OR FADED
- # PHOTO REFERENCE - SEE APPENDIX "B"

NOTE:
SEE A-6 FOR ADDITIONAL INFORMATION REGARDING
PAST ROOFING REPAIRS AND EXISTING CONDITIONS

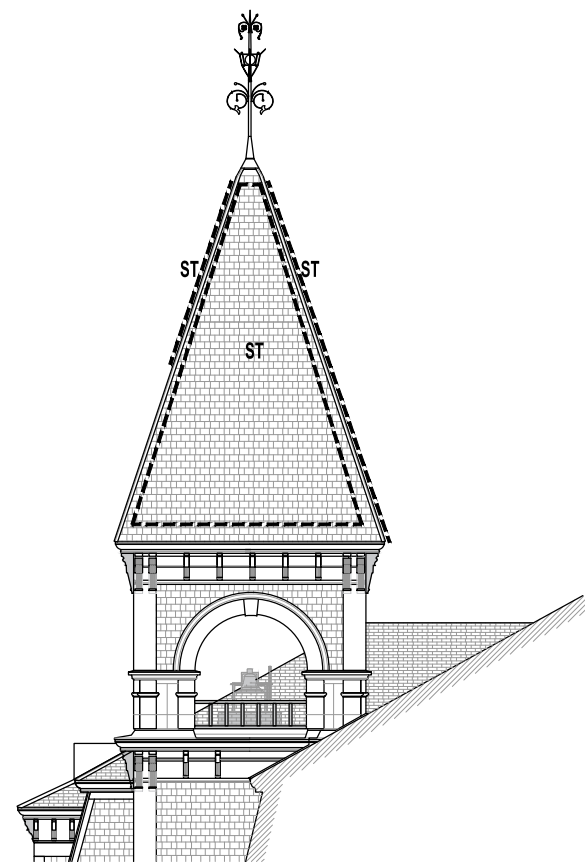


**LUNENBURG
ACADEMY**
BUILDING CONDITION
ASSESSMENT

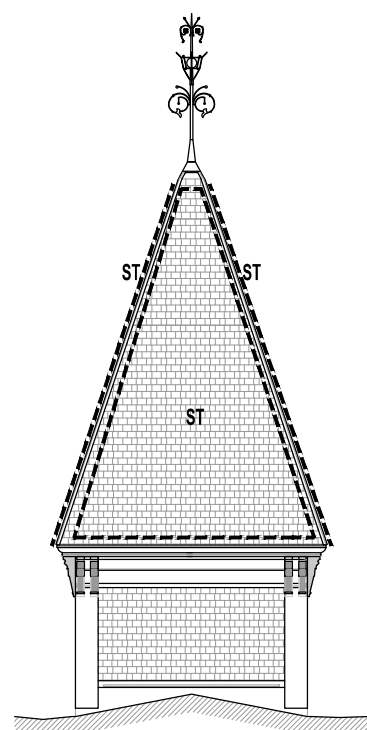
SOUTH ELEVATION

DATE: 2023.02.28

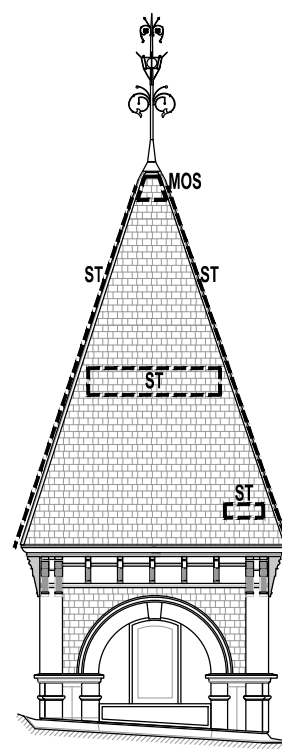
A-4



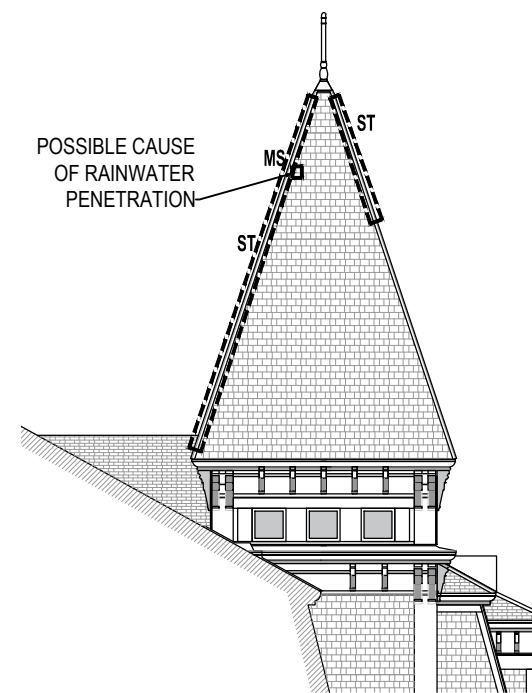
TOWER 1 SOUTH ELEVATION



TOWER 1 EAST ELEVATION



TOWER 1 NORTH ELEVATION

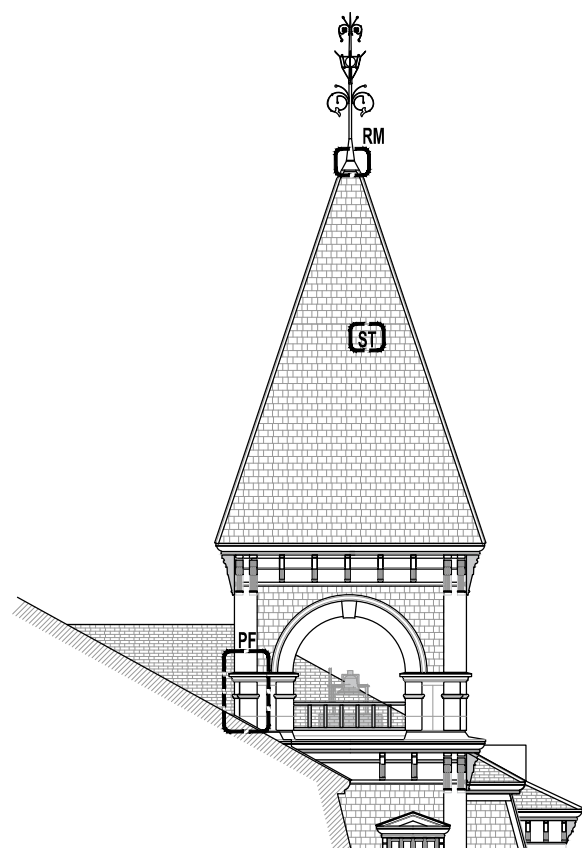


TOWER 2 NORTH ELEVATION

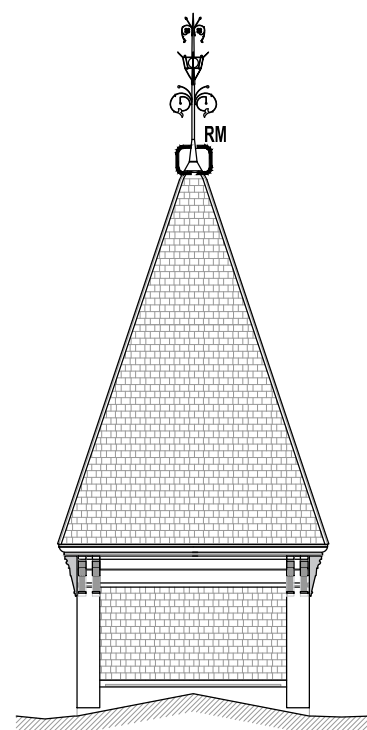
LEGEND: ELEVATIONS

- BB BROKEN BRICK
- ES ENVIRONMENTAL STAINING
- OP OPEN JOINT
- P MINOR PAINT FLAKES / CHIPS
- PF PAINT FAILURE / FLAKING
- PL PLUG FROM STAGING
- RH RUST ON HINGES
- MS MISSING SHINGLES
- MOS MOLD ON SHINGLES
- RM RUST ON METAL SURFACE
- RR EXISTING ROLL ROOFING - REPLACE WITH LEAD COATED COPPER
- S SASH - POOR WOOD MEMBER
- SP SPALLED BRICK
- ST RED STAIN - PEELED AND/OR FADED
- PHOTO REFERENCE - SEE APPENDIX "B"

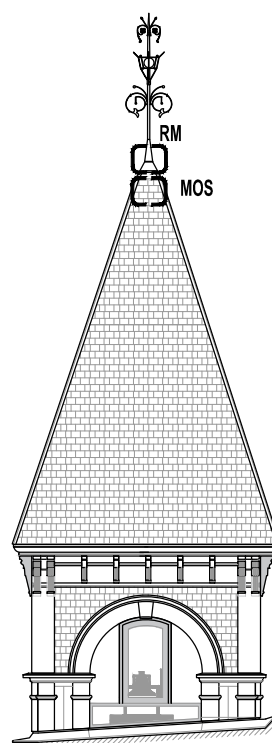
NOTE:
SEE A-6 FOR ADDITIONAL INFORMATION REGARDING
PAST ROOFING REPAIRS AND EXISTING CONDITIONS



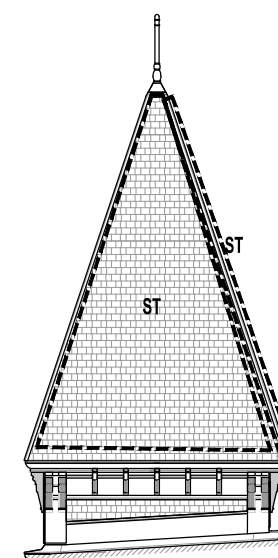
TOWER 3 SOUTH ELEVATION



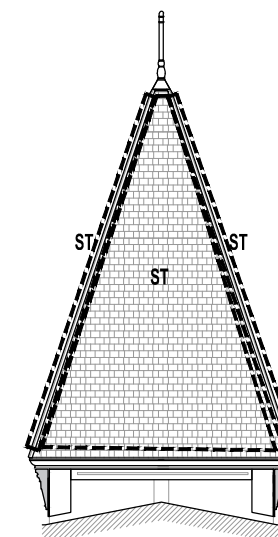
TOWER 3 WEST ELEVATION



TOWER 3 NORTH ELEVATION



TOWER 2 SOUTH ELEVATION



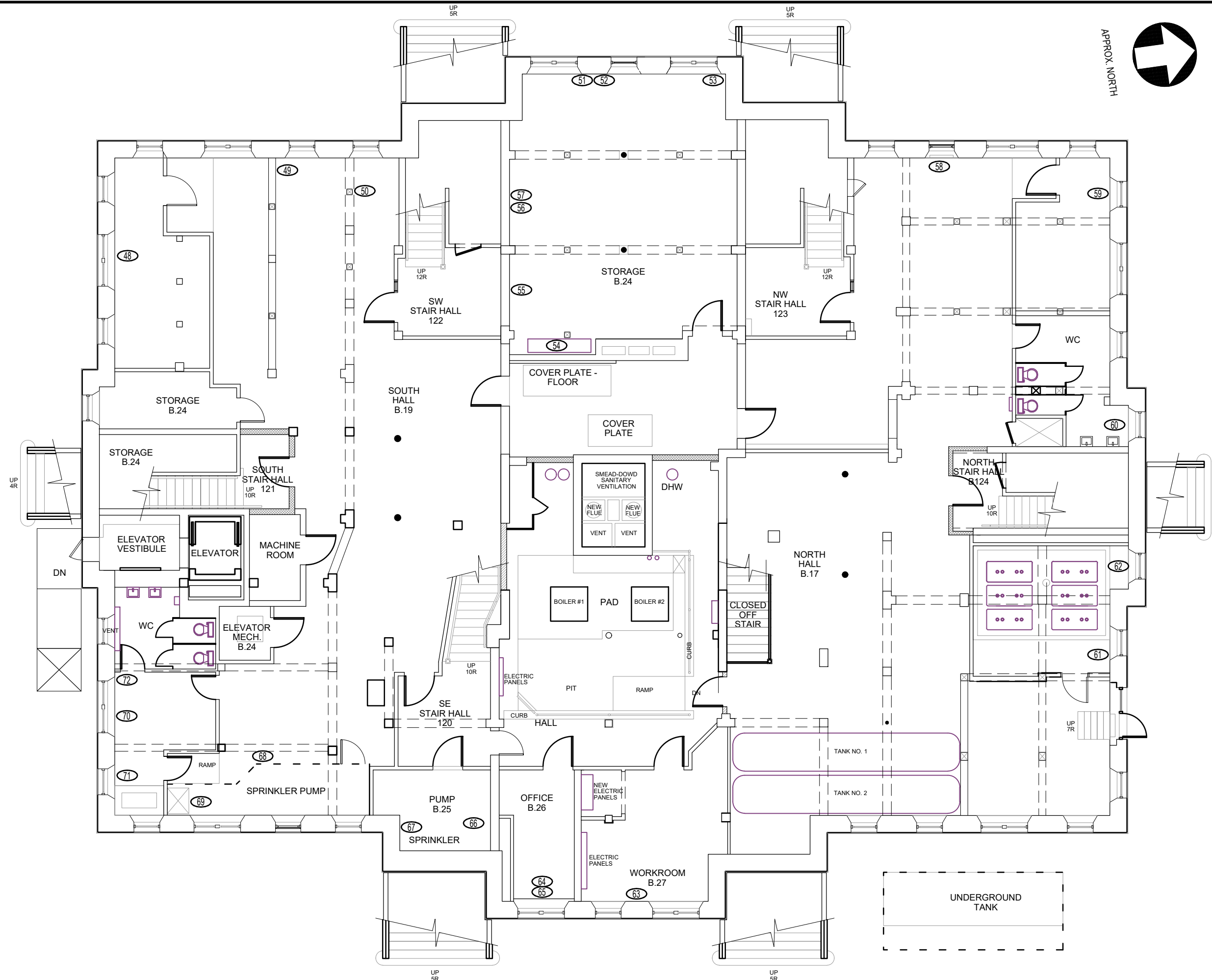
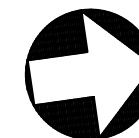
TOWER 2 EAST ELEVATION

**LUNENBURG
ACADEMY**
BUILDING CONDITION
ASSESSMENT

**ELEVATIONS.
TOWERS 1,2&3**

DATE: 2023.02.28

APPROX. NORTH



**LUNENBURG
ACADEMY**
BUILDING CONDITION
ASSESSMENT

BASEMENT PLAN

DATE: 2023.02.28

A-5

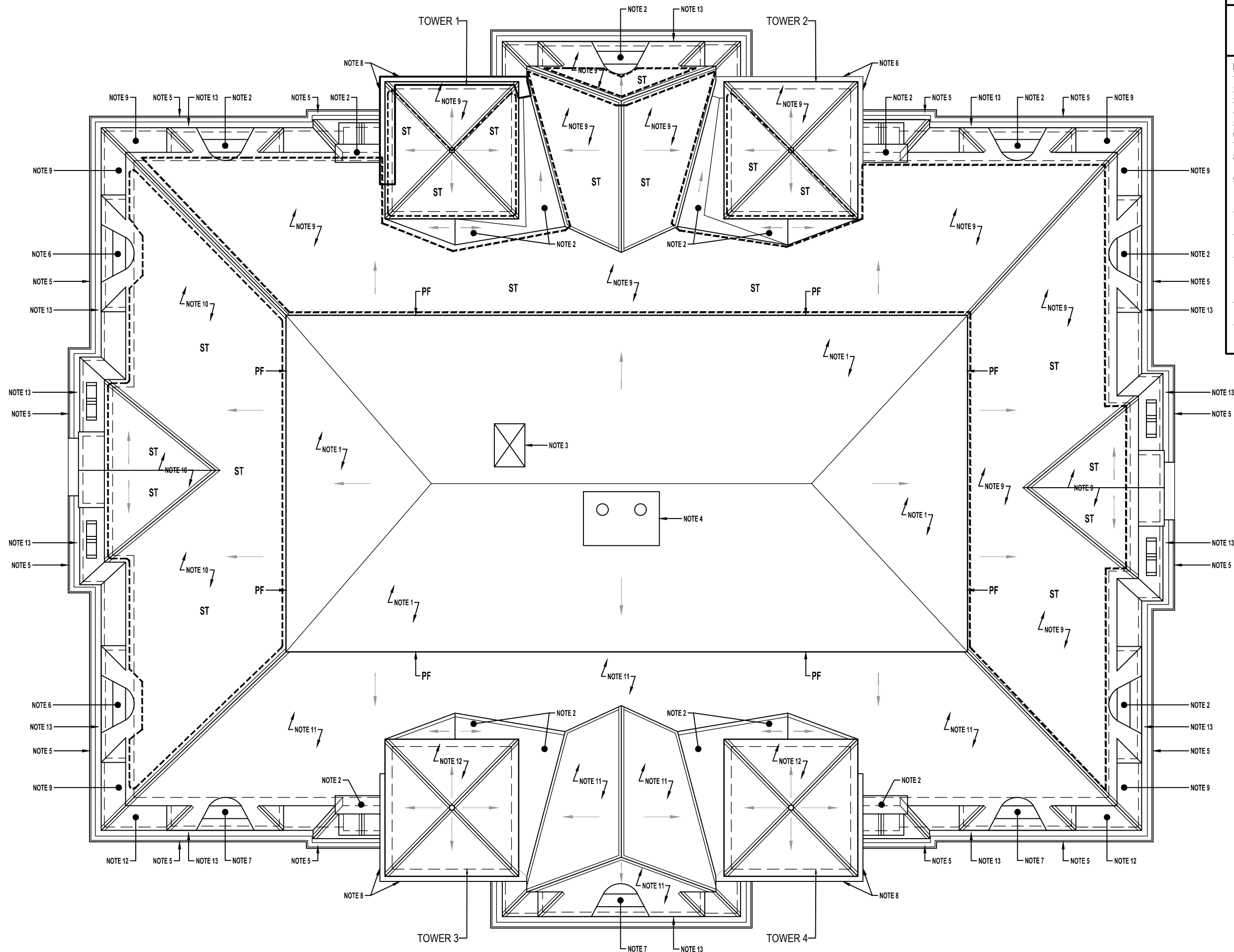
LEGEND: ROOF

PF PAINT FAILURE ON WOOD CURB & TRIM
AROUND PERIMETER OF 2014 MOD. BIT ROOF

ST RED STAIN - PEELED AND/OR FADED

NOTES:

1. MOD. BIT ROOF INSTALLED IN 2014
2. EXISTING MOD. BIT ROOFING
3. ROOF HATCH INSTALLED IN 2014
4. CHIMNEY CAPPED AND FLASHED IN 2014
5. WOOD GUTTERS INSTALLED IN 2015
6. LCC INSTALLED IN 2018
7. LCC INSTALLED IN 2020
8. EXISTING ROLL ROOFING - RECOMMEND REPLACEMENT WITH LEAD COATED COPPER (LCC)
9. ALL ROOFING SHINGLES ON NORTH, WEST & SOUTH ELEVATIONS STAINED IN 2018. VARIOUS SECTIONS OF SHINGLES REPLACED AS REQUIRED
10. WOOD ROOFING SHINGLES REPLACED ON SOUTH ELEVATION UPPER MANSARD IN 2018
11. WOOD ROOFING SHINGLES REPLACED ON EAST ELEVATION UPPER MANSARD IN 2020
12. ALL WOOD ROOFING SHINGLES ON LOWER MANSARD & TOWERS STAINED AND SPOT REPLACEMENTS CARRIED OUT AS REQUIRED IN 2020
13. LCC INSTALLED AT BASE OF MANSARD ROOF AT GUTTERS IN 2018
14. LCC INSTALLED AT BASE OF MANSARD ROOF AT GUTTERS IN 2020



**LUNENBURG
ACADEMY**
BUILDING CONDITION
ASSESSMENT

ROOF PLAN

DATE: 2023.02.28

A-6

Appendix D

25 Year Maintenance Plan



LUNENBURG ACADEMY

25 Year Maintenance Plan

97 Kaulbach Street, Lunenburg, Nova Scotia B0J 2C0

C/O:

Town of Lunenburg

119 Cumberland Street, PO Box 129
Lunenburg Nova Scotia B0J 2C0

SUBMITTED

December 11, 2023

PREPARED BY

DSRA Architecture Inc.

Ste 100 – Purdy's Wharf Tower 1
1959 Upper Water St, Halifax, NS B3J 3N2

1 25 YEAR MAINTENANCE PLAN

1.1 General Description

As was expected, the Lunenburg Academy underwent significant exterior conservation and restoration beginning in August 2017 through July 2018. Phase I included the North, West & South Elevations. As was expected the Lunenburg Academy did undergo significant exterior conservation and restoration beginning in early September 2019 and again in the spring of 2020 as Phase II. Work was not to be done through the winter as was required in Phase I. This is a general timeline of anticipated repair and replacement and maintenance actions required to complete the work to maintain the condition of the Lunenburg Academy including its restoration.

1.2 Recommended Maintenance Timeline

Regular inspections of the building exterior are essential for the continued maintenance of the exterior envelope. These will provide future custodians the knowledge to anticipate, schedule and deal with any deterioration issues before they grow into serious and extensive problems. The table in Section 3 outlines the inspections recommended at different intervals, which will then define the necessary repairs and allow for timely planning of suitable resources and routine maintenance in advance.

1.3 Annual & Occasional Tasks

Annual tasks are to be carried out at least once a year. Occasional tasks may be required after certain environmental events, such as major rain events, hurricanes or major snowstorms, which have impacted the building envelope.

1.4 Cyclical Tasks

These tasks are carried out on a scheduled basis suitable for the component in question. These include both necessary maintenance work such as caulking, repainting or touch up repointing, up to a major repointing and repair program. These tasks require more detailed inspections than those done annually.

2 EXTERIOR BUILDING COMPONENTS

2.1 General Description

The following is a list describing the materials and general attributes of the Exterior Building Components addressed in this Plan.

.1 Flat Roof

The flat modified bitumen roof was replaced in 2013 and is in very good condition. The cornice at the bottom of the mansard roof and the roof areas inside the two open-air towers are also flashed in modified bitumen roofing; in these locations, the roofing is in good condition. These roofs are expected to remain serviceable for another 12-15 years.

.2 Mansard Roof

The mansard roof is clad in stained cedar shingles. The cedar shingles were replaced in the mid 1990's and were in fairly good condition until wasps began eroding the surfaces of the shingles to make nests. On most sides the lowest 4 courses were more recently replaced, however the condition of these lower shingle courses was poor with loose, weathered and missing shingles.

These were replaced in Phase I. Phase II replaced the East side where required. The wood hip caps were in fair to poor condition, and some required replacement. Localized repair, scraping and staining of wood mansard roof elements is recommended on a five year rotation.

.3 Chimney

The masonry chimney was fully repointed, and a new flashing installed in 2013, as part of the flat roof replacement project. The chimney was still in good condition, although some damage was noted over the winter of 2017-2018. This was repaired but needs to be monitored.

.4 Gutters

Replica gutters were crafted in wood and encapsulated in fiberglass for durability and longevity in 2015. The gutters are in good condition. Small localized leaks, generally at joint locations, require minor repair in the short term. This work is no longer covered by the contractor's warranty.

.5 Rainwater Leaders

Rainwater leaders are PVC and are in good condition. PVC is not a heritage compatible material. Replacement should be considered during the future exterior conservation and restoration projects. Inspection and maintenance of support blocks and pipe straps recommended in the short term.

.6 Cladding

The building is clad in painted wood shingles and clapboard. The paint is in generally good condition. Phase I work on the South required 100% replacement; Phase II was the same on the East. The clapboard, however, remains in good condition.

.7 Trim & Ornamentation

The window casings were in generally poor condition. Some Dutchman repairs had been performed. Replacement of rotten, damaged and missing casing, mouldings and miscellaneous trim was recommended and included in this program. The brackets are in good to fair condition. Stripping and repainting of the brackets was recommended to be performed at the same time stripping and repainting of the cladding. The decorative woodwork was found to be in good condition in Phase I, less so in Phase II.

.8 Window Pediments

The window pediments were in poor condition. The cap flashing materials differed and were either missing or extremely damaged. Exposed wood was rotten and holes in the pediment cap left the building susceptible to significant water damage. Some pediments required reconstruction in Phase I, the same was undertaken in Phase II. Repair and replacement of damaged and missing materials is recommended in future maintenance.

.9 Windows

Generally, the windows on floors one through three are single putty glazed wood sashes. An extensive window restoration project was undertaken in 2015 wherein over 100 sashes were removed and repaired.

The windows on the upper three storeys were to be rehabilitated, as part of the 2017-2020 exterior conservation and restoration work. Numerous sashes were extensively repaired or replicated. Cyclical tasks will need to be performed with a relatively high frequency to maintain

the condition of the windows. Protecting the rehabilitated windows with storm windows would reduce the frequency of maintenance tasks.

Further investigation into the condition of the basement windows is recommended. All are protected by painted wire grills. The granite sills below the basement windows are in good condition but need to be pointed and cleaned by a certified stone restoration mason.

.10 Main Door Entry Systems

The Six Main Door Entry Systems are comprised of a painted wood enframing system including window and door casings, transom windows, sidelights and painted wood door panels. The entry systems are generally in fair to good condition. The two on the West elevation were in the worst condition and have been replaced or restored. One door seems to have failed again and will likely be in need of replacement. Some repair of lower casings occurred during the reconstruction of the exterior landings and stairs completed in 2016 and 2017. Rehabilitation of the wood enframing systems was included in the scope, including another set of doors. Work included the removal of temporary plywood side panels and installation of replica wood side panels.

The door panels on the South elevation were replaced in 2015 and are in good condition, other door panels appear to be in good to fair condition. Regular ongoing maintenance is recommended in the short term.

.11 Exterior Landings and Stairs

The exterior landings and stairs were rebuilt in 2016 and 2017 and they are in good condition. Minor annual and cyclical maintenance tasks are recommended to maintain the condition of these elements, including the new railings on the East. The steps and landings need regular painting.

.12 Foundation

The below grade granite and ironstone rubble foundation walls appear to be in fair condition on the interior, although water ingress has been noted in the basement where the foundation walls are visible. For further detail refer to the 2017 Lunenburg Academy Exterior Assessment Report prepared by DSRA Architecture. Excavation to inspect the exterior face of the foundation wall is recommended to further investigate the possible causes of water infiltration. Re-pointing, waterproofing the foundation, and improving drainage are recommended. This rehabilitation and improvement work would be extensive but would provide a long-term solution for the preservation of the foundation walls and needs to be done before the site landscaping plan is undertaken. This work may allow some new uses of the basement spaces.

The portion of the foundation walls above grade have an exterior painted clay brick masonry veneer resting on a granite plinth. The painted masonry is in fair condition but paint removal, localized repair and re-pointing by a certified restoration mason is recommended in the short term. This work was an optional price in the original Bid and should be considered in 2023.

3 PROPOSED 25 YEAR MAINTENANCE SCHEDULE

LUNENBURG ACADEMY, 97 Kaulbach St, Lunenburg, NS													
COMPONENT	CONDITION	Estimated Year of Installation	Expected Useful Life (E.U.L.)	Current Age	Remaining Useful Life (R.U.L.)	ANNUAL TASKS	OCCASIONAL TASKS	CYCLICAL TASKS	ANTICIPATED TIMELINE FOR INSPECTION, REPAIR, REPLACEMENT AND/OR MAINTENANCE ACTIONS				
									5 YEARS (SHORT TERM)	10 YEARS	15 YEARS	20 YEARS	25 YEARS
<i>Flat Roof</i>	Good	2013	20	9	11	INSPECT	PATCH	REPLACE FLASHING	INSPECT, REPAIR & MAINTAIN	INSPECT & 10 YEAR REPAIR	INSPECT & MAINTAIN	REPLACE	INSPECT & MAINTAIN
<i>Mansard Roof</i>	Good/Fair	1995 & 2018	40	1.5-28	38.5-12	INSPECT FOR MISSING SHINGLES			REPAIR/REPLACE	INSPECT & MAINTAIN	SCRAPE & RE-STAIN ENTIRE ROOF		
<i>Chimney</i>	Very Good	2013	40	9	31	INSPECT		INSPECT STAINLESS FLUES & CAPS	INSPECT, REPAIR & MAINTAIN	INSPECT & MAINTAIN	LOCALIZED REPOINTING	INSPECT & MAINTAIN	INSPECT & MAINTAIN
<i>Gutters</i>	Very Good	2015	25	7	17	INSPECT & SEAL LEAKS EVERY SPRING AS REQ'D		INSPECT & SEAL LEAKS EVERY SPRING AS REQ'D		PAINT	REPAIR	PAINT	REPLACE
<i>Rainwater Leaders</i>	Good	Unknown	10		1			CLEAN OUT STORM	REPLACE WITH HISTORICALLY CORRECT WOOD	INSPECT & MAINTAIN	INSPECT & MAINTAIN	INSPECT & MAINTAIN	INSPECT & MAINTAIN
<i>Cladding</i>	Fair/Poor	1893-1895 to 2017-2018		Varies	40		INSPECT & REPAIR	SCRAPE & PAINT EVERY 5 YEARS	REPAINT, REPAIR & REPLACE AS REQ'D	INSPECT, REPAIR & MAINTAIN	INSPECT, REPAIR & MAINTAIN	INSPECT, REPAIR & MAINTAIN	INSPECT, REPAIR & MAINTAIN
<i>Trim & Ornamentation</i>	Good to Poor	1893-1895		Varies	25		INSPECT & REPAIR	SCRAPE & PAINT EVERY 5 YEARS	REPAINT, REPAIR & REPLACE AS REQ'D	INSPECT, REPAIR & MAINTAIN	INSPECT, REPAIR & MAINTAIN	INSPECT, REPAIR & MAINTAIN	INSPECT, REPAIR & MAINTAIN
<i>Window Pediments</i>	Good to Poor	1893-1895		Varies	25		INSPECT & REPAIR	SCRAPE & PAINT EVERY 5 YEARS	REPAINT, REPAIR & REPLACE AS REQ'D	INSPECT, REPAIR & MAINTAIN	INSPECT, REPAIR & MAINTAIN	INSPECT, REPAIR & MAINTAIN	INSPECT, REPAIR & MAINTAIN
<i>Rehabilitated Windows</i>	Fairly Good to Poor	Varies	Varies	Varies	0-15		REPLACE FAILED PUTTY & GLASS		REPLACE SOME SASHES WITH SINGLE GLAZED REPLICAS	REPLACE FAILED PUTTY & GLASS	REPLACE FAILED PUTTY & GLASS OR SASHES	REPLACE FAILED PUTTY & GLASS	REPLACE FAILED PUTTY & GLASS OR SASHES
<i>Replica Windows</i>	Poor	2019-2020	50	n/a	45		REPLACE HARDWARE		REPLACE SOME SASHES WITH NEW SINGLE GLAZED REPLICAS	MAINTAIN	MAINTAIN	MAINTAIN	MAINTAIN
<i>Main Door Entry Systems</i>	Fairly Good to Poor	1984-2018	15	Varies	5-10 years	ADJUST HARDWARE	ADJUST HARDWARE	ADJUST HARDWARE	REPLACE SOME	MAINTAIN	MAINTAIN	MAINTAIN	MAINTAIN
<i>Entrance Stairs & Landings & Railings</i>	Good	2016-2018	20	New	15		INSPECT & REPAIR	SCRAPE & PAINT EVERY 5 YEARS	INSPECT, REPAIR & MAINTAIN	INSPECT, REPAIR & MAINTAIN	INSPECT, REPAIR & MAINTAIN	INSPECT, REPAIR & MAINTAIN	INSPECT, REPAIR & MAINTAIN
<i>Foundation Below Grade</i>	Poor/ Obscured	1893-1895	125	124	1			FLUSH CLEAN OUTS	WATERPROOF, UPGRADE WEEPING TILE				
<i>Foundation Above Grade</i>	Fair	1893-1895	150	127	23		PAINT OR REPAIR		STRIP PAINT, REPLACE BRICK, REPAIR		PAINT		PAINT