**Ritter Memorial Building**
960 Massachusetts Avenue
Lunenburg, MA 01462

# Property Condition Assessment

**February 6, 2018**

**PREPARED FOR:**

Town of Lunenburg
17 Main Street, P.O. Box 135
Lunenburg, MA 01462

**PREPARED BY:**

The Vertex Companies, Inc.
400 Libbey Parkway
Weymouth, MA 02189

**PHONE** 781.952.6000

VERTEX Project No: 48237

VERTEX®

February 6, 2018

Town of Lunenburg
17 Main Street, P.O. Box 135
Lunenburg, MA 01462
Attn: Heather R. Lemieux

Re: Property Condition Assessment
Ritter Memorial Building
960 Massachusetts Avenue
Lunenburg, MA 01462
VERTEX Project No. 48237

Dear Ms. Lemieux:

The Vertex Companies, Inc. (VERTEX) is pleased to submit this Property Condition Assessment (PCA) report for the above referenced property (the site).

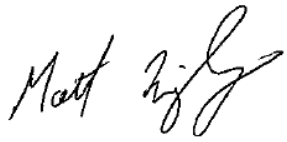
Our work was conducted in general conformance with P.2489.17, dated September 29, 2017, and in general accordance with the provisions of ASTM E2018-15 (Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process) for commercial real estate.

Please do not hesitate to contact us at your convenience should you have any questions or comments regarding this report.

Sincerely,

**The Vertex Companies, Inc.**

Philip Russo, R.A.
Field Observer & Report Author
Project Manager



Matthew Quigley, PE
Field Observer & Report Author
Forensic Structural Engineer

Jason Mohre
Field Observer & Report Author
Senior Project Manager

Scott Katzer, PE., CFEI
Field Observer & Report Author
Senior Forensic Engineer/Division

Brian Dunn, AIA, NCARB
Field Observer & Report Author
Forensic Architect

Eric L. Nelson, LEED®AP, CEA
Report Reviewer
Vice President

## TABLE OF CONTENTS

## TABLES & CHARTS

No.



## APPENDICES

## 1.0 EXECUTIVE SUMMARY

The VERTEX Companies, Inc. (VERTEX) performed a Property Condition Assessment (PCA) of the Ritter Memorial Building located at 960 Massachusetts Avenue in Lunenburg, MA, on December 14, 2017. Overall, the property and improvements appeared to be in good to fair condition with respect to age, use and location.

A table of salient information associated with the project is presented below and utilized throughout this report.

| SALIENT PROPERTY INFORMATION | |
|---|---|
| **Property Name:** | Ritter Memorial Building |
| **Location/Address:** | 960 Massachusetts Avenue, Lunenburg, MA 01462 |
| **Construction Year(s):** | 1910/1963 |
| **Property Type:** | Municipal Offices |
| **Number of Units:** | Not Applicable |
| **Reported/provided Building Area (SF):** | 6,000 (Prior Condition Report) |
| **Reported/provided Site Area (Acres):** | 1.1 (Property Record Card) |
| **Surrounding Property Usage:** | Retail, vacant land, agriculture, commercial, residential, recreational |
| **Utility Service:** | |
| **Gas:** | National Grid |
| **Electric:** | Unitil |
| **Water:** | Lunenburg Water District |
| **Sanitary:** | Town of Lunenburg |
| **Storm:** | Town of Lunenburg |

The "Quick Look Summary Checklist" presented on the following page, is intended to provide a general, objective* evaluation based on the issues identified at the property and their associated projected costs. Recognizing that the evaluation is general in nature, and subject to the limitations of the assessment as well as cost estimating accuracies, the Summary is simply calculated utilizing a modification of the recognized Facility Condition Index (FCI) utilized by many professionals to evaluate the condition of buildings or groups of buildings. For this assessment, issues identified (Immediate, ADA and Capital Needs) were categorized by building system in appropriate sections of the report and Cost Table 1. The sum of dollar values for these issues was

then divided by an estimated value for building replacement costs, weighted each building category. The following definitions were utilized for these ratings.

- **Good:** Aggregate of identified issues is less than 5% of total replacement costs estimated for the associated system.
- **Fair:** Aggregate of identified issues is greater than 5% and less than 10% of total replacement costs estimated for the associated system.
- **Poor:** Aggregate of identified issues is greater than 10% of total replacement costs estimated for the associated system.

**It is important to note that the ratings assigned in the Quick Look Summary are objective measures based solely on projected dollar amounts relative to total system replacement costs. These ratings may differ from our overall subjective opinion of the condition of the same system or category identified in the text descriptions and discussions in Section 5 of this report.*

## *"QUICK LOOK" PROJECT SUMMARY AND ESTIMATE OF PROJECTED COSTS*

| | | | |
|---|---|---|---|
| Site Name: | Ritter Memorial Building | # Buildings: | 1 |
| Site Location: | Lunenburg , MA | Est. Bldg Area, SF: | 6,000 |
| Building Age, yrs: | 108 | Eval. Term, Yrs: | 5 |
| Building Type: | Municipal/Residential | Per SF replace cost: | $214 |

| GENERAL CATEGORY | SUMMARY RATING G | F | P | NA | # Items | Immediate Needs Estimate | # Items | Capital Needs Est., Uninflated |
|---|---|---|---|---|---|---|---|---|
| SITE DEVELOPMENT | | | x | | 2 | $7,609 | 2 | $11,856 |
| BUILDING STRUCTURE | x | | | | 1 | $5,000 | 0 | $0 |
| BUILDING EXTERIOR | | | x | | 1 | $12,085 | 6 | $74,167 |
| ROOF | x | | | | 0 | $0 | 0 | $0 |
| BUILDING INTERIOR | | | x | | 1 | $133,500 | 3 | $53,563 |
| MECHANICAL SYSTEMS | | | x | | 2 | $7,725 | 2 | $121,427 |
| ELECTRICAL SYSTEMS | x | | | | 1 | $350 | 1 | $4,555 |
| PLUMBING SYSTEMS | x | | | | 1 | $1,500 | 0 | $0 |
| CONVEYANCE | | | | x | 0 | $0 | 0 | $0 |
| LIFE SAFETY / FIRE PROTECT | x | | | | 1 | $750 | 0 | $0 |
| ANCILLARY STRUCTURES | | | | x | 0 | $0 | 0 | $0 |
| **OVERALL RATING / TOTALS** | | | x | | **10** | **$168,519** | **14** | **$265,568** |
| ADA IMPROVEMENTS | | | | | 4 | $1,779 | | |

This "Quick Look" Summary is intended to provide an overall picture of the number of identified and quantified issues at the subject property. The summary ratings above are objective, and are based on the aggregate estimated dollar amount for identified repairs associated with each category. The definitions used for these summary ratings are based on a modified Facility Condition Index (FCI) which is calculated by dividing aggregate costs for Immediate and Short Term Needs by a simply modeled replacement cost value weighted for each category and based on building type.

$$FCI = \frac{\text{(Immediate Needs + Short Term Needs*)}}{\text{Replacement Cost**}}$$

***GOOD: 0 to 5 percent***
***FAIR: 5 to 10 percent***
***POOR: 10 to 100 percent***

**Capital Needs identifed in Years 1 and 2*
*** For each individual building category*

**Overall Property FCI = 28%**

# 2.0 PURPOSE AND SCOPE OF SERVICES

## 2.1 PURPOSE

The purpose of the Property Condition Assessment (PCA) was to observe and document readily visible material and building system defects that might significantly affect the value of the property. The PCA also assessed existing conditions that might have a significant impact on the continued operation of the facility during the requested term of assessment. The requested term of assessment for this report was five years.

It is understood that the Client is considering the appropriate renovation or re-use of the property described in this report. The report will be utilized to assist with planning decisions, as well as provide information for future capital planning.

Observations performed during the PCA were made without operational testing and/or removing or damaging components of the building systems. Consequently, some system specific assumptions were made regarding the existing conditions and operating performance of each system. Furthermore, recommendations developed for this report were based on information discovered during the PCA. If additional information is discovered concerning the facility, the assumptions, conclusions, and recommendations presented herein may require re-assessment.

The recommendations and opinions of cost provided in this report were also based on the understanding that the facility will continue to operate under similar use and occupancy as observed on the date of the site reconnaissance.

## 2.2 SCOPE OF SERVICES

The PCA included the following: site reconnaissance; limited interviews with property management and maintenance personnel; and a review of available construction documents as provided by the building management. Operational testing of building systems or components was not conducted. Although the building was visually reviewed for suspected hazardous materials, sampling was not conducted and thus, this PCA does not confirm the presence or absence of asbestos, polychlorinated biphenyls (PCBs), mold, or contaminated soils or groundwater on the property.

During the PCA, unless noted otherwise, VERTEX made visual observations of the following facility features: site development systems; building structure systems; building exterior systems;

building interior systems; roof systems; mechanical systems; electrical systems; plumbing systems; conveyance systems; and, life and fire safety systems.

VERTEX utilized ASTM E2018-15 as a guideline for the evaluation of the building. This recognized assessment protocol gives specific guidance for the condition assessment of buildings, and provides a framework for an objective and repeatable methodology from an independent assessor.

## 2.3 REPORT RELIANCE

This report is intended for review as a complete document. Therefore, interpretations and conclusions drawn from the review of any individual section are the sole responsibility of the user.

## 2.4 DEVIATIONS FROM THE GUIDE

ASTM E2018-15 "Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process," was utilized as a guideline for the site visit and associated report preparation. ASTM requires that deviations from the guidelines be stated in the report.

The following items were not required by the ASTM standard but were provided as part of this PCA at the request of the client or as value added considerations.

- ★ The field observations were performed by registered professional staff
- ★ Determination of USGS Seismic Hazard and IRC Termite Zone
- ★ A Capital Needs Assessment with a term length of five-years was performed
- ★ A visual review of specific accessibility related issues and general compliance was performed

## 2.5 INACCESSIBLE AREAS / OBSERVATION LIMITATIONS

Representative observations were made at the facility in accordance with ASTM E2018-15. The following areas were not accessed, or access was limited during the site visit.

- ★ Roof (due to pitched conditions)
- ★ Landscaping (due to snow cover)

## 2.6 AREAS REVIEWED

Observations of the various systems, materials and building areas were performed as part of the site walk-through. Site observations of similar portions of the building or similar systems or materials were performed until, in VERTEX's professional opinion, a representative sampling was adequate for extrapolation to the remainder of the building.

# 3.0 REPORT INFORMATION

## 3.1 ASSESSMENT DEFINITIONS

GOOD: Material or building system was in average to above-average condition. Opinion is rendered with consideration to the item's type, age, design, and location. Generally, other than normal maintenance, no work is recommended or required.

FAIR: Material or building system was in average condition. Some work is required or recommended, primarily due to normal aging and wear of the building system, to return the system or material to a good condition.

POOR: Material or building system was in below average condition. Significant work is anticipated to return the building system or material to an acceptable condition.

Unless stated otherwise in this report, the material and building systems reviewed were considered to be in good condition and their performance appeared to be satisfactory.

## 3.2 COMMON ABBREVIATIONS/ACRONYMS

| | | | |
|---|---|---|---|
| **ALEC** | Aluminized Emulsion Coating | **HP** | Horse Power |
| **AC** | Alternating Current | **HVAC** | Heating Ventilation & Air Conditioning |
| **ASHRAE** | American Society of Heating, Refrigeration & Air Conditioning Engineers | **IN** | Inches |
| | | **IRMA** | Inverted Roof Membrane Assembly |
| **A/V** | Audio Visual Device | **KVA** | Kilo-volt Amp |
| **BLDG** | Building | **KW** | Kilowatt |
| **BOCA** | Building Officials & Code Administrators (Building Code) | **LF** | Linear Feet |
| | | **LS** | Lump Sum |
| **BTU** | British Thermal Unit (HVAC / MEP) | **MBH** | 1,000 BTUs per Hour |
| **BUR** | Built-Up-Roof | **MEP** | Mechanical, Electrical, Plumbing |
| **CF** | Cubic Feet | **MIL** | 1/1000$^{th}$ of an inch |
| **CIP** | Cast Iron Pipe | **MP** | Manual Pull Station (fire alarm) |
| **CMP** | Corrugated Metal Pipe | **PSI** | Pounds per square inch |
| **CMU** | Concrete Masonry Unit | **PVC** | Poly-Vinyl-Chloride (pipe) |
| **CY** | Cubic Yard | **QA/QC** | Quality Assurance/Quality Control |
| **DC** | Direct Current | **RCP** | Reinforced Concrete Pipe |
| **DIP** | Ductile Iron Pipe | **RUL** | Remaining Useful Life |
| **DM** | Deferred Maintenance | **SOG** | Slab-on-grade |
| **DX** | Direct Expansion (air conditioning) | **SF** | Square feet |
| **EIFS** | Exterior Insulation & Finish System | **SY** | Square Yard |
| **EMS** | Energy Management System | **TN** | Ton (12,000 BTU cooling, HVAC) |
| **EPDM** | Ethylene-Propylene-Diene-polymer-Monomer ("rubber" roofing) | **UBC** | Uniform Building Code |
| | | **VAT** | Vinyl Asbestos Tile |
| **EUL** | Estimated Useful life | **VAV** | Variable Air Volume (HVAC) |
| **FT** | Feet | **VCT** | Vinyl Composition Tile |
| **HID** | High Intensity Discharge (lighting) | **VWC** | Vinyl Wall Covering |

### 3.3 REPORT TENSE

This report was prepared in the past tense as it is intended to only describe observed conditions at the time of the site reconnaissance.

### 3.4 OPINIONS OF COST

The cost tables associated with the PCA include total amounts for *Immediate Repair* items, *Short-Term Repair* items, and *Capital Needs*. A separate cost table (Table 2) is provided to address accessibility issues.

Immediate Repair items are defined as physical deficiencies that cannot be remedied with routine maintenance, normal operating maintenance, etc., excluding de minimis conditions that generally do not present a material physical deficiency to the subject property. Immediate Repair items are typically considered to be: (1) material existing or potential unsafe conditions resultant from damage or deterioration (2) material building or fire code violations as revealed by municipal agencies; or (3) conditions that if left unremedied, have the potential to result in or contribute to critical element or system failure within one year, or will result most probably in a significant escalation of its remedial cost.

Short-Term Repairs are defined as physical deficiencies, such as deferred maintenance, that may not warrant immediate attention, but require repairs or replacements that should be undertaken on a priority basis in addition to routine preventative maintenance. In some cases, Short-Term repairs may include recommendations for testing, exploratory probing, and/or further analysis. Generally, the expected time frame for Short-Term Repairs is within one to two years.

Capital Needs are those items of a capital nature which are expected to require repair, renovation or replacement during the requested evaluation term, in this case five years.

ADA/MAAB Items are those items that would be required to upgrade or update existing systems to provide improved accommodations for handicapped persons.

The opinions of cost presented herein were based on readily visible material and building system defects that might significantly affect the value of the property during the requested assessment term. These opinions were based on approximate quantities and values, and do not constitute a warranty or guarantee that all item(s) requiring repair were included. The estimated costs developed in this report were for the aforementioned Immediate Repair items, Short-Term

Repair items, Capital Needs and ADA/MAAB items. Items not incorporated into the cost tables include operational costs, such as landscaping maintenance and utility (gas or electricity) usage, unpredictable (aesthetic) upgrades, or normal operation and maintenance. The availability of parts or qualified personnel for repairs or renovations may be limited and is not factored into cost estimates unless specifically stated.

Estimated costs were developed with published unit price data and industry experience as summarized below.

Estimating/Quantity Take Off: Costs for selected items were estimated based on provided documentation, general calculations of capacity, area, size or other item features, and VERTEX's experience with buildings of similar size, construction and geographic location.

Like-with-Like Replacement: This assessment was not an attempt to design or address future programming needs, but rather an objective, independent assessment of the current condition of the buildings with a focus on repair, renovation or replacement of building materials, components or systems that have reached or are expected to reach the end of their useful lives in the next five (5) years.

Primary Estimating Source: RS Means 2017 Commercial Cost Renovation Data was utilized as the primary resource and some costs were modified based on our local experience. Unit costs were standardized for the geographic area and for prevailing wage rates and a percentage escalation was added for uncertainty.

It is important to understand that actual costs will vary depending on such factors as contractor expertise, previous contractor commitment, seasonal workload, insurance and bonding, and local labor conditions. These factors may cause wide variations in the actual costs as estimated by different bidders. In addition, since some projected projects may not require general contracting or significant design, GC soft costs (overhead & profit, bond and insurance, general conditions), design fees, owners project management fees and other potential fees are not included in these estimates. In view of these limitations, the costs presented herein should be considered "order of magnitude" estimates and used for preliminary budgeting purposes only. Preparation of scopes of work and contractor bidding are recommended to forecast actual costs.

### 3.5 ACTIVE CONSTRUCTION

The building was complete, and areas of active construction were not observed during the on-site visit.

# 4.0 ASSESSMENT INFORMATION

## 4.1 GENERAL SUMMARY

The VERTEX Companies, Inc. (VERTEX) performed a Property Condition Assessment (PCA) of Ritter Memorial Building located at 960 Massachusetts Avenue in Lunenburg, MA, on December 14, 2017. Overall, the property and improvements appeared to be in good to fair condition with respect to age, use and location.

In our opinion, the Site Contact (Owner's Representative) was fully familiar with the building's operation, condition and associated systems. Our conclusions are based on our visual observations, statements by on-site personnel, review of available records, and limited documentation obtained during the course of follow-up research.

## 4.2 SITE RECONNAISSANCE

The site reconnaissance portion of the PCA was performed on December 13, 2017, by Philip Russo, R.A., Matthew Quigley, PE, and Jason Mohre, Brian Dunn, AIA, NCARB and Scott Katzer, PE., CFEI all of VERTEX. Weather conditions during the site reconnaissance were as follows:

| On-site Date | Weather Description | Average Temp. |
|---|---|---|
| December 14, 2017 | Sunny | 30° F |

The following building features were assessed, if applicable.

- Exterior Site Elements
- Building Structure System
- Building Exterior System
- Roof System
- Mechanical System
- Electrical System
- Plumbing System
- Building Interior System
- Life & Fire Safety System
- Conveyance System

## 4.3 BUILDING HISTORY

According to the Site Contact, the building was originally constructed as a library and converted into municipal office use reportedly in 2010 .

## 4.4 INTERVIEWS

Interviews were conducted with personnel familiar with the facility to obtain information relative to the condition of the various building systems. Information obtained during the interviews has been incorporated into this report in the applicable sections. The following individuals or agencies were interviewed or contacted.

- Jack Rodriquenz, DPW Director, Town of Lunenburg (Site Contact)
- Adam Burney, Land Use Director, Town of Lunenburg
- John Londa, Director of Facilities, Town of Lunenburg
- Jim Breault, Facilities Manager, Town of Lunenburg

## 4.5 PRE-SURVEY QUESTIONNAIRE AND REQUEST FOR DOCUMENTATION

Due to ownership of the building and property by the municipality, VERTEX opted not to issue a Pre-Survey Questionnaire and Request for Documentation (PSQ). Information relating to the property history was obtained from other sources as documented in this report.

## 4.6 DOCUMENTS

The following documents were provided or discovered during VERTEX's research of the property history.

| Description | Author | Date | Reviewed | |
|---|---|---|---|---|
| | | | No copy obtained | Copy obtained |
| Flood Insurance Rate Map (Community Panel # 2503150005B) | Federal Emergency Management Agency | June 15, 1982 | | ✓ |
| Building Assessment & Space Needs Study | Tappe Architects | January 11, 2016 | | ✓ |
| Property Record Card | Community Software Consortium | January 16, 2018 | | ✓ |

## 4.7 MUNICIPAL RESEARCH & CODE COMPLIANCE

A detailed analysis of whether or not the building and site is compliance with current codes was not performed as part of this assessment. Code compliance research and evaluation was limited to the following.

a) Visual observation of materials, components or systems that due to obvious deterioration or damage have resulted in an unsafe condition. Such conditions must have been visible without probing, dismantling or uncovering or unblocking access, and must not have required specialized knowledge of any particular code or any measurement or calculation for dimensional, clearance, or other compliance.

Issues of unsafe conditions related to visual deterioration or damage, if observed, are identified and discussed in the various sections of this report specific to the material, component or system.

## 4.8 SITE CHARACTERISTICS

General site characteristics including site topography, flood zone, seismic considerations, and termite considerations are tabulated and discussed below.

**Topography**

The property was relatively flat, with crowns in pavements and landscaped areas provided for runoff of surface water.

**Flood Zone**

VERTEX visually plotted the general property location on FEMA Flood Insurance Rate Map. This should not be considered a flood zone certification. Actual determination of flood zones should be performed by a registered surveyor.

Subject Property Flood Zone: Zone C, defined as an area of minimal flooding.

## Seismic Considerations

The probability of ground damaging motion within each Seismic Zone is defined below based on the Seismic Zone Map in Figure A, (1997 Uniform Building Code).

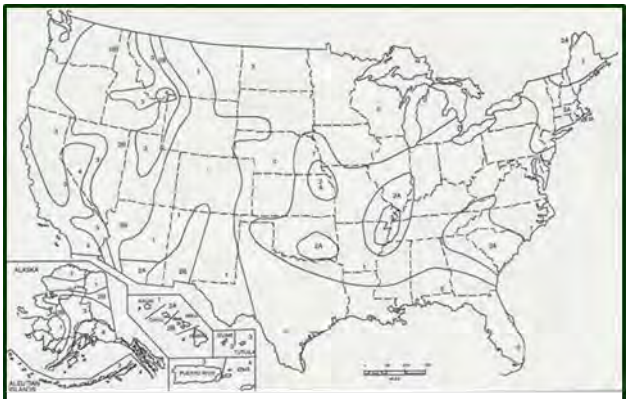


Figure A: Seismic Zone Map of the United States
(UBC—1997 Edition)

- (0 or 1) low probability
- (2A) low to moderate probability
- (2B) moderate probability
- (3) moderate to high probability
- (4) high probability

While there are more recent seismic risk maps, they generally require specific information on the seismic response characteristics of the site and structure. For ease and consistency, and comparision with previous standards, the ASTM standards associated with Probable Maximum Loss (PML) seismic studies, rely on this 1997 map.
The subject property for this evaluation was located in Seismic Zone:

**2A**

In general terms, those properties located in Zones 3 and 4 have a greater risk of ground damaging motion, and PML studies are typically recommended in these zones. Based on the property location, a PML is not recommended for this site.

**Termite Considerations**

Termite Zones identified in the 2000 International Residential Code (IRC) are shown in Figure B. Based on the general location, the subject property is located in the following Termite Infestation Region:

**Moderate to Heavy**

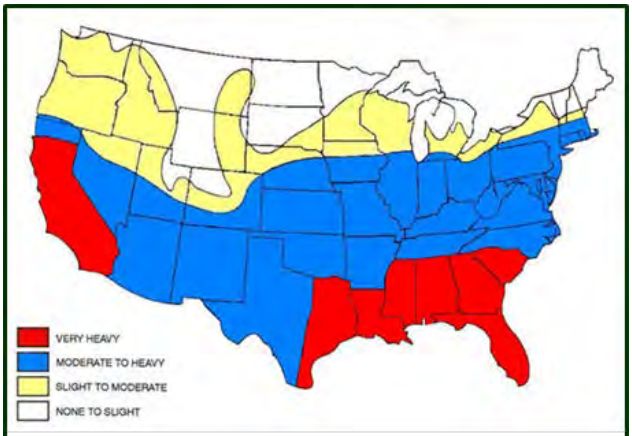



Figure B: Termite Infestation Probability Map
(Adapted from International Residential Code 2000 Edition)

The foundation and exterior walls of the building are constructed with concrete, steel, masonry and glass, which may serve to minimize the risk of building damage due to wood destroying insects.

We did not observe evidence of wood destroying insect activity, and none was reported; however, in the event that certification of the absence or present of termite activity is required, a licensed pest inspection professional should be engaged to perform a formal survey.

## 4.9 CLIENT SPECIFIC INFORMATION

This assessment was performed in accordance with ASTM E2018-15 and no specific client concerns or protocols were addressed that are not already discussed elsewhere in this report.

## 5.0 SYSTEM DESCRIPTION AND CONDITION

The following sub-sections describe the major building systems as observed during the PCA. Comments and/or recommendations offered by VERTEX regarding each system are presented immediately after each description in italic print. Each deficiency is assigned an item number and is cross-referenced in Table 1. Numbered photographs are presented in Appendix A and cross-referenced in Table 1.

### 5.1 SITE IMPROVEMENTS

Site development systems are those that relate to geographic features of the property and surrounding area, and improvements that serve ancillary roles for the facility. Components of the observed site development systems included paving and parking, sidewalks, retaining walls and fencing, signage, loading docks and dumpster areas, irrigation systems, site lighting and utilities, landscaping, and surface drainage. Operational testing of site development components was not conducted. Clear lines of property demarcation were not provided and as such, our observations relating to the site grounds and surrounding amenities are to be considered approximate.

| SITE IMPROVEMENTS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Site Access | The site was accessed from the west side of Lancaster Avenue. The site was easily accessible from major area roadways. The site was located within five miles of Route 2. | G | |
| Parking | Parking was provided on open surface lots on the east side of the building. Painted striping was provided to delineate parking stalls and directional markings. The site had a reported total of 12 surface parking spaces, one of which was specifically designated for handicapped use. | G | |
| Asphalt Pavements | The parking lots, driving lanes and access roads serving the property were constructed with asphalt. Information relating to the materials and thicknesses utilized in the construction of the pavement section was not available. | F | |

<table>
<tr><th colspan="4">SITE IMPROVEMENTS</th></tr>
<tr><th>Item</th><th>Description of System or Component</th><th>Overall G, F, P</th><th>Cost Item #</th></tr>
<tr><td></td><td>
In general terms, the asphalt pavement areas appeared to be in good to fair condition. We observed the following types of deterioration in relation to <u>asphalt pavement conditions.</u>
<table>
<tr><th colspan="6">Observed ASPHALT Pavement Deficiencies</th></tr>
<tr><td>X</td><td>Surface Weathering</td><td>X</td><td>Potholes</td><td>X</td><td>Transverse Cracks</td></tr>
<tr><td>X</td><td>Loss of Aggregate</td><td></td><td>Rutting</td><td>X</td><td>Longitudinal Cracks</td></tr>
<tr><td>X</td><td>Map Cracking</td><td></td><td>Alligator Cracking</td><td>X</td><td>Random Cracks</td></tr>
<tr><td></td><td>Birdbaths</td><td></td><td>Heaving</td><td></td><td>Vegetation Growth</td></tr>
<tr><td colspan="6">Conditions Observed were: Minor</td></tr>
<tr><td colspan="6">Extent of observed deficiencies: Scattered Locations</td></tr>
</table>
We did not observe any asphalt conditions that appeared to require immediate repairs; however, longer term repairs and asphalt pavement renovations should be expected during the evaluation term. Budgetary allowances and forecasts for implementation are included in Table 1.
</td><td></td><td>1, 2</td></tr>
<tr><td>Concrete Pavements</td><td>Not Applicable.</td><td>N/A</td><td></td></tr>
<tr><td>Sidewalks</td><td>
The property was snow covered at the time of our assessment. A few areas of exposed sidewalk were observed and indicated areas of asphalt and brick pavers at the sides of the building.<br><br>
The observed brick and asphalt sidewalks appeared to be in good to fair overall condition with some evidence of misaligned pavers and settlement observed. Based on the estimated RUL of the sidewalks, resetting/replacement of some sections on the east side should be
</td><td>G to F</td><td>3</td></tr>
</table>

| SITE IMPROVEMENTS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | *anticipated during the evaluation term. A budgetary estimate of cost for such repairs is included in Table 1.* | | |
| Curbs | A limited amount of granite curbing was installed around the perimeter of the parking lot (east side) and at the main entrance steps to the building.<br><br>*The curbing and steps appeared to be in good overall condition requiring routine maintenance during the evaluation term.* | G | |
| Fencing | Not Applicable. | N/A | |
| Retaining Walls | A fieldstone retaining wall was observed at the east side of the site.<br><br>*The retaining wall appeared to be in good condition. Regular inspections of the retaining structure should be performed in order to monitor potential movement. This is considered to be a routine maintenance item.* | G | |
| Drainage | The building roof areas and landscaped areas drained into the landscaping. Open parking surfaces sheet drained to the adjacent street, into the street's storm drainage collection system that discharged to the municipal storm water management system.<br><br>*Reports by on-site staff and visual signs of staining indicate recent flooding in the lower level of the building. Engagement of a contractor to investigate and recommend options to provide positive drainage (on the north side) away from the structure is warranted.* | F | 4 |

| SITE IMPROVEMENTS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Utilities | Electric, water, natural gas, sanitary and storm sewer services were provided to the site.<br><br>• Water provider: Lunenburg Water District<br>• Electric provider: Unitil<br>• Natural gas provider: National Grid<br>• Sanitary sewer provider: Town of Lunenburg<br>• Storm sewer provider: Town of Lunenburg | G | |
| Exterior Lighting | Lighting was provided at the sides and rear of the building. Observed fixtures consisted of wall-mounted units located above the secondary entrance doors.<br><br>*The site lighting fixtures appeared to be in good overall condition. VERTEX did not visit the site at night to observe the operation of the site lighting.* | G | |
| Landscaping | The property was snow covered at the time of our assessment. A few areas of exposed landscaping were observed and indicated areas of grass and shrubs along the perimeter of the building. Site elements included four cast stone benches at the northeast corner of the site.<br><br>*The observed landscaping elements appeared to be in good overall condition and were well-maintained.* | G | |
| Swimming Pools | Not Applicable. | N/A | |
| Recreational Facilities | Not Applicable. | N/A | |

## 5.2 BUILDING STRUCTURE

Structural issues are related to those building components that transfer loads within a building and to the underlying ground. Loads may be the result of constant forces such as the weight of the building or other stationary objects within the building (dead loads), or variable forces such as people, operational equipment, vehicular activity or wind (live loads). The building structure assessment included the review of available geotechnical reports and drawings depicting the foundation, floor slab, and framing systems. Visual observations of exposed features were also performed when possible.

| BUILDING STRUCTURE & SHELL | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Foundations | Foundation drawings or information relating to the building foundations were not provided for our review. Based on our visual evaluation the foundation for the original Ritter Building is a stone foundation supporting brick masonry bearing walls. The addition was constructed with conventional concrete foundations supporting a brick and concrete masonry unit (CMU) rain screen system. The building contained a basement below the original section of the building.<br><br>*The original building foundation appeared to be in fair condition. We did not observe evidence of settlement, loose stones or deterioration where the foundation was accessible.*<br><br>*On the west elevation of the addition, we observed a vertical crack extending up from the foundation and continuing through the brick masonry façade to the roof. The crack appeared to be from settlement of the foundation. In our opinion, the crack does not indicate a significant structural concern. We recommend the crack be sealed to prevent moisture intrusion and monitored to determine the rate of movement.*<br><br>*No visual indications of significant foundation failure or visual evidence of significant settlement were observed. No evidence of past* | F | |

| BUILDING STRUCTURE & SHELL | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | *water intrusion or evidence of significant water damage was identified during VERTEX's on-site visit.* | | |
| Floors | The building was constructed with a cast-in-place concrete floor slab at the basement level. The upper floors consisted of wood joists supporting a wood plank floor system. The floor framing was not accessible to confirm the size and spacing of the framing members.<br><br>*The floor slabs appeared to be in good condition with no evidence of significant deterioration or failure. In most areas, the floor slab surfaces were concealed by flooring finishes; however, floors appeared to be level and stable in observed locations.* | G | |
| Super-structure | Based on our limited observation of exposed structural elements, the building structure consisted of primarily wood framing elements, with a cast-in-place concrete floor slab at the lowest level. The wood framing was supported by brick masonry bearing walls on the exterior.<br><br>The original building roof deck consisted of wood planking, and was supported by a roof rafter and truss system. In the attic, we observed water staining on the wood planking; however, the staining did not appear to be from recent occurrence.<br><br>The roof framing for the addition was not accessible for review; however, we did not observe evidence of deflection or movement form the exterior.<br><br>*Overall visible portions of the building slabs and superstructure appeared to be in good condition. Observed floors appeared to be level and stable with no obvious evidence of structural failure. Observed columns appeared to be plumb and free from visible impact damage.* | F | |

| BUILDING STRUCTURE & SHELL | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | *On the south elevation of the building, we observed a cast concrete staircase extending from grade to the main floor of the building. We observed several cracks, rust staining and a spalled CMU block at the stairs. The crack and rust staining in the concrete indicates the reinforcing within the concrete is corroding due to moisture intrusion. We recommend the stairs be removed and replaced due to the advanced deterioration.*<br><br>*In the attic of the original building, we observed a section of the wood sill plate on the north side rotated towards the exterior. The wood sill is anchored to the brick masonry and supports the roof rafters. We noted shims previously installed under the rotated member indicative of past occurrence. On the exterior, we did not observe bulging masonry or deflected roof eave which would indicate a structural issue. We recommend the condition be monitored and if the masonry begins to bulge away from the roof line, repairs be performed.*<br><br>*Also in the attic of the original building, we observed a web member of a wood truss rotated. The rotated member was located near the southwest corner of the attic. In our opinion, the rotated member does not pose a structural concern at this time as it appeared to have occurred some time ago. We recommend the condition be monitored and should it worsen, repairs be performed.* | | 5 |

## 5.3 BUILDING EXTERIOR

Building exteriors are typically composed of various systems and materials intended to serve three main purposes: (1) aesthetic appeal; (2) weather resistance; and, (3) structural support. Items included in the building exterior assessment include wall assembly, glass and glazing, doors, and sealant.

| BUILDING EXTERIOR | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Wall Assembly | The original portion of the building was clad primarily with painted brick on top of a natural stone (appeared to be granite) base. (Photos 1-3). The 1963 addition was also clad in painted brick on concrete foundation walls. (Photos 4-6). There was painted stone banding at the first floor level and stone sills at the window openings on the original building. The addition had precast concrete sills at the window openings. The eaves, gables, and window and door openings were constructed of painted wood. There were two wood framed windbreak walls located at the rear entry door that supported asphalt shingle canopies for those doors.<br><br>*The observed brick masonry wall assemblies appeared to be in good condition. We did not observe significant areas of damage or deterioration and evidence of wall leakage was not reported or observed at the interior. The wood trim appeared to be in fair condition due mostly to peeling paint with some areas that contained some damaged wood elements particularly at the basement windows. (Photo 24). There was one instance of damaged concrete at the precast sill in the bay window in the north side of the addition. (Photo 15).*<br><br>*At the west side of the 1963 addition, we observed cracks (less than 1/16 inch in thickness) radiating upward from the ground surface to the top of wall. (Photos 17-18). See the Structural section above for further description of the observed cracks. We observed the interior walls at the location where the cracking on the exterior was apparent. In this observed location, the interior walls were finished with drywall preventing observation of the masonry. There were no observed signs of the cracking or related abnormalities in this corresponding interior location. The cause of the cracking was not determined during the course of our visual observation; however, the observed conditions are indicative of settlement cracking. This condition should be monitored as part of a periodic inspection program to determine if conditions worsen and repairs are warranted. For the purposes of this report, we have included a budgetary allowance for tooling, cleaning,* | G-P | 6 |

| BUILDING EXTERIOR | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | *and repairing the cracking with appropriate mortar/repair materials to ensure the water tightness of the brick wall. As an item related to potential water infiltration into the wall assemblies this item is considered to be an item of Immediate Repair. A budgetary allowance for repairing the cracks is presented in Table 1.* | | |
| | *The brick chimney penetrating the roof at the south side of the original building was observed to have damaged bricks and failing mortar joints. (Photos 9-10). The parging at the top of the chimney also appeared cracked. The flashing appeared to have been previously repaired and looked to be in poor condition. The north side of the chimney appeared to be out of plumb and falling away towards the north. Due to the extent of the damaged masonry replacement of the masonry chimney and flashing will be required. A budgetary allowance for replacement of the chimney is presented in Table 1 as an item of Immediate Repair.* | | 7 |
| | *The exterior walls appeared to be in fair to poor condition regarding the exterior paint. Based on the observed condition, age and estimated RUL of the coatings, renovation of walls including cleaning and painting will be required during the evaluation term. Due to the deteriorated condition of the coatings in some areas a budgetary allowance for repainting the exterior is presented in Table 1 as an item of Immediate Repair.* | | 8 |
| | *The roof eaves and gable ends of the original building were finished with a decorative dentil moulding and running wood trim. (Photos 1-3, 11-12, and 26). The decorative trim was exposed and appeared to be suffering from minor water damage in random locations around the structure. There were limited areas that required repair or replacement of the decorative trim. Areas of paint appeared to be peeling, mostly at the wood trim elements. Exposed areas of trim substrate were observed at the door and window trims in multiple locations. Minor repairs and re-painting of the wood trim surfaces will be required immediately due to the potential for water infiltration* | | 9 |

| BUILDING EXTERIOR | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | *and/or further damage to the trim elements. A budgetary allowance for repainting the exterior trim is presented in Table 1.*<br><br>*The roof eaves at the 1963 addition appeared to be comprised of a painted wood fascia behind aluminum gutters with vented wood soffits. (Photos 6, 15-17, and 31-32). There was no observed damage, but some paint was observed to be peeling at the time of inspection. Re-painting of the wood trim surfaces will be required during the evaluation term due to the estimated RUL of the coatings. Due to the minimal aggregate quantity and associated cost, this item is considered to be routine maintenance.* | | |
| Sealants | Caulking was observed at exterior wall joints, at material interfaces and around window and door penetrations.<br><br>*Observed caulk joints at wall joints and penetrations (window and door openings) appeared to be cracked and brittle with significant deterioration and failure. Replacement will be required early in the evaluation term. A budgetary estimate of cost is provided in Table 1.* | P | 10 |
| Windows | The building windows typically were operable, double-hung units with single pane glass set in wood frames. The addition contained a fixed sash wood framed "window wall" on the north elevation and a similar transom with side lites at the main entry vestibule. (Photos 4, 15, and 35). The window units were accented by painted wood shutters fixed to the masonry walls.<br><br>*The window units appeared to be in fair to poor overall condition and have surpassed their useful lives. Many of the units appeared to be inoperable and were likely painted shut or require significant repairs and renovations to make them operable. Based on the age, apparent condition and estimated RUL of the windows, replacements are recommended during the evaluation term. A budgetary allowance for replacement of windows with insulated glass alternatives is presented in Table 1.* | F-P | 11 |

| BUILDING EXTERIOR | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | *The wood window shutters were observed to be in poor condition and will require replacement during the evaluation term. A budgetary estimate of cost is provided in Table 1.* | | 12 |
| Exterior Doors | The main entrance doors to the building typically were wood swing double doors with full glass vision panels set in wood frames. (Photos 4, 35). The doors and hardware appeared to be in good condition. The doors exhibited some cracked and peeling paint.<br><br>*Repainting will be required early in the evaluation term. Due to the minimal aggregate quantity and associated cost, this item is considered to be routine maintenance.* | G | |
| Porches | Not Applicable. | N/A | |
| Exterior Stairs | Exterior stairs were observed at the rear entry and were constructed of concrete assemblies with closed risers and metal handrails. (Photos 2-3, 27-29).<br><br>*The exterior stairs appeared to be in poor condition requiring replacement during the evaluation term. See Structural section above for further info on the concrete stairs.* | P | |

## 5.4 ROOF

The purpose of roof system(s) is to protect the building components and occupants from adverse moisture, temperature, collapse, and other unwanted elements. The selection, design, and installation of a roof are critical to a building's financial performance and can be one of the most expensive building systems to repair, maintain, and replace. Items included in the roof assessment include roof type, age, drainage, warranty status, ancillary roofs, skylights, and roof accessories.

| ROOF | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Roof Covering | Pitched roofs were not accessed by VERTEX. As a result, we used information gained from aerial photographs, observations from the ground, building interior observations, and information provided from the Site Contact to assess the roof conditions. There were two types of roof covering, slate shingle at the 1909 portion of the building and asphalt shingle at the 1963 addition. Both roofs were a hip type roof with the 1909 building containing two gables that ran in the north-south direction to reflect the shape of the building below. (Photos 7-12).<br><br>Pitched roofs at the original building were supported with wood rafters. (Photos 13-14). The framing at the 1963 addition portion was not accessible. The roof covering on the original portion consisted of slate shingles. The roof generally had copper roof flashing and counter-flashing at the chimney and the peaks.<br><br>We requested a copy of the warranty, but none had been provided at the time of this report. Any active warranties should be provided, so that transfer provisions and warranty limitations can be reviewed.<br><br>*No active leaks were observed in the 1909 building. We observed evidence of an active leak at the intersection of the original building and the 1963 addition above the stairway leading to the first floor from the lobby. (Photos 32-34). Water staining was observed on the ACT tile which led to the removal of the tile for observation of the construction above the ceiling. Daylight could be seen through the small gap between the east wall of the original building and the roof of the 1963 addition. It appeared to be a failure of the flashing at the roof/wall intersection. Immediate repair of active roof leaks is recommended. A budgetary allowance for leak investigation and repair is included in Table 1 as an item of Immediate Repair.*<br>The age of the slate roof was unknown. It is assumed to be from the original 1909 construction. No information regarding history of roof repairs, renovations or re-covering was provided for the 1909 | G-F | 13 |

| ROOF | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | building. If additional documentation relating to roofing age is available, it should be provided to VERTEX for review.<br><br>The age of the asphalt shingle roof was 7 years according to the Site Contact. No information regarding history of roof repairs, renovations or re-covering was provided. If additional documentation relating to roofing age is available, it should be provided to VERTEX for review.<br><br>*The slate roofing appeared to be in good to fair overall condition with evidence of a few instances of missing or loose slate shingles. It was also observed that some of the slate shingles had broken corners and some shingles appeared to have some minor cracks. No evidence of active leaks was observed, and no active leaks were reported. We did observe evidence in the attic space of the 1909 building of staining of the rafters and decking attributable to former (historical) roof leaks. (Photos 13-14).*<br><br>*The asphalt shingle roof on the 1909 addition appeared to be in good overall condition. Significant repairs or replacements for the asphalt shingles are not expected during the evaluation term. See above for necessary repair work at the roof wall intersection.* | | |
| Roof Drainage | The roof was equipped with perimeter gutters and downspouts, which discharged to the landscaped and paved areas depending on location, at the base of the exterior walls.<br><br>The 1909 building contained recessed gutters at the eaves with downspouts that penetrated the soffits at the dentil mouldings, sometimes running through the dentil. The downspouts appeared to be in good condition with no signs of leaks at the seams. There were a few instances where the downspout was not completely connected to the gutter, however they appeared to be functioning properly. The actual gutters could not be seen from the ground. | G | |

| ROOF | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | The 1963 addition had aluminum gutters and downspouts that appeared to be in good condition. There was recent repair work performed to remove one of the downspouts on the west side of the addition. (Photo 16). It had been previously determined that the location of the discharge from that particular downspout was causing a leak in the basement due to the grading in that area. The downspout was removed, and the gutters re-routed to the other adjacent downspouts that directed the water away from the building. Since the repair work no further basement leaks have been reported. | | |
| Skylights & Roof Accessories | Not Applicable. | N/A | |
| Roof Access | Not Applicable. | N/A | |
| Ancillary Roofs | There were two wood framed asphalt shingle canopies at the rear entry to the building. (Photos 2, 27, and 29). They appeared to be in good condition. | G | |
| *Roof evaluations should be conducted by a professional roofing inspector on an annual basis and corrective or preventative repairs should be made accordingly. A qualified inspector will be the best judge of the need to recover/replace the roofs and the specific timing associated with such actions.* | | | |

## 5.5 BUILDING INTERIOR

Building interior systems are those that relate to the visible features of finished rooms, hallways, common areas, service areas, tenant spaces, stairwells and restrooms. Items included in the interior assessment are the floor, wall, ceiling, stair and restroom finishes.

| BUILDING INTERIOR | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Public Areas | Public areas at the building included corridors, lobby, reception area and entrance vestibule. Public area interior finishes at the building included a mixture of the following.<br>Floor Coverings: Carpet<br>Wall Coverings: Painted drywall, wood paneling<br>Ceiling Coverings: Painted plaster, painted drywall, suspended grid with drop-in tiles.<br>*The interior components within the public areas appeared to be in generally good to fair overall condition. However, based on the age and condition of the finishes, renovation should be expected during the evaluation term including replacement of carpet flooring and re-painting of walls and ceilings.* | G to F | 14, 15, 16 |
| Offices | Finishes in the offices typically were carpet floors, painted drywall/plaster walls with some painted wood wainscot, and painted drywall/plaster ceilings.<br>*The interior components within the office areas appeared to be in generally fair overall condition. However, based on the age and condition of the finishes, renovation should be expected during the evaluation term including replacement of carpet flooring and re-painting of walls and ceilings.* | F | 14, 15, 16 |
| Kitchenette | Finishes in the kitchenette typically were resilient tile flooring, painted drywall/plaster walls with some exposed brick, and painted drywall/plaster ceiling.<br>*The interior components within the kitchenette appeared to be in generally good condition. However, based on the age and condition of the finishes, renovation should be expected during the evaluation term including re-painting of walls and ceilings.* | G | 15, 16 |

| BUILDING INTERIOR | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Stairs | Observed stairs were constructed with steel assemblies with closed risers and painted steel handrails and railings. The stairwells typically had painted drywall/plaster walls and painted concrete-pan treads with non-slip aluminum nosings.<br><br>*The interior components within the stairway appeared to be in generally good to fair condition. However, based on the age and condition of the finishes, renovation should be expected during the evaluation term including re-painting of walls and ceilings.* | G to F | 13, 15, 16 |
| Public Restrooms | Typical restroom finishes at the building included ceramic tile flooring, painted gypsum board walls and suspended grid ceilings with drop-in acoustical tiles.<br><br>*The restrooms appeared to be in good to fair condition. However, based on the age and condition of the finishes, renovation should be expected during the evaluation term including re-painting of walls and ceilings.* | G to F | 15, 16 |
| Hazardous Material Considerations | As part of this assessment, VERTEX conducted a general, visual survey for hazardous materials. The findings of that assessment are included in a letter report attached in Appendix C.<br><br>*The letter report provides some general order of magnitude costs for next steps and actions that will be required prior to renovations. The aggregate sum of these items is included in Table 1 as an immediate repair.* | N/A | 17 |

## 5.6 MECHANICAL SYSTEMS

The mechanical systems evaluated include the readily visible components of the heating, ventilation, and air conditioning (HVAC) equipment. The evaluation was intended to be a general overview of the component type, equipment capacity, and distribution methods. Operational

testing of mechanical systems was not conducted. Specific equipment included air conditioning and heating units, distribution and ventilation mechanisms, boilers (where applicable), and facility controls.

| MECHANICAL SYSTEMS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Air Conditioning | The building was air-conditioned by three (3) wall-mounted ductless split system interior air handling units (AHUs) with ground-mounted air-cooled condensing units. The AHUs and condensing units were manufactured by Mitsubishi in 2005 and each had an estimated rated cooling capacity of 1.5 tons. The interior AHU's were located along interior walls of the main corridors on the 1st and 2nd level as well one in the Planning Department.<br><br>Condensate generated by the indoor AHU was collected in a pan under the evaporator coil and discharged through a plumbing pipe to the wastewater system.<br><br>Additional wall mounted, 8,000 BTUH standalone air conditioning units, manufactured by LG, were located on the floor of the Boiler Room area. According to staff, these units are installed in windows during the warmer months in select locations where needed to provide additional cooling.<br><br>*Condensate from the AHUs was not appropriately managed as secondary lines or alarms were not provided to shut down the unit or divert overflow to appropriate drain systems. Renovation of condensate is required, and a budgetary allowance is included in Table 1 as an Immediate Repair.*<br><br>*The observed ductless air handling units and associated condensing units we observed appeared to be in good to fair condition. Replacement of equipment should be anticipated as the various equipment reaches the end of their useful life. The split systems utilize R-22 refrigerants, which will cease production in January 2020. Replacement of the condensing units will also require* | G to F | 18<br><br>20, 21 |

| MECHANICAL SYSTEMS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | *replacement of the evaporator coil within the interior air handler and possibly the line sets connecting the indoor and outdoor components. Based on the observed conditions, types of refrigerant and anticipated system modifications, we have budgeted for replacement of both the AHUs and condensing units during the evaluation term. Allowances for replacement are included in Table 1, recognizing that costs may vary depending on refrigerant types chosen and line set sizes, piping types and configuration.* | | |
| Heating | The primary heating source for the building included hot water baseboard radiators located at the perimeter of the various spaces. Hot water delivered to the radiators was produced by two (2) gas-fired boilers located in its respective boiler room on the basement level. The boilers were manufactured by Burnham (Model RV5NSL-L2), and had a rated input capacity of 130 MBH. The boilers reportedly were manufactured in 2004.<br><br>*The observed boilers and hot water baseboard heaters appeared to be in good overall condition requiring routine inspection and maintenance during the evaluation term.* | G | |
| Ventilation | Bathrooms were provided with exhaust by individual ceiling mounted fans exhausted to the exterior.<br><br>Passive ventilation was provided by operable windows and doors, through wall louvered vents and natural air infiltration.<br><br>*Indoor air quality was not studied as part of this assessment. Observed exhaust and air movement equipment appeared to be in good to fair condition. Renovation of selected ventilation equipment including fan motor replacement, lubrication and general repairs should be expected throughout the evaluation term as part of Routine Maintenance.* | G to F | |

| MECHANICAL SYSTEMS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | *No direct outdoor air ventilation was observed to the individual air conditioning units serving the building. We question whether the outdoor air ventilation for the occupied areas as well as ventilation for the gas fired boiler equipment is adequate to meet the current codes and requirements for a commercial office space. We recommend having a qualified licensed engineer review the building and associated requirements to determine if the current ventilation is adequate for this type of facility. A budget cost is included in Table 1 as an item of Immediate Repair. It should be noted that following the inspection, recommended actions may result in required shutdown and/or upgrade of selected equipment. Associated costs for these types of issues cannot be predicted, and no budget is included for them Table 1.* | | 19 |
| Control Systems | The heating and cooling equipment was generally controlled by wall mounted digital thermostats with programmable controls for night and weekend setbacks. The thermostats were all located in the Boiler Room with remote sensors located in the respective zones.<br><br>*The observed control systems appeared to be in good overall condition.* | G | |

## 5.7 ELECTRICAL SYSTEMS

Electrical items are related to the readily visible components of the electrical systems installed at the facility. This assessment is intended to be a general overview of the component type, equipment capacity, and distribution methods. Operational testing of electrical systems was not conducted. Items included in the electrical assessment are service distribution, transformers, switchgear, panelboards, conductors, and lighting.

| ELECTRICAL SYSTEMS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Transformers and Power Delivery | Electrical service to the building was provided by Unitil. Power was supplied via overhead lines from a pole-mounted transformer located outside the building. | G | |
| Main Switchgear | The main electrical panel and meter were located in the basement Boiler Room. The main electrical service panel, manufactured by Cutler Hammer, provided 200-amp, 240/120-volt, 1-phase, 3-wire, alternating current (AC).<br><br>*We observed missing cover plates near the basement break room area sink and exposed wiring in the basement area and exterior. Engagement of a qualified electrician is recommended to review these conditions and make needed repairs. An allowance for this item is included in Table 1 as an Immediate Repair.*<br><br>*The electrical equipment generally appeared to be in good condition but somewhat dated. Although no electrical issues were reported, the facility appears to be at its maximum electrical capacity and may need to upgrade this electrical system should any additional electrical capacity be required. A budgetary cost to upgrade the electrical system is included in Table 1.* | G to F | 22<br><br>23 |
| Electrical Distribution | Electrical panels were observed in the basement level Boiler Room and IT closet. Electrical panels were equipped with circuit breaker overload protection.<br><br>It was reported that the distribution wiring providing power to the branch circuits within the tenant spaces and common areas consisted of copper. Where observed, wiring was located in a mixture of rigid/flexible metal conduit and Romex.<br><br>*It was reported that electrical problems or interruptions in tenant operations are minimal. Observed conduit and circuit breaker panels appeared to be in good condition.* | G | |

| ELECTRICAL SYSTEMS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Interior Lighting | Lighting fixtures within building common areas and in office spaces typically were ceiling surface mounted fluorescent fixtures. Observed fluorescent units included T-8 lamps with electronic ballasts.<br><br>*Lighting fixtures appeared to be in good overall condition requiring routine inspection, repairs and maintenance during the evaluation term.* | G | |
| Emergency Power | Not Applicable. | N/A | |

## 5.8 PLUMBING SYSTEMS

Plumbing items are related to the readily visible components of the plumbing systems installed at the facility. This assessment was intended to be a general overview of the component type, system capacity, and distribution methods. Operational testing of plumbing systems was not conducted. Items included in the plumbing assessment were sanitary sewers, roof drains, domestic water supply, natural gas distribution, and insulation.

| PLUMBING SYSTEMS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Water Supply | The building was supplied with water underground from Lunenburg Water District's main line. | G | |
| Domestic Water Distribution | A 1-inch diameter water service line entered the building in the basement. The domestic water meter was observed at the service connection in the basement. | G | |

| PLUMBING SYSTEMS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | In exposed locations, observed distribution piping for domestic water systems was constructed of copper.<br><br>*It was not determined if the domestic water supply main contained a backflow prevention device. It was reported that backflow prevention was provided in a vault outside of the building. The presence of backflow prevention devices should be confirmed.*<br><br>*Where exposed, observed domestic water piping appeared to be in good condition and free from damage or deterioration. Active piping leaks were not reported or observed during the on-site visit.* | | |
| Hot Water Systems | A 20-gallon electric water heater located in the basement Boiler Room provided domestic hot water for the building. According to the nameplate data, the water heater was manufactured by RUUD in 2011.<br><br>*The water heater appeared to be in good condition. Water pressure and volume were reported to be adequate for the building needs.* | G | |
| Sanitary Sewer | The sanitary wastes generated at the building were conveyed to underground piping, which discharged to the municipal sewer system owned and maintained by the Town of Lunenburg.<br><br>*Sanitary sewer systems and waste piping were not observed due to hidden (underground) conditions. No evidence of odor or problems with the wastewater systems were observed or reported.*<br><br>*A Flotec Model FPOS1800LTS sink pump ejector system serves the lower level breakroom kitchen sink area and is currently located in the IT Room located in the basement. The location of this system is a concern due to the immediate vicinity of the electrical and IT equipment in the same area. This equipment should be relocated outside of the IT Room as a preventative measure and improved* | G | 24 |

| PLUMBING SYSTEMS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | *safety. A budgetary cost is included in Table 1 as an item of Immediate Repair.* | | |
| Natural Gas | The building's gas service line entered the side of the building immediately adjacent to the Boiler Room. The gas piping within the building was observed to be steel. Bollards are located in front of the natural gas meter. | G | |

## 5.9 CONVEYANCE SYSTEM

Conveyance systems include readily visible and accessible equipment installed at the facility. This evaluation was intended to be a general overview of the systems observed. No operational testing was conducted. These systems included equipment used to transport people or objects vertically or horizontally within the building and include elevators, escalators, conveyors, and platform lifts.

| CONVEYANCE SYSTEM | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Elevators | Not Applicable. | N/A | |
| Escalators | Not Applicable. | N/A | |
| Platform Lifts | The building was equipped with a three-stop hydraulic lift. The lift was manufactured by Concord in 2013 and was rated for 750 pounds or 2 persons. | G | |

| CONVEYANCE SYSTEM | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | *An Inspection Certificate was displayed in the lift and was not due to expire until February 21, 2018. The lift equipment and machinery appeared to be in generally good to fair overall condition. The lift was not accessible at the time of this assessment (a key to open one of the doors was not found). Lift certificate and inspection appeared to be up to date. A detailed evaluation of the lift equipment, floor-to-floor times, and other response and performance characteristics was not performed as part of this PCA.* | | |

## 5.10 LIFE AND FIRE SAFETY

Life and Fire Safety Systems were observed to the extent that components were visually accessible. This evaluation was intended to be a general overview of the systems observed and not an opinion of safety or adequacy. Operational testing was not conducted. These systems include sprinklers and standpipes, emergency lighting, alarm and annunciation components, smoke evacuation, and fire separation.

| LIFE & FIRE SAFETY SYSTEMS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Sprinkler Systems | Not Applicable. Based on the reported total of 6,000 SF (less than 7,500 SF), the building is not required to have a sprinkler system. | N/A | |
| Specialty Suppression Systems | Not Applicable. | N/A | |

| LIFE & FIRE SAFETY SYSTEMS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Fire Hydrants | Municipal fire hydrants were located along the public roads bordering the property. | G | |
| Fire Pump | Not Applicable. | N/A | |
| Standpipes & Hose Connections | Not Applicable. | N/A | |
| Emergency Lighting | Emergency lighting fixtures were provided throughout the building. The office areas and corridors contained emergency lighting fixtures with battery backup power.<br><br>*Emergency lighting units appeared to be in good condition; however, the emergency lighting units were not operated or tested as part of this PCA.* | G | |
| Illuminated Exit Signs | Illuminated exit signs were provided throughout the building. The common spaces, corridors and selected office areas contained exit light fixtures with battery backup power.<br><br>*Exit signs appeared to be in good condition; however, exit signs were not operated or tested as part of this PCA.* | G | |
| Alarm Systems | The building was provided with a fire alarm system with battery backup consisting of smoke detectors and pull stations. The building was equipped with audible alarms, which included visual strobe components.<br><br>A Firelite Miniscan 4012 central alarm panel located the Men's Room monitored the system. In the event of an emergency, the panel notified a central monitoring station. | G | |

| LIFE & FIRE SAFETY SYSTEMS | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| | *The alarm panel was functioning in the "Normal" mode at the time of our visit. VERTEX did not test the system or observe its operation as part of this assessment.*<br><br>*Inspection tags were not located for the alarm system. Immediate engagement of a fire protection vendor is required to inspect the system. A budgetary allowance for this item is included in Table 1 as an Immediate Repair. In the event that current documentation can be provided showing that the system has been tested and inspected within the past 12 months, this item is not necessary.* | | 25 |
| Smoke Detection and Control | Hard-wired smoke detectors were observed in various building locations. Smoke control measures were not observed.<br><br>*Smoke detectors appeared to be in good condition; however, smoke detectors were not operated or tested as part of this PCA.* | G | |
| Fire Extinguishers | Fire extinguishers were provided at various locations throughout the building.<br><br>*According to equipment tags, observed fire extinguishers were serviced or re-charged in March 2017 by O'Connell Fire Protection, Inc.* | G | |

## 6.0 ANCILLARY STRUCTURES

Ancillary structures are those elements contained within a property, which are considered to be physical plants subject to the provisions of building codes, which may or may not be considered occupied structures, and may or may not include associated mechanical, electrical or plumbing systems. Typical ancillary structures might include parking garages, annex buildings or storage sheds.

| ANCILLARY STRUCTURES | | | |
|---|---|---|---|
| **Item** | **Description of System or Component** | **Overall G, F, P** | **Cost Item #** |
| Parking Garage | Not Applicable. | N/A | |
| Annex Building | Not Applicable. | N/A | |
| Storage Shed | Not Applicable. | N/A | |

## 7.0 Accessibility (ADA)

The Americans with Disabilities Act (ADA) is not a building code; it is a civil rights law that was enacted in 1990 to provide persons with disabilities with accommodations and access equal to, or similar to, that available to the general public. Title II of the ADA requires that owners of public buildings considered to be places of public accommodations remove those architectural barriers and communications barriers that are considered readily achievable in accordance with the resources available to the building ownership to allow use of the facility by the disabled. The Massachusetts Architectural Access Board (MAAB) Section 521 CMR is the standard designed to make public buildings and facilities accessible to, functional for, and safe for use by persons with disabilities.

As part of this PCA, VERTEX performed a "Baseline Evaluation" of ADA and MAAB requirements consisting of a limited scope visual survey and completion of a checklist extracted from ASTM E2018-15 X2 (Figure X3). This visual review most closely resembles what was previously known as a "Tier I ADA survey."

Our survey was limited to visual observations unless specifically stated. Measurements were not taken, and compliance with dimensional tolerances stated by the guidelines was only visually assessed. While opinions of cost to correct noted barriers have been provided, they do not constitute a recommendation that removal of the barriers are "readily achievable" and not an "undue burden" as stated in the ADA.

In addition, we have attempted to evaluate the total cost of projected renovations identified in our assessment for calculation of MAAB 'trigger' requirements as outlined in CMR 521 Section 3 for Existing Buildings.

If the work being performed amounts to less than 30% of the full and fair cash value of the building and:

a. if the work costs less than $100,000, then only the work being performed is required to comply with 521 CMR, or

b. if the work costs $100,000 or more, then the work being performed is required to comply with 521 CMR. In addition, an accessible public entrance and an accessible toilet room, telephone, drinking fountain (if toilets, telephones and drinking fountains are provided) shall also be provided in compliance with 521 CMR.

The value for full and fair cash value of the building will need to be provided by the Town of Lunenburg to appropriately calculate threshold values.

Representative areas of the following portions of the site were surveyed:

1) **Parking** – Comparison of the number of provided parking stalls designated for handicapped use to the number required for the reported parking stall total for the site.
2) **Exterior Accessible Route and Building Entrances** - Visual identification of physical barriers from parking to the building entrances.
3) **Building Entrances** - Review of the building entrance access to the interior.
4) **Interior Accessible Routes and Amenities –** Review of the interior route, obstructions, path of travel and access to public features and equipment.
5) **Interior Doors –** Review of doors, clear width, hardware and apparent opening force.
6) **Elevators** – Observation of elevator floor area, signals, signs, safety devices, and emergency call systems.

   **Toilet Rooms -** Visual review of common area restrooms available for public use (toilet stalls designed with accessible features, sinks at lower heights with adequate clearances, appropriate sink fixtures and accessories).

**ASTM E2018-15 - Uniform Abbreviated Screening Checklist - 2010 Americans with Disabilities Act**

| Item | | Yes | No | NA | Comments |
|---|---|---|---|---|---|
| **A.** | **History** | | | | |
| 1. | Has an ADA survey previously been completed for this property? | | ✓ | | |
| 2. | Have any ADA improvements been made to the property since original construction? | | ✓ | | |
| 3. | Has building ownership/management reported any ADA complaints or litigation? | | ✓ | | |
| **B.** | **Parking** | | | | |
| 1. | Does the required number of standard ADA-designated spaces appear to be provided? | ✓ | | | |
| 2. | Does the required number of van-accessible designated spaces appear to be provided? | ✓ | | | |
| 3. | Are accessible spaces part of the shortest accessible route to an accessible building entrance? | ✓ | | | |

| | ASTM E2018-15 - Uniform Abbreviated Screening Checklist - 2010 Americans with Disabilities Act | | | | |
|---|---|---|---|---|---|
| 4. | Is a sign with the International Symbol of Accessibility at the head of each space? | ✓ | | | |
| 5. | Does each accessible space have an adjacent access aisle? | ✓ | | | ***ADA-1*** |
| 6. | Do parking spaces and access aisles appear to be relatively level and without obstruction? | ✓ | | | |
| **C.** | **Exterior Accessible Route** | | | | |
| 1. | Is an accessible route present from public transportation stops and municipal sidewalks on the property? | | ✓ | | |
| 2. | Are curb cut ramps present at transitions through curbs on an accessible route? | | | ✓ | |
| 3. | Do the curb cut ramps appear to have the proper slope for all components? | | | ✓ | |
| 4. | Do ramps on an accessible route appear to have a compliant slope? | | | ✓ | |
| 5. | Do ramps on an accessible route appear to have a compliant length and width? | | | ✓ | |
| 6. | Do ramps on an accessible route appear to have compliant end and intermediate landings? | | | ✓ | |
| 7. | Do ramps on an accessible route appear to have compliant handrails? | | | ✓ | |
| **D.** | **Building Entrances** | | | | |
| 1. | Do a sufficient number of accessible entrances appear to be provided? | ✓ | | | |
| 2. | If the main entrance is not accessible, is an alternate accessible entrance provided? | ✓ | | | |
| 3. | Is signage provided indicating the location of alternate accessible entrances? | ✓ | | | |
| 4. | Do doors at accessible entrances appear to have compliant clear floor area on each side? | ✓ | | | |
| 5. | Do doors at accessible entrances appear to have compliant hardware? | ✓ | | | |
| 6. | Do doors at accessible entrances appear to have a compliant clear opening width? | ✓ | | | |
| 7. | Do pairs of accessible entrance doors in series appear to have the minimum clear space between them? | | | ✓ | |
| 8. | Do thresholds at accessible entrances appear to have a compliant height? | ✓ | | | |
| **E.** | **Interior Accessible Routes and Amenities** | | | | |
| 1. | Does an accessible route appear to connect with all public areas inside | ✓ | | | |

| | ASTM E2018-15 - Uniform Abbreviated Screening Checklist - 2010 Americans with Disabilities Act | | | | |
|---|---|---|---|---|---|
| | the building? | | | | |
| 2. | Do accessible routes appear free of obstructions and/or protruding objects? | ✓ | | | |
| 3. | Do ramps on accessible routes appear to have a compliant slope? | | | ✓ | |
| 4. | Do ramps on accessible routes appear to have a compliant length and width? | | | ✓ | |
| 5. | Do ramps on accessible routes appear to have compliant end and intermediate landings? | | | ✓ | |
| 6. | Do ramps on accessible routes appear to have compliant handrails? | | | ✓ | ***ADA-2*** |
| 7. | Are adjoining public areas and areas of egress identified with accessible signage? | ✓ | | | |
| 8. | Do public transaction areas have an accessible, lowered counter section? | | | ✓ | |
| 9. | Do public telephones appear mounted with an accessible height and location? | | | ✓ | |
| 10 | Are publicly-accessible swimming pools equipped with an entrance lift? | | | ✓ | |
| **F.** | **Interior Doors** | | | | |
| 1. | Do doors at interior accessible routes appear to have compliant clear floor area on each side? | ✓ | | | |
| 2. | Do doors at interior accessible routes appear to have compliant hardware? | ✓ | | | |
| 3. | Do doors at interior accessible routes appear to have compliant opening force? | ✓ | | | |
| 4. | Do doors at interior accessible routes appear to have a compliant clear opening width? | ✓ | | | |
| **G.** | **Elevators** | | | | |
| 1. | Are hallway call buttons configured with the “UP” button above the “DOWN” button? | | | ✓ | *Unless the future use of the facility is changed to a facility that houses a shopping center, a shopping mall, the professional office of a health care provider, a terminal, depot, or other station used for specified public transportation, an* |
| 2. | Is accessible floor identification signage present on the hoistway sidewalls? | | | ✓ | |
| 3. | Do the elevators have audible and visual arrival indicators at the entrances? | | | ✓ | |
| 4. | Do the elevator hoistway and car interior appear to have a minimum compliant clear floor area? | | | ✓ | |
| 5. | Do the elevator car doors have automatic re-opening devices to prevent closure on obstructions? | | | ✓ | |
| 6. | Do elevator car control buttons appear to be mounted at a compliant | | | ✓ | |

| | ASTM E2018-15 - Uniform Abbreviated Screening Checklist - 2010 Americans with Disabilities Act | | | | |
|---|---|---|---|---|---|
| | height? | | | | *elevator is not required.* |
| 7. | Are tactile and Braille characters mounted to the left of each elevator car control button? | | | ✓ | |
| 8. | Are audible and visual floor position indicators provided in the elevator car? | | | ✓ | |
| 9. | Is the emergency call system at the base of the control panel and not require voice communication? | | | ✓ | |
| **H.** | **Toilet Rooms** | | | | |
| 1. | Do publicly-accessible toilet rooms appear to have a minimum compliant floor area? | ✓ | | | |
| 2. | Does the lavatory appear to be mounted at a compliant height and with compliant knee area? | ✓ | | | |
| 3. | Does the lavatory faucet have compliant handles? | | ✓ | | ***ADA-3*** |
| 4. | Is the plumbing piping under lavatories configured to protect against contact? | | ✓ | | ***ADA-4*** |
| 5. | Are grab bars provided at compliant locations around the toilet? | ✓ | | | |
| 6. | Do toilet stall doors appear to provide the minimum compliant clear width? | | | ✓ | |
| 7. | Do toilet stalls appear to provide the minimum compliant clear floor area? | | | ✓ | |
| 8. | Do urinals appear to be mounted at a compliant height and with compliant approach width? | | | ✓ | |
| 9. | Do accessories and mirrors appear to be mounted at a compliant height? | ✓ | | | |
| **I.** | **Hospitality Guestrooms** | | | | |
| 1. | Does property management report the minimum required accessible guestrooms? | | | ✓ | |
| 2. | Does property management report the minimum required accessible guestrooms with roll-in showers? | | | ✓ | |

## 8.0 REPORT QUALIFICATIONS & LIMITATIONS

This report was prepared in accordance with the scope of work, and terms and conditions associated with VERTEX Proposal No. P.2489.17, dated September 29, 2017.

This report was prepared in general conformance with the guidelines of ASTM E2018-15 for Property Condition Assessments. This report was intended to provide a general overview of the building systems at the facility and the general conditions of such. The evaluation was performed using that degree of skill and care normally exercised by reputable consultants performing similar work. The activities of this evaluation included observations of visible and readily accessible areas. In some cases, additional study may be warranted to more fully assess concerns noted.

The opinions and recommendations presented in this report are based on VERTEX's observations, evaluation of the information provided, and interviews with personnel possessing knowledge of the facility. No calculations were made to determine the adequacy of the facility's original or existing design. The possibility exists that defects and deficiencies are present at the subject facility, which were not readily visible or accessible. The development of future problems not identified in this report, on any observed system, at the subject property should be anticipated.

The opinions and recommendations in this report should not be construed in any way to constitute a warranty or guarantee regarding the current or future performance of any system identified.

*The following paragraphs are intended to summarize VERTEX's Definition of Property Condition Assessment (PCAs).*

A Property Condition Assessment ("PCA") is the process by which VERTEX observes researches and documents in a written report (the PCA Report") the current physical condition of commercial property and, in addition, provides required estimated expenditures to remedy physical deficiencies. A physical deficiency is defined to be a patent, conspicuous defect, or significant deferred maintenance of the subject property's material systems, components or equipment. It could also include material systems, components or equipment that are approaching, have realized, or have exceeded their typical expected useful life ("EUL") or whose remaining useful life ("RUL") should not be relied upon as a result of actual age, abuse, excessive wear and tear, exposure to the elements, lack of proper maintenance, or other factors. This definition specifically excludes routine maintenance, miscellaneous repairs, operating maintenance, etc. It should be noted that items considered as routine or operating maintenance may be defined by the current practices of the management or property personnel operating the

site. Specific definitions of categories of physical deficiencies including Immediate Repairs, Short-Term Repairs, and Capital Needs including the time-period associated with each, are presented within the body of the PCA Report.

This assignment was performed as a **Level II PCA**. For the purposes of clarification and comparison, VERTEX's levels of PCA service are defined as follows:

- Level I PCA: This assessment will be prepared by a qualified professional, performing a visual survey of the property to assess the general condition of the property, structures and associated mechanical components. This PCA may be escalated to a more thorough Level II or Level III PCA following the initial site visit and evaluation, following discussion with the Client.
- ***Level II PCA: This assessment includes the Level I PCA, with specific items of concern investigated in more detail by one or more specialist in the respective fields (mechanical, roofing, elevators, etc.). These more detailed visual assessments may be incorporated into a single PCA report discussion, or may be presented in a separate report.***
- *Level III PCA:* This assessment includes the Level I PCA, with specific items of concern investigated in more detail by a team of specialists, including subcontractors where warranted, and including operation, testing, and potentially destructive testing of individual systems or components where warranted and approved. These more detailed assessments may be incorporated into a single PCA report discussion, or may be presented in a separate report, which may include test and evaluation data.

The visual observation portion of the PCA consisted of a walk-through survey of the subject property undertaken to observe readily accessible property components, systems, and elements for the purposes of providing a brief description of same, providing an opinion on their general apparent physical condition, and identifying material physical deficiencies as of the time of VERTEX's site visit. This portion of the PCA was a non-intrusive, visual survey; it is not to be construed as a punch list or detailed survey of the property's major physical deficiencies. It is also not considered to be an inventory of building system or material components.

VERTEX extrapolated representative findings to typical areas and systems of the subject property to provide the Client with a reasonably estimated magnitude of commonly anticipated conditions and to use as a basis for estimating the cost of required expenditures to remedy physical deficiencies at the subject property.

In some cases, where additional study or specific expertise is required to define appropriate repair or renovation methods, an estimated cost for the study is presented. In these cases,

associated repair or renovation costs are typically excluded, unless reasonable order of magnitude budgetary estimates can be assumed without the benefit of a specific scope of work.

Unless specifically requested by Client and included in the agreed upon, written scope of services the following items were excluded from the scope of services for this PCA:

- Removal of materials, furniture or finishes; conducting any exploratory probing or testing; dismantling or operation of any equipment; or disturbing any personal items or property which obstructs access or visibility.
- Preparation of engineering calculations (civil, structural, mechanical, electrical, etc.) to determine any system's components or equipment's adequacy or compliance with any specific or commonly accepted design requirements and building codes, or the preparation of designs or specifications to remedy any physical deficiency.
- Reporting on the condition of subterranean conditions such as underground utilities, separate sewage disposal systems, wastewater treatment plants, wells or systems that are either considered process related or peculiar to a specific tenancy or use, or items or systems that are not permanently installed.
- Entering or accessing any area of the premises deemed to pose a dangerous or adverse condition to the consultant or to perform any procedure which may damage or impair the physical integrity of the property, any system or equipment.
- Providing an opinion on the condition of any system or component which is seasonally shut down.
- Provision of a warranty or guarantee of any systems or component's physical condition or use. A PCA is not to be construed as a substitute for any system's or equipment's warranty transfer inspection.
- Review of compliance with any federal, state, city, trade/design, or insurance industry building codes, local laws, health codes or local zoning ordinances. However, violations of codes, laws and ordinances that are observed by VERTEX and any retroactive or pending requirements contained in such codes, laws, and ordinances that are known to VERTEX, or identified during interviews with code authorities, may be identified in the report.

**TABLE 1**

IMMEDIATE AND REPLACEMENT RESERVES COST ESTIMATES

# TABLE 1
## IMMEDIATE REPAIRS, SHORT TERM REPAIRS, and CAPITAL NEEDS ESTIMATE

VERTEX

| | |
|---|---|
| Site Name: | Ritter Memorial Building |
| City, ST: | Lunenburg , MA |
| Age, Yrs: | 108 |
| Project No.: | 48237 |

| | |
|---|---|
| # Buildings: | 1 |
| Est. Building SF: | 6,000 |
| Eval. Term, Yrs: | 5 |
| CPI: | 2.50% |
| # Units: | NA |

| | *Total* | *Per SF* | *Per SF/YR* |
|---|---|---|---|
| Immediate Repairs $: | $168,519 | $28.09 | |
| Short Term $ (no inflation): | $190,496 | $31.75 | $15.87 |
| Short Term $ (inflated): | $191,949 | $31.99 | $16.00 |
| Capital Needs $ (no inflation) | $265,568 | $44.26 | $8.85 |
| Capital Needs $ (inflated) | $272,872 | $45.48 | $9.10 |

| ITEM | | | | | | Immediate | Reserves | SHORT TERM | | | | | RESERVE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ITEM No. | PHOTO No. | DESCRIPTION | QTY | UNIT | UNIT COST | YEARS 0-1 | YEARS 1-5 | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | TOTAL |
| **SITE DEVELOPMENT** | | | | | | | | | | | | | |
| 1 | 40, 41, 49, 50, 51 | Cut & patch deteriorated asphalt pavement areas | 912 | SF | $6.65 | | $6,065 | $3,032 | | | $3,032 | | $6,065 |
| 2 | 40, 41, 49, 50, 51 | Renew asphalt pavement surface, including crack sealing (moderate), seal coat and re-stripe | 21,448 | SF | $0.27 | | $5,791 | $2,895 | | | | $2,895 | $5,791 |
| 3 | 43, 44, 45 | Renovate brick/stone pavement areas at main entrance and sidewalk on east side, remove, replace (as needed), reset settled areas, sand joints | 240 | SF | $17.12 | $4,109 | | | | | | | $0 |
| 4 | 25, 48 | Allowance for additional drainage study and investigation, North side of building | 1 | EA | $3,500.00 | $3,500 | | | | | | | $0 |
| **BUILDING STRUCTURE** | | | | | | | | | | | | | |
| 5 | 112, 113 | Remove and replace south exterior stair | 1 | LS | $5,000.00 | $5,000 | | | | | | | $0 |
| **BUILDING EXTERIOR** | | | | | | | | | | | | | |
| 6 | 1 thru 6 | Brick - mortar repair, clean, pressure-wash, repoint mortar, 5% of brick area estimated | 350 | SF | $16.12 | | $5,642 | $5,642 | | | | | $5,642 |
| 7 | 9, 10, 17, 18, 20, 21 | Brick - brick repair and replacement, less than 1000 SF of wall surface | 500 | SF | $24.17 | $12,085 | | | | | | | $0 |
| 8 | 1 thru 6 | Scraping, surface preparation and re-painting of exterior walls, 2-coat, spray applied - Brick | 8,172 | SF | $1.30 | | $10,624 | | | | $10,624 | | $10,624 |
| 9 | 19, 23 | Remove and replace deteriorated decorative trims/fascia, wood | 1,064 | SF | $6.36 | | $6,767 | $6,767 | | | | | $6,767 |
| 10 | 1 thru 6 | Cut out and replace sealants between various materials, average width and depth | 900 | LF | $4.29 | | $3,861 | | | | $3,861 | | $3,861 |
| 11 | 6 | Replace windows, operable - double hung - double pane glass - Wood | 600 | SF | $70.91 | | $42,546 | | | | $42,546 | | $42,546 |
| 12 | 6, 17 | Replace Wood Shutters | 16 | EA | $295.46 | | $4,727 | | | | $4,727 | | $4,727 |
| **ROOF** | | | | | | | | | | | | | |
| 13 | 7 thru 14 | Repair of active leaks, minimum charge, low rise | 1 | LS | $3,000.00 | | | | | | | | $0 |

# TABLE 1
## IMMEDIATE REPAIRS, SHORT TERM REPAIRS, and CAPITAL NEEDS ESTIMATE

VERTEX

| | |
|---|---|
| Site Name: | Ritter Memorial Building |
| City, ST: | Lunenburg , MA |
| Age, Yrs: | 108 |
| Project No.: | 48237 |

| | |
|---|---|
| # Buildings: | 1 |
| Est. Building SF: | 6,000 |
| Eval. Term, Yrs: | 5 |
| CPI: | 2.50% |
| # Units: | NA |

| | *Total* | *Per SF* | *Per SF/YR* |
|---|---|---|---|
| Immediate Repairs $: | $168,519 | $28.09 | |
| Short Term $ (no inflation): | $190,496 | $31.75 | $15.87 |
| Short Term $ (inflated): | $191,949 | $31.99 | $16.00 |
| Capital Needs $ (no inflation) | $265,568 | $44.26 | $8.85 |
| Capital Needs $ (inflated) | $272,872 | $45.48 | $9.10 |

| ITEM | | | | | | Immediate | Reserves | SHORT TERM | | | | | RESERVE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ITEM No. | PHOTO No. | DESCRIPTION | QTY | UNIT | UNIT COST | YEARS 0-1 | YEARS 1-5 | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | TOTAL |
| **BUILDING INTERIOR** | | | | | | | | | | | | | |
| 14 | 54, 62, 65 | Replace carpet floor coverings - low pile medium traffic | 5,400 | SF | $7.68 | | $41,472 | | $41,472 | | | | $41,472 |
| 15 | 54, 65, 66 | Painting of interior walls, drywall/plaster | 8,400 | SF | $1.10 | | $9,240 | | $9,240 | | | | $9,240 |
| 16 | 62, 65, 69 | Drywall ceilings at original section of building: repaint, minimum charge | 3,564 | SF | $0.80 | | $2,851 | | $2,851 | | | | $2,851 |
| 17 | 73 thru 84 | Budgetary allowance for evaluation and abatement of hazardous materials | 1 | LS | $133,500.00 | $133,500 | | | | | | | $0 |
| **MECHANICAL SYSTEMS** | | | | | | | | | | | | | |
| 18 | 85 | Provide secondary condensate drainage at air handling units | 3 | EA | $75.00 | $225 | | | | | | | $0 |
| 19 | 85, 87, 89, 90 | Engage mechanical engineer or mechanical contractor to investigate and recommend appropriate repair options for ventilation | 1 | LS | $7,500.00 | $7,500 | | | | | | | $0 |
| 20 | 85, 86 | Replace self-contained package unit - wall mount | 5 | Ton AC | $1,477.30 | | $7,387 | | | | $7,387 | | $7,387 |
| 21 | --- | General budgetary allowance for replacement and installation of ductless split system air-handlers and condensing units | 34 | Ton AC | $3,354.14 | | $114,041 | $114,041 | | | | | $114,041 |
| **ELECTRICAL SYSTEMS** | | | | | | | | | | | | | |
| 22 | 95 thru 98 | Engage qualified electrician for minor repairs, secure outlet covers/junction boxes, min charge | 1 | LS | $350.00 | $350 | | | | | | | $0 |
| 23 | 92, 93 | Remove and replace main disconnect and associated 200-amp circuit breaker panel and upgrade panel | 1 | EA | $4,555.13 | | $4,555 | | $4,555 | | | | $4,555 |
| **PLUMBING SYSTEMS** | | | | | | | | | | | | | |
| 24 | 17, 18 | Remove and relocate sink pump system from IT/electrical room area to an appropriate location | 1 | EA | $1,500.00 | $1,500 | | | | | | | $0 |
| **CONVEYANCE SYSTEMS** | | | | | | | | | | | | | |
| Not Applicable | | | | | | | | | | | | | $0 |

## TABLE 1
## IMMEDIATE REPAIRS, SHORT TERM REPAIRS, and CAPITAL NEEDS ESTIMATE

VERTEX

| | |
|---|---|
| Site Name: | Ritter Memorial Building |
| City, ST: | Lunenburg , MA |
| Age, Yrs: | 108 |
| Project No.: | 48237 |

| | |
|---|---|
| # Buildings: | 1 |
| Est. Building SF: | 6,000 |
| Eval. Term, Yrs: | 5 |
| CPI: | 2.50% |
| # Units: | NA |

| | *Total* | *Per SF* | *Per SF/YR* |
|---|---|---|---|
| Immediate Repairs $: | $168,519 | $28.09 | |
| Short Term $ (no inflation): | $190,496 | $31.75 | $15.87 |
| Short Term $ (inflated): | $191,949 | $31.99 | $16.00 |
| Capital Needs $ (no inflation) | $265,568 | $44.26 | $8.85 |
| Capital Needs $ (inflated) | $272,872 | $45.48 | $9.10 |

| ITEM | | | | | | Immediate | Reserves | SHORT TERM | | | | | RESERVE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ITEM No. | PHOTO No. | DESCRIPTION | QTY | UNIT | UNIT COST | YEARS 0-1 | YEARS 1-5 | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | TOTAL |
| **LIFE SAFETY/FIRE PROTECTION SYSTEMS** | | | | | | | | | | | | | |
| 25 | 105 | Engage fire protection vendor to inspect and test alarm system, minimum charge | 1 | EA | $750.00 | $750 | | | | | | | $0 |
| **ANCILLARY STRUCTURES** | | | | | | | | | | | | | |
| Not Applicable | | | | | | | | | | | | | $0 |
| TOTAL - Immediate Repairs | | | | | | **$168,519** | | | | | | | |
| TOTAL - Capital Needs | | | | | | | **$265,568** | | | | | | |
| TOTAL CAPITAL NEEDS, BY YEAR, UNINFLATED | | | | | | | | $132,378 | $58,118 | $0 | $72,177 | $2,895 | $265,568 |
| Inflation Factor | | | | | | | | 1.000 | 1.025 | 1.051 | 1.077 | 1.104 | |
| TOTAL CAPITAL NEEDS, BY YEAR, WITH INFLATION | | | | | | | | $132,378 | $59,571 | $0 | $77,727 | $3,196 | $272,872 |

**Notes/Abbreviations:**

**Item Number corresponds to item described in supporting "cost item #" in text report.*

LS = Lump Sum; LF = Linear Foot; SF = Square Feet; SY = Square Yard; EA = Each; TN = Ton; kW = Kilowatt; FL = Floor; RUL = Remaining Useful Life

**Immediate Needs** = material existing or potential unsafe conditions resultant from a damaged or deteriorated condition, material building or fire code violations on file with municipal agencies, or conditions that if left uncorrected, have the potential to result in or contribute to critical element or system failure within one year or will result most probably in a significant escalation of its remedial cost. Also included as immediate needs are items, materials or systems that have exceeded their useful life. Immediate Repair time frame for repair is between 0 and 1 year. These items are generally included regardless of cost.

**Short Term Repairs** = Items that may not warrant immediate attention, but require repairs or replacements that should be undertaken on a priority basis in addition to routine preventive maintenance. Such opinions of probable costs may include costs for testing, exploratory probing, and further analysis should this be deemed warranted by VERTEX. Short Term repairs are the aggregate sum of Capital Needs repairs within years 1 and 2. See report text for cost thresholds defining Short Term Repairs/Capital Needs versus items of Routine Maintenance.

**Capital Needs** = Items which are expected to require significant repair, replacement or renovation during the specified evaluation term due to the observed condition and estimated RUL.See report text for cost thresholds defining Short Term Repairs/Capital Needs versus items of Routine Maintenance.

**TABLE 2**

IMPROVED ADA COMPLIANCE

PRIORITES AND ESTIMATED COSTS

**TABLE 2**
**GENERAL ADA IMPROVEMENTS**

| | |
|---|---|
| # of ADA Items | 4 |
| Site Name: | Ritter Memorial Building |
| Site Location: | Lunenburg , MA |
| Building Age, yrs: | 108 |
| Project No.: | 48237 |

**ADA Observations**

| Item # | Photo # | Description | QTY | Unit | Unit Cost | Total |
|---|---|---|---|---|---|---|
| **PARKING - EXTERIOR ROUTE - BUILDING ENTRANCES** | | | | | | |
| ADA- 1 | 47 | Stripe access aisle adjacent to existing parking stall | 1 | EA | $235.00 | $235 |
| **INTERIOR ACCESSIBLE ROUTES - AMENITIES - INTERIOR DOORS - ELEVATORS** | | | | | | |
| ADA- 2 | 55 | Renovate handrails to extend past bottom and top risers, stairwells | 2 | EA | $335.80 | $672 |
| **TOILET ROOMS** | | | | | | |
| ADA- 3 | 58 | Convert fixtures to paddle type faucets that don't require pinching or twisting | 2 | EA | $369.00 | $738 |
| ADA- 4 | 58 | Add insulation under sinks common area restrooms | 2 | EA | $67.00 | $134 |
| **HOSPITALITY GUEST ROOMS** | | | | | | |
| Not Applicable | | | | | | |
| | | | | | **TOTAL** | **$1,779** |

**Notes/Abbreviations:**

LS = Lump Sum; LF = Linear Foot; SF = Square Feet; SY = Square Yard; EA = Each; TN = Ton; kW = Kilowatt; FL = Floor

Any future alterations are subject to compliance with local, state and federal requirements. In some cases, the tenants do not offer services which interface with the general public, and reasonable accommodations appear to be in place for employee accessibility.

ADA related issues are included on this table regardless of magnitude of cost.

ADA Priorities :
1 = Accessible approach and entrance
2 = Access to goods and services
3 = Access to restrooms
4 = Other measures

This is not meant to be a detailed ADA compliance audit. Costs are based on general, 'order of magnitude' estimates to provide improved

**APPENDIX A**

PHOTOGRAPHIC DOCUMENTATION


**Photo #1:** Original entry on the North façade.

**Photo #2:** South façade of the building.

**Photo #3:** West façade of the building.

**Photo #4:** East façade of the building with the current main entry.

**Photo #5:** Northwest corner of the 1960s addition with the accessible entry.

**Photo #6:** Partial south façade at the addition.

**Photo #7:** Satellite image of the roof.

**Photo #8:** The peak of the west end hip.

**Photo #9:** Masonry chimney located at the gable end of the south side.

**Photo #10:** Detail of the chimney flashing.

**Photo #11:** East side of the north facing portion of the hip roof.

**Photo #12:** Detail of the eave at the northwest corner of the front facade.

**Photo #13:** The underside of the roof deck showed evidence of historical water infiltration.

**Photo #14:** Detail of the masonry chimney which showed evidence of historical water infiltration.

**Photo #15:** 32 Window at the north façade of the addition. Note the damaged precast concrete sill.

**Photo #16:** The northwest corner of the addition where the downspout had recently been removed.

**Photo #17:** The window in the west side of the addition adjacent to the accessible entry. Note the crack at the window head.

**Photo #18:** The same window showed the crack originating at the foundation travelling up to the top of wall.


**Photo #19:** The front gable of the original entry in the north façade.

**Photo #20:** Detail of the east end of where it appeared that the original stair was removed previously. Note the crack along the mortar joints.

**Photo #21:** The west end of where the original stair was removed. Note the crack below the column.


**Photo #22:** The interior corner of the original entry at the west side.

**Photo #23:** The west end of the north side eave.

**Photo #24:** The basement window located at the west end of the north façade. Note the damaged brickmould.

**Photo #25:** The west façade of the original building appeared free of masonry cracks.

**Photo #26:** The eave of the west hip roof.


**Photo #27:** The rear stair at the south façade exhibited cracking and damage at the masonry pier below.

**Photo #28:** Detail of the concrete stair exhibited rust in the area of the handrail embed.

**Photo #29:** The south façade masonry was observed to be in good condition generally, with minor mortar cracks observed below the first floor window sills.

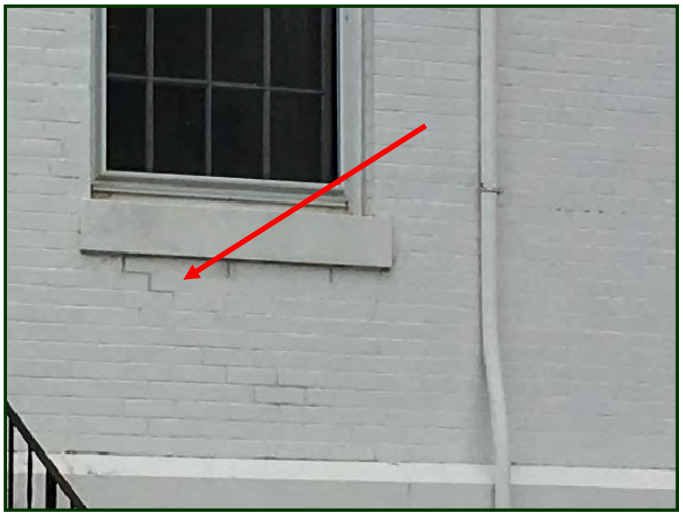


**Photo #30:** Detail of one of the mortar cracks below the first floor windows.

**Photo #31:** The east façade of the original structure where the addition is connected.

**Photo #32:** Detail of connection between the east façade of the original structure and the roof of the addition.

**Photo #33:** The drop ceiling was moved to witness the intersection at the addition connection.

**Photo #34:** The arrow indicates where daylight was observed at the intersection.

**Photo #35:** Detail of the main entry door and sidelight.

**Photo #36:** Minor rusting was observed at the addition window heads. This window was located just north of the


**Photo #37:** Main property signage at east side of site


**Photo #38:** Municipal signage at north side of site

**Photo #39:** Historical rendering of original building, prior to 1963 addition (view of north elevation)

**Photo #40:** Asphalt-paved parking lot at east side of site (looking east)

**Photo #41:** Close-up view of map cracking in asphalt paving (east side of site)

**Photo #42:** Field stone garden walls with granite and brick steps at east side of building


**Photo #43:** Close-up view of steps at front entrance.

**Photo #44:** Close-up view of uneven bricks and granite pieces with open brick joints creating a tripping hazard

**Photo #45:** Walkway at northeast corner of site with brick pavers and cast stone benches


**Photo #46:** Corner stone with date of addition at east side of building

**Photo #47:** Accessible parking space at southwest corner of building

**Photo #48:** View of accessible entrance beyond via asphalt-paved sidewalk from accessible parking space on right

**Photo #49:** Asphalt-paved parking area at southwest corner of site. Note map cracking in asphalt paving

**Photo #50:** Asphalt-paved driveway at south side of property

**Photo #51:** Close-up view of map cracking in asphalt paving

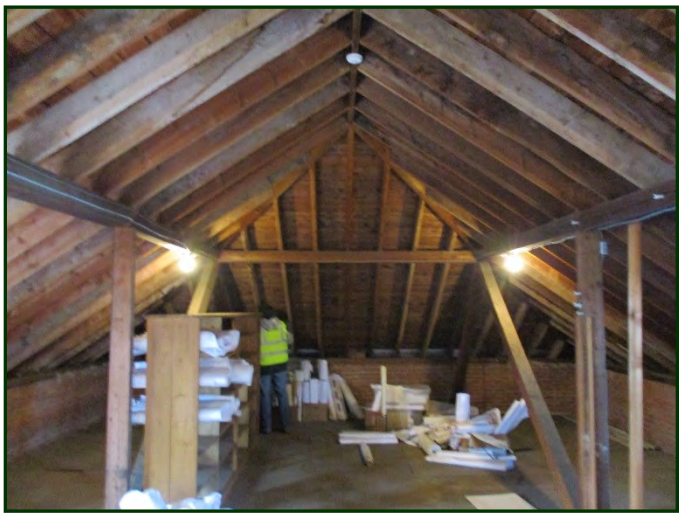


**Photo #52:** Attic level with exposed wood framing . Note exposed low brick wall at perimeter of space


**Photo #53:** Main building entrance with vestibule and transoms and sidelights (east side of building)

**Photo #54:** Main building lobby with carpet flooring and painted gypsum board walls

**Photo #55:** Small hydraulic lift and steel-framed stairs at west side of lobby

**Photo #56:** Wood stairs at attic level

**Photo #57:** Pull-down stairs below at second floor ceiling level (as viewed from the attic level)

**Photo #58:** Accessible toilet room adjacent to main building entrance


**Photo #59:** Office space adjacent to main entrance.

**Photo #60:** Suspended acoustical ceiling system with surface-mounted fluorescent lighting fixtures


**Photo #61:** Accessible entrance at north side of building

**Photo #62:** Lower level with carpet and painted gypsum board walls and ceiling

**Photo #63:** Kitchenette on lower level with exposed brick and painted gypsum board walls

**Photo #64:** View of mechanical room at lower level (south side)

**Photo #65:** Corridor at second floor level with carpet flooring

**Photo #66:** Second floor level conference room with ornate painted wood trim and fireplace (south side)

**Photo #67:** Painted wood wainscot at second floor level (south side)

**Photo #68:** Glass door at second floor level access to lift

**Photo #69:** Painted gypsum board ceiling with pendant-mounted fan and surface-mounted lighting fixtures

**Photo #70:** Close-up view of ornate painted wood trim at top of wall-ceiling (second floor level)


**Photo #71:** Painted wood paneled door with half glass and exit device at southwest corner of building

**Photo #72:** Concrete stairs with painted wrought iron railings at southwest corner of building. See previous photo

**Photo #73:** Photograph depicts general view of Side A

**Photo #74:** Photograph depicts general view of Side B

**Photo #75:** Photograph depicts general view of Side C

**Photo #76:** Photograph depicts general view of Side D

**Photo #77:** Photograph depicts general view of 12” Floor Tile within Lower Level Kitchen Area

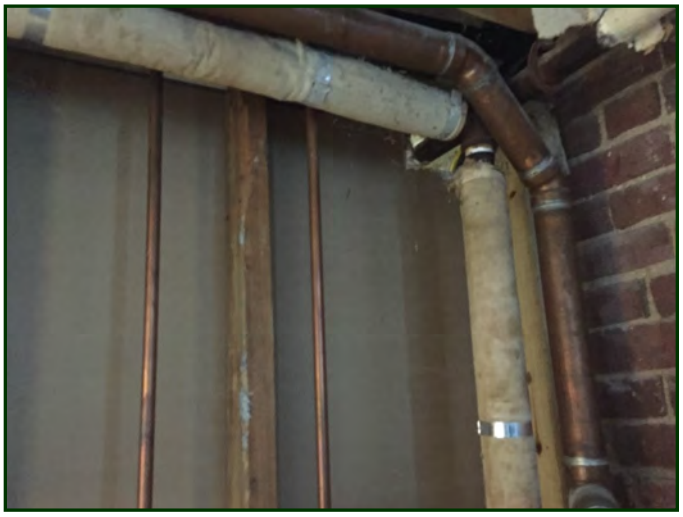


**Photo #78:** Photograph depicts general view of pipe wrap within Lower Level Utility Closet

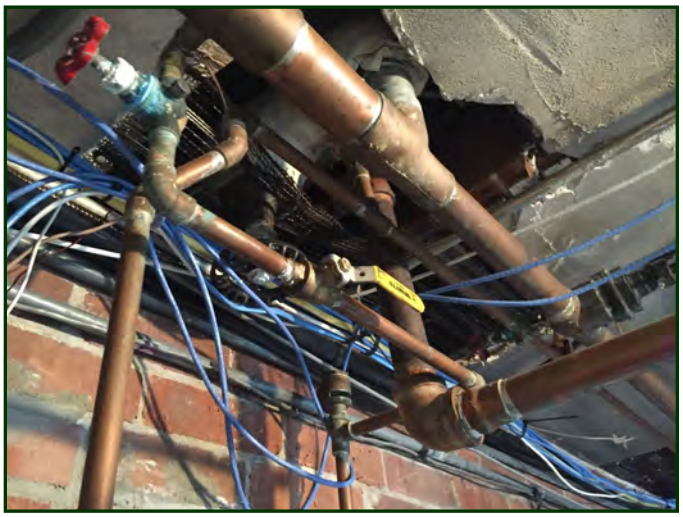


**Photo #79:** Photograph depicts general view of pipe fitting insulation above ceiling within Boiler Room

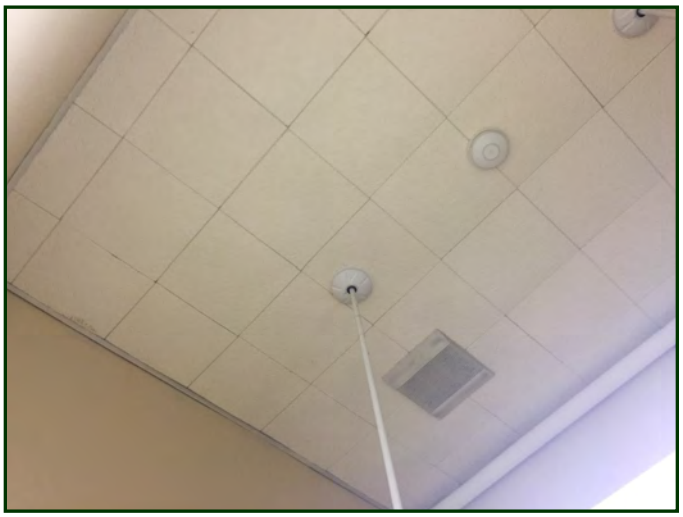


**Photo #80:** Photograph depicts general view of 1’ x 1’ Ceiling Tile with Addition Section bathroom

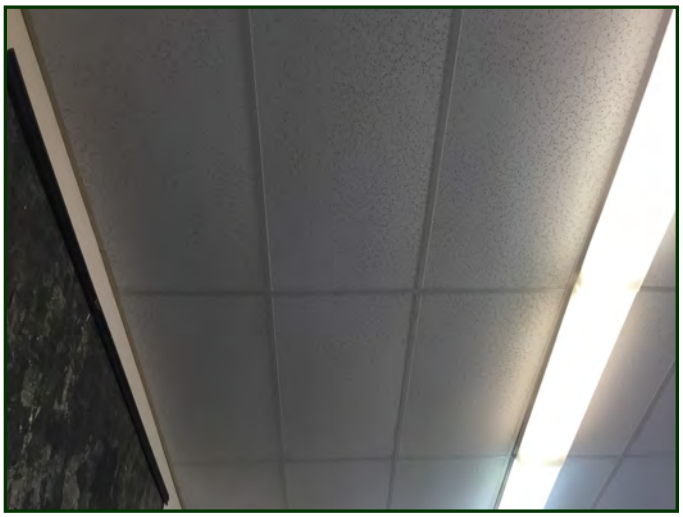


**Photo #81:** Photograph depicts general view of 2’ x 4’ Ceiling Tile with Addition Section

**Photo #82:** Photograph depicts general view of interior finish materials within the Original Section of the Site Build-

**Photo #83:** Photograph depicts general view of plaster on wood lathe within the Original Section attic area

**Photo #84:** Photograph depicts general view of water staining and suspect growth within the Original Section attic area

**Photo #85:** Typical wall mounted ductless AHU—main level


**Photo #86:** Typical exterior condensing unit

**Photo #87:** Typical wall mounted ductless AHU—upper level

**Photo #88:** Typical hot water baseboard radiator

**Photo #89:** Gas fired boilers in basement boiler room

**Photo #90:** Make-up air ventilation duct in boiler room

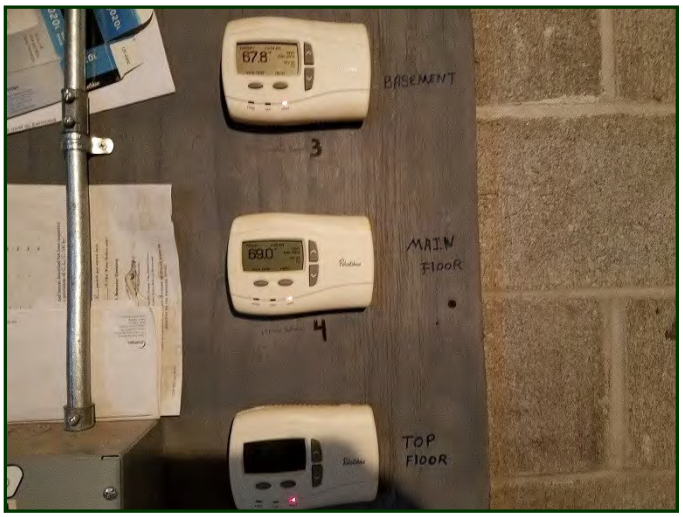



**Photo #91:** Thermostats for ductless AHUs in boiler room

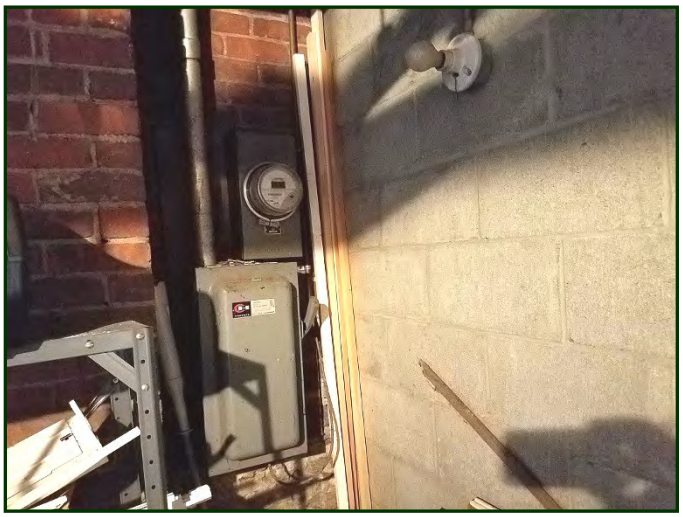


**Photo #92:** Electric meter and main service disconnect in boiler room

**Photo #93:** Electrical distribution panel in boiler room

**Photo #94:** Electrical panel in IT Room

**Photo #95:** Missing outlet cover near breakroom sink

**Photo #96:** Exposed Romex wiring in IT Room

**Photo #97:** Open junction box on exterior wall

**Photo #98:** Open junction box in boiler room

**Photo #99:** Typical lighting in office areas

**Photo #100:** Domestic electric water heater in boiler room

**Photo #101:** IT Room, electric panel on right hand side; IT equipment behind column; sink pump ejector system on floor near left side

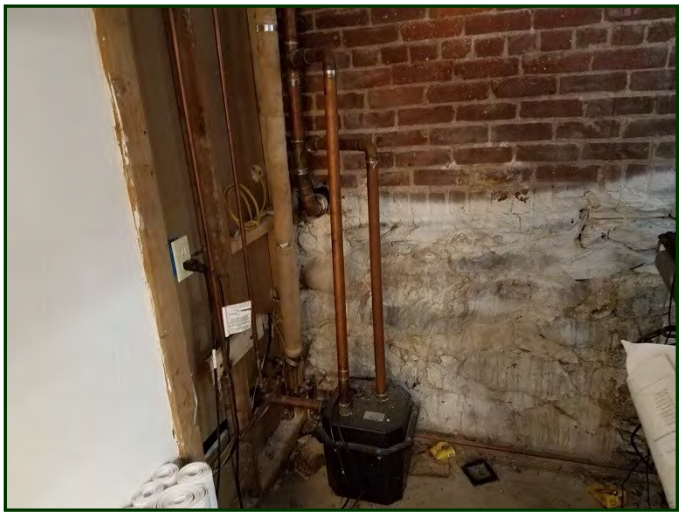


**Photo #102:** Sink pump ejector system serving sink in adjacent breakroom

**Photo #103:** Natural gas meter


**Photo #104:** Typical exit sign with battery backup


**Photo #105:** Fire alarm panel in Mens Room


**Photo #106:** Fire extinguisher and inspection tag

**Photo #107:** View of the front (north) elevation of the Ritter Building.

**Photo #108:** View of the west elevation of the addition to the Ritter Building.

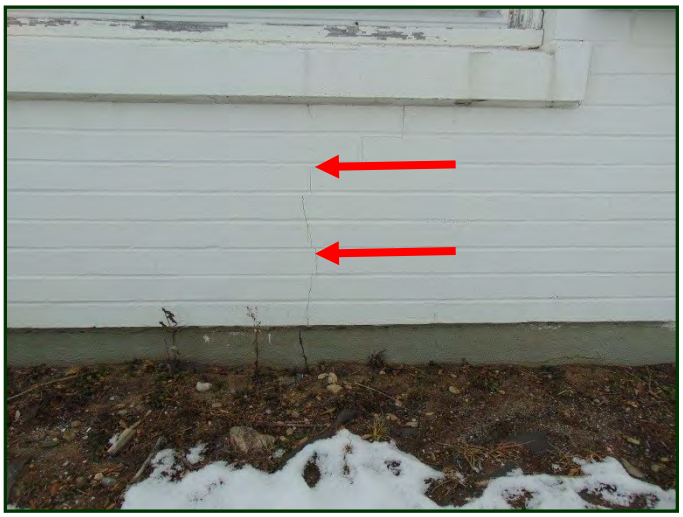


**Photo #109:** View of a crack in the masonry on the west elevation of the addition.

**Photo #110:** Continuation of the crack in the west elevation of the addition shown in the previous photo.

**Photo #111:** View of the south elevation of the Ritter Building. Note the concrete stairs.

**Photo #112:** View of the south stairs. Note the cracked CMU block.

**Photo #113:** View of a crack and rust staining at the south stairs.

**Photo #114:** View of the typical foundation at the Ritter Building.

**Photo #115:** View of the stone foundation from the interior.

**Photo #116:** View of the typical wood rafter framing in the original section of the Ritter Building.

**Photo #117:** View of a rotated wood plate supporting the roof rafters. Note the shims installed in the open gap.

**Photo #118:** View of a rotated truss web member in the attic of the Ritter Building.

**APPENDIX B**

RELEVANT SUPPORTING DOCUMENTATION

# Lunenburg Board of Assessors

Back to Results | Search for Parcels | Search for Sales | View/Print Record Card

View Property Card
Map View
View Abutters Properties

Summary
Residence
Land Segments
Detached Structure
Sales History
Value History
Condo
Commercial

Parcel ID: 162/071.0-0074-0000.0 FY: 2018 Community: Lunenburg

| | | | | | |
|---|---|---|---|---|---|
| Location: | 960 MASS AVE | | | | |
| Owner Name: | LUNENBURG, TOWN OF | | | | |
| Owner Name2: | BOARD OF SELECTMEN | | | | |
| Owner Address: | P O BOX 135 | | | | |
| City: | LUNENBURG | State: | MA | Zip: | 01462 |
| Neighborhood: | 35 | Land Area: | 1.10 acres | | |
| Use Code: | | Total Finished Area: | 15616 sqft | | |
| Tax Class: | E | Pct-Exempt-Land: | | | |
| | | Pct-Exempt-Bldg: | 1 | | |
| Sewer: | SW | Road Type: | H | | |
| Water: | WD | Road Condition: | P | | |

Photo (Click on Photo to Enlarge)

No Picture Available

Sketch (Click on Sketch to Enlarge)

No Sketch Available

| Assessments | Current Y ear | Previous Y ear |
|---|---|---|
| Total Value: | 834,900 | 559,600 |
| Building Value: | 708,300 | 488,700 |
| Land Value: | 126,600 | 70,900 |
| Market Land Value: | 126,600 | |
| Chapter Land Value: | | |

Latest Sale

| | | | | | |
|---|---|---|---|---|---|
| Sale Price: | 1 | Sale Date: | 05/23/1903 | | |
| Arms Length Sale Code: | N-NO-OTHER | Grantor: | | | |
| Cert Doc: | | Book: | 173 | Page: | 370 |

**APPENDIX C**

VISUAL HAZARDOUS MATERIALS SURVEY

VERTEX®

January 11, 2018

Ms. Heather R. Lemieux, Town Manager
Town of Lunenburg
17 Main Street
P.O. Box 135
Lunenburg, MA 01462

**Reference:** **Hazardous Materials Visual Assessment**
The Ritter Building
960 Massachusetts Avenue
Lunenburg, MA 01462
**VERTEX Project No. 48237**

Dear Ms. Lemieux:

The Vertex Companies, Inc. (VERTEX) is pleased to provide you with this letter report summarizing the visual hazardous materials assessment performed at the Ritter Building (the Site).

The Ritter Building is a two-story brick building reportedly constructed in 1909 with an addition in 1963. Interior finish materials include carpet flooring, plaster or drywall walls and ceilings. Exterior finish materials include a brick façade with an asphalt shingled roof on the addition section and slate roof on the original section. The site building is currently utilized as office space. Based on discussions with the site contact there are no prior survey reports for review.

The following sections identify suspect asbestos-containing materials (ACMs), suspect lead based painted (LBP) surfaces, and regulated materials/universal wastes identified during the assessment.

## Suspect Asbestos Containing Materials (ACMs) Assessment

Based on the age of the site building (1909 and 1963) it is likely that ACMs are present at the site building. Suspect ACMs observed or assumed to be present during the assessment included:

- Floor Tile and Associated Mastic
- Carpet Adhesive
- Hardwood Flooring Paper
- Plaster Skim and Base Coat
- Wall Board
- Joint Compound
- Textured Ceiling Material
- Pipe Wrap
- Pipe Fitting Insulation
- 1’ x 1’ Ceiling Tile
- 2’ x 4’ Ceiling Tile
- Exterior Window Glazing
- Exterior Window Caulking
- Roofing Materials (i.e. asphalt shingles, roofing paper, etc.)

At the time of the assessment, the suspect ACMs identified were observed to be in fair to good condition. Please refer to Attachment A which includes photographic documentation of the suspect ACMs identified during the assessment.

## Suspect Lead Based Painted Surfaces Assessment

Based on the age of the site building (1909 and 1963) it likely that LBPs are present at the site building. Various colored painted surfaces were observed to be in fair to poor condition on the interior as well as exterior. Please refer to Attachment A which includes photographic documentation of the suspect LBP surfaces identified during the assessment.

## Regulated Materials/Universal Waste Assessment

The following regulated materials/universal wastes were identified during the visual assessment:

- Fluorescent Light Bulbs
- Poly-Chlorinated Biphenyl (PCB)/Non-PCB Light Ballasts
- Wall Mounted AC Units
- Window Mounted AC Units

## Recommendations

Based on the visual assessment conducted, VERTEX offers the following recommendations:

Prior to any renovation or demolition activities, sampling of suspect ACMs that may be disturbed would need to be conducted in applicable areas to determine asbestos content. A comprehensive ACM survey is required to be conducted to comply with the Environmental Protection Agency (EPA) National Emission Standard for Hazardous Air Pollutants (NESHAPs) 40 CFR Part 61. Until these materials have been sampled and determined to be non-asbestos containing, these materials should be managed in place as presumed asbestos-containing materials (PACMs).

The General Contractor is required to comply with all applicable Federal, Commonwealth and local Regulations concerning lead-based paint located on surfaces that will be impacted. The General Contractor is required to ensure the protection of workers performing any related demolition work that will affect lead painted surfaces as well as protecting the public and the environment from exposure to lead dust. It is the General Contractor's responsibility to ensure that all applicable regulations are followed. This may include but may not be limited to air quality testing, medical screening of workers, dust barriers, testing of waste for disposal requirements, etc. In addition, composite samples of painted surfaces, including wood, require testing by the Toxicity Characteristics Leaching Procedure (TCLP) for waste classification in accordance with disposal requirements of the EPA. The General Contractor is required to comply with all applicable Federal, Commonwealth and local Regulations concerning lead-based paint located on surfaces that will be affected.

Identified regulated materials/universal wastes are required to be properly packaged, removed and disposed/recycled in accordance with federal, state and local regulations if renovation and/or demolition is planned to disturb.

## Estimated Costs

- Preparation of an Asbestos and Lead Operations and Mainatenence Plan: $800.00
- Comprehensive Pre-Renovation/Demolition Survey: $4,700.00
- Abatement of Identified Assumed ACMs and Regulated Materials: $96,000.00*
- Environmental Consulting/Clearance Inspections/Monitoring: $32,000.00*

***The Estimated Costs for Abatement and Consulting provided above will be dependent on the findings of a Comprehensive Pre-Renovation/Demolition Survey as well as the Selected Contractor schedule.*

*Limitations*

Professional opinions presented in this summary letter are based on information made available to VERTEX either by review of data provided by others or data gained by VERTEX personnel.

Conditions described in this summary letter were observed at the time of the inspection, unless otherwise stated.

VERTEX observed only the conditions and locations described in the summary letter at the time indicated.

This survey was limited to a visual assessment only and should not be utilized for renovation and/or demolition activities.

Please do not hesitate to contact us at your convenience, should you have any questions or comments regarding this summary letter or our recommendations.

Sincerely,
The Vertex Companies, Inc.

Jason Mohre
Senior Project Manager

Attachment:
Photographic Documentation

**ATTACHMENT A**

**Photo #1:** Photograph depicts general view of Side A

**Photo #2:** Photograph depicts general view of Side B

**Photo #3:** Photograph depicts general view of Side C

**Photo #4:** Photograph depicts general view of Side D

**Photo #5:** Photograph depicts general view of 12” Floor Tile within Lower Level Kitchen Area

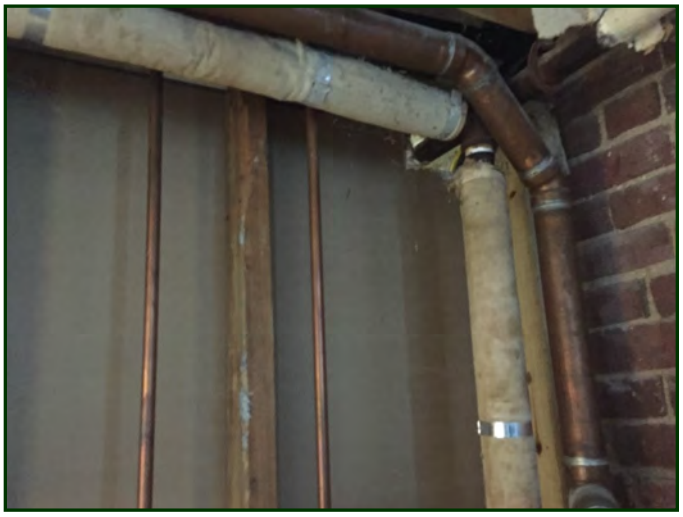


**Photo #6:** Photograph depicts general view of pipe wrap within Lower Level Utility Closet

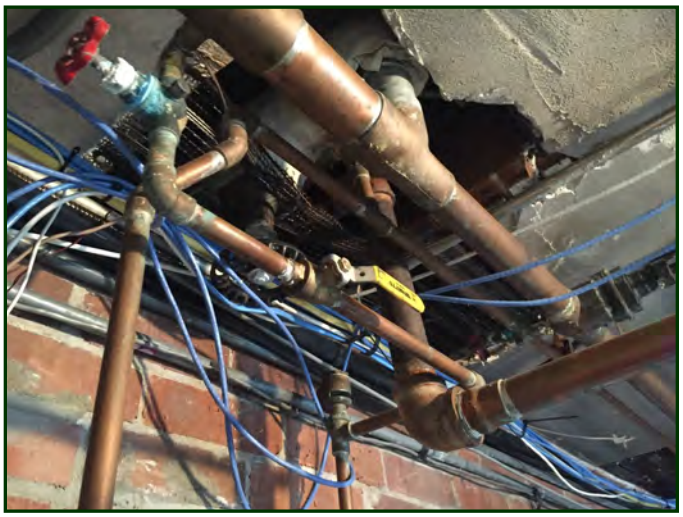


**Photo #7:** Photograph depicts general view of pipe fitting insulation above ceiling within Boiler Room

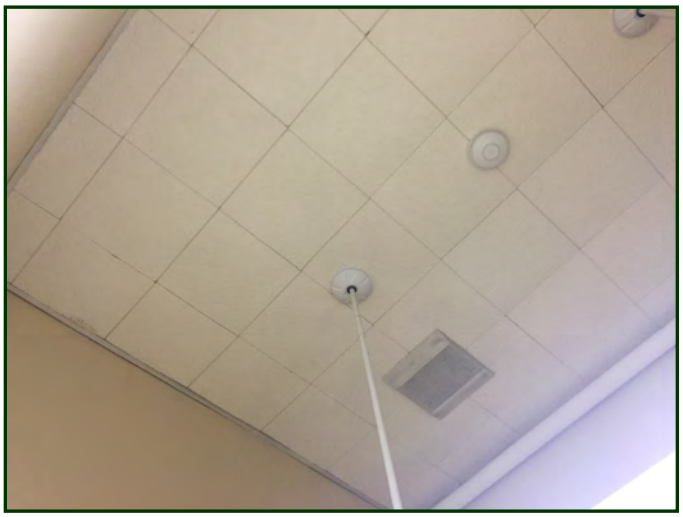


**Photo #8:** Photograph depicts general view of 1' x 1' Ceiling Tile with Addition Section bathroom

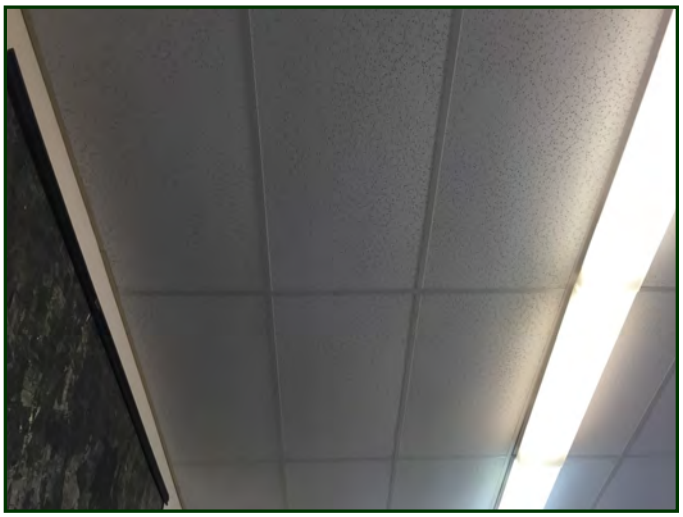


**Photo #9:** Photograph depicts general view of 2' x 4' Ceiling Tile with Addition Section

**Photo #10:** Photograph depicts general view of interior finish materials within the Original Section of the Site Build-

**Photo #11:** Photograph depicts general view of plaster on wood lathe within the Original Section attic area

**Photo #12:** Photograph depicts general view of water staining and suspect growth within the Original Section attic area

**APPENDIX D**

STAFF QUALIFICATIONS

**Eric Nelson, PE, LEED AP, CEA**
**Vice President, Property Condition Assessments**

[ enelson@vertexeng.com / 484-487-2727 ]

**Expertise:**

Indoor Air Quality
Construction Due Diligence
Loan Monitoring
Property Condition Assessments
Construction Estimating
LEED Assessment & Certification
Litigation Support & Expert Testimony (Construction)
Civil Engineering
Civil/Structural
Engineering Geology
Structural
Green Building
Energy Certified Efficiency Auditing
Compliance Audits
PCA

## Education/Training:

B.S., Civil Engineering, University of Illinois, 1989
Shallow Foundation Design, University of Missouri-Rolla, 1992
Deep Foundation Design, University of Florida, 1994
Environmental Chemistry, Illinois Institute of Technology, 1996
Earth Retaining Structures, University of Delaware, 2004

## Biography:

Mr. Nelson is a Vice President directing the Property Condition Assessment and Energy Savings Investigation practices at VERTEX. He has over 27 years of experience with construction-related services such as construction materials testing and inspection, Geotechnical engineering, foundation design and analysis and design of pavement systems. Since 1997, he has been extensively involved in the performance, review and management of Property Condition Assessments (PCAs) for projects of variable size and complexity throughout North America. In addition, he has provided Construction-Monitoring services to evaluate construction progress, and approve or deny contractor payment requests on multiple projects in the northeast. He has also managed a number of large scale projects involving pre- and post-construction condition assessments of structures to monitor and assess damage from construction-related vibration. Mr. Nelson has also directed VERTEX's building analysis program with respect to energy usage and savings strategies for projects at various locations in North America.

Mr. Nelson has been involved in over 3,000 construction and assessment projects during his career, with extensive involvement in new construction, remodeling and re-development, property acquisition, lender due diligence and financial needs assessments and development of replacement reserves for numerous property types.

## Licenses/Certifications:

Professional Engineer (PE) – Civil, DE, 10924
Professional Engineer (PE) – Civil, IL, 62.049214
Professional Engineer (PE) – Civil, IN, PE19500266
Professional Engineer (PE) – Civil, MD, 27232
Professional Engineer (PE) – Civil, NJ, 24GE03972000
Professional Engineer (PE) – Civil, NY, 754035
Professional Engineer (PE) – Civil, PA, PE050115E
Professional Engineer (PE) – Civil, WI, 31086-6
Professional Engineer (PE) – Civil, NC, 041964
Professional Engineer (PE) - Civil, AZ, 62072
LEED® AP
Certified Energy Auditor
Certified Building Inspection Engineer (BIECI)
Photovoltaic Entry Level Certificate of Knowledge
40 Hour OSHA Hazardous Waste Op. Training
Ground Source Heat Pump Loop Installer

**Associations:**

Delaware Valley Green Building Council (DVGBC)

Association of Energy Engineers (AEE)

**Publications:**

Nelson, Eric, and Shaw, Michael and Crelease, Charles, "Changes to Environmental Due Diligence – EPA's Draft All Appropriate Inquiry Rule" – NJPA Real Estate Journal, April 23, 2004

Nelson, Eric, "Property Condition Assessments – Going Beyond ASTM" – NJPA Real Estate Journal, March 11, 2005

Nelson, Eric, "Evaluating Sustainable Solutions" – Modern Contractor Solutions, October 2011

**Jason Mohre**
**Senior Project Manager**

[ jmohre@vertexeng.com / 6016 ]

**Expertise:**

Asbestos
Indoor Air Quality
Industrial Hygiene
Investigations & Remediation
Lead
Mold
O&M Program
LEED Assessment & Certification
Environmental
Green Building
Compliance Audits
Database Review
Environmental Portfolio Reviews
Peer Review
Phase I ESAs
Phase II LSI
Transaction Screen
Claim Investigation
Biology
Environmental Health & Safety
Environmental Permitting
Groundwater & Soil Characterization
Hazardous Materials/Waste
PCB
Remedial Design & Feasibility Studies
Remediation & Construction Management
Site Characterization
UST Removal
Vapor Intrusion Investigations & Remediation
Water & Wastewater
Sustainability Consulting

## Education/Training:

A.S., Environmental Technology, Cape Cod Community College (CCCC)
B.A., Earth & Geographical Studies, University of Massachusetts
Hydrogeology Certificate, UMASS Boston
Water Supply Certificate, CCCC/Massachusetts Maritime Academy (MMA)
Coastal Zone Management Certificate, CCCC
Wastewater Technology Certificate, CCCC/MMA
Geographical Information Systems Certificate, CCCC/MMA

## Special Training:

NIOSH 582 Equivalent: Air Sampling & Analysis for Asbestos Training
American Industrial Hygiene Association, PAT Program Participant
Institute for Environmental Education Asbestos Management Planner Training
Institute for Environmental Education, Asbestos Project Monitor Training
Institute for Environmental Education Asbestos Inspector Training

## Biography:

Mr. Mohre has over 15 years of experience in the environmental industry. Field expertise includes Asbestos Inspections, Indoor Air Quality Assessments, Hazardous Material building surveys and Water Intrusion/Mold Cause and Origin Investigations as well as on-site project management related to remedial action oversight, Phase I Environmental Site Assessments (ESAs), Commercial Property Transaction Screens, and Phase II Subsurface Investigations.

Mr. Mohre is currently responsible for managing industrial hygiene projects involving asbestos abatement, mold remediation and indoor air quality. Management tasks include: asbestos inspections; indoor air quality assessments; site investigations; cause and origin determinations; delineation of contaminated media; development of remediation strategies; and oversight and management of contractors. He also provides comprehensive investigative reports, remedial protocols, and operational plans.

Mr. Mohre also works closely with the other divisions of the VERTEX Companies which include environmental site investigations for insurance claims, property development/redevelopment, and/ or property transactions.

## Licenses/Certifications:

Asbestos Inspector, RI, AAC-0828IS, expire January, 2013
Asbestos Inspector, MA, AI000262, expire January, 2013
Asbestos Inspector, NH, AI 000370, expire January, 2013
Asbestos Management Planner, NH, AM 000370, expire January, 2013
Asbestos Management Planner, MA, AP000080, expire January, 2013
Asbestos Project Monitor, MA, AM000144, expire January, 2012
8 Hour OSHA HAZWOPER Refresher Certification, Annual
OSHA 40 Hour HAZWOPER Training

OSHA 10

**Matthew Quigley, PE**
**Forensic Engineer**

[ mquigley@vertexeng.com / 781.952.6070 ]

**Highlights:**

Professional Engineer (PE), Structural
Passed 16 HR. Structural Engineering (SE) Exam
B.S. Civil Engineering

**Expertise:**

Civil/Structural
Structural
Damages
Design Plans
Property Claim - Commercial
Property Claim - Personal

## Education/Training:

B.S., Civil Engineering, Northeastern University, 2010

## Special Training:

SEAMASS - Wind and Waves
SEAMASS - Structural Forensics: Lessons Learned

## Biography:

Mr. Quigley has a strong background in structural engineering analysis and design, building envelope review and design and construction administration services. He is a licensed engineer in 5 states and has experience with consultation and design of concrete, steel, masonry, and wood structural systems in residential and commercial applications. He is experienced in state and federal building codes and implementation through forensic analysis of failures and design of new structures.

He has experience in the evaluation, design and rehabilitation of historic structures including structural reinforcement, building envelope renovation and building code upgrades. His responsibilities include evaluating historic materials, designing to match existing material strengths and aesthetics, coordinating with historic commission requirements, implementing building code upgrades for historic structures and review and approval of construction materials and implementation.

Mr. Quigley uses these skills and experience as an integral member of the forensic engineering division within VERTEX to provide cause and origin investigations, damage assessments, and repair and design recommendations for structural and building envelope components on residential and commercial applications.

## Licenses/Certifications:

Professional Engineer (PE) – Structural, MA, 51620
Professional Engineer (PE) – Structural, CT, 31035
Professional Engineer (PE) – Structural, NH, 15152
Professional Engineer (PE) – Structural, VT, 123335
Professional Engineer (PE) – Structural, RI, 11959
Professional Engineer (PE), NY, 097406
OSHA 10
Structural Safety Assessment Program Inspector, CA, 74255

## Associations:

- American Concrete Institute (ACI)
- American Society for Testing and Materials (ATM)
- American Institute of Steel Construction (AISC)

## Presentations:

Presentation and training: ***"Expansion and Control Joints"*** as part of

**Philip Russo, R.A.**
**Project Manager**

[ prusso@vertexeng.com / 617-830-1542 ]

**Highlights:**

Registered Architect MA Lic #9077

**Expertise:**

PCA
Construction Defect
Civil Engineering
Structural
Architecture
Property Claim - Personal
Civil/Structural
Construction Due Diligence
Property Condition Assessments
Peer Review
Analysis
PCS
Consultation
Design Plans

## Education/Training:

B. Arch, Bachelor of Architecture Degree, Boston Architectural College, Boston, MA, 1984
Diploma in Architectural and Civil Design, Porter School of Design, Rocky Hill, CT

## Biography:

Mr. Russo is a Massachusetts Registered Architect with over 32 years of experience. He has extensive knowledge related to assessment, architectural design, code review, construction documents, specifications, project costs, project forecasting, and construction administration. He has worked on a wide range of building types, including public governmental buildings such as libraries and K-12 school buildings, as well as hospitals and healthcare facilities and other multi-functional buildings of numerous types. Currently, Mr. Russo serves as Project Manager at VERTEX.

Since 2002, he has been extensively involved in the development and review of Property Condition Assessments (PCAs), Property Condition Screens (PCS's), Mold Investigations, review of construction documents for constructability and other due diligence projects for projects of variable size and complexity throughout North America, Europe, Russia and India.

As Project Manager at VERTEX, Mr. Russo's responsibilities include building/site assessment, technical report writing, coordination of external contractors, ADA compliance, municipal research, cost estimating, capital reserve planning and engineering data analysis. Additional responsibilities include peer review and mentoring of junior staff.

## Licenses/Certifications:

Registered Architect, MA, MA#9077
Roofing 101 Module 1 : The Basics
Roofing 101 Module 2 : Roof Systems Basics
Roofing 101 Module 3 : Low-slope Roof Assemblies
Roofing 101 Module 4 : Steep-slope Roof Assemblies
Roofing 101 Module 5 : Roof Flashings and Accessories

**Scott Katzer, PE**
**Division Manager / Senior Forensic Engineer**

[ skatzer@vertexeng.com / 954-626-8893 ]

**Highlights:**

Mechanical Engineering Degree
Professional Engineer
Expert with many building related components
Nationwide Due Diligence Experience
Registered Professional Engineer in 12 States
Performed Numerous Forensic Investigations
Expert Consultant, Litigation Experience
Construction Defect
Nationwide Property Condition Assessments Expertise
Project Management Experience Nationwide
Experience in Hospital Facilities
MEP Systems

**Expertise:**

Litigation Support & Expert Testimony (Insurance Support)
Indoor Air Quality
Mold
PCA
Construction Defect
Construction Management
Catastrophe Claim
Contract Claim
Owner's Representation
Electrical Consulting
Litigation Support & Expert Testimony (Construction)
Commissioning
Construction Claim Analysis & Prep
Property Claim - Personal
Reconstruction/Restoration
Tenant Improvement
Mechanical
Feasibility Studies
Construction Due Diligence
Property Condition Assessments
Litigation Support & Expert Testimony (Air Quality)
Energy Management System Design, Installation & Support
Peer Review
Claim Investigation
Vapor Intrusion Investigations & Remediation

## Education/Training:

B.S., Mechanical Engineering, Northeastern University, Boston, MA, 1992

## Special Training:

Florida Wind Mitigation Inspection Training
Water Vapor Diffusion
Florida Professional Engineering Rules & Ethics
Concrete Deficiencies, Causes & Evaluation
Exterior Insulation & Finish Systems (EIFS)
Property Claim Training
Seismic Damage
Building Envelope & Stucco
Vibration Damage
Construction Defect Disputes & Litigation
National Association of Fire Investigators
Role of Cool Thermal Storage in Sustainable Design
Florida Wind Mitigation Inspection

## Biography:

Mr. Katzer is a Senior Engineer and Florida Division Manager. He earned a B.S. in Mechanical Engineering from Northeastern University and is a licensed professional mechanical engineer, Certified Fire & Explosion Investigator (CFEI) and a Haag certified residential roof inspector.

Mr. Katzer's engineering experience encompasses a wide variety of building issues. He is an experienced mechanical engineer in the evaluation and design of healthcare, institutional, commercial, residential and industrial technically complex projects, as well as the investigation and analysis of building related components including heating, ventilating and air conditioning (HVAC), electrical, plumbing, fire protection, building envelope and indoor air quality (IAQ) issues. He is also experienced in the evaluation of buildings relating to identifying and mitigating the risks associated with hurricanes and similar catastrophic events.

## Licenses/Certifications:

Professional Engineer (PE) - Mechanical, FL, 52678
Professional Engineer (PE) - Mechanical, GA, 26933
Professional Engineer (PE) - Mechanical, MA, 46899
Professional Engineer (PE) - Mechanical, CA, 33806
Professional Engineer (PE) - Mechanical, IL, 062060482
Professional Engineer (PE) - Mechanical, TX, 101536
Professional Engineer (PE) - Mechanical, NC, 035481
Professional Engineer (PE) – Mechanical, NY, 092091-1
Professional Engineer (PE) - Mechanical, CT, 30928
Professional Engineer (PE) - Mechanical, NV, 023556
Professional Engineer (PE) - Mechanical, CO, PE.0050936
Professional Engineer (PE) - Mechanical, NJ, 24GE05277500
Certified Fire & Explosion Investigator (CFEI), National, 20278-11429
Haag Certified Inspector – Residential Roofs , HCI #201302562

Fire and Explosives
Fire - Origin & Cause
Damages
PCS
Other
Invoice Review
Litigation Support & Expert Testimony
Consultation
Subrogation
Design Plans
Product Liability Claim
Property Claim - Commercial
Infrared Thermography
Survey

OSHA 10, 360training.com

**Associations:**

American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), No. 8160171

International Association of Fire Investigators member, No. 1310698

**Presentations:**

June 2015: Presented "From 5 to 5000 gallons, What to Look for in a Brewery Space" to the American Homebrewers Association, National Conference in San Diego, California.

June 2015/May 2014: Presented "Water Vapor Diffusion" to The Vertex Companies and Engle Martin & Associates in Fort Lauderdale, Florida.

April 2013/October 2012: Presented "Living with Engineers" to North Broward Preparatory School in Coral Springs, Florida and Olympic Heights High School STEM Program Board of Directors in Boca Raton, Florida.

June 2008: Presented "Hurricane Mitigation for Mission Critical Facilities" at the 7x24 Exchange Conference in Boca Raton, Florida.

**Brian Dunn, AIA**
**Forensic Architect**

[ bdunn@vertexeng.com / 203-517-4917 ]

**Expertise:**

Loss Control
Construction Defect
Owner's Representation
Architecture
Litigation Support & Expert Testimony (Construction)
Property Claim - Personal Property Condition Assessments
Litigation Support & Expert Testimony
Consultation
Builder's Risk Claim
Design Plans
Premise Liability Claim

## Education/Training:

Architecture, Boston Architectural College, B.Arch, 2008

## Biography:

Mr. Dunn possesses over 25 years of experience in the construction and design industries with an emphasis on preventing and solving issues related to the built enviornment. As a design professional Mr. Dunn has garnered expertise in all phases from the initial concept generation to the delivery of the completed building, including post occupancy analysis. He has been responsible for the successful coordination of the various disciplines that make up the finished product including site work.

Mr. Dunn provides valuable services to clients by performing on site inspections and construction document reviews as it pertains to litigation matters and pre-construction loss prevention reviews. Through his use of modern technology and his knowledge of myriad construction types and materials he is able to deliver accurate analyses and provide forward thinking solutions for clients that encompass their specific needs. He is adept at finding the source of problem and then providing the appropriate response that yields the best outcomes for clients.

Mr. Dunn's background in the construction and utility industries prior to him becoming an architect has given him experience with the technical aspects of construction not typically found in the architecture profession. It is this background that has led him to be proficient in the detailing of buildings and his ability to produce solutions to problems that arise during the course of construction in a timely manner as neccessitated once projects have broken ground. In post construction analysis he is able to examine conditions from large scale proportions down to minute details, interpret those findings, and communicate to clients the scope of the issue and how best to remedy that particular situation to the satisfaction of the client.

## Licenses/Certifications:

Registered Architect, CT, 13888
Registered Architect, MD, 18019
Registered Architect, NY, pending
NCARB

## Associations:

American Institute of Architects- AIA

Chamber of Commerce Ridgfield CT Advisory Council (2016)