

FACILITY CONDITION ASSESSMENT



**BUREAU
VERITAS**

prepared for

**Vermont Agency of Education_FCA Phase Two
1 National Life Drive, Davis 5
Montpelier, VT 05620-2501**



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BV PROJECT #:

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DATE OF REPORT:

June 8, 2023

ON SITE DATE:

May 17, 2023

**ROXBURY VILLAGE SCHOOL - Main Building (PS250-SU025)
1559 Roxbury Road
Roxbury, VT 05669**

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1. Executive Summary

Property Overview and Assessment Details

General Information	
Property Type	School
School ID Number	PS250-SU025
Main Address	1559 Roxbury Road, Roxbury, VT 05669
E911 Address Verification	Zip 05669, Standardized, Fixed abbreviations, Matched Street and city and state, Confirmed entire address
GPS Location (Verified E911)	Main Building 44.09259, -72.73327
Site Developed	1890 Renovated: 1992
Site Area	1.6 acres (estimated)
Parking Spaces	20 parking spaces in a dirt lot, none of which are accessible.
Building Square Footage	10,000 SF
Number of Stories	1 above grade
Supervisory Union/District	Montpelier Roxbury SD
Date(s) of Visit	May 17, 2023

Note: (Verified) in Square Foot signifies that the square footage of the facility has been verified to be accurate.

Significant/Systemic Findings and Deficiencies

Historical Summary

The school was initially two buildings built in 1890. The front building was the original Roxbury town hall, and the northern classrooms are original. The hallways, kitchen, and other classrooms were built in the 1980s and 1990s and have not been significantly updated since.

Architectural

The building is a slab on grade structure with a stick frame, a metal roof, and an unfinished attic area. The building is simply made of VCT, paint, ACT, and some wallpaper. The old town hall has been turned into a multipurpose room for lunch, gym, and town meetings, The wallpaper and VCT are beginning to tire and should be replaced soon. Several years ago, original buildings were renovated for lead paint, but there are areas that still need to be abated. The building has not yet been tested for PCBs.

Mechanical, Electrical, Plumbing and Fire (MEPF)

The building is heated by a two-pipe hydronic system and recently received several mini split systems for some of the classrooms. Due to the location of the facility, the school had quite a few humidity issues, but the mini splits have helped with humidity. This summer all classrooms will be receiving mini splits to help with both the heating and cooling of the facility. The classrooms receive fresh air from CO2 sensor-controlled air-handlers and there have been some issues merging control of the mini-splits with the main BAS system. The building has about 50% LED lighting and should be fully LED in the next few years. The building has well water and supplies several adjoining properties with fresh water in exchange for using them for leech-fielding. Several years ago, original buildings were renovated for lead paint, but there are areas that still need to be abated.

Site

The building has a relatively simple site with a dirty parking lot, grassy fields, play areas, and minimal hardscape. The site is well kept and is clearly cared for. The basketball strip has worn away and should be repainted.

Recommended Additional Studies

Potential minor to major issues has been identified at this property and a detailed accessibility study is recommended.

Facility Condition Index (FCI)

One of the major goals of the FCA is to calculate each building's Facility Condition Index (FCI), which provides a theoretical objective indication of a building's overall condition. By definition, the FCI is defined as the ratio of the cost of current needs divided by current replacement value (CRV) of the facility. The chart below presents the industry standard ranges and cut-off points.

FCI Ranges and Descriptions	
0 – 5%	In new or well-maintained condition, with little or no visual evidence of wear or deficiencies.
5 – 10%	Subjected to wear but is still in a serviceable and functioning condition.
10 – 30%	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable life.
30% and above	Has reached the end of its useful or serviceable life. Renewal is now necessary.

The deficiencies and lifecycle needs identified in this assessment provide the basis for a portfolio-wide capital improvement funding strategy. In addition to the current FCI, extended FCI's have been developed to provide owners the intelligence needed to plan and budget for the "keep-up costs" for their facilities. As such the 3-year, 5-year, and 10-year FCI's are calculated by dividing the anticipated needs of those respective time periods by current replacement value. As a final point, the FCI's ultimately provide more value when used to compare facilities across a portfolio instead of being over-analyzed and scrutinized as stand-alone values. The table below summarizes the individual findings for this FCA:

FCI Analysis			
<i>Replacement Value</i>	<i>Total SF</i>	<i>Cost/SF</i>	
\$2,500,000	10,000	\$250	
Current FCI		\$14,600	0.6%
3-Year		\$267,800	10.7%
5-Year		\$408,100	16.3%
10-Year		\$825,700	33.0%

Facility Level FCI:

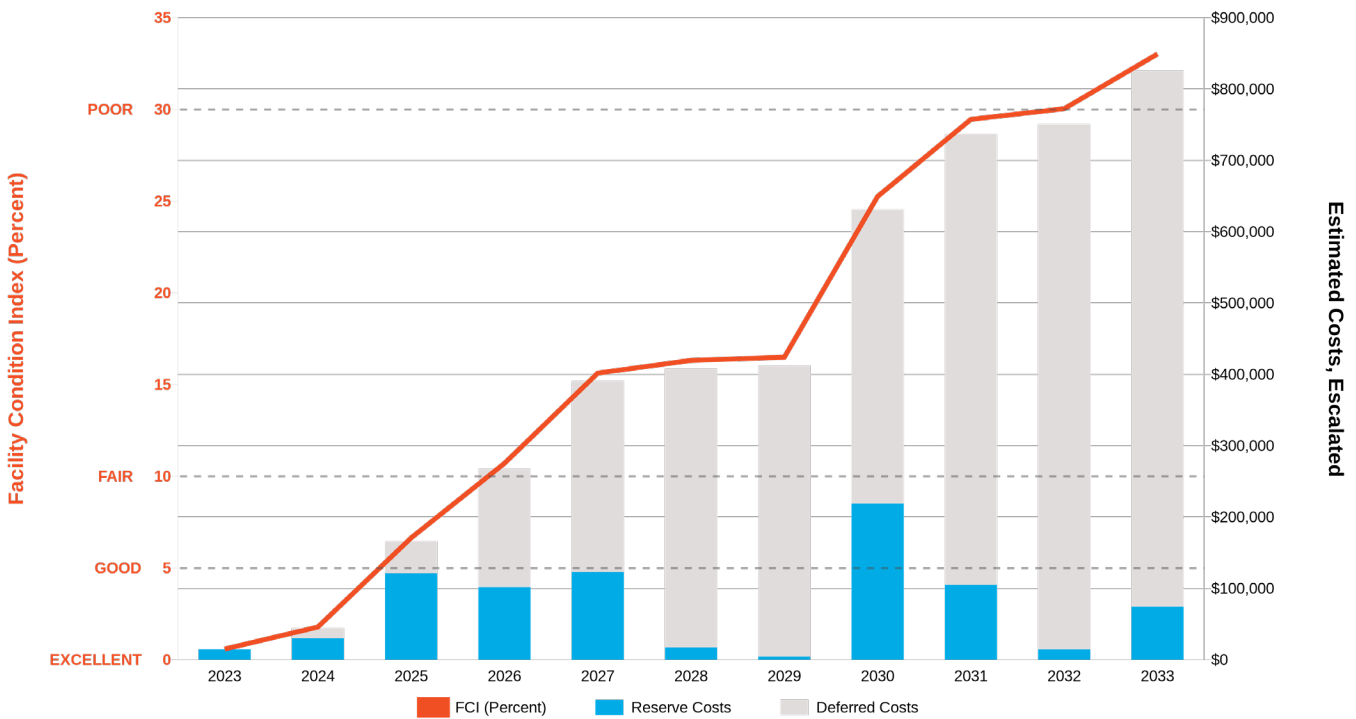
The orange line in the graph below forecasts what would happen to the FCI (left Y axis) over time, assuming zero capital expenditures. The capital expenditures allocated for each year (blue bars) are associated with the dollar amounts along the right Y axis. If the school expends the average amount per year to maintain and replace systems, they will not incur the capital debt represented by the gray bars.

Needs by Year with Unaddressed FCI Over Time

Replacement Value: \$2,500,000.00

Inflation Rate: 3%

Average Needs (per year - over next 10 years): \$75,056.00



Needs by Year with Unaddressed FCI Over Time (Table)

The above graph is a visual representation of the information contained in the table below.

Year	Reserve	Reserve Escalation	Recurrence	Recurrence Escalation	Total Escalation	Deferred	FCI
2023	14,595	0	0	0	0	14,595	0.01
2024	29,200	876	0	0	876	44,671	0.02
2025	114,500	6,973	0	0	6,973	166,144	0.07
2026	93,000	8,624	0	0	8,624	267,768	0.11
2027	109,200	13,706	0	0	13,706	390,674	0.16
2028	10,500	1,672	4,495	716	2,388	402,846	0.16
2029	3,600	699	0	0	699	407,145	0.16
2030	178,150	40,952	0	0	40,952	626,247	0.25
2031	78,980	21,070	4,000	1,067	22,137	726,297	0.29
2032	11,100	3,383	0	0	3,383	740,780	0.3
2033	55,000	18,915	495	170	19,085	814,695	0.33
2034	22,400	8,607	4,000	1,537	10,144	845,702	0.34
2035	51,200	21,799	30,500	12,986	34,785	918,701	0.37
2036	0	0	24,000	11,245	11,245	918,701	0.37
2037	67,200	34,446	4,000	2,050	36,496	1,020,347	0.41
2038	11,250	6,277	17,595	9,817	16,094	1,037,874	0.42
2039	2,500	1,512	0	0	1,512	1,041,886	0.42
2040	42,500	27,746	5,500	3,591	31,337	1,112,132	0.44
2041	21,000	14,751	69,000	48,468	63,219	1,147,883	0.46
2042	117,500	88,537	0	0	88,537	1,353,920	0.54

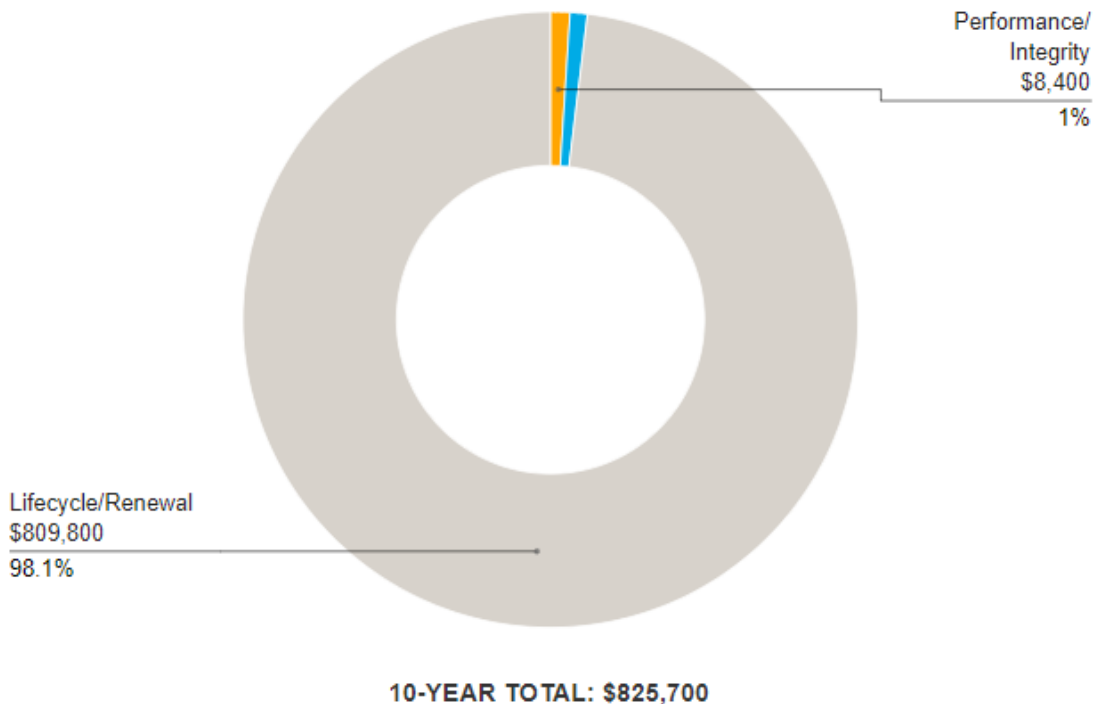


Plan Types

Each line item in the cost database is assigned a Plan Type, which is the primary reason or rationale for the recommended replacement, repair, or other corrective action. This is the “why” part of the equation. A cost or line item may commonly have more than one applicable Plan Type; however, only one Plan Type will be assigned based on the “best” fit, typically the one with the greatest significance. Each of the Key Findings identified below are assigned a Plan Type.

Plan Type Descriptions		
Safety	■	An observed or reported unsafe condition that if left unaddressed could result in injury; a system or component that presents potential liability risk.
Performance/Integrity	■	Component or system has failed, is almost failing, performs unreliably, does not perform as intended, and/or poses risk to overall system stability.
Accessibility	■	Does not meet ADA, UFAS, Safety and/or other handicap accessibility requirements.
Environmental	■	Improvements to air or water quality, including removal of hazardous materials from the building or site.
Retrofit/Adaptation	■	Components, systems, or spaces recommended for upgrades in in order to meet current standards, facility usage, or client/occupant needs.
Lifecycle/Renewal	■	Any component or system that is not currently deficient or problematic but for which future replacement or repair is anticipated and budgeted.

Plan Type Distribution (by Cost)



Immediate Needs

ID	Location Description	UF Code	Description	Condition	Plan Type	Cost
6181803	Throughout building	C2010	Wall Finishes, Wallpaper, Replace	Poor	Performance/Integrity	\$6,600
6262143	Site	G2050	Athletic Surfaces & Courts, Basketball/General, Asphalt Pavement, Seal & Stripe	Failed	Performance/Integrity	\$500
6264705	Study	Y1090	ADA Miscellaneous, Level III Study, Includes Measurements, Evaluate/Report	NA	Accessibility	\$7,500
Total						\$14,600



Key Findings



Wall Finishes in Poor condition.

Wallpaper

ROXBURY VILLAGE SCHOOL - Main Building Throughout building

Uniformat Code: C2010

Recommendation: **Replace in 2023**

Priority Score: **85.9**

Plan Type: Performance/Integrity

Cost Estimate: \$6,600

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Wallpaper is peeling and should be replaced. - AssetCALC ID: 6181803



Athletic Surfaces & Courts in Failed condition.

Basketball/General, Asphalt Pavement

ROXBURY VILLAGE SCHOOL - Main Building Site

Uniformat Code: G2050

Recommendation: **Seal & Stripe in 2023**

Priority Score: **82.9**

Plan Type: Performance/Integrity

Cost Estimate: \$500

\$\$\$\$

Striping is missing and should be redone - AssetCALC ID: 6262143



ADA Miscellaneous

Level III Study, Includes Measurements
ROXBURY VILLAGE SCHOOL - Main Building Study

Uniformat Code: Y1090

Recommendation: **Evaluate/Report in 2023**

Priority Score: **63.9**

Plan Type: Accessibility

Cost Estimate: \$7,500

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Bathrooms do not have grab bars, and the parking lot does not have accessible striping. The building and additions were likely made before accessibility was a requirement, but any future improvements should consider accessibility. - AssetCALC ID: 6264705

2. Building and Site Information



System Summary

<i>System</i>	<i>Description</i>	<i>Condition</i>
Structure	Conventional wood frame structure over concrete slab foundation with wood roof deck supported by wood joists	Good
Facade	Primary Wall Finish: Painted wood Windows: Wood and vinyl	Fair
Roof	Gable construction with metal finish	Fair
Interiors	Walls: Painted gypsum board, painted lath & plaster, vinyl, unfinished Floors: VCT, unfinished Ceilings: ACT, painted gypsum board	Fair
Elevators	None	N/A
Plumbing	Distribution: Copper supply and cast-iron waste & venting Hot Water: Electric water heaters with integral tanks Fixtures: Toilets, urinals, drinking fountains, and sinks	Fair
HVAC	Central System: Boilers feeding hydronic baseboard heaters and air handler units. Non-Central System: Split-system heat pumps	Good
Safety and Security	The property has key car access doors and security cameras throughout	Fair
Fire Suppression	Fire extinguishers only	Good
Electrical	Source & Distribution: Main panel with copper wiring Interior Lighting: LED, linear fluorescent Emergency Power: Diesel generator with automatic transfer switch	Fair
Fire Alarm	Alarm panel with smoke detectors, alarms, strobes, pull stations, back-up emergency lights, and exit signs	Fair



Equipment/Special	Commercial kitchen equipment	Good
Site Pavement	Dirt lots with limited areas of concrete sidewalks	Fair
Site Development	Building-mounted signage; chain link fencing. Playgrounds, grassy sports fields, and courts Furnished with park benches, picnic tables, trash receptacles	Fair
Landscaping & Topography	Limited landscaping features including lawns, trees, bushes, and planters. Irrigation not present Low to moderate site slopes throughout	Good
Utilities	On-site wells and septic Local utility-provided electric with propane and fuel oil tanks	Fair
Site Lighting	Building-mounted: LED, CFL	Fair
Ancillary Structures	None	N/A
Accessibility	Potential minor to major issues has been identified at this property and a detailed accessibility study is recommended.	
Key Issues and Findings	The basketball court striping has worn away and should be replaced. The wallpaper in the building is from the early 90s and should be replaced. Building VCT is nearing end of life and should be replaced in the next few years.	



3. Supplemental Evaluations

Square Foot Verification

We have reviewed the square footage of 10,000 square feet and it is in the range of square foot calculations as reported by the school district. This confirmation of the square footage of the facility is based on the exterior wall dimensions and number of stories measured from Google Earth and other publicly available internet searches. This measurement may not reflect the actual heated square footage but provides a general size of the heated square feet of the overall building.

PCB Air Indoor Testing

At the time of the onsite evaluation of this facility PCB air testing has not been conducted. Further ongoing information can be found on the Agency of Natural Resources PCB in Schools website [Agency of Natural Resources PCB in Schools](#).

School Educational Capacity and Programming Space

As part of the FCA report, school administrative staff were asked to conduct a self-assessment of whether their school building meets their space, operational needs and if they have sufficient building capacity and appropriate spaces to deliver educational programming. The school responses to the survey are reported in Appendix D. The respondents indicated that the following areas were inadequate to meet current needs:

A space needs self-assessment was conducted by the school administrative staff which identified space constraints in the following areas:

- Adequate number of classrooms.
- Adequate overall building space.
- Confidential space to maintain FERPA, HIPPA or IEP requirements.
- Administrative offices and/or office space for staff.
- Cafeteria, kitchen and/or gymnasium space.

The Depleted Value Facility Condition Index (FCI) is an estimate of a building's overall amount of consumed system life. The Depleted Value FCI ratings scale indicates the estimated condition of the system. Generally, the higher the Depleted Value FCI, the greater the need to repair or replace a system. Note that the FCI can also be calculated for system groups, building types and other aggregations. The estimated percentage of collective system life left in a building, also referred to as Remaining Useful Life (RUL). The higher the RUL, the newer the system. The sum of Depleted Value FCI and RUL will equal 100%.

Depleted Value Index

Index Value

30.3%

System Expenditure Forecast

System	Immediate	Short Term (1-2 yr)	Near Term (3-5 yr)	Med Term (6-10 yr)	Long Term (11-20 yr)	TOTAL
Facade	-	-	\$26,200	\$73,900	\$35,200	\$135,400
Roofing	-	-	-	\$156,700	\$3,200	\$159,900
Interiors	\$6,600	\$25,500	\$54,600	-	\$226,800	\$313,500
Plumbing	-	-	-	\$8,700	\$249,000	\$257,700
HVAC	-	\$67,200	\$10,400	\$9,400	\$115,000	\$202,000
Fire Protection	-	-	-	-	\$3,400	\$3,400
Electrical	-	\$54,600	-	\$50,700	\$78,400	\$183,700
Fire Alarm & Electronic Systems	-	-	\$20,800	-	\$60,000	\$80,800
Equipment & Furnishings	-	-	\$12,200	\$63,000	\$32,700	\$107,900
Site Utilities	-	-	-	\$4,300	\$37,800	\$42,100
Site Development	\$500	\$4,200	\$117,800	\$51,000	\$31,200	\$204,700
Site Pavement	-	-	-	-	\$9,800	\$9,800
Accessibility	\$7,500	-	-	-	-	\$7,500
TOTALS	\$14,600	\$151,500	\$242,000	\$417,700	\$882,500	\$1,708,400

4. Property Space Use and Observed Areas

Areas Observed

The interior spaces were observed to gain a clear understanding of the property's overall condition. Other areas accessed included the site within the property boundaries, the exterior of the property and the roofs.

Key Spaces Not Observed

All key areas of the property were accessible and observed.

5. ADA Accessibility

Generally, Title II of the Americans with Disabilities Act (ADA) prohibits discrimination by entities to access and use of “areas of public accommodations” and “public facilities” on the basis of disability. Regardless of their age, these areas and facilities must be maintained and operated to comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

A public entity (i.e., city governments) shall operate each service, program, or activity so that the service, program, or activity, when viewed in its entirety, is readily accessible to and usable by individuals with disabilities.

However, this does not:

1. Necessarily requires a public entity to make each of its existing facilities accessible to and usable by individuals with disabilities.
2. Require a public entity to take any action that would threaten or destroy the historic significance of an historic property; or
3. Require a public entity to take any action that it can demonstrate would result in a fundamental alteration in the nature of a service, program, or activity or in undue financial and administrative burdens. In those circumstances where personnel of the public entity believe that the proposed action would fundamentally alter the service, program, or activity or would result in undue financial and administrative burdens, a public entity has the burden of proving that compliance with 35.150(a) of this part would result in such alteration or burdens. The decision that compliance would result in such alteration or burdens must be made by the head of a public entity or his or her designee after considering all resources available for use in the funding and operation of the service, program, or activity, and must be accompanied by a written statement of the reasons for reaching that conclusion. If an action would result in such an alteration or such burdens, a public entity shall take any other action that would not result in such an alteration or such burdens but would nevertheless ensure that individuals with disabilities receive the benefits or services provided by the public entity.

Removal of barriers to accessibility should be addressed from a liability standpoint in order to comply with federal law, but the barriers may or may not be building code violations. The Americans with Disabilities Act Accessibility Guidelines are part of the ADA federal civil rights law pertaining to the disabled and are not a construction code. State and local jurisdictions have adopted the ADA Guidelines or have adopted other standards for accessibility as part of their construction codes.

During the FCA, Bureau Veritas performed a limited high-level accessibility review of the facility non-specific to any local regulations or codes. The scope of the visual observation was limited to the same areas observed while performing the FCA and the categories set forth in the appendix. It is understood by the Client that the limited observations described herein do not comprise a full ADA Compliance Survey, and that such a survey is beyond the scope of this particular assessment. A full measured ADA survey would be required to identify any and all specific potential accessibility issues. Additional clarifications of this limited survey:

- This survey was visual in nature and actual measurements were not taken to verify compliance.
- Only a representative sample of areas was observed.
- Two overview photos were taken for each subsection regardless of perceived compliance or non-compliance.
- Itemized costs for individual non-compliant items are not included in the dataset.
- For any “none” boxes checked or reference to “no issues” identified, that alone does not guarantee full compliance.

The facility was originally constructed in 1956. The facility was renovated in 1994 and has widespread accessibility. No information about complaints or pending litigation associated with potential accessibility issues was provided during the interview process.

A detailed follow-up accessibility study is included as a recommendation based on the potential that specific ADA violations, not in this scope of services, may exist. Reference the appendix for specific data, photos, and tables or checklists associated with this limited accessibility survey.

6. Purpose and Scope

Purpose

Bureau Veritas was retained by the client to render an opinion as to the Property's current general physical condition on the day of the site visit.

Based on the observations, interviews and document review outlined below, this report identifies significant deferred maintenance issues, existing deficiencies, and material code violations of record, which affect the Property's use. Opinions are rendered as to its structural integrity, building system condition and the Property's overall condition. The report also notes building systems or components that have realized or exceeded their typical expected useful lives. The physical condition of building systems and related components are typically defined as being in one of five condition ratings. For the purposes of this report, the following definitions are used:

Condition Ratings	
Excellent	New or very close to new; component or system typically has been installed within the past year, sound and performing its function. Eventual repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
Good	Satisfactory as-is. Component or system is sound and performing its function, typically within the first third of its lifecycle. However, it may show minor signs of normal wear and tear. Repair or replacement will be required when the component or system either reaches the end of its useful life or fails in service.
Fair	Showing signs of wear and use but still satisfactory as-is, typically near the median of its estimated useful life. Component or system is performing adequately at this time but may exhibit some signs of wear, deferred maintenance, or evidence of previous repairs. Repair or replacement will be required due to the component or system's condition and/or its estimated remaining useful life.
Poor	Component or system is significantly aged, flawed, functioning intermittently or unreliably; displays obvious signs of deferred maintenance; shows evidence of previous repair or workmanship not in compliance with commonly accepted standards; has become obsolete; or exhibits an inherent deficiency. The present condition could contribute to or cause the deterioration of contiguous elements or systems. Either full component replacement is needed, or repairs are required to restore to good condition, prevent premature failure, and/or prolong useful life.
Failed	Component or system has ceased functioning or performing as intended. Replacement, repair, or other significant corrective action is recommended or required.
Not Applicable	Assigning a condition does not apply or make logical sense, most commonly due to the item in question not being present.

Scope

The standard scope of the Facility Condition Assessment includes the following:

- Visit the Property to evaluate the general condition of the building and site improvements, review available construction documents to familiarize ourselves with, and be able to comment on, the in-place construction systems, life safety, mechanical, electrical, and plumbing systems, and the general-built environment.
- Identify those components that are exhibiting deferred maintenance issues and provide cost estimates for Immediate Costs and Replacement Reserves based on observed conditions, maintenance history and industry standard useful life estimates. This will include the review of documented capital improvements completed within the last five-year period and work currently contracted for, if applicable.
- Provide a full description of the Property with descriptions of in-place systems and commentary on observed conditions.
- Provide a high-level categorical general statement regarding the subject Property's compliance to Title III of the Americans with Disabilities Act. This will not constitute a full ADA survey but will help identify exposure to issues and the need for further review.
- Obtain background and historical information about the facility from a building engineer, property manager, maintenance staff, or other knowledgeable source. The preferred methodology is to have the client representative or building occupant complete a Pre-Survey Questionnaire (PSQ) in advance of the site visit. Common alternatives include a verbal interview just prior to or during the walk-through portion of the assessment.
- Review maintenance records and procedures with the in-place maintenance personnel.
- Observe a representative sample of the interior spaces/units, including vacant spaces/units, to gain a clear understanding of the property's overall condition. Other areas to be observed include the exterior of the property, the roofs, interior common areas, and the significant mechanical, electrical and elevator equipment rooms.
- Provide recommendations for additional studies, if required, with related budgetary information.
- Provide an Executive Summary at the beginning of this report, which highlights key findings and includes a Facility Condition Index as a basis for comparing the relative conditions of the buildings within the portfolio.

7. Opinions of Probable Costs

Cost estimates are attached throughout this report, with the Replacement Reserves in the appendix.

These estimates are based on Invoice or Bid Document/s provided either by the Owner/facility and construction costs developed by construction resources such as *R.S. Means*, *CBRE Whitestone*, and *Marshall & Swift*, Bureau Veritas's experience with past costs for similar properties, city cost indexes, and assumptions regarding future economic conditions.

Opinions of probable costs should only be construed as preliminary, order of magnitude budgets. Actual costs most probably will vary from the consultant's opinions of probable costs depending on such matters as type and design of suggested remedy, quality of materials and installation, manufacturer and type of equipment or system selected, field conditions, whether a physical deficiency is repaired or replaced in whole, phasing or bundling of the work (if applicable), quality of contractor, quality of project management exercised, market conditions, use of subcontractors, and whether competitive pricing is solicited, etc. Certain opinions of probable costs cannot be developed within the scope of this guide without further study. Opinions of probable cost for further study should be included in the FCA.

Methodology

Based upon site observations, research, and judgment, along with referencing Expected Useful Life (EUL) tables from various industry sources, Bureau Veritas opines as to when a system or component will most probably necessitate replacement. Accurate historical replacement records, if provided, are typically the best source of information. Exposure to the elements, initial quality and installation, extent of use, the quality and amount of preventive maintenance exercised, etc., are all factors that impact the effective age of a system or component. As a result, a system or component may have an effective age that is greater or less than its actual chronological age. The Remaining Useful Life (RUL) of a component or system equals the EUL less its *effective age*, whether explicitly or implicitly stated. Projections of Remaining Useful Life (RUL) are based primarily on age and condition with the presumption of continued use and maintenance of the Property similar to the observed and reported past use and maintenance practices, in conjunction with the professional judgment of Bureau Veritas's assessors. Significant changes in occupants and/or usage may affect the service life of some systems or components.

Where quantities could not be or were not derived from an actual construction document take-off or facility walk-through, and/or where systemic costs are more applicable or provide more intrinsic value, budgetary square foot and gross square foot costs are used. Estimated costs are based on professional judgment and the probable or actual extent of the observed defect, inclusive of the cost to design, procure, construct, and manage the corrections.

Definitions

Immediate Needs

Immediate Needs are line items that require immediate action as a result of: (1) material existing or potential unsafe conditions, (2) failed or imminent failure of mission critical building systems or components, or (3) conditions that, if not addressed, have the potential to result in, or contribute to, critical element or system failure within one year or will most probably result in a significant escalation of its remedial cost.

For database and reporting purposes the line items with RUL=0, and commonly associated with *Safety* or *Performance/Integrity* Plan Types, are considered Immediate Needs.

Replacement Reserves

Cost line items traditionally called Replacement Reserves (equivalently referred to as Lifecycle/Renewals) are for recurring probable renewals or expenditures, which are not classified as operation or maintenance expenses. The replacement reserves should be budgeted for in advance on an annual basis. Replacement Reserves are reasonably predictable both in terms of frequency and cost. However, Replacement Reserves may also include components or systems that have an indeterminable life but, nonetheless, have a potential for failure within an estimated time period.

Replacement Reserves generally exclude systems or components that are estimated to expire after the reserve term and are not considered material to the structural and mechanical integrity of the subject property. Furthermore, systems and components that are not deemed to have a material effect on the use of the Property are also excluded. Costs that are caused by acts of God, accidents, or other occurrences that are typically covered by insurance, rather than reserved for, are also excluded.

Replacement costs are solicited from ownership/property management, Bureau Veritas's discussions with service companies, manufacturers' representatives, and previous experience in preparing such schedules for other similar facilities. Costs for work performed by the ownership's or property management's maintenance staff are also considered.

Bureau Veritas's reserve methodology involves identification and quantification of those systems or components requiring capital reserve funds within the assessment period. The assessment period is defined as the effective age plus the reserve term. Additional information concerning the systems or component's respective replacement costs (in today's dollars), typical expected useful lives, and remaining useful lives were estimated so that a funding schedule could be prepared. The Replacement Reserves Schedule presupposes that all required remedial work has been performed or that monies for remediation have been budgeted for items defined as Immediate Needs.

For the purposes of 'bucketizing' the System Expenditure Forecasts in this report, the Replacement Reserves have been subdivided and grouped as follows: Short Term (years 1-3), Near Term (years 4-5), Medium Term (years 6-10), and Long Term (years 11-20).

Key Findings

In an effort to highlight the most significant cost items and not be overwhelmed by the Replacement Reserves report in its totality, a subsection of Key Findings is included within the Executive Summary section of this report. Key Findings typically include repairs or replacements of deficient items within the first five-year window, as well as the most significant high-dollar line items that fall anywhere within the ten-year term. Note that while there is some subjectivity associated with identifying the Key Findings, the Immediate Needs are always included as a subset.

Exceedingly Aged

A common scenario encountered during the assessment process, and a frequent source of debate, occurs when classifying and describing "very old" systems or components that are still functioning adequately and do not appear nor were reported to be in any way deficient. To help provide some additional intelligence on these items, such components will be tagged in the database as Exceedingly Aged. This designation will be reserved for mechanical or electrical systems or components that have aged well beyond their industry standard lifecycles, typically at least 15 years beyond and/or twice their Estimated Useful Life (EUL). In tandem with this designation, these items will be assigned a Remaining Useful Life (RUL) not less than two years but not greater than 1/3 of their standard EUL. As such the recommended replacement time for these components will reside outside the typical Short-Term window but will not be pushed 'irresponsibly' (too far) into the future.

8. STEM/STEAM Assessment

STEM and STEAM education is an integrated curriculum that is driven by exploratory project-based learning and student-centered development of ideas and solutions. BV has evaluated the facility for the existence of spaces and systems to provide STEM/STEAM education based on input from the point of contact for the school. The below table identifies the required standards and to what degree the requirements have been met for the facility.

STEM/STEAM Evaluations				
Property Name	STEM/STEAM Suitability Score	Project Number	School Type	Square Footage
Roxbury Village School - Main Building	8%	158982.22R000-284.379	Elementary	10,000

Suitability Classification	Scale
Compares Poorly	Score 0 - 25
Compares Marginally	Score 25-50
Compares Fairly	Score 50-75
Compares Well	Score 75 - 100

Score Value	Score Impact
1- Meets	100%
2- Partial	50%
3- Missing	0%

Details of the STEM/STEAM evaluation are included in the appendix of this report. Reference this appendix for specific data associated with this limited survey.

9. Energy Audit

The purpose of this Energy Audit is to provide Roxbury Village School with a baseline of energy usage, the relative energy efficiency of the facility, and specific recommendations for Energy Conservation Measures. Information obtained from these analyses may be used to support a future application to an Energy Conservation Program, Federal and Utility grants towards energy conservation, as well as support performance contracting, justify a municipal bond-funded improvement program, or as a basis for replacement of equipment or systems.

The energy audit consisted of an on-site visual assessment to determine current conditions, itemize the energy consuming equipment (i.e. Boilers, Make-Up Air Units, DWH equipment); review lighting systems both exterior and interior; and review efficiency of all such equipment. The study also included interviews and consultation with operational and maintenance personnel. The following is a summary of the tasks and reporting that make up the Energy Audit portion of the report.

The following is a summary of the tasks and reporting that make up the Energy Audit portion of the report.

Energy and Water Using Equipment

- Bureau Veritas has surveyed the common areas, offices, maintenance facilities and mechanical rooms to document utility-related equipment, including heating systems, cooling systems, air handling systems and lighting systems.

Building Envelope

- Bureau Veritas has reviewed the characteristics and conditions of the building envelope, checking insulation values and conditions. This review also includes an inspection of the condition of walls, windows, doors, roof areas, insulation, and special use areas.

Recommendations for Energy Savings Opportunities

- Based on the information gathered during the on-site assessment, the utility rates, as well as recent consumption data and engineering analysis, Bureau Veritas has identified opportunities to save energy and provide probable construction costs, projected energy/utility savings and provide a simple payback analysis.

Analysis of Energy Consumption

- Based on the information gathered during the on-site assessment, Bureau Veritas has conducted an analysis of the energy usage of all equipment, and identified which equipment is using the most energy and what equipment upgrades may be necessary. As a result, equipment upgrades, or replacements are identified that may provide a reasonable return on the investment and improve maintenance reliability.

Energy Audit Process

- Interviewing staff and review plans and past upgrades
- Performing an energy audit for each use type
- Performing a preliminary evaluation of the utility system
- Analyzing findings, utilizing ECM cost-benefit worksheets
- Making preliminary recommendations for system energy improvements and measures
- Estimating initial cost and changes in operating and maintenance costs based on implementation of energy efficiency measures
- Ranking recommended cost measures, based on the criticality of the project and the largest payback

10. Historical Energy and Water Performance Metrics

Utility Data Tabulation Methodology

Establishing the energy baseline begins with an analysis of the utility cost and consumption of the facility. Utilizing the historical energy data and local weather information, we evaluate the existing utility consumption and assign it to the various end-uses throughout the buildings. The Historical Data Analysis breaks down utilities by consumption, cost and annual profile.

This data is analyzed using standard engineering assumptions and practices. The analysis serves the following functions:

- Allows our engineers to benchmark the energy and water consumption of the facilities against consumption of efficient buildings of similar construction, use and occupancy.
- Generates the historical and current unit costs for energy and water.
- Provides an indication of how well changes in energy consumption correlate to changes in weather.
- Reveals potential opportunities for energy consumption and/or cost reduction. For example, the analysis may indicate that there is excessive, simultaneous heating and cooling, which may mean that there is an opportunity to improve the control of the heating and cooling systems.

By performing this analysis and leveraging our experience, our engineers prioritize buildings and pinpoint systems for additional investigation during the site visit, thereby maximizing the benefit of their time spent on-site and minimizing time and effort by the customer’s personnel.

Based upon the utility bills provided, the following energy rates have been calculated and utilized in determining existing and proposed energy costs. The electric cost data provided by the client consists of net metering usage that was calculated after deducting the export units from import units based on the distribution generation by PV system installed at the property. To better estimate potential energy conservation measures for this property, a standard average rate of \$0.18/kWh was used for the electrical utility.

Utilities Metering at a Glance	
Number of electric meters observed	Two (one solar)
Number of gas meters observed	None
Number of central steam meters observed	None
Number of domestic water meter observed	None

Average Utility Rates			
Electricity	Propane	No. 2 Oil	Water & Sewer
Average Rate	Average Rate	Average Rate	Blended Rate
\$0.18 / kWh (est.)	\$1.94 / Gal	\$3.60 / Gal	N/A – on-site only



Electricity

Green Mountain Power provides electrical service to the facility.

The consumption pattern for the period under consideration remains relatively constant. Minor seasonal variation in consumption is primarily attributed to heating and cooling loads and periods when school is out of session, while the static base load primarily consists of domestic water heating, lighting, and appliances.

Solar output data was provided by the client, but was omitted from the chart below, in order to assess the economic feasibility of the proposed energy conservation measures more accurately.

An estimated pre-solar average price of \$0.18 per kWh was used to complete the chart below. The total annual electricity consumption for the 12-month period analyzed is 49,652 kWh for a total estimated pre-solar cost of \$8,937.

Electricity Consumption & Cost Data			
Billing Month	Consumption (kWh)	Unit Cost (per kWh)	Total Cost
January,22	4,262	\$0.18	\$767
February,22	4,363	\$0.18	\$785
March,22	4,159	\$0.18	\$749
April,22	4,309	\$0.18	\$776
May,22	4,370	\$0.18	\$787
June,22	4,065	\$0.18	\$732
July,22	3,901	\$0.18	\$702
August,22	3,200	\$0.18	\$576
September,22	4,128	\$0.18	\$743
October,22	3,995	\$0.18	\$719
November,22	3,855	\$0.18	\$694
December,22	5,045	\$0.18	\$908
TOTAL/AVERAGE	49,652	\$0.18	\$8,937

Propane and Fuel Oil

Gillespie’s Fuels provides propane and fuel oil to the facility. The deliveries are made on an as-needed basis.

The primary use of propane is for cooking. The primary use of fuel oil is for space heating. The consumption pattern for the period under consideration varies seasonally. The seasonal variation in consumption is primarily attributed to the heating loads, and to varying cooking requirements based on weather and school being in session.

Based on the 2022 propane usage and costs provided, the average price paid during the year was \$1.94 per gallon of propane. The total annual consumption for the 12-month period analyzed is 305 gallons for a total cost of \$593.

Based on the 2022 fuel oil usage and costs provided, the average price paid during the year was \$3.60 per gallon of fuel oil. The total annual consumption for the 12-month period analyzed is 4,709 gallons for a total cost of \$16,949.

Propane Consumption & Cost Data			
Delivery Month	Delivery (gallons)	Unit Cost (per gallon)	Total Cost
January,22	46	\$1.96	\$90
February,22	22	\$2.18	\$48
March,22	21	\$2.33	\$49
April,22	23	\$2.09	\$48
June,22	19	\$2.05	\$39
July,22	18	\$2.00	\$36
August,22	22	\$2.00	\$44
September,22	39	\$1.85	\$72
October,22	18	\$1.78	\$32
November,22	52	\$1.79	\$93
December,22	25	\$1.68	\$42
Total	305	\$1.94	\$593

Fuel Oil Consumption & Cost Data			
Delivery Month	Delivery (gallons)	Unit Cost (per gallon)	Total Cost
January,22	930	\$2.02	\$1,874
February,22	807	\$3.23	\$2,610
March,22	827	\$3.37	\$2,787
April,22	501	\$4.45	\$2,227



May,22	188	\$5.61	\$1,055
June,22	161	\$5.12	\$824
August,22	64	\$4.16	\$266
September,22	49	\$3.90	\$191
October,22	227	\$5.01	\$1,137
November,22	323	\$5.07	\$1,636
December,22	632	\$3.71	\$2,342
Total	4,709	\$3.60	\$16,949



Water and Sewer

The water and sewer requirements for the facility are satisfied by an on-site well and septic system, respectively.



11. Energy Conservation Measures

Bureau Veritas has conducted an Energy Audit on Roxbury Village School. The study included a review of the building's construction features, historical energy and water consumption and costs, review of the building envelope, HVAC equipment, heat distribution systems, lighting, and the building's operational and maintenance practices.

Bureau Veritas has evaluated three Energy Conservation Measures (ECMs) for this property. The savings for each measure are calculated using standard engineering methods followed in the industry, and detailed calculations for ECM are provided in Appendix H for reference. A 10% discount in energy savings was applied to account for the interactive effects amongst the ECMs. In addition to the consideration of the interactive effects, Bureau Veritas has applied a 15% contingency to the implementation costs to account for potential cost overruns during the implementation of the ECMs.

The following table summarizes the recommended ECMs in terms of description, investment cost, energy consumption reduction, and cost savings.

Recommended Non- Renewable Energy Conservation Measures: Financial Impact	
Total Projected Initial ECM Investment	\$53,858
Estimated Annual Cost Savings Related to ECMs	\$5,668
Net Effective ECM Payback	9.5 Years
Estimated Annual Energy Savings	23%
Estimated Annual Utility Cost Savings (<i>excluding water</i>)	20%

Key Metrics to Benchmark the Subject Property's Energy Usage Profile

- **Building Site Energy Use Intensity** - The sum of the total site energy use in thousands of Btu per unit of gross building area. Site energy accounts for all energy consumed at the building location only not the energy consumed during generation and transmission of the energy to the site.
- **Building Source Energy Use Intensity** – The sum of the total source energy use in thousands of Btu per unit of gross building area. Source energy is the energy consumed during generation and transmission in supplying the energy to your site.
- **Building Cost Intensity** - This metric is the sum of all energy use costs in dollars per unit of gross building area.
- **Greenhouse Gas Emissions** - Although there are numerous gases that are classified as contributors to the total for Greenhouse Emissions, the scope of this energy audit focuses on carbon dioxide (CO₂). Carbon dioxide enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement).

Energy Conservation Measures Screening:

Bureau Veritas screens ECMs using the financial methodology below. ECMs which are considered financially viable must meet this criteria.

Energy Usage Profile	
Site Energy Use Intensity	
Current Site Energy Use Intensity (EUI)	84.95 kBTU/SF
Post ECM Site Energy Use Intensity (EUI)	65.29 kBTU/SF
Source Energy Use Intensity (EUI)	
Current Source Energy Use Intensity (EUI)	125.27 kBTU/SF
Post ECM Source Energy Use Intensity (EUI)	102.99 kBTU/SF
Building Cost Intensity	
Current Building Cost Intensity	\$2.65/SF
Post ECM Building Cost Intensity	\$2.11/SF
Greenhouse Gas Emissions Reduction (from recommended by ECM's)	
Current Annual Emissions From Building Operation	61.22 MtCO _{2e} /Yr
Estimated Annual Thermal Energy Reduction	196.66 MMBTU
Total CO _{2e} Emissions Reduced	14.35 MtCO _{2e} /Yr
Total Cars Off The Road (Equivalent)*	4
Total Acres of Pine Trees Planted (Equivalent)*	4

1. Simple Payback Period –The number of years required for the cumulative value of energy or water cost savings less future non-fuel or non-water costs to equal the investment costs of the building energy or water system, without consideration of discount rates. ECMs with a payback period greater than the Expected Useful Life (EUL) of the project are not typically recommended, as the cost of the project will not be recovered during the lifespan of the equipment. These ECMs are recommended for implementation during future system replacement. At that time, replacement may be evaluated based on the premium cost of installing energy efficient equipment.



Roxbury Village School

Energy Conservation Measures															
Description of ECM	Location	Net Projected Initial Investment (\$)	Estimated Annual Savings Propane (Gal)	Estimated Annual Savings #2 Oil (Gal)	Estimated Annual Savings Electricity (kWh)	Estimated Annual Savings Water (kGal)	Total Energy Savings (MMBTU)	Total Green House Gas Savings (MtCO ² /Yr.)	Estimated Utility Cost Savings (\$)	Estimated Annual O&M Savings (\$)	Total Estimated Annual Cost Savings (\$)	Simple Payback (Yrs)	Life Cycle Savings (\$)	Expected Useful Life (EUL) (Yrs)	
1	Replace Existing Linear Fluorescent Lamps; Replace 60x F42T8 with F42LED	\$2,734	0.0	0.0	3,168.0	0.0	10.8	0.7	\$570	\$85	\$655	4.2	\$5,083	15	
2	Replace Inefficient Heating Plant; Replace (2x) Steel Water-Tube boilers with (2x) 95% efficient Condensing Boilers	\$27,837	0.0	1,189.6	0.0	0.0	164.8	12.1	\$4,282	\$214	\$4,496	6.2	\$50,452	25	
3	Improve Attic Insulation Levels; Improve existing attic insulation from R-30 to R-60 by adding Loose Fill/ Cellulose	\$16,261	0.0	304.5	221.5	0.0	42.9	3.1	\$1,136	\$11	\$1,147	14.2	\$3,715	25	
Totals for no/low cost items		\$0	0.0	0.0	0.0	0.0	0.0	0.0	\$0	\$0	\$0	0.0			
Total for capital cost		\$46,833	0.0	1,494.1	3,389.5	0.0	218.5	15.9	\$5,988	\$310	\$6,298	7.4			
Interactive Savings Discount @10%			0.0	-149.4	-339.0	0.0	-21.9	-1.6	-\$599	-\$31	-\$630				
Total Contingency Expenses @ 15%		\$7,025													
Totals for improvements		\$53,858	0.0	1,344.7	3,050.6	0.0	196.7	14.3	\$5,389	\$279	\$5,668	9.5			

12. Certification

Vermont Agency of Education, Phase Two (the Client) retained Bureau Veritas to perform this Facility Condition Assessment in connection with its continued operation of Roxbury Village School - Main Building, 1559 Roxbury Road, Roxbury, VT 05669, the "Property". It is our understanding that the primary interest of the Client is to locate and evaluate materials and building system defects that might significantly affect the value of the property and to determine if the present Property has conditions that will have a significant impact on its continued operations.

The conclusions and recommendations presented in this report are based on the brief review of the plans and records made available to our Project Manager during the site visit, interviews of available property management personnel and maintenance contractors familiar with the Property, appropriate inquiry of municipal authorities, our Project Manager's walk-through observations during the site visit, and our experience with similar properties.

No testing, exploratory probing, dismantling, or operating of equipment or in-depth studies were performed unless specifically required under the *Purpose and Scope* section of this report. This assessment did not include engineering calculations to determine the adequacy of the Property's original design or existing systems. Although walk-through observations were performed, not all areas may have been observed (see Section 1 for specific details). There may be defects in the Property, which were in areas not observed or readily accessible, may not have been visible, or were not disclosed by management personnel when questioned. The report describes property conditions at the time that the observations and research were conducted.

This report has been prepared on behalf of and exclusively for the use of the Client for the purpose stated within the *Purpose and Scope* section of this report. The report, or any excerpt thereof, shall not be used by any party other than the Client or for any other purpose than that specifically stated in our agreement or within the *Purpose and Scope* section of this report without the express written consent of Bureau Veritas.

Any reuse or distribution of this report without such consent shall be at the Client and the recipient's sole risk, without liability to Bureau Veritas.

Prepared by: Bureau Veritas Technical Assessments

13. Appendices

- Appendix A: Photographic Record
- Appendix B: Site Plans
- Appendix C: Stem/Steam Assessment
- Appendix D: School Educational Capacity and Programming Space
- Appendix E: Accessibility Review & Photos
- Appendix F: Component Condition Report
- Appendix G: Replacement Reserves
- Appendix H: Depleted Value Report

Appendix A: Photographic Record

Photographic Overview



1 - FRONT ELEVATION



2 - LEFT ELEVATION



3 - REAR ELEVATION



4 - RIGHT ELEVATION



5 - PAINTED WOOD SIDING OVERVIEW



6 - ATTIC FRAMING AND SPACE

Photographic Overview



7 - TYPICAL HALLWAY OVERVIEW PHOTO



8 - TYPICAL CLASSROOM OVERVIEW PHOTO



9 - SENSORY ROOM OVERVIEW PHOTO



10 - SCHOOL LIBRARY OVERVIEW PHOTO



11 - MULTIPURPOSE TOWN HALL OVERVIEW



12 - SCHOOL KITCHEN OVERVIEW PHOTO

Photographic Overview



13 - SCHOOL OFFICE SPACE OVERVIEW



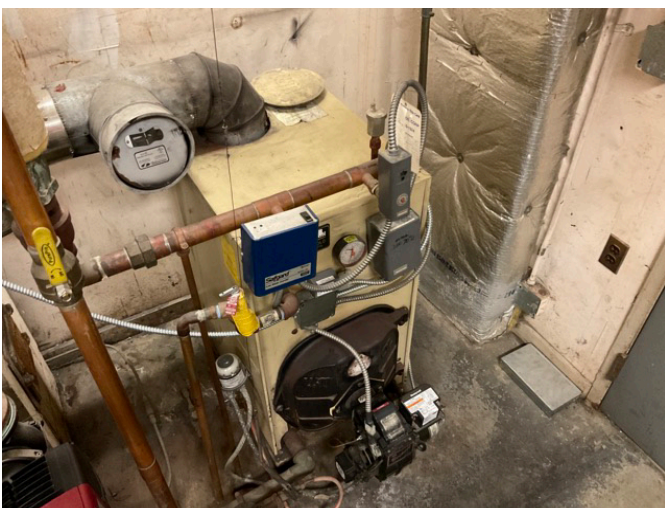
14 - BOILER AND ELECTRICAL ROOM



15 - FIRE DIALING PANEL PHOTO



16 - ELECTRICAL SERVICE PANEL OVERVIEW



17 - FUEL OIL BOILER OVERVIEW



18 - AIR HANDLER OVERVIEW PHOTO

Photographic Overview



19 - DIESEL BACK-UP GENERATOR



20 - NEW MINI-SPLIT UNIT



21 - KIDS PLAY STRUCTURE OVERVIEW



22 - SITE GARDENS AND IMPROVEMENTS



23 - SITE PLAY AREA IMPROVEMENTS

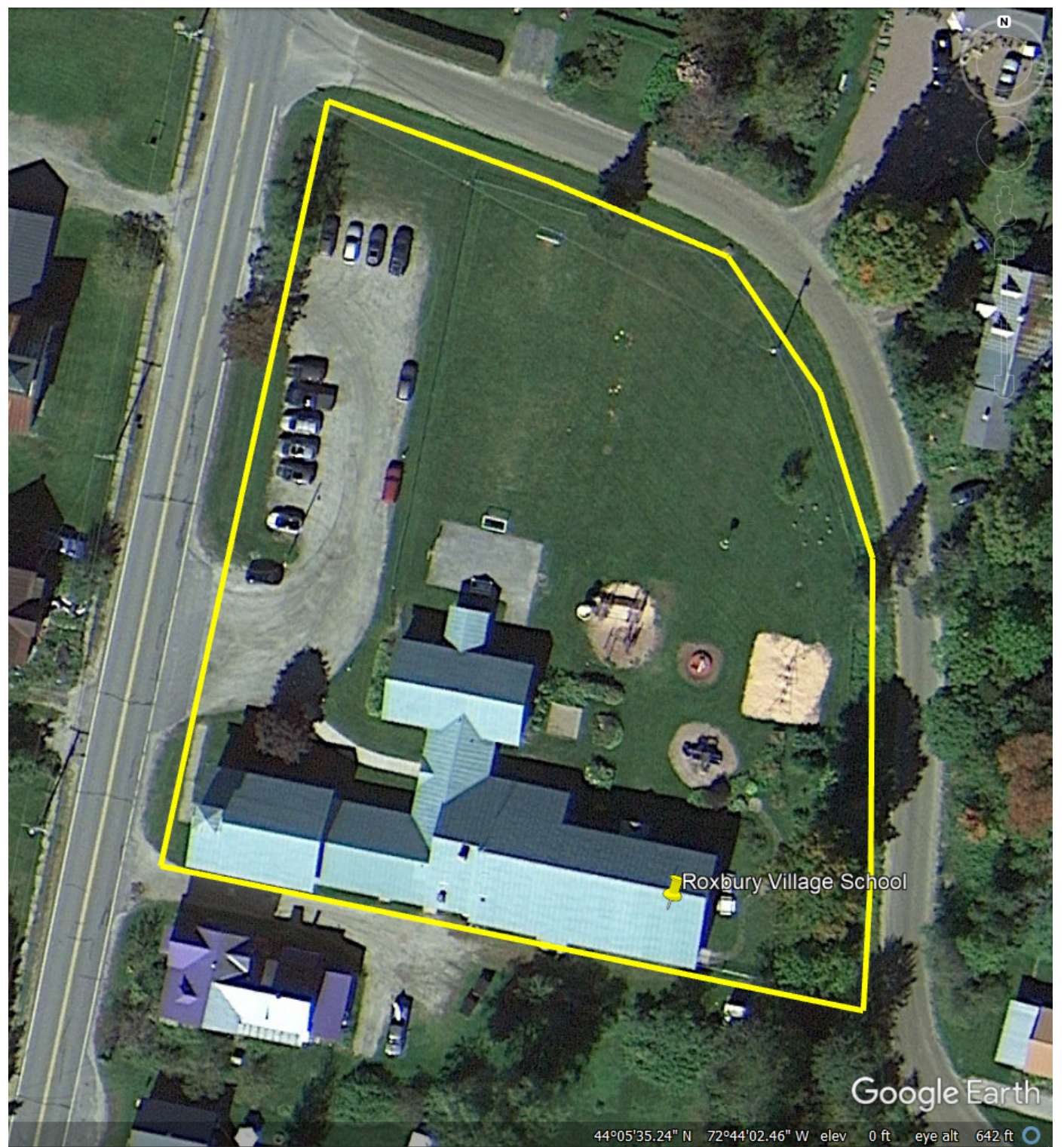


24 - UNIMPROVED DIRT PARKING LOT

Appendix B:

Site Plans

Site Plan



Project Name	Project Number
Vermont Agency of Education	158982.22R000-284.379 Roxbury Village School
Source	On-Site Date
Google MyMaps	May 17, 2023

Appendix C:

Stem/Steam Assessment

STEM/STEAM Evaluation

Property Name	STEM/STEAM Suitability Score	Project Number	School Type	Square Footage
Roxbury Village School - Main Building	8%	158982.22R000-284.379	Elementary	10,000

Suitability Classification	Scale
Compares Poorly	Score 0 - 25
Compares Marginally	Score 25-50
Compares Fairly	Score 50-75
Compares Well	Score 75 - 100

Score Value	Score Impact
1- Meets	100%
2- Partial	50%
3- Missing	0%

Rooms to support STEM/STEAM Curriculum - X= Required by School Type

Room Types	Room Present (Yes/No)	Elementary School	Middle School	High School
Does the facility have an Art Room?	No	X	X	X
Does the facility have a Science Lab?			X	X
Does the facility have a Shop (Machine, Wood, Metal, etc.)?			X	X
Does the facility have a Computer Lab?	No	X	X	X
Does the facility have a dedicated STEM/STEAM Room?	Yes	X	X	X

Overall Compliance					
Questions	Art Room	Science Labs	Shops	Computer Lab	STEM/STEAM
Does the room have chemical resilient perimeter counters with a minimum of two sinks, one being ADA accessible?					2- Partial
Does the room have electrical outlet distribution along perimeter walls and from the ceiling?					1- Meets
Does the room have open shelving and lockable storage cabinets?					1- Meets
Does the room have technology connectivity and an interactive display?					1- Meets
Does the room have appropriate wet floor finishes?					1- Meets
Does the room have visual display boards?					1- Meets
Does the room have Prep/Storage Room?					2- Partial
Does the room have direct access to the exterior?					3- Missing
Does the room the ability to structurally suspend items from the ceiling?					1- Meets
Does the have goggle cabinets, fire extinguisher, eye wash and deluge shower?					3- Missing
Room Type Score	0%	N/A	N/A	0%	70%

Appendix D: School Educational Capacity and Programming Space

School Educational Capacity and Programming Space

As part of Act 72, AOE has contracted with Bureau Veritas (BVNA) to complete a Facility Condition Assessment (FCA) of very public school building in Vermont. One component of the FCA report will be to identify whether the size and configuration of your current facility is meeting your school's educational and operational needs. In order for us to accurately capture your facility space needs, it is necessary for the AOE and BVNA to receive your input. To complete this brief survey, we recommend that you consult with school building leadership and facilities/custodial staff.

School Name

Roxbury Village School

SU/SD

Montpelier-Roxbury Public Schools

Does the school have an adequate number of classrooms to meet student enrollment needs?

Yes

Please provide some explanation and/or context (known needs, barriers, other constraints outside of space, etc.):

We have enough classrooms

Does the school have adequate space to accommodate all the current educational programs being offered?

Yes

Lots of our programs are only one day a week so we are able to share spaces.

Would the school provide additional programming if available space was provided?

Yes

Maybe

Does the school have adequate confidential space to provide 1:1 services to students as required to maintain FERPA, HIPPA or IEP requirements?

No

Please describe:

We could use another room or two

Do the school have adequate administrative offices and/or office space for staff?

Yes

Please describe:

we are fine

Based on the size of enrollment does the size of the cafeteria, kitchen and gymnasium meet the current and future enrollment needs?

Yes

Please describe:

space meets our needs

Appendix E:

Accessibility Review & Photos

Visual Survey - ADA Standards for Accessible Design

Property Name: Roxbury Village School

BV Project Number: 158982.22R000-284.379

Facility History & Interview

Question	Yes	No	Unk	Comments
1. ADA: Has an accessibility study been performed at the site? If so, when?			X	
2. ADA: If a study has occurred, have the associated recommendations been addressed? In full or in part?			X	
3. ADA: Have there been regular complaints about accessibility issues, or previous or pending litigation?			X	

Building : Accessibility Issues

Category	Major Issues (ADA study recommended)	Moderate Issues (ADA study recommended)	Minor Issues	None*
Parking	No Accessible Spaces			
Exterior Route				None
Building Entrances				None
Interior Route				None
Elevators				None
Public Restrooms		No Grab Bars		
Playground				None

**be cognizant that if the "None" box is marked that does not guarantee full compliance; this study is limited in nature*



1 - OVERVIEW OF ACCESSIBLE PARKING AREA



2 - CLOSE-UP OF STALL or 2ND PARK AREA



3 - EXT RAMP or PRIMARY PATH OF TRAVEL



4 - CURB CUT or 2ND PATH OF TRAVEL



5 - MAIN ACCESSIBLE ENTRANCE



6 - 2ND ENTRANCE or SIGNAGE/HARDWARE



7 - ACCESSIBLE INTERIOR PATH (RAMP/LIFT)



8 - HARDWARE, STAIR RAILS or SELF-SERVICE AREA



9 - TOILET STALL OVERVIEW



10 - SINK, FAUCET HANDLES or ACCESSORIES



11 - ACCESSIBLE ROUTE TO PLAYGROUND



12 - OVERVIEW OF PLAYGROUND

The table below is intended to be used as a general reference guide to help differentiate the orders of magnitude between some of the more commonly observed accessibility issues. The table is not intended to be all-inclusive, and boxes checked in the tables above do not necessarily mean those specific problems or shortcomings cited as examples below exist at the subject buildings and sites. Reference the data and photos above and/or the *Key Findings* section in the body of the report for visuals and/or more specifics about the particular subject site conditions.

Reference Guide			
	Major Issues <i>(ADA study recommended)</i>	Moderate Issues <i>(ADA study recommended)</i>	Minor Issues
Parking	<ul style="list-style-type: none"> - Needs full reconstruction - Excessive slopes over 3% require major re-grading - No level locations to add required spaces 	<ul style="list-style-type: none"> - No or non-compliant curb cuts - Moderate difficulty to add required accessible spaces - Slopes close to compliant 	<ul style="list-style-type: none"> - Painting of markings needed - Signage height non-compliant - Signage missing
Exterior Route	<ul style="list-style-type: none"> - Large areas of sidewalks with excessive slopes - No ramp when needed - Ramps with excessive slopes 	<ul style="list-style-type: none"> - Ramps need rails - Ramps need rail extensions - All or most entrance door exterior maneuvering clearance areas with excessive slopes 	<ul style="list-style-type: none"> - One entrance door exterior maneuvering clearance area with excessive slope - Non-compliant signage
Building Entrances	<ul style="list-style-type: none"> - No compliant entrance exists - Exterior entry door/s not wide enough - Entrance vestibule requires complete reconstruction / reconfiguration due to clearance 	<ul style="list-style-type: none"> - Need significant # of lever handles - Need to add or modify automatic door opener - Entrance vestibule requires limited reconfigurations 	<ul style="list-style-type: none"> - A few door knobs instead of lever handles - Non-compliant door threshold
Interior Route	<ul style="list-style-type: none"> - All or most interior doors appear less than 32" wide - Corridors less than 36" wide - No ramp when needed - Ramps with excessive slopes - Non-compliant treads/risers at means of egress stairways 	<ul style="list-style-type: none"> - Single height drinking fountains - Drinking fountain too high or protrudes into accessible route - Ramps need rails - Ramps need rail extensions - Need significant # of lever handles - Non-compliant rail extensions at egress stairways - All/most door thresholds high 	<ul style="list-style-type: none"> - One door threshold too high - A few door knobs instead of lever handles - Non-compliant door pressures - Non-compliant signage - Switches not within reach range
Elevators	<ul style="list-style-type: none"> - No elevator present when required - Elevator cab too small 	<ul style="list-style-type: none"> - Panel control buttons not at compliant height - No hands-free emergency communication system - Elevator only has mechanical stops 	<ul style="list-style-type: none"> - Audible/visual signals at every floor may be lacking - Minor signage / Braille issues
Public Restrooms	<ul style="list-style-type: none"> - No ADA RR on each accessible floor - Restroom(s) too small - Entire restroom(s) requires renovation - Water closet clearance requires moving walls 	<ul style="list-style-type: none"> - Interior doors appear less than 32" wide - Missing or non-compliant grab bars - Easily fixable clearance issues 	<ul style="list-style-type: none"> - Minor height adjustments required - Non-compliant door pressures - Missing a visual strobe (only required if audible fire alarm already present) - Missing lavatory pipe wraps - Signage not compliant

	Major Issues <i>(ADA study recommended)</i>	Moderate Issues <i>(ADA study recommended)</i>	Minor Issues
Kitchens/Kitchenettes	<ul style="list-style-type: none"> - Clear space for each appliance not present - Clearance between opposing counters too narrow 	<ul style="list-style-type: none"> - Sink and counter too high - Sink knee and toe clearance not provided where required (built-in) - Less than 50% of cabinetry within reach range 	<ul style="list-style-type: none"> - Dispensers not within reach range - Switches not within reach range - Missing sink pipe wraps if knee and toe clearance required
Playgrounds & Pools	<ul style="list-style-type: none"> - Large areas of surfacing non-compliant - Install compliant play structures - No pool lift provided 	<ul style="list-style-type: none"> - Small area/s of surfacing or equipment non-compliant - Moderate issues with path of travel to playground/pool 	<ul style="list-style-type: none"> - Minor issues with path of travel to playground/pool

Appendix F:

Component Condition Report

Component Condition Report | ROXBURY VILLAGE SCHOOL - Main Building

UF L3 Code	Location	Category	Condition	Asset/Component/Repair	Quantity	Unit	RUL	ID
Facade								
B2010	Building Exterior	Facade	Fair	Exterior Walls, Wood Siding	8,000	SF	18	6181766
B2010	Building Exterior	Facade	Fair	Exterior Walls, any painted surface, Prep & Paint	8,000	SF	4	6181791
B2020	Building Exterior	Facade	Fair	Glazing, any type by SF	1,000	SF	11	6183993
B2050	Building Exterior	Facade	Fair	Exterior Door, Steel, Standard	10		26	6181808
B2050	Building Exterior	Facade	Good	Exterior Door, Aluminum-Framed & Glazed, Standard Sw	3		24	6181800
Roofing								
B3010	Roof	Roofing	Fair	Roofing, Metal	9,800	SF	8	6181760
B3020	Building Exterior	Roofing	Fair	Roof Appurtenances, Gutters & Downspouts, Aluminum	250	LF	13	6262217
Interiors								
C1030	Throughout building	Interiors	Fair	Interior Door, Wood, Solid-Core	25		19	6181782
C1030	Throughout building	Interiors	Good	Interior Door, Wood, Solid-Core Decorative High-End w/	8		31	6181780
C1070	Mechanical room	Interiors	Fair	Suspended Ceilings, Acoustical Tile Fiberglass	1,500	SF	16	6181798
C1070	Throughout building	Interiors	Fair	Suspended Ceilings, Acoustical Tile (ACT)	8,500	SF	13	6181775
C2010	Multipurpose room	Interiors	Fair	Wall Finishes, Acoustical Tile (ACT), Standard	1,000	SF	15	6181785
C2010	Throughout building	Interiors	Poor	Wall Finishes, Wallpaper	3,000	SF	0	6181803
C2010	Throughout building	Interiors	Fair	Wall Finishes, any surface, Prep & Paint	16,000	SF	3	6181799
C2030	Throughout building	Interiors	Fair	Flooring, Vinyl Tile (VCT)	10,000	SF	4	6181767
Plumbing								
D2010	Kitchen	Plumbing	Fair	Water Heater, Electric, Residential, 16 to 29 GAL	1		9	6183994
D2010	Restrooms	Plumbing	Fair	Sink/Lavatory, Wall-Hung, Vitreous China	5		20	6181755
D2010	Site	Plumbing	Fair	Storage Tank, Domestic Water	3		15	6181748
D2010	Classrooms	Plumbing	Fair	Sink/Lavatory, Drop-In Style, Stainless Steel	5		10	6264356
D2010	Restrooms	Plumbing	Fair	Toilet, Residential Water Closet	5		19	6181802
D2010	Boiler room	Plumbing	Good	Pump, Circulation, Domestic Water, 1 HP [Pump 2]	1		13	6181778
D2010	Boiler room	Plumbing	Good	Pump, Circulation, Domestic Water, 1 HP [Pump 1]	1		13	6181781
D2010	Throughout Building	Plumbing	Good	Drinking Fountain, Wall-Mounted, Single-Level	2		12	6181768
D2010	Kitchen	Plumbing	Fair	Sink/Lavatory, Commercial Kitchen, 3-Bowl	1		17	6181790
D2010	Throughout building	Plumbing	Fair	Plumbing System, Supply & Sanitary, Medium Density (e	10,000	SF	20	6181804
D2010	Boiler room	Plumbing	Good	Pump, Circulation, Domestic Water, 1 HP [Pump 4]	1		13	6181787
D2010	Boiler room	Plumbing	Good	Pump, Circulation, Domestic Water, 1 HP [Pump 3]	1		13	6181779
HVAC								
D3020	Boiler room	HVAC	Fair	Boiler, Oil, HVAC	1		2	6181773
D3020	Throughout building	HVAC	Good	Radiator, Hydronic, Baseboard (per LF)	300	LF	21	6181788
D3020	Boiler room	HVAC	Fair	Boiler, Oil, HVAC	1		3	6181777
D3020	Boiler room	HVAC	Fair	Boiler Supplemental Components, Expansion Tank	1		9	6181813
D3020	Mechanical room	HVAC	Fair	Unit Heater, Hydronic	3		10	6181786
D3030	Building exterior	HVAC	Good	Split System Ductless, Single Zone, 1.5 to 2 TON	1		15	6181795
D3030	Building exterior	HVAC	Good	Split System Ductless, Single Zone, 1.5 to 2 TON	1		15	6181783
D3030	Building exterior	HVAC	Good	Split System Ductless, Single Zone, 1.5 to 2 TON	1		15	6181762
D3030	Building exterior	HVAC	Good	Split System Ductless, Single Zone, 1.5 to 2 TON	1		15	6181771
D3050	Mechanical room	HVAC	Fair	Air Handler, Interior AHU, Easy/Moderate Access	1		5	6181812
D3050	Throughout building	HVAC	Fair	HVAC System, Hydronic Piping, 2-Pipe	10,000	SF	23	6181763
D3050	Attic	HVAC	Fair	Air Handler, Interior AHU, Easy/Moderate Access, 1201 t	1		3	6181759

UF L3 Code	Location	Category	Condition	Asset/Component/Repair	Quantity	Unit	RUL	ID
D3050	Utility closet	HVAC	Fair	Air Handler, Interior AHU, Easy/Moderate Access	1		2	6181751
D3050	Throughout building	HVAC	Good	HVAC System, Ductwork, Medium Density	10,000	SF	22	6181747
D3060	Roof	HVAC	Good	Exhaust Fan, Roof or Wall-Mounted, 24" Damper	1		16	6181784
Fire Protection								
D4010	Kitchen	Fire Protection	Fair	Fire Suppression System, Commercial Kitchen, per LF of	6	LF	13	6181758
Electrical								
D5010	Site	Electrical	Good	Generator, Diesel, 35 to 60 KW	1		18	6181754
D5020	Boiler room	Electrical	Fair	Distribution Panel, 120/208 V	1		15	6181774
D5030	Throughout building	Electrical	Fair	Electrical System, Wiring & Switches, High Density/Comp	10,000	SF	9	6181772
D5040	Throughout building	Electrical	Fair	Interior Lighting System, Full Upgrade, Medium Density	10,000	SF	3	6181809
D5040	Throughout building	Electrical	Fair	Emergency & Exit Lighting, Full Interior Upgrade, to LED,	10,000	SF	3	6181801
Fire Alarm & Electronic Systems								
D7030	Throughout building	Fire Alarm & Electronic Systems	Good	Security/Surveillance System, Full System Upgrade, Aver	10,000	SF	12	6181765
D7050	Boiler room	Fire Alarm & Electronic Systems	Fair	Fire Alarm Panel, Fully Addressable	1		4	6181789
D7050	Boiler room	Fire Alarm & Electronic Systems	Fair	Fire Alarm Panel, Multiplex	1		4	6181811
Equipment & Furnishings								
E1030	Kitchen	Equipment & Furnishings	Fair	Foodservice Equipment, Range/Oven, 6-Burner	1		9	6181792
E1030	Kitchen	Equipment & Furnishings	Fair	Foodservice Equipment, Steamer, Freestanding	1		6	6181756
E1030	Kitchen	Equipment & Furnishings	Good	Foodservice Equipment, Refrigerator, 1-Door Reach-In	1		15	6181757
E1030	Kitchen	Equipment & Furnishings	Fair	Foodservice Equipment, Exhaust Hood, 3 to 6 LF	1		9	6181810
E1030	Kitchen	Equipment & Furnishings	Good	Foodservice Equipment, Freezer, 1-Door Reach-In	1		15	6181807
E1030	Kitchen	Equipment & Furnishings	Good	Foodservice Equipment, Dairy Cooler/Wells	1		13	6181797
E1040	Throughout building	Equipment & Furnishings	Good	Healthcare Equipment, Defibrillator (AED), Cabinet-Mou	1		8	6181806
E2010	Classrooms	Equipment & Furnishings	Fair	Casework, Cabinetry, Hardwood Standard	120	LF	8	6181752
E2010	Classrooms	Equipment & Furnishings	Fair	Casework, Countertop, Plastic Laminate	80	LF	9	6181794
Pedestrian Plazas & Walkways								
G2030	Site	Pedestrian Plazas & Walkways	Fair	Sidewalk, Concrete, Large Areas	600	SF	21	6262137
Athletic, Recreational & Playfield Areas								
G2050	Site	Athletic, Recreational & Playfield Areas	Fair	Sports Apparatus, Basketball, Backboard/Rim/Pole	2		9	6181805
G2050	Site	Athletic, Recreational & Playfield Areas	Fair	Athletic Surfaces & Courts, Basketball/General, Asphalt F	1,100	SF	9	6262142
G2050	Site	Athletic, Recreational & Playfield Areas	Failed	Athletic Surfaces & Courts, Basketball/General, Asphalt F	1,100	SF	0	6262143
G2050	Site	Athletic, Recreational & Playfield Areas	Good	Playground Surfaces, Engineered Wood Fiber, Chips 6" D	2,000	SF	3	6181769
G2050	Site	Athletic, Recreational & Playfield Areas	Fair	Play Structure, Multipurpose, Medium	5		5	6181796
G2050	Multipurpose room	Athletic, Recreational & Playfield Areas	Fair	Sports Apparatus, Basketball, Backboard/Rim/Pole	1		8	6181770
Sitework								
G2060	Building Exterior	Sitework	Fair	Signage, Property, Building or Pole-Mounted	2		8	6262214
G2060	Site	Sitework	Fair	Flagpole, Metal	1		18	6181753
G2060	Site	Sitework	Good	Fences & Gates, Fence, Chain Link 4'	630	LF	27	6262330
G4050	Building Exterior	Sitework	Fair	Exterior Fixture w/ Lamp, any type, w/ LED Replacement	6		7	6264513
Utilities								
G3020	Site	Utilities	Fair	Septic Tank, Precast Concrete, Replace/Install	2		23	6181764
G3060	Building exterior	Utilities	Fair	Storage Tank, Site Fuel, Underground, Replace/Install	1		15	6181793
Accessibility								
Y1090	Study	Accessibility	NA	ADA Miscellaneous, Level III Study, Includes Measureme	1		1	6264705

Appendix G: Replacement Reserves

Appendix H: Depleted Value Report

ROXBURY VILLAGE SCHOOL - Main Building

Depleted Value Index

30.3%

System	System Contribution	System Value
ADA Miscellaneous	\$ 3,750	\$ 7,500
Air Handler	\$ 1,840	\$ 9,200
Air Handler	\$ 11,625	\$ 15,000
Air Handler	\$ 6,440	\$ 9,200
Athletic Surfaces & Courts	\$ 770	\$ 3,850
Athletic Surfaces & Courts	\$ 173	\$ 495
Boiler	\$ 4,000	\$ 20,000
Boiler	\$ 13,000	\$ 20,000
Boiler Supplemental Components	\$ 872	\$ 2,180
Casework	\$ 21,600	\$ 36,000
Casework	\$ 1,300	\$ 4,000
Distribution Panel	\$ 1,467	\$ 2,000
Drinking Fountain	\$ 1,760	\$ 2,400
Electrical System	\$ 14,000	\$ 40,000
Emergency & Exit Lighting	\$ 2,600	\$ 6,500
Exhaust Fan	\$ 2,200	\$ 3,000
Exterior Door	\$ 2,400	\$ 6,000
Exterior Door	\$ 1,560	\$ 3,900
Exterior Fixture w/ Lamp	\$ -	\$ 3,600
Exterior Walls	\$ 32,000	\$ 80,000
Exterior Walls	\$ -	\$ 24,000
Fences & Gates	\$ 1,512	\$ 11,340
Fire Alarm Panel	\$ 4,200	\$ 15,000
Fire Alarm Panel	\$ 2,533	\$ 4,000
Fire Suppression System	\$ 480	\$ 2,400
Flagpole	\$ 1,063	\$ 2,500
Flooring	\$ 13,333	\$ 50,000
Foodservice Equipment	\$ 3,150	\$ 6,000
Foodservice Equipment	\$ 2,363	\$ 10,500
Foodservice Equipment	\$ 2,295	\$ 2,700
Foodservice Equipment	\$ 2,475	\$ 3,300
Foodservice Equipment	\$ -	\$ 3,100
Foodservice Equipment	\$ 1,800	\$ 3,600
Generator	\$ 5,333	\$ 40,000
Glazing	\$ 7,333	\$ 55,000
Healthcare Equipment	\$ 200	\$ 1,500
HVAC System	\$ 6,667	\$ 50,000
HVAC System	\$ 12,000	\$ 40,000

System	System Contribution	System Value
Interior Door	\$ 6,125	\$ 17,500
Interior Door	\$ 13,440	\$ 16,800
Interior Lighting System	\$ 9,000	\$ 45,000
Play Structure	\$ 42,500	\$ 100,000
Playground Surfaces	\$ 2,320	\$ 4,000
Plumbing System	\$ 66,000	\$ 110,000
Pump	\$ 1,100	\$ 3,300
Pump	\$ 2,200	\$ 3,300
Pump	\$ 1,430	\$ 3,300
Pump	\$ -	\$ 3,300
Radiator	\$ -	\$ 45,000
Roof Appurtenances	\$ -	\$ 2,250
Roofing	\$ -	\$ 127,400
Security/Surveillance System	\$ 12,800	\$ 20,000
Septic Tank	\$ 24,480	\$ 36,000
Sidewalk	\$ 2,700	\$ 5,400
Signage	\$ 1,500	\$ 3,750
Sink/Lavatory	\$ 2,700	\$ 7,500
Sink/Lavatory	\$ 2,880	\$ 6,000
Sink/Lavatory	\$ 917	\$ 2,500
Split System Ductless	\$ 2,400	\$ 4,800
Split System Ductless	\$ 1,920	\$ 4,800
Split System Ductless	\$ 4,800	\$ 4,800
Split System Ductless	\$ 3,360	\$ 4,800
Sports Apparatus	\$ 7,600	\$ 19,000
Sports Apparatus	\$ -	\$ 9,500
Storage Tank	\$ -	\$ 7,200
Storage Tank	\$ -	\$ 25,000
Suspended Ceilings	\$ -	\$ 8,250
Suspended Ceilings	\$ -	\$ 29,750
Toilet	\$ -	\$ 3,500
Unit Heater	\$ -	\$ 5,100
Wall Finishes	\$ -	\$ 8,000
Wall Finishes	\$ -	\$ 6,600
Wall Finishes	\$ -	\$ 24,000
Water Heater	\$ -	\$ 650
Totals	\$ 402,266	\$ 1,327,815