



Strategic Facilities Planning Study

January 2016



City of Fitchburg
MASSACHUSETTS

- Crocker Elementary School
- South Street Elementary School
- Reingold Elementary School
- McKay Arts Academy
- Memorial Middle School
- Longsjo Middle School
- Fitchburg High School
- Goodrich Academy

Prepared by:



I. INTRODUCTION

- A. Project Scope/Purpose & Process
- B. Narrative Summary

II. EXISTING CONDITIONS

- A. Facility Assessments & Plans
 - 1. Crocker ES
 - 2. South Street ES
 - 3. Reingold ES
 - 4. McKay Arts Academy
 - 5. Memorial MS
 - 6. Longsjø MS
 - 7. Fitchburg HS
 - 8. Goodrich Academy
- B. Operating Costs and Capital Needs
- C. Comparative Merits and Limitations

III. NEEDS AND OBJECTIVES

- A. District Educational Programs
 - 1. District Summary
 - 2. Individual School Program Assessments
- B. MSBA Space Summary Templates
- C. Summary of Questionnaire Survey
- D. NESDEC Demography and Enrollment Projections

IV. OPTIONS AND RECOMMENDATIONS

- A. Option A – Base Repair
- B. Option B – Addition/Renovation
- C. Option C – New Construction



V. APPENDICES

A. Meeting Memos

1. Owner/Architect Principals Meetings 9/8-9/2015
2. Owner/Architect Food Services Meeting 9/9/2015
3. Owner/Architect Technology Meeting 10/14/2015
4. Police & Fire Department/Architect Public Safety Meeting 10/14/2015

B. Other

1. MACRIS Scanned Record Cover Pages
2. Assessor's Unofficial Property Record Cards
3. MA Department of Revenue 2014 Assessment Ratio



I. INTRODUCTION

- A. Project Scope/Purpose & Process
- B. Narrative Summary

I. INTRODUCTION

A. Project Scope/Purpose & Process

INTRODUCTION

Project Scope and Purpose: LPA was contracted by the Fitchburg Public Schools District to conduct a strategic facility planning study related to development of a Long Range School Facilities Master Plan. The scope of this study encompasses all eight Fitchburg Public Schools (Fitchburg HS, Memorial MS, Longsjö MS, McKay Arts Academy, Crocker ES, Reingold ES, South Street ES, and Goodrich Academy). LPA was asked to perform the following work:

1. Examine population trends and past, present and future enrollments;
2. Assess Fitchburg's present educational facilities in light of enrollment projections and the District's present and future educational programs;
3. Conduct appropriate site evaluation study;
4. Develop cost-effective options designed to address Fitchburg's present and future space, facility, and comments regarding staffing needs;
5. Conduct stakeholder meetings.

Process: LPA utilized a three-part process consisting of 1) documenting existing conditions, 2) verifying needs/objectives and 3) developing options and recommendations.

Our first task was to document and assess existing conditions at each school. We gathered information from several sources including the District's Facilities Dept., the City's public databases, and available online historical and GIS mapping sources. Using existing site and floor plans provided by the District as a base, we prepared scaled drawings in AutoCAD file format. LPA and our Mechanical/ Electrical consulting engineers then visited the schools over a period of days, with the District Director of Facilities and head custodian of each school, to verify the actual layouts and to evaluate each school relative to site (parking, vehicular/pedestrian circulation, utilities), exterior envelope (roofing, windows/doors, walls, etc.), interior finishes, potential hazardous materials, accessibility, security and access control, and Mechanical/Electrical building systems. Physical attributes of each school were typically rated on a "Good/Fair/Poor" scale. In addition to our own observations, we recorded anecdotal information relevant to the issues described above, such as chronic problems (i.e. roof leaks, structural concerns, etc.) and concerns. The one exception to this process was the McKay Arts Academy; because it is owned and maintained by Fitchburg State University it was assumed that the building is reasonably well maintained and is in compliance with applicable codes, and will not undergo any upgrades/improvements by the District.

The second task was to verify the needs and objectives for the District's educational program at each school. LPA met with the District Superintendent and Assistant Superintendents to review work to date and to confirm cabinet-level programming topics and agendas.



We then met, over a two-day period, with the principal and key administrative staff members at each school to verify present space use and current/proposed educational programs (including Special Education, Vocations/Technology, Honors Programs and other core programs).

Massachusetts School Building Authority (MSBA) space guidelines were used as a comparative benchmark for assessment of existing space use. Prior to these meetings, administrators were given existing conditions floor plans and an MSBA Space Summary template (a planning document, tailored to a specific student enrollment and grade level, used to establish space requirements for both new and renovation/addition construction) for their respective school, and were asked to identify current spaces according to the categories (i.e. Core Academic Spaces, Special Education, Art & Music, etc.). LPA also spoke or met with other stakeholders, including the District's Food Services and Technology directors as well as City of Fitchburg Police/Fire Department and Department of Public Works personnel, to identify specific policies, issues and concerns relative to the eight current schools in the District. Following LPA's meetings with principals and administrators, floor plans and MSBA Space Summaries were updated to reflect current use at each school.

Concurrently with Task #2, LPA's enrollment consultant, New England School Development Council (NESDEC), began to gather information (federal census figures, state/local live birth data, past enrollments, etc.) and conduct interviews with municipal officials, regional planning staff, selected realtors and others to enable them to provide demographic analysis and ten-year future enrollment projections for the District. Because District enrollment figures are not typically sent to MA Department of Elementary and Secondary Education (DESE) until October 1 and to ensure that projections were based on the most recent information, NESDEC recommended waiting until those figures were available before finalizing their report. NESDEC's recommendation was accepted by the District.

The third task was to develop multiple options to meet the District's future educational program and facility needs. In general, LPA followed Massachusetts School Building Authority (MSBA) feasibility study guidelines in our study of potential options and solutions. These included Base Repair, Addition/Renovation and New Construction options. For comparative purposes, order of magnitude costs were assigned to each option and were based on square footage and current 2015 cost estimating data. Budget information is for direct construction cost only and excludes other project costs (i.e. Designer and OPM fees, escalation, legal fees, contingencies, furnishings/fixtures/equipment, technology/computer equipment, surveys, construction testing, printing, and other typical "soft" costs).



I. INTRODUCTION

B. Narrative Summary

Introduction

- Lamoureux Pagano Associates (LPA) was contracted by the Fitchburg Public Schools District to conduct a strategic facility planning study related to development of a Long Range School Facilities Master Plan. The scope of this study encompasses all eight Fitchburg Public Schools (Crocker Elementary School, South Street Elementary School, Reingold Elementary School, McKay Arts Academy, Memorial Middle School, Longsjö Middle School, Fitchburg High School, and Goodrich Academy). LPA was asked to perform the following work:
 - Examine population trends and past, present and future enrollments
 - Assess Fitchburg’s present educational facilities in light of enrollment projections and the District’s present and future educational programs
 - Conduct appropriate site evaluation study
 - Develop cost-effective options designed to address Fitchburg’s present and future space, facility, and comments regarding staffing needs
 - Conduct stakeholder meetings.
- LPA utilized a three-part process consisting of 1) documenting existing conditions, 2) verifying needs/objectives and 3) developing options and recommendations.

Existing Conditions

- LPA and our consulting engineers visited each school and used a “Good/Fair/Poor” methodology to rate each one in the following categories:
 - Site
 - Exterior Envelope
 - Interior Finishes/Equipment
 - Accessibility
 - Security and Access Control
 - Building Systems
 - Capacity for Expansion
- Meetings were conducted with Staff/Faculty to confirm space use and to identify any site/building issues. LPA also met with other District department heads (Food Services, Technology, etc.) and City public safety officials to identify their issues and concerns.
- Overview of existing conditions
 - Crocker ES, Longsjö MS and North Building at South Street ES are in the poorest condition relative to the other schools. Longsjö MS in particular has suffered from deferred maintenance and, given its site limitations and location, will be a very difficult and costly building to renovate.
 - Fitchburg HS, being the District’s most recent building, is understandably in the best condition and requires the least scope of work.

- South Street ES (West/South/East Buildings), Reingold ES, Memorial MS and Goodrich Academy fall somewhere in between, having had some fairly recent building system and exterior envelope improvements.
 - McKay Arts Academy is owned by Fitchburg State University, therefore the assumptions were made that it is reasonably well maintained, it meets applicable building codes, and the District will not participate in funding facility upgrades.
 - Crocker ES, South Street ES, and Memorial MS sites offer the greatest potential for significant expansion and/or new construction.
- A summary of existing conditions site/building assessments, by individual school, is below.

	GOOD	FAIR	POOR
CROCKER ELEMENTARY SCHOOL			
Site			●
Exterior Envelope			●
Interior Finishes/Equipment			●
Accessibility			●
Security and Access Control		●	
Building Systems – FP/Plumbing/HVAC			●
Building Systems – Electrical			●
Capacity for Expansion	●		
SOUTH STREET ELEMENTARY SCHOOL			
Site			●
West Building			
Exterior Envelope		●	
Interior Finishes/Equipment		●	●
Accessibility			●
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC		●	
Building Systems – Electrical			●
Capacity for Expansion			●
North Building			
Exterior Envelope			●
Interior Finishes/Equipment			●
Accessibility			●
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC			●
Building Systems – Electrical			●
Capacity for Expansion	●		

	GOOD	FAIR	POOR
South Building			
Exterior Envelope		●	
Interior Finishes/Equipment		●	
Accessibility			●
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC			●
Building Systems – Electrical			●
Capacity for Expansion		●	
East Building			
Exterior Envelope		●	
Interior Finishes/Equipment		●	
Accessibility			●
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC		●	
Building Systems – Electrical			●
Capacity for Expansion		●	
REINGOLD ELEMENTARY SCHOOL			
Site		●	
Exterior Envelope	●		
Interior Finishes/Equipment		●	
Accessibility			●
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC		●	
Building Systems – Electrical			●
Capacity for Expansion		●	
MCKAY ARTS ACADEMY			
Site		●	
Exterior Envelope	●		
Interior Finishes/Equipment	●		
Accessibility	●		
Security and Access Control		●	
Building Systems – FP/Plumbing/HVAC (NA)			
Building Systems – Electrical (NA)			
Capacity for Expansion			●
MEMORIAL MIDDLE SCHOOL			
Site			●
Exterior Envelope	●		
Interior Finishes/Equipment			●
Accessibility			●
Security and Access Control		●	

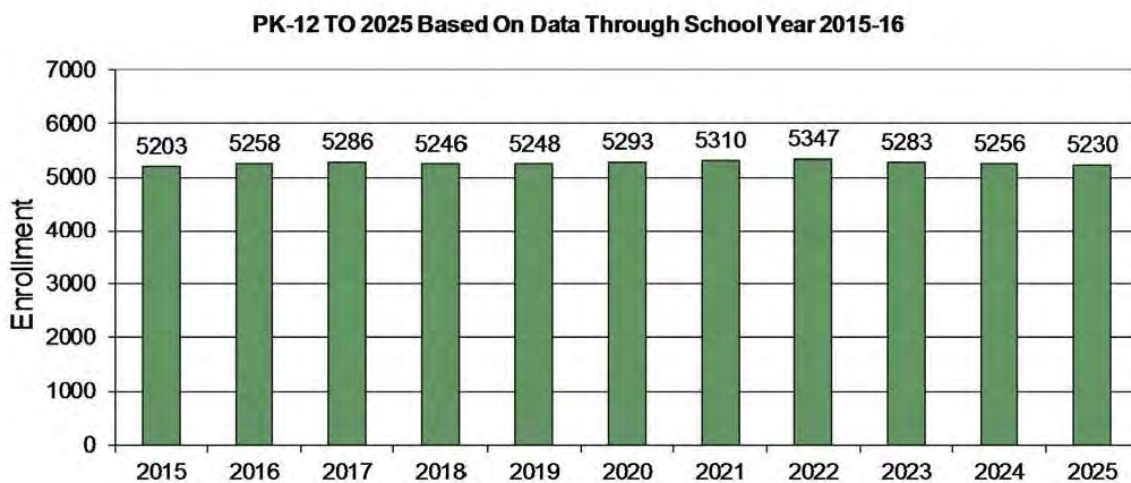
	GOOD	FAIR	POOR
MEMORIAL MIDDLE SCHOOL (CONT.)			
Building Systems – FP/Plumbing/HVAC		●	
Building Systems – Electrical		●	
Capacity for Expansion	●		
LONGSJO MIDDLE SCHOOL			
Site			●
Exterior Envelope			●
Interior Finishes/Equipment		●	
Accessibility			●
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC			●
Building Systems – Electrical			●
Capacity for Expansion			●
FITCHBURG HIGH SCHOOL			
Site	●		
Exterior Envelope	●		
Interior Finishes/Equipment	●		
Accessibility	●		
Security and Access Control	●		
Building Systems – FP/Plumbing/HVAC	●		
Building Systems – Electrical	●		
Capacity for Expansion	●		
GOODRICH ACADEMY			
Site		●	
Exterior Envelope			●
Interior Finishes/Equipment		●	
Accessibility			●
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC			●
Building Systems – Electrical			●
Capacity for Expansion			●

Needs and Objectives

- This section is a programmatic assessment of each school within the Fitchburg District with the reference of a 21st century learning environment. A meeting was held at each school with the principal and special education coordinator to review the extent to which each facility supported the current curriculum.
 - Optimal school size is 600-700 students.
 - Current grade configuration is preferable, although a PreK-8 school may be an option.
 - Site circulation is an issue at many of the facilities, particularly at South Street ES and Longsjo MS.
- The New England School Development Council (NESDEC) was hired, as a sub-consultant to LPA, to examine population trends and past, present and future enrollments.
- NESDEC’s report shows no significant increase in District enrollment over the next 10 years. District enrollment as of October 1, 2015 was 5,203 and projected enrollment for 2025 is 5,230; an increase of approximately half of one percent. Refer to Projected Enrollment graphic below.



Fitchburg, MA Projected Enrollment



- Historically, the District has seen a significant (up to 30% of the total enrollment) “churn” rate; with relatively equal numbers of students entering and withdrawing/leaving the District over the course of a given school year. For the 2015-2016 school year, NESDEC identified an increase in “choiced-in” students, particularly at the high school grade levels. Whether this is a temporary increase that will reverse itself by the end of the school year, or if this is the beginning of a trend toward students returning to the Fitchburg Public School District, remains to be seen and should be closely monitored.
- Current MSBA Space Guidelines were used to evaluate each school in terms of educational and support areas. At first glance the total existing GSF areas appear adequate; however a closer look at Net Square Foot (NSF) requirements by MSBA category shows that a significant part of the total is dedicated to large core facilities (gyms, locker rooms, auditoriums, stages, etc.), administrative areas, District offices and other non-educational space. Refer to Section B in Part III. Needs and Objectives of this study for comparisons of existing facilities to MSBA Space Summary Template guidelines.

Options and Recommendations

- In general, LPA followed Massachusetts School Building Authority (MSBA) feasibility study guidelines in our study of potential options and solutions. These included Base Repair, Addition/Renovation and New Construction options. The following is a summary of Options A-C; more detailed scope of work descriptions and supporting graphics are included in Part IV. Options and Recommendations.
- **OPTION A – BASE REPAIR**
 - This option is based generally on repairs to currently occupied areas and therefore does not provide additional educational program space. Over the past decade, the District has utilized MSBA’s repair programs to provide exterior envelope (windows, storefront/entries, and roofing) and building system (boilers, controls and distribution) improvements at South Street ES (South and West Buildings), Reingold ES, Memorial MS and Fitchburg HS. Most of the schools, however, have suffered from some level of deferred maintenance; Crocker ES, Longsjo MS and the North Building of South Street ES more so than the others.
 - The Base Repair scope of work described below was derived from the District’s FY 2016 Capital Needs Plan, from LPA’s and our consulting engineers’ observations and assessments of each building, and from anecdotal comments heard during District staff/faculty interviews. The Base Repair Option assumes that the status quo is maintained; the North Building at South Street ES remains unoccupied and there is no change to grade configurations or enrollments at each school. This option will generally not comply with MSBA space guidelines and it should not be assumed that some or all of it will be reimbursable by MSBA.
 - While LPA assumes that the District would likely categorize the Base Repair scope of work according to level of priority (i.e. mandatory, recommended, and

discretionary), the reader should understand that there are multiple factors which, in combination, will influence and ultimately determine the final scope, and cost, of any Base Repair Option. These include, but are not limited to, code-mandated improvements related to accessibility, structural systems seismic resistance, fire suppression systems, and energy conservation.

- The Base Repair Option scope of work is organized by school and the same categories used to assess existing conditions.
- **OPTION B – ADDITION/RENOVATION**
 - Option B – Addition/Renovation assumes that all eight (8) schools remain active, are renovated per the Option A – Base Repair scope described above, and are selectively expanded with additions to Crocker ES and Memorial MS and by the recommissioning of the North Building at South Street ES to meet current MSBA space guidelines.
 - Of the eight schools, LPA identified South Street ES, Crocker ES and Memorial MS as having the greatest potential for significant Addition/Renovation solutions. These three schools have sufficient site capacity to accommodate not only a building addition footprint, but also the support facilities (i.e. temporary modular classrooms, construction trailers, worker parking and access drives, etc.) needed during the construction phase. McKay ES, given that it is owned by FSU, is not a candidate for a building addition; the District has also been advised that there is no more existing space available for their use. Longsjö MS offers virtually no options for expansion because the building footprint occupies almost the entire site.
 - This option assumes that additions at Crocker ES and Memorial MS, and the additional educational space afforded by recommissioning the North Building at South Street ES, will provide sufficient program area to offset minor space deficiencies at the other elementary/middle schools. It also assumes that existing program space at the grade 9-12 level (Fitchburg HS and the Goodrich Academy) is adequate and that additions are not required there.
- **OPTION C – NEW CONSTRUCTION**
 - Option C – New Construction recommends that Longsjö MS be closed, a new 136,900 GSF grade PreK-8 school is constructed on the Crocker ES site, the existing Crocker ES is demolished, the North Building at South Street ES is demolished, a new 50,635 GSF grade 5-8 addition is constructed at South Street ES (on the site of the demolished North Building), and the other five (5) schools remain active and are renovated per the Base Repair scope described previously.
 - This option assumes that the students displaced by the closing of Longsjö MS will be distributed equally between 1) the new PreK-8 school on the Crocker site, and 2) the new grade 5-8 addition built at South Street ES. Other variations of this option are possible, including the following:

- Build a new PreK-8 school, on the Crocker site, to accommodate the combined student populations of Crocker ES and Longsjo MS.
 - Construct an addition at Memorial MS, to accommodate half of the displaced Longsjo MS population, instead of building a grade 5-8 addition at South Street ES.
- For comparative purposes, order of magnitude costs were assigned to each option and were based on gross square footage and current 2015 cost estimating data. For purposes of this study, because it involves existing buildings with a high degree of complexity and unknown conditions, LPA assumed that a Chapter 149A Construction Manager at Risk construction delivery method will be utilized. Budget cost recommendations are for construction only and exclude other project costs (i.e. Designer and OPM fees, temporary swing space, escalation, legal fees, contingencies, furnishings/fixtures/equipment, technology/computer equipment, surveys, construction testing, printing, and other typical “soft” costs). Below is an order of magnitude cost summary for Options A-C.

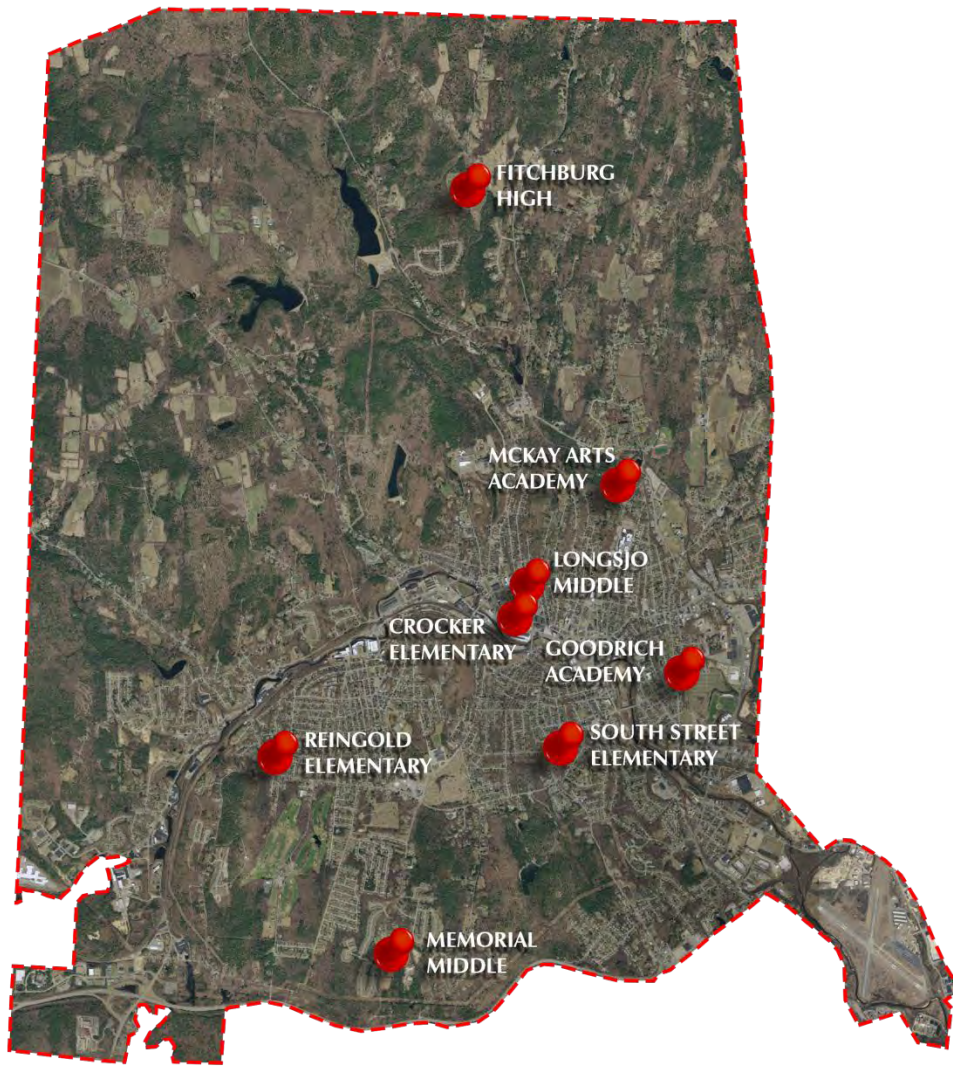
OPTION A – BASE REPAIR ORDER OF MAGNITUDE COST RECOMMENDATIONS	
TOTAL OPTION A – ALL SCHOOLS	\$116,508,200 - \$137,890,200
OPTION B – ADDITION/RENOVATION ORDER OF MAGNITUDE COST RECOMMENDATIONS	
TOTAL OPTION B – ALL SCHOOLS	\$135,004,425 - \$157,354,200
OPTION C – NEW CONSTRUCTION ORDER OF MAGNITUDE COST RECOMMENDATIONS	
TOTAL OPTION C – ALL SCHOOLS	\$133,187,300 - \$149,720,400

II. EXISTING CONDITIONS

- A. Facility Assessments & Plans
 - 1. Crocker ES
 - 2. South Street ES
 - 3. Reingold ES
 - 4. McKay Arts Academy
 - 5. Memorial MS
 - 6. Longsjø MS
 - 7. Fitchburg HS
 - 8. Goodrich Academy
- B. Operating Costs and Capital Needs
- C. Comparative Merits and Limitations

II. EXISTING CONDITIONS

- A. Facility Assessments & Plans
 - 1. Crocker ES
 - 2. South Street ES
 - 3. Reingold ES
 - 4. McKay Arts Academy
 - 5. Memorial MS
 - 6. Longsjø MS
 - 7. Fitchburg HS
 - 8. Goodrich Academy



The eight Fitchburg schools have been assessed in the following order:

1. Crocker Elementary School
2. South Street Elementary School
3. Reingold Elementary School
4. McKay Arts Academy
5. Memorial Middle School
6. Longsjo Middle School
7. Fitchburg High School
8. Goodrich Academy



1. Crocker Elementary School

Name: Crocker Elementary School	Address: 200 Bigelow Drive
Principal: Adam Renda	Tel: 978-345-3290
Date(s) of Construction: 1964; modular classrooms added later	
Enrollment (11/30/2015): 596	Grades: Pre-K through Grade 4
Assessed Valuation:	Land: \$707,800
	Extra Features: \$179,200
	Building: \$6,087,700
	Total: \$6,974,700
Zoning District: RA-1	Historical: NA
Site Area: 17.83 acres	Parking: 54+- spaces
Building Area: 74,475 GSF	



SITE: Buses currently queue along the driveway next to the building. Parents queue in the parking lot parallel to the buses; this requires students to pass between parked buses. Parking capacity was described as inadequate and the bituminous concrete had numerous cracks. Drainage structures and curbs were not apparent. Three paved playground areas exist at the rear of the school; however they are not used for parking. Due to steep topography, only about 75% of the perimeter has Fire Department access to the building.

RATING: POOR





EXTERIOR ENVELOPE: Existing roofing is a single-ply low-slope membrane system and is designated for replacement in the District’s 2016 Capital Needs plan. Exposed glue-lam wood roof beam ends have, in places, begun to deteriorate from exposure to weather. Windows and storefront/entries are inefficient single-glazed aluminum; the stairs of the NE building in particular have a significant amount of glazing that allows extreme heat gain/loss depending on the season. Exterior walls are a combination of brick and stone masonry and likely have little to no insulation or air/vapor barrier.

RATING: POOR

INTERIOR FINISHES/EQUIPMENT: Classrooms typically have 9” x 9” vinyl asbestos tile (VAT) flooring with resilient vinyl base, painted Concrete Masonry Unit (CMU) walls, and either 2’ x 4’ Acoustical Ceiling Tile (ACT) or exposed glue-lam beam and wood deck roof structure (at SW wing). Corridors are treated the same except with some ceramic tile wainscot. Stairs at the NE wing have terrazzo flooring and tread/risers; glazed CMU walls; and aluminum guardrails/handrails. Stairs between the core area and SW wing have resilient rubber tread/risers with painted steel handrails.

Toilet rooms have ceramic mosaic tile floors with glazed ceramic base and wall tile to about 6’ above floor level; the remaining walls above are painted CMU; toilet compartment partitions are painted steel and are not provided between urinals. Corridor lockers (at the NE wing only) are painted steel full-height single door type. Interior glazing is typically diamond-pattern wired glass.

RATING: POOR





ACCESSIBILITY: The current building is separated into 3 main areas; a 1-story core area, a 2-story plus partial basement NE classroom wing, and a 1-story SW classroom wing. It does not have an elevator and is generally inaccessible except for the core area. The existing ramp between the core area and NE wing appears to exceed the allowable slope considerably and lacks required handrails. Stair handrails typically lack required extensions at top and bottom of stair runs; guards exceed the allowable open space. Toilet room and door maneuvering clearances as well as finish hardware are not in compliance with current requirements.

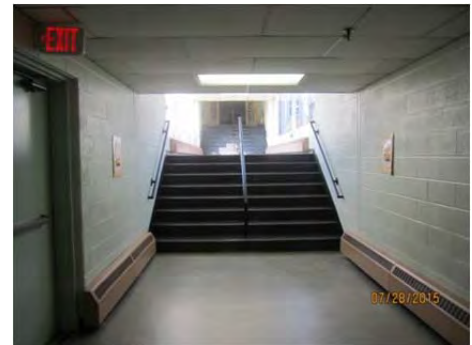
RATING: POOR

SECURITY AND ACCESS CONTROL: The main administration office is well-located to monitor the front entrance and is equipped with an intercom station (which presumably allows remote release of the main entry door during the school day). Video surveillance cameras were not observed. Status of District masterkey system is unknown.



RATING: FAIR

BUILDING SYSTEMS: Refer to separate SEC and ART reports. Note that neither existing boilers were functioning; the District arranged for a temporary exterior portable boiler to be connected to the existing distribution system. **RATING: POOR**



CAPACITY FOR EXPANSION: The size of the property is adequate for development of a sizable building addition to the rear of the existing building; however it would negatively impact the present play areas and fields. Because there is little room on either side of the existing building for driveway access, it appears that the site could not support both the existing school and a new school with associated site amenities (driveways, parking, etc.).

RATING: GOOD





December 27, 2015

Mr. Eric Moore, AIA
Lamoureux • Pagano Assoc., Arch.
108 Grove Street, Suite 300
Worcester, MA 01605

Re: Mechanical Systems Survey and Recommendations at Memorial Middle School in
Fitchburg, MA

Dear Mr. Moore:

The following is a summary report outlining our preliminary observations and comments regarding the status of the existing HVAC, plumbing and fire suppression systems at the Crocker Elementary School in Fitchburg, MA. In addition, we have made preliminary general recommendations for further consideration as part of a general renovation project.

EXISTING CONDITIONS INSPECTION & RECOMMENDATIONS

Several weeks ago we performed a brief site inspection of the existing building. Our visual observations along with information provided by facility personnel, when applicable regarding the current building systems operating status were used extensively in assembling this report.

Condition of existing system segments has been classified in three (3) ways as follows:

Rating - Good: System segment appears to be in good operational condition and complies with most current codes and standards and well suited for present and future use.

Rating - Fair: System segment appears to be in fair operational condition with some aspects which may not comply with current codes and/or standards and may not be well suited for present and future use.

Rating - Poor: System segment appears to be in poor operational condition, may not comply with many current codes and standards and is not suited for present and future use. In general these systems have exceeded their useful expected service life.

FIRE PROTECTION Rating = Fair

Existing Conditions and Deficiencies:

The fire suppression system serving the building is a wet pipe type system which provides essentially complete coverage throughout the building with few exceptions as noted herein.

There is a 6" main sprinkler water service which enters the building in a lower level utility room. The 6" reduces to a 4" and runs through an unsupervised OS&Y valve with chain lock and an alarm valve before feeding the limited building sprinklers.

A fire department Siamese connection is provided on the exterior wall. In addition, a water motor gong is provided in this location to warn of a waterflow condition.

There are no fire standpipes in the building and none are required due to the low 2-story building height.

As indicated previously, the building is for all practical purposes, completely protected by a fire suppression system. The only exceptions and other miscellaneous deficiencies noted during our site inspection were as follows:

1. There is no double check valve backflow preventer on the incoming service. Backflow prevention is required by current code to prevent stagnant water from entering the municipal water supply.
2. Verification of proper sprinkler protection of combustibles concealed spaces must be verified.
3. Walk-in cooler/ have no fire suppression. Current code would require suppression in these areas.
4. No fire suppression in range hood however none may be required as there appears to be no range tops or fryers. Further review of the cook line equipment would confirm the need for a hood suppression system.
5. No fire suppression at exterior canopy.
6. No fire suppression in entry vestibule.

Recommendations:

Remediate the deficiencies noted above.

PLUMBING

Fixtures: Rating = Poor

The existing buildings plumbing systems appear adequate in quantity for the current occupancy use however most were of original vintage. As such, most restrooms did not ADA/MAAB compliant accessible fixtures.

Existing water closets are of the wall hung flush valve type. Urinals are of the wall hung type and lavatories are of the wall hung style with 2 handle lever faucet. Most all fixtures do not comply with current low water use codes and standards.

Many public use lavatory sinks do not have metered (self-closing) faucets as required by code. In addition, many older public lavatory faucets do not have limit stops or tempering valves to

insure hot water does not exceed 110°F for scald prevention.

The main kitchen appears to have the minimum configuration and number of fixtures to satisfy current code and Board of Health requirements for a commercial kitchen however there are issues with the fixture types. The fixtures consist of a 2-bay pot sink with garbage disposer and no grease trap, a 2-bay prep. sink which discharges directly to a grease trap and one (1) hand sink. The issues with the current configuration are as follows:

- The 2-bay pot sink should have 3-bays to support a wash, rinse and sanitation procedure required by Board of Health.
- The 2-bay prep. sink must be indirectly wasted to comply with current code whereas it currently is not.
- Garbage disposer waste should not go thru a grease trap however pot sink must have a grease trap.
- The dishwasher does not appear to discharge to a grease trap which is required by current code.

There are several non-ADA compliant wall mounted electric water cooler drinking fountains located within the building.

Janitors sink inspected was noted to have a soap/chemical dispenser attached to it with no apparent signs of backflow prevention which would be required for such a configuration to prevent contamination of the building water supply.

Most of the fixtures are original vintage not of the water saving type. Apparently maintenance is routinely performed on faucets, toilet fill valves, etc.. as needed. If a renovation requires removal of the fixtures, upgrade of these fixtures to water conserving type shall be required.

Cold Water Service: Rating = Fair

A 4" cold water line enters the building in a lower level utility room. The service reduces to a 1.5" water meter then increase to a 3" which connects to a pressure reducing valve prior to feeding the buildings domestic water loads. The 3" service main appears adequate in size to support the current building loads.

There is no backflow preventer installed on the incoming water service. In facilities such as this where there could be numerous potential sources of cross contamination, a backflow preventer may be required to protect the municipal water supply. Local requirements should be confirmed with the water department and plumbing inspector.

We noted most of the piping in the building appears to be copper. Due to the age of the building there is a high probability that the water service could have lead containing solder in the fittings as well as drinking fountains that may have lead containing components. Although not a large source of lead contamination it should be tested and monitored and if found to be a

problem components should be replaced. In general, there were no outward signs of failure during the day of our site inspection.

Domestic Hot Water Service: Rating = Poor

The domestic hot water needs of the building is supported by (1) RayPak Raytherm gas-fired copper water tube boiler coupled to one (1) large old vintage storage tank. The boiler is in fair condition estimated to be towards the later half of its useful service life however the tank is of original vintage and has well exceeded its useful service life and as such is a good candidate for replacement as soon as possible.

There is a single mixing valve station on the main hot water supply which serves most of the building fixtures. Current code would require differing water temperatures at different types of fixtures. Lavatory sinks and showers must not discharge hot water at a temperature exceeding 110-112°F for safety reasons, whereas service fixtures (janitor's sinks, kitchen sinks, etc..) are required to have hot water temperatures in excess of 120°F for sanitation reasons. The current system appears to supply a single temperature water to the building which, with the absence of lavatory mixing valves should be 110°F +/- however this would not properly support the service sinks. Any upgrade must consider a central dual mixing valve station or local mixing at lavatory sinks. Lavatory sinks and showers with limit stops and/or local mixing for lavatory sinks is the favored approach. Storage tanks should be kept at temperatures of 135° F to 140°F so as to prevent the possibility of bacteria growth within the tanks.

There is one (1) recirculation pump on the domestic hot water system, which is required since there are fixtures located beyond 100 feet of the hot water source. The building code requires hot water to be available within 100 feet of any hot water consuming fixture.

Drainage Systems: Rating = Fair

Most of the sanitary drainage piping is concealed from view, however what we were able to see was primarily of the cast iron hub & spigot or no-hub type. The sanitary sewer lines run below the slab and exit the building to a municipal sewer system. There is a duplex sewage ejector pump located in the boiler room which appears to serve only the waste fixtures on this sub-level of the building.

Roof storm water is drained via roof drains connecting to internal leaders. The lines presumably exit to a municipal storm water system. The building does not appear to have any emergency roof overflow drains. These are required by code as a clogged drain can lead to water build-up on the roof and structural failure due to weight. That is unless the roof is designed to hold the water until a point where its build up would spill over the roof edge, which is not typical. We highly suggest emergency roof drains be added during any renovation project. The emergency drains should be added near the current roof drains and run to discharge to the side of the building. The visible discharge location is required as it gives users and indication of a failed main drain system.

Besides those items noted herein and elsewhere in this report, we noticed no other outward signs of failure in either the sanitary sewer system or the storm drainage system during our site inspection.

Natural Gas Service: Rating = Fair

A natural gas service enters the buildings mechanical room. The exterior service entrance consists of a gas meter serving a 3" elevated pressure line entering the building in a lower level utility room to support the building loads. Once the service enters the building it splits to a 4" gas line to the boilers and a 2" stub to a pressure reducing valve to two (2) 2" branch lines to other loads in the building.

The 3" elevated pressure gas line may need a thermally activated shut-off valve where it enters the building. This valve would shut the gas supply off to the building in the event there were a fire within the mechanical room. This device is typically required by the gas utility.

Recommendations:

Pending final master plan programming the proposed tiered recommendations are as follows:

1. Provide tempering mixing valves on lavatory sinks as needed to insure occupant safety.
2. Replace water coolers with new ADA compliant type providing additional coolers where needed. High consideration should be given to coolers with bottle fill capabilities.
3. Where restrooms are renovated, replace original vintage water closet fixtures with new ultra low flush (1.28 GPF) water conserving units with automatic battery-powered flush valves.
4. Provide 3-bay sink with grease trap in kitchen.
5. Provide indirect waste for prep. sink in kitchen.
6. Provide grease trap for dishwasher.
7. During renovations, replace original vintage cold water and hot water piping with new type with 0 lead materials.
8. Where restrooms are renovated, Replace original vintage urinals with new ultra low flush (0.125 GPF) water conserving units with automatic battery-powered flush valves.
9. Where restrooms are renovated, replace original vintage lavatories with low flow style with automatic battery-powered faucets with mixing adjustment (tempering valves noted in #1 may not be required if this options is taken pending proper fixture selection).
10. Provide emergency roof drains where required and dictated by structural review.
11. Provide backflow prevention on building water service, Janitor sinks and at other fixtures requiring such.
12. Provide thermal shut-off gas valve on 3" gas service entrance if required by

local gas utility.

HVAC

Boiler Plant: Rating = Poor

The heating needs for the building are supported by two (2) HB Smith #450 Mills cast iron sectional boilers of original vintage. Each boiler has a rated net output capacity of 3,198,000 BTUH. One of the boiler is not operational. The operational other boiler has a gas-fired Powerflame burner with a rated maximum input capacity of 7,664,000 BTUH.

The remaining operational boiler has well exceeded its useful service life of 30-years and it is our understanding from the facility personnel that the school is already planning on replacing the boiler plant in the near future.

Piping Distribution System: Rating = Fair

Hot water from the heating plant is distributed to the building via a supply and return distribution system. The system circulates hot water to fin-tube radiation, classroom unit ventilators and heating & ventilating units located throughout the building.

The boiler room has six (6) end-suction floor mounted pumps. The pumps are manufactured by Bell & Gossett and are configured for two pumps per building segment, bldg.. #1, #2 and #3 and each set is operated in a primary stand-by configuration.

The pumps appear to be in good operational order with signs of routine service such as bearing assembly replacements and motor replacements.

Ventilation & Misc. HVAC: Rating = Poor

Classroom unit ventilators are located throughout the classroom segments of the building. These units are located along exterior walls and each has an outdoor air louver and associate control dampers to allow outdoor air to enter the classroom space through the unit ventilator. During occupied periods, the unit fans run continuous to provide space ventilation and pneumatic valves modulate hot water flow through the units to maintain space temperature.

The units still being operational is a testament to good maintenance. However, they are in fair to poor condition due to the high number of years of service and all have exceeded their expected service life of 20 years as defined by ASHRAE. As such, any substantial renovation should include replacement of these units.

Classroom exhaust in much of the building is supported by local exhausters which are part of the UV system connected to exterior louvers.

The corridors and main office space appears to have limited and will need to be brought up to current ventilation standards during a renovation project. Although some office areas have

operable windows which may satisfy the natural ventilation code intent, it is not reasonable to expect one to open their window in the cold of winter or heat of summer so as to obtain the proper amount of fresh air ventilation.

The gyms, auditorium, and cafeteria are all served by ducted heating and ventilation units. All the units appear to have exceeded their useful expected service life as defined by ASHRAE and as such should be replaced during a renovation project.

The kitchen hood over the range and oven equipment appears to be primarily a heat capture hood and as such may not require a grease cup and suppression system typically required by current NFPA 96 and IMC standards. Condition of exhaust ductwork is no known however it should be fully welded and the fan on the roof must be verified to insure it complies with UL 762 listing for kitchen hood duty. Facility personal noted that the fan on the roof was recently replaced.

There appears to be some type of make-up air system for the kitchen. Access to these systems was not possible during our inspection.

Several spaces such as the main office area have little to no active outdoor air or exhaust systems. The American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Ventilation Standard 62 along with the building code, requires outdoor air levels of between 11 to 20 cfm per person dependent on occupancy classification and space use. Technically, operable windows in certain areas may satisfy the natural ventilation requirements of the Commonwealth of Massachusetts State Building Code. However, although this may be adequate for lightly populated areas, we feel that for spaces such as general offices, proper indoor air quality can only be achieved through positive outdoor air ventilation. Natural ventilation relies on occupants to control their air quality levels manually by opening and closing windows. Since most space pollutants are odorless, we feel it is unrealistic to expect occupants to gauge the contamination level of the indoor air and open a window in the cold of winter to obtain proper air quality.

Most bathrooms have exhaust systems. Many appeared to be connect to centralized exhaust ducts leading to exhaust fans located on the roof.

Controls: Rating = Poor

Much of the controls in the building are antiquated and primarily of the pneumatic style. Pneumatic controls are limited in their energy saving abilities and as such we highly recommend systems be converted to all be controlled by the centralized energy management control system.

Recommendations:

As the boilers as well as most of the unit ventilators and associated air moving HV equipment have exceeded its useful service life they would be prime candidates for replacement during a

renovation project. In addition, upgrades to the kitchen hood equipment and ventilation improvements to the areas noted above (i.e. offices) should be addressed. Also, we suggest a sampling of the piping should be taken in the building to confirm its condition and if found to have excessive corrosion it should be replaced.

A complete building wide energy management system incorporating energy saving routines such as demand ventilation reset, room by room occupancy control, intelligent start/stop, etc... should be implemented.

If you have any questions regarding this report please do not hesitate to call.

Sincerely,
Seaman Engineering Corporation

Kevin R. Seaman P.E., LEED® AP
President



EXISTING ELECTRICAL SYSTEMS REVIEW
CROCKER ELEMENTARY SCHOOL
FITCHBURG, MA

Date: 10 August 2015

Prepared by: Thomas F. Lutynski, Project Manager

SUMMARY

ART Engineering, Inc. has completed the site survey for the existing Crocker Elementary School in Fitchburg, MA. A Good/Fair/Poor rating system has been developed for the various electrical systems.

The rating system was developed to provide a concise, overall assessment for each system. In general a system rated “Good” is typically compliant with current codes and well suited for present and future space intent. A “Fair” rated system may have equipment in need of replacement or portions not suited for present or future space programming. Systems rated “Poor” do not serve well present or future space programming because of being obsolete or outdated

Most systems included in this site survey have “poor” or “fair” ratings for reasons of age and not satisfying current code standards. The rating system takes into account the conditions of the electrical systems as well as the types of systems, sizing, and applicability for the respective spaces.

The Massachusetts State Building Code 780 CMR requires all buildings, structures, and parts thereof, both existing and new, and all systems and equipment therein which are regulated by the State Building Code to be maintained in a safe, operable, and sanitary condition. All service equipment, means of egress, devices and safeguards which are required by the State Building Code in a building or structure, or which were required by a previous statute in a building or structure, when erected, altered, or repaired, shall be maintained in good working order.

The majority of the electrical systems in Crocker Elementary School are either outdated or obsolete. Whether any of the existing systems have been maintained or tested per the manufacturers’ recommendations or systems standards is unknown.



1. ELECTRICAL SERVICE

The existing, original (1964) main switchboard is a three section Federal Pacific Electric unit substation consisting of a 600A 15KV switch bussed to a 225 KVA 13.8KV to 208Y/120 volt three phase four wire dry type transformer bussed to an 800 amp distribution section with a circuit breaker as the main building disconnect located in a basement electric room. This main switchboard is fed underground from utility pole 41-120. The basement electric room is masonry construction, but no high voltage warning or authorized personnel only signs were posted.

Rating: Poor

2. NORMAL DISTRIBUTION

Federal Pacific Electric branch circuit panelboards are located throughout the building, oftentimes flush mounted in masonry construction allowing for no replacement or retrofit opportunities. These panelboards are original to the building.

Rating: Poor

3. GENERAL PURPOSE POWER

Branch circuit wiring is original to the building comprised mostly of some type of raceway and individual copper conductors with minimal use of equipment grounding conductors. The lack of a dedicated equipment grounding system can create an ineffective grounding system due to rust and poor connections between conduit fittings and outlet boxes.

Rating: Poor

4. EMERGENCY STANDBY POWER

One (1) Cummins 208Y/120 volt three phase four wire diesel installed in 2015 with base tank on an outdoor pad whose KW rating is undetermined. Two transfer switches (200 A and 400A) are located in an interior two-hour fire rated room also containing emergency distribution panelboards. Feeders originating from the emergency power panelboards are not two (2) hour fire rated.

Rating: Good

5. EGRESS AND EXIT LIGHTING

NFPA 101 test data was unavailable to confirm that all emergency lighting fixtures function properly as a composite system. The existing exit sign graphics and coverage appear adequate. The building has an emergency generator set to power certain permanent lighting fixtures and exit signs, but it was impossible to determine what permanent lighting fixtures are connected to the emergency power source to establish egress lighting coverage. Though the existing exit signs are lighted by internal lamps subject to burn out, all exit signs were fully illuminated.

Rating: Poor

6. LIGHTING AND CONTROLS

Surface fluorescent fixtures comprise the majority of the lighting installation. Fluorescent lamps are T8. Some corridor fixtures have been upgraded to recessed fluorescent center “basket” fixtures with T5 lamps. Site lighting includes LED pole mount fixtures and metal halide wall pack fixtures. Generally, the existing fixtures are inefficient in terms of both energy consumption and footcandle levels.

Lighting controls are almost universally local, wall mount toggle switches with a few motion sensor classroom installations scattered throughout.

Rating: Poor

7. TELECOMMUNICATIONS AND CABLING INFRASTRUCTURE

As the age of the building attests, cabling infrastructure was installed significantly later than the original installation. There is a switch, at one (1) patch panel, and CAT 5 infrastructure cabling.

The standard installation is one (1) outlet per classroom and one (1) outlet per office. There is no dedicated IT room with most equipment installed in the “open” in a room common to other equipment and activities.

Rating: Poor

8. VOICE COMMUNICATIONS EQUIPMENT

Corridor recessed ceiling speakers exist along with exterior horn type speakers. The function and use of the speaker system is undetermined.

Rating: Poor



9. FIRE ALARM

The existing, original fire alarm control panel is a conventional Fire-Lite tone six (6)-zone panel located in the main administrative office area connected to the Fitchburg fire department by a radio master box. Neither a remote annunciator nor an exterior beacon is located at the front entry. However, a Knox box is located at the front entry. Neither smoke nor heat nor audio/visual devices were visible. Manual pull stations are original and dated

Rating: Poor

10. PUBLIC ADDRESS AND CLOCK SYSTEMS

Though the main administration area has a relatively new Simplex six (6) zone time control center, the classroom master clock/ speaker/ intercom handset groupings have no Simplex markings. Some clocks may have been replaced with non-master system clocks. The working status of these groupings is unknown, though most clocks displayed the correct time.

Rating: Poor

11. AUDIO-VISUAL SYSTEMS

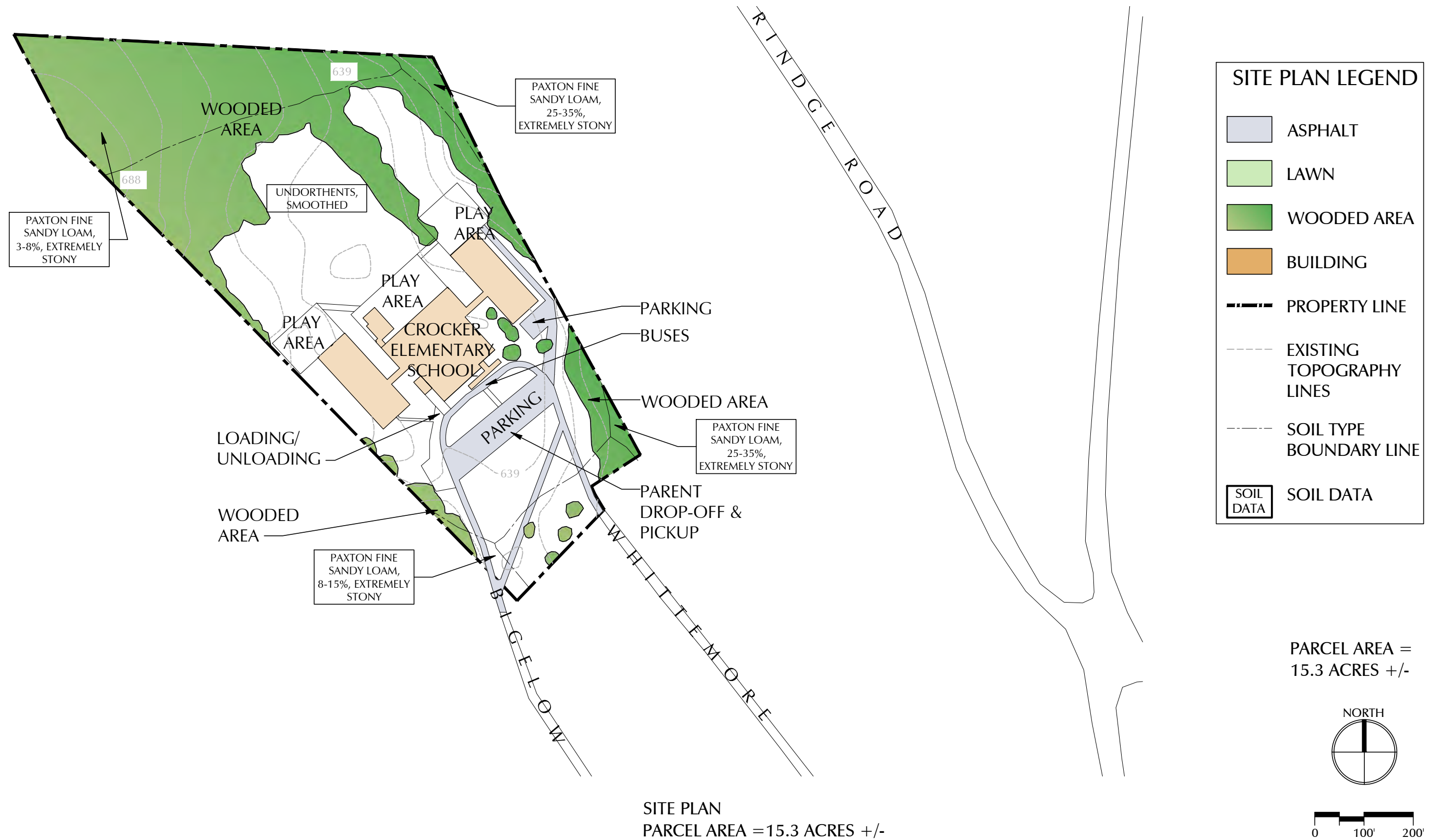
Epson projectors at white boards are in some classrooms. An LED television is at the main entrance to stream announcements.

Rating: Fair

12. VIDEO SURVEILLANCE, ACCESS CONTROL, INTRUSION DETECTION

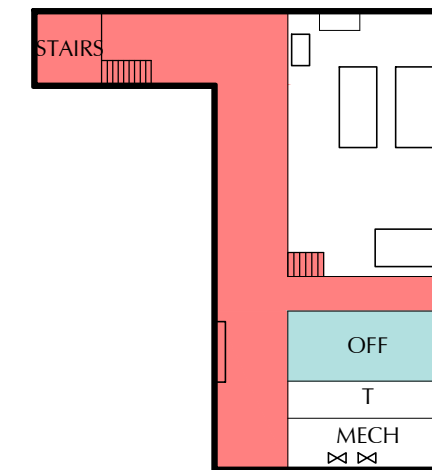
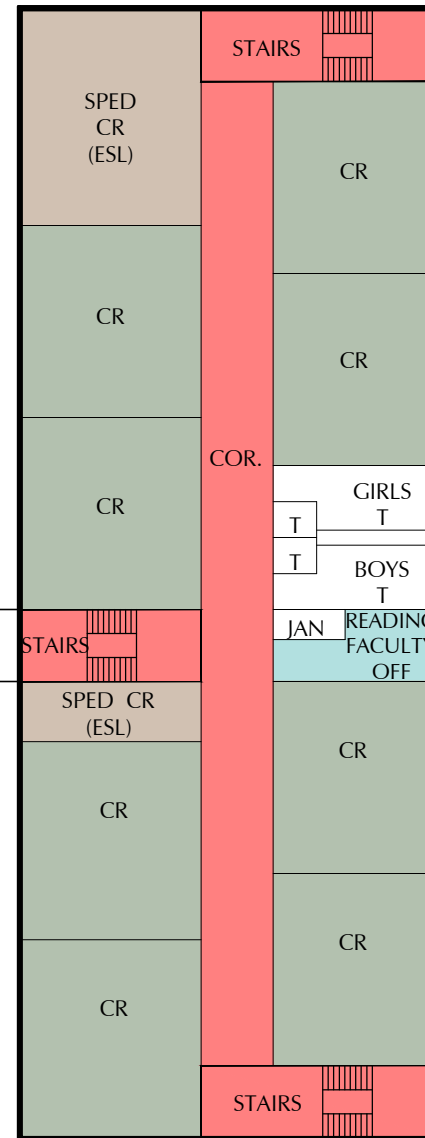
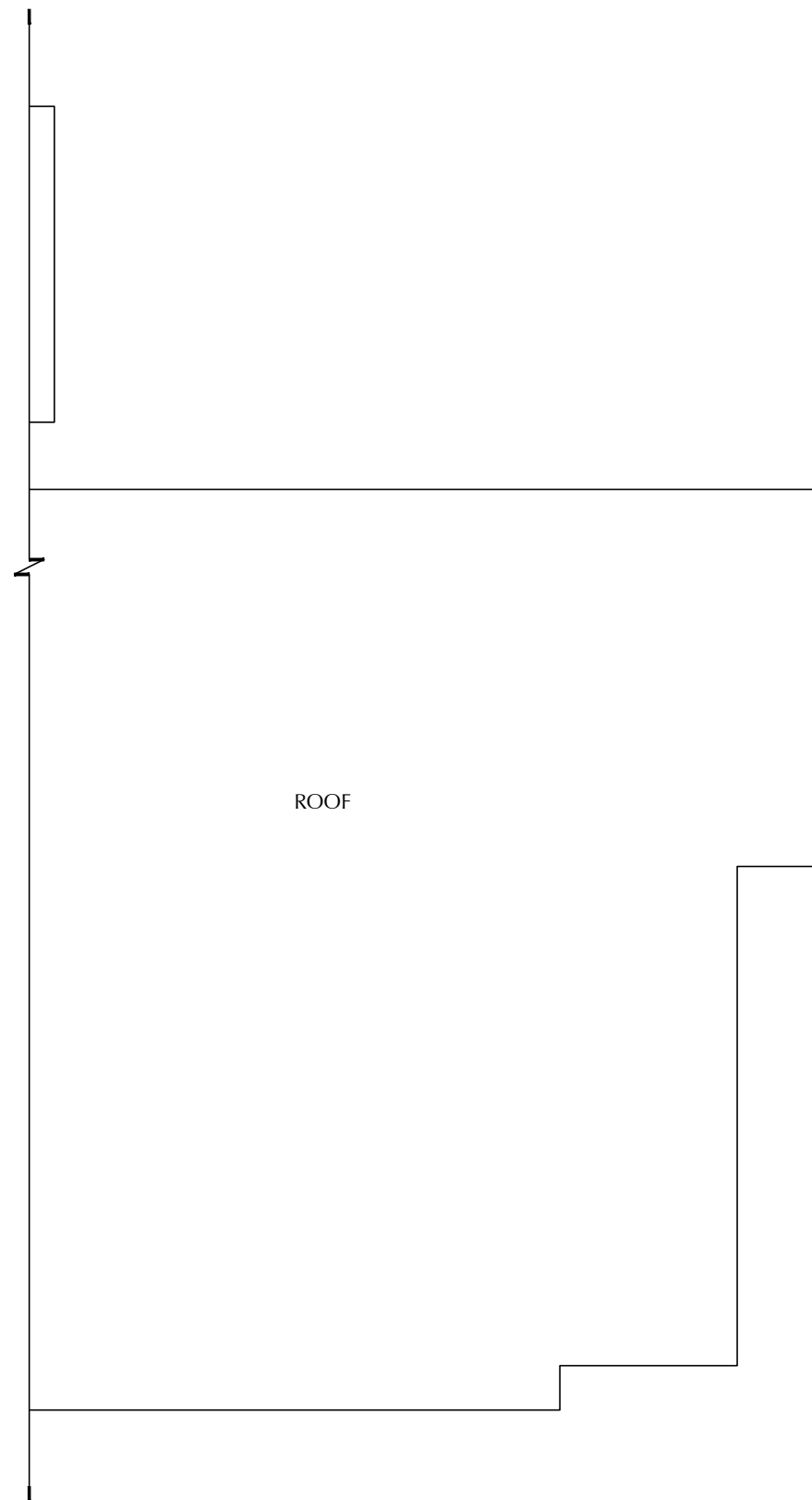
An exterior front entrance intercom station connects to the main administration office to gain building access during school hours.

Rating: Fair

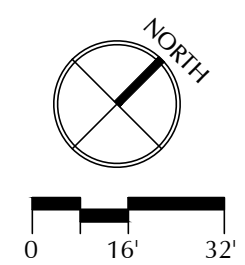




LOWER LEVEL PLAN
GSF AREA = 57,675 SF +/-



FLOOR PLAN LEGEND	
	CORE ACADEMIC SPACES
	SPECIAL EDUCATION
	ART & MUSIC
	VOCATIONS & TECHNOLOGY
	HEALTH & PHYSICAL EDUCATION
	MEDIA CENTER
	DINING & FOOD SERVICE
	MEDICAL
	ADMINISTRATION & GUIDANCE
	CUSTODIAL & MAINTENANCE
	CIRCULATION
	OTHER



2. South Street Elementary School

Name: South Street Elementary School	Address: 376 South Street
Principal: Jonathan Thompson	Tel: 978-348-2300
Date(s) of Construction: 1950 (West); 1957 (North); 1961 (South); 1992 (East)	
Enrollment (11/30/2015): 672	Grades: Pre-K through Grade 4
Assessed Valuation:	Land: \$756,700
	Extra Features: \$33,600
	Buildings: \$16,602,000
	Total: \$17,392,300
Zoning District: RA-1	Historical: MACRIS List FIT.2061 - Sisters of the Presentation Convent (West Building)
Site Area: 12.11 acres	Parking: 150+- spaces
Building Area (combined total of West, North, South and East Buildings): 136,205 GSF	



SITE: The majority of school buses do not actually enter the site; they queue along Fairbanks Street, a residential public way to the north of the school property site. In the morning, bused students enter the unoccupied North building and pass through the gym, 2nd floor corridor and down the south stairwell before arriving at the East building lobby area; the reverse occurs in the afternoon. 3-4 private charter buses enter at the South Street entrance and bear left to line up in front of the West building, exiting back to South Street across from Ellis Street.



Vans transporting special education students also enter here to access the East building main entrance. Parents picking up or dropping off students enter at the South Street entrance as well, but bear right past the South building. Parents then queue in 5 marked lanes at the rear paved play area, and exit the site via Munroe Street. 50-60 student walkers cross South Street near Ellis Street. School staff/faculty, District administrators, and visitors all share available parking along South Street, in the NW upper lot and along the east edge of the SE paved play area. The convergence of pedestrian/vehicular traffic (i.e. at the narrow driveway opening between the West building and adjacent retaining wall) and the generally narrow/circuitous vehicular circulation were identified as concerns by both school administrators and public safety officials. The queuing of buses along a public way, blocking access to private residences in the morning and afternoon, was also recognized as an issue.

RATING: POOR

EXTERIOR ENVELOPE:

West Building: The roofing system is original slate with copper flashings and built-in gutters. Some slates were observed to be missing and we were told there is at least one significant leak. The gutters appear to have been relined at some point but, from the appearance of the wood trim below, are in need of attention.

Windows at the West Building have recently been replaced with new aluminum hung windows with panning, simulated divided lites and insulating glass.

Exterior walls at the West Building are brick masonry with limestone banding, sills and accents and wood soffit trim. The masonry, with some exceptions, appears generally to be in good condition. However; as noted above the wood soffits and dentil moldings are showing signs of deterioration in places, probably due to leakage from the built-in gutters.

RATING: FAIR

North Building: The condition of the roofing system is unknown. Windows are original single-glazed projected aluminum with fixed metal panels. Exterior walls are brick masonry and showing signs of neglect; one area near the gymnasium had invasive vines growing up the exterior wall and through the aluminum window system to the interior. LPA was told that the North Building has been unoccupied and unheated since approximately 2009.

RATING: POOR

South Building: The roofing is a low-slope membrane system; flashings and fascias appear to be in good condition. Windows and storefront were recently replaced by fixed/projected aluminum units glazed with insulated metal panels and insulating glass. The South Building exterior walls are brick masonry.

RATING: FAIR



East Building: The roofing is a low-slope membrane system; flashings and fascias appear to be in good condition. The projected aluminum windows and storefront are original but have insulating glass. Walls are a combination of brick masonry and CMU and appear to be in fair to good condition.

RATING: FAIR

INTERIOR FINISHES/EQUIPMENT:

West Building: Classrooms typically have wood or carpet flooring; wood base; painted plaster walls; and 2' x 2' ACT ceilings. Corridors have wood, carpet, or VCT flooring; wood or CMU base; painted plaster walls; and painted plaster or 2' x 2' ACT ceilings. Toilet rooms have terrazzo or 2" x 2" mosaic tile floor and base; 4" x 4" glazed ceramic tile walls; and 2' x 2' ACT ceilings. Stairs have resilient rubber treads with painted steel risers, stringers, newel posts and balusters. There are no handrails on the inside flights.

RATING: FAIR-POOR

North Building: Classrooms are currently being used for miscellaneous District storage and typically have carpet or 9" x 9" VAT floor; resilient base; painted CMU walls; and 12" x 12" ACT ceilings. Corridors generally have 9" x 9" VAT floor; resilient base; painted CMU walls; and 12" x 12" ACT ceilings.

The Gymnasium flooring is unknown as it was covered with kraft paper; walls are painted CMU; exposed roof structure has stained glulam wood beams and wood plank decking.

RATING: POOR



Strategic Facilities Planning Study

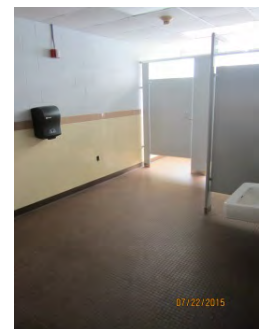
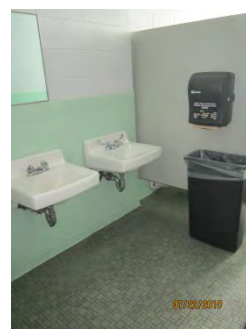
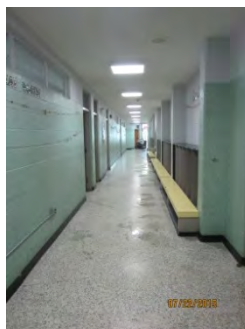
South Building: Classrooms typically have 9" x 9" VAT floor; resilient base; painted CMU walls; and 12" x 12" ACT ceilings. Corridors have terrazzo floor; resilient base; painted CMU walls; 12" x 12" ACT ceilings; and built-in cubbies. Toilet rooms have mosaic tile flooring; 4" x 4" glazed ceramic tile walls and base; and 2' x 2' ACT ceilings. Toilet partitions are painted steel; shower stall dividers at the former locker rooms are a combination of painted steel and marble. The Gymnasium has wood strip flooring; painted CMU walls and severely damaged 2' x 2' ACT ceiling.

RATING: FAIR



East Building: Classrooms typically have 12" x 12" VCT floor; resilient base; painted walls; and 2' x 2' ACT ceilings. Corridors have 12" x 12" VCT flooring; resilient base; painted walls; and 2' x 2' ACT ceilings. Toilet rooms have 2" x 2" mosaic tile floor; 4" x 4" glazed ceramic tile walls and base; and 2' x 2' ACT ceilings.

RATING: FAIR



ACCESSIBILITY: Currently there are four distinctly separate buildings; West (containing District offices), North (unoccupied), South and East. Although all four buildings are physically connected in some way, not every space or level is accessible. It is probable that even a relatively small scope of work will trigger the requirement for full compliance with 521 CMR accessibility regulations. Wheelchair lifts have been installed in some locations, however their use is restricted in terms of accessibility regulations (i.e. they can be used to provide access to a performing area/stage or to an area, such as the Nurse's suite in the West Building, where the vertical level change is less than a full floor and a ramp is not feasible; they cannot be used as a blanket substitution for an elevator).

The existing West Building elevator appears too small to meet current accessibility requirements. Except for the East Building, stairways (including tread/risers, guards and handrails), toilet room and door maneuvering clearances as well as finish hardware are generally not in compliance with current requirements.

RATING: POOR

SECURITY AND ACCESS CONTROL: Although connected, the existing buildings are remote and have multiple exterior entrances/exits that are difficult to monitor. The buildings lack an intuitive and clear path for students to travel from one building to another. Visitors to the main District offices are required to check in at the West Building main entry, however they have unrestricted access to school space once allowed beyond that secure checkpoint. Each building has an intrusion detection system but there are no existing video surveillance or access control systems. Status of District masterkey system is unknown.

RATING: POOR

BUILDING SYSTEMS: Refer to separate SEC and ART reports. The North and South Buildings do not currently have fire suppression systems.

RATING: POOR-FAIR

CAPACITY FOR EXPANSION: The size of the property is adequate for development of a sizable building addition to the rear of the existing North Building; however it would negatively impact the present play area. The land to the east of the rear paved parking area falls off steeply towards wetlands; a factor which limits expansion in that direction. Demolition of the North Building would open up expansion options in that direction; it might also allow the development of a perimeter access drive around the entire site.

RATING: GOOD





EXISTING ELECTRICAL SYSTEMS REVIEW
SOUTH STREET ELEMENTARY SCHOOL
FITCHBURG, MA

Date: 10 August 2015

Prepared by: Thomas F. Lutynski, Project Manager

SUMMARY

ART Engineering, Inc. has completed the site survey for the existing South Street Elementary School in Fitchburg, MA. A Good/Fair/Poor rating system has been developed for the various electrical systems.

The rating system was developed to provide a concise, overall assessment for each system. In general a system rated “Good” is typically compliant with current codes and well suited for present and future space intent. A “Fair” rated system may have equipment in need of replacement or portions not suited for present or future space programming. Systems rated “Poor” do not serve well present or future space programming because of being obsolete or outdated

Most systems included in this site survey have “poor” or “fair” ratings for reasons of age and not satisfying current code standards. The rating system takes into account the conditions of the electrical systems as well as the types of systems, sizing, and applicability for the respective spaces.

The Massachusetts State Building Code 780 CMR requires all buildings, structures, and parts thereof, both existing and new, and all systems and equipment therein which are regulated by the State Building Code to be maintained in a safe, operable, and sanitary condition. All service equipment, means of egress, devices and safeguards which are required by the State Building Code in a building or structure, or which were required by a previous statute in a building or structure, when erected, altered, or repaired, shall be maintained in good working order.

The majority of the electrical systems in South Street Elementary School are either outdated or obsolete. Whether any of the existing systems have been maintained or tested per the manufacturers’ recommendations or systems standards is unknown.



PREFACE

The South Street Elementary School complex consists of four (4) buildings designated A-West, B-South, C-North, and D-East. A-West is the original building which is a converted convent (1950) with the other three (3) buildings as additions between 1957 and 1992. C-North was decommissioned in 2008 with neither maintenance nor repairs within the past seven (7) years. Some electrical system categories will have four (4) parts addressing the conditions in the respective buildings separately; and some categories will have a common condition that applies to all buildings.

1. ELECTRICAL SERVICE

A-West: the electrical service is a 1200 amp 480Y/277 volt three phase four wire Challenger two-section main switchboard installed in 1996, located in the basement, and fed underground from a grade level pad mount utility transformer with metering. The switchboard has separate breakers to feed each of the other three (3) buildings. Please note that originally each building had its own separate utility service; but this distribution scheme was revised in 1996 with the installation of the current design. The A-West breaker feeds a 500 KVA GE indoor dry type transformer which feeds the original 1200 amp 208Y/120 volt GE switchboard.

B-South: the electrical service is a 600 amp 480Y/277 volt three phase four wire Challenger main circuit breaker fed underground from the A-West main switchboard. This circuit breaker feeds a 300 KVA Square D indoor dry type transformer which feeds the original 1962 208Y/120 volt three phase four wire Federal Pacific Electric main panel.

C-North: the electrical service is a 200 amp 480Y/277 volt three phase four wire Challenger main circuit breaker fed underground from the A-West main switchboard. This circuit breaker feeds a 150 KVA GE indoor dry type transformer which feeds the original 1957 Trumbull Electric main panel.

D-East: the electrical service is the existing, original 1992 600 amp 208Y/120 volt three phase four wire ITE main circuit breaker panelboard fed underground from the A-West main switchboard. The transformer manufacturer, size, and location were unknown to the custodial staff.

Rating: Fair to Poor

2. NORMAL DISTRIBUTION

Preface: though the main electrical services to the buildings were upgraded in 1996, the internal normal power switchgear, panelboards, and feeder conduit and wire are original to each building.



Branch circuit panelboards are located throughout each building, oftentimes flush mounted in masonry construction allowing for no replacement or retrofit opportunities.

A-West: GE bolt-to-bus panelboards

B-South: Federal Pacific panelboards

C-North: Trumbull Electric panelboards

D-East: Siemens ITE panelboards

Rating: Poor

3. GENERAL PURPOSE POWER

Branch circuit wiring is original to each building comprised mostly of some type of raceway and individual copper conductors with minimal use of equipment grounding conductors. The lack of a dedicated equipment grounding system can create an ineffective grounding system due to rust and poor connections between conduit fittings and outlet boxes.

Rating: Poor

4. EMERGENCY STANDBY POWER

A-West: one (1) 75 KW 208Y/120 volt three phase four wire diesel set installed in 1990 and located in the basement with a 225 amp Westinghouse transfer switch, and one (1) 125 KW 208Y/120 volt three phase four wire diesel set installed in 2014 and located outdoors pad mount with a 200 amp Asco transfer switch. Both transfer switches and emergency panelboards are located in a 2-hour fire rated basement room. It appears only branch circuits and not feeders originate from these emergency panelboards. The maintenance custodian's opinion is that both sets are severely underutilized. The 125 KW unit must be manually shut down after retransfer because of some unresolved control issue. Both transfer switches are fed normal power from the existing 1200 amp GE switchboard. The emergency generator sets are not synchronized, so each functions as a separate emergency system within the building.

B-South: no emergency generator

C-North: no emergency generator

D-East: one (1) 55 KW 208Y/120 volt three phase four wire diesel set located in a 2-hour fire rated basement room along with a 225 amp transfer switch and emergency panelboard all original to be building ~1992. It appears only branch circuits and not feeders originate from the



emergency panelboard. The maintenance custodian's opinion parallels A-West: the unit is severely underutilized.

Rating: Fair to Poor

5. EGRESS AND EXIT LIGHTING

A-West and D-East: NFPA 101 test data was unavailable to confirm that all emergency lighting fixtures function properly as a composite system. The existing exit sign graphics and coverage appear adequate. These buildings have emergency generator sets to power certain permanent lighting fixtures and exit signs, but it was impossible to determine what permanent lighting fixtures are connected to the emergency power source to establish egress lighting coverage. Though the existing exit signs are lighted by internal lamps subject to burn out, all exit signs were fully illuminated.

B-South and C-North: NFPA 101 test data was unavailable to confirm that all emergency lighting fixtures function properly as a composite system. The existing exit sign graphics and coverage appear adequate. These buildings utilize batteries as the emergency power source. Existing emergency battery unit locations do not provide adequate egress lighting coverage. Battery life, maintenance, and discharge rates could not be verified. Though the exit signs are lighted by internal lamps subject to burn out, all exit signs were fully illuminated.

Rating: Poor

6. LIGHTING AND CONTROLS

All buildings have a combination of surface/recessed fluorescent fixtures, recessed PL fixtures, metal halide outdoor wall packs, and outdoor pole mount LED fixtures. Fluorescent lamps are T8. Some corridor fixtures have been upgraded to fluorescent center "basket" fixtures with T5 lamps, but these locations are minimal. Generally, the existing fixtures are inefficient in terms of both energy consumption and footcandle levels.

Lighting controls are almost universally local, wall mount toggle switches with a few motion sensor installations scattered throughout.

Rating: Poor

7. TELECOMMUNICATIONS CABLING INFRASTRUCTURE

As the ages of the buildings attest, cabling infrastructure was installed significantly later than the original installation. D-East is the hub and feeds the other three (3) buildings through fiber optic cable. Each building has a switch, at least one (1) patch panel, and CAT 5 infrastructure cabling.



The standard installation is one (1) outlet per classroom and one (1) outlet per office. There are no dedicated IT rooms with most equipment installed in the “open” in a room common to other equipment and activities.

Rating: Poor

8. VOICE COMMUNICATIONS EQUIPMENT

Some buildings have general area recessed speakers, but the systems are inactive. The classroom clock/speaker/handset cluster is the voice communication of choice, and is addressed under its own separate heading.

Rating: Poor

9. FIRE ALARM

Preface

Building D-East is the main fire alarm system center consisting of nine (9) conventional zones: A-West (1 zone), B-South (4 zones), C-North (2 zones), and D-East (2 zones).

A-West: FCI conventional 24-zone (13 active) tone main fire alarm control panel located at the front main entrance. A beacon and Knox box are mounted exterior at the front main entrance. The panel annunciates and signals locally, and transmits a single zone alarm point to D-East. There is extensive smoke detector coverage, but the audio/visual coverage is minimal and non-existent in the classrooms. Manual pull station locations are correct, but the mounting heights are not code compliant.

B-South: no separate fire alarm control panel. The main fire alarm control panel in D-East has four (4) conventional zones for B-South. B-South has a nine (9) zone “window” annunciator showing the status of all zones comprising the four (4) buildings. Smoke detectors and audio/visual devices are installed in the classrooms. The remaining building areas have insufficient audio/visual coverage and incorrect manual pull station heights.

C-North: no separate fire alarm control panel. The main fire alarm control panel in D-East has two (2) conventional zones for C-North. D-North has the same nine (9) zone “Window” annunciator as B-South. Corridors, classrooms, and the gym contain smoke detection. Audio/visual devices are sparse. Manual pull stations are mounted too high per current codes. As this building is abandoned, the operational status of the fire alarm devices is highly questionable.



D-East: FCI conventional nine (9) zone tone main fire alarm control panel for the entire complex located at the first floor main entrance with both a graphic and same nine (9) zone “window” annunciator installed in B-South and C-North. Also located at the main entrance are a Knox box and a beacon. Smoke detection is located only in the corridors. Audio/visual devices are insufficient. Manual pull stations appear to be located correctly, but mounted too high per current codes. Connection to the Fitchburg fire department is through a radio master box.

Rating: Poor

10. PUBLIC ADDRESS AND CLOCK SYSTEMS

All classrooms have a National Time master clock/ speaker/ intercom handset grouping. Some clocks have been replaced with non-master system clocks, and some groupings have been cannibalized, e.g. C-North, to repair other groupings. The working status of these groupings is unknown, though most clocks displayed the incorrect time which could be nothing more than a programming issue.

Rating: Poor

11. AUDIO-VIDEO SYSTEMS

A-West: classroom projectors mounted above white boards

B-South: no projectors

C-North: no projectors

D-East: one (1) or two (2) classrooms have classroom projectors above white boards

Rating: Poor

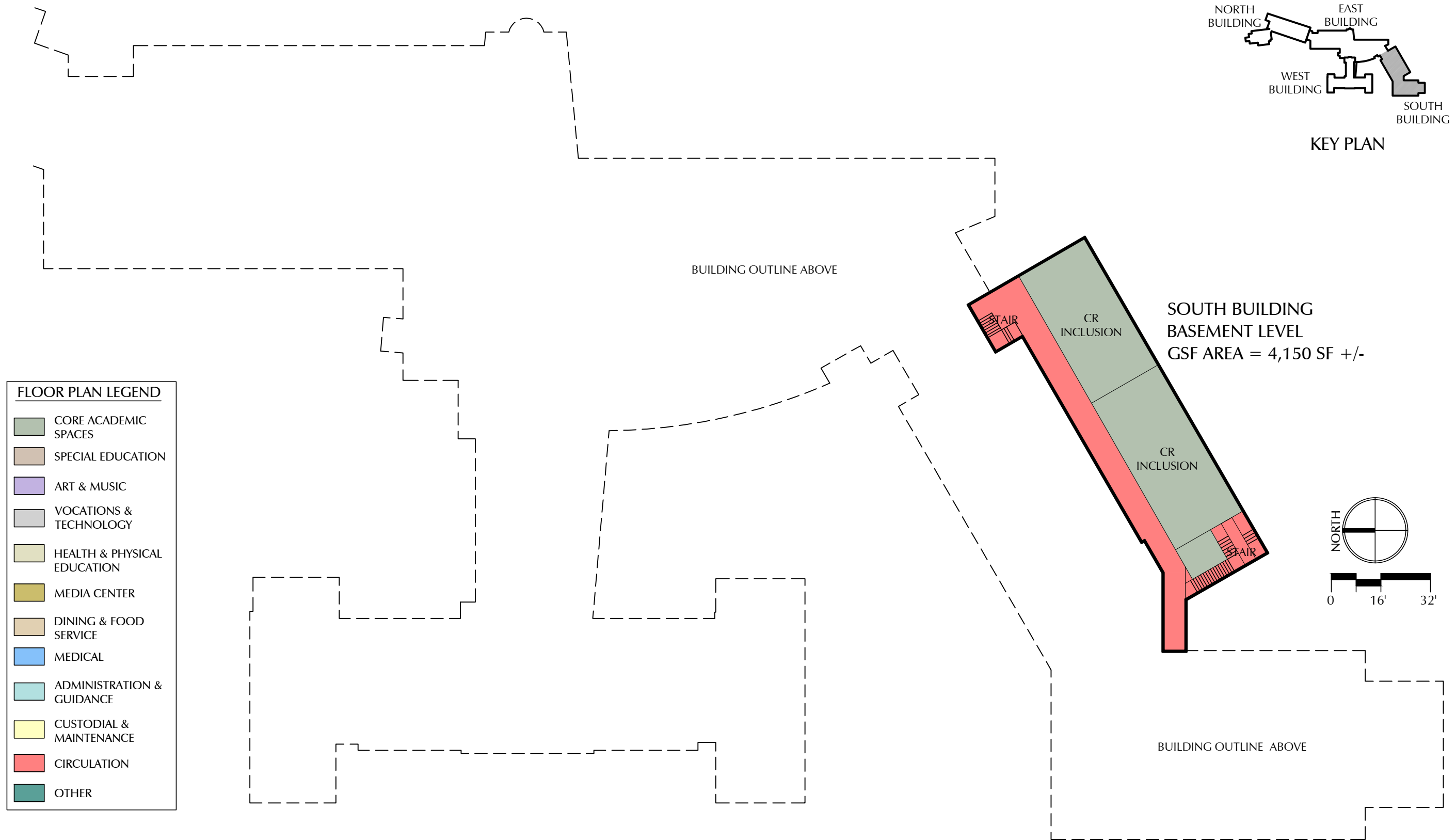
12. VIDEO SURVEILLANCE, ACCESS CONTROL, INTRUSION DETECTION

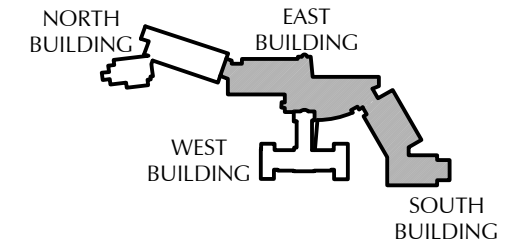
Each building has a separate intrusion detection system consisting of motion detectors connected to a panel containing a dialer programmed to a central station. The buildings do not have video surveillance or access control systems.

Rating: Fair



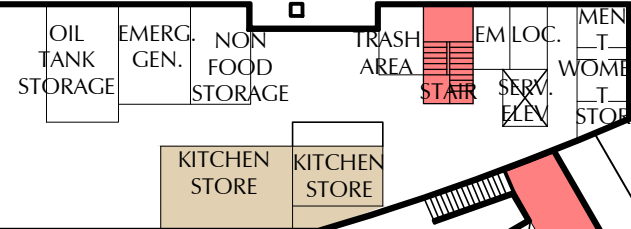
SITE PLAN
PARCEL AREA = 10.9 ACRES +/-



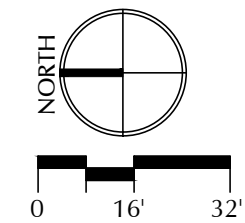


KEY PLAN

EAST BUILDING
BASEMENT LEVEL
GSF AREA = 4,525 SF +/-

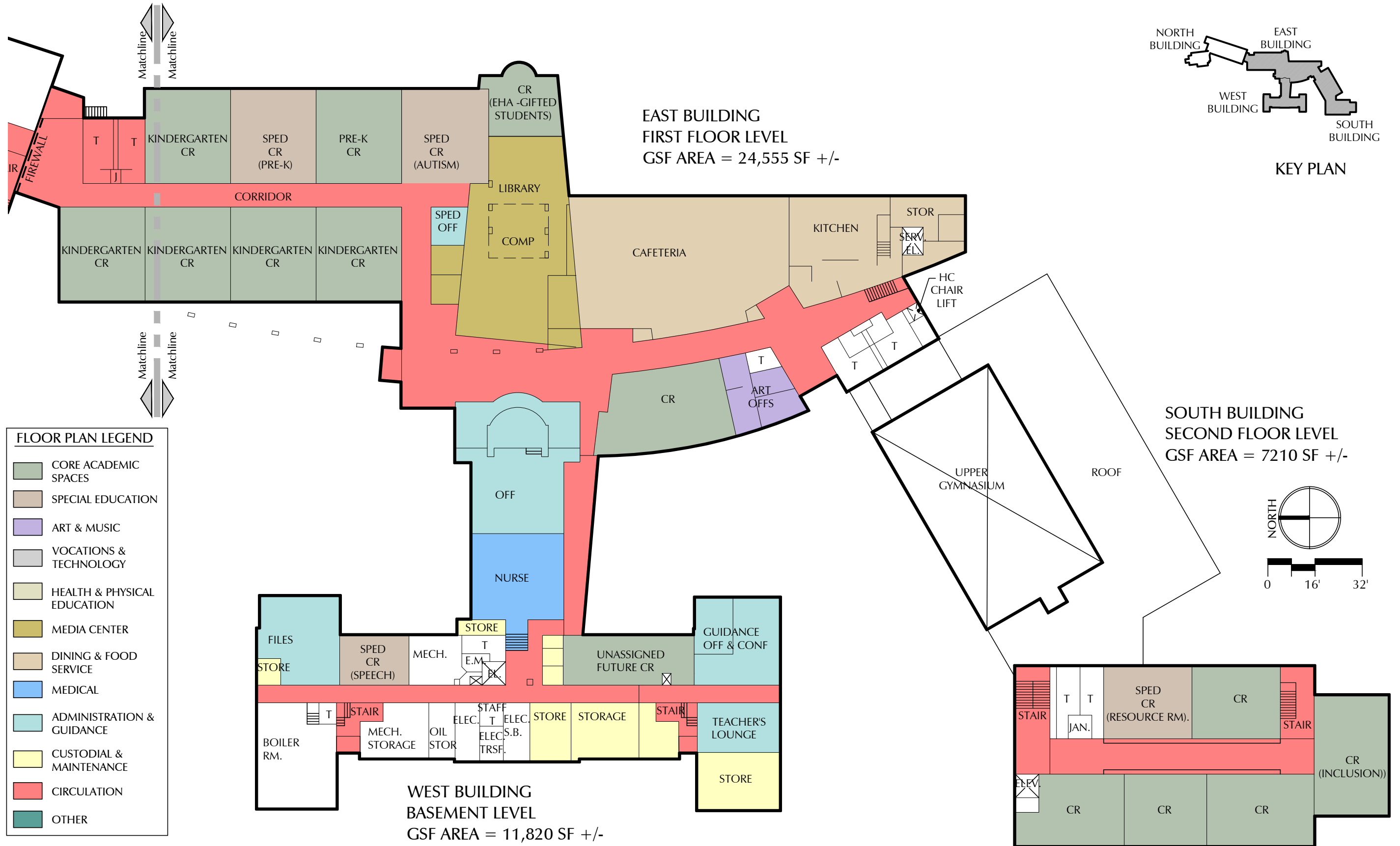


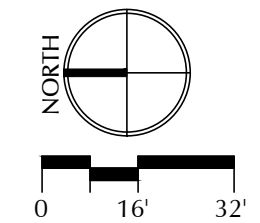
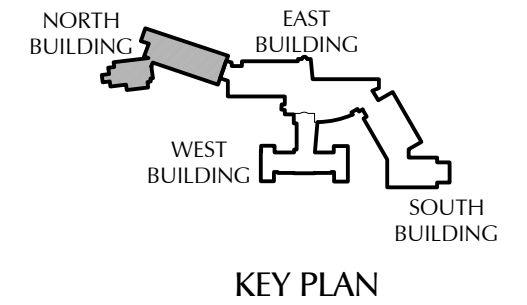
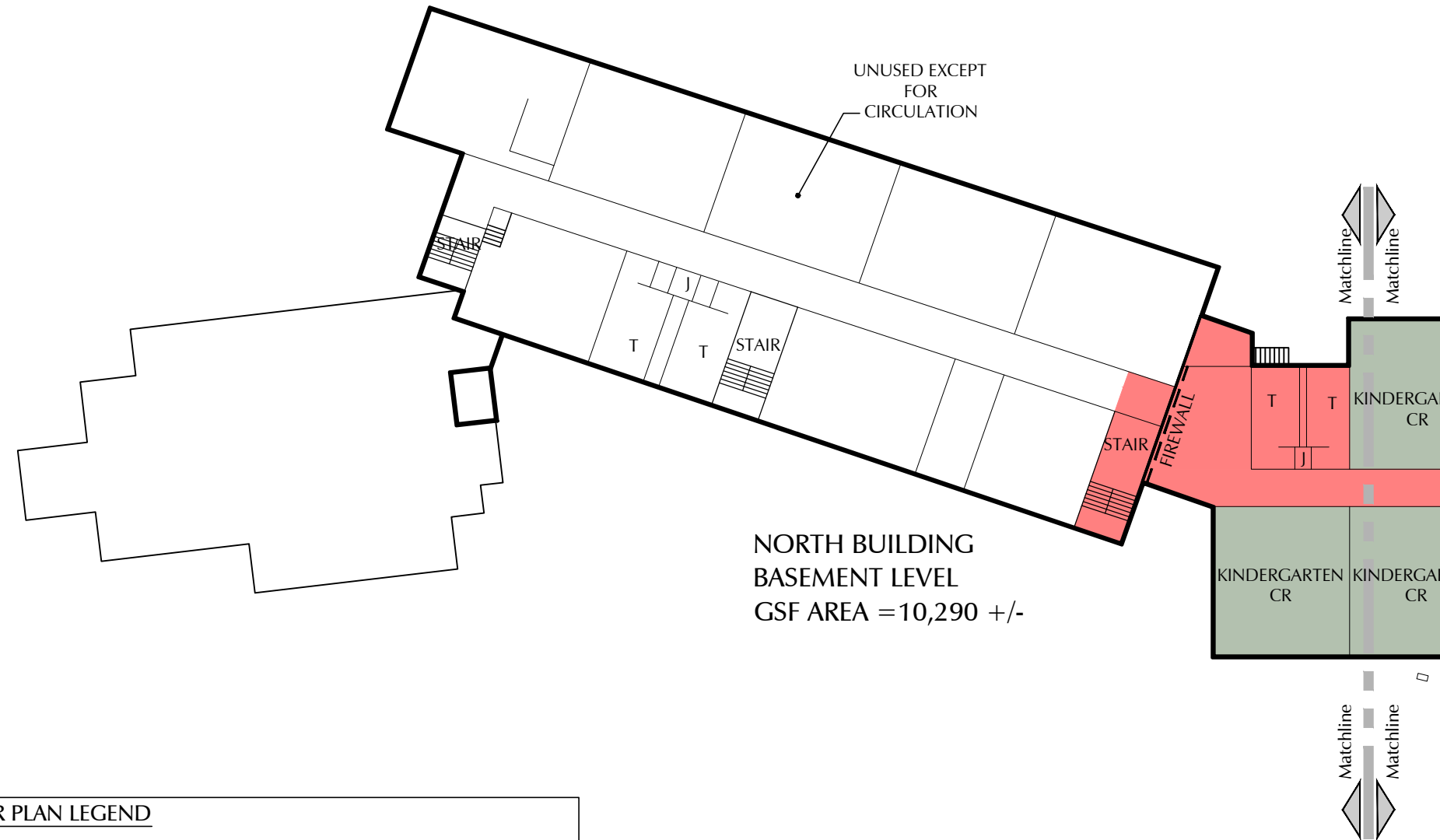
SOUTH BUILDING
FIRST FLOOR LEVEL
GSF AREA = 16,692 SF +/-



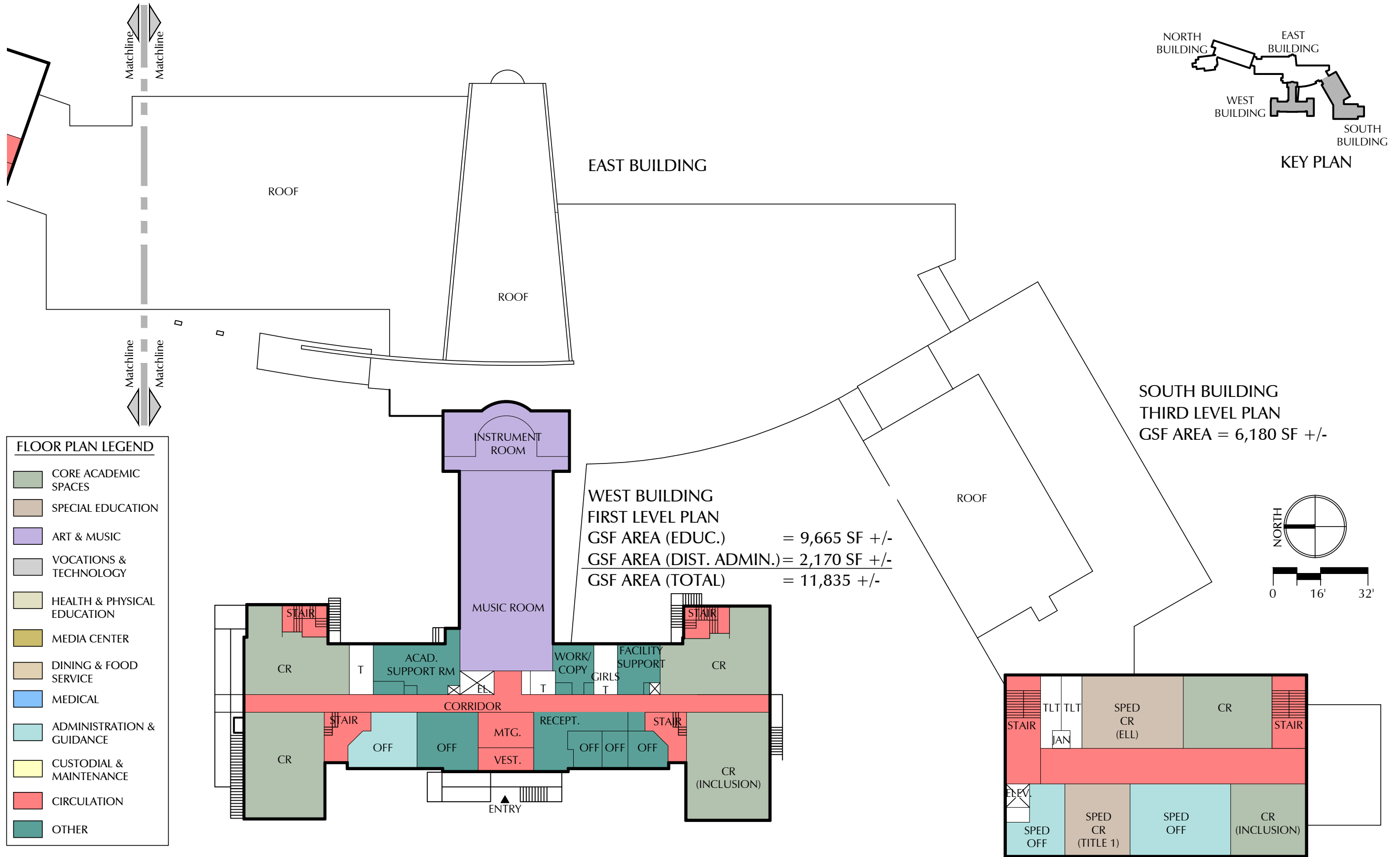
FLOOR PLAN LEGEND

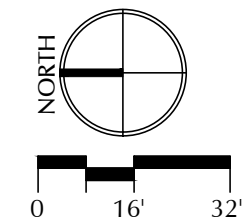
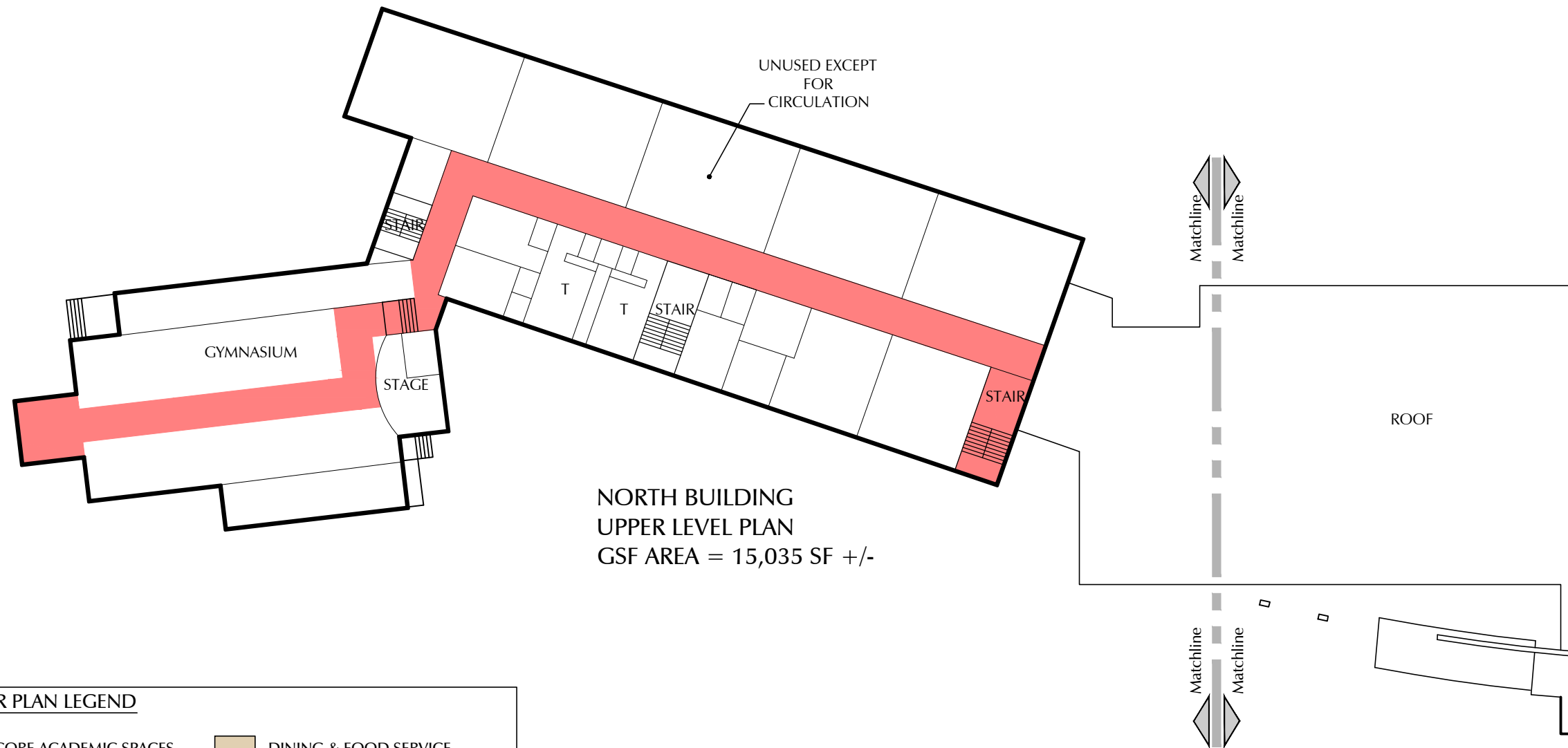
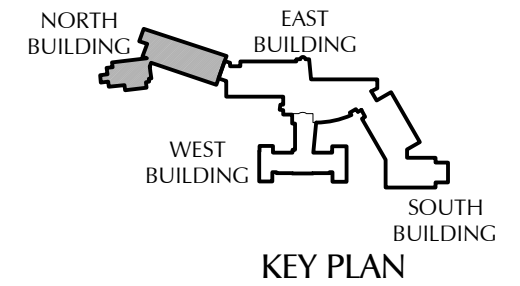
- CORE ACADEMIC SPACES
- SPECIAL EDUCATION
- ART & MUSIC
- VOCATIONS & TECHNOLOGY
- HEALTH & PHYSICAL EDUCATION
- MEDIA CENTER
- DINING & FOOD SERVICE
- MEDICAL
- ADMINISTRATION & GUIDANCE
- CUSTODIAL & MAINTENANCE
- CIRCULATION
- OTHER





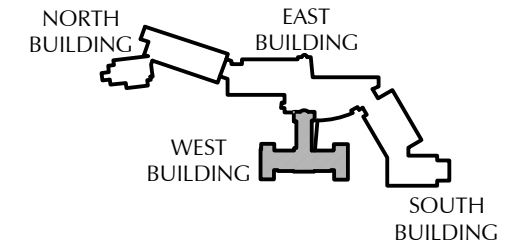
FLOOR PLAN LEGEND	
 CORE ACADEMIC SPACES	 DINING & FOOD SERVICE
 SPECIAL EDUCATION	 MEDICAL
 ART & MUSIC	 ADMINISTRATION & GUIDANCE
 VOCATIONS & TECHNOLOGY	 CUSTODIAL & MAINTENANCE
 HEALTH & PHYSICAL EDUCATION	 CIRCULATION
 MEDIA CENTER	 OTHER



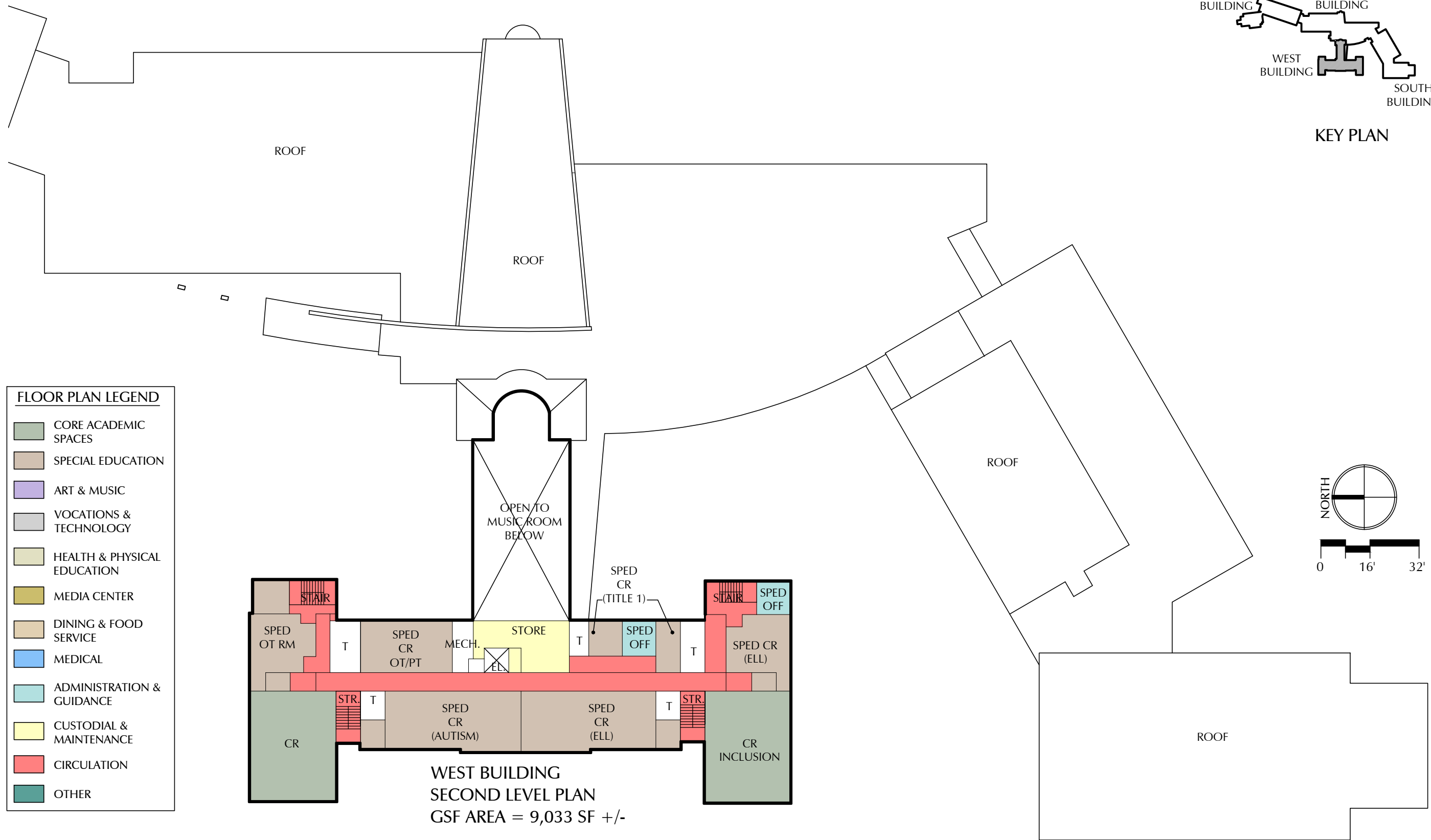


FLOOR PLAN LEGEND

CORE ACADEMIC SPACES	DINING & FOOD SERVICE
SPECIAL EDUCATION	MEDICAL
ART & MUSIC	ADMINISTRATION & GUIDANCE
VOCATIONS & TECHNOLOGY	CUSTODIAL & MAINTENANCE
HEALTH & PHYSICAL EDUCATION	CIRCULATION
MEDIA CENTER	OTHER



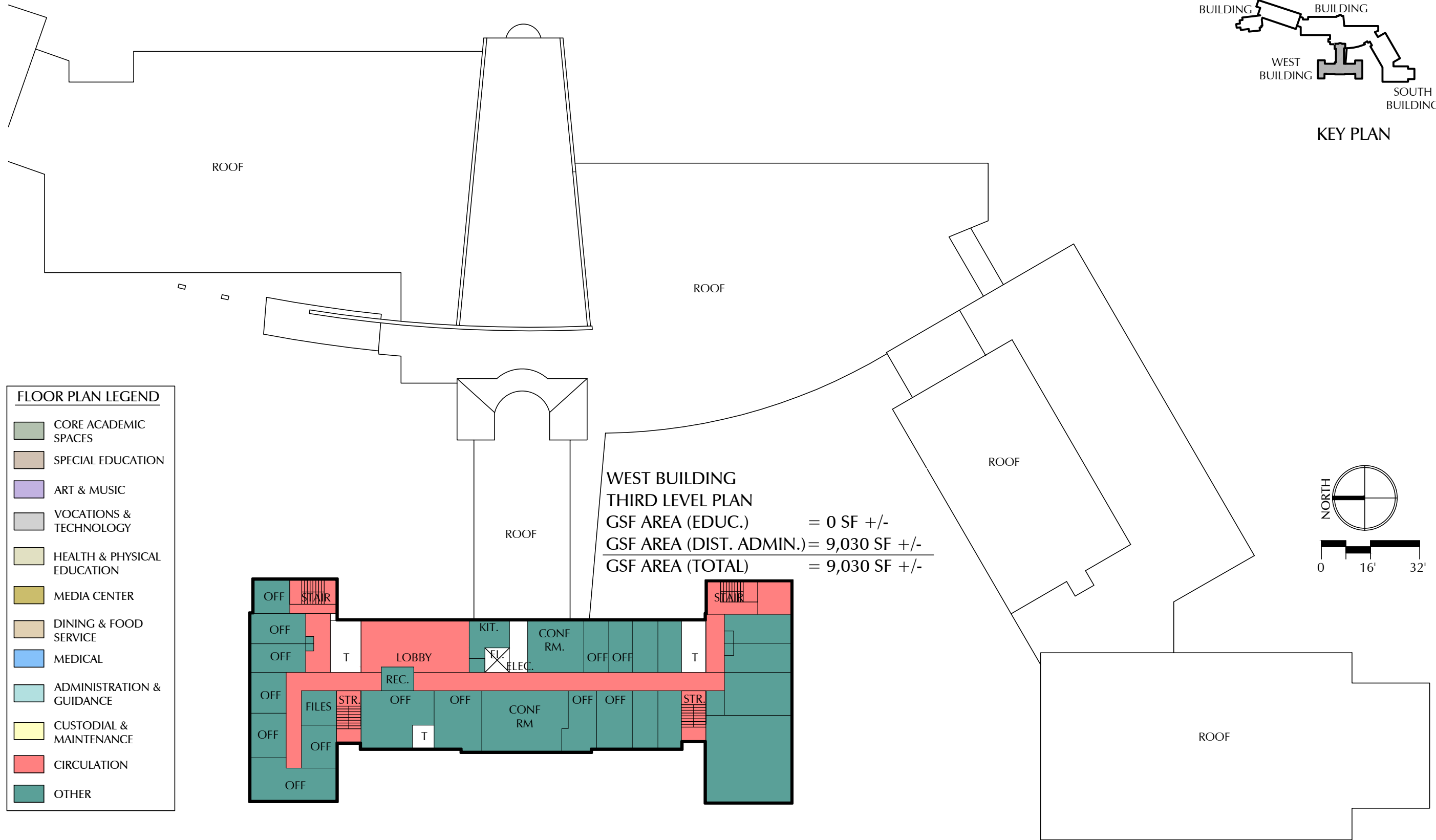
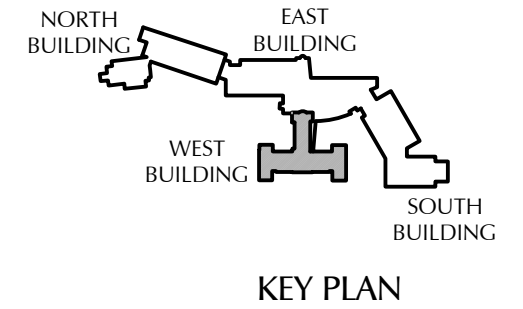
KEY PLAN



FLOOR PLAN LEGEND

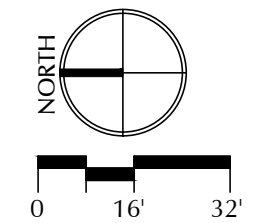
[Green Box]	CORE ACADEMIC SPACES
[Brown Box]	SPECIAL EDUCATION
[Purple Box]	ART & MUSIC
[Grey Box]	VOCATIONS & TECHNOLOGY
[Light Green Box]	HEALTH & PHYSICAL EDUCATION
[Olive Box]	MEDIA CENTER
[Tan Box]	DINING & FOOD SERVICE
[Blue Box]	MEDICAL
[Light Blue Box]	ADMINISTRATION & GUIDANCE
[Yellow Box]	CUSTODIAL & MAINTENANCE
[Red Box]	CIRCULATION
[Dark Green Box]	OTHER

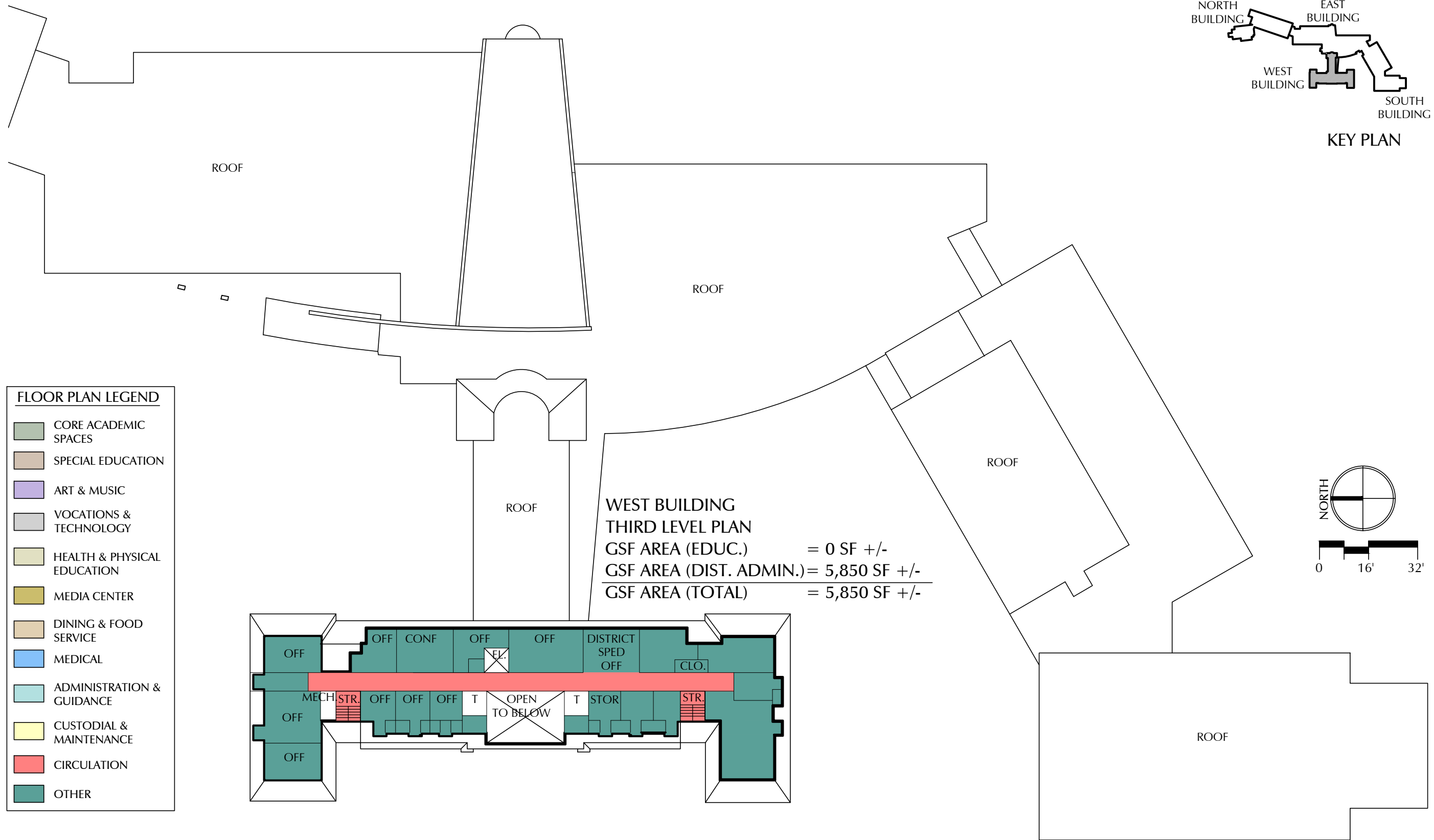
WEST BUILDING
SECOND LEVEL PLAN
GSF AREA = 9,033 SF +/-



FLOOR PLAN LEGEND

	CORE ACADEMIC SPACES
	SPECIAL EDUCATION
	ART & MUSIC
	VOCATIONS & TECHNOLOGY
	HEALTH & PHYSICAL EDUCATION
	MEDIA CENTER
	DINING & FOOD SERVICE
	MEDICAL
	ADMINISTRATION & GUIDANCE
	CUSTODIAL & MAINTENANCE
	CIRCULATION
	OTHER





3. Reingold Elementary School

Name: Reingold Elementary School	Address: 70 Reingold Avenue
Principal: Martha Clark	Tel: 978-345-3289
Date(s) of Construction: 1960; modular classroom added later	
Enrollment (11/30/2015): 640	Grades: K through Grade 4
Assessed Valuation:	Land: \$891,600
	Extra Features: \$19,500
	Buildings: \$6,599,600
	Total: \$7,510,700
Zoning District: RA-2	Historical: NA
Site Area: 20.00 acres	Parking: 74+- spaces
Building Area: 81,700 GSF	



SITE: School buses enter the site from Reingold Avenue and utilize the front (east) of the building for student drop-off and pickup. Parents picking up or dropping off students enter the same way but queue around the large paved playground to the north of the building. Despite the entrance canopy at the front of the building, the main entry is actually at the rear (west) lower level cul-de-sac; however the driveway on that side is too narrow for two cars to pass simultaneously. School staff/faculty park in the small lot near the upper level entry; LPA was told that 10-15 additional spaces are needed. Currently there is access to only about 70-75% of the building perimeter. A vehicular connection to Depot Street (to the west) was studied but rejected due to topography and regulatory issues. There is an existing Little League baseball field, along with a large wooded area, to the north of the building.

RATING: FAIR



EXTERIOR ENVELOPE:

West Building: The roofing is relatively recent (2010) single-ply membrane roofing system. Windows, storefront and exterior entries were replaced in or about 2012 with new aluminum projected windows/storefronts/entries with insulating glass. Exterior walls, except for modular construction, are brick masonry with exposed aggregate concrete panels and aluminum louvers at windows. The masonry appears generally to be in good condition.

RATING: GOOD



INTERIOR FINISHES/EQUIPMENT:

Classrooms and Corridors typically have 12" x 12" VCT flooring with resilient base; painted CMU walls; and 2' x 2' ACT ceilings. Toilet rooms have 2" x 2" mosaic tile floor, base and walls; 2' x 2' ACT ceilings; and painted steel toilet partitions. Stairs have resilient rubber treads and risers; painted steel stringers and balusters; and aluminum handrails.

The Media Center has carpet flooring that is in poor condition due to moisture infiltration. There are no Corridor lockers; Classrooms have built-in closets with wood doors.

RATING: FAIR

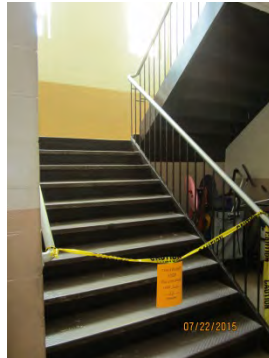


ACCESSIBILITY:

Presently the two levels are not accessible except via a stair lift installed at Stair #3 that does not meet current MA-AAB requirements; there is no elevator. It is probable that even a relatively small scope of work will trigger the requirement for

full compliance with 521 CMR accessibility regulations. Stairways (including tread/risers, guards and handrails), door maneuvering clearances and finish hardware do not fully comply with current regulations.

RATING: POOR



SECURITY AND ACCESS CONTROL:

The existing upper level entry is remote from other Administrative offices and is therefore difficult to monitor. A workstation has been placed there but is typically not staffed. There are no existing video surveillance or access control systems. Status of District masterkey system is unknown.

RATING: POOR

BUILDING SYSTEMS: Refer to separate SEC and ART reports. Boilers were replaced in or about 2011. LPA was told that roof drain risers frequently leak at cleanouts; it is believed that cleanout covers may have been cross-threaded at some point.

RATING: FAIR

CAPACITY FOR EXPANSION: The size of the property is adequate for development of a building addition to the right side of the existing building; however it would negatively impact the present play area and LL ball field and require developing additional play areas.

RATING: FAIR





November 30, 2015

Mr. Eric Moore, AIA
Lamoureux • Pagano Assoc., Arch.
108 Grove Street, Suite 300
Worcester, MA 01605

Re: Mechanical Systems Survey and Recommendations at Memorial Middle School in
Fitchburg, MA

Dear Mr. Moore:

The following is a summary report outlining our preliminary observations and comments regarding the status of the existing HVAC, plumbing and fire suppression systems at the Reingold Elementary School in Fitchburg, MA. In addition, we have made preliminary general recommendations for further consideration as part of a general renovation project.

EXISTING CONDITIONS INSPECTION & RECCOMMENDATIONS

Several weeks ago we performed a brief site inspection of the existing building. Our visual observations along with information provided by facility personnel, when applicable regarding the current building systems operating status were used extensively in assembling this report.

Condition of existing system segments has been classified in three (3) ways as follows:

Rating - Good: System segment appears to be in good operational condition and complies with most current codes and standards and well suited for present and future use.

Rating - Fair: System segment appears to be in fair operational condition with some aspects which may not comply with current codes and/or standards and may not be well suited for present and future use.

Rating - Poor: System segment appears to be in poor operational condition, may not comply with many current codes and standards and is not suited for present and future use. In general these systems have exceeded their useful expected service life.

FIRE PROTECTION Rating = Fair

Existing Conditions and Deficiencies:

The fire suppression system serving the building is a wet pipe type system which provides essentially complete coverage throughout the building with few exceptions as noted herein.

There is a 6" main sprinkler water service which enters the building in the boiler room. The 6" reduces to a 4" and runs through an unsupervised OS&Y valve with chain lock and an alarm valve before feeding the limited building sprinklers.

A fire department Siamese connection is provided on the exterior wall. In addition, a water motor gong is provided in this location to warn of a waterflow condition.

There are no fire standpipes in the building and none are required due to the low 2-story building height.

As indicated previously, the building is for all practical purposes, completely protected by a fire suppression system. The only exceptions and other miscellaneous deficiencies noted during our site inspection were as follows:

1. There is no double check valve backflow preventer on the incoming service. Backflow prevention is required by current code to prevent stagnant water from entering the municipal water supply.
2. Verification of proper sprinkler protection of combustibles in concealed spaces must be verified.
3. Walk-in cooler and freezer have no fire suppression. Current code would require suppression in these areas.
4. No fire suppression in range hood which is required due to the 2-burn range.
5. No fire suppression at exterior canopy

Recommendations:

Remediate the deficiencies noted above.

PLUMBING

Fixtures: Rating = Poor

The existing buildings plumbing systems appear adequate in quantity for the current occupancy use however most were of original vintage. As such, most restrooms did not have ADA/MAAB compliant accessible fixtures. However, the main classroom bathroom group for student use did appear to be converted for handicap use with proper height urinal, water closets and lavatories. Protective pipe insulation under the ADA sinks must be provided.

Existing water closets are of the wall hung flush valve type. Urinals are of the wall hung type and lavatories are of the wall hung style with 2 handle lever faucet. Most all fixtures do not comply with current low water use codes and standards.

Many public use lavatory sinks do not have metered (self-closing) faucets as required by code. In addition, many older public lavatory faucets do not have limit stops or tempering valves to insure hot water does not exceed 110°F for scald prevention.

The main kitchen appears to have the minimum configuration and number of fixtures to satisfy current code and Board of Health requirements for a commercial kitchen. The fixtures consist of a 3-bay pot sink with grease trap, a 1-bay prep. sink and one (1) hand sink. However, the 1-bay prep. sink must be indirectly wasted to comply with current code whereas it currently is not. The dishwasher does not appear to discharge to a grease trap which is required by current code.

There are several non-ADA compliant wall mounted electric water cooler drinking fountains located within the building.

Janitors sink inspected was noted to have a soap/chemical dispenser attached to it with no apparent signs of backflow prevention which would be required for such a configuration to prevent contamination of the building water supply.

Most of the fixtures are original vintage not of the water saving type. Apparently maintenance is routinely performed on faucets, toilet fill valves, etc.. as needed. If a renovation requires removal of the fixtures, upgrade of these fixtures to water conserving type shall be required.

Cold Water Service: Rating = Fair

A 6" cold water line enters the building in the mechanical room. The service reduces to a 2" water meter then increase to a 3" prior to feeding the buildings domestic water loads. The current 3" service main appears adequate in size to support the current building loads.

There is no backflow preventer installed on the incoming water service. In facilities such as this where there could be numerous potential sources of cross contamination, a backflow preventer may be required to protect the municipal water supply. Local requirements should be confirmed with the water department and plumbing inspector.

We noted most of the piping in the building appears to be copper. Due to the age of the building there is a high probability that the water service could have lead containing solder in the fittings as well as drinking fountains that may have lead containing components. Although not a large source of lead contamination it should be tested and monitored and if found to be a problem components should be replaced. In general, there were no outward signs of failure during the day of our site inspection.

Domestic Hot Water Service: Rating = Good

The domestic hot water needs of each building are supported by (2) Lochinvar #KBN-286 high efficiency gas-fired condensing water tube boilers coupled to two (2) 119-gallon storage tanks also manufactured by Lochinvar. The boilers and tanks are in good condition with an estimated age of less 5 years. Reuse of this system would be anticipated during any renovation project.

There is a high/low mixing valve station as manufactured by Leonard on the main hot water supply which serves most of the building fixtures. It appears there may be a higher temperature

water line that runs to the kitchen for dishwash use. However this would need to be confirmed. Current code would require differing water temperatures at different types of fixtures. Lavatory sinks and showers must not discharge hot water at a temperature exceeding 110-112°F for safety reasons, whereas service fixtures (janitor's sinks, kitchen sinks, etc..) are required to have hot water temperatures in excess of 120°F for sanitation reasons. The current system appears to supply a single temperature water to the building which, with the absence of lavatory mixing valves should be 110°F +/- however this would not properly support the service sinks. Any upgrade must consider a central dual mixing valve station or local mixing at lavatory sinks. Lavatory sinks and showers with limit stops and/or local mixing for lavatory sinks is the favored approach. Storage tanks should be kept at temperatures of 135° F to 140°F so as to prevent the possibility of bacteria growth within the tanks.

There is one (1) recirculation pump on the domestic hot water system, which is required since there are fixtures located beyond 100 feet of the hot water source. The building code requires hot water to be available within 100 feet of any hot water consuming fixture.

Drainage Systems: Rating = Fair

Most of the sanitary drainage piping is concealed from view, however what we were able to see was primarily of the cast iron hub & spigot or no-hub type. The sanitary sewer lines run below the slab and exit the building to a municipal sewer system.

Roof storm water is drained via roof drains connecting to internal leaders. The lines presumably exit to a municipal storm water system. The building does not appear to have any emergency roof overflow drains. These are required by code as a clogged drain can lead to water build-up on the roof and structural failure due to weight. That is unless the roof is designed to hold the water until a point where its build up would spill over the roof edge, which is not typical. We highly suggest emergency roof drains be added during any renovation project. The emergency drains should be added near the current roof drains and run to discharge to the side of the building. The visible discharge location is required as it gives users and indication of a failed main drain system.

Besides those items noted herein and elsewhere in this report, we noticed no other outward signs of failure in either the sanitary sewer system or the storm drainage system during our site inspection.

Natural Gas Service: Rating = Fair

A natural gas service enters the buildings mechanical room. The exterior service entrance consists of an elevated gas pressure line serving a Roots gas meter and a gas pressure reducer after which the pipe increase size to a 6" prior to entering the building and supporting the building loads. The 6" service feeds the gas loads in the building which include the heating boilers and the domestic hot water boilers. There is also a smaller branch line that comes off the 6" main outside the building and appear to run to the stand-by generator. Kitchen cooking loads are currently all electric.

The 6" gas line should have a thermally activated shut-off valve where it enters the building. This valve would shut the gas supply off to the building in the event there were a fire within the mechanical room. This device is typically required by the gas utility.

Recommendations:

Pending final master plan programming the proposed tiered recommendations are as follows:

1. Provide tempering mixing valves on lavatory sinks as needed to insure occupant safety.
2. Replace water coolers with new ADA compliant type providing additional coolers where needed. High consideration should be given to coolers with bottle fill capabilities.
3. Where restrooms are renovated, replace original vintage water closet fixtures with new ultra low flush (1.28 GPF) water conserving units with automatic battery-powered flush valves.
4. Provide indirect waste for prep. sink in kitchen.
5. Provide grease trap for dishwasher.
6. During renovations, replace original vintage cold water and hot water piping with new type with 0 lead materials.
7. Where restrooms are renovated, Replace original vintage urinals with new ultra low flush (0.125 GPF) water conserving units with automatic battery-powered flush valves.
8. Where restrooms are renovated, replace original vintage lavatories with low flow style with automatic battery-powered faucets with mixing adjustment (tempering valves noted in #1 may not be required if this options is taken pending proper fixture selection).
9. Provide emergency roof drains where required and dictated by structural review.
10. Provide backflow prevention on building water service, Janitor sinks and at other fixtures requiring such.
11. Provide thermal shut-off gas valve on 6" gas service entrance.

HVAC

Boiler Plant: Rating = Good

The heating needs for the building are supported by two (2) Viessman #CT3-89 stainless steel gas-fired condensing boilers installed in 2011. Each boiler has a rated input capacity of 3,361,000 BTUH. In addition, there is an existing HB Smith #640 cast iron sectional boiler with gas-fired Powerflame burner with a rated maximum input capacity of 7,664,000 BTUH. It appears that this boiler may no longer be used due to the new boilers.

Combustion air for the boiler room is supplied from a high/low ducted wall louver arrangement. There are motorized dampers on both ducts in accordance with current fuel-gas code and energy codes.

Piping Distribution System: Rating = Fair

Hot water from the heating plant is distributed to the building via a supply and return distribution system. The system circulates hot water to fin-tube radiation, classroom unit ventilators and heating & ventilating units located throughout the building.

The boiler room has two (2) end-suction floor mounted pumps. The pumps are Taco model #FI series rated for 320 GPM at 60 ft.hd. The pumps have 10 HP motors and are connected to variable speed drives.

The pumps appear to be in good operational order being installed within the last 5 years.

Ventilation & Misc. HVAC: Rating = Poor

Classroom unit ventilators are located throughout the classroom segments of the building. These units are located along exterior walls and each has an outdoor air louver and associate control dampers to allow outdoor air to enter the classroom space through the unit ventilator. During occupied periods, the unit fans run continuous to provide space ventilation and pneumatic valves modulate hot water flow through the units to maintain space temperature.

The units still being operational is a testament to good maintenance. However, they are in fair to poor condition due to the high number of years of service and all have exceeded their expected service life of 20 years as defined by ASHRAE. As such, any substantial renovation should include replacement of these units.

Classroom exhaust in much of the building is supported by local exhausters which are part of the UV system connected to exterior louvers.

The corridors and main office space appears to have limited and will need to be brought up to current ventilation standards during a renovation project. Although some office areas have operable windows which may satisfy the natural ventilation code intent, it is not reasonable to expect one to open their window in the cold of winter or heat of summer so as to obtain the proper amount of fresh air ventilation.

The gyms, auditorium, and cafeteria are all served by ducted heating and ventilation units. All the units appear to have exceeded their useful expected service life as defined by ASHRAE and as such should be replaced during a renovation project.

The kitchen hood over the range and oven equipment does not comply fully with current NFPA 96 and IMC standards. It does not appear to have a grease cup and there is no fire suppression system which is required especially over the range section. Condition of exhaust ductwork is no known however it should be fully welded and the fan on the roof must be verified to insure it complies with UL 762 listing for kitchen hood duty.

There appears to be some type of make-up air system for the kitchen. Access to these systems was not possible during our inspection.

Several spaces such as the main office area have little to no active outdoor air or exhaust systems. The American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Ventilation Standard 62 along with the building code, requires outdoor air levels of between 11 to 20 cfm per person dependent on occupancy classification and space use. Technically, operable windows in certain areas may satisfy the natural ventilation requirements of the Commonwealth of Massachusetts State Building Code. However, although this may be adequate for lightly populated areas, we feel that for spaces such as general offices, proper indoor air quality can only be achieved through positive outdoor air ventilation. Natural ventilation relies on occupants to control their air quality levels manually by opening and closing windows. Since most space pollutants are odorless, we feel it is unrealistic to expect occupants to gauge the contamination level of the indoor air and open a window in the cold of winter to obtain proper air quality.

Most bathrooms have exhaust systems. Many appeared to be connect to centralized exhaust ducts leading to exhaust fans located on the roof.

Controls: Rating = Poor

There is a limited DDC energy management system that controls the boiler plant and pumps as well as some general HVAC system reset and occupied/unoccupied scheduling. Otherwise much of the systems operates via pneumatic controls. Pneumatic controls are limited in their energy saving abilities and as such we highly recommend systems be converted to all be controlled by the centralized energy management control system.

Recommendations:

As most of the unit ventilators and associated air moving HV equipment has exceeded its useful service life these would be prime candidates for replacement during a renovation project. In addition, upgrades to the kitchen hood equipment and ventilation improvements to the areas noted above (i.e. offices and ESL room) should be addressed. A complete building wide energy management system incorporating energy saving routines such as demand ventilation reset, room by room occupancy control, intelligent star/stop, etc... should be implemented.

If you have any questions regarding this report please do not hesitate to call.

Sincerely,
Seaman Engineering Corporation

Kevin R. Seaman P.E., LEED® AP
President



EXISTING ELECTRICAL SYSTEMS REVIEW
REINGOLD ELEMENTARY SCHOOL
FITCHBURG, MA

Date: 10 August 2015

Prepared by: Thomas F. Lutynski, Project Manager

SUMMARY

ART Engineering, Inc. has completed the site survey for the existing Reingold Elementary School in Fitchburg, MA. A Good/Fair/Poor rating system has been developed for the various electrical systems.

The rating system was developed to provide a concise, overall assessment for each system. In general a system rated “Good” is typically compliant with current codes and well suited for present and future space intent. A “Fair” rated system may have equipment in need of replacement or portions not suited for present or future space programming. Systems rated “Poor” do not serve well present or future space programming because of being obsolete or outdated

Most systems included in this site survey have “poor” or “fair” ratings for reasons of age and not satisfying current code standards. The rating system takes into account the conditions of the electrical systems as well as the types of systems, sizing, and applicability for the respective spaces.

The Massachusetts State Building Code 780 CMR requires all buildings, structures, and parts thereof, both existing and new, and all systems and equipment therein which are regulated by the State Building Code to be maintained in a safe, operable, and sanitary condition. All service equipment, means of egress, devices and safeguards which are required by the State Building Code in a building or structure, or which were required by a previous statute in a building or structure, when erected, altered, or repaired, shall be maintained in good working order.

The majority of the electrical systems in Reingold Elementary School are either outdated or obsolete. Whether any of the existing systems have been maintained or tested per the manufacturers’ recommendations or systems standards is unknown.



1. ELECTRICAL SERVICE

The existing, original (1960) main switchboard is a two-section Westinghouse CDP 1200 amp 208Y/120 volt three phase four wire with a bolted pressure switch as the main building disconnect located in an interior lower level electric room. This main switchboard is fed by busway from an adjacent room with exterior access containing three (3) 100 KVA floor mount utility company transformers with both primary and secondary open wiring. This utility room vault is masonry construction, but no high voltage warning or authorized personnel only signs were posted. The transformers had no visible nameplates describing the insulating medium, so PCB presence is unknown.

Rating: Fair

2. NORMAL DISTRIBUTION

Westinghouse branch circuit panelboards are located throughout the building, oftentimes flush mounted in masonry construction allowing for no replacement or retrofit opportunities. These panelboards are original to the building.

Rating: Poor

3. GENERAL PURPOSE POWER

Branch circuit wiring is original to the building comprised mostly of some type of raceway and individual copper conductors with minimal use of equipment grounding conductors. The lack of a dedicated equipment grounding system can create an ineffective grounding system due to rust and poor connections between conduit fittings and outlet boxes.

Rating: Poor

4. EMERGENCY STANDBY POWER

One (1) Onan 60 KW 208Y/120 volt three phase four wire natural gas unit located in a non two-hour fire rated interior room also containing a 400 amp Onan transfer switch and emergency distribution panelboard. The installation appears original to the building. Branch circuits only and not feeders originate from the emergency power panelboard.

Rating: Poor

5. EGRESS AND EXIT LIGHTING

NFPA 101 test data was unavailable to confirm that all emergency lighting fixtures function properly as a composite system. The existing exit sign graphics and coverage appear adequate. The building has an emergency generator set to power certain permanent lighting fixtures and exit signs, but it was impossible to determine what permanent lighting fixtures are connected to the emergency power source to establish egress lighting coverage. Though the existing exit signs are lighted by internal lamps subject to burn out, all exit signs were fully illuminated.

Rating: Poor

6. LIGHTING AND CONTROLS

A combination of surface/recessed fluorescent fixtures comprise the lighting installation. Fluorescent lamps are T8. Some fixtures have been upgraded to fluorescent center “basket” fixtures with T5 lamps, but these locations are minimal. Generally, the existing fixtures are inefficient in terms of both energy consumption and footcandle levels.

Lighting controls are almost universally local, wall mount toggle switches with a few motion sensor classroom installations scattered throughout.

Rating: Poor

7. TELECOMMUNICATIONS AND CABLING INFRASTRUCTURE

As the age of the building attests, cabling infrastructure was installed significantly later than the original installation. There is a switch, at one (1) patch panel, and CAT 5 infrastructure cabling.

The standard installation is one (1) outlet per classroom and one (1) outlet per office. There is no dedicated IT room with most equipment installed in the “open” in a room common to other equipment and activities.

Rating: Poor

8. VOICE COMMUNICATIONS EQUIPMENT

No common area voice communication speakers or system exists. The classroom clock/speaker/handset cluster is the voice communication of choice, and is addressed under its own separate heading.

Rating: Poor



9. FIRE ALARM

The existing, original fire alarm control panel is a conventional Standard Electric Alarm-Matic 200-100 tone six (6)-zone panel located in the main electric room connected to the Fitchburg fire department by a radio master box. A six (6) zone normally off lamp remote annunciator is located at the lower level front entry along with a Knox box. No exterior beacon is present. Neither smoke nor heat detection was visible. Manual pull stations were the original round units some of which had protective covers. Audio/visual devices were a mixture of styles and sparsely installed throughout.

Rating: Poor

10. PUBLIC ADDRESS AND CLOCK SYSTEMS

Classrooms have a Standard Electric master clock/ speaker/ intercom handset grouping. Some clocks have been replaced with non-master system clocks. The working status of these groupings is unknown, though most clocks displayed the incorrect time which could be nothing more than a programming issue.

Rating: Poor

11. AUDIO-VISUAL SYSTEMS

No audio/visual systems exist.

12. VIDEO SURVEILLANCE, ACCESS CONTROL, INTRUSION DETECTION

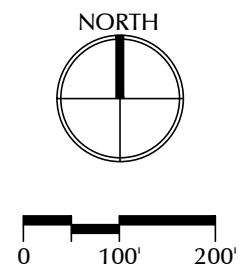
No video surveillance, access control or intrusion detection exists.



SITE PLAN LEGEND

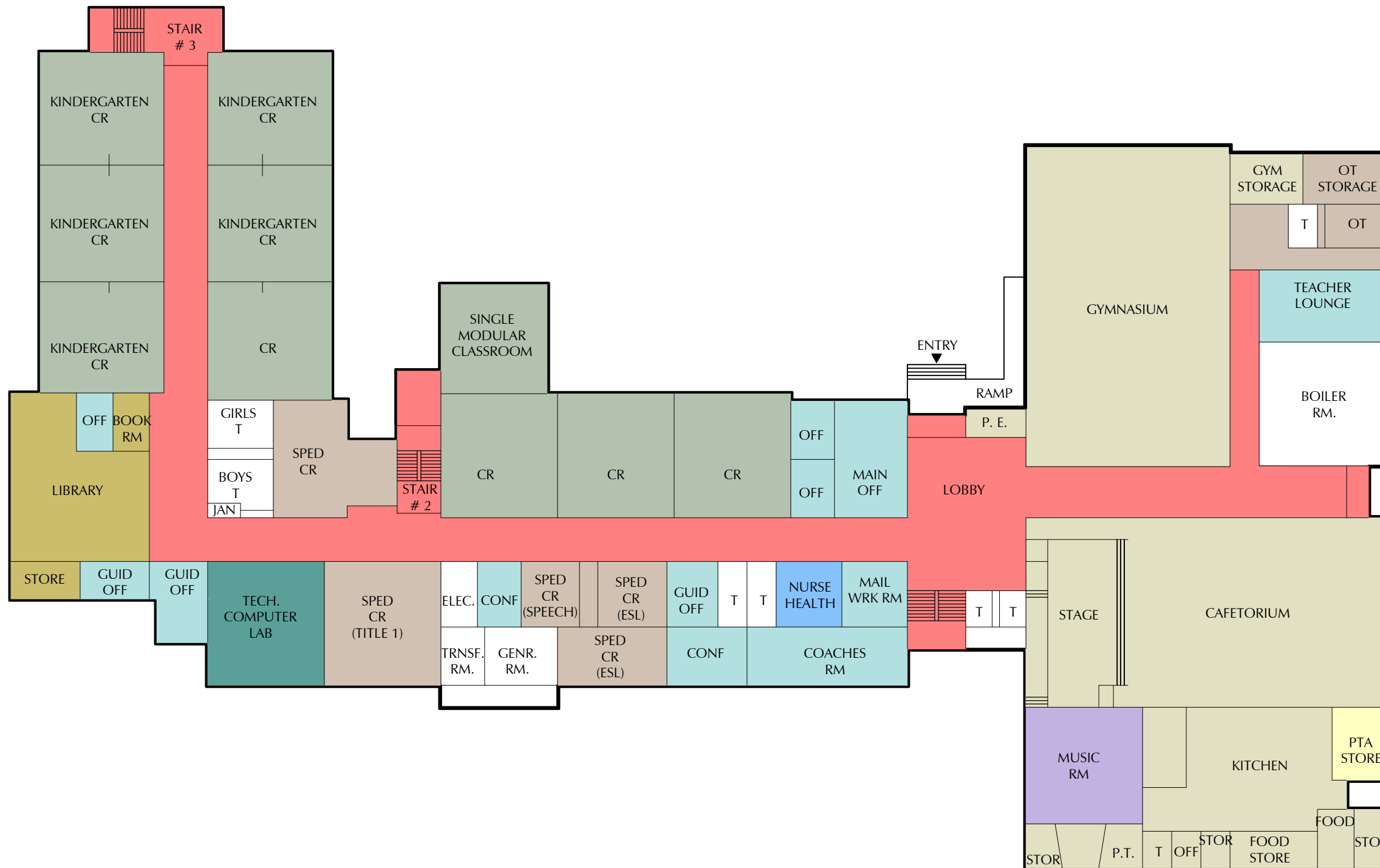
- ASPHALT
- LAWN
- WOODED AREA
- BUILDING
- PROPERTY LINE
- EXISTING TOPOGRAPHY LINES
- SOIL TYPE BOUNDARY LINE
- SOIL DATA SOIL DATA

SITE PLAN
 PARCEL AREA = 12.9 ACRES +/-

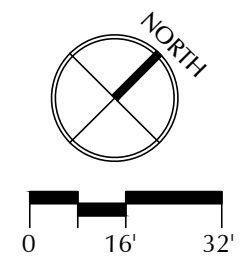














FLOOR PLAN LEGEND

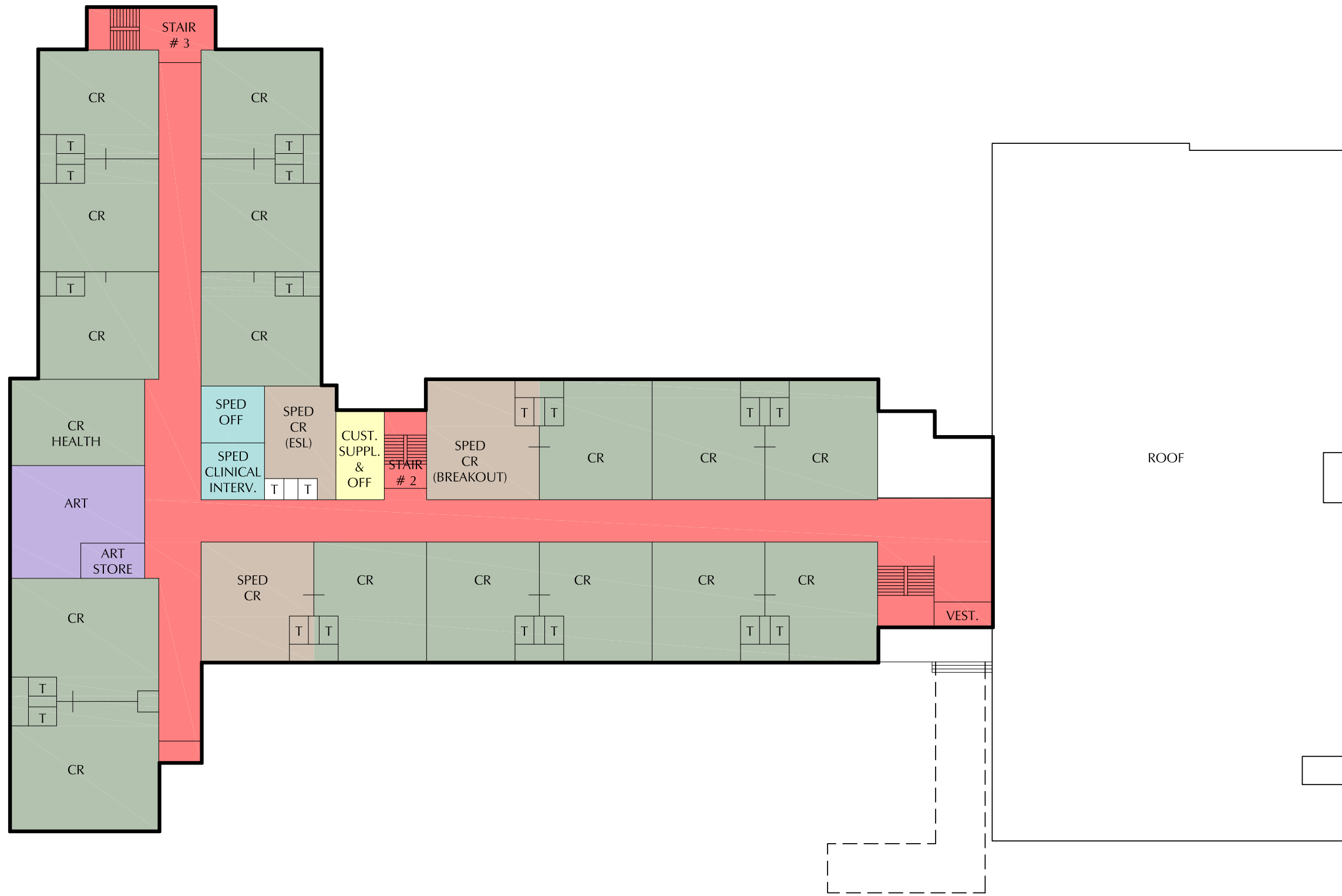
- CORE ACADEMIC SPACES
- SPECIAL EDUCATION
- ART & MUSIC
- VOCATIONS & TECHNOLOGY
- HEALTH & PHYSICAL EDUCATION
- MEDIA CENTER
- DINING & FOOD SERVICE
- MEDICAL
- ADMINISTRATION & GUIDANCE
- CUSTODIAL & MAINTENANCE
- CIRCULATION
- OTHER



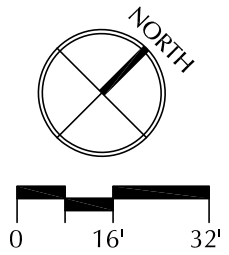
LOWER LEVEL PLAN
GSF AREA = 49,600 SF +/-



FLOOR PLAN LEGEND	
	CORE ACADEMIC SPACES
	SPECIAL EDUCATION
	ART & MUSIC
	VOCATIONS & TECHNOLOGY
	HEALTH & PHYSICAL EDUCATION
	MEDIA CENTER
	DINING & FOOD SERVICE
	MEDICAL
	ADMINISTRATION & GUIDANCE
	CUSTODIAL & MAINTENANCE
	CIRCULATION
	OTHER



UPPER LEVEL PLAN
GSF AREA = 32,100 SF +/-



4. McKay Arts Academy

Name: McKay Arts Academy	Address: 67 Rindge Road
Principal: Lourdes Ramirez	Tel: 978-665-3187
Date(s) of Construction: 1968	
Enrollment (11/30/2015): 661	Grades: Pre-K through Grade 8
Assessed Valuation:	Land: \$184,200
	Extra Features: \$37,800
	Buildings: \$120,000
	Total: \$342,000
Zoning District: RA-2	Historical: NA
Site Area: 12.49 acres	Parking: 458+- spaces
Building Area: 111,480 GSF	



GENERAL: The District currently has an educational agreement with Fitchburg State University (FSU) allowing District use of the facility. Given that FSU owns the building, the assumptions were made that it is reasonably well maintained, it meets applicable building codes, and the District will not participate in funding facility upgrades.



SITE: School buses enter the site from Pear Hill Road and queue up counter-clockwise in the cul-de-sac to drop off and pick up students. Parents enter from Rindge Road and queue in two lines. LPA observed a high volume of pedestrian walkers between McKay and the FSU campus; however we were told that this does not conflict with McKay Arts Academy bus and parent traffic. The parking area in front of the school is shared with FSU and was recently expanded. Staff parking was reported to be adequate, but visitor parking is limited and requires a visitor to obtain a temporary dashboard sticker.

RATING: FAIR

EXTERIOR ENVELOPE:

The roofing is single-ply membrane roofing system. Windows, storefront and exterior entries are aluminum with insulating glass. Exterior walls are brick masonry and appear generally to be in good condition.

RATING: GOOD

INTERIOR FINISHES/EQUIPMENT:

Classrooms and Corridors typically have 12" x 12" VCT flooring with resilient base; painted CMU walls; and 2' x 2' ACT ceilings. Toilet rooms have 2" x 2" mosaic tile floor, base and walls; 2' x 2' ACT ceilings; and painted steel toilet partitions. Stairs have resilient rubber treads and risers; painted steel stringers and balusters; and aluminum handrails.

RATING: GOOD

ACCESSIBILITY:

Presently the three levels are accessible by elevator. LPA was told that Police/Fire Departments do not have access to the elevator.

RATING: GOOD

SECURITY AND ACCESS CONTROL:

Exterior entries are secure; FSU students have cards or fobs that release locks for entry. The main school entry has an audio entry station monitored by administrative staff.

RATING: FAIR

BUILDING SYSTEMS: No investigation was made of existing building systems

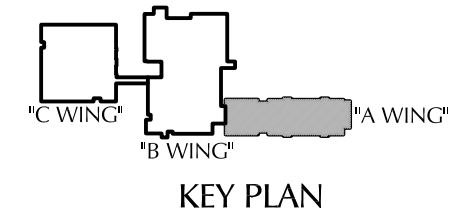
CAPACITY FOR EXPANSION: There is no potential for expansion at McKay Arts Academy; FSU has advised that there is no more existing space available for District use.

RATING: POOR





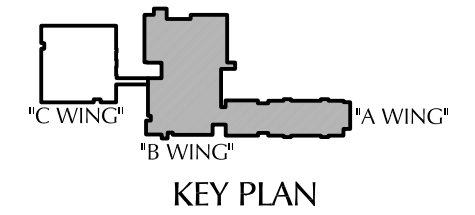
SITE PLAN
 PARCEL AREA = 10.6 ACRES +/-



FLOOR PLAN LEGEND

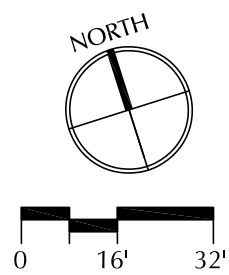
	CORE ACADEMIC SPACES		DINING & FOOD SERVICE
	SPECIAL EDUCATION		MEDICAL
	ART & MUSIC		ADMINISTRATION & GUIDANCE
	VOCATIONS & TECHNOLOGY		CUSTODIAL & MAINTENANCE
	HEALTH & PHYSICAL EDUCATION		CIRCULATION
	MEDIA CENTER		OTHER

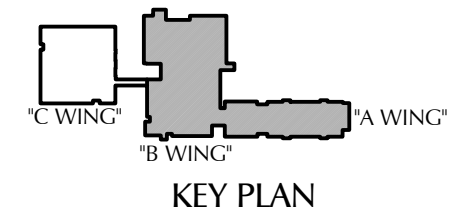




FLOOR PLAN LEGEND

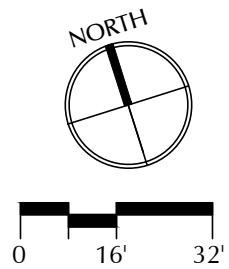
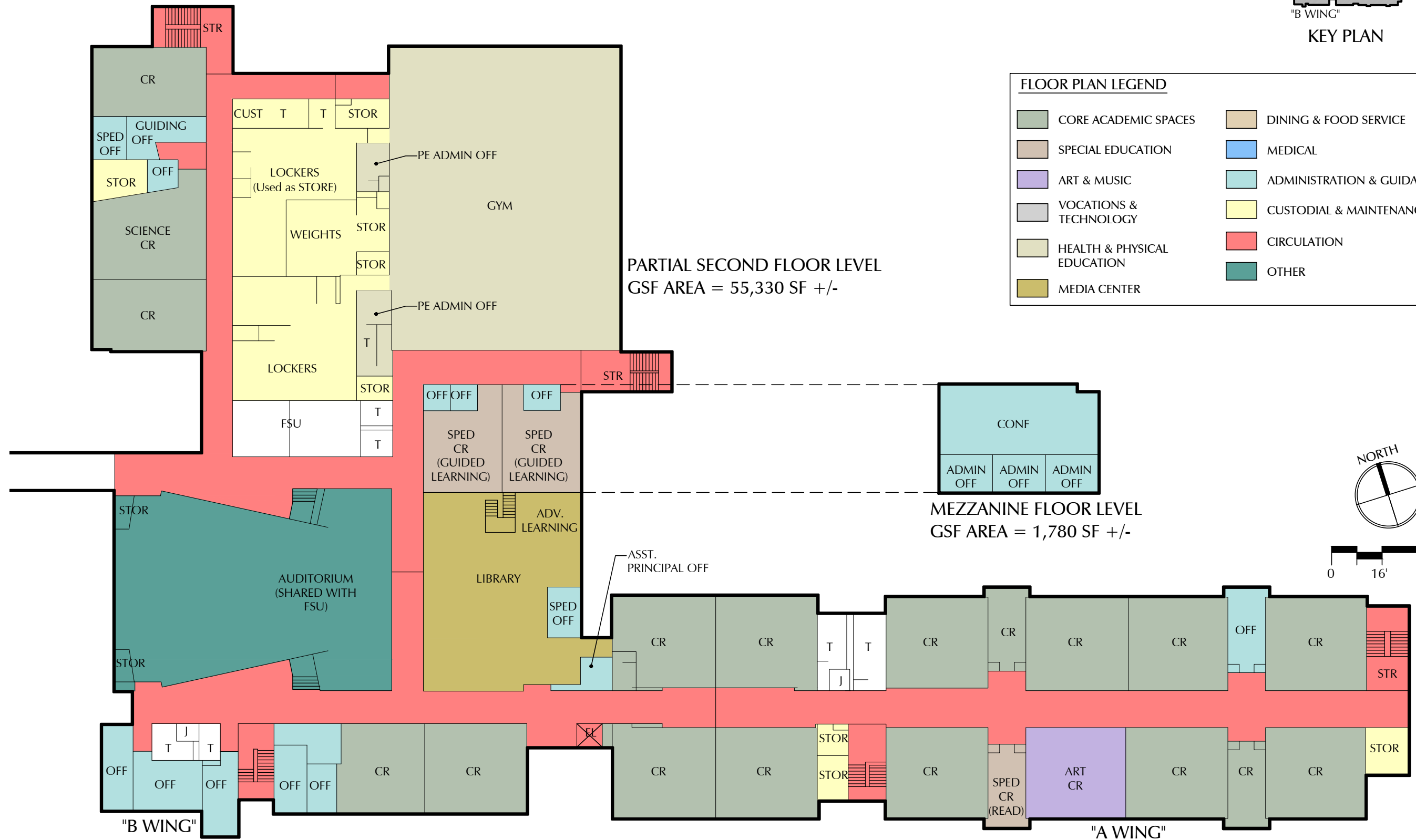
	CORE ACADEMIC SPACES		DINING & FOOD SERVICE
	SPECIAL EDUCATION		MEDICAL
	ART & MUSIC		ADMINISTRATION & GUIDANCE
	VOCATIONS & TECHNOLOGY		CUSTODIAL & MAINTENANCE
	HEALTH & PHYSICAL EDUCATION		CIRCULATION
	MEDIA CENTER		OTHER





FLOOR PLAN LEGEND

	CORE ACADEMIC SPACES		DINING & FOOD SERVICE
	SPECIAL EDUCATION		MEDICAL
	ART & MUSIC		ADMINISTRATION & GUIDANCE
	VOCATIONS & TECHNOLOGY		CUSTODIAL & MAINTENANCE
	HEALTH & PHYSICAL EDUCATION		CIRCULATION
	MEDIA CENTER		OTHER



5. Memorial Middle School

Name: Memorial Middle School	Address: 615 Rollstone Street
Principal: Francis Thomas	Tel: 978-345-3295
Date(s) of Construction: 1967; modular classrooms added later	
Enrollment (11/30/2015): 681	Grades: Grade 5 through Grade 8
Assessed Valuation:	Land: \$609,400
	Extra Features: \$24,000
	Building: \$11,277,600
	Total: \$11,911,000
Zoning District: RA-2	Historical: NA
Site Area: 6.10 acres	Parking: 151+- spaces
Building Area: 124,590 GSF	



SITE: Buses enter from the first curb cut on Causeway Street, turn left, queue in the lower level parking area on the west side of the building, and exit at the second curb cut on Causeway Street. Bus traffic through the lower parking lot significantly limits use of this area for general parking. Parents also enter the site here but turn right, circulate counter-clockwise in the parking lot, and exit the site where they entered. It was reported that some parents drop their students off nearby (i.e. on Lovisa Street) and allow them to walk to school. Both lower level parking areas are also used by staff/faculty, but bus/parent traffic conflicts with that use.



Visitors and staff may also enter the site from Rollstone Street to access parking at the main entry loop and along the east side of the building. Parking capacity was described as inadequate; this is due primarily to loss of lower level parking spaces to bus/parent traffic, a recently added fire lane at the upper level main entry, and the presence of modular classroom space on what was originally parking. An open field area used for LL baseball and JV HS soccer exists to the north of the building, along with a sloping wooded area to the east. There is also a City-owned athletic (junior football) field on the opposite side of Causeway Street.

RATING: POOR

EXTERIOR ENVELOPE: The roofing is relatively recent (2012) single-ply membrane roofing system. Windows, storefront and exterior entries were replaced in or about 2012 with new aluminum projected windows/storefronts/entries with insulating glass. Exterior walls, except for modular construction, are brick masonry. The masonry appears generally to be in good condition. Modular construction was described as being past its' life expectancy.

RATING: GOOD



INTERIOR FINISHES/EQUIPMENT: Classrooms typically have 9" x 9" vinyl asbestos tile (VAT) flooring with glazed CMU base, painted CMU walls, and either 2' x 4' ACT, exposed concrete structure (at lower level), or exposed glue-lam beam and wood deck roof structure (at first floor). Corridors are treated the same as classrooms. Stairs have resilient treads with painted steel risers, stringers and guards; painted CMU walls; and stained wood handrails. Toilet rooms have ceramic mosaic tile

floors, base and walls; toilet compartment partitions are painted steel. Corridor lockers are painted steel with hinged book compartments over single doors. Interior glazing is typically diamond-pattern wired glass.

RATING: POOR



ACCESSIBILITY: The current building is accessible via elevator except for the upper level Girls Locker Room. Wood stair handrails typically lack required extensions at top and bottom of stair runs and are not round or oval in cross-section as required; guards appear to exceed the allowable open space. Toilet room and door maneuvering clearances as well as finish hardware are not in compliance with current requirements.

RATING: POOR



SECURITY AND ACCESS CONTROL: The main administration office is well-located to monitor the front entrance and is equipped with an intercom station which allows remote release of the main entry door during the school day. Video surveillance cameras were observed in Corridors. Status of District masterkey system is unknown.

RATING: FAIR



BUILDING SYSTEMS: Refer to separate SEC and ART reports. LPA was told that the hot water distribution to the main entry vestibule and lobby was disconnected. The building does not currently have a fire suppression system.

RATING: FAIR

CAPACITY FOR EXPANSION: The size of the property is adequate for expansion of the existing building towards the north or west; however it would impact the present ball fields or parking respectively. There may also be an opportunity to expand to the east of the existing building where the modular classrooms are presently located.

RATING: GOOD





November 15, 2015

Mr. Eric Moore, AIA
Lamoureux • Pagano Assoc., Arch.
108 Grove Street, Suite 300
Worcester, MA 01605

Re: Mechanical Systems Survey and Recommendations at Memorial Middle School in
Fitchburg, MA

Dear Mr. Moore:

The following is a summary report outlining our preliminary observations and comments regarding the status of the existing HVAC, plumbing and fire suppression systems at the Memorial Middle School in Fitchburg, MA. In addition, we have made preliminary general recommendations for further consideration as part of a general renovation project.

EXISTING CONDITIONS INSPECTION & RECOMMENDATIONS

Several weeks ago we performed a brief site inspection of the existing building. Our visual observations along with information provided by facility personnel, when applicable regarding the current building systems operating status were used extensively in assembling this report.

Condition of existing system segments has been classified in three (3) ways as follows:

Rating - Good: System segment appears to be in good operational condition and complies with most current codes and standards and well suited for present and future use.

Rating - Fair: System segment appears to be in fair operational condition with some aspects which may not comply with current codes and/or standards and may not be well suited for present and future use.

Rating - Poor: System segment appears to be in poor operational condition, may not comply with many current codes and standards and is not suited for present and future use. In general these systems have exceeded their useful expected service life.

FIRE PROTECTION Rating = Poor

Existing Conditions and Deficiencies:

Although there is a fire suppression water service entrance it appears to be very limited in coverage for the building. Most of the building is unprotected by sprinklers with coverage

only noted in certain utilitarian areas such as the lower level mechanical room and the main kitchen. The fire suppression system serving the building is a wet pipe type system.

There is a 6" main sprinkler water service which enters the building in the lower level boiler room. The 6" runs through an unsupervised OS&Y valve with chain and lock and an alarm valve before feeding the limited building sprinklers.

A fire department Siamese connection is provided on the exterior wall near the water service entrance location. In addition, a water motor gong is provided in this location to warn of a waterflow condition. The Siamese connection access is higher than code limited dimension and its access appears to be partially obstructed by the natural gas meter service entrance.

There are no fire standpipes in the building and none are required due to the low 2-story building height. If the 1st floor stage is truly a stage by definition there must be fire hoses located on each side of the stage area however if its size is less than 1,000 SF it may be defined as an elevated platform thereby not requiring standpipes.

A more thorough inspection would be required to verify which areas are protected and which are not and to quantify the limit of combustibles concealed spaces. The main deficiencies noted during our site inspection were as follows:

1. Major portions of the building are not protected by a sprinkler system.
2. There is no double check valve backflow preventer on the incoming service. Backflow prevention is required by current code to prevent stagnant water from entering the municipal water supply.
3. Walk-in cooler and freezer have no fire suppression. Current code would require suppression in these areas.
4. Limited fire suppression in commercial hood. Although the hood has a chemical suppression system, the 2-burner range is not protected as required by code.
5. The fire department Siamese connection has limited access.

Recommendations:

During any substantial renovation, complete building wide sprinkler protection must be provided. In addition, the deficiencies noted above must be addressed.

PLUMBING

Fixtures: Rating = Poor

The existing buildings plumbing systems appear adequate in quantity for the current occupancy use however most were of original vintage. As such, most restrooms did not ADA/MAAB compliant accessible fixtures.

Existing water closets are a mix of floor mount or wall hung flush valve type. Urinals are of

the wall hung type and lavatories are of the wall hung and counter style with either 2 handle or single lever handle faucet. Most all fixtures do not comply with current low water use codes and standards.

Many public use lavatory sinks do not have metered (self-closing) faucets as required by code. In addition, many older public lavatory faucets do not have limit stops or tempering valves to insure hot water does not exceed 110°F for scald prevention.

The main kitchen appears to have the minimum configuration and number of fixtures to satisfy current code and Board of Health requirements for a commercial kitchen. The fixtures consist of a 3-bay pot sink with grease trap, a 2-bay prep. sink and two (2) hand sinks. However, the 2-bay prep. sink must be indirectly wasted to comply with current code whereas it currently is not.

There are several non-ADA compliant wall mounted electric water cooler drinking fountains located within the building.

Janitors sinks were not inspected during our walk-thru however current code would require at least one service sink on each floor.

Most of the fixtures are original vintage not of the water saving type. Apparently maintenance is routinely performed on faucets, toilet fill valves, etc.. as needed. If a renovation requires removal of the fixtures, upgrade of these fixtures to water conserving type shall be required.

Cold Water Service: Rating = Fair

A 4" cold water line enters the building in a lower level mechanical room adjacent to the sprinkler service. The service reduces to a 2" water meter prior to feeding the buildings domestic water loads. The current 4" service main appears adequate in size to support the current building load however the 2" service segment appears small for the number of fixtures within the building.

There is no backflow preventer installed on the incoming water service. In facilities such as this where there could be numerous potential sources of cross contamination, a backflow preventer may be required to protect the municipal water supply. Local requirements should be confirmed with the water department and plumbing inspector.

We noted most of the piping in the building appears to be copper. Due to the age of the building there is a high probability that the water service could have lead containing solder in the fittings as well as drinking fountains that may have lead containing components. Although not a large source of lead contamination it should be tested and monitored and if found to be a problem components should be replaced. In general, there were no outward signs of failure during the day of our site inspection.

Domestic Hot Water Service: Rating = Good

The domestic hot water needs of each building are supported by (2) Lochinvar high efficiency gas-fired condensing water tube boilers coupled to two (2) 119-gallon storage tanks also manufactured by Lochinvar. The boilers and tanks are in good condition with an estimated age of less 5 years. Reuse of this system would be anticipated during any renovation project.

There is a high/low mixing valve station as manufactured by Leonard on the main hot water supply which serves most of the building fixtures. It appears there may be a higher temperature water line that runs to the kitchen for dishwash use. However this would need to be confirmed. Current code would require differing water temperatures at different types of fixtures. Lavatory sinks and showers must not discharge hot water at a temperature exceeding 110-112°F for safety reasons, whereas service fixtures (janitor's sinks, kitchen sinks, etc..) are required to have hot water temperatures in excess of 120°F for sanitation reasons. The current system appears to supply a single temperature water to the building which, with the absence of lavatory mixing valves should be 110°F +/- however this would not properly support the service sinks. Any upgrade must consider a central dual mixing valve station or local mixing at lavatory sinks. Lavatory sinks and showers with limit stops and/or local mixing for lavatory sinks is the favored approach. Storage tanks should be kept at temperatures of 135° F to 140°F so as to prevent the possibility of bacteria growth within the tanks.

There is one (1) recirculation pump on the domestic hot water system, which is required since there are fixtures located beyond 100 feet of the hot water source. The building code requires hot water to be available within 100 feet of any hot water consuming fixture.

Drainage Systems: Rating = Fair

Most of the sanitary drainage piping is concealed from view, however what we were able to see was primarily of the cast iron hub & spigot or no-hub type. The sanitary sewer lines run below the slab and exit the building to a municipal sewer system.

Roof storm water is drained via roof drains connecting to internal leaders. The lines presumably exit to a municipal storm water system. The building does not appear to have any emergency roof overflow drains. These are required by code as a clogged drain can lead to water build-up on the roof and structural failure due to weight. That is unless the roof is designed to hold the water until a point where its build up would spill over the roof edge, which is not typical. We highly suggest emergency roof drains be added during any renovation project. The emergency drains should be added near the current roof drains and run to discharge to the side of the building. The visible discharge location is required as it gives users and indication of a failed main drain system.

Standing water was noticed in the lower level mechanical room is a sign of some potential subsurface drainage issues that should be addressed as part of a renovation project. A duplex ejector pump was noted in the lower level mechanical room. Although its service is not clear it is expected that it supports boiler room floor drain(s) and pumps to sanitary sewer however, it may very well handle ground water and discharge to storm drainage. Further review of this

system should take place as part of a more comprehensive renovation project.

Besides those items noted herein and elsewhere in this report, we noticed no other outward signs of failure in either the sanitary sewer system or the storm drainage system during our site inspection.

Natural Gas Service: Rating = Fair

A natural gas service enters the buildings lower level mechanical room. The exterior service entrance consists of an elevated gas pressure line serving a Roots gas meter and a gas pressure reducer after which the pipe increase size to a 6" prior to entering the building and supporting the building loads. The service feeds the gas loads in the building which include the heating boilers and the domestic hot water boilers. Kitchen cooking loads are currently all electric.

The 6" gas line should have a thermally activated shut-off valve where it enters the building. This valve would shut the gas supply off to the building in the event there were a fire within the mechanical room. This device is typically required by the gas utility.

Recommendations:

Pending final master plan programming the proposed tiered recommendations are as follows:

1. Provide tempering mixing valves on lavatory sinks as needed to insure occupant safety.
2. Replace water coolers with new ADA compliant type providing additional coolers where needed. High consideration should be given to coolers with bottle fill capabilities.
3. Where restrooms are renovated, replace original vintage water closet fixtures with new ultra low flush (1.28 GPF) water conserving units with automatic battery-powered flush valves.
4. Provide indirect waste for prep. sink in kitchen.
5. During renovations, replace original vintage cold water and hot water piping with new type with 0 lead materials.
6. Where restrooms are renovated, Replace original vintage urinals with new ultra low flush (0.125 GPF) water conserving units with automatic battery-powered flush valves.
7. Where restrooms are renovated, replace original vintage lavatories with low flow style with automatic battery-powered faucets with mixing adjustment (tempering valves noted in #1 may not be required if this options is taken pending proper fixture selection).
8. Provide emergency roof drains where required and dictated by structural review.
9. Provide backflow prevention on building water service, Janitor's sinks and at other fixtures requiring such.
10. Provide thermal shut-off gas valve on 6" gas service entrance.

HVAC

Boiler Plant: Rating = Good

The heating needs for the building are supported by three (3) Viessman #CT3-89 stainless steel gas-fired condensing boilers installed in 2011. Each boiler has a rated input capacity of 3,361,000 BTUH.

Combustion air for the boiler room is supplied from a high/low ducted wall louver arrangement. There are motorized dampers on both ducts in accordance with current fuel-gas code and energy codes. The only problem we noted with the current configuration is its location to the main sprinkler service which could lead to cold freezing air impacting the water lines. Heat trace located on the sprinkler service would appear to reinforce that this may have been an issue in the past.

Piping Distribution System: Rating = Good/Fair

Hot water from the heating plant is distributed to the building via a supply and return distribution system. The system circulates hot water to fin-tube radiation, classroom unit ventilators and heating & ventilating units located throughout the building. It appears much of the piping system was redone due to previous piping system failures within the last 10 years or so.

The boiler room has two (2) end-suction floor mounted pumps. The pumps are Taco model #FI4009 rated for 520 GPM at 72 ft.hd. The pumps have 20 HP motors and are connected to variable speed drives.

The pumps appear to be in good operational order being installed within the last 5 years.

Ventilation & Misc. HVAC: Rating = Poor

Classroom unit ventilators are located throughout the classroom segments of the building. These units are located along exterior walls and each has an outdoor air louver and associate control dampers to allow outdoor air to enter the classroom space through the unit ventilator. During occupied periods, the unit fans run continuous to provide space ventilation and pneumatic valves modulate hot water flow through the units to maintain space temperature.

The units still being operational is a testament to good maintenance. However, they are in fair to poor condition due to the high number of years of service and all have exceeded their expected service life of 20 years as defined by ASHRAE. As such, any substantial renovation should include replacement of these units.

Classroom exhaust in much of the building is supported by local exhausters which are part of the UV system connected to exterior louvers.

Most all the corridors and office spaces currently have no ventilation as required by code and will need to be brought up to current ventilation standards during a renovation project. Although some office areas have operable windows which may satisfy the natural ventilation code intent, it is not reasonable to expect one to open their window in the cold of winter or heat of summer so as to obtain the proper amount of fresh air ventilation.

The gyms, auditorium, and cafeteria are all served by ducted heating and ventilation units. Several of the units appear to have exceeded their useful expected service life as defined by ASHRAE and as such should be replaced during a renovation project.

The kitchen hood over the range and oven equipment does not comply fully with current NFPA 96 and IMC standards. It does not appear to have a grease cup and the exhaust ductwork does not appear to be fully welded. In addition, the fan on the roof should be checked to verify compliance with UL 762 listing for kitchen hood duty. The hood system should be serious candidate for replacement during a renovation project.

There did not appear to be make-up air for the kitchen exhaust systems other than that which is drawn-in from adjoining areas. Provisions for make-up air must be accommodated during any proposed renovation project.

Several spaces such as the lower level ESL room and the office spaces have no active outdoor air or exhaust systems. The American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Ventilation Standard 62 along with the building code, requires outdoor air levels of between 11 to 20 cfm per person dependent on occupancy classification and space use. Technically, operable windows in certain areas may satisfy the natural ventilation requirements of the Commonwealth of Massachusetts State Building Code. However, although this may be adequate for lightly populated areas, we feel that for spaces such as general offices, proper indoor air quality can only be achieved through positive outdoor air ventilation. Natural ventilation relies on occupants to control their air quality levels manually by opening and closing windows. Since most space pollutants are odorless, we feel it is unrealistic to expect occupants to gauge the contamination level of the indoor air and open a window in the cold of winter to obtain proper air quality.

Most bathrooms have exhaust systems. Many appeared to be connect to centralized exhaust ducts leading to exhaust fans located on the roof.

Controls: Rating = Poor

There is a limited DDC energy management system that controls the boiler plant and pumps as well as some general HVAC system reset and occupied/unoccupied scheduling. Otherwise much of the systems operates via pneumatic controls. Pneumatic controls are limited in their energy saving abilities and as such we highly recommend systems be converted to all be controlled by the centralized energy management control system.

Recommendations:

As most of the unit ventilators and associated air moving HV equipment has exceeded its useful service life these would be prime candidates for replacement during a renovation project. In addition, upgrades to the kitchen hood equipment and ventilation improvements to the areas noted above (i.e. offices and ESL room) should be addressed. A complete building wide energy management system incorporating energy saving routines such as demand ventilation reset, room by room occupancy control, intelligent start/stop, etc... should be implemented.

If you have any questions regarding this report please do not hesitate to call.

Sincerely,
Seaman Engineering Corporation

Kevin R. Seaman P.E., LEED® AP
President



EXISTING ELECTRICAL SYSTEMS REVIEW
MEMORIAL MIDDLE SCHOOL
FITCHBURG, MA

Date: 10 August 2015

Prepared by: Thomas F. Lutynski, Project Manager

SUMMARY

ART Engineering, Inc. has completed the site survey for the existing Memorial Middle School in Fitchburg, MA. A Good/Fair/Poor rating system has been developed for the various electrical systems.

The rating system was developed to provide a concise, overall assessment for each system. In general a system rated "Good" is typically compliant with current codes and well suited for present and future space intent. A "Fair" rated system may have equipment in need of replacement or portions not suited for present or future space programming. Systems rated "Poor" do not serve well present or future space programming because of being obsolete or outdated

Most systems included in this site survey have "poor" or "fair" ratings for reasons of age and not satisfying current code standards. The rating system takes into account the conditions of the electrical systems as well as the types of systems, sizing, and applicability for the respective spaces.

The Massachusetts State Building Code 780 CMR requires all buildings, structures, and parts thereof, both existing and new, and all systems and equipment therein which are regulated by the State Building Code to be maintained in a safe, operable, and sanitary condition. All service equipment, means of egress, devices and safeguards which are required by the State Building Code in a building or structure, or which were required by a previous statute in a building or structure, when erected, altered, or repaired, shall be maintained in good working order.

The majority of the electrical systems in Memorial Middle School are either outdated or obsolete. Whether any of the existing systems have been maintained or tested per the manufacturers' recommendations or systems standards is unknown.



1. ELECTRICAL SERVICE

The existing, original (1960) main switchboard is a three-section Federal Pacific Electric 2000 amp 208Y/120 volt three phase four wire with a bolted pressure switch as the main building disconnect located in the boiler room. This main switchboard is fed from an outdoor pad mount utility company transformer of undetermined size.

Rating: Poor

2. NORMAL DISTRIBUTION

Federal Pacific Electric branch circuit panelboards are located throughout the building, oftentimes flush mounted in masonry construction allowing for no replacement or retrofit opportunities. These panelboards are original to the building.

Rating: Poor

3. GENERAL PURPOSE POWER

Branch circuit wiring is original to the building comprised mostly of some type of raceway and individual copper conductors with minimal use of equipment grounding conductors. The lack of a dedicated equipment grounding system can create an ineffective grounding system due to rust and poor connections between conduit fittings and outlet boxes.

Rating: Poor

4. EMERGENCY STANDBY POWER

One (1) Cummins 208Y/120 volt three phase four wire pad mount diesel unit installed in 2011 located outdoors of an undetermined KW rating. Two (2) Asco transfer switches (200A and 600A) are located in the two-hour fire rated boiler room along with emergency panelboards. Branch circuits only and not feeders originate from the emergency power panelboards.

Rating: Fair

5. EGRESS AND EXIT LIGHTING

NFPA 101 test data was unavailable to confirm that all emergency lighting fixtures function properly as a composite system. The existing exit sign graphics and coverage appear adequate. The building has an emergency generator set to power certain permanent lighting fixtures and exit signs, but it was impossible to determine what permanent lighting fixtures are connected to



the emergency power source to establish egress lighting coverage. Though the existing exit signs are lighted by internal lamps subject to burn out, all exit signs were fully illuminated.

Rating: Poor

6. LIGHTING AND CONTROLS

A combination of surface/recessed fluorescent fixtures comprise the lighting installation. Fluorescent lamps are T8. Some corridor fixtures have been upgraded to fluorescent center “basket” fixtures with T5 lamps, but these locations are minimal. Generally, the existing fixtures are inefficient in terms of both energy consumption and footcandle levels.

Lighting controls are almost universally local, wall mount toggle switches.

Rating: Poor

7. TELECOMMUNICATIONS AND CABLING INFRASTRUCTURE

As the age of the building attests, cabling infrastructure was installed significantly later than the original installation. There is a switch, at one (1) patch panel, and CAT 5 infrastructure cabling.

The standard installation is one (1) outlet per classroom and one (1) outlet per office. There is no dedicated IT room with most equipment installed in the “open” in a room common to other equipment and activities.

Rating: Poor

8. VOICE COMMUNICATIONS EQUIPMENT

Corridors ceiling surface speakers are existing, but their function is questionable.

Rating: Poor

9. FIRE ALARM

The existing, original fire alarm control panel is a conventional Standard Electric Alarm-Matic tone panel located in an interior room next to the boiler room connected to the Fitchburg fire department by a radio master box. A sixteen (16) zone (12 active) normally off lamp remote annunciator is located at the front entry along with a Knox box. No exterior beacon is present. Ceiling corridor heat detectors are existing. Both manual pull stations and audio/visual devices are randomly located throughout the building without any semblance of current code compliance. Audio/visual devices were a mixture of styles.



Rating: Poor

10. PUBLIC ADDRESS AND CLOCK SYSTEMS

Classrooms have a Standard Electric master clock/ speaker/ intercom handset grouping. The working status of these groupings is unknown, though most clocks displayed the correct time.

Rating: Poor

11. AUDIO-VISUAL SYSTEMS

No audio/visual systems exist.

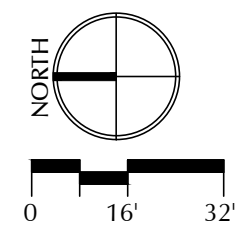
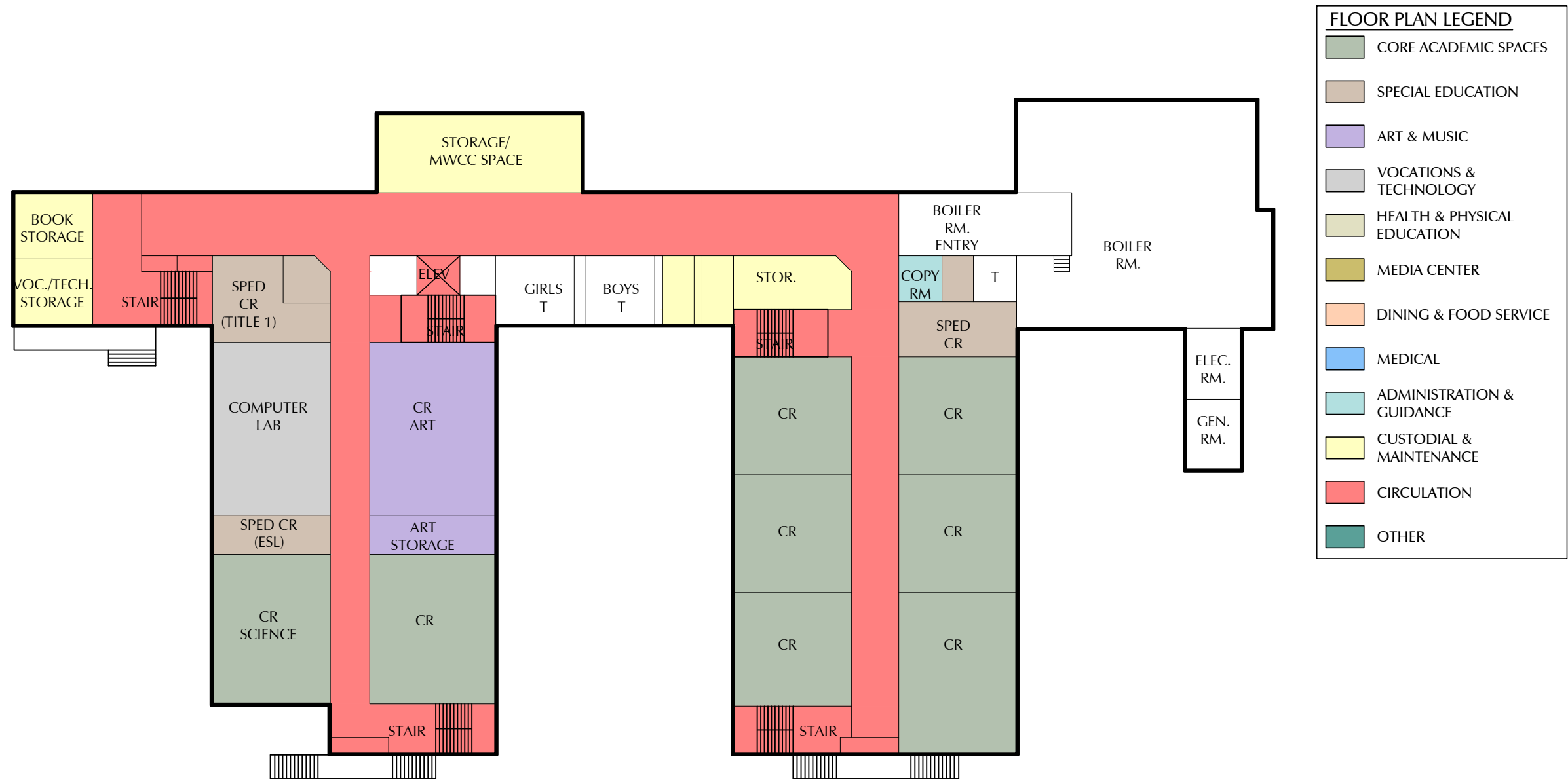
12. VIDEO SURVEILLANCE, ACCESS CONTROL, INTRUSION DETECTION

An outdoor intercom station exists at the front door to communicate with the main office for building access. Numerous corridor ceiling surveillance cameras are existing.

Rating: Fair



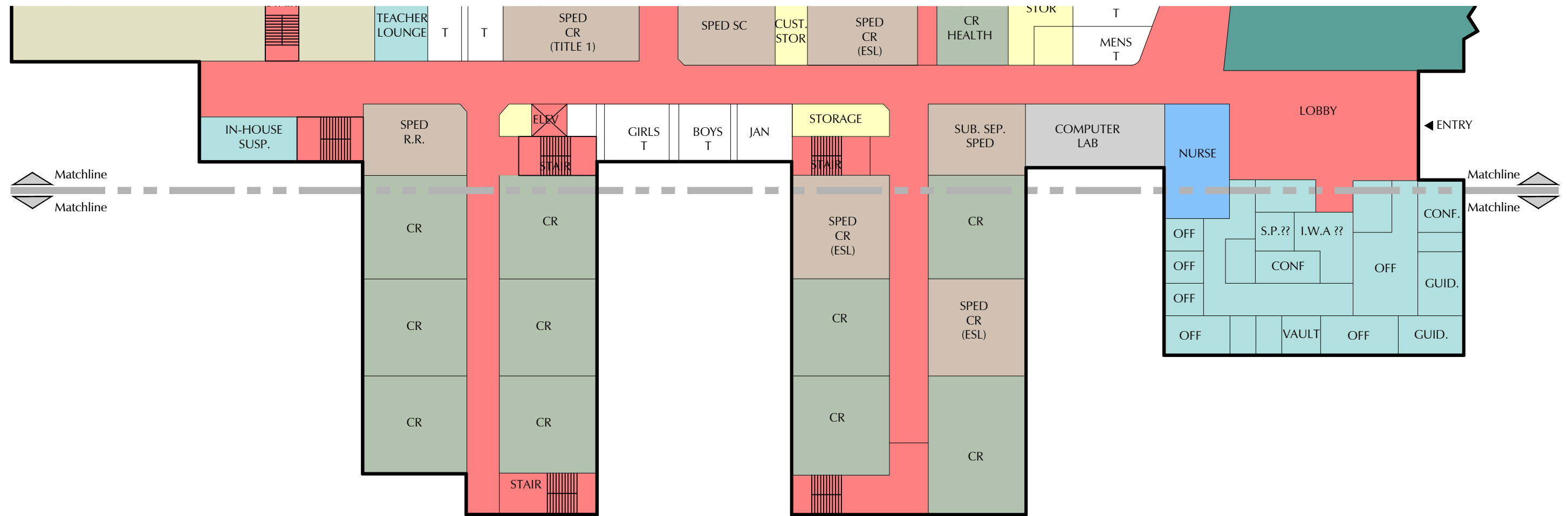
SITE PLAN
PARCEL AREA = 13.9 ACRES +/-



FLOOR PLAN LEGEND	
	CORE ACADEMIC SPACES
	DINING & FOOD SERVICE
	SPECIAL EDUCATION
	MEDICAL
	ART & MUSIC
	ADMINISTRATION & GUIDANCE
	VOCATIONS & TECHNOLOGY
	CUSTODIAL & MAINTENANCE
	HEALTH & PHYSICAL EDUCATION
	CIRCULATION
	MEDIA CENTER
	OTHER



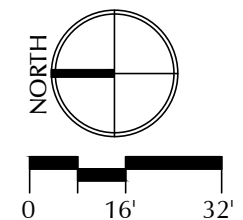
PARTIAL FIRST LEVEL PLAN
GSF AREA = 91,890 SF +/-















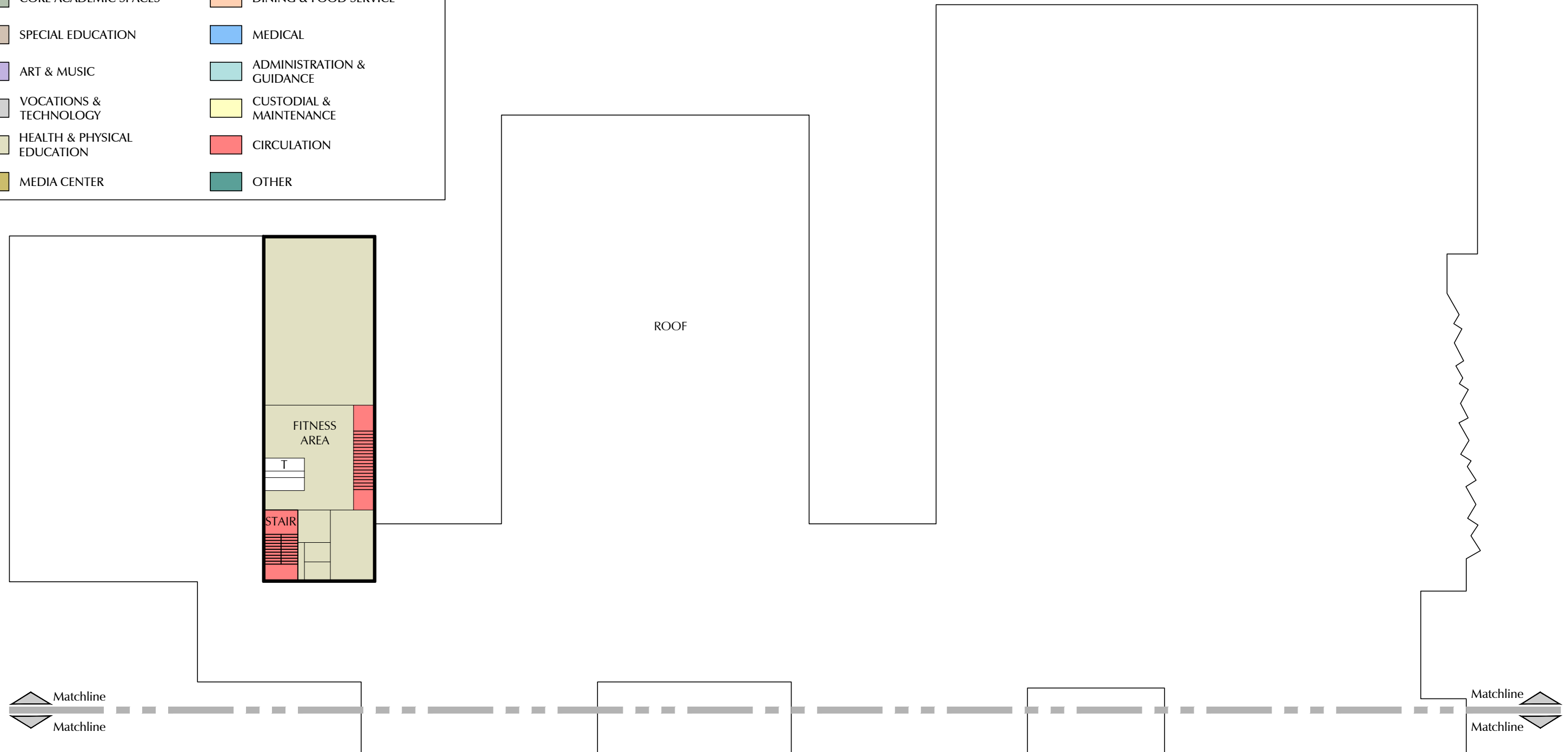
FLOOR PLAN LEGEND

CORE ACADEMIC SPACES	DINING & FOOD SERVICE
SPECIAL EDUCATION	MEDICAL
ART & MUSIC	ADMINISTRATION & GUIDANCE
VOCATIONS & TECHNOLOGY	CUSTODIAL & MAINTENANCE
HEALTH & PHYSICAL EDUCATION	CIRCULATION
MEDIA CENTER	OTHER

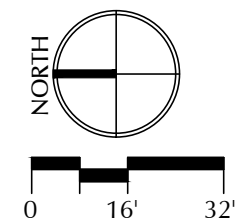
PARTIAL FIRST LEVEL PLAN
GSF AREA = 91,890 SF +/-



FLOOR PLAN LEGEND	
	CORE ACADEMIC SPACES
	DINING & FOOD SERVICE
	SPECIAL EDUCATION
	MEDICAL
	ART & MUSIC
	ADMINISTRATION & GUIDANCE
	VOCATIONS & TECHNOLOGY
	CUSTODIAL & MAINTENANCE
	HEALTH & PHYSICAL EDUCATION
	CIRCULATION
	MEDIA CENTER
	OTHER



PARTIAL SECOND LEVEL PLAN
GSF AREA = 3,600 SF +/-



6. Longsjo Middle School

Name: Longsjo Middle School	Address: 98 Academy Street
Principal: Craig Chalifoux	Tel: 978-343-2146
Date(s) of Construction: 1936; Library addition constructed in or about 1994	
Enrollment (11/30/2015): 525	Grades: Grade 5 through Grade 8
Assessed Valuation:	Land: \$119,700
	Extra Features: \$0
	Building: \$15,000,100
	Total: \$15,119,800
Zoning District: RA-2	Historical: MACRIS List FIT.161 - Fitchburg HS
Site Area: 1.58 acres	Parking: 30+- spaces
Building Area: 194,495 GSF	



SITE: The building footprint of Longsjo MS occupies nearly the entire site. Buses queue along Academy Street where students enter at mid-level between the basement and first floors. Parents dropping off students queue along Pleasant Street; those students enter a half-level above the second floor. Parent pick-up is located at an empty paved lot at the corner of Pleasant and High Streets; the former Hastings Building site. This lot is also used for outdoor recess and is over 300 feet from the Library entrance. Visitors to the building must enter through the Media Center; the only parking available near this entrance is on-street. The surrounding streets are relatively narrow, steep, and difficult for buses to negotiate especially during winter months.



Small on-site parking areas are located at the west and east ends of the building but are inadequate; most faculty/staff park on nearby streets. The former BF Brown School, now vacant and owned by the City, is located nearby at Academy and Elm Streets. The former HS Annex next door to Longsjø MS is also vacant and was recently sold to a private developer; however little has been done except for the installation of a perimeter security fence.

RATING: POOR

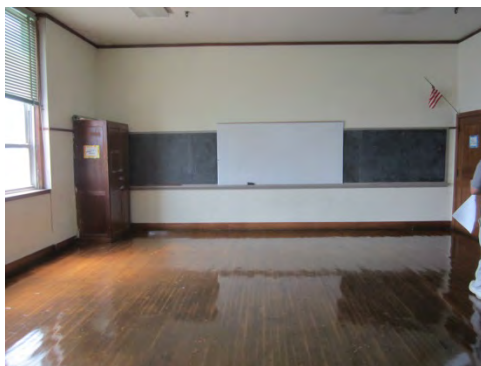
EXTERIOR ENVELOPE: The main building roofing is original slate with built-in gutters. Many slates are missing and the gutter linings have failed; it was reported that many leaks have developed and are causing wood framing to rot. We observed extensive rot at the wood fascias over the Auditorium. Gym and Auditorium roofing have low-slope single-ply membrane systems; their age is unknown however, given the reported number of leaks in the building, it can be assumed they are in need of replacement.



The Media Center addition roof is also a single-ply membrane system and, being 20+ years old, is approaching the end of its useable life expectancy. The original wood windows were replaced with metal or vinyl single-hung operable windows which reportedly have leaked.

Windows and storefront at the Media Center addition are aluminum with insulating glass. There is a large crack in the exterior masonry at the west end of the original building. We were also told that the Auditorium balcony experienced some structural settlement issues and has since been closed to the public; all fixed balcony seats were in the process of being removed.

RATING: POOR



INTERIOR FINISHES/EQUIPMENT: Classrooms typically have wood flooring/base and painted plaster walls/ceilings. Corridors have either terrazzo or 12" x 12" resilient tile flooring; glazed CMU or resilient base; glazed CMU or painted plaster walls; and 2' x 2' ACT ceilings. Stairs have steel tread/risers, stringers and guards; wood or painted steel handrails; glazed CMU and painted plaster walls. Toilet rooms have ceramic mosaic tile floors, base and wainscot, with painted plaster walls/ceilings above; toilet

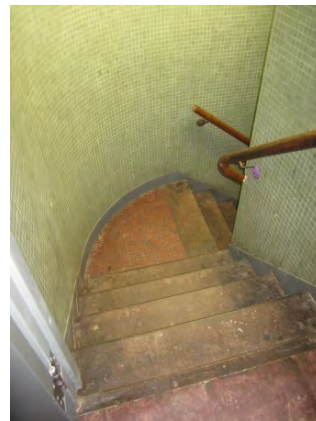
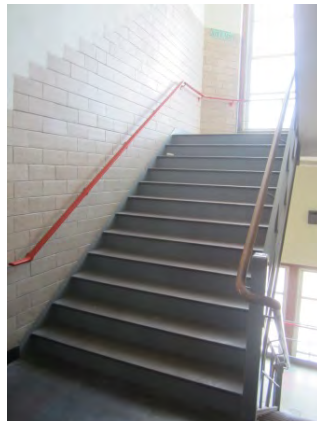
compartment partitions are overhead-braced painted steel. Corridor lockers are painted steel single tier type. Interior glazing is typically diamond-pattern wired glass.

RATING: FAIR



ACCESSIBILITY: The current building floor levels are accessible via elevator; however only the Media Center building entry is accessible. It is unknown whether the existing elevator meets current size requirements. The other main building entries are inaccessible due to their being at half-levels. Wood stair handrails typically lack required extensions at top and bottom of stair runs; stair guards exceed the allowable open space. Toilet room and door maneuvering clearances as well as finish hardware are not in compliance with current requirements.

RATING: POOR



SECURITY AND ACCESS CONTROL: LPA was told that, although there are existing video surveillance cameras, not all of them are working properly. There is an exterior intercom station at the Pleasant Street entry (to the Media Center), but we did not see any other door access controls in the building. Status of District masterkey system is unknown.

RATING: POOR

BUILDING SYSTEMS: Refer to separate SEC and ART reports.

RATING: POOR



CAPACITY FOR EXPANSION: The size of the property is inadequate for expansion of the existing building whatsoever. In addition, there does not appear to be any area that might serve as swing space for temporary modular classrooms during a renovation project.

RATING: POOR





EXISTING ELECTRICAL SYSTEMS REVIEW
LONGSJO MIDDLE SCHOOL
FITCHBURG, MA

Date: 10 August 2015

Prepared by: Thomas F. Lutynski, Project Manager

SUMMARY

ART Engineering, Inc. has completed the site survey for the existing Longsjo Middle School in Fitchburg, MA. A Good/Fair/Poor rating system has been developed for the various electrical systems.

The rating system was developed to provide a concise, overall assessment for each system. In general a system rated “Good” is typically compliant with current codes and well suited for present and future space intent. A “Fair” rated system may have equipment in need of replacement or portions not suited for present or future space programming. Systems rated “Poor” do not serve well present or future space programming because of being obsolete or outdated

Most systems included in this site survey have “poor” or “fair” ratings for reasons of age and not satisfying current code standards. The rating system takes into account the conditions of the electrical systems as well as the types of systems, sizing, and applicability for the respective spaces.

The Massachusetts State Building Code 780 CMR requires all buildings, structures, and parts thereof, both existing and new, and all systems and equipment therein which are regulated by the State Building Code to be maintained in a safe, operable, and sanitary condition. All service equipment, means of egress, devices and safeguards which are required by the State Building Code in a building or structure, or which were required by a previous statute in a building or structure, when erected, altered, or repaired, shall be maintained in good working order.

The majority of the electrical systems in Longsjo Middle School are either outdated or obsolete. Whether any of the existing systems have been maintained or tested per the manufacturers’ recommendations or systems standards is unknown.



1. ELECTRICAL SERVICE

The existing main switchboard is a three-section General Electric 1600 amp 208Y/120 volt three phase four wire with a high pressure contact switch as the main building disconnect located in an interior lower level electric room. This main switchboard is fed by busway from an adjacent room containing three (3) 167 KVA floor mount utility company transformers with both primary and secondary open wiring. This utility room vault is masonry construction, but no high voltage warning or authorized personnel only signs were posted. The transformers have PCB warning labels describing the insulating medium.

Rating: Fair

2. NORMAL DISTRIBUTION

General Electric Type NLAB branch circuit panelboards are located throughout the building, oftentimes flush mounted in masonry construction allowing for no replacement or retrofit opportunities. These panelboards are original to the building.

Rating: Poor

3. GENERAL PURPOSE POWER

Branch circuit wiring is original to the building comprised mostly of some type of raceway and individual copper conductors with minimal use of equipment grounding conductors. The lack of a dedicated equipment grounding system can create an ineffective grounding system due to rust and poor connections between conduit fittings and outlet boxes.

Rating: Poor

4. EMERGENCY STANDBY POWER

One (1) Onan 70 KW 208Y/120 volt three phase four wire natural gas unit located in a basement mechanical room area. A 400 amp transfer switch and emergency distribution panelboard is located in the main electric room. The installation appears original to the building. Branch circuits only and not feeders originate from the emergency power panelboard.

Rating: Poor

5. EGRESS AND EXIT LIGHTING

NFPA 101 test data was unavailable to confirm that all emergency lighting fixtures function properly as a composite system. The existing exit sign graphics and coverage appear adequate.



The building has an emergency generator set to power certain permanent lighting fixtures and exit signs, but it was impossible to determine what permanent lighting fixtures are connected to the emergency power source to establish egress lighting coverage. Though the existing exit signs are lighted by internal lamps subject to burn out, all exit signs were fully illuminated.

Rating: Poor

6. LIGHTING AND CONTROLS

A combination of surface/recessed flat lense, wraparound, and parabolic fluorescent fixtures comprise the lighting installation. Fluorescent lamps are T8. Generally, the existing fixtures are inefficient in terms of both energy consumption and foot-candle levels. New exterior metal halide wall pack fixtures have been installed recently.

Lighting controls are almost universally local, wall mount toggle switches.

Rating: Poor

7. TELECOMMUNICATIONS AND CABLING INFRASTRUCTURE

As the age of the building attests, cabling infrastructure was installed significantly later than the original installation. The standard installation is one (1) outlet per classroom and one (1) outlet per office. The second floor dedicated IT room was locked and unavailable for viewing.

Rating: Poor

8. VOICE COMMUNICATIONS EQUIPMENT

No common area voice communication speakers or system exists. The classroom clock/speaker/handset cluster is the voice communication of choice, and is addressed under its own separate heading.

Rating: Poor

9. FIRE ALARM

The existing fire alarm control panel is a conventional, tone sixteen (16)-zone panel located at the main entrance connected to the Fitchburg fire department by a radio master box. No exterior Knox box, remote annunciator, exterior beacon, visual devices, or detection devices are existing. Manual pull stations are original with non code compliant locations. Fire alarm bells are wound type and must be rewound after signaling.

Rating: Poor



10. PUBLIC ADDRESS AND CLOCK SYSTEMS

Classrooms have a Standard Electric master clock/ speaker/ Rauland privacy/call intercom switch grouping. The working status of these groupings is unknown, though most clocks displayed the correct time.

Rating: Poor

11. AUDIO-VISUAL SYSTEMS

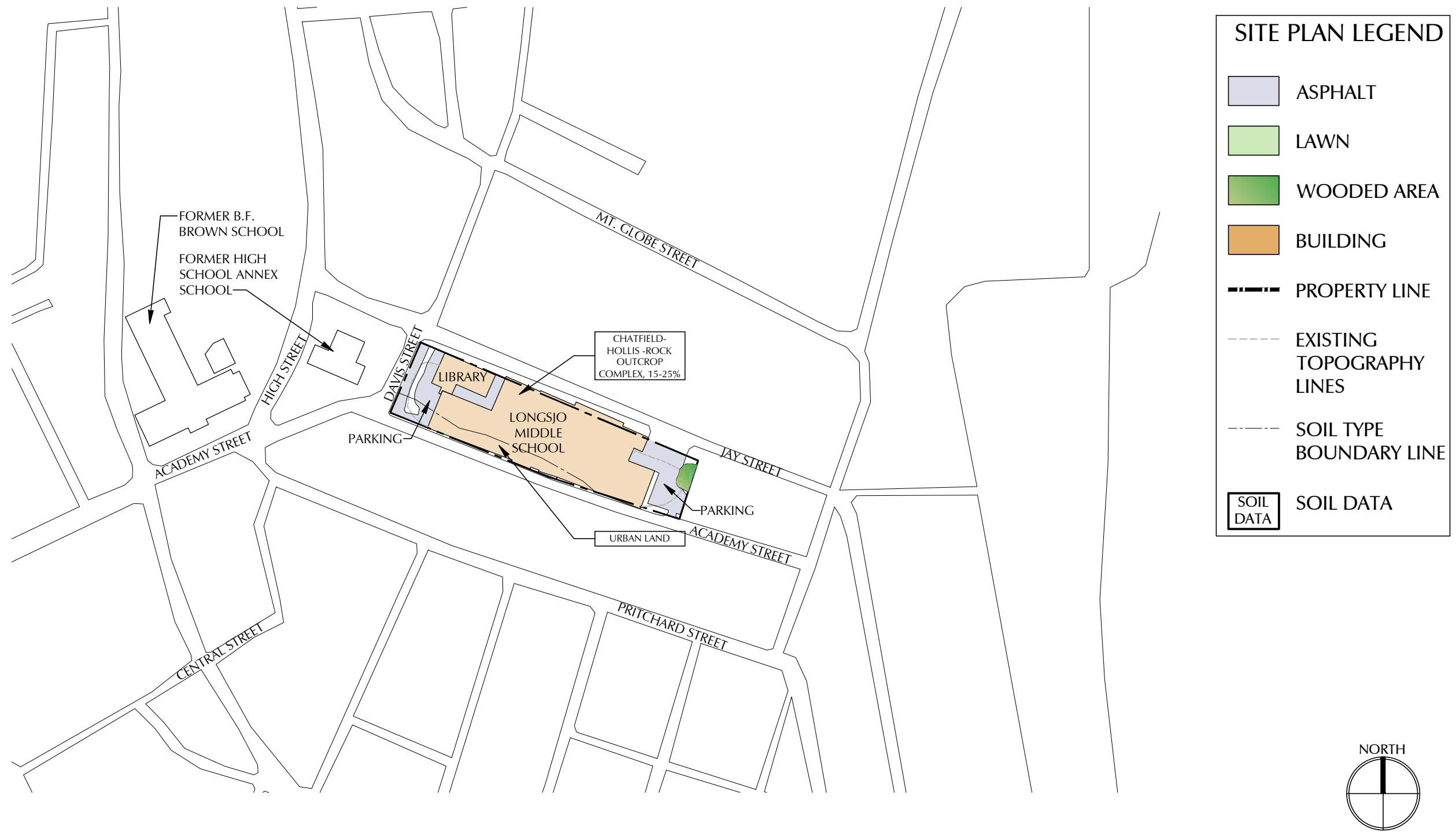
Some classrooms have wall mount television sets, but no projectors.

Rating: Poor













12. VIDEO SURVEILLANCE, ACCESS CONTROL, INTRUSION DETECTION

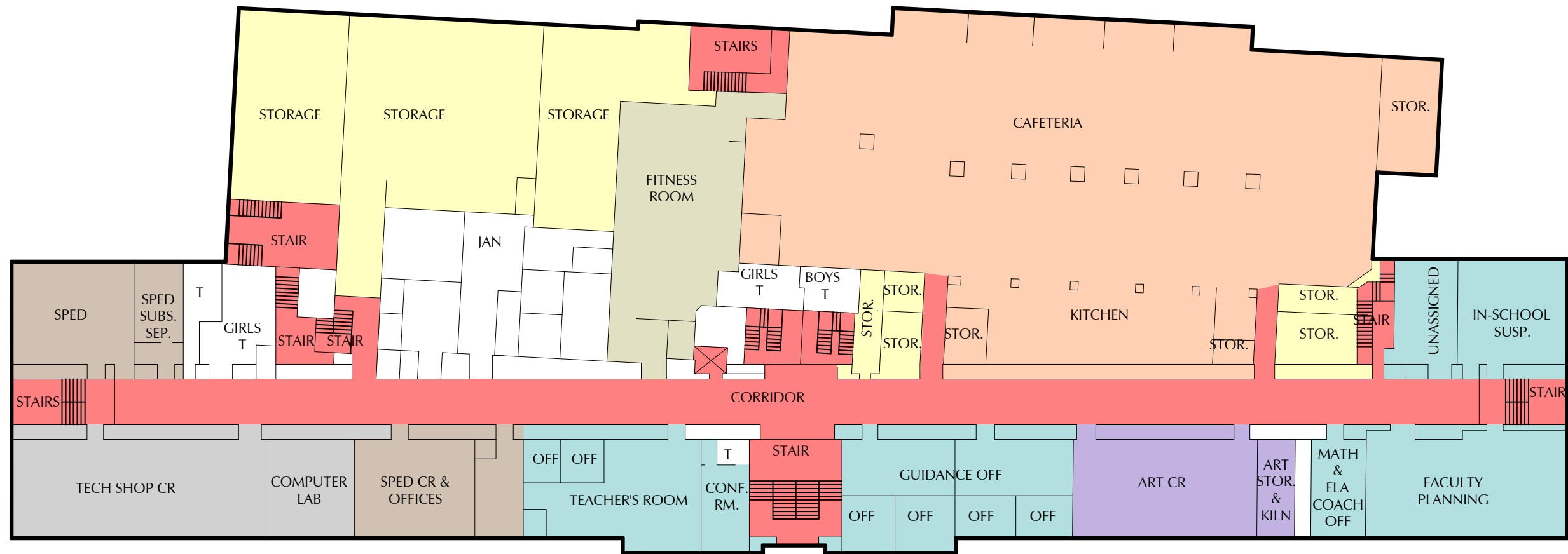
Corridor ceiling security cameras exist, and there is an exterior intercom station at the entrance to the renovated library on Pleasant Street to access the building from that level.

Rating: Poor

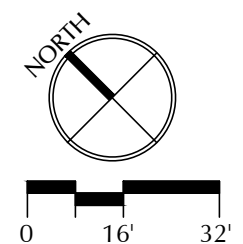














SITE PLAN
 PARCEL AREA = 1.6 ACRES +/-

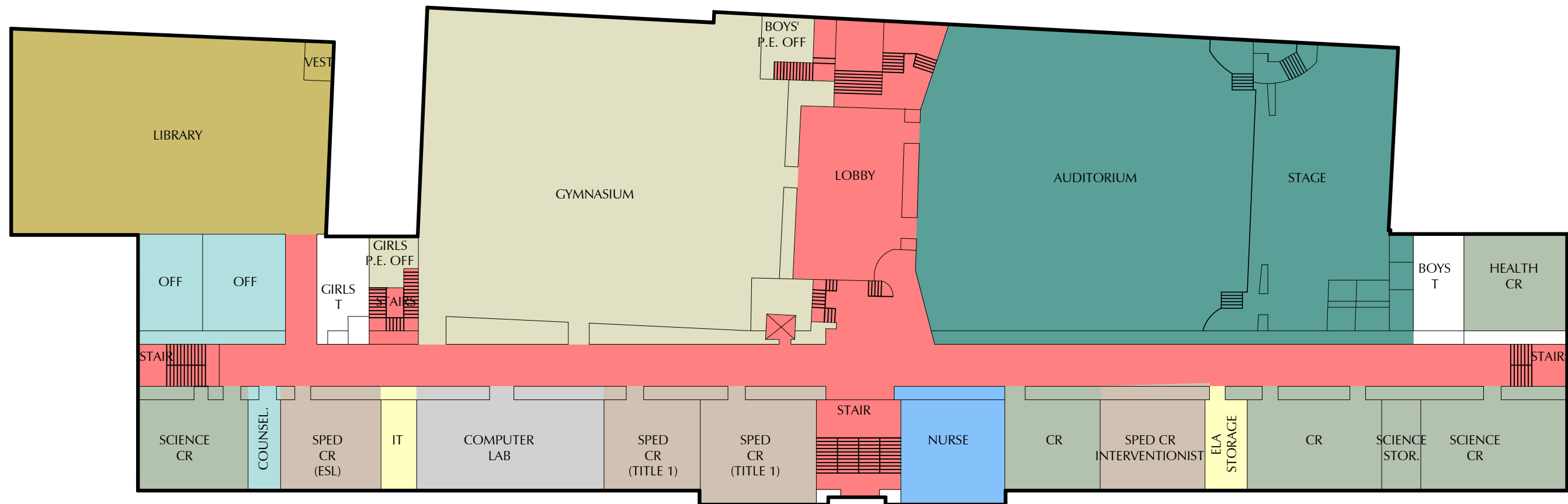
FLOOR PLAN LEGEND			
	CORE ACADEMIC SPACES		DINING & FOOD SERVICE
	SPECIAL EDUCATION		MEDICAL
	ART & MUSIC		ADMINISTRATION & GUIDANCE
	VOCATIONS & TECHNOLOGY		CUSTODIAL & MAINTENANCE
	HEALTH & PHYSICAL EDUCATION		CIRCULATION
	MEDIA CENTER		OTHER



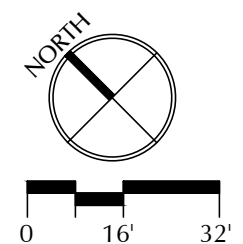
FIRST FLOOR PLAN
GSF AREA = 48,865 SF +/-















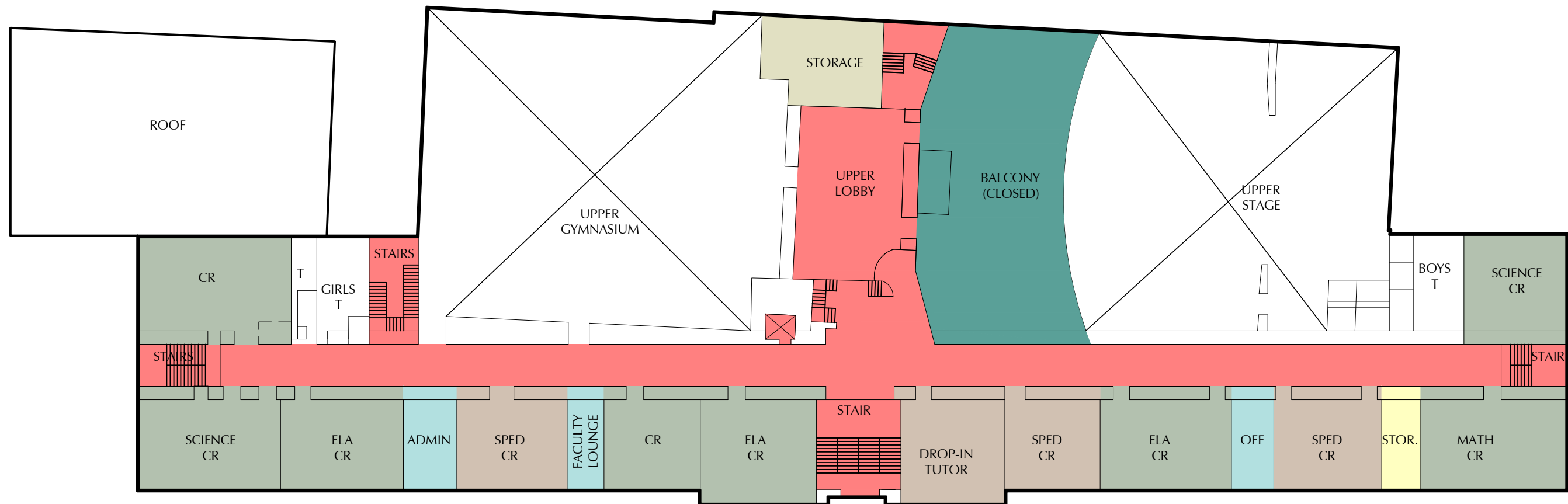
FLOOR PLAN LEGEND			
	CORE ACADEMIC SPACES		DINING & FOOD SERVICE
	SPECIAL EDUCATION		MEDICAL
	ART & MUSIC		ADMINISTRATION & GUIDANCE
	VOCATIONS & TECHNOLOGY		CUSTODIAL & MAINTENANCE
	HEALTH & PHYSICAL EDUCATION		CIRCULATION
	MEDIA CENTER		OTHER



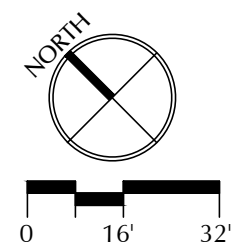
SECOND FLOOR PLAN
GSF AREA = 51,525 SF +/-















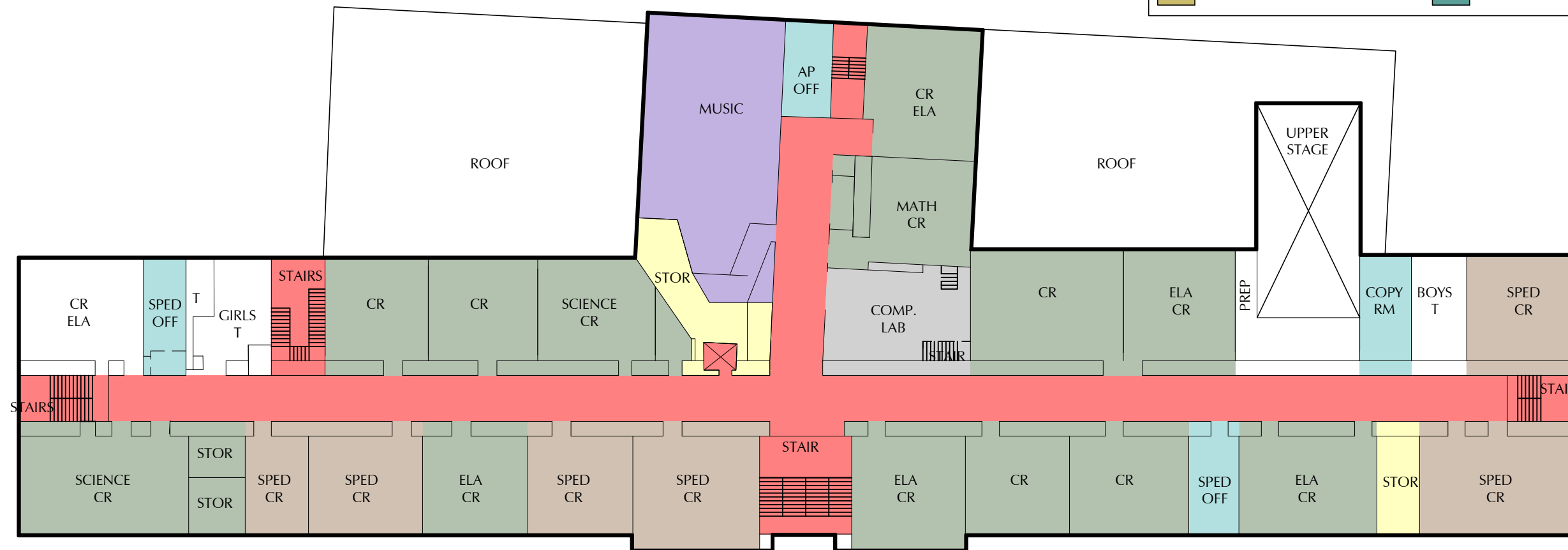
FLOOR PLAN LEGEND	
	CORE ACADEMIC SPACES
	DINING & FOOD SERVICE
	SPECIAL EDUCATION
	MEDICAL
	ART & MUSIC
	ADMINISTRATION & GUIDANCE
	VOCATIONS & TECHNOLOGY
	CUSTODIAL & MAINTENANCE
	HEALTH & PHYSICAL EDUCATION
	CIRCULATION
	MEDIA CENTER
	OTHER



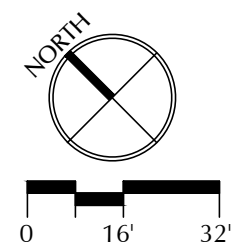
THIRD FLOOR PLAN
GSF AREA = 30,060 SF +/-



FLOOR PLAN LEGEND	
	CORE ACADEMIC SPACES
	SPECIAL EDUCATION
	ART & MUSIC
	VOCATIONS & TECHNOLOGY
	HEALTH & PHYSICAL EDUCATION
	MEDIA CENTER
	DINING & FOOD SERVICE
	MEDICAL
	ADMINISTRATION & GUIDANCE
	CUSTODIAL & MAINTENANCE
	CIRCULATION
	OTHER



FOURTH FLOOR PLAN
GSF AREA = 34,818 SF +/-



7. Fitchburg High School

Name: Fitchburg High School	Address: 140 Arn-How Farm Road
Principal: Jeremy Roche	Tel: 978-345-3240
Date(s) of Construction: 1999	
Enrollment (11/30/2015): 1,256	Grades: Pre-K, Grade 9 through Grade 12
Assessed Valuation:	Land: \$2,843,100
	Extra Features: \$163,600
	Building: \$36,028,700
	Total: \$39,035,400
Zoning District: RR	Historical: NA
Site Area: 71.64 acres	Parking: 304+- spaces
Building Area: 249,830 GSF	



SITE: Fitchburg HS is located on a large parcel at the remote northernmost edge of the City limits, and is the District’s newest facility. Buses enter from Arn-How Farm Road and circulate clockwise around the perimeter access driveway, queuing next to the rear student parking lot. Parents enter the site but turn right and navigate through the staff parking lot before queuing along the driveway in front of the main entry. There is also a secondary entrance into the first floor Lobby. Buses and parents converge where the perimeter driveway rejoins the entry drive; however it was reported this is not a traffic issue as a School Resource Officer (SRO) is typically stationed there in the mornings and afternoons to direct traffic.

Parking is reported to be adequate with separate lots for staff/faculty and students. There are some onsite athletic fields, but the District uses Crocker Field for HS football, track and field, and some other sports. There is a large receiving area in the rear of the building.

RATING: GOOD

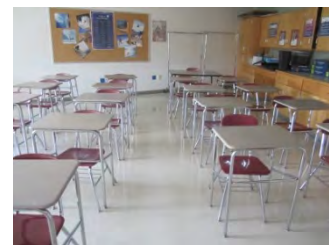
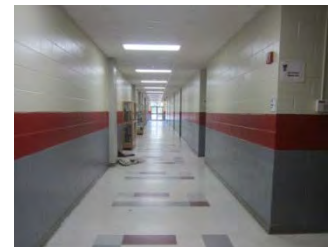
EXTERIOR ENVELOPE: Roofing consists of low slope single-ply membrane system and asphalt shingle systems. Windows, doors and storefront are aluminum with insulating glass. Exterior walls are predominantly brick and split-face CMU masonry with some composite metal paneling. Generally the exterior envelope, given its recent vintage, is in good condition. However in places the masonry, especially the CMU due to its' porosity, has been stained by water running off of metal flashings and low roofs. Additionally, LPA was told that there have been some roof leaks, and that gaps in the air/vapor and thermal insulation barriers have been found. These conditions have reportedly been addressed as they were uncovered.

RATING: GOOD



INTERIOR FINISHES/EQUIPMENT: Classrooms and Corridors typically have 12" x 12" resilient tile flooring; resilient base; painted CMU walls; and 2' x 4' ACT ceilings. Stairs have resilient tread/risers; and painted steel stringers, guards and handrails. Toilet rooms have epoxy floors and base; painted CMU walls; and 2' x 4' ACT ceilings. Toilet compartment partitions are overhead-braced painted steel. Corridor lockers are painted steel double tier type.

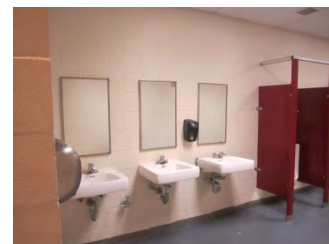
RATING: GOOD



ACCESSIBILITY: The current building appeared generally to be in compliance with applicable accessibility requirements.

RATING: GOOD

SECURITY AND ACCESS CONTROL: LPA was told there is an existing video surveillance system. There is an exterior intercom station at the main entry. **RATING: GOOD**



BUILDING SYSTEMS: Refer to separate SEC and ART reports.

RATING: GOOD

CAPACITY FOR EXPANSION: The size of the property appears adequate to support development of another school building facility. **RATING: GOOD**





December 27, 2015

Mr. Eric Moore, AIA
Lamoureux • Pagano Assoc., Arch.
108 Grove Street, Suite 300
Worcester, MA 01605

Re: Mechanical Systems Survey and Recommendations at Fitchburg High School in
Fitchburg, MA

Dear Mr. Moore:

The following is a summary report outlining our preliminary observations and comments regarding the status of the existing HVAC, plumbing and fire suppression systems at the High School in Fitchburg, MA. In addition, we have made preliminary general recommendations for further consideration as part of a general renovation project.

EXISTING CONDITIONS INSPECTION & RECOMMENDATIONS

Several weeks ago we performed a brief site inspection of the existing building. Our visual observations along with information provided by facility personnel, when applicable regarding the current building systems operating status were used extensively in assembling this report.

Condition of existing system segments has been classified in three (3) ways as follows:

Rating - Good: System segment appears to be in good operational condition and complies with most current codes and standards and well suited for present and future use.

Rating - Fair: System segment appears to be in fair operational condition with some aspects which may not comply with current codes and/or standards and may not be well suited for present and future use.

Rating - Poor: System segment appears to be in poor operational condition, may not comply with many current codes and standards and is not suited for present and future use. In general these systems have exceeded their useful expected service life.

FIRE PROTECTION Rating = Good

Existing Conditions and Deficiencies:

The fire suppression system serving the building is a wet pipe type system which provides essentially complete coverage throughout the building except as otherwise noted herein.

There is a 8" main sprinkler water service which enters the building in a fire pump room. The 8" feeds a 200 HP electric double suction horizontal pump which supports three (3) zone risers breaking the building up into sements such as riser #1 Bldg. A-B-C, #2 Bldg. D, #3 Bldg. E-F. Each riser has alarm check valves with flow and tamper switches. All valves are supervised. building sprinklers.

A fire department Siamese connection is provided on the exterior wall. In addition, a water motor gong is provided in this location to warn of a water flow condition.

There are fire standpipes in the building at each main egress stair with 2.5" hose valves. Several have floor control stations for control of floor sprinkler zones.

We noted that the coolers in the kitchen did not have sprinkler protections which would be required by code. The kitchen hood did have chemical based suppression as required.

Recommendations:

Provide sprinkler protection in walk-in coolers and freezers.

PLUMBING

Fixtures: Rating = Good

The existing buildings plumbing systems appear adequate in quantity for the current occupancy and are of newer vintage. As such, most restrooms do comply with ADA/MAAB requirements for accessible fixtures.

Existing water closets are primarily if the wall hung flush valve type. Urinals are of the wall hung type and lavatories are of the wall hung and counter style with either 2 handle or single lever handle faucet many of which are of the metered style. Most fixtures do comply with current codes and standards.

Many public use lavatory sinks have metered (self-closing) faucets as required by code. In addition, many appear to have limit stops or central tempering valves to insure hot water does not exceed 110°F for scald prevention.

Several of the classrooms have sinks with both ADA and standard accessibility. Sinks in science/chemistry rooms should connect to an acid waste neutralizing system however this systems location was undetermined during our walk-thru and may involve local acid waste tanks in cabinetry under the sinks.

The main kitchen appears to have at least the minimum configuration and number of fixtures to satisfy current code and Board of Health requirements for a commercial kitchen. The fixtures consist of a 3-bay pot sink with grease trap, a 2-bay prep. sink and hand sinks.

There are several ADA compliant wall mounted electric water cooler drinking fountains located within the building.

Locker rooms and associated shower rooms as well as Janitors sinks were not inspected during our walk-thru however based on the age of the building we expect that they are compliant.

Science rooms have emergency drench and eye wash showers which are presumed to be fed with tempered water as required by code however this should be confirmed.

Most of the fixtures are of the water saving type for the code enforced at the time of the buildings construction. Apparently maintenance is routinely performed on faucets, toilet fill valves, etc.. as needed.

Cold Water Service: Rating = Good

A 6" cold water line enters the building in a lower level mechanical room. The service runs through a 6" water meter and a backflow preventer prior to entering a domestic water booster. The booster is a Synchro-Flo model with three parallel booster pumps which discharge to a 6" main with hydro-pneumatic tank and an additional backflow preventer prior to feeding the building fixtures. The current 6" service main appears adequate in size to support the current building load.

We noted most of the piping in the building appears to be copper and based on its age should be in good condition.

Domestic Hot Water Service: Rating = Good

The domestic hot water needs of the building are supported by (2) Lochinvar high efficiency gas-fired condensing water tube boilers coupled to two (2) 119-gallon storage tanks also manufactured by Lochinvar. The boilers are Intelli-Fin series rated at 1,500,000 BTUH input each. The boilers and tanks are in good condition with an estimated age of less 10 years however it is important to note that maintenance on this series boiler is critical for long life as they couple a copper heat exchanger not made for condensing to a stainless steel heat exchanger made for condensing which must be properly controlled and maintained. Reuse of this system would be anticipated during any renovation project however if internal corrosion on the boiler has taken place we would strongly recommend replacement with newer all stainless steel exchanger models.

There is a high/low mixing valve station as manufactured by Leonard on the main hot water supply which serves most of the building fixtures. It appears there may be a higher temperature water line that runs to the kitchen for dishwash use. Current code would require differing water temperatures at different types of fixtures. Lavatory sinks and showers must not discharge hot water at a temperature exceeding 110-112°F for safety reasons, whereas service fixtures (janitor's sinks, kitchen sinks, etc..) are required to have hot water temperatures in excess of 120°F for sanitation reasons. The current system appears to supply a single temperature water

to the building. After that proper water supply to lavatories and showers should be accomplished by local mixing valves and/or fixtures with appropriate mixing limit stops. It appears the domestic hot water storage tanks are kept at approximately 140°F which is essential to prevent the possibility of bacteria growth within the tanks.

There are multiple recirculation pumps on the domestic hot water system, which are required since there are fixtures located beyond 100 feet of the hot water source. The building code requires hot water to be available within 100 feet of any hot water consuming fixture.

Drainage Systems: Rating = Good

Most of the sanitary drainage piping is concealed from view, however what we were able to see was primarily of the cast iron no-hub type. The sanitary sewer lines run below the slab and exit the building to a municipal sewer system.

Roof storm water is drained via roof drains connecting to internal leaders. The lines presumably exit to a municipal storm water system. The building does not appear to have any emergency roof overflow drains. These are required by code as a clogged drain can lead to water build-up on the roof and structural failure due to weight. That is unless the roof is designed to hold the water until a point where its build up would spill over the roof edge, which is not typical. We highly suggest emergency roof drains be added during any renovation project. The emergency drains should be added near the current roof drains and run to discharge to the side of the building. The visible discharge location is required as it gives users and indication of a failed main drain system.

Sinks in science/chemistry rooms should connect to an acid waste neutralizing system however this systems location was undetermined during our walk-thru and may involve local acid waste tanks in cabinetry under the sinks.

Besides those items noted herein and elsewhere in this report, we noticed no other outward signs of failure in either the sanitary sewer system or the storm drainage system during our site inspection.

Natural Gas Service: Rating = Fair

A natural gas service enters the buildings lower level mechanical room. The exterior service entrance consists of an elevated gas pressure line serving a gas meter and a gas pressure reducer after which the pipe increase size to a 6" prior to entering the building and supporting the building loads. The service feeds the gas loads in the building which include the heating boilers, domestic hot water boilers and kitchen cooking loads. There is also a smaller gas line off the 6" main that has a pressure reducer and also enters the building. We suspect this line may serve an emergency generator but its service is unclear.

The 6" gas line should have a thermally activated shut-off valve where it enters the building. This valve would shut the gas supply off to the building in the event there were a fire within

the mechanical room. This device is typically required by the gas utility.

Recommendations:

Pending final master plan programming the proposed tiered recommendations are as follows:

1. Where restrooms are renovated, replace original vintage water closet fixtures with new ultra low flush (1.28 GPF) water conserving units with automatic battery-powered flush valves.
2. Where restrooms are renovated, Replace original vintage urinals with new ultra low flush (0.125 GPF) water conserving units with automatic battery-powered flush valves.
3. Where restrooms are renovated, replace original vintage lavatories with low flow style with automatic battery-powered faucets with mixing adjustment.
4. Provide emergency roof drains where required and dictated by structural review.
5. Provide thermal shut-off gas valve on 6" gas service entrance.

HVAC

Boiler Plant: Rating = Good

The heating needs for the building are supported by five (5) Viessmann #CT3-89 stainless steel gas-fired condensing boilers installed in 2010-2011. Each boiler has a rated input capacity of 3,361,000 BTUH. The boilers are not original to the building construction and replaced boilers which were not that old but according to facility personnel with very problematic. The boilers appear to have been replaced as part of an energy services project.

Chiller Plant: Rating = Good

A majority of the cooling needs for the building are supported by three (3) air cooled chillers located on the roof of the building one of which was a Trane #RTAA185 model. Each chiller has a nominal rated capacity of 185-tons.

Piping Distribution System: Rating = Good

Chilled water and hot water from the chiller and heating plant is distributed to the building via a supply and return distribution system. The system circulates hot water to fin-tube radiation, and hot/chilled water to classroom unit ventilators and heating, ventilating and/or air conditioning units located throughout the building.

The boiler room has five (5) end-suction floor mounted pumps. The pumps are all Taco model #FI series two of which we noted as being rated for 1,200 GPM at 75 ft.hd. The pump horsepowers vary and many are connected to variable speed drives. It appears the pumps are configured in a primary/secondary pumping configuration with primary stand-by capacity.

The pumps appear to be in good operational order.

Ventilation & Misc. HVAC: Rating = Good/Fair

Classroom unit ventilators are located throughout the classroom segments of the building. These units are located along exterior walls and each has an outdoor air louver and associate control dampers to allow outdoor air to enter the classroom space through the unit ventilator. During occupied periods, the unit fans run continuous to provide space ventilation and electric valves modulate hot/chilled water flow through the units to maintain space temperature.

Classroom exhaust in much of the building is supported by a centralized exhaust fans located on the building roof or mechanical attic space. In most cases the fans serve multiple rooms.

The gym, auditorium, and cafeteria are all served by ducted rooftop heating, ventilation and cooling units. Facility personnel noted that there are issues with the cafeteria unit as it cannot adequately heat the space. Apparently the unit froze a heating coil and the coil was replaced with a reduced capacity coil (1 row coil in lieu of multiple row coil). In addition, the controller for the units exhaust fan is bad and must be replaced.

Most of the building appears to comply with current ventilation standards however further review would be required especially for the science, art and wood working spaces.

The kitchen hood over the range and oven equipment appears to comply with current NFPA 96 and IMC standards. However, the hood does have an air bypass feature which is not recommended under the newest code standards

Most bathrooms have exhaust systems. Many appeared to be connect to centralized exhaust ducts leading to exhaust fans located on the roof or in mechanical attic spaces.

Controls: Rating = Good

The building appears to have a building wide DDC energy management system throughout. The system is manufactured and supported by Automatic Logic. Sequences should be reviewed further as additional energy saving routines may be possible.

Recommendations:

Much of the equipment in the building is well within its useful expected service life and with proper maintenance should be able to continue to provide reliable service for years to come. However, attention should be given to items such as the cafeteria rooftop unit which should be repaired and its undersized heating coil replaced with the proper capacity coil. We also recommend a further review of the buildings energy management system to insure the system is incorporating energy saving routines such as demand ventilation reset, room by room occupancy control, intelligent start/stop, etc... and if not such sequences be implemented.

Fitchburg High School
Mechanical Inspection & Recommendations
December 27, 2015 - Page 7

If you have any questions regarding this report please do not hesitate to call.

Sincerely,
Seaman Engineering Corporation

Kevin R. Seaman P.E., LEED® AP
President



EXISTING ELECTRICAL SYSTEMS REVIEW
FITCHBURG HIGH SCHOOL
FITCHBURG, MA

Date: 10 August 2015

Prepared by: Thomas F. Lutynski, Project Manager

SUMMARY

ART Engineering, Inc. has completed the site survey for the existing Fitchburg High School in Fitchburg, MA. A Good/Fair/Poor rating system has been developed for the various electrical systems.

The rating system was developed to provide a concise, overall assessment for each system. In general a system rated “Good” is typically compliant with current codes and well suited for present and future space intent. A “Fair” rated system may have equipment in need of replacement or portions not suited for present or future space programming. Systems rated “Poor” do not serve well present or future space programming because of being obsolete or outdated

Most systems included in this site survey have a “good” rating because the installation is fifteen (15) years old and met the prevailing standards when built. The rating system takes into account the conditions of the electrical systems as well as the types of systems, sizing, and applicability for the respective spaces.

The Massachusetts State Building Code 780 CMR requires all buildings, structures, and parts thereof, both existing and new, and all systems and equipment therein which are regulated by the State Building Code to be maintained in a safe, operable, and sanitary condition. All service equipment, means of egress, devices and safeguards which are required by the State Building Code in a building or structure, or which were required by a previous statute in a building or structure, when erected, altered, or repaired, shall be maintained in good working order.

The majority of the electrical systems in Fitchburg High School are relatively current and neither too old nor obsolete. However, whether any of the existing systems have been maintained or tested continuously per the manufacturers’ recommendations or systems standards is unknown.



1. ELECTRICAL SERVICE

The existing, original (2000) main switchboards are two (2) three-section Cutler-Hammer 2000 amp 480Y/277 volt three phase four wire with main circuit breakers as the main building disconnects and IQ metering located in a grade level electric room with exterior doors. The main switchboards are fed from an outdoor pad mount utility transformer of undetermined size with metering

Rating: Good

2. NORMAL DISTRIBUTION

Cutler-Hammer bolt-to-bus branch circuit panelboards are located throughout the building both flush and surface mounted. These panelboards are original to the building.

Rating: Good

3. GENERAL PURPOSE POWER

Branch circuit wiring is original to the building comprised mostly of some type of raceway and individual copper conductors with equipment grounding conductors, and type MC cable.

Rating: Good

4. EMERGENCY STANDBY POWER

One (1) Cummins outdoor pad mount 480Y/277 volt three phase four wire diesel unit the KW of which could not be verified. Four (4) transfer switches are located throughout the building: one (1) 260A for elevators, one (1) 400A for boilers and HVAC equipment, and two (2) 225A for emergency and life safety requirements. All equipment and feeders are two (2) hour fire rated and comply with current codes.

Rating: Good

5. EGRESS AND EXIT LIGHTING

NFPA 101 test data was unavailable to confirm that all emergency lighting fixtures function properly as a composite system. The existing exit sign graphics and coverage appear adequate. The building has an emergency generator set to power certain permanent lighting fixtures and exit signs, but it was impossible to determine what permanent lighting fixtures are connected to the emergency power source to establish egress lighting coverage. Though the existing exit signs are lighted by internal lamps subject to burn out, all exit signs were fully illuminated.



Rating: Good

6. LIGHTING AND CONTROLS

Recessed fluorescent and round PL fixtures comprise the majority of the lighting installation. Fluorescent lamps are T8. Classroom fixtures are recessed fluorescent parabolic lense type. Corridor fixtures were upgraded in 2012 to fluorescent center “basket” fixtures with T5 lamps. Outdoor wall pack and pole top fixtures are LED

Lighting controls are almost universally local, wall mount toggle switches with a few motion sensors scattered throughout. There appears to be no central lighting control system.

Rating: Poor

7. TELECOMMUNICATIONS AND CABLING INFRASTRUCTURE

Cabling infrastructure is CAT 5 with abundant outlets in all areas, and a LAN fiber optic distribution system.

There is a large, dedicated IT room containing all the date and communications equipment: CATV, telephone, switches and patch panels, individual UPS units, and a Simplex Building Communications master panel

Rating: Good

8. VOICE COMMUNICATIONSN EQUIPMENT

The Simplex Building Communications master panel distributes sound programming over three (3) channels to common area ceiling speakers that can include music and public address announcements

Rating: Good

9. FIRE ALARM

The fire alarm control panel is a conventional, twenty (20) active zones Simplex panel with tone evacuation located at the main entrance. A Simplex graphic annunciator is also located at the front entrance near the control panel. A Knox box is also at the front entrance, but no beacon. Signaling devices meet ADA requirements.

Rating: Good



10. PUBLIC ADDRESS AND CLOCK SYSTEMS

Classrooms have a Simplex master clock/ speaker/ intercom handset grouping. These appear functional.

Rating: Good

11. AUDIO-VISUAL SYSTEMS

Epson projectors are installed in most classrooms above the white boards and connected to the main IT room for program distribution.

Rating: Good

12. VIDEO SURVEILLANCE, ACCESS CONTROL, INTRUSION DETECTION

Ceiling cameras are located in the common corridors. Some exterior doors are alarmed to signal an exit breach.

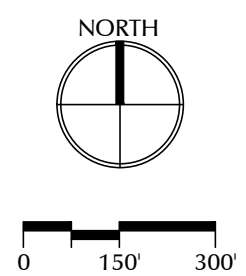
Rating: Good

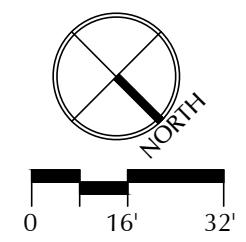
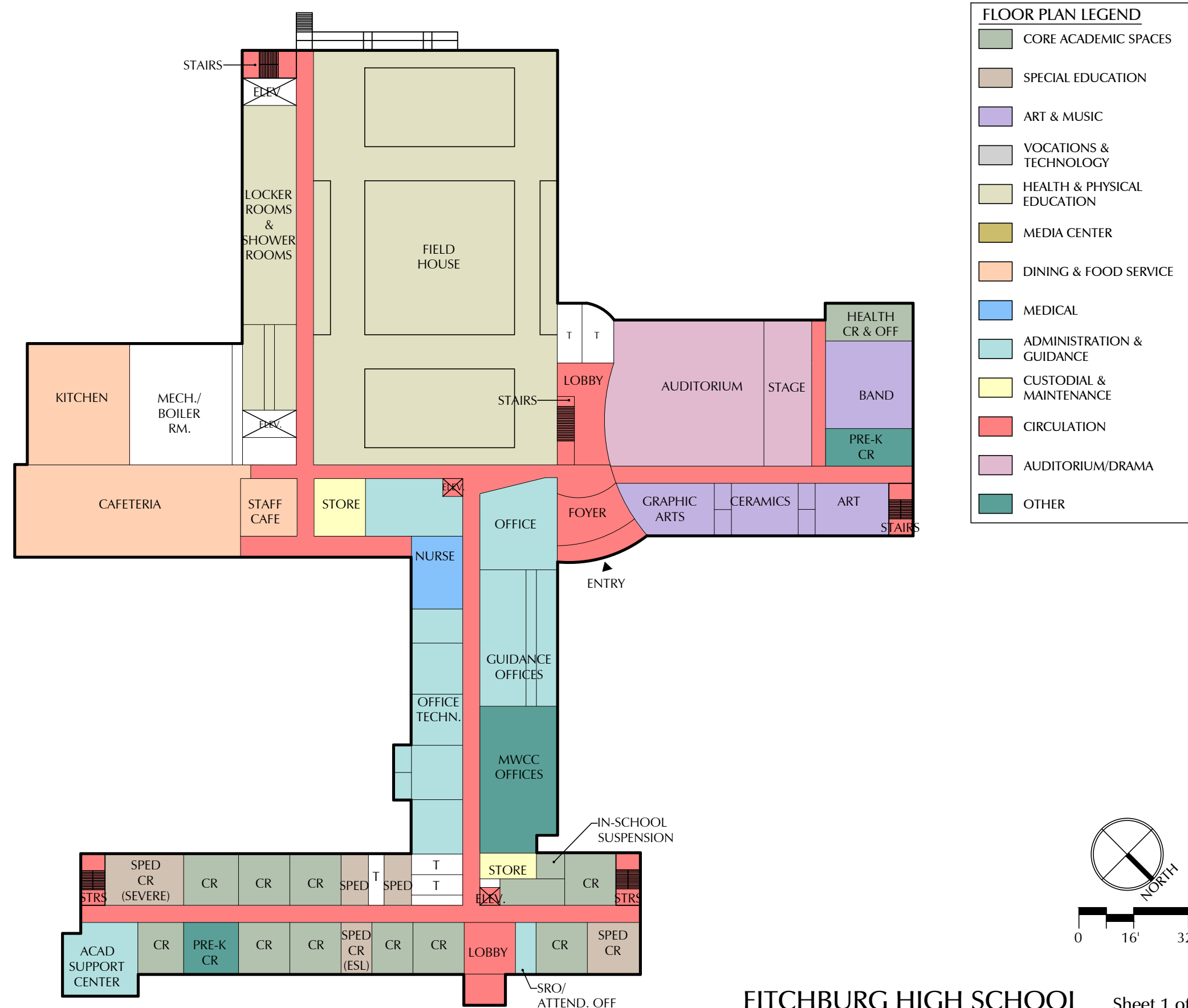


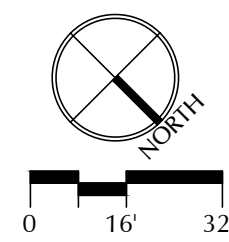
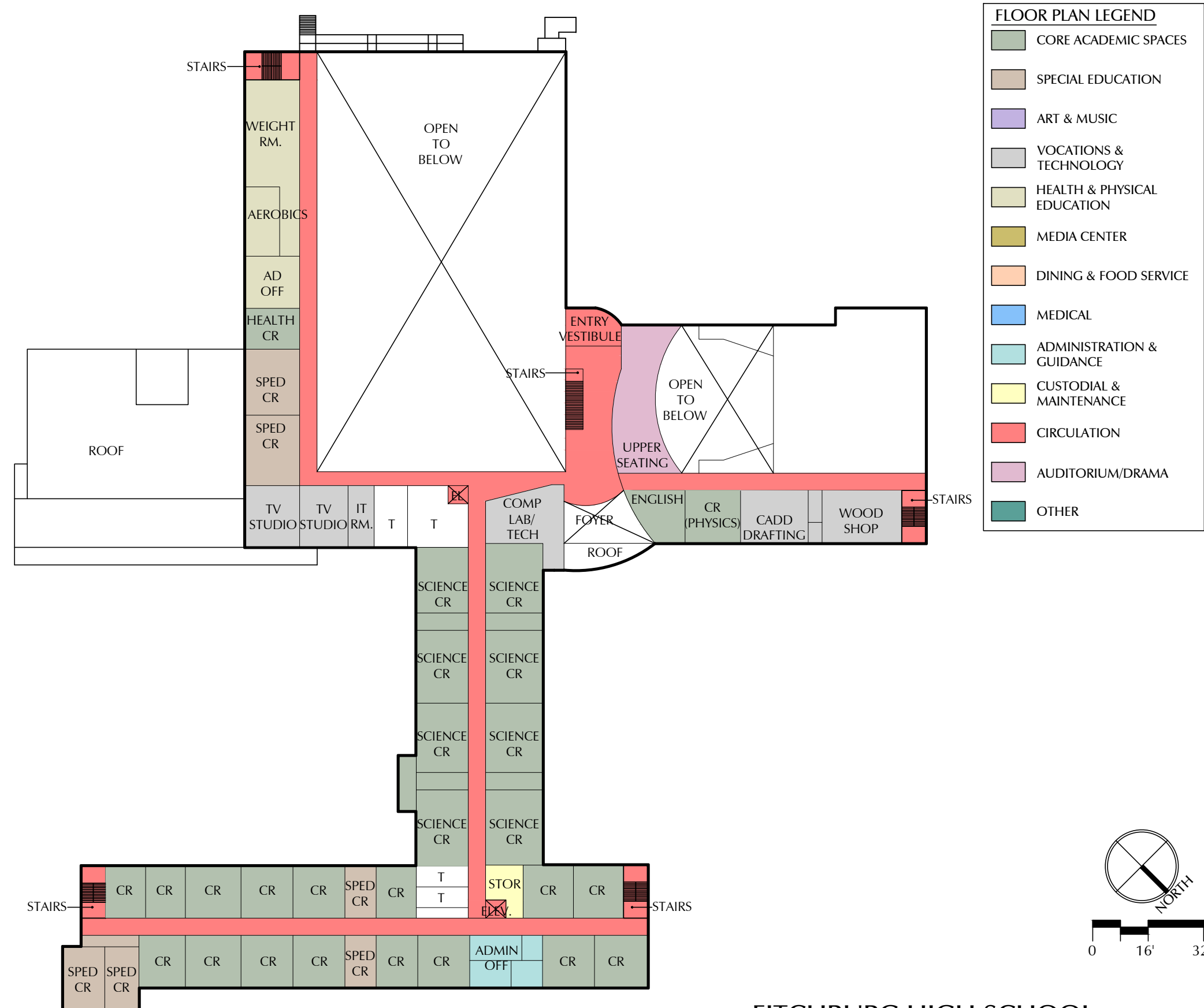
SITE PLAN LEGEND

- ASPHALT
- LAWN
- WOODED AREA
- BUILDING
- PROPERTY LINE
- EXISTING TOPOGRAPHY LINES
- SOIL TYPE BOUNDARY LINE
- SOIL DATA

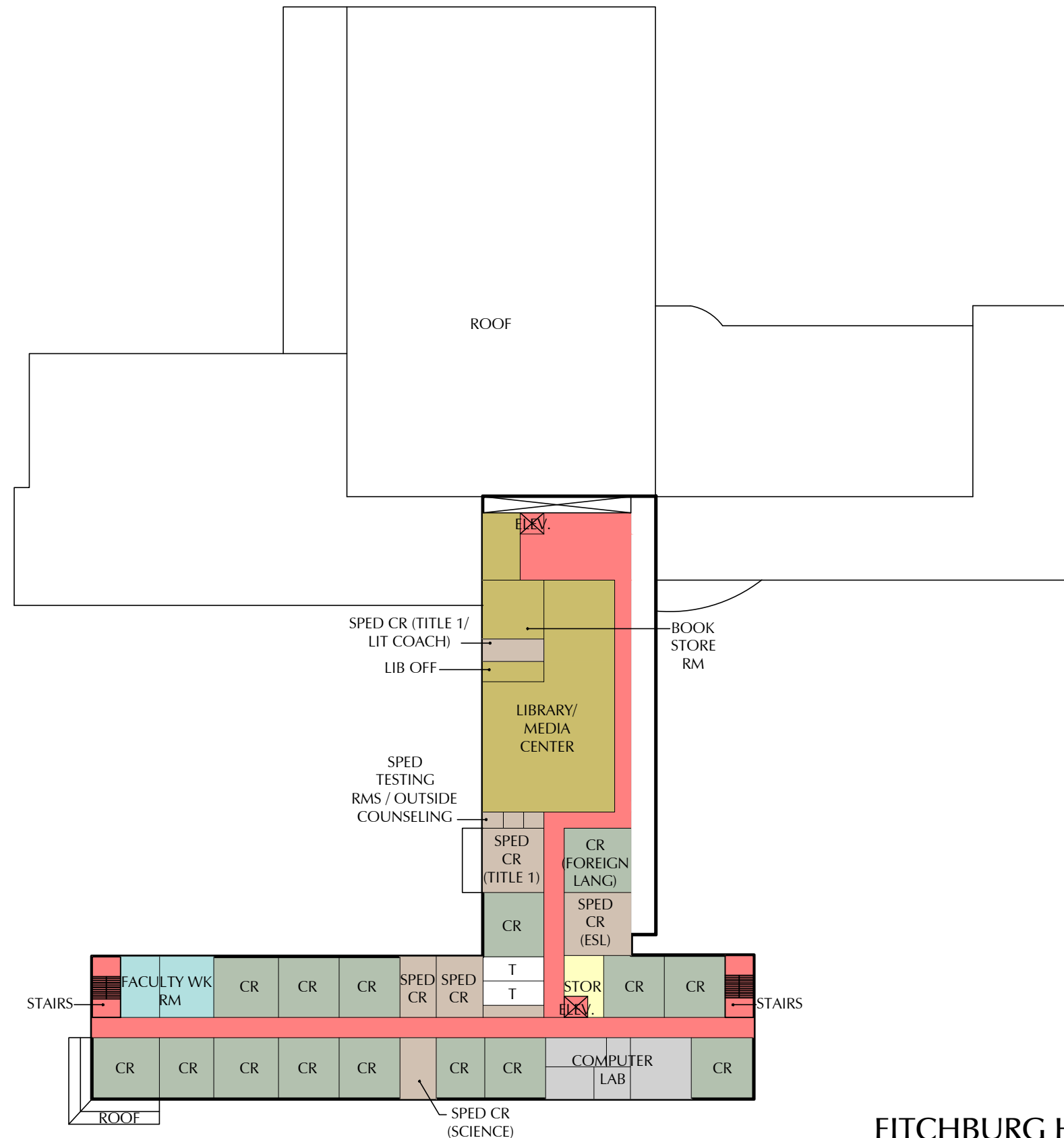
SITE PLAN
PARCEL AREA = 72.3 ACRES +/-







FLOOR PLAN LEGEND	
	CORE ACADEMIC SPACES
	SPECIAL EDUCATION
	ART & MUSIC
	VOCATIONS & TECHNOLOGY
	HEALTH & PHYSICAL EDUCATION
	MEDIA CENTER
	DINING & FOOD SERVICE
	MEDICAL
	ADMINISTRATION & GUIDANCE
	CUSTODIAL & MAINTENANCE
	CIRCULATION
	AUDITORIUM/DRAMA
	OTHER



THIRD LEVEL PLAN
GSF AREA = 42,210 SF +/-

8. Goodrich Academy

Name: Goodrich Academy	Address: 111 Goodrich Street
Principal: Michael Pelland	Tel: 978-345-3244
Date(s) of Construction: 1891	
Enrollment (11/30/2015): 210	Grades: Grade 9 through Grade 12
Assessed Valuation:	Land: \$46,100
	Extra Features: \$12,800
	Building: \$954,200
	Total: \$1,013,100
Zoning District: RR	Historical: MACRIS List FIT.2018 - Goodrich Street School
Site Area: 0.84 acres	Parking: 31 +- spaces
Building Area: 19,310 GSF	

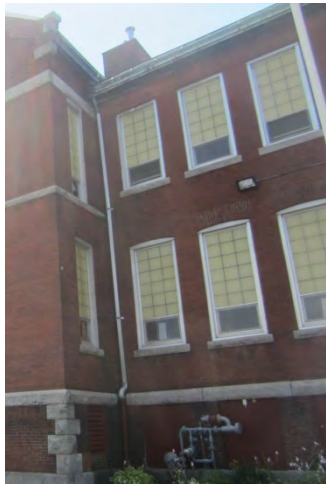


GENERAL: Goodrich Academy is an Alternative HS program for students who, for a number of different reasons, do not fit into a traditional HS mold. Classes typically run from afternoon into the evening, utilizing a flexible curriculum adapted to each student’s needs.

SITE: Goodrich Academy is not served by District buses; students either drive themselves or are dropped off and picked up by others. Parking is limited to around the building and nearby on-street parking. Students have direct access to adjacent Goodrich Park for outdoor activities.

RATING: FAIR



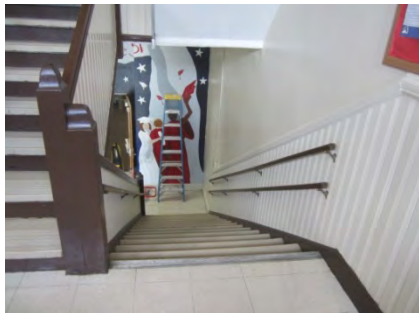


EXTERIOR ENVELOPE: Roofing consists of asphalt shingles with sheet metal flashings, gutters and downspouts. Original wood windows have been replaced over the years by a combination of single-glazed aluminum projected windows, glass block, and fixed translucent fiberglass panels. Exterior walls are brick masonry with granite details.
RATING: POOR

INTERIOR FINISHES/EQUIPMENT: Classrooms typically have 12" x 12" resilient tile flooring; wood base/wainscot; and painted plaster walls and ceilings. Stairs have resilient treads, wood risers and stringers, wood wainscot walls and guards, and wood handrails and newel posts. Toilet rooms have resilient floors and base; painted wood wainscot, and painted plaster walls and ceilings. There are some painted steel Corridor lockers with hinged book compartments over single doors. Two refrigerators (one commercial double-door and a residential single-door unit) are located at the basement level and are used for student meals.
RATING: FAIR



ACCESSIBILITY: The building does not have an elevator or lift and is generally inaccessible. Wood stair handrails typically lack required extensions at top and bottom of stair runs. Toilet room and door maneuvering clearances as well as finish hardware are not in compliance with current requirements.
RATING: POOR



SECURITY AND ACCESS CONTROL: There are no security or access control systems.

RATING: POOR

BUILDING SYSTEMS: Refer to separate SEC and ART reports. The building does not currently have a fire suppression system.

RATING: POOR

CAPACITY FOR EXPANSION: The size of the property appears inadequate to support anything other than a minimal addition.

RATING: POOR





January 3, 2016

Mr. Eric Moore, AIA
Lamoureux • Pagano Assoc., Arch.
108 Grove Street, Suite 300
Worcester, MA 01605

Re: Mechanical Systems Survey and Recommendations at Goodrich Academy School in Fitchburg, MA

Dear Mr. Moore:

The following is a summary report outlining our preliminary observations and comments regarding the status of the existing HVAC, plumbing and fire suppression systems at the Goodrich Academy School in Fitchburg, MA. In addition, we have made preliminary general recommendations for further consideration as part of a general renovation project.

EXISTING CONDITIONS INSPECTION & RECCOMMENDATIONS

Several weeks ago we performed a brief site inspection of the existing building. Our visual observations along with information provided by facility personnel, when applicable regarding the current building systems operating status were used extensively in assembling this report.

Condition of existing system segments has been classified in three (3) ways as follows:

Rating - Good: System segment appears to be in good operational condition and complies with most current codes and standards and well suited for present and future use.

Rating - Fair: System segment appears to be in fair operational condition with some aspects which may not comply with current codes and/or standards and may not be well suited for present and future use.

Rating - Poor: System segment appears to be in poor operational condition, may not comply with many current codes and standards and is not suited for present and future use. In general these systems have exceeded their useful expected service life.

FIRE PROTECTION Rating = Poor

Existing Conditions and Deficiencies:

There is no fire suppression system serving the building.

Recommendations:

A building wide fire suppression system should be installed during any renovation project.

PLUMBING

Fixtures: Rating = Poor

The existing buildings plumbing systems do not appear adequate in quantity for the current occupancy use and are of varying age. As such, most restrooms did not ADA/MAAB compliant accessible fixtures.

Existing water closets are of the floor mount flush valve type. Urinals are of the wall hung type and lavatories are of the wall hung style with 2 handle lever faucet. Most all fixtures do not comply with current low water use codes and standards.

There is a semi-circular wash sink located in the basement level outside of a staff toilet area. The fixture is foot operated and typically incorporates an integral mixing arrangement for hot water tempering.

Besides the semi-circular wash sink, public use lavatory sinks do not have metered (self-closing) faucets as required by code. In addition, public lavatory faucets do not have limit stops or tempering valves to insure hot water does not exceed 110°F for scald prevention.

There is no kitchen in this building. All classrooms have stainless steel sinks with deck faucets, none of which are ADA compliant. Classroom sink heights are low at 25" and may be set that way for student use. Proper tempering control for scald prevention is essential on any student use fixture.

There is an old porcelain/steel drinking fountain on the 1st floor and an electric water cooler drinking fountain on the second floor. Neither of these fixtures comply with accessibility requirements.

Janitors sink inspected was noted to have a soap/chemical dispenser attached to it with some signs of limited backflow prevention which would be required for such a configuration to prevent contamination of the building water supply.

Most of the fixtures are of original or slightly newer vintage none of which are of the water saving type. Apparently maintenance is routinely performed on faucets, toilet fill valves, etc.. as needed. If a renovation requires removal of the fixtures, upgrade of these fixtures to water conserving type shall be required.

Cold Water Service: Rating = Fair

A 2" cold water line enters the building in the mechanical room. The service runs through a water meter then increase to a 2.5" prior to feeding the buildings domestic water loads. The current 2.5" service main appears adequate in size to support the current building loads.

There is no backflow preventer installed on the incoming water service. In facilities such as this where there could be various potential sources of cross contamination, a backflow preventer may be required to protect the municipal water supply. Local requirements should be confirmed with the water department and plumbing inspector.

We noted most of the piping in the building appears to be copper. Due to the age of the building there is a high probability that the water service could have lead containing solder in the fittings as well as drinking fountains that may have lead containing components. Although not a large source of lead contamination it should be tested and monitored and if found to be a problem, components should be replaced. In general, there were no outward signs of failure during the day of our site inspection.

Domestic Hot Water Service: Rating = Fair

The domestic hot water needs of the building are supported by one (1) A.O. Smith #BT-65-200 gas-fired water heater. The water heater has a rated input capacity of 65,000 BTUH and a tank capacity of 65-gallons. The unit is in good condition with an estimated age of less 5 years. Reuse of this system would be anticipated during any renovation project.

Current code would require differing water temperatures at different types of fixtures. Lavatory sinks and sinks for young student use must not discharge hot water at a temperature exceeding 110-112°F for safety reasons, whereas service fixtures (janitor's sinks) are required to have hot water temperatures in excess of 120°F for sanitation reasons. The current system appears to supply a single temperature water to the building which, with the absence of lavatory mixing valves, should be 110°F +/- however this would not properly support the service sinks. Any upgrade must consider a central dual mixing valve station or local mixing at lavatory sinks. Lavatory sinks and showers with limit stops and/or local mixing for lavatory sinks is the favored approach. Storage tanks should be kept at temperatures of 135° F to 140°F so as to prevent the possibility of bacteria growth within the tanks.

Drainage Systems: Rating = Fair

Most of the sanitary drainage piping is concealed from view, however what we were able to see was primarily of the no-hub cast iron type. The sanitary sewer lines run below the slab and exit the building to a municipal sewer system.

Roof storm water is drained via perimeter gutters and downspouts connecting to an underground piping system. The lines presumably exit to a municipal storm water system.

Besides those items noted herein and elsewhere in this report, we noticed no other outward signs of failure in either the sanitary sewer system or the storm drainage system during our

site inspection.

Natural Gas Service: Rating = Good

A natural gas service enters the buildings mechanical room. The exterior service entrance consists of an elevated gas pressure line serving running through a pressure reducer and than a gas meter pipe increase size to a 3" prior to entering the building and supporting the building loads. The 3" service feeds the gas loads in the building which include the heating boilers and the domestic hot water heater.

Recommendations:

Pending final master plan programming the proposed recommendations are as follows:

1. Provide tempering mixing valves on lavatory sinks as needed to insure occupant safety.
2. Replace water coolers with new ADA compliant type providing additional coolers where needed. High consideration should be given to coolers with bottle fill capabilities.
3. Where restrooms are renovated, replace original vintage water closet fixtures with new ultra low flush (1.28 GPF) water conserving units with automatic battery-powered flush valves.
4. During renovations, replace original vintage cold water and hot water piping with new type with 0 lead materials.
5. Where restrooms are renovated, Replace original vintage urinals with new ultra low flush (0.125 GPF) water conserving units with automatic battery-powered flush valves.
6. Where restrooms are renovated, replace original vintage lavatories with low flow style with automatic battery-powered faucets with mixing adjustment (tempering valves noted in #1 may not be required if this options is taken pending proper fixture selection).
7. Provide backflow prevention on building water service, Janitor sinks and at other fixtures requiring such.

HVAC

Boiler Plant: Rating = Good

The heating needs for the building are supported by two (2) Weil McLain model #88 cast iron sectional low-pressure steam boilers. Each boiler is fitted with a gas-fired Powerflame burner with a rated maximum input capacity of 1,010,000 BTUH.

A boiler feed tank with duplex pumps supports the steam condensate for the building.

Combustion air for the boiler room is supplied from a ducted wall louver arrangement with low

duct in room. There are motorized dampers on the duct in accordance with current fuel-gas code and energy codes. However, the low duct is filled with fiberglass insulation which must be removed to insure proper combustion air.

The boilers, boiler feed pump and nearby piping appear to be relatively new and as such in good condition

Piping Distribution System: Rating = Fair/Poor

Steam and steam condensate from the boiler plant is distributed throughout the building via a 2-pipe distribution system. The system primarily supports steam fin-tube radiation located throughout the building and in one room, two (2) classroom unit ventilators.

Ventilation & Misc. HVAC: Rating = Poor

With the exception of one classroom, ventilation to most areas of the building is extremely limited. An old abandoned 100% outdoor air central fan with steam coil is ducted to each room up masonry chases. In addition, other exhaust grilles in most rooms are ducted to passive air shafts to chimneys thru the roof. Much of this system has been abandoned in place. As such most rooms are limited to natural ventilation via windows. The American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Ventilation Standard 62 along with the building code, requires outdoor air levels of between 11 to 20 cfm per person dependent on occupancy classification and space use. Technically, operable windows in certain areas may satisfy the natural ventilation requirements of the Commonwealth of Massachusetts State Building Code. However, although this may be adequate for lightly populated areas, we feel that for spaces such as classrooms, proper indoor air quality can only be achieved through positive outdoor air ventilation. Natural ventilation relies on occupants to control their air quality levels manually by opening and closing windows. Since most space pollutants are odorless, we feel it is unrealistic to expect occupants to gauge the contamination level of the indoor air and open a window in the cold of winter to obtain proper air quality.

One room on the first floor has dual classroom unit ventilators located along exterior walls and each has an outdoor air louver and associate control damper to allow outdoor air to enter the classroom space through the unit ventilator. There is also a local exhaust unit in the room.

The units were not operating during our site inspection and due to the high number of years of service, all have exceeded their expected service life of 20 years as defined by ASHRAE. As such, any substantial renovation should include replacement of these units.

An in-line exhaust fan located in the attic appears to be connected to the bathrooms within the building.

Controls: Rating = Poor

There is a limited DDC energy management system that controls the boiler plant as well as the bathroom exhaust fan. Otherwise much of the systems operate local controls such as electric controls for the U.V. room and non-electric thermostatic valves for the fin-tube radiation. Three (3) temperature sensors are connected to the Automated Logic energy management system and apparently enable and disable the steam plant based on space temperature.

Recommendations:

As the unit ventilators as well as the buildings piping distribution system have exceeded their useful service life the entire heating distribution system should be replaced during a renovation project.

The building should be provided with a central ventilation system to provide the code required outdoor ventilation air to each space. In addition, the existing newer boilers could be converted to hot water to support a new hydronic distribution system consisting of fin-tube radiation supported by pumps on energy saving variable speed drives.

Also, all new systems should be tied to a complete building wide energy management system incorporating energy saving routines such as demand ventilation reset, room by room occupancy control, intelligent start/stop, etc... should be implemented.

If you have any questions regarding this report please do not hesitate to call.

Sincerely,
Seaman Engineering Corporation

Kevin R. Seaman P.E., LEED® AP
President



EXISTING ELECTRICAL SYSTEMS REVIEW
GOODRICH ACADEMY SCHOOL
FITCHBURG, MA

Date: 10 August 2015

Prepared by: Thomas F. Lutynski, Project Manager

SUMMARY

ART Engineering, Inc. has completed the site survey for the existing Goodrich Academy School in Fitchburg, MA. A Good/Fair/Poor rating system has been developed for the various electrical systems.

The rating system was developed to provide a concise, overall assessment for each system. In general a system rated “Good” is typically compliant with current codes and well suited for present and future space intent. A “Fair” rated system may have equipment in need of replacement or portions not suited for present or future space programming. Systems rated “Poor” do not serve well present or future space programming because of being obsolete or outdated

Most systems included in this site survey have “poor” or “fair” ratings for reasons of age and not satisfying current code standards. The rating system takes into account the conditions of the electrical systems as well as the types of systems, sizing, and applicability for the respective spaces.

The Massachusetts State Building Code 780 CMR requires all buildings, structures, and parts thereof, both existing and new, and all systems and equipment therein which are regulated by the State Building Code to be maintained in a safe, operable, and sanitary condition. All service equipment, means of egress, devices and safeguards which are required by the State Building Code in a building or structure, or which were required by a previous statute in a building or structure, when erected, altered, or repaired, shall be maintained in good working order.

As the oldest (1891) school building to be assessed, the majority of the electrical systems in Goodrich Academy School are either outdated or obsolete. Whether any of the existing systems have been maintained or tested per the manufacturers’ recommendations or systems standards is unknown.



1. ELECTRICAL SERVICE

The existing main panel is a Westinghouse 200 amp 120/240 volt single phase three wire main circuit breaker thirty (30) circuit load center as the main building disconnect located in the basement mechanical room. This load center is fed from an overhead service drop to an exterior meter socket.

Rating: Poor

2. NORMAL DISTRIBUTION

Westinghouse branch circuit load centers are located throughout the building behind wood doors. These load centers are original to the electrical service installation.

Rating: Poor

3. GENERAL PURPOSE POWER

Branch circuit wiring is original to the building comprised mostly of some type of raceway and individual copper conductors with minimal use of equipment grounding conductors. The lack of a dedicated equipment grounding system can create an ineffective grounding system due to rust and poor connections between conduit fittings and outlet boxes.

Rating: Poor

4. EMERGENCY STANDBY POWER

There is no emergency generator.

5. EGRESS AND EXIT LIGHTING

NFPA 101 test data was unavailable to confirm that all emergency lighting fixtures function properly as a composite system. The existing exit sign graphics and emergency battery unit coverage appear adequate and relatively new with LED emergency battery unit heads. All exit signs were fully illuminated.

Rating: Fair

6. LIGHTING AND CONTROLS



Surface fluorescent fixtures comprise the lighting installation. Fluorescent lamps are T8. Generally, the existing fixtures are inefficient in terms of both energy consumption and foot-candle levels.

Lighting controls are local, wall mount toggle switches with a few classrooms having the older push-in switch mechanism.

Rating: Poor

7. TELECOMMUNICATIONS AND CABLING INFRASTRUCTURE

As the age of the building attests, cabling infrastructure was installed significantly later than the original installation. There is a switch, one (1) patch panel, and CAT 5 infrastructure cabling.

Some classrooms have Wi-Fi, and administrative areas have a few outlets. There is no dedicated IT room with the equipment installed behind a chicken wire wall and door in the basement.

Rating: Poor

8. VOICE COMMUNICATIONS EQUIPMENT

No common area voice communication speakers or system exists.

9. FIRE ALARM

The existing, original fire alarm control panel is a conventional Edwards tone five (5)-zone panel located at the main entrance connected to the Fitchburg fire department by a radio master box. A Knox box is located at the front exterior entrance. No exterior beacon is present. Smoke and heat detection is located sporadically throughout the building. Manual pull stations are existing, but located incorrectly per current codes. No audio/visual devices are existing, but there is an alarm bell above the main fire alarm control panel.

Rating: Poor

10. PUBLIC ADDRESS AND CLOCK SYSTEMS

No public address or clock system exists.

11. AUDIO-VISUAL SYSTEMS

No audio/visual systems exist.

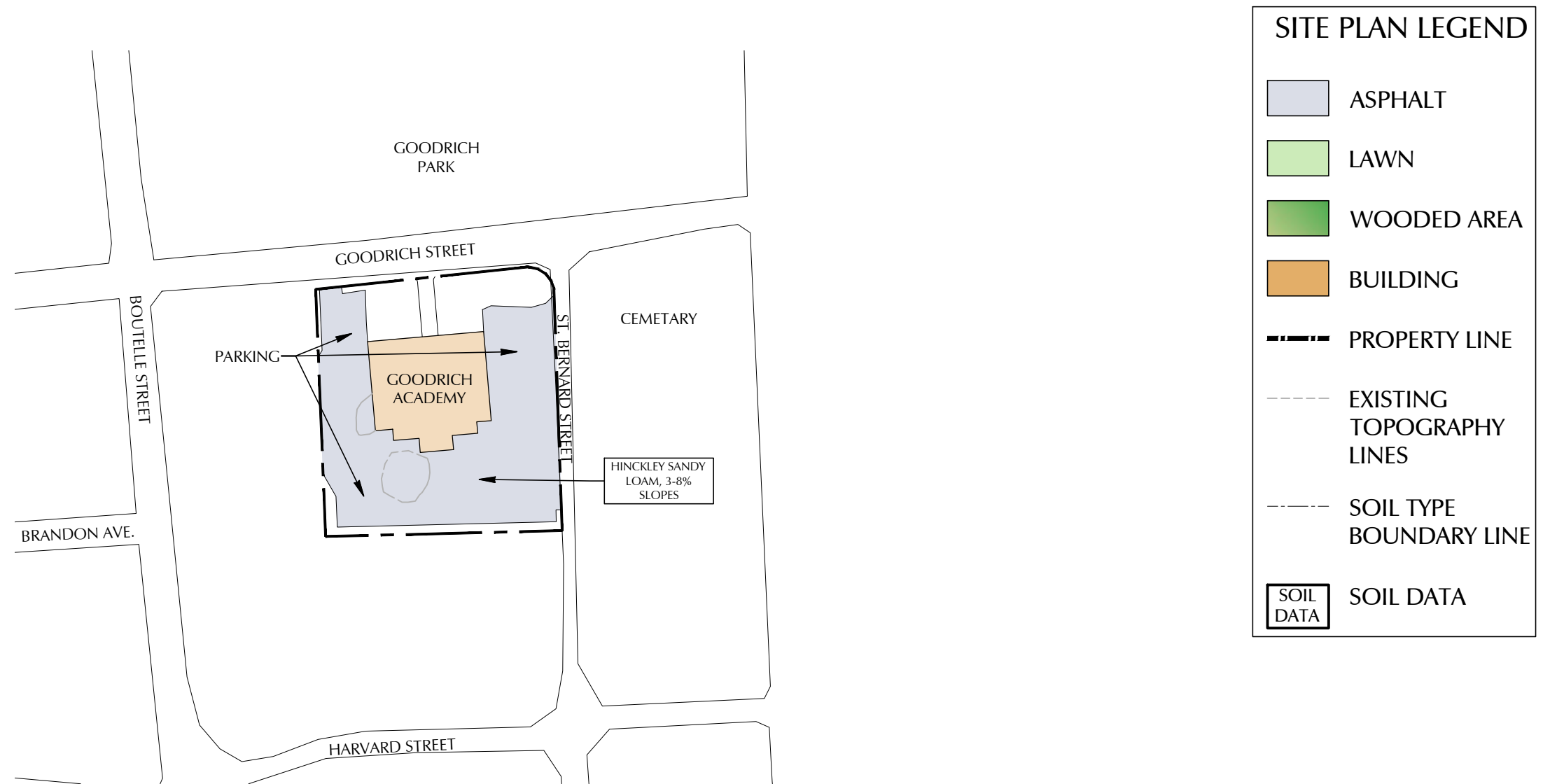


38 Front Street FL 3, Worcester, MA 01608

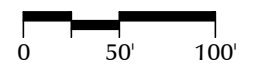
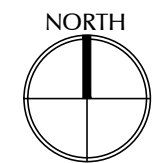
Office: 508.797.0333

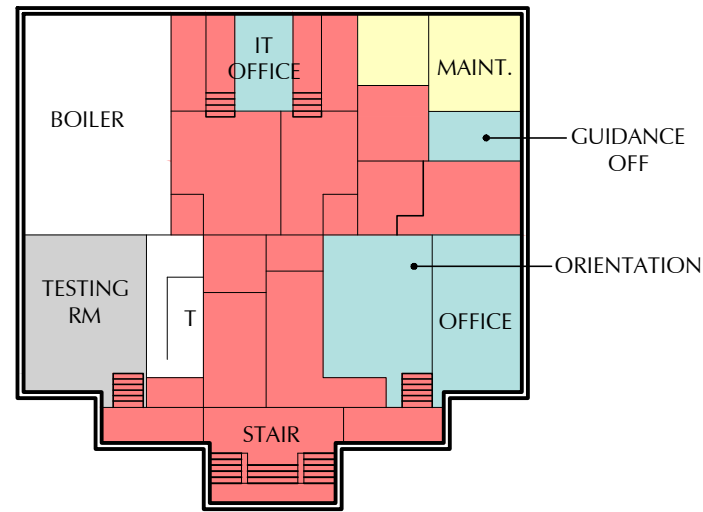
12. VIDEO SURVEILLANCE, ACCESS CONTROL, INTRUSION DETECTION

No video surveillance, access control or intrusion detection exists.

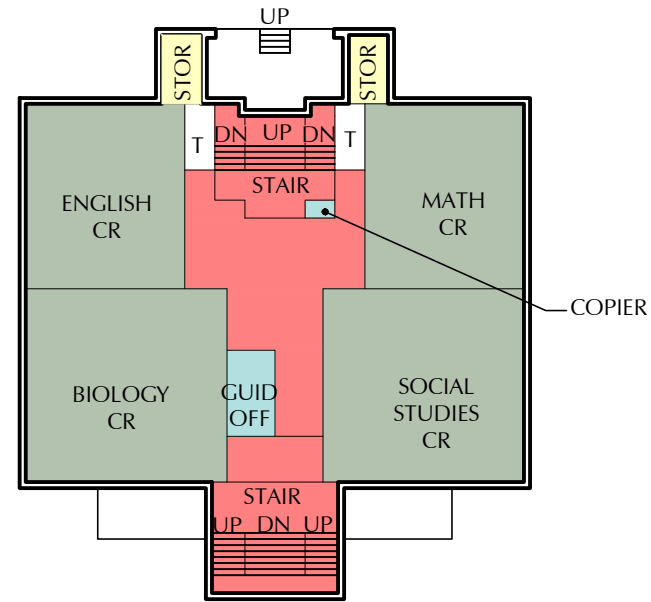


SITE PLAN
 PARCEL AREA = 0.7 ACRES +/-

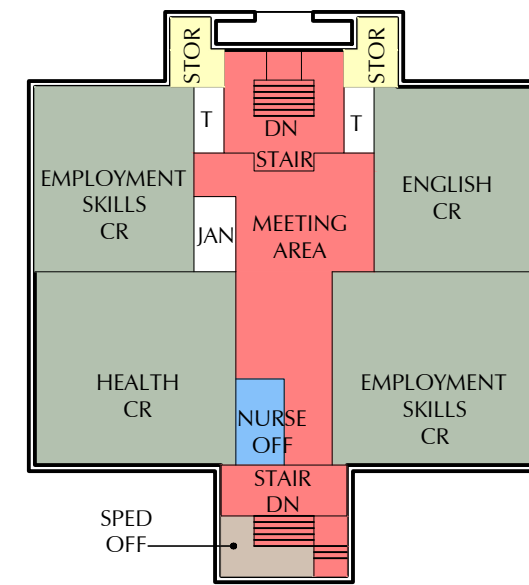
















BASEMENT LEVEL PLAN
GSF AREA = 6,260 SF +/-

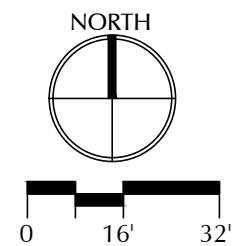


FIRST LEVEL PLAN
GSF AREA = 6,440 SF +/-



SECOND LEVEL PLAN
GSF AREA = 6,610 SF +/-

FLOOR PLAN LEGEND			
	CORE ACADEMIC SPACES		DINING & FOOD SERVICE
	SPECIAL EDUCATION		MEDICAL
	ART & MUSIC		ADMINISTRATION & GUIDANCE
	VOCATIONS & TECHNOLOGY		CUSTODIAL & MAINTENANCE
	HEALTH & PHYSICAL EDUCATION		CIRCULATION
	MEDIA CENTER		OTHER



A summary of existing conditions site/building assessments, by individual school, is below.

	GOOD	FAIR	POOR
CROCKER ELEMENTARY SCHOOL			
Site			●
Exterior Envelope			●
Interior Finishes/Equipment			●
Accessibility			●
Security and Access Control		●	
Building Systems – FP/Plumbing/HVAC			●
Building Systems – Electrical			●
Capacity for Expansion	●		
SOUTH STREET ELEMENTARY SCHOOL			
Site			●
West Building			
Exterior Envelope		●	
Interior Finishes/Equipment		●	●
Accessibility			●
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC		●	
Building Systems – Electrical			●
Capacity for Expansion			●
North Building			
Exterior Envelope			●
Interior Finishes/Equipment			●
Accessibility			●
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC			●
Building Systems – Electrical			●
Capacity for Expansion	●		
South Building			
Exterior Envelope		●	
Interior Finishes/Equipment		●	
Accessibility			●
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC			●
Building Systems – Electrical			●
Capacity for Expansion		●	
East Building			
Exterior Envelope		●	



	GOOD	FAIR	POOR
SOUTH STREET ELEMENTARY SCHOOL (cont.)			
Interior Finishes/Equipment		●	
Accessibility			●
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC		●	
Building Systems – Electrical			●
Capacity for Expansion		●	
REINGOLD ELEMENTARY SCHOOL			
Site		●	
Exterior Envelope	●		
Interior Finishes/Equipment		●	
Accessibility			●
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC		●	
Building Systems – Electrical			●
Capacity for Expansion		●	
MCKAY ARTS ACADEMY			
Site		●	
Exterior Envelope	●		
Interior Finishes/Equipment	●		
Accessibility	●		
Security and Access Control		●	
Building Systems – FP/Plumbing/HVAC (NA)			
Building Systems – Electrical (NA)			
Capacity for Expansion			●
MEMORIAL MIDDLE SCHOOL			
Site			●
Exterior Envelope	●		
Interior Finishes/Equipment			●
Accessibility			●
Security and Access Control		●	
Building Systems – FP/Plumbing/HVAC		●	
Building Systems – Electrical		●	
Capacity for Expansion	●		
LONGSJO MIDDLE SCHOOL			
Site			●
Exterior Envelope			●
Interior Finishes/Equipment		●	
Accessibility			●



	GOOD	FAIR	POOR
LONGSJO MIDDLE SCHOOL (cont.)			
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC			●
Building Systems – Electrical			●
Capacity for Expansion			●
FITCHBURG HIGH SCHOOL			
Site	●		
Exterior Envelope	●		
Interior Finishes/Equipment	●		
Accessibility	●		
Security and Access Control	●		
Building Systems – FP/Plumbing/HVAC	●		
Building Systems – Electrical	●		
Capacity for Expansion	●		
GOODRICH ACADEMY			
Site		●	
Exterior Envelope			●
Interior Finishes/Equipment		●	
Accessibility			●
Security and Access Control			●
Building Systems – FP/Plumbing/HVAC			●
Building Systems – Electrical			●
Capacity for Expansion			●



II. EXISTING CONDITIONS

B. Operating Costs and Capital Improvements

OPERATING COSTS

LPA was provided with utility usage (electric, natural gas, and fuel oil) for all District buildings for the period between 2013 and 2015; a summary is attached. The following table compares the electric and natural gas usage per gross square foot (GSF) building area, in KWH/GSF and Therms/GSF respectively, for each school over the course of 2014. Fitchburg High School used the most electricity at 12.62 KWH/GSF; this is most likely due to a combination of air conditioning and extended hours of operation (evenings, weekends, summer food preparation, etc.). Crocker Elementary School used the second-highest amount of electricity at 9.02 KWH/GSF and the most natural gas at 1.61 Therms/GSF; this is probably due to the relative inefficiencies of the building's exterior envelope (single-glazed windows) and HVAC systems.

SCHOOL	ELECTRIC (KWH)	ELECTRIC (KWH /GSF)	NATURAL GAS (THERMS)	NATURAL GAS (THERMS/GSF)
CROCKER ELEMENTARY SCHOOL	671,508	9.02	120,034	1.61
SOUTH STREET ELEMENTARY SCHOOL	960,172	7.05	43,126	0.32
REINGOLD ELEMENTARY SCHOOL	626,988	7.67	62,296	0.76
MCKAY ARTS ACADEMY	NA	NA	NA	NA
MEMORIAL MIDDLE SCHOOL	851,525	6.83	68,720	0.55
LONGSJO MIDDLE SCHOOL	875,988	4.50	150,091	0.77
FITCHBURG HIGH SCHOOL	3,151,627	12.62	120,532	0.48
GOODRICH ACADEMY	81,849	4.24	7,713	0.40

CAPITAL NEEDS

LPA was also given a summary of Capital Needs, organized by school and category (Infrastructure, ADA Compliance, Building, etc.) and ranked by level of priority, for 2016 and beyond; a copy is included in this section. This document was used to supplement LPA's observations and recommendations for the Option A - Base Repair scope of work. It should be noted that certain line items designated as Priority 3 (i.e. accessibility compliance) may be triggered by other higher-prioritized work; refer to IV. Options and Recommendations, Option A – Base Repair narrative for examples of how this can project scope and budget. LPA has also made budget recommendations, based on recent experience with similar projects and current cost estimating practices, which may differ from those included in the District's Capital Needs plan.



Department	Category	Description	FY16+ -					Funding Source		Fund Balance	Current Yr Gen Fund	Comments
			Replace/ New Date	Priority Rating	Estimated Total Cost	Salvage Value	State/Fed Funds	Grants & Donations	Bonding			
Schools-Crocker	Infrastructure	Replace roof	2016	1	1,000,000							
School--District	Security	Interior & Exterior Systems	2016	1	700,000							
Schools-District	technology	Funding	2016	1	700,000			600,000	100000			
Schools-Crocker	Infrastructure	Replace non working boilers with new boilers	2017	1	650,000							
Schools SSES-North	Infrastructure	Recommission North Wing	2016	1	400,000							
Schools--Goodrich	ADA Compliance	Access Ramp	2016	1	250,000							
School--SSES	Infrastructure	Remediate North Building Flooring	2016	1	100,000							
School-District	Infrastructure	Gym Floors Repair & Refinish	2016	1	100,000							
Schools-FHS	Infrastructure	FHS athletic fields repair of irrigation system	2016	1	30,000							
Schools-FHS	Infrastructure	FHS Baseball field-Install new backstop	2016	1	20,000							
Schools-FHS	Infrastructure	Balance FHS windows	2016	1	20,000							
School--SSES	Infrastructure	Paint SSES trim	2016	1	150,000							
Schools - Memorial	Security	Replace fencing to store Maintenance vehicles	2016	1	15,000							
Schools - Memorial	Gymnasium	Repair bleachers	2016	1	15,000							
Schools-FHS	Infrastructure	FHS Jockey pump-maintain proper pressure to fire suppression system	2016	1	15,000							
Schools-Crocker	Infrastructure	Replace front door	2016	1	15,000							
School--Longsjö	Infrastructure	Boiler Refractory Repair	2016	1	10,000							
School-District	Infrastructure	Expand energy management capabilities to SSES South, East, & Longsjö, Crocker	2016	1								
Schools-District	Building	Purchase Power Agreement (i.e. Solar on roofs)	2016	1								
Schools District	technology	Further upgrade technology backbone after initial E-Rate funded project in 2016	2017	1								
Schools-MSBA project	Building	New Building/Renovation/consolidation	2017	1								
School--SSES	Infrastructure	Univents South & West	2016	2	1,000,000							
School--District	Infrastructure	Electrical System Upgrade	2016	2	1,000,000							
School--Longsjö	Infrastructure	gutter repair	2016	2	300,000							
School-Reingold	Building	Generator	2018	2	165,000							
School Longsjö	Building	Generator	2016	2	165,000							
Schools-Memorial	Infrastructure	Portable HVACE units	2016	2	150,000							
Schools-Memorial	Infrastructure	Fire Alarm Panels	2017	2	100,000							
School--SSES	Infrastructure	Fire Alarm Panels	2017	2	100,000							
School--Memorial	Infrastructure	univents System Replacement	2016	3	1,500,000							
Schools-Crocker Field	Infrastructure	Bleachers/Irrigation/Bathrooms/Turf	2016	3	1,500,000							
School--District	Parking lots	Paving/Site Work/ Drainage	2016	3	1,000,000							
School--Longsjö	Building	Longsjö Roof Replacement	2017	3	1,000,000							
School--Reingold	Land Improvement	Driveway Access	2016	3	750,000							
School--Crocker	ADA Compliance	Bathroom Rehab & ADA	2016	3	250,000							
School--Memorial	ADA Compliance	Bathroom Rehab & ADA	2016	3	250,000							
School--SSES	Infrastructure	Roof Replace Repair West	2016	3	250,000							
School--Memorial	Building	Floor tile replacement	2016	3	200,000							

		FY16+ -						Funding Source				
Department	Category	Description	Replace/ New Date	Priority Rating	Estimated Total Cost	Salvage Value	State/Fed Funds	Grants & Donation s	Bonding	Fund Balance	Current Yr Gen Fund	Comments
School--SSES	Building	Floor tile replacement	2016	3	200,000							
School--Crocker	Building	Floor tile replacement	2016	3	200,000							
School--Reingold	Building	Floor tile replacement	2016	3	200,000							
School--Longsjö	Building	Floor tile replacement	2016	3	200,000							
School--SSES	Infrastructure	East Building conversion to Gas from #2 Oil	2016	3	100,000							
School--SSES	Infrastructure	Roof Replace Repair East	2016	3	50,000							
School--SSES	Infrastructure	Roof Replace Repair South	2016	3	50,000							
School--SSES	Infrastructure	Roof Replace Repair North (Currently Closed)	2016	3	50,000							
TOTALS					14,820,000	0	0	600,000	100,000			

Year	Building	Utility Type	Total Use	Total Cost
2015	Fitchburg High School	Electric (KWH)	5,139.00	\$992.81
	Subtotal		5,139.00	\$992.81
	Longsjo Middle School	Electric (KWH)	788,006.19	\$75,402.69
		Natural Gas (MMBTU)	12,055.43	\$108,367.17
		Natural Gas (Therms)	119,460.81	\$68,542.34
	Subtotal		919,522.43	\$252,312.20
	Memorial Middle school	Electric (KWH)	785,122.00	\$81,081.46
		Natural Gas (Therms)	77,863.75	\$61,262.20
	Subtotal		862,985.75	\$142,343.66
	Fitchburg Alternative High School	Electric (KWH)	63,181.00	\$6,121.76
		Natural Gas (Therms)	14,751.58	\$17,605.78
	Subtotal		77,932.58	\$23,727.54
	Crocker Elementary School	Electric (KWH)	648,162.45	\$64,672.73
		Natural Gas (Therms)	81,801.96	\$61,103.69
		Fuel Oil No. 2 (Demand Cost)	2,072.07	\$5,835.07
	Subtotal		732,036.48	\$131,611.49
	Reingold Elementary School	Electric (KWH)	545,217.50	\$55,902.96
		Natural Gas (Therms)	63,875.41	\$50,697.40
	Subtotal		609,092.91	\$106,600.36
	South Street Elementary East	Electric (KWH)	909,144.00	\$92,210.21
		Natural Gas (MMBTU)	292.68	\$2,630.00
		Natural Gas (Therms)	2,897.27	\$2,519.67
		Fuel Oil No. 2 (Demand Cost)	18,078.50	\$50,992.91
	Subtotal		930,412.45	\$148,352.79
	Laurel Street Warehouse	Electric (KWH)	10,348.00	\$1,256.70
		Fuel Oil No. 2 (Gal.)	379.63	\$1,212.82
		Fuel Oil No. 2 (750 Gal)	4,399.90	\$12,428.55
	Subtotal		15,127.53	\$14,898.07
	South Street Elementary South	Fuel Oil No. 2 (Gal.)	237.10	\$757.53
		Natural Gas (Therms)	23,581.21	\$27,455.69
	Subtotal		23,818.31	\$28,213.22
	South Street Elementary West	Electric (KWH)	131.00	\$13.59
		Natural Gas (Therms)	21,763.09	\$25,532.48
	Subtotal		21,894.09	\$25,546.07
	Fitchburg High School (2)	Electric (KWH)	2,222,184.80	\$262,116.13
		Natural Gas (MMBTU)	13,024.33	\$117,075.70
	Natural Gas (Therms)	127,851.06	\$81,393.21	
Subtotal		2,363,060.19	\$460,585.04	
Crocker Field Club House	Electric (KWH)	15,958.96	\$2,865.71	
	Natural Gas (Therms)	5,834.35	\$4,508.31	
Subtotal		21,793.31	\$7,374.02	
Crocker Field Concession Stands	Electric (KWH)	5,545.00	\$3,354.44	
	Natural Gas (Therms)	4,653.70	\$4,183.22	
Subtotal		10,198.70	\$7,537.66	
Crocker Field	Electric (KWH)	1,643.00	\$182.18	
Subtotal		1,643.00	\$182.18	
Ammiot Field	Electric (KWH)	4.00	\$120.55	
Subtotal		4.00	\$120.55	
Crocker Field Stands	Electric (KWH)	3,480.00	\$357.49	
Subtotal		3,480.00	\$357.49	
South Street Sign (1)	Electric (KWH)	111.00	\$123.13	
Subtotal		111.00	\$123.13	
South Street Sign (2)	Electric (KWH)	131.00	\$126.11	
Subtotal		131.00	\$126.11	
Laurel Street Outdoor Light	Electric (KWH)	0.00	\$414.06	
Subtotal		0.00	\$414.06	
South Street Elementary School North	Natural Gas (Therms)	1.03	\$216.59	
Subtotal		1.03	\$216.59	

2014	Fitchburg High School	Electric (KWH)	1,011,492.00	\$97,649.48
	Subtotal		1,011,492.00	\$97,649.48
	Longsjo Middle School	Electric (KWH)	875,988.00	\$77,132.29
		Natural Gas (MMBTU)	15,180.86	\$137,084.86
		Natural Gas (Therms)	150,090.90	\$103,122.48
	Subtotal		1,041,259.76	\$317,339.63
	Memorial Middle school	Electric (KWH)	851,525.00	\$83,779.48
		Natural Gas (Therms)	68,719.65	\$55,040.47
	Subtotal		920,244.65	\$138,819.95
	Fitchburg Alternative High School	Electric (KWH)	81,849.00	\$7,624.19
		Natural Gas (Therms)	7,713.01	\$13,836.97
	Subtotal		89,562.01	\$21,461.16
	Crocker Elementary School	Electric (KWH)	671,508.44	\$59,932.05
		Natural Gas (Therms)	120,034.17	\$96,963.56
	Subtotal		791,542.61	\$156,895.61
	Reingold Elementary School	Electric (KWH)	626,988.00	\$60,082.34
		Natural Gas (Therms)	62,296.12	\$51,765.89
	Subtotal		689,284.12	\$111,848.23
	South Street Elementary East	Electric (KWH)	960,074.38	\$89,111.59
		Natural Gas (MMBTU)	345.68	\$3,251.35
		Natural Gas (Therms)	3,345.56	\$3,057.41
	Subtotal		963,765.62	\$95,420.35
	Laurel Street Warehouse	Electric (KWH)	10,450.00	\$1,082.04
		Fuel Oil No. 2 (Gal.)	2,443.20	\$7,806.03
	Subtotal		12,893.20	\$8,888.07
	South Street Elementary South	Fuel Oil No. 2 (Gal.)	4,802.10	\$15,345.58
		Natural Gas (Therms)	18,117.00	\$28,473.37
	Subtotal		22,919.10	\$43,818.95
	South Street Elementary West	Electric (KWH)	98.00	\$7.95
		Natural Gas (Therms)	21,663.15	\$32,719.14
	Subtotal		21,761.15	\$32,727.09
	Fitchburg High School (2)	Electric (KWH)	2,140,135.20	\$224,491.45
		Natural Gas (MMBTU)	14,546.19	\$131,736.64
		Natural Gas (Therms)	120,532.10	\$90,303.77
	Subtotal		2,275,213.49	\$446,531.86
	Crocker Field Club House	Electric (KWH)	11,097.00	\$1,074.06
		Natural Gas (Therms)	3,063.73	\$2,909.80
	Subtotal		14,160.73	\$3,983.86
	Crocker Field Concession Stands	Electric (KWH)	5,032.00	\$3,558.81
		Natural Gas (Therms)	6,090.30	\$5,524.16
	Subtotal		11,122.30	\$9,082.97
	Crocker Field	Electric (KWH)	2,684.00	\$212.57
	Subtotal		2,684.00	\$212.57
	Ammiot Field	Electric (KWH)	15.00	\$102.01
	Subtotal		15.00	\$102.01
	Crocker Field Stands	Electric (KWH)	4,477.00	\$356.21
	Subtotal		4,477.00	\$356.21
	South Street Sign (1)	Electric (KWH)	104.00	\$117.18
	Subtotal		104.00	\$117.18
	South Street Sign (2)	Electric (KWH)	94.00	\$87.53
	Subtotal		94.00	\$87.53
	Laurel Street Outdoor Light	Electric (KWH)	0.00	\$399.86
	Subtotal		0.00	\$399.86
	South Street Elementary School North	Natural Gas (Therms)	0.00	\$240.00
	Subtotal		0.00	\$240.00

2013	Fitchburg High School	Electric (KWH)	1,683,100.00	\$164,526.03
		Fuel Oil No. 2 (Gal.)	104.40	\$394.61
	Subtotal		1,683,204.40	\$164,920.64
	Longsjo Middle School	Electric (KWH)	985,288.06	\$90,885.51
		Natural Gas (MMBTU)	13,140.79	\$133,422.89
		Natural Gas (Therms)	119,255.63	\$84,908.73
	Subtotal		1,117,684.48	\$309,217.13
	Memorial Middle school	Electric (KWH)	629,927.00	\$65,324.50
		Fuel Oil No. 2 (Gal.)	87.80	\$321.26
		Natural Gas (Therms)	62,422.19	\$57,227.27
	Subtotal		692,436.99	\$122,873.03
	Fitchburg Alternative High School	Electric (KWH)	89,897.00	\$8,258.45
		Natural Gas (Therms)	7,801.93	\$5,959.55
	Subtotal		97,698.93	\$14,218.00
	Crocker Elementary School	Electric (KWH)	635,542.40	\$57,850.39
		Natural Gas (Therms)	99,607.25	\$89,950.42
	Subtotal		735,149.65	\$147,800.81
	Reingold Elementary School	Electric (KWH)	559,443.00	\$60,158.14
		Natural Gas (Therms)	45,001.88	\$40,744.05
	Subtotal		604,444.88	\$100,902.19
	South Street Elementary East	Electric (KWH)	944,640.00	\$84,462.34
		Natural Gas (MMBTU)	294.62	\$3,112.65
		Natural Gas (Therms)	2,878.22	\$2,471.69
	Subtotal		947,812.84	\$90,046.68
	Laurel Street Warehouse	Electric (KWH)	8,427.00	\$1,013.59
		Fuel Oil No. 2 (Gal.)	6,225.50	\$20,545.05
	Subtotal		14,652.50	\$21,558.64
	South Street Elementary South	Fuel Oil No. 2 (Gal.)	10,626.80	\$35,041.88
		Natural Gas (Therms)	21,649.78	\$28,859.64
	Subtotal		32,276.58	\$63,901.52
	South Street Elementary West	Electric (KWH)	79.00	\$6.24
		Natural Gas (Therms)	16,799.92	\$19,886.85
	Subtotal		16,878.92	\$19,893.09
	Fitchburg High School (2)	Electric (KWH)	1,802,400.00	\$163,029.86
		Natural Gas (MMBTU)	13,766.26	\$145,440.54
		Natural Gas (Therms)	119,807.43	\$88,294.43
	Subtotal		1,935,973.69	\$396,764.83
	Crocker Field Club House	Electric (KWH)	13,028.72	\$1,547.03
		Natural Gas (Therms)	4,928.84	\$5,152.66
	Subtotal		17,957.56	\$6,699.69
Crocker Field Concession Stands	Electric (KWH)	5,543.00	\$2,278.07	
	Natural Gas (Therms)	2,549.90	\$2,693.97	
Subtotal		8,092.90	\$4,972.04	
Crocker Field	Electric (KWH)	985.00	\$78.01	
Subtotal		985.00	\$78.01	
Ammiot Field	Electric (KWH)	0.00	\$65.84	
Subtotal		0.00	\$65.84	
Crocker Field Stands	Electric (KWH)	2,663.00	\$210.90	
	Natural Gas (Therms)	252.37	\$352.13	
Subtotal		2,915.37	\$563.03	
South Street Sign (1)	Electric (KWH)	63.00	\$65.19	
Subtotal		63.00	\$65.19	
South Street Sign (2)	Electric (KWH)	105.00	\$111.19	
Subtotal		105.00	\$111.19	
Laurel Street Outdoor Light	Electric (KWH)	0.00	\$248.03	
Subtotal		0.00	\$248.03	
South Street Elementary School North	Natural Gas (Therms)	0.00	\$288.00	
Subtotal		0.00	\$288.00	
Grand Total			22,379,311.19	\$4,302,805.19

II. EXISTING CONDITIONS

C. Comparative Merits and Limitations

Crocker Elementary School

MERITS	LIMITATIONS
Large site with existing utilities	Poor site circulation and lack of parking
Classrooms generally well sized	Lack of accessibility compliance
Toilet rooms adjacent to Pre-K/K classrooms	Exterior envelope (roofing, windows, storefront and entries) is in poor condition
	Probable hazardous materials (flooring)
	Obsolete/outdated mechanical (both boilers failed; school is currently utilizing a temporary outdoor boiler), electrical and technology systems
	Classrooms distant from core facilities
	Poor distribution of special education spaces to ad hoc assignments of space as available
	Music in modular classroom
	Art and Computer in former classroom spaces



Strategic Facilities Planning Study

South Street Elementary School	
MERITS	LIMITATIONS
Large site with existing utilities	Poor site circulation and lack of parking
Exterior envelope components (West and South Building windows) were recently replaced	Lack of accessibility compliance
Former chapel music space is well appointed, but not easily accessed	Four separate buildings are remote and isolated from one another
	North Building is unoccupied and is in overall very poor condition
	Exterior envelope (roofing and gutters at West Building) is in poor condition
	Presence of hazardous materials (flooring)
	Lack of security and access control (mixed use District offices and educational program space in West Building)
	Lack of fire suppression system (North and South Buildings)
	Obsolete/outdated mechanical, electrical and technology systems
	Classroom spaces made as space available rather than supporting grade configuration/team teaching opportunities/special education integration
	Undersized cafeteria requires 5 lunch seatings
	Entry is not well positioned for public visibility



Strategic Facilities Planning Study

D. Comparative Merits & Limitations

Reingold Elementary School	
MERITS	LIMITATIONS
Exterior envelope components (roofing, windows, storefront and entries) were recently replaced	Lack of accessibility compliance
Mechanical system components (boilers) were recently replaced	Poor site circulation and lack of parking
Other than the main entry, the overall layout of the school is appropriate with core facilities grouped together and well sized.	Moisture infiltration issues at lower level
Classrooms are generally well sized	Inadequate security and access control (upper level entry)
	Obsolete/outdated mechanical, electrical and technology systems
	Layout creates confusion regarding the location of the main entry
	Upper level classrooms have toilets adjacent but grade level classrooms are used for younger students
	Art, Music and Library are undersized



McKay Arts Academy	
MERITS	LIMITATIONS
Owned and maintained by FSU	Significant annual budget expenditure
By enrollment agreement, could be expanded to serve 750 students	Limited capability for expansion
Opportunity to share FSU auditorium	Gym is not positioned well for community use
FSU provision of staff resources	No defined visitor parking
Most facilities are reasonably close to MSBA spatial guidelines	
Recess/play area located outside main classroom wing	
Layout of facility supports pre-K through 4 and 5-8 grade levels	



Memorial Middle School	
MERITS	LIMITATIONS
Exterior envelope components (roofing, windows, storefront and entries) were recently replaced	Lack of parking (due to use of parking areas for buses and parent pickup/drop-off)
Mechanical system components (boilers) were recently replaced	Lack of accessibility compliance
Supports 5/6 and 7/8 team teaching well	Lack of fire suppression system
Generously sized gym and cafeteria facilities plus a 700-seat Auditorium well designed to support community as well as school functions	Obsolete/outdated mechanical, electrical and technology systems
Former vocational/technical spaces have been well reassigned for special education, art and general classrooms as program needs have changed	Majority of special education classrooms are windowless
Library is reasonably sized and well positioned to support academics	Two modular classrooms



Longsjo Middle School	
MERITS	LIMITATIONS
Historical status	Lack of parking and outdoor space
Core facilities for gym, cafeteria, and 900-seat Auditorium are much larger than MSBA spatial guidelines would provide	Lack of accessibility compliance
	Structural issues (auditorium balcony)
	Exterior envelope (roofing, windows, and entries at original building) is in very poor condition
	Inadequate security and access control
	Obsolete/outdated mechanical, electrical and technology systems
	No potential for expansion on current site
	Originally designed to support departmentally organized HS, does not support team teaching well
	Entry through library
	Two street crossings are required to reach recess area which presents security and safety problems



Fitchburg High School	
MERITS	LIMITATIONS
Large site with adequate parking, good vehicular circulation, and potential for expansion	Remote site at northernmost edge of city limits
Exterior envelope (roofing, windows, storefront, entries) is in generally good condition	
Accessibility compliance	
Adequate security and access control systems	
Mechanical system components (boilers) were recently replaced	
Mechanical, electrical and technology systems are generally up to date and in good condition	
Excellent core facilities for gym, cafeteria, and auditorium – well positioned for community as well as school use	
Overall clear circulation pattern	
Originally designed for approximately 1400 students, there is room for expanded enrollment	



Goodrich Academy	
MERITS	LIMITATIONS
Historical status	Lack of accessibility compliance
Small scale is well suited to alternative high school program	Exterior envelope (roofing, windows, and entries) is in poor condition
Large central circulation area can be used flexibly for small groups, tutorials, etc.	Inadequate security and access control
	Lack of fire suppression system
	Obsolete/outdated mechanical, electrical and technology systems
	Limited potential for expansion on current site
	Although relatively well suited for alternative program, would not meet MSBA standards for contemporary school supporting current enrollment



III. NEEDS AND OBJECTIVES

- A. District Educational Programs
 - 1. District Summary
 - 2. Individual School Program Assessments
- B. MSBA Space Summary Templates
- C. Summary of Questionnaire Survey
- D. NESDEC Demography and Enrollment Projections

III. NEEDS AND OBJECTIVES

- A. District Educational Programs
 - 1. District Summary
 - 2. Individual School Program Assessments

INTRODUCTION

With a total pre-Kindergarten through grade 12 student population of approximately 5,000 students, the Fitchburg Public School Districts serves an urban population in a community that is working toward revitalization after experienced a significant post-industrial decline and is now working towards revitalization.. Due to a high proportion of transient families in the areacity, a 30% “churn” rate has been experienced in recent years - where the overall student enrollment remains relatively consistent, but 30% of the students move outleave the District and are replaced by the same percentage of new students.

Compared to statewide statistics for public schools, Fitchburg has a high percentage of low income students and the schools now qualify for free breakfast and lunch for 100% of the students. Particularly for enrichment and extended day programs, the district relies heavily on grant funded programs.

Additionally, Fitchburg has a high proportion of special education students compared to the majority of communities in the state. There is a fullThe District has developed an extensive array of Individual Education Plans (IEPs) to serve the special education needs including: autism; significant learning disabilities; behavior modification; emotional, physical, and intellectual disabilities programs.

The following general overview of the Fitchburg Public Schools program was developed through meetings with: Superintendent Andre Ravenelle, Assistant Superintendent Robert Jokela, Director of Maintenance Joseph Richardson, Assistant Director of Special Education Alicia Berrospe, IT director Eileen Spinney, and Director of Nutrition Jill Lucius.

GENERAL ACADEMIC

GENERAL ORGANIZATION

The current grade configuration of the eight facilities ranges from: PreK- grade 4, Kindergarten-Grade 4, PreK – Grade 8, Grades 5 - 8,Pre K/ Grades 9-12. The ideal scenario would limit the number of school changes in the following organization: Pre K – 4 Elementary, grades 5-8 Middle, grades 9-12 High School.

The optimum size for each elementary and middle school would be 600 – 700 students.

Currently, there is one centralized high school, two middle schools, three elementary schools, one elementary/middle school, and one alternative high school facility. At the elementary and middle



school levels, the District offers each family a choice of school assignment based on availability. With this organization, bus transportation is not neighborhood centric, but covers the entire city.



ENROLLMENT - CURRENT

- Crocker Elementary School: 596
- South St. Elementary School: 672
- Reingold Elementary School: 640
- McKay Arts Academy: 661
- Memorial Middle School: 681
- Longsjo Middle School: 525
- Fitchburg High School: 1256
- Goodrich Academy: 210

PRE-K AND KINDERGARTEN PROGRAMS

Pre-kindergarten is a no fee half day program composed of approximately 50% special education students and 50% typical development students. Typical development students are selected by lottery for available spaces and do not have school transportation provided.

VOCATIONAL

Fitchburg is part of the Montachusett Regional Vocational High School District and only provides minimal vocational programs at the high school level and none at the middle school level. There are no future plans for Fitchburg to modify its participation in the regional agreement.

ALTERNATIVE HIGH SCHOOL

Goodrich Academy has been established to serve high school students with accelerated lives. The academic program schedule is from noon – 8pm each day to better accommodate those students that cannot participate in a traditional high school day. About one third of the students come from over a dozen out of district communities. No school transportation is provided for Goodrich except for special education students.

ALLIANCES WITH FITCHBURG STATE UNIVERSITY (FSU) AND MOUNT WACHUSETT COMMUNITY COLLEGE (MWCC)

The McKay Arts program is currently a pre-K – 8 school based on a long term agreement with FSU that benefits the both the university and the public school system. The university provides the facility as well as some staff (including FSU students) and the city pays a lease through an educational agreement. McKay is based on an integrated arts model that is still in development.

At Fitchburg High School, MWCC staffs a grant funded program called “Gear Up” to assist students as they prepare for college. Some office and planning space at the high school is provided to support the program.



Strategic Facilities Planning Study

YEAR-ROUND/AFTER HOURS PROGRAMS

There are no formal year round programs at Fitchburg. Extended Day and summer programs are provided as grant funding allows and are well attended when offered.

Significant community use of assembly and recreational facilities at the schools is currently scheduled. Crocker Field, located in the center of the city separate from the schools, is used for many high school athletic activities.

SCHOOL CHOICE/ CHARTER/PRIVATE SCHOOLS

Through out of district school choice, more students leave the district than those that opt in from outside districts. Historically, the majority of the school choice exchange occurs between Leominster and Fitchburg there is some exchange of students between Fitchburg and Leominster, typically with fewer students coming into Fitchburg than opting out.. At the high school level, there has been a recent concerted effort provide programming that will maintain a higher number of students within the Fitchburg district.

An existing Grade 7 – 12 charter school located in Fitchburg is chartered to accept up to 400 students from up to 30 surrounding communities. A proposed Charter School covering grades KG through 12 has been proposed to open in Fitchburg in FY17; this proposed charter school has entered the DESE review process.

Some Fitchburg families send their children to local parochial schools and private schools including Appewild.

SPECIAL EDUCATION/ELL/SPEECH/READING

DEMOGRAPHICS

Approximately 20% of the student population participates in the special education program. Focused programs are distributed throughout the elementary and middle school levels and are currently organized as follows:

- South St. Elementary School: autism
- Reingold Elementary School: emotional disabilities
- McKay Arts Academy: physical and intellectually delayed
- Memorial Middle School: significant learning disabilities
- Longsjo Middle School: autism and emotional disabilities

Whenever possible, inclusion programs are encouraged and supported.

Additionally, all schools provide Occupational Training/Physical Therapy (OT/PT), speech, English Language Learning (ELL), and reading programs. With the waves historic influx of immigrant populations moving to Fitchburg, the ELL program has been significant.



Hearing assistive equipment and other specialized equipment is distributed to students to accommodate IEP requirements.

The District has implemented a subject based coaching program at each school to steer the special education initiatives.

Approximately 140 students participate in outsourced collaborative services due to a lack of availability in Fitchburg. There are no imminent plans to expand the Special Education services for the District.

TECHNOLOGY

The District currently contracts with Comcast to provide a city-wide fiber optic data network. The high school is the “hub”, with fiber “spokes” to each school.

Although the District currently has no managed wireless network system, the District will deploy a managed Cisco wireless network throughout the schools by March 2016. At that time, the facilities will be re-cabled (for wireless systems only) with Category-6 Power-Over Ethernet (POE) cabling. The District Local Area Networks (LANs) are primarily Cloud-hosted by Follet as opposed to having onsite server storage.

The District has recently purchased Chromebook carts (30 devices per cart) with FPS Race-to-the-Top funds. The District’s future goal is to have a 1:1 student-to-device ratio (based, in any one school, on the largest grade level class size) for assessment purposes.

Current typical classroom technology (grades 3-8; regular education) includes:

- Whiteboard
- Mimio portable interactive system
- Short-throw projector (non-interactive)
- Document camera
- Carts-On-Wheels (COWs) with projector, document camera, local sound system and computer are brought into classrooms as required.

Current typical classroom technology (high school; regular education) includes:

- Whiteboard
- Short-throw interactive projector
- Document camera
- Carts-On-Wheels (COWs) with projector, document camera, local sound system and computer are brought into classrooms as required.



▪



Currently, most classrooms have only 1-2 hard-wired data drops and limited electrical power capability for devices. Media distribution is currently restricted by available bandwidth, although it is expected that future wireless network upgrades will improve that condition. Most of the schools also have at least one “legacy” computer lab equipped with desktop computers.

To provide adequate technological resources, future plans should consider improvements to data cabling and electrical power infrastructure.

TELEPHONE SYSTEM

The District has a stand-alone (not part of the City system) existing Centrex telephone system. At some undetermined future point, the plan is to deploy a new District-wide telephone system.

SECURITY CONSIDERATIONS

All schools currently have lockdown security procedures in place. While some of the facilities include intercom entry access with limited camera surveillance, the two Middle Schools (only grades 5-8) and FHS have camera security systems for the interior of the facilities. The District is reviewing its Security Practices and is reviewing the ALICE program.

TRANSPORTATION

Contracted student bus transportation is provided to families on a fee basis. No charge van transportation is provided for special education as required by IEPs. Parent pick up/drop off occurs especially at the elementary and middle school levels and has reportedly increased with the implementation of a bus fee.

Proximity to public transportation is important for many of the schools as parents do not always have vehicles available for parent meetings, school events, etc.

FOOD SERVICE

The District’s Food Services program is managed by Sodexo. The District is currently in a 5-year agreement (1 year + 4 annual extensions). Sodexo implemented a Point-of-Sale (POS) system at all District schools except Goodrich Arts Academy. The POS system tracks reimbursement, food allergies, etc. for each student. The District currently offers no-cost breakfast and lunch to all students.



During the summer, 700 – 800 breakfasts/lunches are prepared at the high school for distribution to other school sites. Goodrich Academy has no food service facilities and meals are prepared at Memorial and transported to Goodrich.

The high school also provides dinner to support students in the athletic and after school programs.

EMERGENCY SHELTERS

None of the schools are currently officially emergency shelter facilities, however, in 2008, two schools (Reingold & Memorial) were selected as emergency shelters during the ice storm.

OPERATING COSTS

The District currently uses the School Dude program to track operating and maintenance programs.

Recent MSBA funded Green Repair programs featuring envelope enhancements and boiler replacement at selective facilities reduced annual operating costs by \$200,000.



INTRODUCTION

The following section is a programmatic assessment of each school within the Fitchburg District with the reference of a 21st century learning environment. A meeting was held at each school with the principal and special education coordinator to review the extent to which each facility supported the current curriculum.

Additionally, Massachusetts School Building Authority (MSBA) Space Summary Templates were developed for each school as a comparison tool to gauge existing facilities vs. MSBA guidelines for contemporary schools. For the current Fitchburg enrollment, overall MSBA gross square footage recommendations are less than the existing area used. Much of the additional space is attributable to the number of large core facilities (gym, auditorium, etc.) at some of the schools. Most of the schools have adequate general classrooms, but lack special education, art and music instructional spaces, and administrative meeting space.

Refer to Section B of the Needs and Objectives section of this study for comparisons of existing facilities to MSBA Space Summary Template guidelines.



Crocker Elementary School

Crocker Elementary School (Pre-K through Grade 4, 613 students)

Adam Renda, Principal

Overall layout: The layout of Crocker consists of a central core facility building connected to two separate classroom wings by relatively long corridors with stairs. The inaccessibility and extent of separation is not desirable due to the lack of opportunities for administrative supervision of the classroom wings and the length of travel required for any core programs.

Program specifics:

Classroom wings: The southwest classroom wing includes toilet rooms with each classroom which is an appropriate feature for the PreK/K/1 classrooms currently assigned there. The glue laminated beam construction creates a hard ceiling surface which is acoustically undesirable. The northeast two story classroom wing currently houses one Pre-K and Grades 2/3/4 with centralized toilet rooms and corridor lockers.

Special Education: The school was not originally designed to include special education spaces and is now accommodated by reassignment of spaces as available, resulting in unbalanced distribution which does not foster an inclusion program well.

Art/Music/Computer: Music and Art do not appear to have been planned in the original design. Music is now held in a modular classroom adjacent to a Health modular classroom – both circuitously connected to the core facilities. Art has been assigned to a classroom in the northeast wing. A centralized computer room has been developed within the core facilities

Gym/Cafeteria: The gymnasium formerly had locker rooms which have been converted to other uses. The cafeteria is a fully interior space which is not generally recommended in current school design.

Administration: Faculty library is located on the cafeteria platform (also used for assembly purposes). The main administration suite is appropriately located directly off of the main entry.

Technology: Wireless technology throughout, but inadequate power to support computer devices. Four laptop/chromebook carts are used for the entire school. Currently there is one interactive whiteboard.

Site features: One of the largest sites in the District, Crocker reportedly is used regularly for summer programs. Vehicular circulation is congested although parent vehicles and buses are somewhat separated on the site. Parking is limited and the principal estimated that 100 additional spaces could be used.



South Street Elementary School

South Street Elementary School (Pre-K through Grade 4/ 668 students)

Jonathan Thompson, Principal

Overall layout: The multiple levels of aggregate additions that comprise the South Street Elementary School make this a challenging facility for several reasons: the disjointed floor plan is circuitous and confusing as well as difficult to monitor, several areas are isolated making a cohesive school program difficult, and classroom sizes and appointments are inconsistent. Additionally, the South Street School shares part of the West Building with the central administration offices. The West Building is not organized in a way that can effectively separate school from administrative functions including public access to the school areas. An abandoned wing on the north side is still used for circulation at the bus drop off area.

Program specifics:

Classroom wings: Pre-K and K classrooms are assigned in a cluster, but all other classrooms are dispersed as available through the balance of the facility. Many are on single loaded corridors, interspersed with Central Administration offices, and in isolated areas of the complex. This arrangement does not support integrated learning and team teaching practices well.

The school is supported with group toilet rooms only which is not advantageous for the Pre-K/K program.

Many classrooms lack sinks which does not support the elementary education program.

Special Education: The school was not originally designed to include special education spaces and is now accommodated by reassignment of spaces as available. Although the elementary autism program is housed at South Street, support facilities including observation spaces and de-escalation areas are not incorporated.

The convoluted circulation and length of travel within the school does not support special education objectives of easily accessible and navigable facilities.

The school's lack of meeting space is particularly difficult for the number of meetings required to support the Special Education programs including data assessment.

Each grade level has 2 50/50 inclusion special education classes. Of the total population, over 20% are English Language Learners.

Presently, 5-6 summer programs are held to serve the autism students and the lack of air conditioning is problematic

Art/Music/Computer: Music is assigned to a large former chapel and is well appointed, however, it is located on the first floor of the West Building and is difficult to monitor in terms of public access.



Art was designed into the most recent East Building, but has been reassigned for a classroom due to lack of academic space. Art is now provided on a mobile cart basis. Computer facilities are incorporated into the Library of the East Building.

Library: Located in the East Building, the Library is centrally located and an appropriate prominent position. It has been reconfigured to incorporate a classroom space for a gifted student program as well as the computer lab. The lack of air conditioning is problematic especially with the number of computers in the space.

Gym/Cafeteria: The gymnasium formerly had locker rooms which have been converted to other uses. It is not an adequate size for full school assemblies. The cafeteria is centrally located in the East Building adjacent to the Library. Five seatings are required for the student population due to the size of the space.

Administration: Administrative offices and meetings spaces are dispersed throughout the facility which provides visibility throughout, but would be better in a more consolidated arrangement in an ideal layout.

Technology: Laptop/chromebook carts are used for the entire school.

Site features: Very congested site circulation that spills out into the neighboring streets. Buses, 15 special education vans, 2 private day care transportation and 2 public MART buses all compete with significant (120 – 130)parent pick-up/drop off traffic. Additionally, about 50 – 60 students walk to school or are dropped off in the vicinity (to avoid the lines of cars on site). Parking for the 110+ staff members is limited particularly with the central administration staff and visitor parking requirements for the same site.



Reingold Elementary School**Reingold Elementary School** (K through Grade 4/ 666 students)

Martha Clark, Principal

Overall layout: A two story facility built into the steeply graded site, Reingold has two major entrances with administrative offices and core facilities at the lower level. This creates confusion regarding where the main entrance is located and security concerns with the public accessing both levels.

The upper level includes classrooms with adjacent toilet rooms, but due to the lack of grade access and proximity to the main administration suite, the lower grade levels are not assigned to the upper level.

Accessibility has been addressed by a wheelchair lift at one stair. The unit does not always function properly and has been problematic.

Program specifics:

Classroom wings: Lower grade levels are clustered together on the lower level near the administration and grade level which is appropriate, but the lack of adjacent toilets is problematic. Upper level classrooms are well positioned and support team teaching by communicating corridors between classrooms. One modular classroom has been added to the building and is accessed through a stairwell.

Special Education: The school was not originally designed to include special education spaces and is now accommodated by reassignment of spaces as available. Reingold includes 2 substantially separate classrooms to support the District Behavior Modification program. Current time out spaces do not have safety padding on the walls.

Art/Music/Computer: The Music classroom is accessed through the cafeteria and is adjacent to the platform. Art is in a reassigned upper level classroom and the Computer Lab is in a reassigned classroom on the lower level.

Library: Located appropriately at the intersection of classroom wings on the lower level, the Library. It is significantly undersized by contemporary standards. The close by Computer Lab is in a good position to augment the Library function.

Gym/Cafeteria: The gymnasium formerly had locker rooms which have been converted to other special education and storage uses. It is an adequate size facility for elementary use with a wood floor and bleachers which are advantageous for community use. Both the cafeteria and the gym are positioned near the lower level entrance lobby and toilets.

Administration: Lack of security/administrative presence at the upper entrance is problematic.

Technology: Laptop/chromebook carts are used for the entire school.



Site features: The site is very congested and an additional access point to facilitate the separation of parent pick up/drop off (150 cars) and buses would be advantageous. The large parking area is used for outdoor recess, reducing parking capacity during school. There is no visitor parking available.



McKay Arts Academy

McKay Arts Academy (Pre-K through Grade 8/ 665 students)

Lourdes Ramirez, Principal

Overall layout: Located on Fitchburg State University campus, the McKay Arts School is used by the Fitchburg Public Schools through an educational agreement. Through the alliance, FSU retains ownership of the facility, provides maintenance, and some staff while the District pays a lease and provides faculty. The building is constructed in three wings – A, B and C. The current arrangement is that McKay is located in Wing A, FSU classes (primarily education related) are held in Wing C and both organizations share Wing B.

Wing A is a 3 story double loaded classroom wing and Wing B is a 2-story core program space facility. FSU has designated Wing B classrooms (all located on one side of a corridor) and the two organizations share the Auditorium.

The current area for the educational agreement has a capacity of about 690 students. The agreement allows for an expansion to include an enrollment of up to 750 at the FSU facility.

Developed under an innovation school model, the curriculum is developed to encourage art integration through project based learning. For example, at the middle school level, Humanities replaces subject specific classes for Social Studies and English Language Arts.

Program specifics:

Classroom wings: Generally well organized to support the educational program including appropriate separation of age groups and availability of support functions. On the first floor, classrooms with adjacent toilet rooms are desirable for younger students in particular. Some of the classrooms are relatively small and the student assignments are pro-rated accordingly.

Special Education: The program includes a strong inclusion special education element. Specialized instructional spaces for tutorials and resource rooms have been relatively well dispersed throughout the classroom wings. An Advanced Learning program is supported by the technology space within the Media Center. Guided Learning program for physical and intellectually challenged students is based at McKay.

Art/Music/Computer: Two Music instructional spaces are located on the lower level along with two Art rooms. An additional Art room is located on the upper level. One Computer Lab is positioned on the mid-level. These are all adequately sized for the student population. The availability of the FSU auditorium for assemblies as well as performances is an excellent asset.



Library: The Library is located at the upper level with special education and administrative spaces adjacent.

Gym/Cafeteria: Located on the upper floor, the gymnasium formerly had locker rooms which have been converted to other storage use. The cafeteria is below the gym on the main level. Access to both requires going through the educational areas and does not support community use well.

Technology: Laptop/chromebook carts are used for the entire school. Most classrooms have ELMO/document cameras. There are no interactive white boards.

Administration: About half of the administrative offices are located near the main entry with an excellent access control system in place. Additional offices are grouped together near the Media Center, in the B wing area, and some special education offices dispersed through the facility.

Site features: Student transportation is staggered between the elementary and middle grade levels which reduces the site congestion for the number of students enrolled. There is adequate staff parking, but visitor parking is limited due to shared FSU parking. Adjacent to the classroom wing is a recess play area including a play structure especially suitable for the younger students. Other than a large green space adjacent to C wing, there are no athletic fields on site to support the middle school program.



Memorial Middle School

Memorial Middle (Grades 5-8/ 635 students)

Francis Thomas, Principal

Overall layout: The overall organization of Memorial supports the 5/6 and 7/8 teaching teams relatively well. Core facilities are primarily at the entry except the gymnasium which has its own entrance at the rear of the school adjacent to the play fields. Built into a hill, the majority of the school is on the upper level with 2 lower level classroom wings that extend out to the lower parking area.

Program specifics:

Demographics: All elementary schools tend to feed into Memorial Middle with stronger representation from Reingold and South Street.

Classroom wings: Classrooms are organized along five double loaded corridors (2 stacked wings plus a one story wing). Current room assignments support grade level groupings including a wing with combined 7/8 classrooms. Two modular classrooms have been added to the one story classroom wing. Former vocational spaces designed for home economics and wood and metal shop have been converted for general classroom use.

Special Education: The school was not originally designed to include special education spaces and is now accommodated by reassignment of spaces as available. Some original classrooms have been divided to support special education, but most of the spaces are windowless corner rooms and former storage spaces that have been repurposed to serve the program.

Of the total student population, 20% participate in the inclusion program. This year, some 6th grade classes have a 60% inclusion rate.

Art/Music/Computer: The Music room is well sized and positioned behind the stage as appropriate for acoustical control as performance adjacency. Former practice rooms are now used for storage and SPED. The stage is used for Band and Chorus.

Art is located in a former Science classroom on the lower level with the former prep room reconfigured for Art storage and a kiln. Another former Science classroom has been reconfigured for a Computer Lab on the lower level. Adjacent to the Kitchen, a former storage area had been renovated to house another Computer Lab where the Gifted and Talented program is also held.

Library: The Library is appropriately positioned in the core facility area near the main lobby. It has been reconfigured to include a SPED tutorial area, and the academic success program. Some former ancillary spaces have been reassigned for a Health classroom and Janitorial services.



Gym/Cafeteria: The gymnasium suite is well sized for physical education as well as community use with adjacent locker rooms. The cafeteria size requires 4 lunch servings and is supported by a generously sized kitchen facility. The location of the cafeteria in core facilities wing near the main lobby is appropriate.

Auditorium: The 700 seat Auditorium is a desirable program feature that supports performance and assembly functions at the school as well as community events. It is well appointed with a stage although it is not handicap accessible from within the Auditorium.

Administration: While the office space is adequate, there is a need for meeting and faculty planning spaces.

Technology: Laptop/chromebook carts are used for the entire school.

Site features: The site is fairly well developed with an upper play area in the rear and two entry points- one at each level to facilitate bus drop off at one level and parent pickup/drop off at another. With 200 parent cars at pick up/drop off, the onsite queuing area is inadequate. 7 buses angle park at the lower level and students flow into the academic wings from there. To facilitate the bus circulation, 100 of the 200 designated parking spaces are lost.



Longsjo Middle School

Longsjo Middle School (Grades 5-8/ 461 students)

Craig Chalifoux, Principal

Overall layout: Originally a 1930's high school, with a more recent library addition, the Longsjo Middle School is a four story building with clear circulation patterns. To address accessibility requirements, the current main entry is directly into the library. Most of the floors feature single loaded classroom corridors with large core facility spaces (gymnasium, cafeteria, auditorium) on the other side of the corridor.

Program specifics:

Demographics: Located in downtown Fitchburg, Longsjo has had up to 570 students in the past, but struggles to attract students from the elementary schools, primarily due to the perception of the location as dangerous and the deferred maintenance of the building.

Classrooms: Originally developed to support a high school model, many of the departmental classrooms have been reassigned and reconfigured to support the middle school program. The single loaded classrooms does not foster team teaching, but the number of classrooms in each group lends itself to the four grades well. Toilet rooms are arranged with girls at one corridor and boys at the other which is not ideal.

Special Education: The school was not originally designed to include special education spaces and is now accommodated by reassignment of spaces as available including former prep and storage rooms.

Art/Music/Computer: Located on the fourth floor, Art and Music are remote but reasonably sized. Computer lab is housed in the former library.

Library: Located at the main level at one end of the facility, the Library is relatively remote from majority of the school, but is positioned well for community use. Administrative offices have been moved to the library support spaces to better facilitate the entry sequence at through the library.

Gym/Cafeteria: Sized for a high school basketball court, the gymnasium and locker rooms are large for a middle school program. The lockers are located below the gym which makes travel between the gym and locker rooms time consuming and a challenge to monitor.

The large cafeteria facility is built into the hillside and has little natural daylight. The kitchen is not a large area to serve the cafeteria and the serving line borders on the seating area.

Auditorium: The 900 seat auditorium is oversized for the current student enrollment, but a programmatic asset to the school even with the balcony closed. The sizable stage is fit up with antiquated lighting and equipment, but provides an excellent location for events and performances.



Administration: The location of the main administration suite behind the library circulation desk and not directly adjacent to the main entry is not desirable.

Technology: Laptop/chromebook carts are used for the entire school.

Site features: The site is virtually landlocked with limited parking and all bus and parent vehicle circulation taking place on the surrounding city roads. The only open athletic/recess area requires two street crossings to reach. Located in a challenging neighborhood, there is limited separation between the school and the public street area.



Fitchburg High School

Fitchburg High School (Grades pre-K, 9-12/ 1166 students)

Jeremy Roche, Principal

Overall layout: The high school is well organized to support the program with the main entrance adjacent to the administration office and with community use facilities nearby. The double loaded classroom corridors can be locked off when afterhours events take place and can be assigned flexibly for a departmental academic structure (as currently used) or other if desired in the future.

Originally designed for about 1400 students, the current enrollment is well accommodated and the district is actively working to develop programs that will attract more students at the high school level. Competing factors include: the regional vocational technical high school, charter and private school enrollment, and out of district school choice.

Through a grant program, a college preparatory program called Gear Up is provided by Mount Wachusett Community College and supporting offices are provided within the HS.

Program specifics:

Demographics: Located in a relatively remote area in the north section of the city, the school is primarily reached by vehicular means. Since some families do not have cars, afterhours events including open houses need to be scheduled to align with the public bus system.

Classrooms: The classroom size and configuration generally supports the program. A few vocational technical classrooms are provided to support: Wood Shop, CADD drafting, an early childhood (Pre-Kindergarten) program, and TV studio.

Special Education: Special Education spaces are relatively well distributed throughout the academic areas. The high school provides services for all specialized programs including autism as well as emotional, physical and intellectual disabilities.

Art/Music/Computer: Art, Music and Computer program facilities are well organized and sized. The Art program includes ceramics and graphics arts specialized spaces. The availability of the Auditorium and its adjacency to the Band classroom is an asset to the program.

Library: Located at the upper of the facility, the Library is relatively remote from majority of the school, but is positioned well to support academic use.

Gym: The field house sized facility is a tremendous asset for the program especially with its adjacency to the main entry. There is strong community use of the complex as well.

Cafeteria: The Cafeteria and kitchen are well sized and positioned for school as well as community use.



Auditorium: The 700 seat auditorium is located near the main entry and provides an excellent location for events and performances as well as school assemblies.

Administration: The main administration and guidance suites are located appropriately and have significant area.

Through a grant program, a college preparatory program called Gear Up is provided by Mount Wachusett Community College and supporting offices are provided within the HS.

Technology: Laptop/chromebook carts are used for the entire school.

Site features: The site has a rural feel to it with undeveloped land surrounding the facility. The parking, vehicular circulation and athletic areas are designed relatively well. The site is desirable for summer programs as well as community use. Crocker Field, located in the center of the city is used for football as well as track practice.



Goodrich Academy

Goodrich Academy (Grades 9-12/ 171 students)

Michael Pelland, Principal

Overall layout: Designed on an early twentieth century school model for public school, the building consists of 4 large classrooms each on 2 floors centered around a large circulation area with a basement.

There is no elevator and limited support spaces on site. Food is prepared elsewhere and delivered.

Program specifics:

Demographics: As an alternative high school with only special education transportation provided, the location of the school is not a strong factor for the program. Additionally, there are approximately 1/3 of students that attend from other districts. The program provides a high school education for “kids with accelerated lives” and operates from 12:00 – 8pm.

Classrooms: The classroom size and configuration generally supports the program. The large central meeting area outside the classrooms serves as a flexible learning space and is considered advantageous.

Art/Music/Computer: No specific program spaces provided.

Library: No specific program spaces provided.

Gym: No specific program spaces provided.

Cafeteria: No specific program spaces provided.

Auditorium: No specific program spaces provided.

Administration: Distributed office and nurse spaces are appropriate for the school

Site features: The site is fully developed with parking which is adequate for the school program. There are no athletic fields and they are not required.



III. NEEDS AND OBJECTIVES

B. MSBA Space Summary Templates

Proposed Space Summary- Elementary Schools

CROCKER ES	Existing Conditions		
ROOM TYPE	ROOM NFA ¹	# OF RMS	area totals
CORE ACADEMIC SPACES		<u>25</u>	27,386
<i>(List classrooms of different sizes separately)</i>			
Pre-Kindergarten w/ toilet		1	910
Pre-Kindergarten		2	1,745
Kindergarten w/ toilet		5	8,846
General Classrooms - Grade 1-6		17	15,885
SPECIAL EDUCATION		<u>9</u>	5,610
<i>(List rooms of different sizes separately)</i>			
Self-Contained SPED		9	5,610
Self-Contained SPED - toilet			
Resource Room			
Small Group Room / Reading			
ART & MUSIC		<u>2</u>	1,946
Art Classroom - 25 seats		1	1,080
Art Workroom w/ Storage & kiln			
Music Classroom / Large Group - 25-50 seats		1	866
Music Practice / Ensemble			
HEALTH & PHYSICAL EDUCATION			4,238
Gymnasium			4,238
Gym Storeroom			
Health Instructor's Office w/ Shower & Toilet			
MEDIA CENTER			1,876
Media Center / Reading Room			1,876
DINING & FOOD SERVICE			8,569
Cafeteria / Dining			8,569
Stage			
Chair / Table / Equipment Storage			
Kitchen			
Staff Lunch Room			
MEDICAL			504
Medical Suite Toilet			
Nurses' Office / Waiting Room			504
Examination Room / Resting			
ADMINISTRATION & GUIDANCE			3,666
General Office / Waiting Room / Toilet			3,666
Teachers' Mail and Time Room			
Duplicating Room			
Records Room			
Principal's Office w/ Conference Area			
Principal's Secretary / Waiting			
Assistant Principal's Office			
Supervisory / Spare Office			
Conference Room			

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
	26	25,950	
1,200		-	1,100 SF min - 1,300 SF max
1,200	5	6,000	1,100 SF min - 1,300 SF max
950	21	19,950	900 SF min - 1,000 SF max
		6,040	
950	4	3,800	8% of pop. in self-contained SPED
60	4	240	
500	3	1,500	1/2 size Genl. Clrm.
500	1	500	1/2 size Genl. Clrm.
		5,000	
1,000	2	2,000	assumed schedule 2 times / week / student
150	2	300	
1,200	2	2,400	assumed schedule 2 times / week / student
75	4	300	
		6,300	
6,000	1	6,000	6000 SF Min. Size
150	1	150	
150	1	150	
		3,352	
3,352	1	3,352	
		8,014	
4,470	1	4,470	2 seatings - 15SF per seat
1,000	1	1,000	
399	1	399	
1,896	1	1,896	1600 SF for first 300 + 1 SF/student Add'l
249	1	249	20 SF/Occupant
		610	
60	1	60	
250	1	250	
100	3	300	
		2,461	
448	1	448	
100	1	100	
150	1	150	
110	1	110	
375	1	375	
125	1	125	
120	0	-	
120	1	120	
250	1	250	

Proposed Space Summary- Elementary Schools

CROCKER ES	Existing Conditions		
<u>ROOM TYPE</u>	ROOM NFA ¹	# OF RMS	area totals
Guidance Office			
Guidance Storeroom			
Teachers' Work Room			
CUSTODIAL & MAINTENANCE			1,087
Custodian's Office			
Custodian's Workshop			
Custodian's Storage			1,087
Recycling Room / Trash			
Receiving and General Supply			
Storeroom			
Network / Telecom Room			
OTHER			2,276
Other (Cafeteria Platform/Faculty Library/Computer Room)			2,276
Total Building Net Floor Area (NFA)			57,158
Proposed Student Capacity / Enrollment			596
Total Building Gross Floor Area (GFA)²			74,475
Grossing factor (GFA/NFA)			1.30

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
150	2	300	
35	1	35	
448	1	448	
		2,196	
150	1	150	
375	1	375	
375	1	375	
400	1	400	
299	1	299	
397	1	397	
200	1	200	
		0	
		59,923	
		596	
		86,698	
		1.45	

¹ **Individual Room Net Floor Area (NFA)**

Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

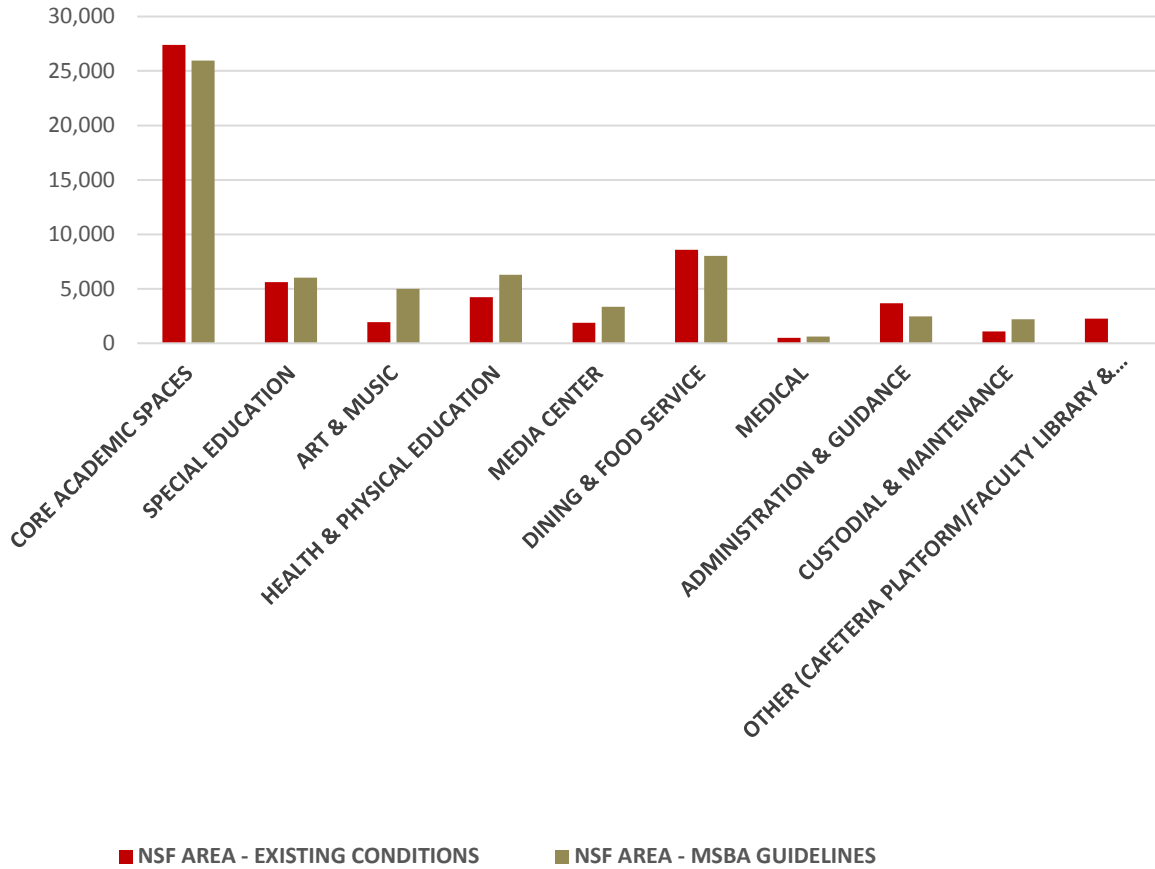
² **Total Building Gross Floor Area (GFA)**

Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of

CROCKER ES



	NSF AREA - EXISTING CONDITIONS	NSF AREA - MSBA GUIDELINES
CORE ACADEMIC SPACES	27,386	25,950
SPECIAL EDUCATION	5,610	6,040
ART & MUSIC	1,946	5,000
HEALTH & PHYSICAL EDUCATION	4,238	6,300
MEDIA CENTER	1,876	3,352
DINING & FOOD SERVICE	8,569	8,014
MEDICAL	504	610
ADMINISTRATION & GUIDANCE	3,666	2,461
CUSTODIAL & MAINTENANCE	1,087	2,196
OTHER (CAFETERIA PLATFORM/FACULTY LIBRARY & COMPUTER ROOM)	2,276	0
TOTAL NSF AREA	57,158	59,923

Proposed Space Summary- Elementary Schools

SOUTH STREET ES	Existing Conditions		
ROOM TYPE	ROOM NFA ¹	# OF RMS	area totals
CORE ACADEMIC SPACES		<u>27</u>	25,639
<i>(List classrooms of different sizes separately)</i>			
Pre-Kindergarten w/ toilet		1	928
Kindergarten w/ toilet		5	4,640
General Classrooms - Grade 1-6		21	20,071
SPECIAL EDUCATION		13	7,244
<i>(List rooms of different sizes separately)</i>			
Self-Contained SPED		13	7,244
Self-Contained SPED - toilet			
Resource Room			
Small Group Room / Reading			
ART & MUSIC			3,491
Art Classroom - 25 seats			
Art Workroom w/ Storage & kiln			
Music Classroom / Large Group - 25-50 seats		1	2,999
Music Practice / Ensemble			
Art Offices			492
HEALTH & PHYSICAL EDUCATION			3,872
Gymnasium			3,872
Gym Storeroom			
Health Instructor's Office w/ Shower & Toilet			
MEDIA CENTER			2,263
Media Center / Reading Room			2,263
DINING & FOOD SERVICE			5,382
Cafeteria / Dining			5,382
Stage			
Chair / Table / Equipment Storage			
Kitchen			
Staff Lunch Room			
MEDICAL			1,093
Medical Suite Toilet			
Nurses' Office / Waiting Room			1,093
Examination Room / Resting			
ADMINISTRATION & GUIDANCE			7,736
General Office / Waiting Room / Toilet			7,736
Teachers' Mail and Time Room			
Duplicating Room			
Records Room			
Principal's Office w/ Conference Area			
Principal's Secretary / Waiting			
Assistant Principal's Office			
Supervisory / Spare Office			
Conference Room			
Guidance Office			
Guidance Storeroom			
Teachers' Work Room			

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
	29	28,800	
1,200		-	1,100 SF min - 1,300 SF max
1,200	5	6,000	1,100 SF min - 1,300 SF max
950	24	22,800	900 SF min - 1,000 SF max
		7,550	
950	5	4,750	8% of pop. in self-contained SPED
60	5	300	
500	3	1,500	1/2 size Genl. Clrm.
500	2	1,000	1/2 size Genl. Clrm.
		5,000	
1,000	2	2,000	assumed schedule 2 times / week / student
150	2	300	
1,200	2	2,400	assumed schedule 2 times / week / student
75	4	300	
		6,300	
6,000	1	6,000	6000 SF Min. Size
150	1	150	
150	1	150	
		3,694	
3,694	1	3,694	
		8,704	
5,040	1	5,040	2 seatings - 15SF per seat
1,000	1	1,000	
424	1	424	
1,972	1	1,972	1600 SF for first 300 + 1 SF/student Add'l
268	1	268	20 SF/Occupant
		610	
60	1	60	
250	1	250	
100	3	300	
		2,657	
486	1	486	
100	1	100	
150	1	150	
110	1	110	
375	1	375	
125	1	125	
120	1	120	
120	1	120	
250	1	250	
150	2	300	
35	1	35	
486	1	486	

Proposed Space Summary- Elementary Schools

SOUTH STREET ES	Existing Conditions		
<u>ROOM TYPE</u>	ROOM NFA ¹	# OF RMS	area totals
CUSTODIAL & MAINTENANCE			
Custodian's Office			
Custodian's Workshop			
Custodian's Storage			2,679
Recycling Room / Trash			
Receiving and General Supply			
Storeroom			
Network / Telecom Room			
OTHER			
Other (Stage)			526
Other (District Administration)			17,050
Total Building Net Floor Area (NFA)			
			76,975
Total Building Net Floor Area (NFA) not including District Administration or North Building unoccupied spaces			
			59,399
Proposed Student Capacity / Enrollment			
			672
Total Building Gross Floor Area (GFA) including District Administration and North Building unoccupied spaces			
			136,205
Grossing factor (GFA/NFA)			
			1.77

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
2,272			
150	1	150	
375	1	375	
375	1	375	
400	1	400	
324	1	324	
448	1	448	
200	1	200	
0			
65,587			
672			
97,440			
1.49			

¹ **Individual Room Net Floor Area (NFA)**

Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

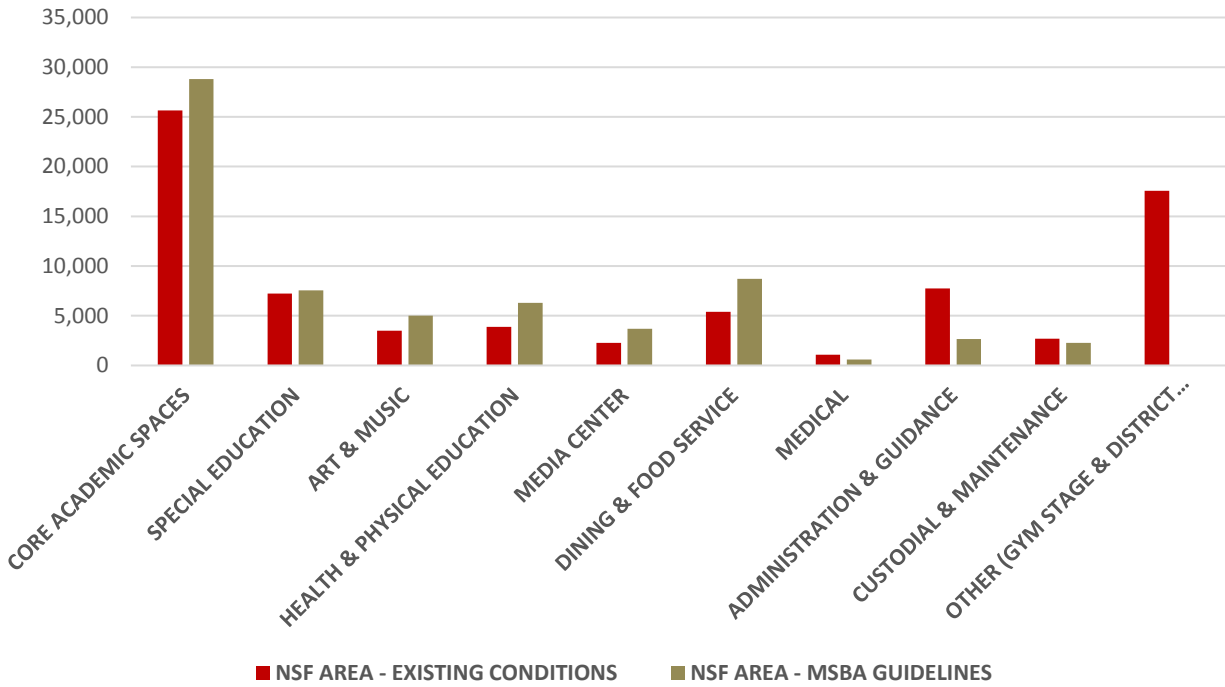
² **Total Building Gross Floor Area (GFA)**

Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of

SOUTH STREET ES



	NSF AREA - EXISTING	NSF AREA - MSBA GUIDELINES
CORE ACADEMIC SPACES	25,639	28,800
SPECIAL EDUCATION	7,244	7,550
ART & MUSIC	3,491	5,000
HEALTH & PHYSICAL EDUCATION	3,872	6,300
MEDIA CENTER	2,263	3,694
DINING & FOOD SERVICE	5,382	8,704
MEDICAL	1,093	610
ADMINISTRATION & GUIDANCE	7,736	2,657
CUSTODIAL & MAINTENANCE	2,679	2,272
OTHER (GYM STAGE & DISTRICT ADMINISTRATION)	17,576	0
TOTAL NSF AREA	76,975	65,587

Proposed Space Summary- Elementary Schools

REINGOLD ES	Existing Conditions		
ROOM TYPE	ROOM NFA ¹	# OF RMS	area totals
CORE ACADEMIC SPACES		<u>27</u>	29,619
<i>(List classrooms of different sizes separately)</i>			
Pre-Kindergarten w/ toilet			
Kindergarten w/ toilet		5	5,314
General Classrooms - Grade 1-6		22	24,305
SPECIAL EDUCATION		8	6,961
<i>(List rooms of different sizes separately)</i>			
Self-Contained SPED		8	6,961
Self-Contained SPED - toilet			
Resource Room			
Small Group Room / Reading			
ART & MUSIC		<u>2</u>	2,239
Art Classroom - 25 seats		1	1,215
Art Workroom w/ Storage & kiln			
Music Classroom / Large Group - 25-50 seats		1	1,024
Music Practice / Ensemble			
HEALTH & PHYSICAL EDUCATION			6,372
Gymnasium			6,372
Gym Storeroom			
Health Instructor's Office w/ Shower & Toilet			
MEDIA CENTER			1,791
Media Center / Reading Room			1,791
DINING & FOOD SERVICE			8,160
Cafeteria / Dining			8,160
Stage			
Chair / Table / Equipment Storage			
Kitchen			
Staff Lunch Room			
MEDICAL			324
Medical Suite Toilet			
Nurses' Office / Waiting Room			324
Examination Room / Resting			
ADMINISTRATION & GUIDANCE			4,853
General Office / Waiting Room / Toilet			4,853
Teachers' Mail and Time Room			
Duplicating Room			
Records Room			
Principal's Office w/ Conference Area			
Principal's Secretary / Waiting			
Assistant Principal's Office			
Supervisory / Spare Office			
Conference Room			
Guidance Office			
Guidance Storeroom			
Teachers' Work Room			

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
	28	27,850	
1,200		-	1,100 SF min - 1,300 SF max
1,200	5	6,000	1,100 SF min - 1,300 SF max
950	23	21,850	900 SF min - 1,000 SF max
		7,550	
950	5	4,750	8% of pop. in self-contained SPED
60	5	300	
500	3	1,500	1/2 size Genl. Clrm.
500	2	1,000	1/2 size Genl. Clrm.
		5,000	
1,000	2	2,000	assumed schedule 2 times / week / student
150	2	300	
1,200	2	2,400	assumed schedule 2 times / week / student
75	4	300	
		6,300	
6,000	1	6,000	6000 SF Min. Size
150	1	150	
150	1	150	
		3,550	
3,550	1	3,550	
		8,413	
4,800	1	4,800	2 seatings - 15SF per seat
1,000	1	1,000	
413	1	413	
1,940	1	1,940	1600 SF for first 300 + 1 SF/student Add'l
260	1	260	20 SF/Occupant
		610	
60	1	60	
250	1	250	
100	3	300	
		2,625	
470	1	470	
100	1	100	
150	1	150	
110	1	110	
375	1	375	
125	1	125	
120	1	120	
120	1	120	
250	1	250	
150	2	300	
35	1	35	
470	1	470	

Proposed Space Summary- Elementary Schools

REINGOLD ES	Existing Conditions		
<u>ROOM TYPE</u>	ROOM NFA ¹	# OF RMS	area totals
CUSTODIAL & MAINTENANCE			666
Custodian's Office			
Custodian's Workshop			
Custodian's Storage			666
Recycling Room / Trash			
Receiving and General Supply			
Storeroom			
Network / Telecom Room			
OTHER			1,088
Other (Tech. Computer Lab)			1,088
Total Building Net Floor Area (NFA)			62,073
Proposed Student Capacity / Enrollment			640
Total Building Gross Floor Area (GFA)²			81,700
Grossing factor (GFA/NFA)			1.32

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
		2,240	
150	1	150	
375	1	375	
375	1	375	
400	1	400	
313	1	313	
427	1	427	
200	1	200	
		0	
		64,138	
		640	
		92,800	
		1.45	

¹ **Individual Room Net Floor Area (NFA)**

Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

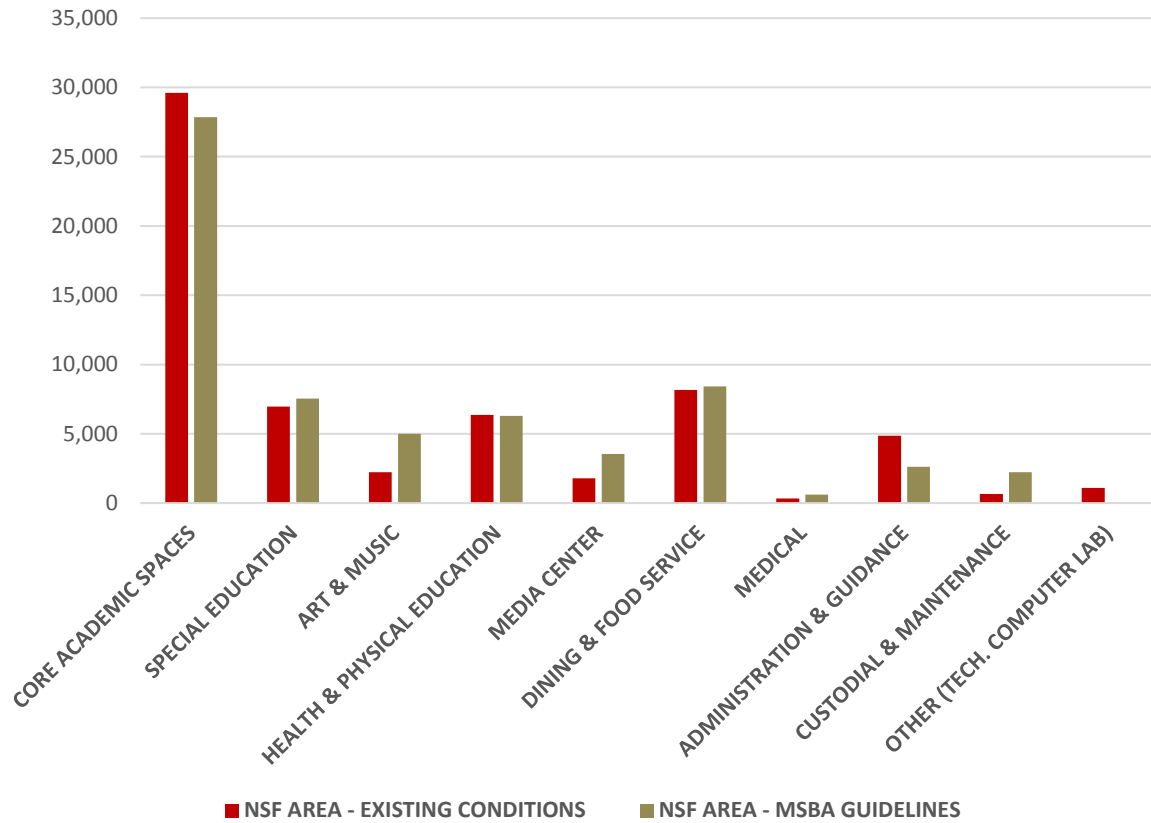
² **Total Building Gross Floor Area (GFA)**

Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of

REINGOLD ES



	NSF AREA - EXISTING CONDITIONS	NSF AREA - MSBA GUIDELINES
CORE ACADEMIC SPACES	29,619	27,850
SPECIAL EDUCATION	6,961	7,550
ART & MUSIC	2,239	5,000
HEALTH & PHYSICAL EDUCATION	6,372	6,300
MEDIA CENTER	1,791	3,550
DINING & FOOD SERVICE	8,160	8,413
MEDICAL	324	610
ADMINISTRATION & GUIDANCE	4,853	2,625
CUSTODIAL & MAINTENANCE	666	2,240
OTHER (TECH. COMPUTER LAB)	1,088	0
TOTAL NSF AREA	62,073	64,138

Proposed Space Summary- K - 8 Schools

MCKAY ARTS ACADEMY	Existing Conditions		
ROOM TYPE	ROOM NFA ¹	# OF RMS	area totals
CORE ACADEMIC SPACES		31	29,120
<i>(List classrooms of different sizes separately)</i>			
Pre-Kindergarten w/ toilet		1	1,136
Kindergarten w/ toilet		3	3,325
General Classrooms - Grades 1-5		26	23,620
General Classrooms - Grades 6-8			
Science Classroom / Lab		1	1,039
Prep room			
SPECIAL EDUCATION		8	5,180
<i>(List rooms of different sizes separately)</i>			
Self-Contained SPED - Grades 6-8		8	5,180
Self-Contained SPED - Grades 1-5			
Self-Contained SPED - Grades 1-5 toilet			
Self-Contained SPED - Grades 6-8 toilet			
Resource Room - Grades 6-8			
Resource Room - Grades 1-5			
Small Group Room / Reading			
ART & MUSIC		5	5,166
Art Classroom - Grades 1-5		3	2,700
Art Classroom - Grades 6-8			
Art Workroom w/ Storage & kiln			
Band / Chorus - 100 seats			
Music Classroom / Large Group - 25-50 seats			
Music Practice / Ensemble - Grades 1-5		2	2,466
Music Practice / Ensemble - Grades 6-8			
VOCATIONS & TECHNOLOGY			967
Tech Clrm. - (E.G. Drafting, Business)			967
Tech Shop - (E.G. Consumer, Wood)			
HEALTH & PHYSICAL EDUCATION			7,041
Gymnasium			7,041
Gym Storeroom			
Health Instructor's Office w/ Shower & Toilet			
Locker Rooms - Boys / Girls w/ Toilets			
MEDIA CENTER			3,167
Media Center/Reading Room			3,167
DINING & FOOD SERVICE			10,989
Cafeteria / Dining			10,989
Kitchen			
Chair / Table / Equipment Storage			
Staff Lunch Room			
Stage			
MEDICAL			1,050
Medical Suite Toilet			
Nurses' Office / Waiting Room			1,050
Examination Room / Resting			

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
	33	30,860	
1,200		-	1,100 SF min - 1,300 SF max
1,200	3	3,600	1,100 SF min - 1,300 SF max
950	16	15,200	900 SF min - 1,000 SF max
950	10	9,500	
1,200	2	2,400	1 period / day / student
80	2	160	
		7,550	
950	2	1,900	8% of pop. in self-contained SPED
950	3	2,850	8% of pop. in self-contained SPED
60	3	180	
60	2	120	
500	1	500	
500	2	1,000	
500	2	1,000	1/2 size Genl. Clrm.
		5,625	
1,000	1	1,000	assumed schedule 2 times / week / student
1,200	1	1,200	assumed use - 50% population 2 times / week
150	2	300	
1,500	1	1,500	
1,200	1	1,200	assumed schedule 2 times / week / student
75	3	225	
200	1	200	
		3,200	
1,200	1	1,200	Assumed use - 25% Population - 5 times/week
2,000	1	2,000	Assumed use - 25% Population - 5 times/week
		8,331	
6,000	1	6,000	6000 SF Min. Size
150	1	150	
181	1	181	
1,000	2	2,000	
		3,763	
3,763	1	3,763	
		9,204	
4,958	1	4,958	2 seatings - 15SF per seat
1,961	1	1,961	1600 SF for first 300 + 1 SF/student Add'l
420	1	420	200 SF for first 300 + .333 SF/student Add'l
265	1	265	200 SF for first 400 + .25 SF/student Add'l
1,600	1	1,600	
		610	
60	1	60	
250	1	250	
100	3	300	

Proposed Space Summary- K - 8 Schools

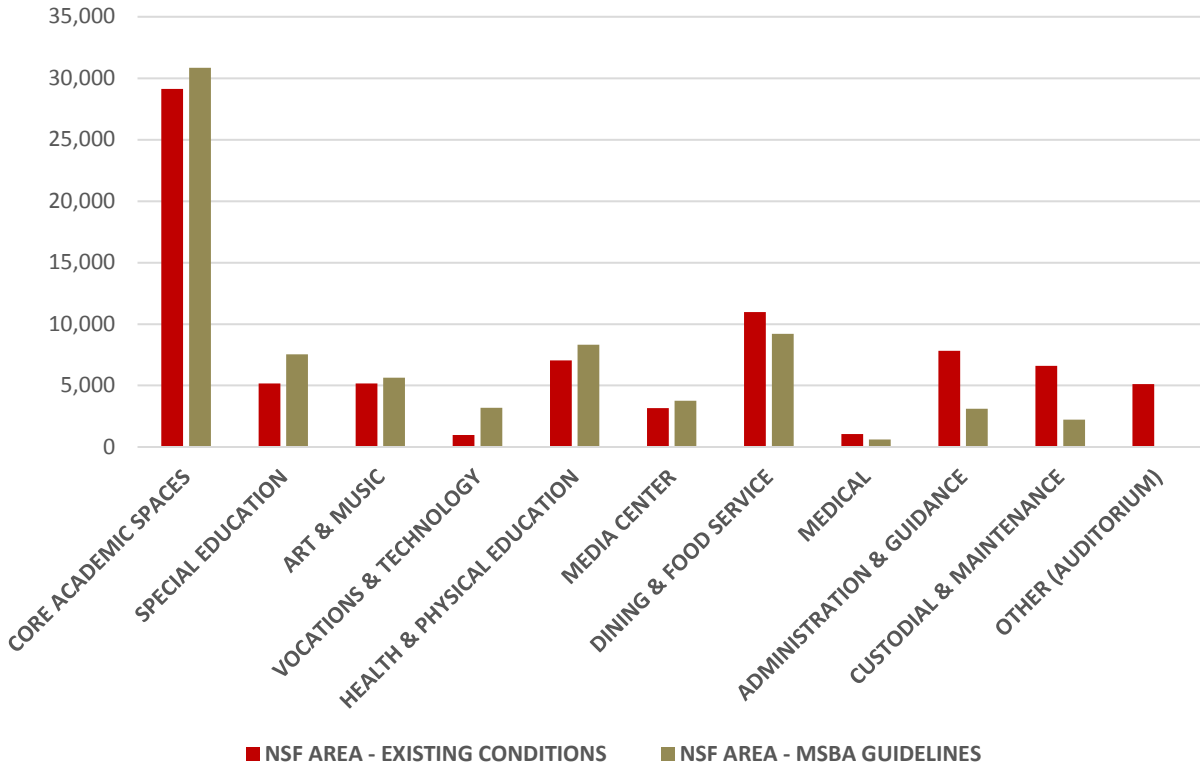
MCKAY ARTS ACADEMY	Existing Conditions		
ROOM TYPE	ROOM NFA ¹	# OF RMS	area totals
ADMINISTRATION & GUIDANCE			7,828
Principal's Office w/ Conference Area			
Principal's Secretary / Waiting			
Assistant Principal's Office - AP1			
Assistant Principal's Office - AP2			
General Office / Waiting Room / Toilet			7,828
Conference room			
Teachers' Mail and Time Room			
Duplicating Room			
Records Room			
Supervisory / Spare Office			
General Waiting Room			
Guidance Office			
Guidance Storeroom			
Teachers' Work Room			
CUSTODIAL & MAINTENANCE			6,596
Custodian's Office			
Custodian's Workshop			
Custodian's Storage			6,596
Storeroom			
Recycling Room / Trash			
Receiving and General Supply			
Network / Telecom Room			
OTHER			5,120
Other (Auditorium)			5,120
Total Building Net Floor Area (NFA)			82,224
Proposed Student Capacity / Enrollment			661
Total Building Gross Floor Area (GFA) ²			111,480
Grossing factor (GFA/NFA)			1.36

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
		3,114	
375	1	375	
125	1	125	
128	1	128	
128	0	-	
456	1	456	
279	1	279	
100	1	100	
164	1	164	
138	1	138	
128	1	128	
100	1	100	
150	4	600	
39	1	39	
481	1	481	
		2,213	
150	1	150	
327	1	327	
375	1	375	
441	1	441	
400	1	400	
320	1	320	
200	1	200	
		0	
		74,470	
		661	Enter grade enrollments to the right
		111,704	
		1.50	

- ¹ **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.
- ² **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification	<p>I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">_____</p>
--------------------------------	--

MCKAY ARTS ACADEMY



	NSF AREA - EXISTING CONDITIONS	NSF AREA - MSBA GUIDELINES
CORE ACADEMIC SPACES	29,120	30,860
SPECIAL EDUCATION	5,180	7,550
ART & MUSIC	5,166	5,625
VOCATIONS & TECHNOLOGY	967	3,200
HEALTH & PHYSICAL EDUCATION	7,041	8,331
MEDIA CENTER	3,167	3,763
DINING & FOOD SERVICE	10,989	9,204
MEDICAL	1,050	610
ADMINISTRATION & GUIDANCE	7,828	3,114
CUSTODIAL & MAINTENANCE	6,596	2,213
OTHER (AUDITORIUM)	5,120	0
TOTAL NSF AREA	82,224	74,470

Proposed Space Summary - Middle Schools

MEMORIAL MS	Existing Conditions		
ROOM TYPE	ROOM NFA ¹	# OF RMS	area totals
CORE ACADEMIC SPACES		28	29,734
<i>(List classrooms of different sizes separately)</i>			
Classroom - General		27	28,594
Small Group Seminar (20-30 seats) / Resource			
Science Classroom / Lab		1	1,140
Prep Room			
SPECIAL EDUCATION		13	7,421
<i>(List classrooms of different sizes separately)</i>			
Self-Contained SPED		13	7,421
Self-Contained SPED Toilet			
Resource Room			
Small Group Room / Reading			
ART & MUSIC		2	7,432
Art Classroom		1	1,728
Art Workroom w/ Storage & kiln			
Band / Chorus - 100 seats			
Music Practice / Ensemble		1	5,704
VOCATIONS & TECHNOLOGY		1	896
Tech Clrm. - (E.G. Drafting, Business)		1	896
Tech Shop - (E.G. Consumer, Wood)			
HEALTH & PHYSICAL EDUCATION			14,638
Gymnasium			14,638
Gym Storeroom			
Health Instructor's Office w/ Shower & Toilet			
Locker Rooms - Boys / Girls w/ Toilets			
MEDIA CENTER			3,449
Media Center / Reading Room			3,449
DINING & FOOD SERVICE			7,002
Cafetorium / Dining			7,002
Stage			
Chair / Table / Equipment Storage			
Kitchen			
Staff Lunch Room			
MEDICAL			708
Medical Suite Toilet			
Nurses' Office / Waiting Room			708
Examination Room / Resting			
ADMINISTRATION & GUIDANCE			5,651
General Office / Waiting Room / Toilet			5,651
Teachers' Mail and Time Room			
Duplicating Room			
Records Room			
Principal's Office w/ Conference Area			
Principal's Secretary / Waiting			
Assistant Principal's Office - AP1			
Assistant Principal's Office - AP2			
Supervisory / Spare Office			
Conference Room			
Guidance Office			
Guidance Waiting Room			
Guidance Storeroom			
Teachers' Work Room			

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
		31,480	
950	24	22,800	850 SF min - 950 SF max
500	2	1,000	
1,200	6	7,200	1 period / day / student
80	6	480	
		7,550	
950	5	4,750	assumed 8% of pop. in self-contained SPED
60	5	300	
500	3	1,500	1/2 size Genl. Clrm.
500	2	1,000	1/2 size Genl. Clrm.
		3,250	
1,200	1	1,200	assumed use - 50% population 2 times / week
150	1	150	
1,500	1	1,500	assumed use - 50% population 2 times / week
200	2	400	
		6,400	
1,200	2	2,400	Assumed use - 25% Population - 5 times/week
2,000	2	4,000	Assumed use - 25% Population - 5 times/week
		8,400	
6,000	1	6,000	
150	1	150	
250	1	250	
1,000	2	2,000	
		4,296	
4,296	1	4,296	
		9,386	
5,108	1	5,108	2 seatings - 15SF per seat
1,600	1	1,600	
427	1	427	
1,981	1	1,981	1600 SF for first 300 + 1 SF/student Add'l
270	1	270	20 SF/Occupant
		610	
60	1	60	
250	1	250	
100	3	300	
		3,481	
441	1	441	
100	1	100	
200	1	200	
200	1	200	
375	1	375	
125	1	125	
150	1	150	
150	1	150	
150	1	150	
350	1	350	
150	4	600	
100	1	100	
50	1	50	
491	1	491	

Proposed Space Summary - Middle Schools

MEMORIAL MS	Existing Conditions		
ROOM TYPE	ROOM NFA ¹	# OF RMS	area totals
CUSTODIAL & MAINTENANCE			
			3,634
Custodian's Office			
Custodian's Workshop			
Custodian's Storage			3,634
Recycling Room / Trash			
Receiving and General Supply			
Storeroom			
Network / Telecom Room			
OTHER			
			6,905
Other (Auditorium)			6,905
Total Building Net Floor Area (NFA)			
			87,470
Proposed Student Capacity / Enrollment			
			681
Total Building Gross Floor Area (GFA)²			
			124,590
Grossing factor (GFA/NFA)			
			1.42

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
			2,156
150	1	150	
250	1	250	
375	1	375	
400	1	400	
327	1	327	
454	1	454	
200	1	200	
			0
			77,008
			681
			112,988
			1.47

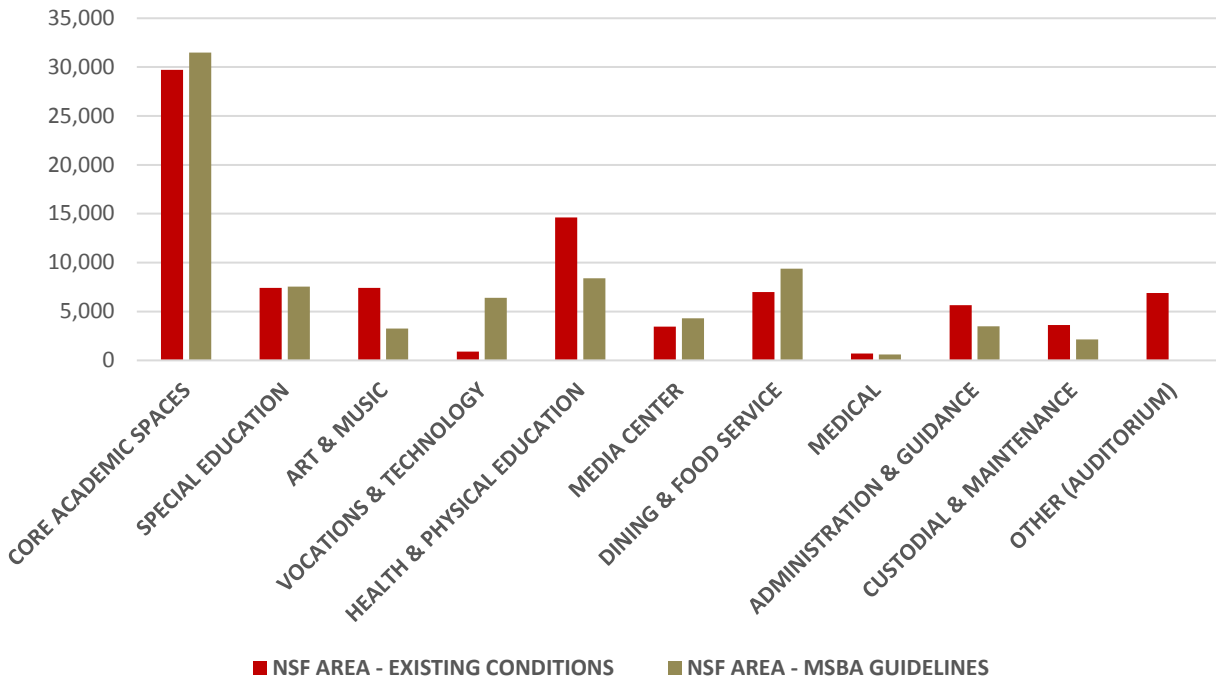
¹ **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

² **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the

MEMORIAL MS



	NSF AREA - EXISTING CONDITIONS	NSF AREA - MSBA GUIDELINES
CORE ACADEMIC SPACES	29,734	31,480
SPECIAL EDUCATION	7,421	7,550
ART & MUSIC	7,432	3,250
VOCATIONS & TECHNOLOGY	896	6,400
HEALTH & PHYSICAL EDUCATION	14,638	8,400
MEDIA CENTER	3,449	4,296
DINING & FOOD SERVICE	7,002	9,386
MEDICAL	708	610
ADMINISTRATION & GUIDANCE	5,651	3,481
CUSTODIAL & MAINTENANCE	3,634	2,156
OTHER (AUDITORIUM)	6,905	0
TOTAL NSF AREA	87,470	77,009

Proposed Space Summary - Middle Schools

LONGSJO MS	Existing Conditions		
ROOM TYPE	ROOM NFA ¹	# OF RMS	area totals
CORE ACADEMIC SPACES		27	25,069
<i>(List classrooms of different sizes separately)</i>			
Classroom - General		21	18,640
Small Group Seminar (20-30 seats) / Resource			
Science Classroom / Lab		6	6,429
Prep Room			
SPECIAL EDUCATION		16	13,460
<i>(List classrooms of different sizes separately)</i>			
Self-Contained SPED		16	13,460
Self-Contained SPED Toilet			
Resource Room			
Small Group Room / Reading			
ART & MUSIC		2	3,870
Art Classroom	1		1,491
Art Workroom w/ Storage & kiln			
Band / Chorus - 100 seats			
Music Practice / Ensemble		1	2,379
VOCATIONS & TECHNOLOGY			2,315
Tech Clrm. - (E.G. Drafting, Business)			2,315
Tech Shop - (E.G. Consumer, Wood)			
HEALTH & PHYSICAL EDUCATION			12,278
Gymnasium			12,278
Gym Storeroom			
Health Instructor's Office w/ Shower & Toilet			
Locker Rooms - Boys / Girls w/ Toilets			
MEDIA CENTER			5,119
Media Center / Reading Room			5,119
DINING & FOOD SERVICE			12,748
Cafetorium / Dining			12,748
Stage			
Chair / Table / Equipment Storage			
Kitchen			
Staff Lunch Room			
MEDICAL			881
Medical Suite Toilet			
Nurses' Office / Waiting Room			881
Examination Room / Resting			
ADMINISTRATION & GUIDANCE			9,767
General Office / Waiting Room / Toilet			9,767
Teachers' Mail and Time Room			
Duplicating Room			
Records Room			
Principal's Office w/ Conference Area			
Principal's Secretary / Waiting			
Assistant Principal's Office - AP1			
Assistant Principal's Office - AP2			
Supervisory / Spare Office			
Conference Room			
Guidance Office			
Guidance Waiting Room			
Guidance Storeroom			
Teachers' Work Room			

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
		24,950	
950	19	18,050	850 SF min - 950 SF max
500	1	500	
1,200	5	6,000	1 period / day / student
80	5	400	
		6,040	
950	4	3,800	assumed 8% of pop. in self-contained SPED
60	4	240	
500	3	1,500	1/2 size Genl. Clrm.
500	1	500	1/2 size Genl. Clrm.
		3,050	
1,200	1	1,200	assumed use - 50% population 2 times / week
150	1	150	
1,500	1	1,500	assumed use - 50% population 2 times / week
200	1	200	
		3,200	
1,200	1	1,200	Assumed use - 25% Population - 5 times/week
2,000	1	2,000	Assumed use - 25% Population - 5 times/week
		8,400	
6,000	1	6,000	
150	1	150	
250	1	250	
1,000	2	2,000	
		3,399	
3,399	1	3,399	
		7,969	
3,938	1	3,938	2 seatings - 15SF per seat
1,600	1	1,600	
375	1	375	
1,825	1	1,825	1600 SF for first 300 + 1 SF/student Add'l
231	1	231	20 SF/Occupant
		610	
60	1	60	
250	1	250	
100	3	300	
		3,175	
363	1	363	
100	1	100	
200	1	200	
200	1	200	
375	1	375	
125	1	125	
150	1	150	
150	1	150	
150	1	150	
350	1	350	
150	3	450	
100	1	100	
50	1	50	
413	1	413	

Proposed Space Summary - Middle Schools

LONGSJO MS	Existing Conditions		
ROOM TYPE	ROOM NFA ¹	# OF RMS	area totals
CUSTODIAL & MAINTENANCE			9,327
Custodian's Office			
Custodian's Workshop			
Custodian's Storage			9,327
Recycling Room / Trash			
Receiving and General Supply			
Storeroom			
Network / Telecom Room			
OTHER			15,094
Other (Auditorium/Stage & Balcony)			15,094
Total Building Net Floor Area (NFA)			109,928
Proposed Student Capacity / Enrollment			525
Total Building Gross Floor Area (GFA) ²			194,493
Grossing factor (GFA/NFA)			1.77

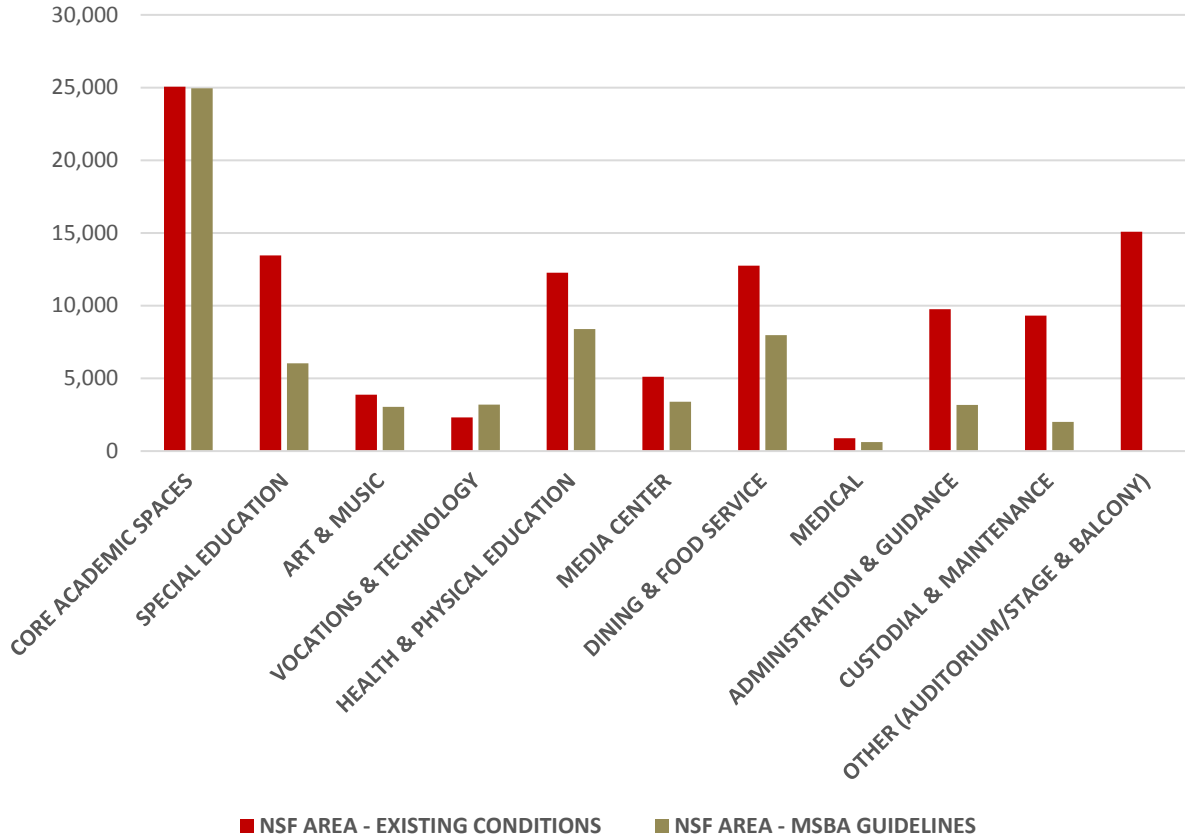
MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
		2,000	
150	1	150	
250	1	250	
375	1	375	
400	1	400	
275	1	275	
350	1	350	
200	1	200	
		0	
		62,792	
		525	
		94,125	
		1.50	

¹ **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

² **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification	<p>I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">_____</p>
--------------------------------	---

LONGSJO MS



	NSF AREA - EXISTING CONDITIONS	NSF AREA - MSBA GUIDELINES
CORE ACADEMIC SPACES	25,069	24,950
SPECIAL EDUCATION	13,460	6,040
ART & MUSIC	3,870	3,050
VOCATIONS & TECHNOLOGY	2,315	3,200
HEALTH & PHYSICAL EDUCATION	12,278	8,400
MEDIA CENTER	5,119	3,399
DINING & FOOD SERVICE	12,748	7,969
MEDICAL	881	610
ADMINISTRATION & GUIDANCE	9,767	3,175
CUSTODIAL & MAINTENANCE	9,327	2,000
OTHER (AUDITORIUM/STAGE & BALCONY)	15,094	0
TOTAL NSF AREA	109,928	62,793

Proposed Space Summary - High Schools

FITCHBURG HS	Existing Conditions		
ROOM TYPE	ROOM NFA ¹	# OF RMS	area totals
CORE ACADEMIC SPACES		<u>52</u>	51,757
<i>(List classrooms of different sizes separately)</i>			
Classroom - General		44	39,737
Teacher Planning			
Small Group Seminar (20-30 seats)			
Science Classroom / Lab		8	12,020
Prep Room			
Central Chemical Storage Rm			
SPECIAL EDUCATION		14	11,944
<i>(List classrooms of different sizes separately)</i>			
Self-Contained SPED		14	11,944
Self-Contained SPED Toilet			
Resource Room			
Small Group Room			
ART & MUSIC		4	7,228
Art Classroom - 25 seats		3	4,618
Art Workroom w/ Storage & kiln			
Band - 50 - 100 seats			
Chorus - 50 - 100 seats			
Ensemble			
Music Practice		1	2,610
Music Storage			
VOCATIONS & TECHNOLOGY			9,183
Tech Clrm. - (E.G. Drafting, Business)			9,183
Tech Shop - (E.G. Consumer, Wood)			
HEALTH & PHYSICAL EDUCATION			45,008
Gymnasium			45,008
PE Alternatives			
Gym Storeroom			
Locker Rooms - Boys / Girls w/ Toilets			
Phys. Ed. Storage			
Athletic Director's Office			
Health Instructor's Office w/ Shower & Toilet			
MEDIA CENTER			7,128
Media Center / Reading Room			7,128
Computer Lab			
AUDITORIUM / DRAMA			12,413
Auditorium			12,413
Stage			
Auditorium Storage			
Make-up / Dressing Rooms			
Controls / Lighting / Projection			
DINING & FOOD SERVICE			12,460
Cafeteria / Student Lounge / Break-out			12,460
Chair / Table Storage			
Scramble Serving Area			
Kitchen			
Staff Lunch Room			

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
		60,590	
850	43	36,550	825 SF min - 950 SF max
100	43	4,300	
500	3	1,500	
1,440	11	15,840	3 x85% ut=20 Seats-1 per /day/student
200	11	2,200	
200	1	200	
		13,090	
950	9	8,550	assumed 8% of pop. in self-contained SPED
60	9	540	
500	4	2,000	1/2 size Genl. Clrm.
500	4	2,000	1/2 size Genl. Clrm.
		8,200	
1,200	3	3,600	Assumed use - 25% Population - 5 times/week
150	3	450	
1,500	1	1,500	Assumed use - 25% Population - 5 times/week
1,500	1	1,500	
200	1	200	
75	6	450	
500	1	500	
		12,800	
1,200	4	4,800	Assumed use - 50% Population - 5 times/week
2,000	4	8,000	Assumed use - 50% Population - 5 times/week
		23,234	
12,000	1	12,000	
3,000	1	3,000	
300	1	300	
7,034	1	7,034	5.6 sf/student total
500	1	500	
150	1	150	
250	1	250	
		7,750	
7,750	1	7,750	
		10,400	
7,500	1	7,500	2/3 Enrollment @ 10 SF/Seat - 750 seats MAX
1,600	1	1,600	
500	1	500	
300	2	600	
200	1	200	
		10,464	
6,280	1	6,280	3 seatings - 15SF per seat
464	1	464	
600	1	600	
2,556	1	2,556	1600 SF for first 300 + 1 SF/student Add'l
564	1	564	20 SF/Occupant

Proposed Space Summary - High Schools

FITCHBURG HS	Existing Conditions		
ROOM TYPE	ROOM NFA ¹	# OF RMS	area totals
MEDICAL			1,275
Medical Suite Toilet			
Nurses' Office / Waiting Room			1,275
Interview Room			
Examination Room / Resting			
ADMINISTRATION & GUIDANCE			17,532
General Office / Waiting Room / Toilet			17,532
Teachers' Mail and Time Room			
Duplicating Room			
Records Room			
Principal's Office w/ Conference Area			
Principal's Secretary / Waiting			
Assistant Principal's Office - AP1			
Assistant Principal's Office - AP2			
Supervisory / Spare Office			
Conference Room			
Guidance Office			
Guidance Waiting Room			
Guidance Storeroom			
Career Center			
Records Room			
Teachers' Work Room			
CUSTODIAL & MAINTENANCE			1,986
Custodian's Office			
Custodian's Workshop			
Custodian's Storage			1,986
Recycling Room / Trash			
Receiving and General Supply			
Storeroom			
Network / Telecom Room			
OTHER			5,836
Other (Pre-K CRs, MWCC offices)			5,836
Total Building Net Floor Area (NFA)			183,750
Proposed Student Capacity / Enrollment			1,256
Total Building Gross Floor Area (GFA)²			249,830
Grossing factor (GFA/NFA)			1.36

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
		1,210	
60	1	60	
250	1	250	
100	3	300	
100	6	600	
		5,022	
628	1	628	
100	1	100	
200	1	200	
200	1	200	
375	1	375	
125	1	125	
150	1	150	
150	1	150	
120	1	120	
450	1	450	
150	7	1,050	
100	1	100	
100	1	100	
464	1	464	
182	1	182	
628	1	628	
		2,567	
150	1	150	
250	1	250	
375	1	375	
400	1	400	
464	1	464	
728	1	728	
200	1	200	
		0	
		155,327	
		1,256	180
		226,080	
		1.46	

¹ Individual Room Net Floor Area (NFA)

Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

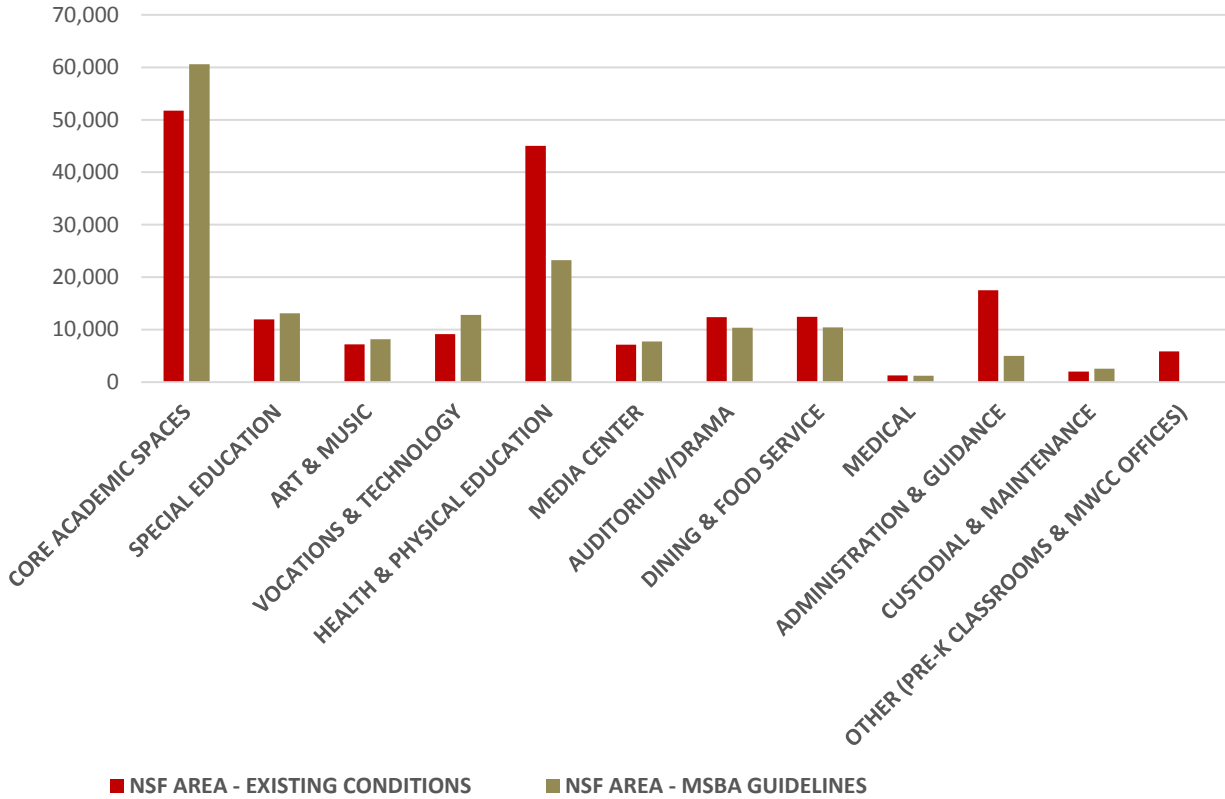
² Total Building Gross Floor Area (GFA)

Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts

FITCHBURG HS



	NSF AREA - EXISTING CONDITIONS	NSF AREA - MSBA GUIDELINES
CORE ACADEMIC SPACES	51,757	60,590
SPECIAL EDUCATION	11,944	13,090
ART & MUSIC	7,228	8,200
VOCATIONS & TECHNOLOGY	9,183	12,800
HEALTH & PHYSICAL EDUCATION	45,008	23,234
MEDIA CENTER	7,128	7,750
AUDITORIUM/DRAMA	12,413	10,400
DINING & FOOD SERVICE	12,460	10,464
MEDICAL	1,275	1,210
ADMINISTRATION & GUIDANCE	17,532	5,022
CUSTODIAL & MAINTENANCE	1,986	2,567
OTHER (PRE-K CLASSROOMS & MWCC OFFICES)	5,836	0
TOTAL NSF AREA	183,750	155,327

Proposed Space Summary - High Schools

GOODRICH ACADEMY	Existing Conditions		
	ROOM NFA ¹	# OF RMS	area totals
ROOM TYPE			
CORE ACADEMIC SPACES		8	7,580
<i>(List classrooms of different sizes separately)</i>			
Classroom - General		8	7,580
Teacher Planning			
Small Group Seminar (20-30 seats)			
Science Classroom / Lab			
Prep Room			
Central Chemical Storage Rm			
SPECIAL EDUCATION			0
<i>(List classrooms of different sizes separately)</i>			
Self-Contained SPED			
Self-Contained SPED Toilet			
Resource Room			
Small Group Room			
ART & MUSIC			0
Art Classroom - 25 seats			
Art Workroom w/ Storage & kiln			
Band - 50 - 100 seats			
Chorus - 50 - 100 seats			
Ensemble			
Music Practice			
Music Storage			
VOCATIONS & TECHNOLOGY			526
Tech Clrm. - (E.G. Drafting, Business)		1	526
Tech Shop - (E.G. Consumer, Wood)			
HEALTH & PHYSICAL EDUCATION			0
Gymnasium			
PE Alternatives			
Gym Storeroom			
Locker Rooms - Boys / Girls w/ Toilets			
Phys. Ed. Storage			
Athletic Director's Office			
Health Instructor's Office w/ Shower & Toilet			
MEDIA CENTER			0
Media Center / Reading Room			
Computer Lab			
AUDITORIUM / DRAMA			0
Auditorium			
Stage			
Auditorium Storage			
Make-up / Dressing Rooms			
Controls / Lighting / Projection			
DINING & FOOD SERVICE			0
Cafeteria / Student Lounge / Break-out			
Chair / Table Storage			
Scramble Serving Area			
Kitchen			
Staff Lunch Room			

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
		11,580	
850	8	6,800	825 SF min - 950 SF max
100	8	800	
500	1	500	
1,440	2	2,880	3 x85% ut=20 Seats-1 per /day/student
200	2	400	
200	1	200	
		3,020	
950	2	1,900	assumed 8% of pop. in self-contained SPED
60	2	120	
500	1	500	1/2 size Genl. Clrm.
500	1	500	1/2 size Genl. Clrm.
		5,050	
1,200	1	1,200	Assumed use - 25% Population - 5 times/week
150	1	150	
1,500	1	1,500	Assumed use - 25% Population - 5 times/week
1,500	1	1,500	
200	1	200	
75	0	-	
500	1	500	
		0	
1,200	0	-	Assumed use - 50% Population - 5 times/week
2,000	0	-	Assumed use - 50% Population - 5 times/week
		17,376	
12,000	1	12,000	
3,000	1	3,000	
300	1	300	
1,176	1	1,176	5.6 sf/student total
500	1	500	
150	1	150	
250	1	250	
		3,650	
3,650	1	3,650	
		4,103	
1,400	1	1,400	2/3 Enrollment @ 10 SF/Seat - 750 seats MAX
1,600	1	1,600	
303	1	303	
300	2	600	
200	1	200	
		3,950	
1,050	1	1,050	3 seatings - 15SF per seat
300	1	300	
600	1	600	
1,600	1	1,600	1600 SF for first 300 + 1 SF/student Add'l
400	1	400	20 SF/Occupant

Proposed Space Summary - High Schools

GOODRICH ACADEMY	Existing Conditions		
ROOM TYPE	ROOM NFA ¹	# OF RMS	area totals
MEDICAL			115
Medical Suite Toilet			
Nurses' Office / Waiting Room		1	115
Interview Room			
Examination Room / Resting			
ADMINISTRATION & GUIDANCE			1,237
General Office / Waiting Room / Toilet			1,237
Teachers' Mail and Time Room			
Duplicating Room			
Records Room			
Principal's Office w/ Conference Area			
Principal's Secretary / Waiting			
Assistant Principal's Office - AP1			
Assistant Principal's Office - AP2			
Supervisory / Spare Office			
Conference Room			
Guidance Office			
Guidance Waiting Room			
Guidance Storeroom			
Career Center			
Records Room			
Teachers' Work Room			
CUSTODIAL & MAINTENANCE			721
Custodian's Office			
Custodian's Workshop			
Custodian's Storage			721
Recycling Room / Trash			
Receiving and General Supply			
Storeroom			
Network / Telecom Room			
OTHER			0
Other (specify)			
Total Building Net Floor Area (NFA)			10,179
Proposed Student Capacity / Enrollment			210
Total Building Gross Floor Area (GFA)²			19,310
Grossing factor (GFA/NFA)			1.90

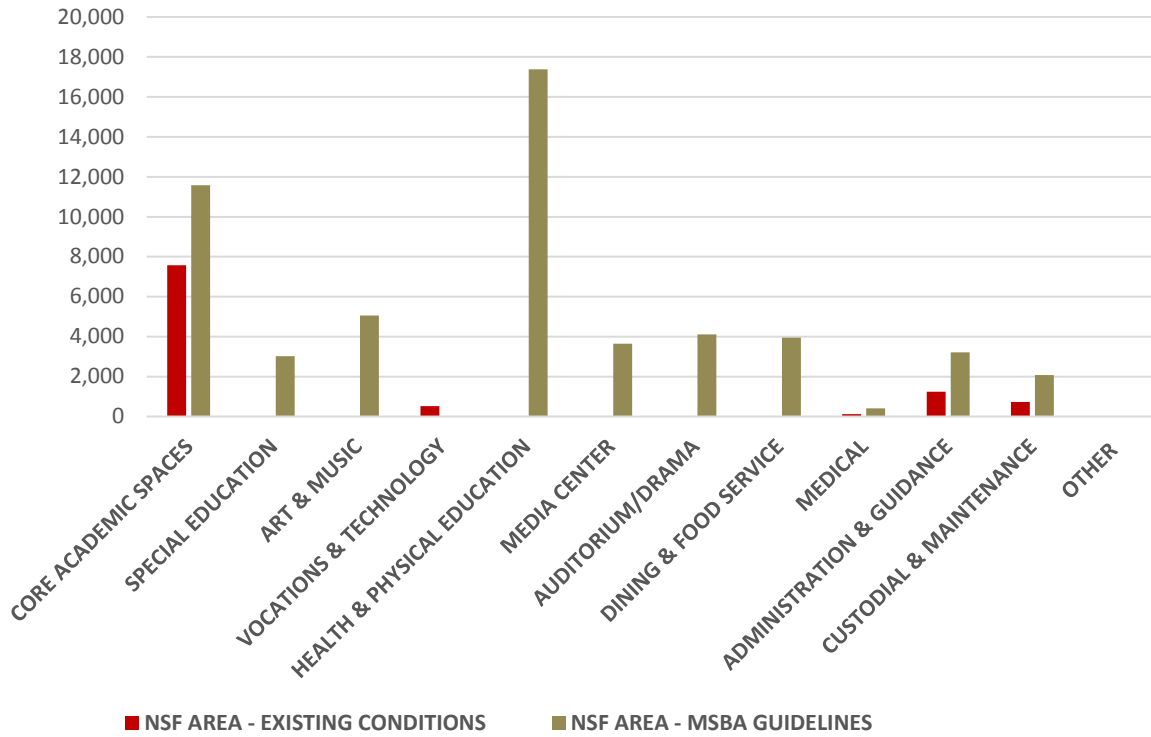
MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA ¹	# OF RMS	area totals	Comments
		410	
60	1	60	
250	1	250	
100	0	-	
100	1	100	
		3,220	
300	1	300	
100	1	100	
200	1	200	
200	1	200	
375	1	375	
125	1	125	
150	1	150	
150	0	-	
120	1	120	
450	1	450	
150	2	300	
100	1	100	
100	1	100	
300	1	300	
100	1	100	
300	1	300	
		2,075	
150	1	150	
250	1	250	
375	1	375	
400	1	400	
300	1	300	
400	1	400	
200	1	200	
		0	
		54,434	
		210	226
		47,460	
		0.87	

¹ Individual Room Net Floor Area (NFA) program area including such spaces as non-communal toilets and storage rooms.

² Total Building Gross Floor Area (GFA) Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification	<p>I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">_____</p>
--------------------------------	---

GOODRICH ACADEMY



	NSF AREA - EXISTING CONDITIONS	NSF AREA - MSBA GUIDELINES
CORE ACADEMIC SPACES	7,580	11,580
SPECIAL EDUCATION	0	3,020
ART & MUSIC	0	5,050
VOCATIONS & TECHNOLOGY	526	0
HEALTH & PHYSICAL EDUCATION	0	17,376
MEDIA CENTER	0	3,650
AUDITORIUM/DRAMA	0	4,103
DINING & FOOD SERVICE	0	3,950
MEDICAL	115	410
ADMINISTRATION & GUIDANCE	1,237	3,220
CUSTODIAL & MAINTENANCE	721	2,075
OTHER	0	0
TOTAL NSF AREA	10,179	54,434

III. NEEDS AND OBJECTIVES

C. Summary of Questionnaire Survey

All classroom teachers within the Fitchburg Public School District were sent a questionnaire to solicit their input regarding current facilities and opportunities for improvement. The following section includes the questionnaire and a summary of the responses.

Summary of Questionnaire Responses:

- **Total Responses Received: 153 (of 354 teachers) = 43% response rate**
- **Responses Unassigned : 7**
- **Responses assigned to Schools: 146**

SCHOOL NAME	NUMBER OF RESPONSES TO SURVEY
Crocker Elementary School	11
Reingold Elementary School	20
South Street Elementary School	14
Memorial Middle School	18
Longsjo Middle School	24
McKay Arts Academy	17
Fitchburg High School	38
Goodrich Academy	4
TOTAL RESPONSES	146

Classroom Size (total District student to teacher ratio is 14.2: 1)

- **Elementary**
 - Pre-Kindergarten: typically 15 – 16 students
 - General Classrooms: K-grade 4 ranges from 22 – 28 students with most classes in the 24 – 26 students range
 - Special Education: varies according to student needs, but is typically smaller than a general classroom
- **Middle**
 - General Classrooms: Grades 5-8 ranges from 20 – 28 students with most classes in the 24 – 25 students range
 - Special Education: varies according to student needs, but is typically smaller than a general classroom
- **High School**
 - General Classrooms: Grades 9 – 12 ranges from 20 – 30 students with most classes in the 24 – 25 student range
 - Special Education varies according to student needs, but is typically smaller than a general classroom



Typical Issues (repeated in many responses):

- Technology Issues
 1. Lack of and location of electrical outlets
 2. Lack of smartboards, individual computers/chromebooks/laptops for students, elmos, projectors, document camera etc.
 3. Intermittent Wifi
 4. Projectors not mounted
 5. Outdated equipment
 6. Extension cords causing tripping hazard

- Sinks don't work
- Need space for collaborative learning/small group learning
- No natural light /windows don't open or stay open/need window shades
- Need space for making confidential phone calls to student's parent



III. NEEDS AND OBJECTIVES

D. NESDEC Demography and Enrollment Projections



New England School Development Council

FITCHBURG, MASSACHUSETTS

Demography and Enrollment Projections

NOVEMBER 18, 2015

Table of Contents

Section I (Slides 1-9)

Introduction and Executive Summary

- Cover Page
- NESDEC Project Team
- Project Process Description
- Executive Summary

Section II (Slides 10-21)

Demographic Analysis

- Population trends
- General population (U.S. Census)
- Births (Massachusetts Department of Health)
- Age cohorts (U.S. Census Bureau UMass Donahue Center)

Section II Cont.

Growth Outlook

- National and regional factors
- Fitchburg residential growth outlook
 - Existing home sales
 - Residential construction
- School choice impact

Section III (Slides 22-28)

Enrollment History and Projections

Section IV (Slides 29-51)

Demographic Data

- Tables and charts

Section I – Introduction & Executive Summary



NESDEC PROJECT TEAM

- **Donald G. Kennedy, Ed.D., Demographic Analysis and Enrollment Projections**
- **John H. Kennedy, M.A., Demographic Analysis**
- **Arthur L. Bettencourt, Ed.D., Executive Director**

Copyright, New England School Development Council, 2015

DEMOGRAPHIC STUDY

Project Description

NESDEC has developed a Demographic Study for the Fitchburg School District which includes:

- An analysis of factors impacting past and future enrollments
- A review of Fitchburg's PK-12 enrollments from 2005-2015
- A ten-year projection of Fitchburg's PK-12 enrollments, which includes the assumptions upon which the enrollment forecast is based

Process

The NESDEC team analyzed District and municipal records, 2010 U.S. Census Data, and data provided by the Planning Department and the City Clerk's Office. NESDEC also utilized demographic data on residential housing gained from the New England Economic Partnership, HUD, and the Warren Group, as well as birth data provided by the Massachusetts Department of Health. NESDEC team members also interviewed the Fitchburg City Planner, local realtors, and several school officials.

Fitchburg deserves to be commended for commissioning this study. The city is engaged in thoughtful, data-based planning and prudent use of available resources. Planning for municipal and school needs begins with a firm grounding in community data and accurate forecasting of future population and school enrollments.

EXECUTIVE SUMMARY

- In 2010 the U.S. Census counted a population of 40,318 Fitchburg residents; recently the U.S. Census affiliate forecast that the City is expected to grow to 41,184 persons by 2020. As of July 2014, Fitchburg was estimated to have increased to 40,445 inhabitants. *See “Population Trends” on slide 11 and slides 35 - 37.*
- The region surrounding Fitchburg has been a bit slow to grow beyond the recent real estate slowdown. However, Fitchburg’s sales of single-family houses and condos have grown stronger within the past 3-4 years. Through September 30, the 2015 home sales are on a path to be the strongest in 7-8 years (229 homes and 58 condos sold through September 30, 2015). With an inventory of homes in the \$150-\$200,000 range, Fitchburg remains somewhat more affordable than other communities.

EXECUTIVE SUMMARY (con't)

- **The Fitchburg Public Schools, from 2005-06 through 2012-13 declined by 781 pupils, to 4,744 K-12 students. However, the District grew by 85 students in 2013-14, by an additional 46 students in 2014-15, and by a robust 150 students in 2015-16 – to 5,025 K-12 pupils in October, 2015. Although Grades K-4 may decline a bit over the next decade, enrollment rises are forecast in Grades 5-8 and 9-12 – totaling about 182 additional students by 2025-26.**
- **The Fitchburg Public Schools appear to have turned a corner in enrollment. For several years there was a “churning”: with relatively equal numbers of new students entering and students withdrawing/ leaving. However, the uptick in home sales and the recent improvements in FPS educational programs, especially at the high school level, have made a difference in enrollment. From the end of school in June, 2015 to the official enrollment date of October 1, 2015, the Fitchburg Public Schools enrolled at least 159 more students than withdrew.**

EXECUTIVE SUMMARY (con't)

- **Grade 1-8 enrollments, which had been losing about 81 children per year, have turned around – gaining 17 additional children in 2015-16, following three consecutive years of losses.**
- **Of the 263 “Choiced-In” students in 2014-15 (most recent year for which data are available), 135 were from Leominster, 36 Lunenburg, 18 Gardner, 8 Westminster, 7 Ayer, 7 Winchendon, 6 Lancaster, 5 each from Ashburnham, Ashby, Shirley and Townsend, plus 1-4 each from 15 additional communities. These numbers have been increasing.**
- **Of the 492 Fitchburg students “Choiced-Out” in 2014-15 (most recent year for which data are available), 206 were attending in Leominster, 49 in Ayer-Shirley, 46 attending Ashburnham-Westminster, 45 attending North Middlesex, 28 attending Wachusett, 27 attending Gardner, and 91 attending 14 additional public school districts. Thus, with “the tide now turning” toward a return to the Fitchburg Public Schools, there is a reservoir of additional students who might wish to return.** 9

Section II – Demographic Analysis & Growth Outlook



Population Trends

Births – According to data provided by the Massachusetts Department of Health, the average number of annual births to residents of Fitchburg declined during the period from 2004-2013. *Between 2004 and 2008, births averaged 587 per year, while the average number of births during the period from 2009-2013 was 531 per year. Provisional data released by the Massachusetts Department of Health indicates that in 2014, Fitchburg births totaled 504. In many communities, a birth decline is stabilized or reversed when additional young families move into the community.*

Age Groupings – Fitchburg's 0-14 age cohort totaled 7,575 in the 2010 U.S. Census. By 2020, the 0-14 age group is forecast to decline by 211 to a total of 7,364 persons. However, that forecast was based upon data ending with the 2010 Census. *Yet recent data from 2011-2015 points toward a stability of numbers in this age grouping, mixed with spots of migration into Fitchburg – fueled by the more positive real estate climate - see slides 7 and 14-16. The recently increased tendency of students choosing to return to the Fitchburg Public Schools also appears to be stabilizing enrollment totals, especially at the high school level. Thus the 2020 Census forecast for ages 0-14, may prove to be a bit low.*

Residential Growth Outlook National and Regional Factors

- On the national level, the “Baby Boomer” generation has begun turning 65 years of age at the rate of 10,000 per day, and this is projected to continue for the next 14 years. ***According to realtors, many from this age cohort are likely to downsize to smaller homes. Many members of this group are “empty nesters” and they would be vacating three- and four-bedroom homes which would most likely be inhabited by families with school-aged children.***
- A recent New England Economic Partnership (NEEP) Conference economic outlook analysis reported that “the New England regional economy continue[s] to improve. Growth rates are higher and unemployment rates lower in 2015 than in any year after the 2008-2009 recession.”
- Regarding Massachusetts, the NEEP report notes, “Massachusetts is experiencing a burst of economic growth reminiscent of the 1990’s.”

- Regarding housing in Massachusetts, the NEEP report noted, “The housing market is expected to continue to improve without turning “hot”, with price appreciation of about 3% per year through 2018.”
- Despite the overall positive trends in the Massachusetts housing market, several sources including Zillow, Realty Trac, the Boston Globe, the Bureau of Labor Statistics and local and regional realtors have provided information pointing to the fact that the economic recovery has been significantly slower in many areas west of Interstate Route 495, including Worcester County.

The Fitchburg Residential Growth Outlook

Existing Home Sales Background

- According to data obtained from the Warren Group, during the period from 2001 to 2007, which included the real estate boom years, single family home sales in Fitchburg averaged 335 per year.
- Warren Group data indicates that between 2008 and 2014, single family home sales in Fitchburg averaged 235 units per year.
- From 2008 and 2014, annual condominium sales in Fitchburg averaged 52 units per year vs. an average of 130 units per year between 2001 to 2007.

The Current Fitchburg Existing Home Sales Outlook - 2015

Several factors are pointing to improvement in the existing home sales market. These include:

- ***The Warren Group has reported that between January and September 30 of 2015, Fitchburg's single family home sales totaled 229.***
- ***Given this data, a strong possibility exists that 2015 single family home sales in Fitchburg will exceed the annual totals for any of the past seven or eight years.***
- A similar situation exists regarding condominium sales which, by September 30, 2015, had reached a total of 58 sales. During the past seven years, the highest annual total of condominium sales in Fitchburg for any one year was 57 units sold.
- ***The Warren Group and local realtors also note that during 2015, median prices for both single family and condominium units have been above the annual median in any of the past six years.***

Fitchburg Existing Home Sales (continued)

- Realtors also note that the number of foreclosures is diminishing and this is resulting in increases in sales prices. ***However, according to the realtors, many home prices are still in the \$150,000 to \$200,000 range, which is viewed as reasonable by many young first-time buyers. (Millennials)***

It is important to note that despite the 2015 increase in existing home sales and prices, sales volume and pricing still remain significantly below levels which Fitchburg experienced during the housing boom. Several factors including the following are having an impact on the pace of the real estate recovery:

- Unemployment has decreased, but it still remains at about 7% which is above the state average.
- A recent Boston Globe article quoted a Zillow report which indicated that “one in four mortgages in Fitchburg is under water.”
- A Bureau of Labor Statistics Report indicated that wages in most counties west of Route 495, including Worcester County, fall below the state and national averages.

Fitchburg Residential Construction

Single Family Housing

- *According to HUD, between 2000 and the end of 2007, 953 single family construction permits were issued in Fitchburg (an average of 119 single family permits per year).*
- *HUD data from 2008 through the end of 2014 indicates that a total of 130 single family construction permits were issued (an average of 19 single family permits per year).*
- *Information provided by the Fitchburg Planning Department indicates that there are no approved single family projects awaiting construction. Also, according to the Planning Department, there are no single family projects in the approval pipeline.*

Residential Construction (continued)

Condominium Units

- The Planning Department has reported the following regarding approved condominium projects:
 - Bridge Cross Estates (60-70 units) and Oak Ridge (6-8 townhouse units) were approved several years ago, but development has not moved forward.
 - Chamberlain Hill was approved for 80 units, but construction did not move forward and the approval time period has expired, so the project would need re-approval in order to move forward.

Apartment Units

- According to the management of Riverside Commons, construction of Phases I and II has been completed and approximately 166 of the 186 units have been rented.
- The Yarn Mill Project (Winn) will likely be completed near the end of 2016 (96 units – 29 1-BR, 58 2-BR and 9 3-BR).

Apartment Units Continued

- The Planning Department notes that, with the exception of the Twin Cities Project which would involve the conversion of the B.F. Brown School into artist living/work spaces, no additional apartment projects have been approved or are in the approval pipeline.

School Enrollments vs. Withdrawals

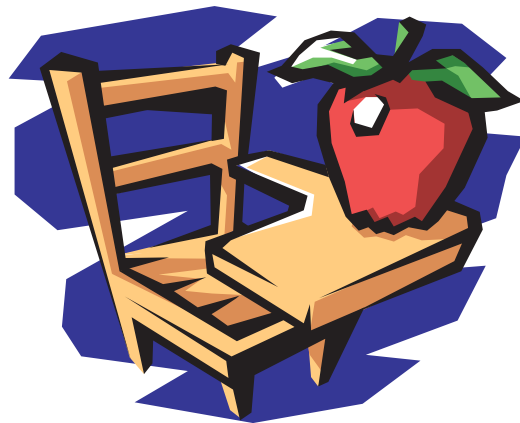
- *According to the Fitchburg Public Schools Enrollment Office, during the period from June of 2015 through October 1, 2015, the Fitchburg Public Schools experienced a significant increase in newly enrolled and returning students vs. student withdrawals (Move-outs, choiced-out, charter and private school enrollments). This represents a change in the pattern which the district had experienced over the past few years, when additional enrollments and withdrawals had been very close to equal in number.*
- *Early indicators attribute the trend change to increased residential move-ins and programming initiatives which have resulted in fewer students “choicing-out or withdrawing” from the Fitchburg Public Schools.*

Over the next several years, the stability of the national economy, the degree to which “Baby Boomers” downsize, and the continuing influx of Millennials seeking “reasonably priced” housing will be major factors affecting existing home sales and the demand for new home construction.

These factors, coupled with the Fitchburg School Department’s initiatives to modify programming, especially at the high school level, are likely to lead to a further leveling of year to year enrollments.

In fact, the moderate acceleration in housing turnover which Fitchburg is now experiencing, if it is coupled with a significant increase in new housing construction, has the potential to increase the District’s enrollments above the stated projections. Therefore, in light of these factors, it will be important for the Fitchburg School District to continue, on a regular basis, to update data related to annual births, residential permits and existing home sales. It will also be important for the District to maintain a sufficient “capacity cushion” to accommodate future enrollment expansion.

Section III – Enrollment History & Projections



Fitchburg, MA Historical Enrollment

School District: Fitchburg, MA

11/4/2015

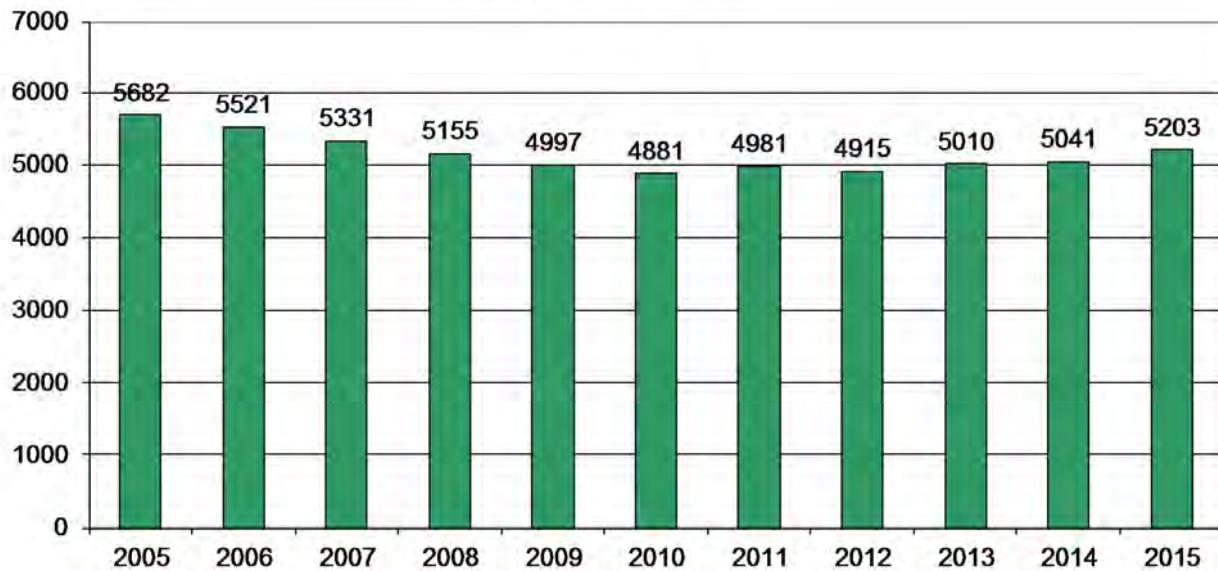
Historical Enrollment By Grade																			
Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2000	566	2005-06	155	432	461	461	425	419	468	450	433	451	451	365	347	349	15	5527	5682
2001	615	2006-07	163	413	468	435	479	395	408	447	424	421	432	344	346	337	9	5358	5521
2002	556	2007-08	201	376	414	446	420	438	405	385	408	409	411	341	334	341	2	5130	5331
2003	587	2008-09	200	422	384	401	421	420	404	371	357	377	390	321	342	345	0	4955	5155
2004	550	2009-10	168	392	421	388	394	416	396	399	329	359	383	306	316	330	0	4829	4997
2005	572	2010-11	143	419	376	414	365	378	386	393	383	312	358	321	310	314	9	4738	4881
2006	625	2011-12	152	420	440	392	420	364	385	396	378	398	349	264	324	296	3	4829	4981
2007	574	2012-13	171	406	428	431	380	398	345	381	362	357	395	286	256	319	0	4744	4915
2008	615	2013-14	181	449	432	411	449	381	376	350	358	354	312	349	299	309	0	4829	5010
2009	586	2014-15	166	437	427	417	404	441	361	385	329	345	305	325	360	328	11	4875	5041
2010	545	2015-16	178	416	433	424	423	432	452	363	358	329	305	343	352	381	14	5025	5203

Historical Enrollment in Grade Combinations									
Year	K-4	PK-4	K-6	K-8	5-8	6-8	7-8	5-12	9-12
2005-06	2198	2353	3116	4000	1802	1334	884	3314	1512
2006-07	2190	2353	3045	3890	1700	1292	845	3159	1459
2007-08	2094	2295	2884	3701	1607	1202	817	3034	1427
2008-09	2048	2248	2823	3557	1509	1105	734	2907	1398
2009-10	2011	2179	2806	3494	1483	1087	688	2818	1335
2010-11	1952	2095	2731	3426	1474	1088	695	2777	1303
2011-12	2036	2188	2817	3593	1557	1172	776	2790	1233
2012-13	2043	2214	2769	3488	1445	1100	719	2701	1256
2013-14	2122	2303	2848	3560	1438	1062	712	2707	1269
2014-15	2126	2292	2872	3546	1420	1059	674	2738	1318
2015-16	2128	2306	2943	3630	1502	1050	687	2883	1381

Historical Percentage Changes			
Year	K-12	Diff.	%
2005-06	5527	0	0.0%
2006-07	5358	-169	-3.1%
2007-08	5130	-228	-4.3%
2008-09	4955	-175	-3.4%
2009-10	4829	-126	-2.5%
2010-11	4738	-91	-1.9%
2011-12	4829	91	1.9%
2012-13	4744	-85	-1.8%
2013-14	4829	85	1.8%
2014-15	4875	46	1.0%
2015-16	5025	150	3.1%
Change		-502	-9.1%

Fitchburg, MA Historical Enrollment

PK-12, 2005-2015



Fitchburg, MA Projected Enrollment

School District: **Fitchburg, MA**

11/4/2015

Projections assume that the recent upticks in enrollment will continue, due to: a. students returning to the FPS, and b. new students moving into Fitchburg.

Enrollment Projections By Grade*

Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2010	545	2015-16	178	416	433	424	423	432	452	363	358	329	305	343	352	381	14	5025	5203
2011	555	2016-17	179	422	417	424	430	436	423	459	340	354	290	314	361	395	14	5079	5258
2012	549	2017-18	180	417	423	409	430	443	427	429	430	337	312	299	331	405	14	5106	5286
2013	476	2018-19	181	362	418	415	414	443	434	433	402	426	297	321	315	371	14	5065	5246
2014	504 (prov.)	2019-20	182	383	363	410	420	426	434	440	406	398	375	306	338	353	14	5066	5248
2015	526 (est.)	2020-21	183	400	384	356	415	433	417	440	412	402	350	386	322	379	14	5110	5293
2016	522 (est.)	2021-22	184	397	401	376	361	427	424	423	412	408	354	361	407	361	14	5126	5310
2017	515 (est.)	2022-23	185	392	398	393	381	372	418	430	396	408	359	365	380	456	14	5162	5347
2018	509 (est.)	2023-24	186	387	393	390	398	392	365	424	403	392	359	370	384	426	14	5097	5283
2019	515 (est.)	2024-25	187	392	388	385	395	410	384	370	397	399	345	370	390	430	14	5069	5256
2020	517 (est.)	2025-26	188	393	393	380	390	407	402	390	347	393	351	355	390	437	14	5042	5230

*Projections should be updated on an annual basis.

Based on an estimate of births

Based on children already born

Based on students already enrolled

Projected Enrollment in Grade Combinations*

Year	K-4	PK-4	K-6	K-8	5-8	6-8	7-8	5-12	9-12
2015-16	2128	2306	2943	3630	1502	1050	687	2883	1381
2016-17	2129	2308	3011	3705	1576	1153	694	2936	1360
2017-18	2122	2302	2978	3745	1623	1196	767	2970	1347
2018-19	2052	2233	2919	3747	1695	1261	828	2999	1304
2019-20	2002	2184	2876	3680	1678	1244	804	3050	1372
2020-21	1988	2171	2845	3659	1671	1254	814	3108	1437
2021-22	1962	2146	2809	3629	1667	1243	820	3150	1483
2022-23	1936	2121	2784	3588	1652	1234	804	3212	1560
2023-24	1960	2146	2749	3544	1584	1219	795	3123	1539
2024-25	1970	2157	2724	3520	1550	1166	796	3085	1535
2025-26	1963	2151	2755	3495	1532	1130	740	3085	1533

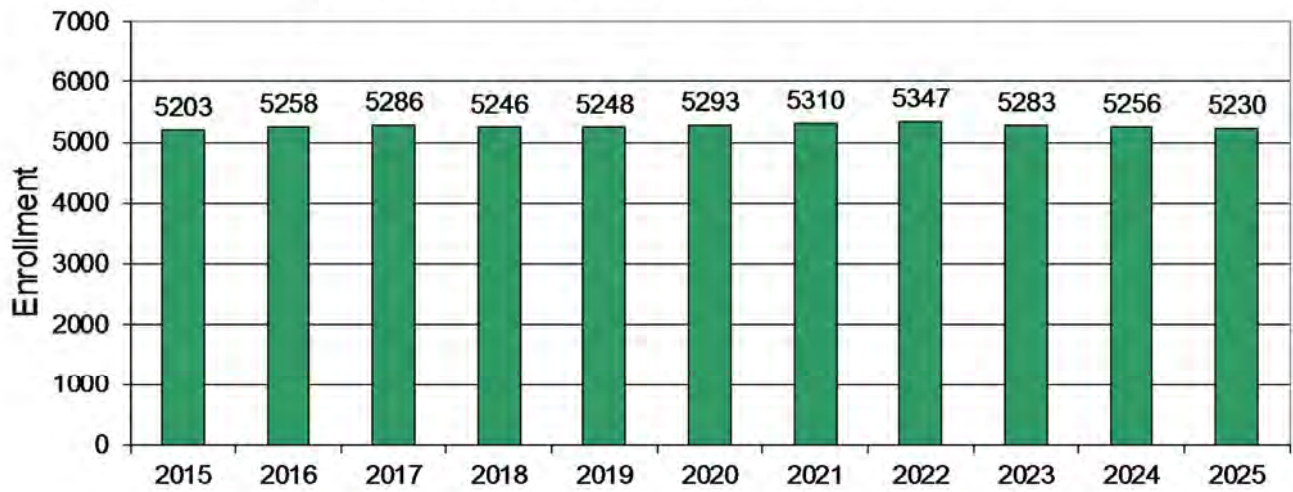
See "Reliability of Enrollment Projections" section of accompanying letter. Projections are more reliable for Years #1-5 in the future than for Years #6 and beyond.

Projected Percentage Changes

Year	K-12	Diff.	%
2015-16	5025	0	0.0%
2016-17	5079	54	1.1%
2017-18	5106	27	0.5%
2018-19	5065	-41	-0.8%
2019-20	5066	1	0.0%
2020-21	5110	44	0.9%
2021-22	5126	16	0.3%
2022-23	5162	36	0.7%
2023-24	5097	-65	-1.3%
2024-25	5069	-28	-0.5%
2025-26	5042	-27	-0.5%
Change		17	0.3%

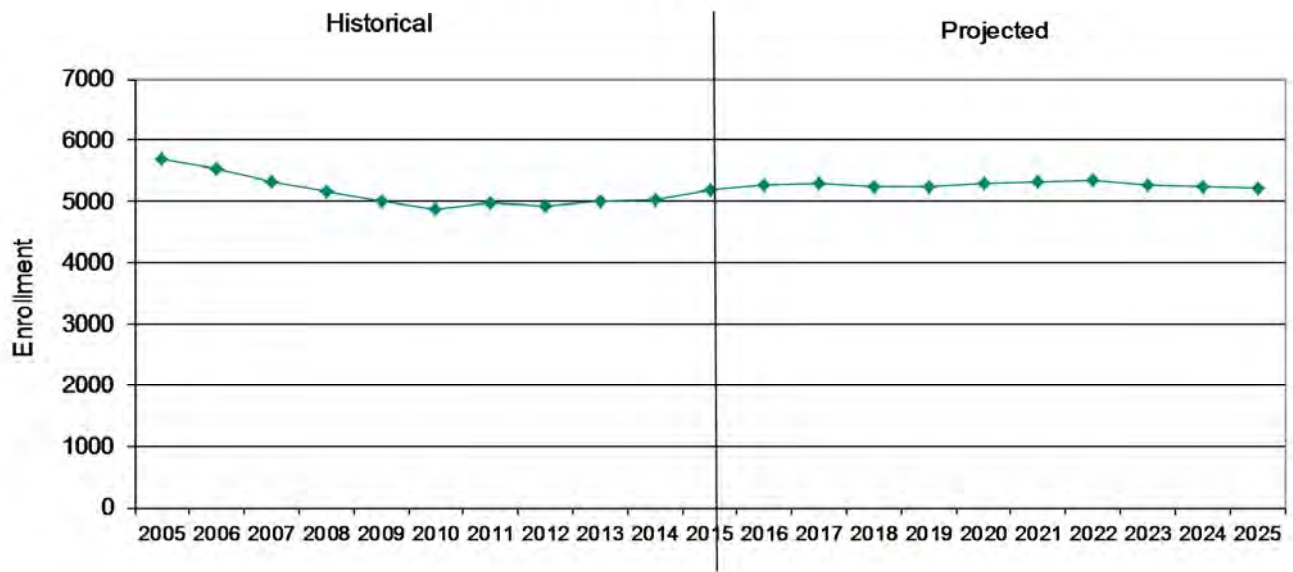
Fitchburg, MA Projected Enrollment

PK-12 TO 2025 Based On Data Through School Year 2015-16

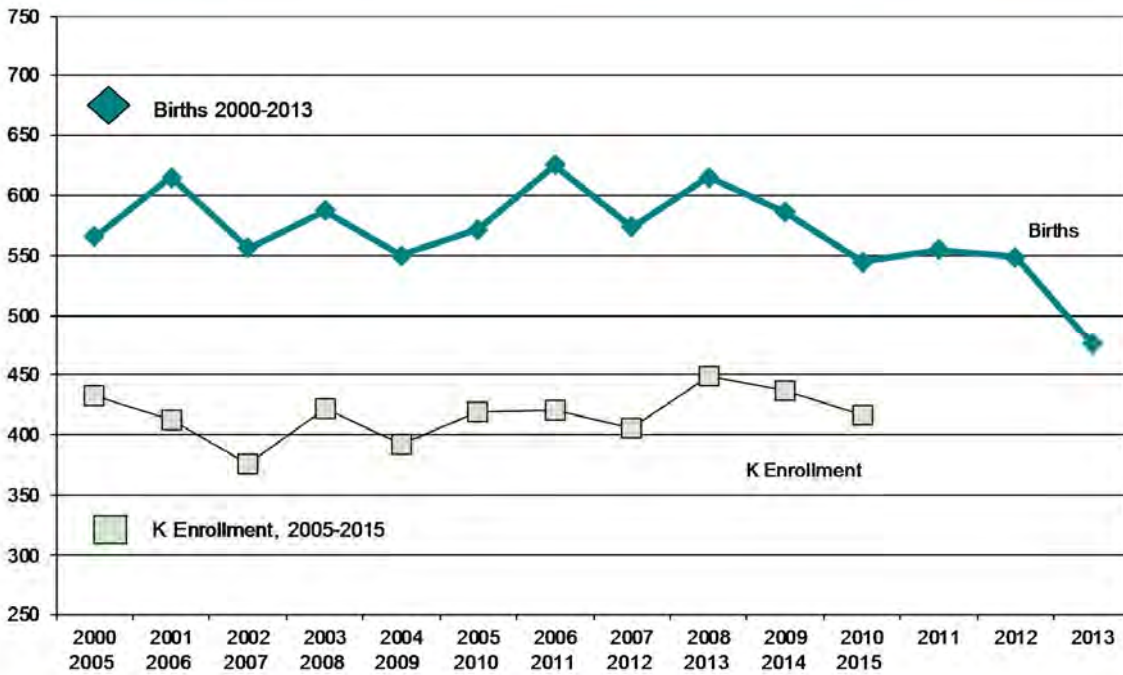


Fitchburg, MA Historical & Projected Enrollment

PK-12, 2005-2025



Fitchburg, MA Birth-to-Kindergarten Relationship



Section IV – Demographic Data

Estimates to 2015 (and population projections to 2020) update data from the 2010 Decennial Census. U.S. Census counts from 2010, 2000, and 1990 are commonly used by demographers to track the evolution of a community over time, or to compare one community to other communities.

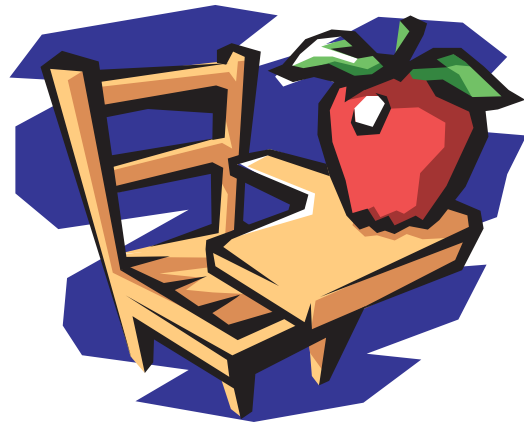


TABLE 1 TOTAL POPULATION

STATE OF MASSACHUSETTS:

	POPULATION	NO. CHANGE	% CHANGE
1990	6,016,425		
2000	6,349,097	332,672	5.5%
2010	6,547,629	198,532	3.1%

WORCESTER COUNTY:

	POPULATION	NO. CHANGE	% CHANGE
1990	709,705		
2000	750,963	41,258	5.8%
2010	798,552	47,589	6.3%

CITY OF FITCHBURG:

	POPULATION	NO. CHANGE	% CHANGE
1990	41,194		
2000	39,102	-2,092	-5.1%
2010	40,318	1,216	3.1%

U.S. Census population estimate July 1, 2014 = 40,445; July 1, 2015 estimate will be released in July 2016

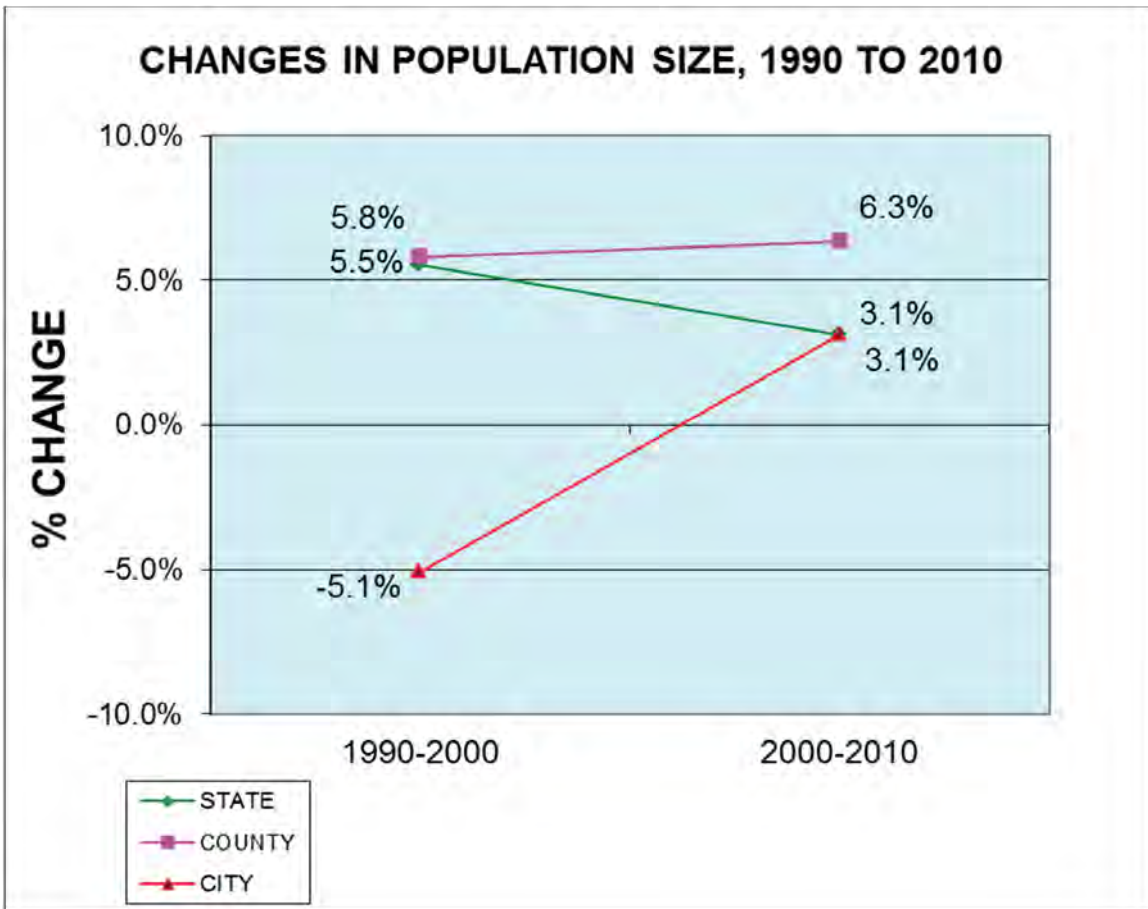


TABLE 2
PERCENTAGE OF POPULATION UNDER THE AGE OF 18 AND MEDIAN AGE

STATE OF MASSACHUSETTS:

	NO. UNDER 18	% UNDER 18	MEDIAN AGE
1990	1,353,075	22.5%	33.6
2000	1,500,064	23.6%	36.5
2010	1,418,923	21.7%	39.1

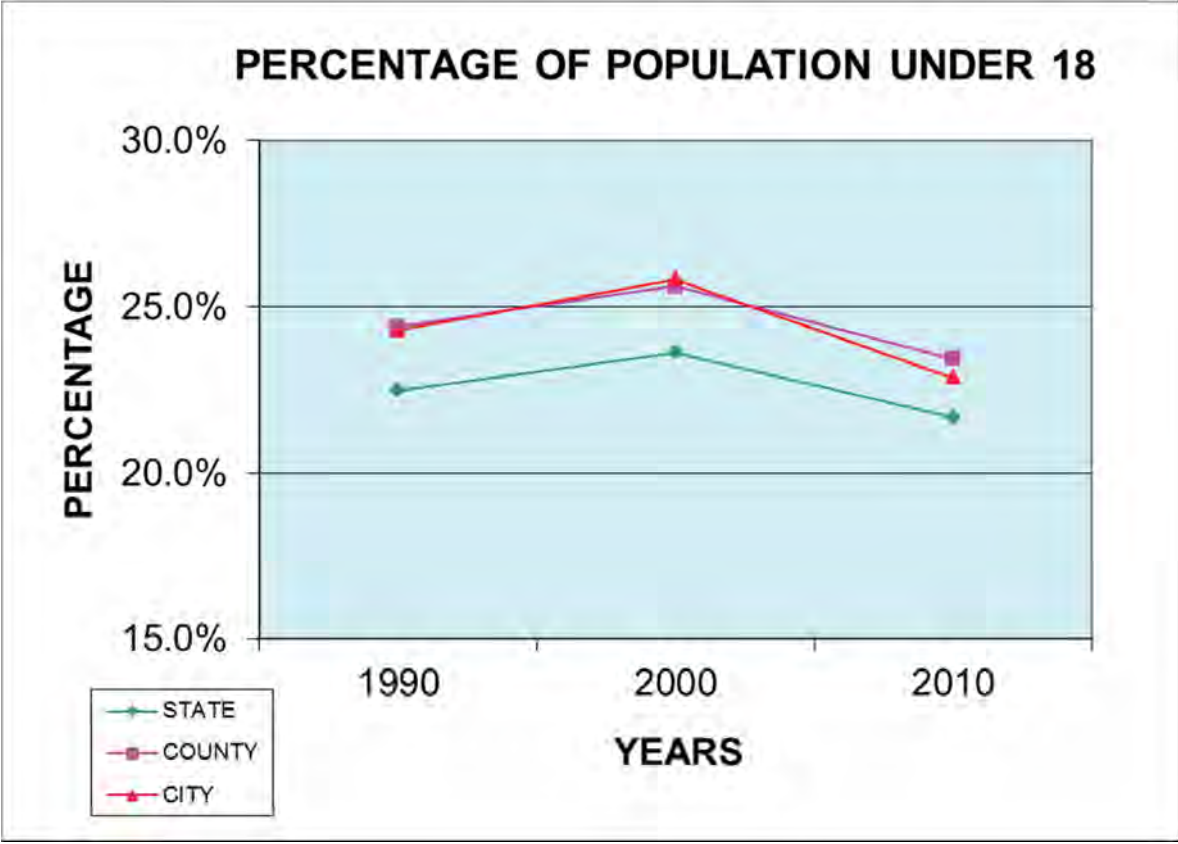
WORCESTER COUNTY:

	NO. UNDER 18	% UNDER 18	MEDIAN AGE
1990	173,199	24.4%	33.1
2000	192,448	25.6%	36.3
2010	187,231	23.4%	39.2

CITY OF FITCHBURG:

	NO. UNDER 18	% UNDER 18	MEDIAN AGE
1990	10,010	24.3%	31.3
2000	10,104	25.8%	34.1
2010	9,225	22.9%	34.7

2013 U.S. Census Estimate: 9,369 persons Under Age 18 (23.2%)



FITCHBURG: CHANGES IN MEDIAN AGE

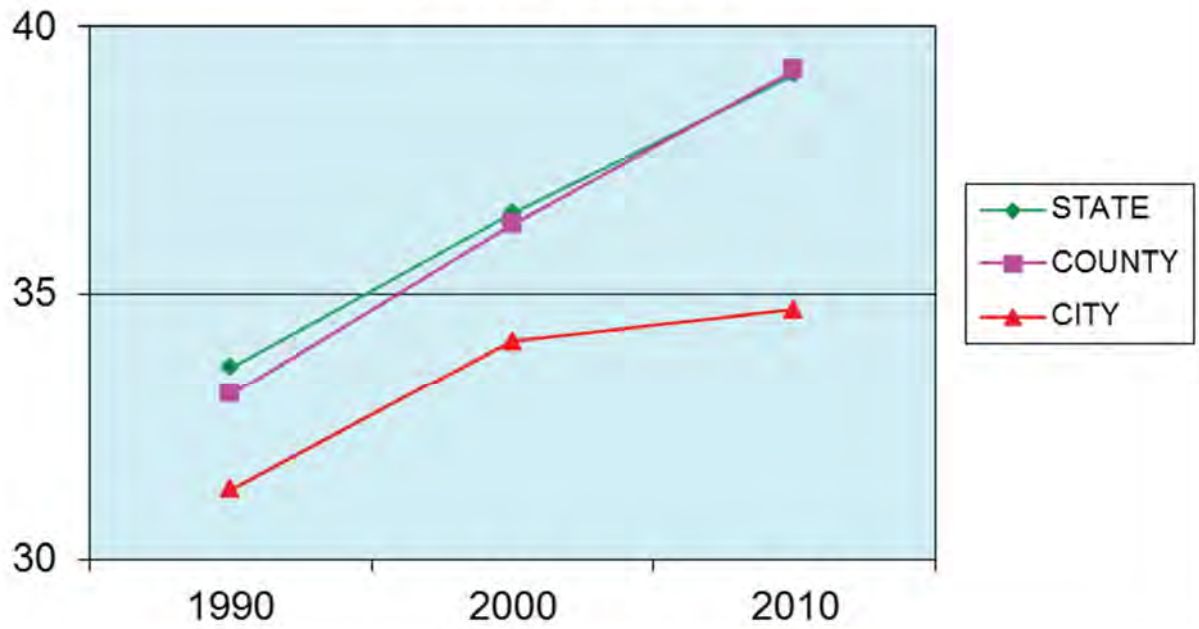


TABLE 3
AGE COHORT DATA – FITCHBURG, MASSACHUSETTS

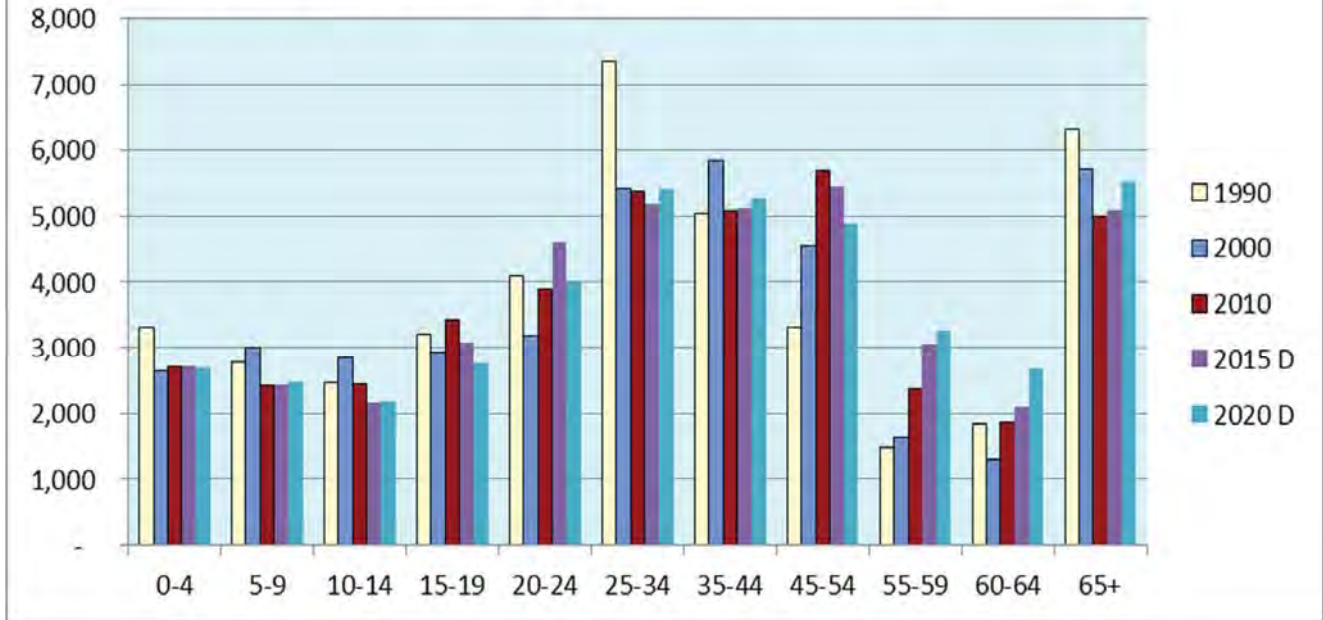
U.S. Census July 1, 2014 est. = 40,445
July 1, 2015 est. will be released in July, 2016

AGE	SIZE OF COHORT					% CHANGE, 2010 to 2020 D projection
	1990	2000	2010	2015 D pr.	2020 D pr.	
0-4	3321	2637	2719	2,725	2697	-0.8%
5-9	2784	3011	2416	2,432	2472	2.3%
10-14	2456	2844	2440	2,157	2195	-10.0%
15-19	3207	2946	3439	3,080	2761	-19.7%
20-24	4092	3184	3907	4,596	4032	3.2%
25-34	7,349	5,430	5,372	5,181	5,421	0.9%
35-44	5,039	5,841	5,085	5,130	5,267	3.6%
45-54	3,308	4,556	5,699	5,450	4,889	-14.2%
55-59	1470	1643	2,369	3,058	3,261	37.7%
60-64	1839	1297	1871	2,097	2,677	43.1%
65+	6,329	5,713	5,001	5,108	5,512	10.2%
TOTAL:	41,194	39,102	40,318	41,014	41,184	2.1%

Source: U.S. Census 1990, 2000, 2010; Donahue Center, UMASS 2015 D and 2020 D

See slide 36 for additional updates and commentary

Age Cohorts: 1990, 2000, 2010 and 2015 D, 2020 D projections - Fitchburg



Projections for 2015 and 2020 are based upon data from the 2010 Census. The forecast for 2015 and 2020 anticipates growth among most ages 45+ - which appears to be taking place. Declines are forecast in some age 0-19 groupings. However, data from 2011-2015 points toward stability of ages 0-19, mixed with spots of migration into Fitchburg. Slides 37 links NESDEC projections with the Census data on slide 35. Births, through 2014, remain at modest levels – see slides 48 and 49.

PERCENTAGE OF "AVAILABLE" CHILDREN ENROLLED IN FITCHBURG PUBLIC SCHOOLS

1990		2000		2010		2020 Projected	
AGE 5-9	2784	AGE 5-9	3011	AGE 5-9	2416	AGE 5-9	2472
K-4	2424	K-4	2615	K-4	1952	K-4**	1988
% ENROLLED	87%	% ENROLLED	87%	% ENROLLED	81%	% ENROLLED	80%
AGE 10-14	2456	AGE 10-14	2844	AGE 10-14	2440	AGE 10-14	2195
Gr. 5-9	1923	Gr. 5-9	2662	Gr. 5-9	1832	Gr. 5-9**	2021
% ENROLLED	78%	% ENROLLED	94%	% ENROLLED	75%	% ENROLLED	92%
AGE 15-17*	1924	AGE 15-17*	1768	AGE 15-17*	2063	AGE 15-17*	1657
Gr. 10-12	778	Gr. 10-12	896	Gr. 10-12	954	Gr. 10-12**	1087
% ENROLLED	40%	% ENROLLED	51%	% ENROLLED	46%	% ENROLLED	66%
AGE 5-17	7164	AGE 5-17	7623	AGE 5-17	6919	AGE 5-17	6324
K-12	5125	K-12	6173	K-12	4738	K-12**	5096
% ENROLLED	72%	% ENROLLED	81%	% ENROLLED	68%	% ENROLLED	81%

See slide 35 (Table 3) for U.S. Census counts and 2020 population projection by Donahue Center. **For purposes of this table, it was assumed in 2020 that the number "choiced in" = "choiced out".**

* The Age 15-17 cohort is estimated by taking 60% of the Age 15-19 grouping.

** Enrollments for 2020 are projected by NESDEC on slide 25.

See NESDEC projections on slides 25 - 27

**TABLE 4
PERCENTAGE OF K-12 ENROLLMENT IN POPULATION**

STATE OF MASSACHUSETTS:

	POPULATION	PUBLIC K-12 ENROLLMENT*	% K-12 ENR. IN POPULATION
1990	6,016,425	828,816	13.8%
2000	6,349,097	959,655	15.1%
2010	6,547,629	926,940	14.2%

* Massachusetts Department of Elementary and Secondary Education;
PK omitted due to lack of comparability

CITY OF FITCHBURG:

	POPULATION	PUBLIC K-12 ENROLLMENT	% K-12 ENR. IN POPULATION
1990	41,194	5,185	12.6%
2000	39,102	6,173	15.8%
2010	40,318	4,738	11.8%

2014 **U.S. Census estimate:**
40,445 population; 4,872 K-12 enrollment = 12.0%

PERCENTAGE K-12 ENROLLMENT IN FITCHBURG POPULATION

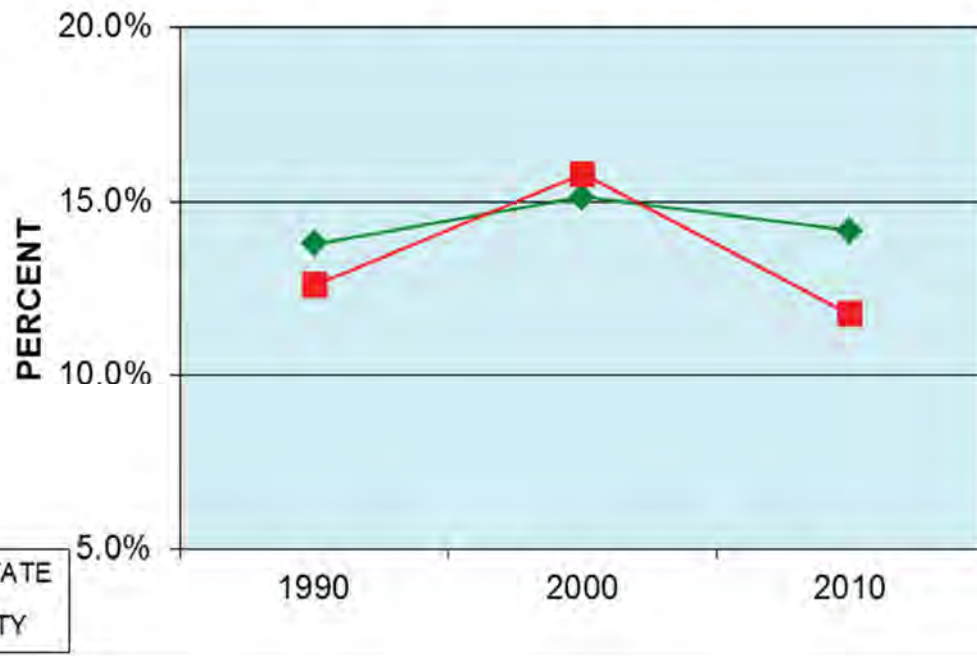


TABLE 5 POPULATION BY RACE AND HISPANIC ORIGIN

STATE OF MASSACHUSETTS:

	WHITE	BLACK	ASIAN	OTHER	% NON-WHITE	HISPANIC ORIGIN (of any race)	% HISPANIC
1990	5,405,374	300,130	143,392	167,259	10.2%	287,549	4.8%
2000	5,367,286	343,454	238,124	400,233	15.5%	428,729	6.8%
2010	5,265,236	434,398	349,768	498,227	19.6%	627,654	9.6%

WORCESTER COUNTY:

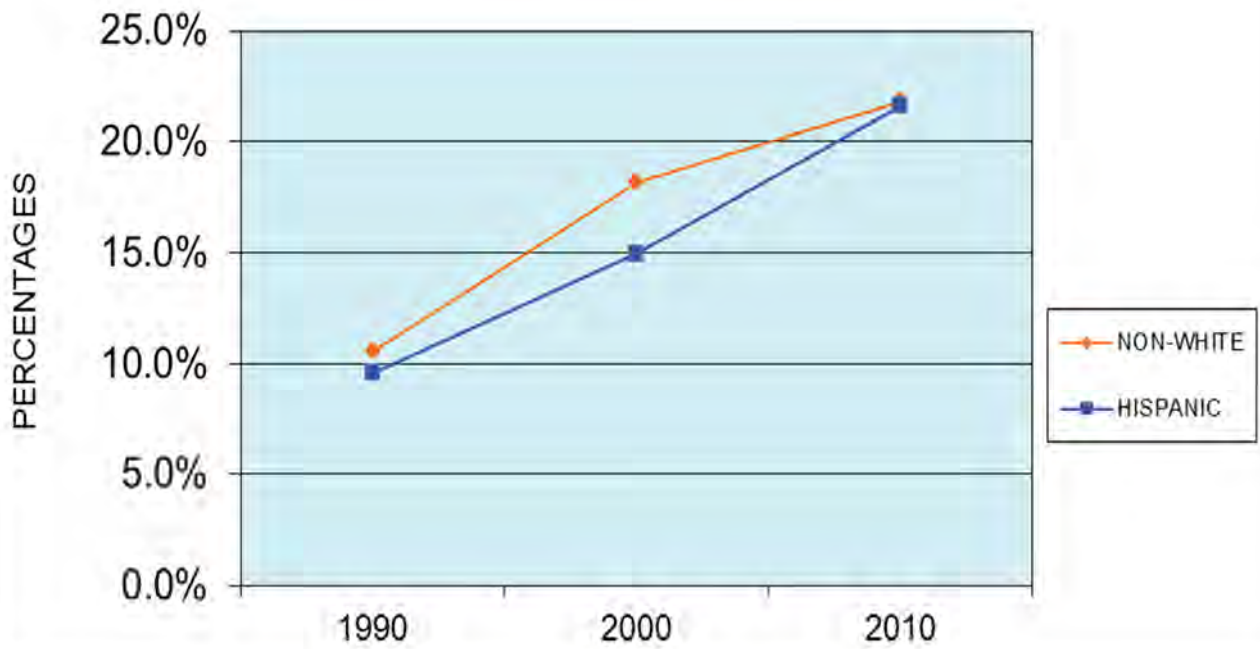
	WHITE	BLACK	ASIAN	OTHER	% NON-WHITE	HISPANIC ORIGIN (of any race)	% HISPANIC
1990	665,786	15,096	11,493	17,330	6.2%	32,940	4.6%
2000	672,915	20,498	19,700	37,850	10.4%	50,864	6.8%
2010	683,361	33,314	31,815	50,062	14.4%	76,422	9.6%

CITY OF FITCHBURG:

	WHITE	BLACK	ASIAN	OTHER	% NON-WHITE	HISPANIC ORIGIN (of any race)	% HISPANIC
1990	36,847	1,411	1,057	1,879	10.6%	3,957	9.6%
2000	32,007	1,426	1,668	4,001	18.1%	5,852	15.0%
2010	31,529	2,049	1,465	5,275	21.8%	8,727	21.6%

2015 estimate not available from U.S. Census; according to the Massachusetts DESE the percentage of Hispanic and Non-White students in Massachusetts increased from 2010-2015, as did the number of ELL students.

CHANGE IN PERCENTS OF NON-WHITE AND HISPANIC POPULATIONS- FITCHBURG



**TABLE 6
NUMBER OF DWELLING UNITS AND PERSONS PER UNIT**

STATE OF MASSACHUSETTS:

	NO. OF DWELLING UNITS	% CHANGE	PERSONS PER UNIT
1990	2,472,711		2.4
2000	2,621,989	6.0%	2.4
2010	2,808,254	7.1%	2.3

WORCESTER COUNTY:

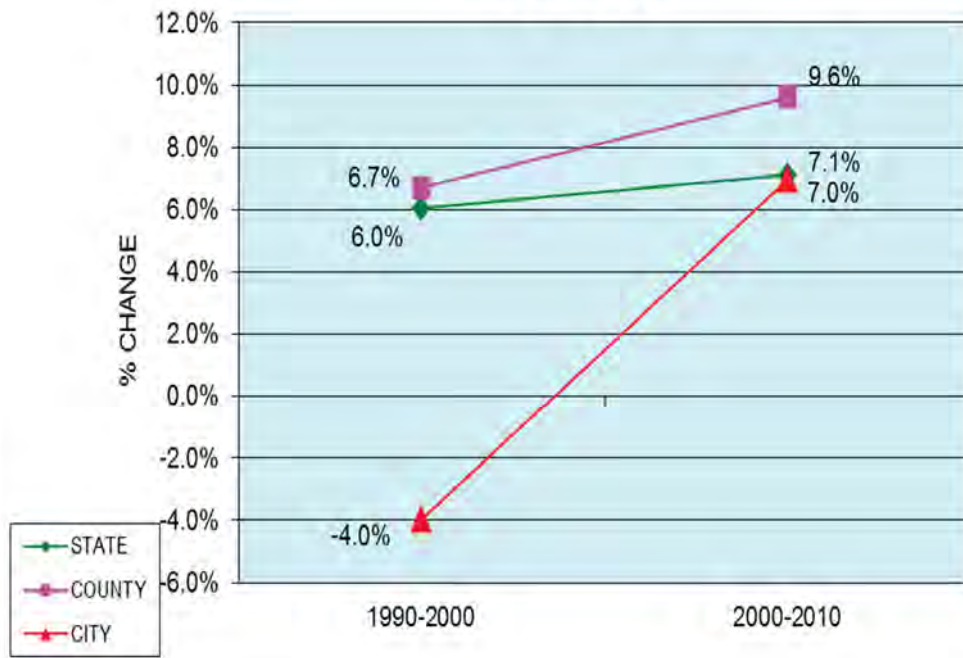
	NO. OF DWELLING UNITS	% CHANGE	PERSONS PER UNIT
1990	279,428		2.5
2000	298,159	6.7%	2.5
2010	326,788	9.6%	2.4

CITY OF FITCHBURG:

	NO. OF DWELLING UNITS	% CHANGE	PERSONS PER UNIT
1990	16,665		2.5
2000	16,002	-4.0%	2.4
2010	17,117	7.0%	2.4

2015 Update – According to the Fitchburg Planning Department, there are no major single or multi-unit construction projects in the current approval pipeline.

CHANGES IN HOUSING GROWTH, 1990 TO 2010 FITCHBURG



**TABLE 6A
FITCHBURG, MA HOUSING DETAIL**

2000 Dwellings	Occupied	Vacant	2010 Dwellings	Occupied	Vacant
16,002	14,943	1,059	17,117	15,165	1,952
	7708 owner- occupied 52%	39 for seasonal use		8,191 owner- occupied 54%	59 for seasonal use
	7,235 renter- occupied 48%	6.5 % rental vacancy rate		6,974 renter- occupied 46%	10.8% rental vacancy rate

Source: U.S. Census Bureau

**TABLE 6B
FITCHBURG, MA HOUSE SALES**

Year	# Single-Family	S-F Median Sales Price	# Condo Units
1993	169	\$89,000	16
1994	199	\$85,000	45
1995	275	\$85,000	23
1996	255	\$87,500	29
1997	290	\$92,000	41
1998	281	\$98,000	50
1999	295	\$105,000	27
2000	280	\$119,200	32
2001	342	\$139,900	77
2002	348	\$161,500	79
2003	347	\$179,000	75
2004	410	\$197,950	165
2005	352	\$213,950	193
2006	294	\$216,300	186
2007	252	\$200,000	132
2008	232	\$165,000	57
2009	241	\$149,000	45
2010	243	\$141,000	40
2011	213	\$140,000	40
2012	251	\$120,000	32
2013	227	\$145,000	52
2014	239	\$145,000	49

2015 to September 30th = 229 S-F (\$171,000 median) + 58 condos (\$156,000 median)

Source: The Warren Group, Banker & Tradesman

**TABLE 7
NUMBER OF K-12 STUDENTS PER HOUSEHOLD UNIT**

STATE OF MASSACHUSETTS:

	# OF HOUSING UNITS	PUBLIC K-12 ENROLLMENT	K-12 STUDENTS PER UNIT
1990	2,472,711	828,816	0.34
2000	2,621,989	959,655	0.37
2010	2,808,254	926,940	0.33

2010 Number of Households with individuals under 18: 784,853

2010 Percentage of Households with individuals under 18: 30.8%

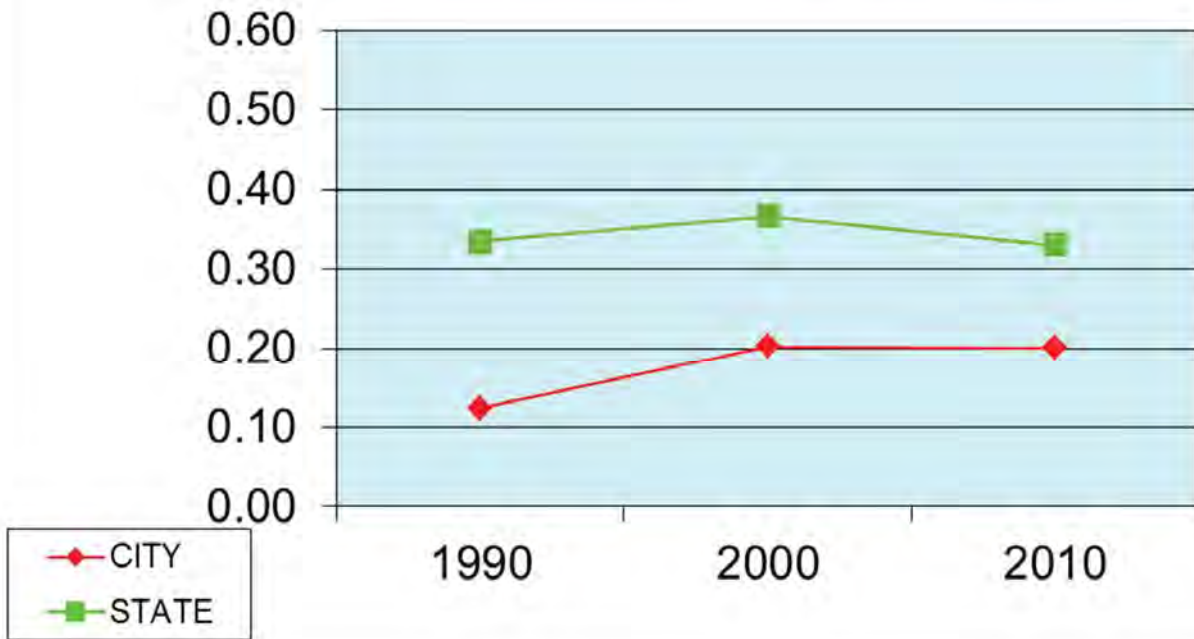
CITY OF FITCHBURG:

	# OF HOUSING UNITS	PUBLIC K-12 ENROLLMENT	K-12 STUDENTS PER UNIT
1990	16,665	2,057	0.12
2000	16,002	3,234	0.20
2010	17,117	3,437	0.20

2010 Number of Households with individuals under 18: 4,916

2010 Percentage of Households with individuals under 18: 32.4%

K-12 PUBLIC SCHOOL STUDENTS PER FITCHBURG DWELLING UNIT



**TABLE 8
BIRTHS TO RESIDENTS OF FITCHBURG**

YEAR	# OF BIRTHS	AVERAGE	% CHANGE
1999	566	578	1.6%
2000	566		
2001	615		
2002	556		
2003	587	587	-9.5%
2004	550		
2005	572		
2006	625		
2007	574	531	
2008	615		
2009	586		
2010	545		
2011	555		
2012	549		
2013	476		

**2014 provisional total = 504 births
Source: MA Department of Public Health**

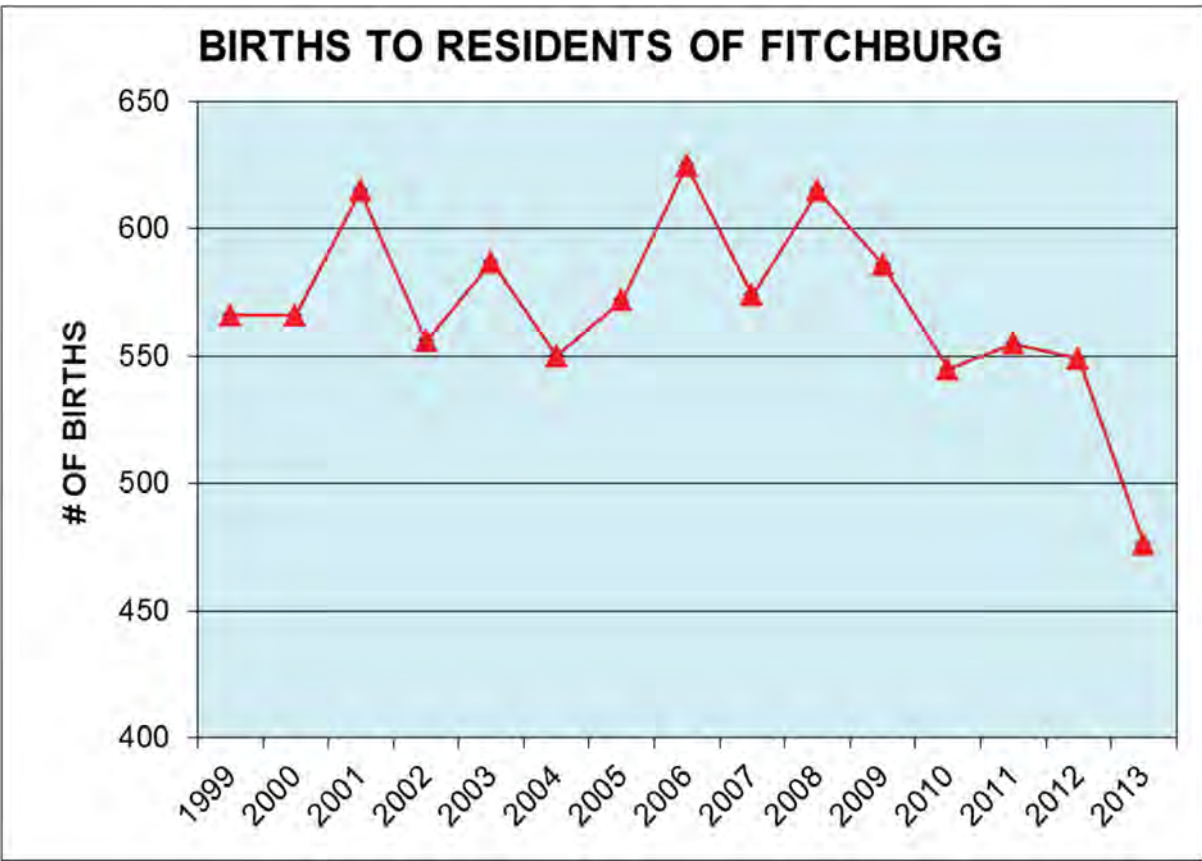
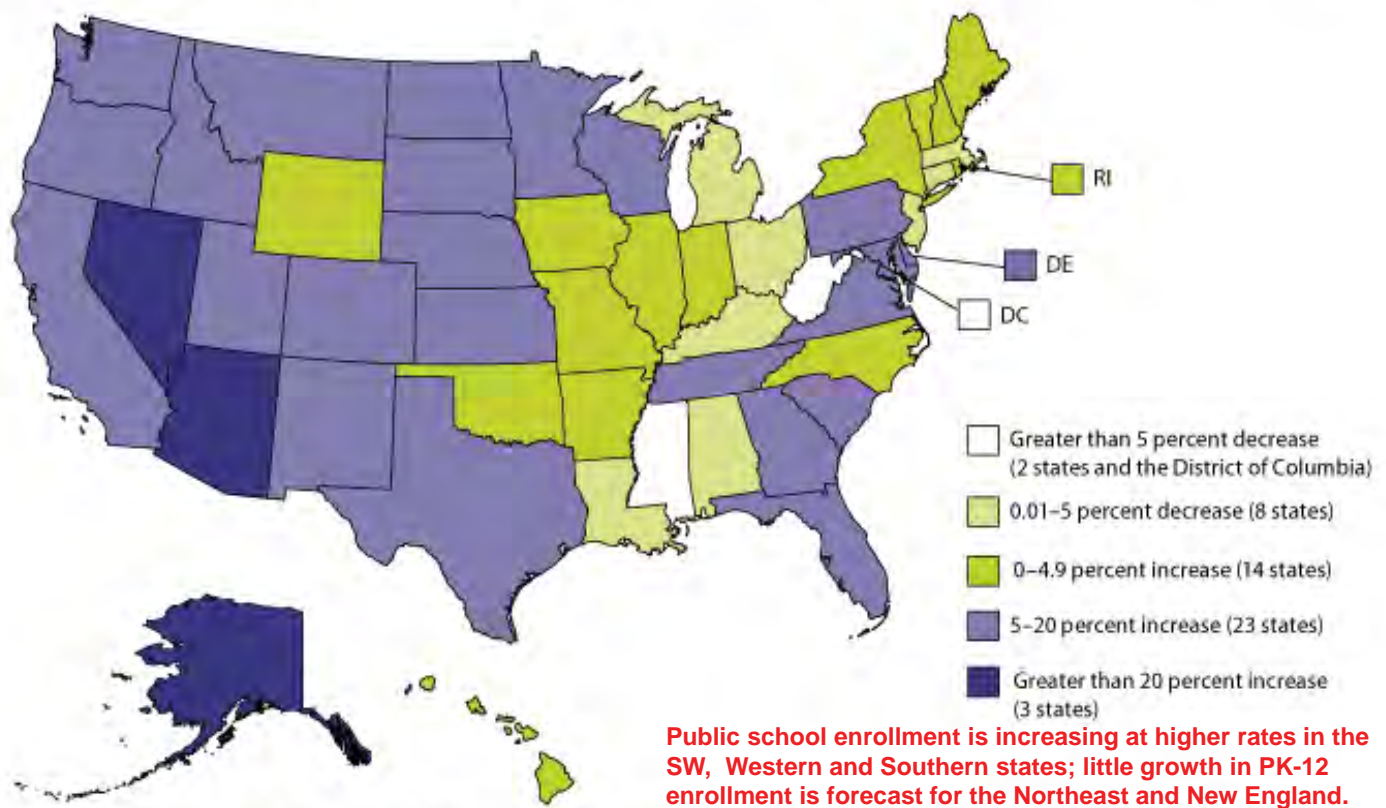


Figure 3-2: Projected percent change in public school enrollment in grades prekindergarten (preK) through 12, by state or jurisdiction: Between school years 2010-11 and 2021-22



NOTE: The most recent year of actual data is 2010-11, and 2021-22 is the last year for which projected data are available. For more information on projections, see NCES 2012-XXX.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2010-11; and Public State Elementary and Secondary Enrollment Model, 1980-2010.

IV. OPTIONS AND RECOMMENDATIONS

- A. Option A – Base Repair
- B. Option B – Addition/
Renovation
- C. Option C – New Construction

IV. OPTIONS AND RECOMMENDATIONS

A. Option A – Base Repair

OPTION A – BASE REPAIR

General: This option is based generally on repairs to currently occupied areas and therefore does not provide additional educational program space. Over the past decade, the District has utilized MSBA's repair programs to provide exterior envelope (windows, storefront/entries, and roofing) and building system (boilers, controls and distribution) improvements at South Street ES (South and West Buildings), Reingold ES, Memorial MS and Fitchburg HS. Most of the schools, however, have suffered from some level of deferred maintenance; Crocker ES, Longsjö MS and the North Building of South Street ES more so than the others.

Relative to South Street ES, this option assumes that the North Building remains unoccupied; refer to Option B – Addition/Renovation for the scope of work required to recommission and occupy it. Also, given that improvements to the West Building educational areas will most likely trigger building-wide compliance, District office areas have been included in the Base Repair scope of work.

The Base Repair scope of work described below was derived from the District's FY 2016 Capital Needs Plan, from LPA's and our consulting engineers' observations and assessments of each building, and from anecdotal comments heard during District staff/faculty interviews. The Base Repair Option assumes that the status quo is maintained; there is no change to grade configurations or enrollments at each school. As noted above, this option provides no additional educational space and will generally not comply with MSBA space guidelines. Accordingly, it should not be assumed that some or all of it will be reimbursable through one or more MSBA repair programs. LPA recommends that the District initiate a discussion with MSBA on this matter.

This option should be considered a "high-altitude flyover" in terms of scope and budget. While LPA assumes that the District would likely categorize the Base Repair scope of work according to level of priority (i.e. mandatory, recommended, and discretionary), the reader should understand that there are multiple factors which, in combination, will influence and ultimately determine the final scope, and cost, of any Base Repair Option. These include, but are not limited to, code-mandated improvements related to accessibility, structural systems seismic resistance, fire suppression systems, and energy conservation. The cost threshold for triggering full accessibility compliance is relatively low (30% of the full and fair cash value of the building; see table below for each school's amount) and is typically attained with even a modest scope of work. Re-roofing triggers the requirement to investigate seismic resistance and parapet walls. Fire suppression systems are required if renovation work is considered, in the opinion of the Fire Department, to be "major" (generally either affecting greater than 33% of the building area or costing more than 33% of the building cost). Hazardous materials (i.e. asbestos, PCB's, etc.) may also be a potential factor with far-reaching implications; a cautious approach to the survey/remediation process is warranted.



TABLE OF ACCESSIBILITY COMPLIANCE THRESHOLDS

SCHOOL	ASSESSED VALUE OF BUILDING	FULL AND FAIR CASH VALUE OF BUILDING (BASED ON 0.95 ASSESSMENT RATIO)	30% OF FULL AND FAIR CASH VALUE OF BUILDING
Crocker ES	\$6,087,700	\$6,408,105	\$1,922,432
South Street ES (combined)	\$16,602,000	\$17,475,789	\$5,242,737
Reingold ES	\$6,599,600	\$6,946,947	\$2,084,084
McKay Arts Academy	NA	NA	NA
Memorial MS	\$11,277,600	\$11,871,158	\$3,561,347
Longsjo MS	\$15,000,100	\$15,789,579	\$4,736,874
Fitchburg HS	\$36,028,700	\$37,924,947	\$11,377,484
Goodrich Academy	\$954,200	\$1,004,421	\$301,326

For these reasons the order of magnitude costs for each school are expressed as a cost range based on GSF of building area and the complexity of renovation. For purposes of this study, because it involves existing buildings, LPA has assumed that a Chapter 149A Construction Manager at Risk construction delivery method will be utilized. As noted previously, budget costs are for construction only and exclude other project costs (i.e. Designer and OPM fees, temporary swing space, escalation, legal fees, contingencies, furnishings/fixtures/equipment, technology/computer equipment, surveys, construction testing, printing, and other typical “soft” costs). Renovation scope is categorized, based on LPA’s and our consulting engineers’ collective assessments of each building, into one of three levels of complexity; Low, Medium or High. The Base Repair Option scope of work below is organized by school and the same categories previously used to assess existing conditions.



CROCKER ELEMENTARY SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	COMPLEXITY OF RENOVATION	\$/GSF	TOTAL \$
74,475	HIGH	\$215-240/GSF	\$16,012,125 - \$17,874,000
SITE			
		<ul style="list-style-type: none"> Add fifty (50) parking spaces Repair paving/drainage 	
EXTERIOR ENVELOPE			
		<ul style="list-style-type: none"> Replace aluminum windows and storefront/entries Replace roofing systems Replace modular classrooms 	
INTERIOR FINISHES/EQUIPMENT			
		<ul style="list-style-type: none"> Abate and replace VAT flooring Replace resilient stair tread/risers with new resilient treads/risers. Replace ceramic tile finishes and toilet compartments/dividers at toilet rooms. Replace all wired glass with new code-compliant fire/impact rated glazing. Repaint walls, doors, corridor lockers, trim, etc. Replace all existing ACT with new 2' x 2' ACT Replace window shades. 	
ACCESSIBILITY			
		<ul style="list-style-type: none"> Reconfigure ramp/stairs and provide new double-sided elevator, between the core area and NE classroom wing, to provide access to all levels of each (including basement mechanical area) Provide ramp, elevator or other means between core area and SW classroom wing to provide access to all levels of each Reconfigure and/or supplement existing stair guard/handrails as required Prepare and submit a variance request to MA-AAB for selected accessibility issues Reconfigure toilet rooms as required to meet accessibility requirements Replace finish hardware throughout the building Provide AAB-compliant permanent signage 	
SECURITY & ACCESS CONTROL			
		<ul style="list-style-type: none"> Provide video surveillance system 	
BUILDING SYSTEMS			
		<ul style="list-style-type: none"> Provide new low-flow plumbing fixtures Provide new boilers, distribution and controls Provide new data/communication cabling infrastructure Provide new electric service and distribution Provide new lighting and controls Provide new fire alarm system 	



SOUTH STREET ELEMENTARY SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	COMPLEXITY OF RENOVATION	\$/GSF	TOTAL \$
WEST: 47,570	MEDIUM	\$150-175/GSF	\$7,135,500 - \$8,324,750
SOUTH: 34,230	MEDIUM	\$150-175/GSF	\$5,134,500 - \$5,990,250
EAST: 29,080	LOW	\$100-125/GSF	\$2,908,000 - \$3,635,000
TOTAL			\$15,178,000 - \$17,950,000
SITE	<ul style="list-style-type: none"> • Repair paving/drainage 		
EXTERIOR ENVELOPE – WEST BUILDING	<ul style="list-style-type: none"> • Repair slate roofing and reline built-in roof gutters • Repair and repaint wood soffits, moldings and fascia trim • Repoint masonry as needed 		
EXTERIOR ENVELOPE – SOUTH AND EAST BUILDINGS	<ul style="list-style-type: none"> • Repair roofing systems as needed 		
INTERIOR FINISHES/EQUIPMENT – WEST AND SOUTH BUILDINGS	<ul style="list-style-type: none"> • Test for hazardous materials (VAT flooring); abate where necessary • Provide new resilient flooring, base and stair finishes • Provide new vinyl-backed carpet • Replace ACT ceilings with new 2' x 2' ACT • Replace ceramic tile finishes and toilet compartments/dividers at toilet rooms • Replace window shades • Repaint walls, doors, trim, etc. 		
INTERIOR FINISHES/EQUIPMENT – EAST BUILDING	<ul style="list-style-type: none"> • Repaint walls, doors, trim, etc. 		
ACCESSIBILITY – WEST AND SOUTH BUILDINGS	<ul style="list-style-type: none"> • Reconfigure and/or supplement existing stair guard/handrails as required • Reconfigure toilet rooms as required to meet accessibility requirements • Replace finish hardware throughout the building • Provide AAB-compliant permanent signage • Provide ramp, elevator or other means to provide access to all levels 		
SECURITY & ACCESS CONTROL	<ul style="list-style-type: none"> • Provide video surveillance and access control systems 		



SOUTH STREET ELEMENTARY SCHOOL (cont.)	
BUILDING SYSTEMS – WEST BUILDING	<ul style="list-style-type: none"> Provide new low-flow plumbing fixtures Provide new heating system distribution Provide new electric power distribution Provide new lighting and controls Repair existing emergency generator system Provide new data/communication cabling infrastructure Provide new fire alarm system
BUILDING SYSTEMS – SOUTH BUILDING	<ul style="list-style-type: none"> Provide fire suppression system Provide new low-flow plumbing fixtures Provide new boilers, distribution and controls Provide new electric service (from existing main panel in West Building) and power distribution Provide new lighting and controls Provide emergency generator Provide new data/communication cabling infrastructure Provide new fire alarm system
BUILDING SYSTEMS – EAST BUILDING	<ul style="list-style-type: none"> Provide new low-flow plumbing fixtures Convert boilers from No. 2 oil to natural gas fuel Provide new automatic temperature controls Provide new lighting and controls Repair existing emergency generator system Provide new data/communication cabling infrastructure Provide additional electric power distribution Provide new data/communication cabling infrastructure



REINGOLD ELEMENTARY SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	COMPLEXITY OF RENOVATION	\$/GSF	TOTAL \$
81,700	LOW	\$100-125/GSF	\$8,170,000 - \$10,212,500
SITE			
		<ul style="list-style-type: none"> Add fifteen (15) parking spaces Repair paving/drainage Provide a secondary vehicular connection to Depot Street 	
EXTERIOR ENVELOPE			
		<ul style="list-style-type: none"> Replace modular classroom 	
INTERIOR FINISHES/EQUIPMENT			
		<ul style="list-style-type: none"> Test for hazardous materials (VAT flooring); abate where necessary Provide new resilient flooring, base and stair finishes Remove existing Media Center carpet and conduct tests to determine moisture levels of the existing concrete slab Provide moisture mitigation system as required and new vinyl-backed carpet at Media Center Replace ACT ceilings with new 2' x 2' ACT Replace ceramic tile finishes and toilet compartments/dividers at toilet rooms Repaint walls, doors, trim, etc. 	
ACCESSIBILITY			
		<ul style="list-style-type: none"> Provide elevator in Lobby area to access each level of the building Provide exterior ramp at front entry Prepare and submit a variance request to MA-AAB for selected accessibility issues Reconfigure and/or supplement existing stair guard/handrails as required Reconfigure toilet rooms as required to meet accessibility requirements Replace finish hardware throughout the building Provide AAB-compliant permanent signage 	
SECURITY & ACCESS CONTROL			
		<ul style="list-style-type: none"> Provide video surveillance and access control systems 	
BUILDING SYSTEMS			
		<ul style="list-style-type: none"> Video scope underground roof drain piping to determine whether there are any obstructions that might be causing roof drainage to back up to cleanout level Repair roof drain riser piping and cleanouts Provide new low-flow plumbing fixtures Provide new electric power distribution Provide new lighting and controls Provide new exterior emergency generator Provide new data/communication cabling infrastructure Provide new fire alarm system 	



Fitchburg Public Schools
Strategic Facilities Planning Study

IV. OPTIONS and
 RECOMMENDATIONS
 A.1 Option A – Base Repair

MCKAY ARTS ACADEMY – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	COMPLEXITY OF RENOVATION	\$/GSF	TOTAL \$
111,480	NA	NA	NA
SITE			
SITE		N/A	
EXTERIOR ENVELOPE			
EXTERIOR ENVELOPE		N/A	
INTERIOR FINISHES/EQUIPMENT			
INTERIOR FINISHES/EQUIPMENT		N/A	
ACCESSIBILITY			
ACCESSIBILITY		N/A	
SECURITY & ACCESS CONTROL			
SECURITY & ACCESS CONTROL		N/A	
BUILDING SYSTEMS			
BUILDING SYSTEMS		N/A	



MEMORIAL MIDDLE SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	COMPLEXITY OF RENOVATION	\$/GSF	TOTAL \$
124,590	MEDIUM	\$150-175/GSF	\$18,688,500 - \$21,803,250
SITE	<ul style="list-style-type: none"> • Reconfigure driveways and parking areas as needed to provide separate queuing lanes for bus/parent traffic while maintaining 150 total parking spaces • Replace fencing in maintenance area • Repair paving/drainage 		
EXTERIOR ENVELOPE	<ul style="list-style-type: none"> • Replace modular classrooms 		
INTERIOR FINISHES/EQUIPMENT	<ul style="list-style-type: none"> • Test for hazardous materials (VAT flooring); abate where necessary • Provide new resilient flooring, base and stair finishes • Replace ACT ceilings with new 2' x 2' ACT • Replace ceramic tile finishes and toilet compartments/dividers at toilet rooms • Replace wired glass with code-compliant fire/impact rated glazing • Repair gym bleachers • Repaint walls, doors, trim, corridor lockers, etc. 		
ACCESSIBILITY	<ul style="list-style-type: none"> • Provide elevator or other means to access upper level Girls Locker Room • Prepare and submit a variance request to MA-AAB for selected accessibility issues • Reconfigure and/or supplement existing stair guard/handrails as required • Reconfigure toilet rooms as required to meet accessibility requirements • Replace finish hardware throughout the building • Provide AAB-compliant permanent signage 		
SECURITY & ACCESS CONTROL	<ul style="list-style-type: none"> • Provide video surveillance and access control systems 		
BUILDING SYSTEMS	<ul style="list-style-type: none"> • Provide fire suppression system • Provide new low-flow plumbing fixtures • Provide new unit ventilators and air moving equipment • Provide new electric service and power distribution • Provide new lighting and controls • Provide new data/communication cabling infrastructure • Provide new fire alarm system 		



LONGSJO MIDDLE SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	COMPLEXITY OF RENOVATION	\$/GSF	TOTAL \$
194,495	HIGH	\$215-240/GSF	\$41,816,425 - \$46,678,800
SITE	<ul style="list-style-type: none"> • Repair paving/drainage 		
EXTERIOR ENVELOPE	<ul style="list-style-type: none"> • Replace windows and storefront/entries • Replace roofing systems • Provide new membrane roofing/flashing system at built-in gutters • Replace modular classrooms 		
INTERIOR FINISHES/EQUIPMENT	<ul style="list-style-type: none"> • Test for hazardous materials; abate where necessary • Provide new resilient flooring, base and stair finishes • Provide new vinyl-backed carpet • Replace ceramic tile finishes and toilet compartments/dividers at toilet rooms • Replace ACT ceilings with new 2' x 2' ACT • Replace window shades • Repaint existing corridor lockers • Replace wired glass with code-compliant fire/impact rated glazing • Replace chalkboards with new porcelain enamel steel markerboards • Repaint walls, doors, trim, corridor lockers, etc. • Replace gym bleachers • Replace auditorium seating 		
ACCESSIBILITY	<ul style="list-style-type: none"> • Provide ramp, lift or other means to access all levels • Prepare and submit a variance request to MA-AAB for selected accessibility issues • Reconfigure and/or supplement existing stair guard/handrails as required • Reconfigure toilet rooms as required to meet accessibility requirements • Replace finish hardware throughout the building • Provide AAB-compliant permanent signage 		
SECURITY & ACCESS CONTROL	<ul style="list-style-type: none"> • Provide video surveillance and access control systems 		
BUILDING SYSTEMS	<ul style="list-style-type: none"> • Provide new low-flow plumbing fixtures • Provide new boilers, distribution and controls • Provide new electric service and power distribution • Provide new lighting and controls • Provide new exterior emergency generator • Provide new data/communication cabling infrastructure • Provide new fire alarm system 		



Fitchburg Public Schools
Strategic Facilities Planning Study

IV. OPTIONS and
 RECOMMENDATIONS
 A.1 Option A – Base Repair

FITCHBURG HIGH SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	COMPLEXITY OF RENOVATION	\$/GSF	TOTAL \$
249,830	LOW	\$50-75/GSF	\$12,491,500- \$18,737,250
SITE			
	<ul style="list-style-type: none"> • Repair paving/drainage • Repair irrigation system • Replace baseball backstop 		
EXTERIOR ENVELOPE			
	<ul style="list-style-type: none"> • Provide new window balances • Clean exterior brick/CMU masonry and apply a water-repellent treatment 		
INTERIOR FINISHES/EQUIPMENT			
	<ul style="list-style-type: none"> • Replace ACT (tiles only) 		
ACCESSIBILITY			
	NA		
SECURITY & ACCESS CONTROL			
	NA		
BUILDING SYSTEMS			
	<ul style="list-style-type: none"> • Repair/replace fire suppression system pump • Provide supplement heating at Cafeteria • Provide new lighting and controls 		



GOODRICH ACADEMY – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	COMPLEXITY OF RENOVATION	\$/GSF	TOTAL \$
19,310	HIGH	\$215-240/GSF	\$4,151,650 - \$4,634,400
SITE			
		<ul style="list-style-type: none"> • Repair paving/drainage 	
EXTERIOR ENVELOPE			
		<ul style="list-style-type: none"> • Replace windows and entry doors • Replace asphalt shingle roofing and flashing system • Clean exterior brick masonry 	
INTERIOR FINISHES/EQUIPMENT			
		<ul style="list-style-type: none"> • Test for hazardous materials; abate where necessary • Provide new resilient flooring, base and stair finishes • Provide new vinyl-backed carpet • Replace ceramic tile finishes and toilet compartments/dividers at toilet rooms • Replace window shades • Repaint walls, doors, trim, etc. 	
ACCESSIBILITY			
		<ul style="list-style-type: none"> • Provide an elevator or other means to provide access to all levels of the building • Reconfigure and/or supplement existing stair guard/handrails as required • Prepare and submit a variance request to MA-AAB for selected accessibility issues • Reconfigure toilet rooms to allow accessibility • Replace finish hardware throughout the building • Provide AAB-compliant permanent signage 	
SECURITY & ACCESS CONTROL			
		<ul style="list-style-type: none"> • Provide video surveillance and access control systems 	
BUILDING SYSTEMS			
		<ul style="list-style-type: none"> • Provide fire suppression system • Provide new low-flow plumbing fixtures • Provide new heating system distribution • Provide new electric service and power distribution • Provide new lighting and controls • Provide new exterior emergency generator • Provide new data/communication cabling infrastructure • Provide new fire alarm system 	

OPTION A – BASE REPAIR ORDER OF MAGNITUDE COST RECOMMENDATIONS	
TOTAL OPTION A – ALL SCHOOLS	\$116,508,200 - \$137,890,200



IV. OPTIONS AND RECOMMENDATIONS

B. Option B – Addition/Renovation

OPTION B – ADDITION/RENOVATION

General: Option B – Addition/Renovation assumes that all eight (8) schools remain active, are renovated per the Option A – Base Repair scope described previously, and are selectively expanded with additions to Crocker ES and Memorial MS and by the recommissioning of the North Building at South Street ES to meet current MSBA space guidelines. Of the eight schools, LPA identified South Street ES, Crocker ES and Memorial MS as having the greatest potential for significant Addition/Renovation solutions. These three schools have sufficient site capacity to accommodate not only a building addition footprint, but also the support facilities (i.e. temporary modular classrooms, construction trailers, worker parking and access drives, etc.) needed during the construction phase. McKay ES, given that it is owned by FSU, is not a candidate for a building addition; the District has also been advised that there is no more existing space available for their use. Longsjö MS offers virtually no options for expansion because the building footprint occupies almost the entire site.

For purposes of this study, because it involves existing buildings, LPA has assumed that a Chapter 149A Construction Manager at Risk construction delivery method will be utilized. As noted previously, budget costs are for construction only and exclude other project costs (i.e. Designer and OPM fees, temporary swing space, escalation, legal fees, contingencies, furnishings/fixtures/equipment, technology/computer equipment, surveys, construction testing, printing, and other typical “soft” costs).

This option assumes that additions at Crocker ES and Memorial MS, and the additional educational space afforded by recommissioning the North Building at South Street ES, will provide sufficient program area to offset minor space deficiencies at the other elementary/middle schools. It also assumes that existing program space at the grade 9-12 level (Fitchburg HS and the Goodrich Academy) is adequate and that additions are not required there.

CROCKER ELEMENTARY SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	SCOPE	\$/GSF	TOTAL \$
74,475	BASE REPAIR	\$215-240/GSF	\$16,012,125 - \$17,874,000
11,215	NEW ADDITION	\$390-\$400/GSF	\$4,373,850 - \$4,486,000
TOTAL			\$20,385,975 - \$22,360,000
BASE REPAIR SCOPE OF WORK	<ul style="list-style-type: none"> Refer to Option A for full description 		
NEW ADDITION	<ul style="list-style-type: none"> 4 General Classrooms 1 Art Classroom 1 Music Classroom 		



		<ul style="list-style-type: none"> Media Center 	
SOUTH STREET ELEMENTARY SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	SCOPE	\$/GSF	TOTAL \$
110,880	BASE REPAIR	VARIES; REFER TO OPTION A	\$15,178,000 - \$17,950,000
25,325	MAJOR RENOVATION (RECOMMISSION NORTH BUILDING)	\$215-240/GSF	\$5,444,875 - \$6,078,000
TOTAL			\$20,622,875 - \$24,028,000
BASE REPAIR SCOPE OF WORK	<ul style="list-style-type: none"> Refer to Option A for full description 		
EXTERIOR ENVELOPE – NORTH BUILDING	<ul style="list-style-type: none"> Replace roofing system Replace aluminum windows and storefront/entries 		
INTERIOR FINISHES/EQUIPMENT – NORTH BUILDING	<ul style="list-style-type: none"> Test for hazardous materials; abate where necessary Provide new resilient flooring, base and stair finishes Provide new vinyl-backed carpet Replace ACT ceilings with new 2' x 2' ACT Replace ceramic tile finishes and toilet compartments/dividers at toilet rooms Replace window shades Repaint walls, doors, trim, etc. 		
ACCESSIBILITY – NORTH BUILDING	<ul style="list-style-type: none"> Reconfigure and/or supplement existing stair guard/handrails as required Reconfigure toilet rooms as required to meet accessibility requirements Replace finish hardware throughout the building Provide AAB-compliant permanent signage Provide ramp, elevator or other means to provide access to all levels 		
SECURITY & ACCESS CONTROL – NORTH BUILDING	<ul style="list-style-type: none"> Provide video surveillance and access control systems 		
BUILDING SYSTEMS – NORTH BUILDING	<ul style="list-style-type: none"> Provide fire suppression system Provide new low-flow plumbing fixtures Provide new boilers, distribution and controls Provide new electric service (from existing main panel in West Building) and power distribution Provide new lighting and controls Provide emergency generator Provide new data/communication cabling infrastructure Provide new fire alarm system 		



REINGOLD ELEMENTARY SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	SCOPE	\$/GSF	TOTAL \$
81,700	BASE REPAIR	\$100-125/GSF	\$8,170,000 - \$10,212,500
BASE REPAIR SCOPE OF WORK		<ul style="list-style-type: none"> Refer to Option A for full description 	

MCKAY ARTS ACADEMY – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	SCOPE	\$/GSF	TOTAL \$
111,480	NA	NA	NA
BASE REPAIR SCOPE OF WORK		N/A	

MEMORIAL MIDDLE SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	SCOPE	\$/GSF	TOTAL \$
124,590	BASE REPAIR	\$150-175/GSF	\$18,688,500 - \$21,803,250
22,250	NEW ADDITION	\$390-\$400/GSF	\$8,677,500 - \$8,900,000
TOTAL			\$27,366,000 - \$30,703,250
BASE REPAIR SCOPE OF WORK		<ul style="list-style-type: none"> Refer to Option A for full description Expand Food Services into existing Media Center 	
CONSTRUCT NEW ADDITION		<ul style="list-style-type: none"> 5 Science Classrooms 3 Technology Classrooms/Workshops Media Center 	

LONGSJO MIDDLE SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	SCOPE	\$/GSF	TOTAL \$
194,495	BASE REPAIR	\$215-240/GSF	\$41,816,425 - \$46,678,800
BASE REPAIR SCOPE OF WORK		<ul style="list-style-type: none"> Refer to Option A for full description 	

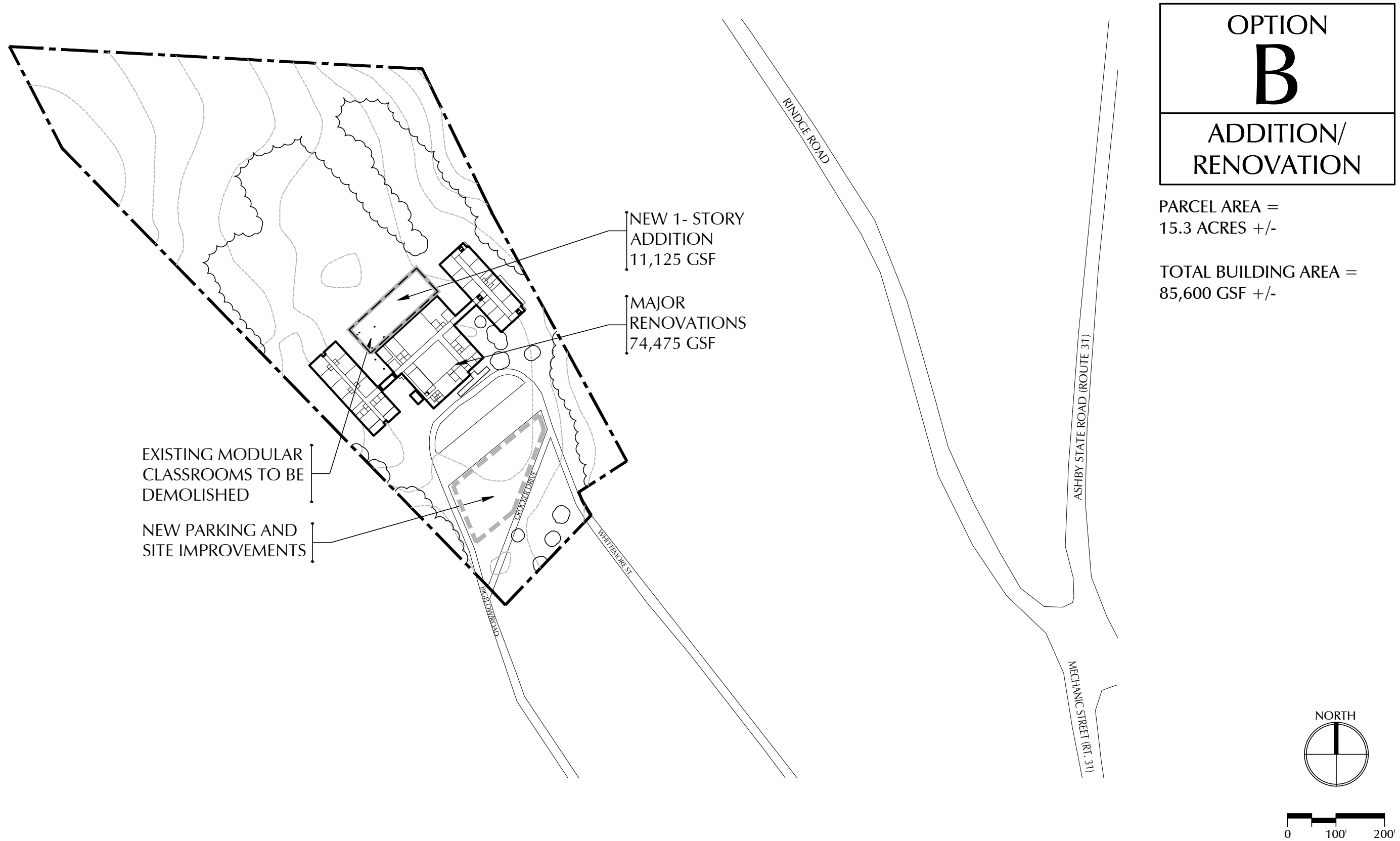


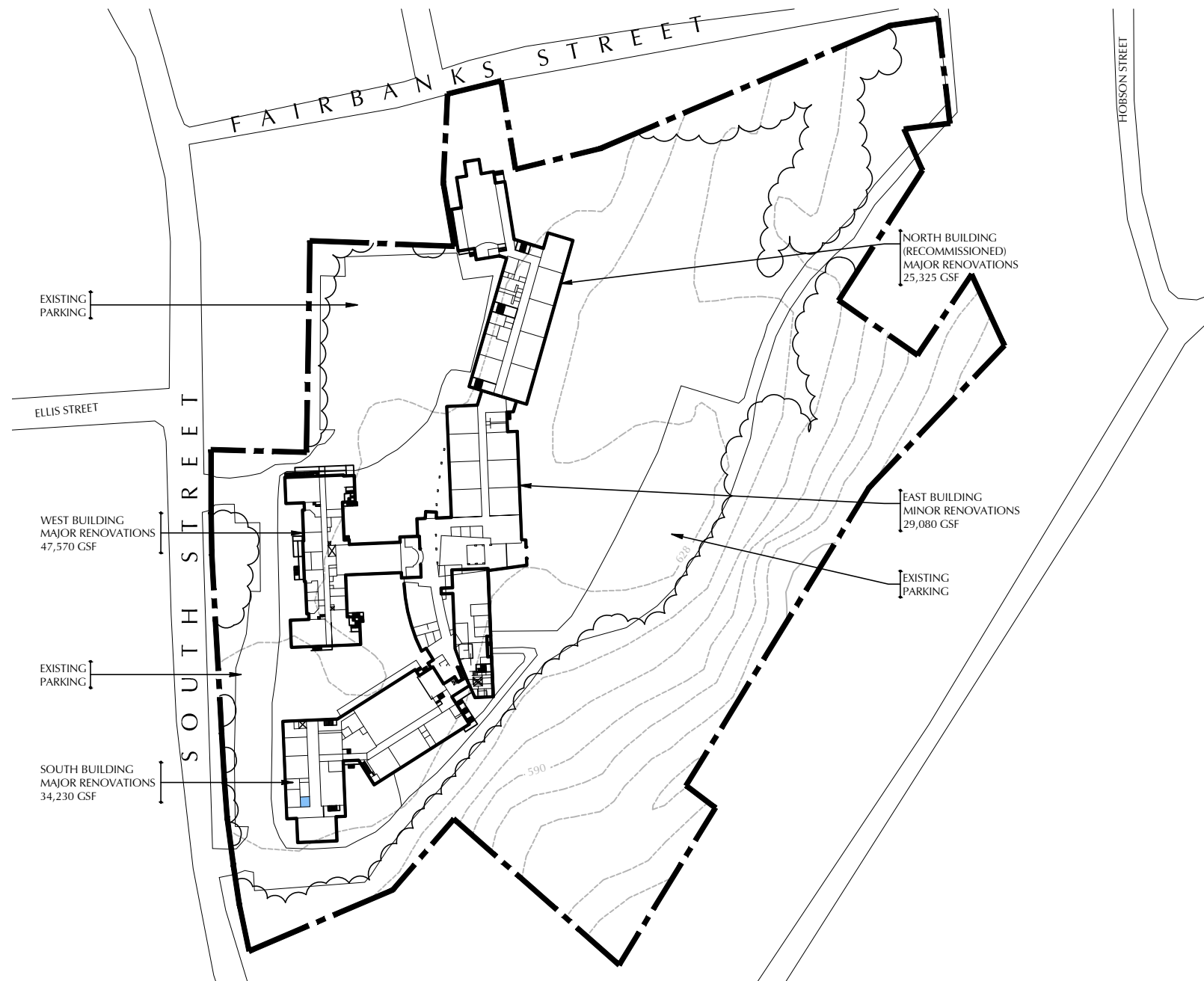
FITCHBURG HIGH SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	SCOPE	\$/GSF	TOTAL \$
249,830	BASE REPAIR	\$50-75/GSF	\$12,491,500- \$18,737,250
BASE REPAIR SCOPE OF WORK		<ul style="list-style-type: none"> Refer to Option A for full description 	

GOODRICH ACADEMY – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	SCOPE	\$/GSF	TOTAL \$
19,310	BASE REPAIR	\$215-240/GSF	\$4,151,650 - \$4,634,400
BASE REPAIR SCOPE OF WORK		<ul style="list-style-type: none"> Refer to Option A for full description 	

OPTION B – ADDITION/RENOVATION ORDER OF MAGNITUDE COST RECOMMENDATIONS	
TOTAL OPTION B – ALL SCHOOLS	\$135,004,425 - \$157,354,200





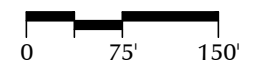


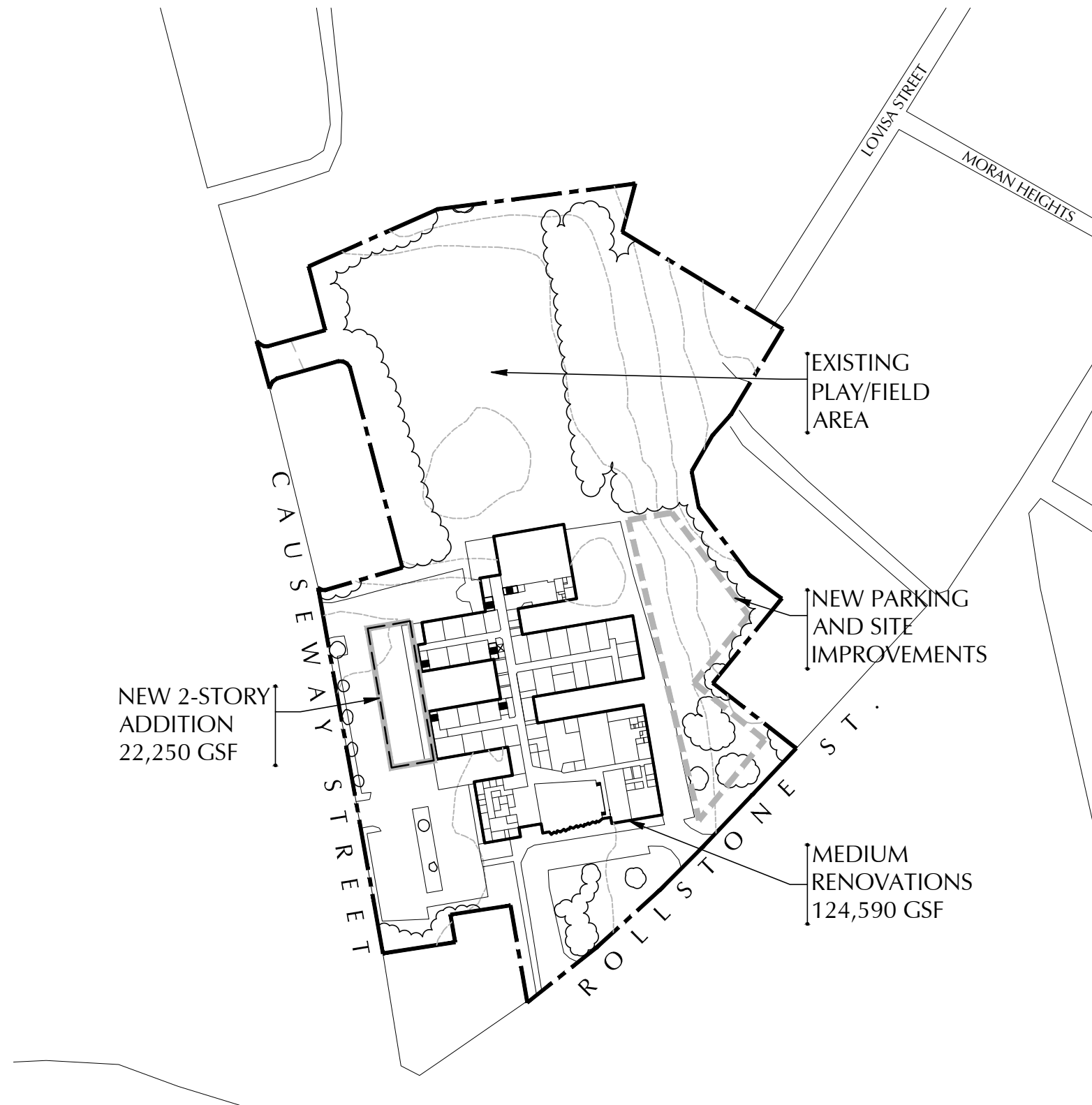
**OPTION
B**

**ADDITION/
RENOVATION**

PARCEL AREA =
10.9 ACRES +/-

TOTAL BUILDING AREA =
136,205 GSF +/-



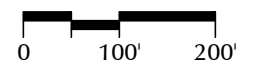


**OPTION
B**

**ADDITION/
RENOVATION**

PARCEL AREA =
13.9 ACRES +/-

TOTAL BUILDING AREA =
146,840 GSF +/-



IV. OPTIONS AND RECOMMENDATIONS

C. Option C – New Construction

OPTION C – NEW CONSTRUCTION

Option C – New Construction recommends that Longsjo MS be closed, a new grade PreK-8 school is constructed on the Crocker ES site, the existing Crocker ES is demolished, the North Building at South Street ES is demolished, a new grade 5-8 addition is constructed at South Street ES (on the site of the demolished North Building), and the other five (5) schools remain active and are renovated per the Base Repair scope described previously.

For purposes of this study, because it involves existing buildings, LPA has assumed that a Chapter 149A Construction Manager at Risk construction delivery method will be utilized. As noted previously, budget costs are for construction only and exclude other project costs (i.e. Designer and OPM fees, temporary swing space, escalation, legal fees, contingencies, furnishings/fixtures/equipment, technology/computer equipment, surveys, construction testing, printing, and other typical “soft” costs).

This option assumes that the students displaced by the closing of Longsjo MS will be distributed equally between 1) the new PreK-8 school on the Crocker site, and 2) the new grade 5-8 addition built at South Street ES. Other variations of this option are possible, including the following:

- Build a new PreK-8 school, on the Crocker site, to accommodate the combined student populations of Crocker ES and Longsjo MS.
- Construct an addition at Memorial MS, to accommodate half of the displaced Longsjo MS population, instead of building a grade 5-8 addition at South Street ES.

CROCKER ELEMENTARY SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	SCOPE	\$/GSF	TOTAL \$
136,900	NEW CONSTRUCTION	\$400-\$410/GSF	\$54,760,000 - \$56,129,000
NEW CONSTRUCTION	<ul style="list-style-type: none"> • Construct a new 136,900 GSF 859-student grade PreK-8 school behind existing Crocker ES to accommodate the current enrollment of Crocker ES plus half of the students displaced by closing Longsjo MS • Demolish existing Crocker Elementary School • Build new parking and site improvements on location of former Crocker ES 		

SOUTH STREET ELEMENTARY SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS

GSF	SCOPE	\$/GSF	TOTAL \$
110,880	BASE REPAIR	VARIABLES; REFER TO OPTION A	\$15,178,000 - \$17,950,000
50,635	NEW ADDITION	\$390-400/GSF	\$19,747, 650 - \$20,254,000
TOTAL			\$34,925,650 - \$38,204,000

BASE REPAIR SCOPE OF WORK	<ul style="list-style-type: none"> Refer to Option A for full description
NEW ADDITION	<ul style="list-style-type: none"> Demolish existing North Building (including hazmat abatement) Construct new 50,635 GSF grade 5-8 addition, on the site of the demolished North Building, to accommodate half of the students displaced by closing Longsjo MS Reconfigure driveways and parking to allow vehicular access from Fairbanks Street and full site perimeter access

REINGOLD ELEMENTARY SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS

GSF	SCOPE	\$/GSF	TOTAL \$
81,700	BASE REPAIR	\$100-125/GSF	\$8,170,000 - \$10,212,500

BASE REPAIR SCOPE OF WORK	<ul style="list-style-type: none"> Refer to Option A for full description
---------------------------	--

MCKAY ARTS ACADEMY – ORDER OF MAGNITUDE COST RECOMMENDATIONS

GSF	SCOPE	\$/GSF	TOTAL \$
111,480	NA	NA	NA

BASE REPAIR SCOPE OF WORK	N/A
---------------------------	-----

MEMORIAL MIDDLE SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS

GSF	SCOPE	\$/GSF	TOTAL \$
124,590	BASE REPAIR	\$150-175/GSF	\$18,688,500 - \$21,803,250

BASE REPAIR SCOPE OF WORK	<ul style="list-style-type: none"> Refer to Option A for full description
---------------------------	--



Fitchburg Public Schools
Strategic Facilities Planning Study

IV. OPTIONS and
 RECOMMENDATIONS
 A.3 Option C – New Construction

LONGSJO MIDDLE SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	SCOPE	\$/GSF	TOTAL \$
194,495	NONE	NA	NA
NO WORK		<ul style="list-style-type: none"> Longsjo Middle School to be closed in Option C 	

FITCHBURG HIGH SCHOOL – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	SCOPE	\$/GSF	TOTAL \$
249,830	BASE REPAIR	\$50-75/GSF	\$12,491,500- \$18,737,250
BASE REPAIR SCOPE OF WORK		<ul style="list-style-type: none"> Refer to Option A for full description 	

GOODRICH ACADEMY – ORDER OF MAGNITUDE COST RECOMMENDATIONS			
GSF	SCOPE	\$/GSF	TOTAL \$
19,310	BASE REPAIR	\$215-240/GSF	\$4,151,650 - \$4,634,400
BASE REPAIR SCOPE OF WORK		<ul style="list-style-type: none"> Refer to Option A for full description 	

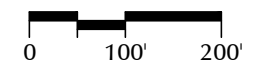
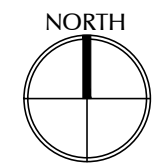
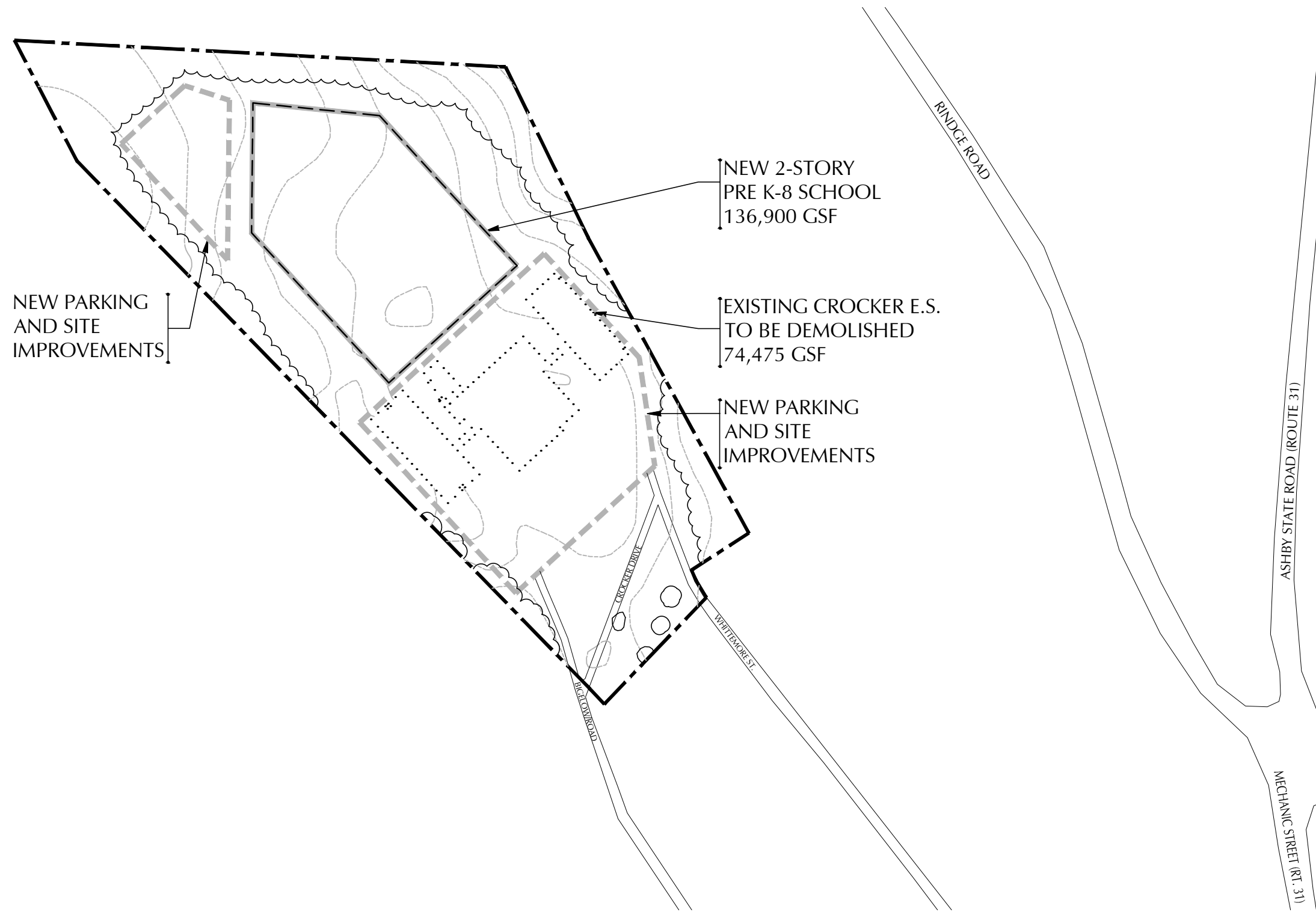
OPTION C – NEW CONSTRUCTION ORDER OF MAGNITUDE COST RECOMMENDATIONS	
TOTAL OPTION C – ALL SCHOOLS	\$133,187,300 - \$149,720,400

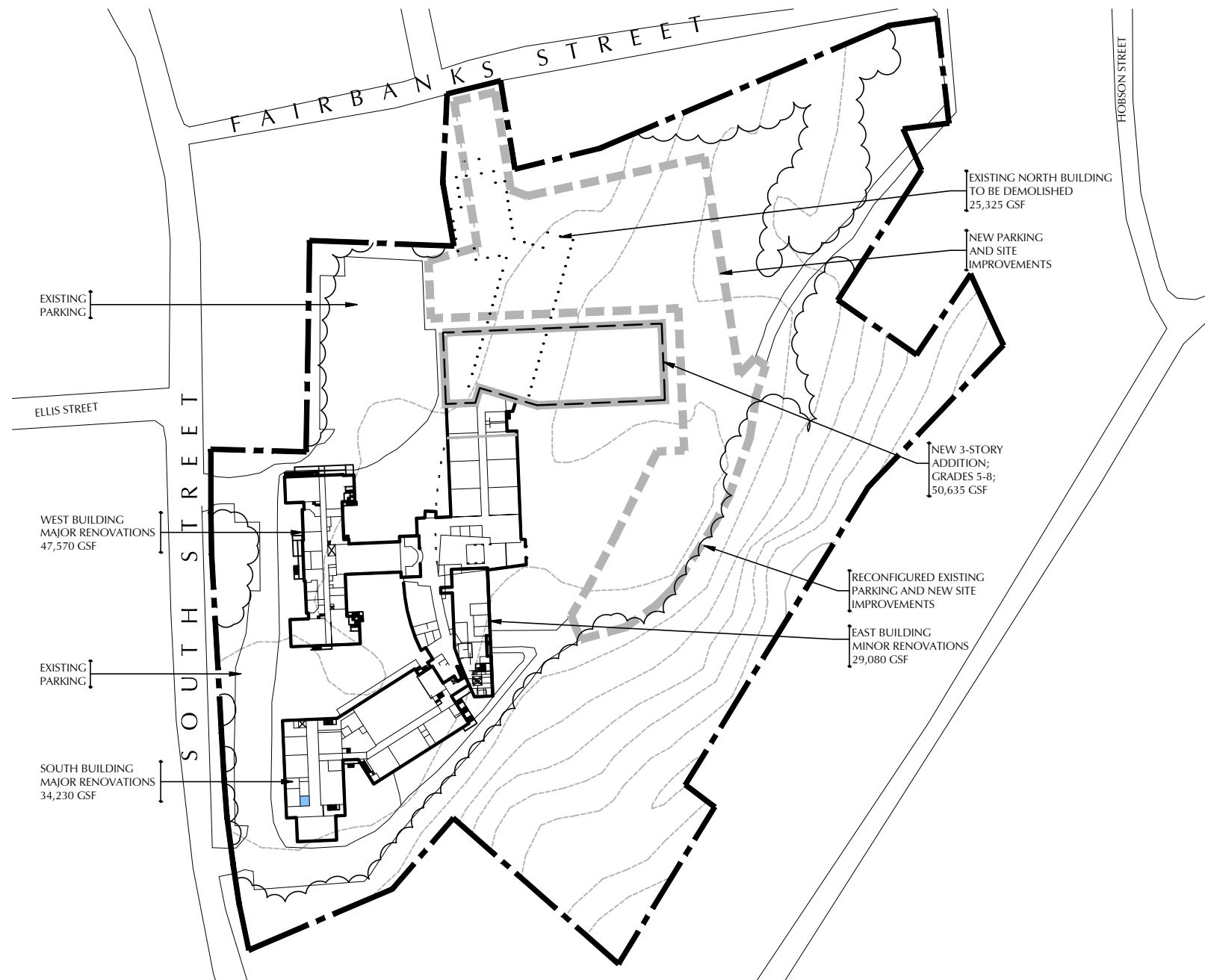


OPTION
C
NEW
CONSTRUCTION

PARCEL AREA =
15.3 ACRES +/-

TOTAL BUILDING AREA =
136,900 GSF +/-





OPTION
C
NEW
CONSTRUCTION

PARCEL AREA =
10.9 ACRES +/-

TOTAL BUILDING AREA =
136,205 GSF +/-



V. APPENDICES

- A. Meeting Memos
 - 1. Owner/Architect Principals Meetings
 - 2. Owner/Architect Food Services Meeting
 - 3. Owner/Architect Technology Meeting
 - 4. Police & Fire Department/Architect Public Safety Meeting
- B. Other
 - 1. MACRIS Scanned Record Cover Pages
 - 2. Assessor's Unofficial Property Record Cards
 - 3. MA Department of Revenue 2014 Assessment Ratio

V. APPENDICES

- A. Meeting Memos
 - 1. Owner/Architect Principals Meetings
 - 2. Owner/Architect Food Services Meeting
 - 3. Owner/Architect Technology Meeting
 - 4. Police & Fire Department/Architect Public Safety Meeting

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

OWNER/ARCHITECT PRINCIPALS MEETINGS

8-9 September 2015

ATTENDANCE:

Lourdes Ramirez	Principal, McKay Arts Academy
Rebecca Leyva	Student Program Support, McKay Arts Academy
Bob Jokela	Assistant Superintendent
Katie Crockett	LPA
Eric Moore	LPA
Adam Renda	Principal, Crocker ES
Bob Jokela	Assistant Superintendent
Katie Crockett	LPA
Eric Moore	LPA
Martha Clark	Principal, Reingold ES
Kelley Chase	Student Program Support Administrator, Reingold ES
Katie Crockett	LPA
Eric Moore	LPA
Jonathan Thompson	Principal, South Street ES
Kat Craven	SSES Special Education Team
Katie Crockett	LPA
Eric Moore	LPA
Francis Thomas	Principal, Memorial MS
Laura Ramos	Student Program Support Administrator, Memoria MS
Katie Crockett	LPA
Eric Moore	LPA
Craig Chalifoux	Principal, Longsjo MS
Katie Crockett	LPA
Eric Moore	LPA
Jeremy Roche	Principal, Fitchburg HS
Katie Crockett	LPA
Eric Moore	LPA
Michael Pelland	Principal, Goodrich Arts Academy
Eric Moore	LPA

ITEM	DESCRIPTION
9.08.15.1	<p>McKAY ARTS ACADEMY (Pre-K – 8):</p> <ul style="list-style-type: none"> ▪ McKay was created, as an innovation school, from 2 separate schools 3-4 years ago. ▪ Grade configuration is currently PreK-8; but is open for discussion. Current

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

OWNER/ARCHITECT PRINCIPALS MEETINGS

8-9 September 2015

ITEM	DESCRIPTION
	<p>facility is organized as Pre-K -4 and 5-8 separately with differing daily school start and end times, separate buses, etc.</p> <ul style="list-style-type: none"> ▪ Desired maximum student population is approximately 700 although the lease agreement would allow up to 750. ▪ The District occupies the “A” and “B” wings at McKay; the “C” wing is restricted to Fitchburg State University (FSU) use. ▪ The Auditorium in “B” wing is shared with FSU. ▪ Locker Rooms are used for storage. ▪ Parking is shared with FSU; reportedly adequate staff parking available; visitor parking limited. ▪ Buses enter the SE lower level turn-around off Pear Hill Road. Parents enter from Rindge Road and queue in separate lines (Elementary and Middle School) in the NW end of the parking area. Separate schedules for elementary and middle schools helps to relieve site circulation pressures. Walkers are released after vehicular traffic subsides. ▪ Heavy pedestrian traffic was observed between McKay and the main FSU campus; however the District advised this typically does not conflict with McKay Arts academy bus and parent traffic. ▪ PreK has 2 sessions of ½ day (1 SPED; 1 mixed). ▪ Technology is delivered via carts on wheels (COWs), and ELMOs. One additional tech lab would be helpful. ▪ Music and Art educational space is sufficient for the District’s needs. ▪ Physical Education and Health share the gym. ▪ Science classrooms are not labs; there are no prep rooms, gas utilities or special casework. ▪ SPED: Strong inclusion program; Guided Learning substantially separate program; time out space required. ▪ Media Center is subdivided by modular partitions to house an advanced Learning instructional space. ▪ Magnet school curriculum: arts integration focused on project based learning. At the MS level, humanities classes instead of typical Social studies and English. ▪ Anecdotally, parents find Pre-k through grade 8 continuity desirable. ▪ Summer programs: 2 this year. ▪ Considered the best security system in the District (repairs are done by FSU). ▪ Constructed in 1971, the building was originally designed as a K-6 school.
9.08.15.2	<p>CROCKER ES (Pre-K – 4):</p> <ul style="list-style-type: none"> ▪ Parking is inadequate; about 50 more spaces are needed. The paved play areas on the rear (NW) side of the school are not used for parking. ▪ Buses utilize the driveway directly adjacent to the building canopy. Parents queue along the parking area between Crocker Drive and Bigelow Road.

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

OWNER/ARCHITECT PRINCIPALS MEETINGS

8-9 September 2015

ITEM	DESCRIPTION
	<ul style="list-style-type: none"> ▪ The building is arranged in 3 separate wings on multiple levels and is not accessible. This has created problems in terms of safety (transporting injured student on gurneys) and everyday movement of supplies/equipment from one part of the building to another. ▪ All deliveries are brought into the Receiving area near the Kitchen. ▪ The one remaining working boiler failed at the end of last school year and has not been replaced. The District has arranged to mobilize a portable boiler for the coming heating season. ▪ Classroom storage is inadequate; the existing unit ventilators take up most of the exterior wall and there is limited other storage. ▪ Electrical power in classrooms is inadequate. ▪ Crocker ES has the highest poverty level in the District, but has scored very well in testing over the past 4 years. ▪ Current organization of the school: Pre-K, K and 1 in one wing, Pre-K/2/3/4 in another with core facilities in the center. ▪ Platform is used for faculty library (leveled learning) as well as assembly purposes. ▪ SPED: (3) Pre-kindergarten classes, no substantially separate resource room; adequate smaller spaces for pull-out to support inclusion program. ▪ Art/Music/Gym/Tech spaces were reported to be adequate. ▪ Toilets in Pre-K, K and Grade 1 classrooms would be a desirable feature. ▪ Acoustics difficult in Pre-K/K/1 wing due to glue-lam/wood ceiling construction. ▪ Technology: wireless throughout, 4 device carts, 1 IWB projector working. ▪ Summer programs: considered good location due to site recreational facilities; 2 programs this year servicing 140 students.
9.08.15.3	<p>REINGOLD ES (K-4):</p> <ul style="list-style-type: none"> ▪ Parking is inadequate; about 10-15 more spaces are needed. ▪ Buses enter from Reingold Ave. and California Ave. and utilize the front (East) side of the building for drop-off/pickup. Parents (approximately 150 cars) enter the same way but queue around the paved playground to the North of the building. There is inadequate width for cars to negotiate the West side driveway and cul-de-sac at the lower level main entry. ▪ A vehicular connection to Depot Street (to the West) was studied but rejected due to topography and regulatory issues. ▪ The community uses the Gymnasium and LL baseball field regularly. ▪ Despite the stair lift at the western-most Stair, accessibility is an issue. Faculty/Staff are reluctant to transport a wheelchair-bound student on the stair lift and there is no elevator or other accessible means of vertical travel. ▪ Although the upper level front (East) of the building is generally perceived as the main entry, there are no Administrative offices or support areas at that

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

OWNER/ARCHITECT PRINCIPALS MEETINGS

8-9 September 2015

ITEM	DESCRIPTION
	<p>location for it to function as a secure control point. A workstation has been placed there but is typically not staffed; this creates a security issue allowing people to enter the building and access the classroom wings undetected. The lower level rear (West) of the building, with adjacent Administrative offices to monitor it, is utilized as the main entry to Reingold ES.</p> <ul style="list-style-type: none"> ▪ SPED: The District program for “Substantially Separate” Behavior Modification program (2 classrooms) is located at Reingold ES. Time out spaces are not padded. ▪ Ground floor Kindergarten classrooms typically do not have toilet rooms accessed from the classroom. Upper level classrooms do have adjacent toilet rooms. No pre-K program at the school currently. ▪ No summer programs have been scheduled here.
9.08.15.4	<p>SOUTH STREET ES (K – 4):</p> <ul style="list-style-type: none"> ▪ District offices are located at South Street ES, on the upper floors of the West (former convent) building. ▪ Educational spaces at South Street ES are spread out into four (4) distinct buildings; West, South, East and North. ▪ Some classrooms share the first floor with Central administration offices. ▪ The North building has been unoccupied since about 2009 and is used only for storage and as an enclosed walkway between the rest of the school and the bus drop-off/pickup on Fairbanks Street. ▪ Parking is shared with District offices. ▪ Buses typically do not enter the site; they pick up and drop off students on Fairbanks Street, which connects to the North building Gym via a paved sidewalk. 3-4 privately chartered school buses enter from South Street and line up along the parking area in front of the South and West buildings. ▪ Vans for transporting Special Education students also enter from South Street and use the turn-around in front of the North/East buildings. It was noted that the driveway is very narrow between the north end of the West Building and the adjacent retaining wall; the District is concerned about potential for accidents/injury at this location, especially with vans, staff parking and walkers all converging here. ▪ Parents (approximately 120 cars) enter from South Street and queue up in 5 marked lanes behind the East building; they then continue along a paved connector and exit the site at Fairbanks and Birch Streets. ▪ Student walkers (50 – 60) cross South Street at Ellis Street. ▪ Security and access control is a problem due to the overlapping circulation routes for District offices and Educational Program space. While the District offices have a secure checkpoint at the West building main entry, visitors can access classrooms and other Educational Program space undetected (via stairs

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

OWNER/ARCHITECT PRINCIPALS MEETINGS

8-9 September 2015

ITEM	DESCRIPTION
	<p>and elevator) once past that point.</p> <ul style="list-style-type: none"> ▪ The District Special Education Autism program is specific to South Street ES. ▪ Health and Art are taught as mobile cart programs, although it is hoped that the former Art classroom in the East building can be returned to serve that function again. ▪ Gymnasium is the main assembly space and is not large enough to hold the entire school population. ▪ Lack of cohesive layout and strong connecting circulation makes this a challenging facility for supervision, team teaching, and appropriate distribution of special classrooms. ▪ Elementary Honors Program held in the Media Center: 25 students at a time from each grade level in area defined by low modular partition. ▪ SPED: District wide autism substantially separate classes assigned to South St. No Pre-K program. ▪ Approximately 150 ESL students of 660 total. ▪ Technology: 5 computer carts. ▪ Wish list items include: <ul style="list-style-type: none"> ○ Safe areas (with padding/restraints) and sensory areas (with swings or body socks) for autistic students. ○ Bathrooms at Kindergarten classrooms. ○ Separate Media Center computer lab with air conditioning. ○ Larger Cafeteria (currently 5 separate servings are required). ○ Larger Stage for special events. ○ Classroom storage areas and sinks. ○ Air conditioning at Media Center and Classrooms (5- 6 Summer School programs are run at South Street ES). ○ Integrated Technology. ○ 2-3 additional meeting areas (for Special Education, Data Assessment, and IEP).
9.08.15.5	<p>MEMORIAL MS (5-8):</p> <ul style="list-style-type: none"> ▪ Parking is inadequate; much of the upper lot (at main entry on South end of building) was lost due to creation of a fire lane and a large portion of the lower lot is in conflict with bus traffic. 150+ parking spaces are effectively reduced to 100 due to the bus circulation pattern. ▪ 7 Buses enter from Causeway Street and utilize the lower level (West) side of the building for drop-off/pickup. Parents enter the same way but turn right and queue around the central island at the south end of the lower parking area. Other parents park nearby and allow their students to walk to the school, so the total number of parent pickup is undetermined. ▪ The District Substantially Separate “Transitions” Special Education program, for

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

OWNER/ARCHITECT PRINCIPALS MEETINGS

8-9 September 2015

ITEM	DESCRIPTION
	<p>significantly delayed (intellectually and cognitively) students, is specific to Memorial MS.</p> <ul style="list-style-type: none"> ▪ General configuration of the classroom wings works well for the 5/6 and 7/8 classroom organization of the school. Middle school certification gives more flexibility to classroom assignments for 5/6 than for 7/8 (tends to have more staff members to support). Currently some combined 7/8 classrooms. ▪ 5th grade student population is currently larger than other grades. ▪ Teacher work spaces are inadequate. ▪ Library includes Academic Success Lab in a section with modular stations. ▪ A former locker alcove at the lower level was at some point partitioned off and used for storage and by Mount Wachusett Community College; however it has no ventilation or windows and does not meet the requirements for educational program space. ▪ Cafeteria has 4 servings. ▪ Music facilities well-appointed for sound control. ▪ Art room includes a kiln. ▪ SPED: many deficient due to windowless corner instructional spaces. ▪ Memorial tends to attract students from all elementary schools, but particularly Reingold and South St.
9.08.15.6	<p>LONGSJO MS:</p> <ul style="list-style-type: none"> ▪ Parking is inadequate; approx. 2/3 of staff/faculty park on nearby streets. There is minimal outdoor space; the building footprint encompasses almost the entire property parcel. ▪ Buses drop off and pick up along Academy Street; the steep and narrow streets are difficult for buses to negotiate, particularly in the winter. Parents drop off students at the central Lobby along Pleasant Street but pick up at the corner of Pleasant and High Streets (site of former Hastings Building). Congestion on the streets caused by the significant school traffic often prohibits any other traffic flow during drop off/pick up times. ▪ Recess is held at the former Hastings Building lot. Two street crossings are required to get to the lot creating a safety hazard. ▪ Longsjo MS is perceived as undesirable because of its downtown location and surroundings. Several instances to support this view were described including a nearby drive-by shooting, squatters/trespassers in adjacent buildings, and homeless loitering on the sidewalks during school hours. ▪ Approximately 520 students total (have been up to 570 in the past). Of those 80 families chose to send their children to Longsjo, the rest were assigned. Typically, 130 students will leave and be replaced by others (due to migration) through the school year. ▪ Several years ago there was a proposal to close Longsjo MS; but the plan was

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

OWNER/ARCHITECT PRINCIPALS MEETINGS

8-9 September 2015

ITEM	DESCRIPTION
	<p>abandoned after public protest and the nearby BF Brown School was closed instead. The next-door HS Annex is also vacant and was recently sold to a private developer; however little has been done except for the installation of a perimeter security fence.</p> <ul style="list-style-type: none"> ▪ Longsjo MS was at one time considered to be a state-of-the-art educational building design, and the high level of detail and workmanship is still evident in places today. However, Longsjo has suffered from significant deferred maintenance issues. The original slate roofing and sheet metal lined built-in gutters leak extensively and are likely causing unseen damage. The upper level Auditorium balcony was deemed structurally unsafe and is closed; most of the balcony level fixed seating has been removed and used to replace damaged main level seating. Exterior masonry has some significant cracks. ▪ Overall of layout of the school supports classroom organization per grade. ▪ Toilet rooms, with girls at one end of the corridor and boys at the other, are problematic as students travel though other grade levels at times. ▪ 900 seat auditorium (without balcony seating). ▪ Main entrance to the school is through the Media Center. The administration is located in offices behind the circulation desk.
9.08.15.7	<p>FITCHBURG HS:</p> <ul style="list-style-type: none"> ▪ Fitchburg HS, built in 1999, is the newest building in the District and as such has comparatively few needs when viewed together with the other schools. Educational program space is generally sufficient for the District’s requirements. ▪ Parking is adequate. Staff parking is to the North and student parking on the West side of the building. Buses enter from Arn-How Farm Road and travel clockwise around the perimeter driveway, queuing next to the student parking lot. Parents (approx. 40 – 50) enter the same way but turn right and navigate through the staff parking lot before queuing along the main entry driveway loop. Buses and parents converge where the perimeter driveway meets the entry drive, but this has not been an issue as there is a (School Resource Officer (SRO) to direct traffic at that point. ▪ MART public bus system has limited route to the high school in its relatively remote site. Community/parent events need to be scheduled with the bus route in mind as some families have no car. ▪ There are only a limited number of summer programs at the HS site. The HS Kitchen is used to prepare food for summer programs at other District schools. ▪ Although there are some athletic fields onsite at the HS, the District uses Crocker Field for HS football, track & field, and other sports. ▪ Several existing program spaces are in the process of being, or have been, retrofitted for new uses; these include a PreK classroom near Band, an

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

OWNER/ARCHITECT PRINCIPALS MEETINGS

8-9 September 2015

ITEM	DESCRIPTION
	<p>Academic Support Center and a Technology Lab.</p> <ul style="list-style-type: none"> ▪ A grant funded program, Gear Up, with Mount Wachusett Community College provides staff and programs to encourage students to pursue college degrees after high school. ▪ Current enrollment of 1280. Prior to Goodrich Academy, enrollment was closer to 1400. Design capacity of the school may be close to 1500. ▪ 700 seat Auditorium is frequently used by community as well as the gym.
9.08.15.8	<p>GOODRICH ARTS ACADEMY:</p> <ul style="list-style-type: none"> ▪ Goodrich Arts Academy is an Alternative HS program for students that, for a number of different reasons, do not fit into the mold of a traditional HS student. There is no one “typical” student profile; students include young parents, those with day jobs, Special Education or behavioral/emotional issues, students entering the military, etc. ▪ Students are not bused; they either drive themselves or are dropped off and picked up by parents. Parking is limited to around the building and surrounding streets. Although not part of the school site, students have direct access to adjacent Goodrich Park for outdoor activities. ▪ The Goodrich Academy, because of its small size and non-traditional curriculum, doesn’t fit neatly into the MSBA Space Summary template used to gauge space needs at the 7 other District schools. ▪ Classes are scheduled around a 60-day trimester. Schedules are flexible and adapted to meet students’ needs; classes typically run from afternoons into the evenings. ▪ The Alternative HS program has been at this location since about 2008-2009; prior to that it was at Memorial MS. ▪ Classroom size is typically a maximum of 15 students per classroom. ▪ 51% of students come from outside the District and a cumulative total of 31 different communities are represented at Goodrich Arts Academy. The program is seen as a model to be replicated by other communities. ▪ The existing building has 8 generously-sized classrooms with tall ceilings and large windows.

\\lpa-files\Shardata\PROJECTS\2015\1509-Fitchburg Public Schools Study\MINUTES\Owner\1509MO - Owner-Architect Principals Meetings

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

OWNER/ARCHITECT FOOD SERVICES MEETING

9 September 2015

ATTENDANCE: Jill Lucius
Eric Moore

Director of Nutrition
LPA

ITEM	DESCRIPTION
9.09.15.1	General: The purpose of today's meeting was to review Food Service issues, concerns and policies at the 8 District schools.
9.09.15.2	The District's Food Services program is managed by Sodexo. The District is currently in a 5-year agreement (1 year + 4 annual extensions).
9.09.15.3	Sodexo implemented a Point-of-Sale (POS) system at all District schools except Goodrich Arts Academy, and is currently in the process of updating equipment and software. The POS system tracks reimbursement, food allergies, etc. for each student. The District currently offers no-cost breakfast and lunch to all students.
9.09.15.4	Increasing food storage capacity is seen as a district-wide issue.
9.09.15.5	Recycling is seen as a high priority. The District currently single stream recycles cardboard, plastics, tin and glass, although it is difficult to ensure that students utilize recycling bins properly. Most schools utilize non-recyclable Styrofoam trays; however equipment has recently become available to accept and recycle them. Plastic cutlery and paper, plastic or Styrofoam plates, bowls, etc. are also used. None of the schools have a trash compactor.
9.09.15.6	Several of the schools have interior grease traps and the Fitchburg HS has an exterior grease trap as well; however it was noted that the schools in general do not generate a significant amount of grease from fried foods.
9.09.15.7	Fitchburg HS: <ul style="list-style-type: none"> ▪ More Kitchen space would be beneficial. ▪ 700-800 breakfasts/lunches are prepared during summer for other school sites. ▪ Exterior grease trap.
9.09.15.8	Crocker ES: <ul style="list-style-type: none"> ▪ Kitchen is adequate. ▪ Dishwasher is unreliable. ▪ Outdoor freezer is used for District-wide storage; not just Crocker ES.
9.09.15.9	Goodrich Academy: <ul style="list-style-type: none"> ▪ No onsite cooking facility. ▪ 120-130 meals per day are brought in from Memorial MS.

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

OWNER/ARCHITECT FOOD SERVICES MEETING

9 September 2015

ITEM	DESCRIPTION
9.09.15.10	Longsjo MS: <ul style="list-style-type: none"> ▪ Good Kitchen layout. ▪ Existing equipment is all gas-fired and obsolete. ▪ New interior grease trap was recently installed. ▪ No ventilation system.
9.09.15.11	Reingold MS: <ul style="list-style-type: none"> ▪ Good Kitchen layout with adequate space. ▪ Dishwasher is not used; in process of being removed.
9.09.15.12	South Street ES: <ul style="list-style-type: none"> ▪ Inadequate Kitchen space. ▪ Poor layout; food storage is at a lower level from the main Kitchen level. ▪ Kitchen and serving line space is tight. ▪ Equipment was poorly selected.
9.09.15.13	McKay Arts Academy: <ul style="list-style-type: none"> ▪ Has dishwasher.
9.09.15.14	Memorial MS: <ul style="list-style-type: none"> ▪ Very good Kitchen layout. ▪ No dishwasher. ▪ Larger walk-in would be beneficial.

Shardata\PROJECTS\2015\1509-Fitchburg Public Schools Study\MINUTES\Owner\1509MO - Owner-Architect Food Services Meeting 9/09/2015

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

OWNER/ARCHITECT TECHNOLOGY MEETING

14 October 2015

ATTENDANCE: Eileen Spinney
Eric Moore

IT Director, Fitchburg Public Schools
LPA

ITEM	DESCRIPTION
10.14.15.1	General: The purpose of today’s meeting is to review current and proposed Technology policies, standards and issues in the Fitchburg Public School district.
10.14.15.2	The District currently contracts with Comcast to provide a city-wide fiber optic data network. The Fitchburg HS is the “hub”, with fiber “spokes” to each school.
10.14.15.3	Local Area Networks at each school are varied; some have a central MDF with fiber loop to multiple IDF closets while others (i.e. Memorial, Reingold and Goodrich Academy) have just a single data closet with Ethernet cabling to each data drop. Cabling is typically Cat-5. There are no immediate plans to upgrade the data cabling at each school (except for wireless networks); the District will repair existing data cabling infrastructure on an as-needed basis.
10.14.15.4	The District has a stand-alone (not part of the City system) existing Centrex telephone system. At some undetermined future point, the plan is to deploy a new District-wide VOIP telephone system.
10.14.15.5	Copiers and printers are leased and networked. The future plan is to implement a managed print services system.
10.14.15.6	The District currently has no managed wireless network system. There are plans, in the coming year, to deploy managed Cisco wireless networks throughout the District. At that time, the schools will be re-cabled (for wireless systems only) with Category-6 Power-Over Ethernet (POE) cabling.
10.14.15.7	The District Local Area Networks (LANs) are primarily Cloud-hosted by Follet as opposed to having onsite server storage.
10.14.15.8	The District has recently purchased Chromebook carts (30 devices per cart) with FPS Race-to-the-Top funds. They have a useable lifespan of about 5 years. The District’s future goal is to have a 1:1 student-to-device ratio (based, in any one school, on the largest grade level class size) for assessment purposes. There are no future plans to implement a District-wide 1:1 student-to-device ratio.
10.14.15.9	The Chromebook is the primary student device although there are some Apple devices (IPads and Macs) for some SPED and graphic applications. Approximately 150 HS Honor Program students have personal 1:1 devices 24/7. Teacher computers are generally Windows-based; there are also some Apple devices.

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

OWNER/ARCHITECT TECHNOLOGY MEETING

14 October 2015

ITEM	DESCRIPTION
10.14.15.10	<p>Current typical classroom technology (grades 3-8; regular education) includes:</p> <ul style="list-style-type: none"> ▪ Whiteboard ▪ Mimio portable interactive system ▪ Short-throw projector (non-interactive) ▪ Document camera ▪ Carts-On-Wheels (COWs) with projector, document camera, local sound system and computer are brought into classrooms as required. <p>Current typical classroom technology (high school; regular education) includes:</p> <ul style="list-style-type: none"> ▪ Whiteboard ▪ Short-throw interactive projector ▪ Document camera ▪ Carts-On-Wheels (COWs) with projector, document camera, local sound system and computer are brought into classrooms as required. <p>Most classrooms have only 1-2 hard-wired data drops and limited electrical power capability for devices. Media distribution is currently restricted by available bandwidth, although it is expected that future wireless network upgrades will improve that condition. Most of the schools also have at least one “legacy” computer lab equipped with desktop computers.</p> <p>Future plans should consider improvements to data cabling and electrical power infrastructure.</p>

Shardata\PROJECTS\2015\1509-Fitchburg Public Schools Study\MINUTES\Owner\1509MO - Owner-Architect Technology Meeting 10/14/2015

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

POLICE & FIRE DEPARTMENT/ARCHITECT PUBLIC SAFETY MEETING

14 October 2015

ATTENDANCE: Chief Kevin Roy	Fitchburg Fire Department
Lt. Phil Jordan	Fitchburg Fire Department
Deputy Chief Paul Bozicas	Fitchburg Police Department
Eric Moore	LPA

ITEM	DESCRIPTION
10.14.15.1	General: The purpose of today’s meeting is to identify any public safety issues or concerns (current and future) relative to the 8 current schools in the District (Fitchburg HS, Longsjo MS, Memorial MS, McKay Arts Academy, Crocker ES, Reingold ES, South Street ES and Goodrich Academy).
10.14.15.2	School location proximity and accessibility to services: <ul style="list-style-type: none"> ▪ Geographic location of the 8 schools, relative to their proximity to Police/Fire services, is not currently a problem.
10.14.15.3	Parking capacities and issues: <ul style="list-style-type: none"> ▪ Temporary modular classrooms (i.e. at Memorial MS and Reingold ES) have displaced a significant amount of parking. ▪ Additional line striping is needed to define fire lanes and parking spaces; several schools have issues with parking in front of FD connections, hydrants, etc.
10.14.15.4	Vehicular traffic access and flow: <ul style="list-style-type: none"> ▪ South Street ES currently has several access problems within the site (i.e. North parking area has inadequate maneuvering space and is constrained at “choke point” between corner of West building and retaining wall). ▪ Several schools (i.e. Memorial MS, South Street ES and Crocker ES) have problems with people parking in front of FD connections and in fire lanes. ▪ Future alterations and/or new construction should be reviewed by the Fire Department, relative to proposed site layout, to verify adequate turning radii, driveway width, etc. for vehicular apparatus. Full building perimeter access is advantageous and would be a requirement for new construction.
10.14.15.5	Lack of or outdated fire suppression and alarm systems: <ul style="list-style-type: none"> ▪ Fire suppression systems exist at Crocker ES, South Street ES (West

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

POLICE & FIRE DEPARTMENT/ARCHITECT PUBLIC SAFETY MEETING

14 October 2015

ITEM	DESCRIPTION
	<p>and East buildings only), Reingold ES, Longsjo MS and Fitchburg HS.</p> <ul style="list-style-type: none"> ▪ Fire Alarm and other electrical systems are rated elsewhere in this report, on a “Good/Fair/Poor” scale, per the summaries of existing conditions prepared by LPA’s electrical consulting engineer. It was also noted that the Longsjo MS FA system is in poor condition, and the elevator at McKay Arts Academy is not accessible to Police/Fire Departments.
10.14.15.6	<p>Building security/surveillance and access control:</p> <ul style="list-style-type: none"> ▪ Video surveillance systems currently exist at Fitchburg HS, Memorial MS and Longsjo MS. Additional cameras in key areas are needed at Memorial MS and Longsjo MS; some of the existing cameras are not working properly and need repair. Staff/faculty should be trained to operate the systems and to retrieve incident files. McKay Arts Academy especially should have video surveillance, due to accessibility from the college section of the building. ▪ Future projects should incorporate intrusion detection, video surveillance and access control systems. ▪ The existing “one-card” system currently in use at Monty Tech is desirable; as it provides access control, food services, etc. for both staff/faculty and students.
10.14.15.7	<p>Finish hardware (classrooms, communicating doors, corridor/stairs, and exterior entries): Chocking or taping doors open is common throughout the District and defeats the purpose of fire/security doors. Some interior doors at Longsjo MS are difficult to close and lock in an emergency.</p>
10.14.15.8	<p>Emergency shelter status: It was stated that Memorial MS, Reingold ES and Fitchburg HS are designated emergency shelters but lack adequate emergency power/lighting. Future projects should include, at minimum, sufficient emergency power/lighting in areas designated as shelters; they should also incorporate backup power for food service refrigerators and freezers, HVAC controls and circulator pumps, communications systems, etc.</p>
10.14.15.9	<p>Specific SRO or FD space needs: There are no additional space needs for School Resource Officers (SRO’s) or public safety “situation rooms”.</p>

Fitchburg Public Schools – Strategic Facilities Planning Study

Fitchburg, MA 01420

POLICE & FIRE DEPARTMENT/ARCHITECT PUBLIC SAFETY MEETING

14 October 2015

ITEM	DESCRIPTION
	Currently, SRO's are stationed at Fitchburg HS and Longsjo MS.
10.14.15.10	Monitoring of life safety, surveillance and intrusion detection systems: Currently, there is no standard method; monitoring systems vary from school to school within the District.
10.14.15.11	Public Safety Radio Distributed Antenna System (DAS): It was reported that, currently, lack of radio signal is not an issue; the City recently installed DAS antennas that provide good coverage with the possible exception of McKay Arts Academy. Any new construction would require DAS per MA Building Code.
10.14.15.12	Signage and exterior entry identification: All exterior entries are identified by numbers in a clockwise manner. Interior signage should match plans carried by public safety personnel.
10.14.15.13	Defibrillators are desirable.
10.14.15.14	Hazardous materials: Existing oil tank at South Street ES should be drained and removed.
10.14.15.15	Proximity of Longsjo MS to High and Marshall Street neighborhood is seen as negative.
10.14.15.16	It was recognized that students circulate through the unused/unheated North building for access to bus drop-off and pick-up on Fairbanks Street. The building has a functioning FA system; also, fire extinguishers have been changed from water-type to chemical due to freeze concerns.
10.14.15.17	Police/Fire Department personnel carry emergency plans of each school; a common format is desirable.
10.14.15.18	Deputy Chief Bozicas provided LPA with an e-mail from School Resource Officer Michael Chandler; comments have been incorporated into this memo.

Shardata\PROJECTS\2015\1509-Fitchburg Public Schools Study\MINUTES\Owner\1509MO – Police & Fire Department-Architect Public Safety Meeting 10/14/2015

V. APPENDICES

B. Other

1. MACRIS Scanned Record
Cover Pages
2. Assessor's Unofficial Property
Record Cards
3. MA Department of Revenue
2014 Assessment Ratio

Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No: FIT.2061
Historic Name: Sisters of the Presentation Convent
Common Name: Regina Coeli College
Address: 366 South St
City/Town: Fitchburg
Village/Neighborhood: Fitchburg
Local No: 2043
Year Constructed:
Architect(s):
Architectural Style(s): Colonial Revival
Use(s): Convent; Other Educational
Significance: Architecture; Religion
Area(s):
Designation(s):
Building Materials(s): Roof: Asphalt Shingle
Wall: Brick; Limestone; Wood; Stone, Cut
Foundation: Brick



The Massachusetts Historical Commission (MHC) has converted this paper record to digital format as part of ongoing projects to scan records of the Inventory of Historic Assets of the Commonwealth and National Register of Historic Places nominations for Massachusetts. Efforts are ongoing and not all inventory or National Register records related to this resource may be available in digital format at this time.

The MACRIS database and scanned files are highly dynamic; new information is added daily and both database records and related scanned files may be updated as new information is incorporated into MHC files. Users should note that there may be a considerable lag time between the receipt of new or updated records by MHC and the appearance of related information in MACRIS. Users should also note that not all source materials for the MACRIS database are made available as scanned images. Users may consult the records, files and maps available in MHC's public research area at its offices at the State Archives Building, 220 Morrissey Boulevard, Boston, open M-F, 9-5.

Users of this digital material acknowledge that they have read and understood the MACRIS Information and Disclaimer (<http://mhc-macris.net/macrisdisclaimer.htm>)

Data available via the MACRIS web interface, and associated scanned files are for information purposes only. THE ACT OF CHECKING THIS DATABASE AND ASSOCIATED SCANNED FILES DOES NOT SUBSTITUTE FOR COMPLIANCE WITH APPLICABLE LOCAL, STATE OR FEDERAL LAWS AND REGULATIONS. IF YOU ARE REPRESENTING A DEVELOPER AND/OR A PROPOSED PROJECT THAT WILL REQUIRE A PERMIT, LICENSE OR FUNDING FROM ANY STATE OR FEDERAL AGENCY YOU MUST SUBMIT A PROJECT NOTIFICATION FORM TO MHC FOR MHC'S REVIEW AND COMMENT. You can obtain a copy of a PNF through the MHC web site (www.sec.state.ma.us/mhc) under the subject heading "MHC Forms."

Commonwealth of Massachusetts
Massachusetts Historical Commission
220 Morrissey Boulevard, Boston, Massachusetts 02125
www.sec.state.ma.us/mhc

This file was accessed on:

Friday, October 30, 2015 at 3:46: PM

FORM B - BUILDING

MASSACHUSETTS HISTORICAL COMMISSION
Office of the Secretary, State House, Boston

Handwritten: FIT 2061

Handwritten: FIT. 2061

In Area no.	Form no. 2061 2049
-------------	-------------------------------------



Fitchburg, Massachusetts

Address 366 South St.
Sisters of the Presentation B.V.M.
or Regina Codi College

Use Convent

Present owner Sisters of the Presenta-
tion Convent

Description: 1940

Source Cornerstone

Style Neo Georgian



Architect _____
Exterior wall fabric Brick, limestone trim
Outbuildings (describe) Nagle Hall, and
Holy Family High School
Other features Other buildings on site
not significant

Altered No Date _____
Moved No Date _____

5. Lot size:
One acre or less Over one acre x
Approximate frontage 600'+
Approximate distance of building from street
100'+

6. Recorded by Bill Chittick and
Frank Garretson
Organization Fitchburg Historical Comm.
Date March 1977

DO NOT WRITE IN THIS SPACE
USGS Quadrant _____
MHC Photo no. _____

(over)

7. Original owner (if known) Same

Original use Same

Subsequent uses (if any) and dates _____

8. Themes (check as many as applicable)

Aboriginal	_____	Conservation	_____	Recreation	_____
Agricultural	_____	Education	_____	Religion	<u> x </u>
Architectural	<u> x </u>	Exploration/ settlement	_____	Science/ invention	_____
The Arts	_____	Industry	_____	Social/ humanitarian	_____
Commerce	_____	Military	_____	Transportation	_____
Communication	_____	Political	_____		
Community development	_____				

9. Historical significance (include explanation of themes checked above)

This is an excellent example of 1940's institutional, Neo-Georgian architecture. The building is in excellent condition.

10. Bibliography and/or references (such as local histories, deeds, assessor's records, early maps, etc.)



Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No:	FIT.161
Historic Name:	Fitchburg High School
Common Name:	
Address:	98 Academy St
City/Town:	Fitchburg
Village/Neighborhood:	Fitchburg
Local No:	6067; 300240
Year Constructed:	c 1937
Architect(s):	Abbott; Coolidge, Shepley, Bulfinch
Architectural Style(s):	Classical Revival
Use(s):	Public School
Significance:	Architecture; Community Planning; Education
Area(s):	FIT.B: Prichard Street Area FIT.X: Academy Street Area
Designation(s):	
Building Materials(s):	Roof: Slate Wall: Brick; Wood; Brick Veneer; Concrete Cinderblock Foundation: Granite; Stone, Cut



The Massachusetts Historical Commission (MHC) has converted this paper record to digital format as part of ongoing projects to scan records of the Inventory of Historic Assets of the Commonwealth and National Register of Historic Places nominations for Massachusetts. Efforts are ongoing and not all inventory or National Register records related to this resource may be available in digital format at this time.

The MACRIS database and scanned files are highly dynamic; new information is added daily and both database records and related scanned files may be updated as new information is incorporated into MHC files. Users should note that there may be a considerable lag time between the receipt of new or updated records by MHC and the appearance of related information in MACRIS. Users should also note that not all source materials for the MACRIS database are made available as scanned images. Users may consult the records, files and maps available in MHC's public research area at its offices at the State Archives Building, 220 Morrissey Boulevard, Boston, open M-F, 9-5.

Users of this digital material acknowledge that they have read and understood the MACRIS Information and Disclaimer (<http://mhc-macris.net/macrisdisclaimer.htm>)

Data available via the MACRIS web interface, and associated scanned files are for information purposes only. THE ACT OF CHECKING THIS DATABASE AND ASSOCIATED SCANNED FILES DOES NOT SUBSTITUTE FOR COMPLIANCE WITH APPLICABLE LOCAL, STATE OR FEDERAL LAWS AND REGULATIONS. IF YOU ARE REPRESENTING A DEVELOPER AND/OR A PROPOSED PROJECT THAT WILL REQUIRE A PERMIT, LICENSE OR FUNDING FROM ANY STATE OR FEDERAL AGENCY YOU MUST SUBMIT A PROJECT NOTIFICATION FORM TO MHC FOR MHC'S REVIEW AND COMMENT. You can obtain a copy of a PNF through the MHC web site (www.sec.state.ma.us/mhc) under the subject heading "MHC Forms."

Commonwealth of Massachusetts
Massachusetts Historical Commission
220 Morrissey Boulevard, Boston, Massachusetts 02125
www.sec.state.ma.us/mhc

This file was accessed on:

Friday, June 12, 2015 at 10:24 AM

FORM B – BUILDING

Assessor's Number USGS Quad Area(s) Form Number

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

30 18 0 B FIT.161

Town: Fitchburg

Place: (neighborhood or village)

Address: 98 Academy Street
Common Name: Fitchburg High School
Present: Middle School
Original: High School
Construction: 1936-1937
Source: MACRIS Database
Form: Classical Revival
Architect/Builder: Coolidge Shepley Bulfinch Abbott
Primary Material:
Foundation: Granite

Wall/Trim: Brick

Roof: Slate

Outbuildings/Secondary Structures:

Major Alterations (with dates):

Condition: Fair

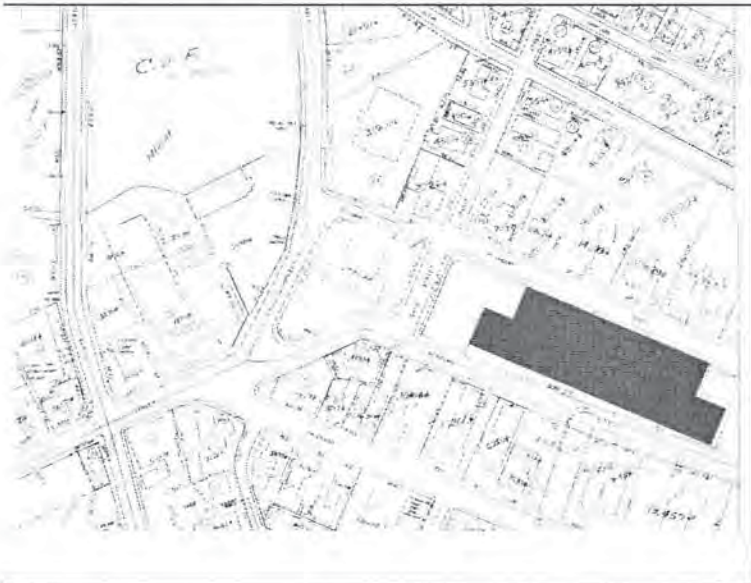
Moved: no | X | yes | | **Date** _____

Acreage: 1.577 Acres

Setting:



Topographic or Assessor's Map



Recorded by: Julie Ann Larry
Organization: ttl-architects
Date (month / year): June 2011

RECEIVED
JUL 27 2011
MASS. HIST. COMM

INVENTORY FORM B CONTINUATION SHEET

FITCHBURG

98 ACADEMY STREET

MASSACHUSETTS HISTORICAL COMMISSION

Area(s) Form No.

220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

B

FIT.161

 Recommended for listing in the National Register of Historic Places.*If checked, you must attach a completed National Register Criteria Statement form.**Use as much space as necessary to complete the following entries, allowing text to flow onto additional continuation sheets.***ARCHITECTURAL DESCRIPTION:***Describe architectural features. Evaluate the characteristics of this building in terms of other buildings within the community.*

At the top of Wallace Street lies a set of steps known as Wallace Way (FIT.921). The steps traverse the incline between Prichard Street and Academy Street. At the top of the stairs is the main entrance to Fitchburg High School. The High School is a four-story T-shaped brick building. The first and second walls are of brick construction, while the upper floors are constructed of concrete block faced with brick. The central entry bay projects slightly from the flanking classroom blocks and is capped by a pediment. At the rear is a three story ell. On the gable roof and aligned with the projecting bay is a two-stage wood bell tower. The first stage, or belfry, has a louvered opening on each face and is cruciform in plan. The second stage in plan is smaller than the belfry below. The second stage has an arch opening on each face.

The projecting central bay is three bays wide with a central projecting entrance door. Above the entrance is a three-story high recessed panel with a series of double hung sash windows and blackout panels arranged vertically. On either side of the entry door are two pairs of 2/2 double-hung sash windows. Each double hung window is under a fixed transom window. Above each paired window is band of five 2/2 double-hung windows and transoms on each floor. On either side of the projecting entry are six bays of similar bands of windows. Each bay is separated by a recessed decorative panel. The east and west elevations feature a central entrance below a panel similar to the central entrance on the south façade. The swinging doors at grade level are flanked by side lights. Above the doors is a pair of double hung sash windows. The door and windows are recessed and flanked by pilasters supporting a projecting gable pediment. The gable roof pediment features a circular window divided into twelve panes.

In plan the central entrance extends from Academy Street through the building to Pleasant Street. A double loaded corridor, perpendicular to the main hall, extends the length of the flanking classroom wings. At each end (east and west) of the classroom corridor are staircases. In the rear ell are the gymnasium and auditorium. The auditorium with an elevated stage and a balcony is located to the east of the central hall. The gymnasium and attached locker rooms are located to the west of the central hall. The gym and auditorium are framed with steel.

The school has a one story addition to the north of the western wing. The Post modern addition has brick walls punctuated by narrow window openings with concrete lintels and sills. The rectangular addition has a flat parapet roof. The parapet is separated from the bricks walls below by a projecting cornice band. The addition is in part supported by concrete pillars on the western end, which allow access below the addition.

HISTORICAL NARRATIVE*Discuss the history of the building. Explain its associations with local (or state) history. Include uses of the building, and the role(s) the owners/occupants played within the community.***BIBLIOGRAPHY and/or REFERENCES**

Fitchburg City Directories. N.P. 1920, 1930, 1936, 1940, 1950, & 1965.

Assessor's Database. City of Fitchburg.

Sanborn Insurance Maps. Fitchburg: 1887, 1897, 1902, 1936, &1950.

Massachusetts Division of Inspection. Building Inspection Plans. Card file [Massachusetts State Archives. Boston]

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Fitchburg 98 Academy Street

Area(s) Form No.

B FIT.161

National Register of Historic Places Criteria Statement Form

Check all that apply:

- Individually eligible Eligible **only** in a historic district
 Contributing to a potential historic district Potential historic district

Criteria: A B C D

Criteria Considerations: A B C D E F G

Statement of Significance by Julie Ann Larry, ttl-architects
The criteria that are checked in the above sections must be justified here.

Fitchburg High School would be a contributing resource in a potential historic district that would encompass the two former high schools on Academy Street, the adjacent the former junior school on Academy Street, Wallace Walkway, and the city stable on High Street. This grouping of resources meets the criteria for listing as an historic district on the National Register as an example of late nineteenth century and early 20th century civic and educational architecture. The small area contains Second Empire, Classical Revival, and Neo-Classical style buildings and structures. It possesses integrity of location, feeling, design, setting, materials, and workmanship. In addition, the area is the location of the city's major educational buildings including a former high school, a former junior high school, a current middle school, and was the first location of the Fitchburg Normal School, now Fitchburg State College.

Although several of the buildings are vacant, the quality of the remaining buildings is remarkably good. The masonry buildings have retained their original roofs, windows, and detailing. Boundaries of a potential National Register District would include the political boundaries of the BR Brown School (FIT.158), The Academy Street School "The Annex" (FIT.159), Fitchburg High School (FIT.161), and Wallace Way (FIT.921).

Original yellow form; Eligibility file
Copies: Inventory form
Town file(w/corresp.)
Macris
NR director _____

Community: FITCHBURG

MHC OPINION: ELIGIBILITY FOR NATIONAL REGISTER

Date Received: 7/27/11

Date Reviewed: 8/31/11

Type: Individual District (Attach map indicating boundaries)

Name: Academy Street area Inventory Form: FIT.158-160, 921

Address: 62-98 Academy St., High St., and Wallace Way

Requested by: Julie Larry, Principal, ttl-architects, on behalf of the city of Fitchburg

Action: Honor ITC Grant R & C Other:

Agency: Staff in charge of Review: BF

INDIVIDUAL PROPERTIES

DISTRICTS

- Eligible
- Eligible, also in district
- Eligible only in district
- Ineligible
- More information needed

- Eligible
- Ineligible
- More information needed

CRITERIA: A B C D

LEVEL: Local State National

STATEMENT OF SIGNIFICANCE by Betsy Friedberg

The grouping of buildings and structures on Academy Street includes the former High School, (later the Academy Street School Annex), a Second Empire style building designed by H.M. Francis in 1869, the ca. 1885 Victorian Eclectic Fitchburg City Stable, the Classical Revival-style former Brown School of 1922, and the 1936 former High School (now the Middle School) designed by Coolidge Shelpley Bulfinch in the Classical Revival style. Also in the area, across the street from the high school and leading down to Prichard Street, are the H.M. Francis-designed Wallace Way stairs of 1902. Both the stairs and the high school would be eligible for listing in the National Register individually through the H.M. Francis Multiple Property Submission. Together, these institutional buildings form an intact grouping of city-built structures, some associated with Fitchburg's well-known architect H.M. Francis, that together reflect the growth and development of the city in the late 19th and early 20th centuries. The district retains integrity of location, design, materials, workmanship, feeling, and association and fulfills Criteria A and C at the local level.

FIT.161

FORM B – BUILDING Update

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Assessor's Number USGS Quad Area(s) Form Number

6067		B	161
------	--	---	-----

Town Fitchburg

Place (*neighborhood or village*) Prichard Street

Address 98 Academy Street

Historic Name Old Fitchburg High School

Exterior Material:

Foundation Masonry

Wall/Trim Brick

Roof Asphalt

Outbuildings/Secondary Structures

Condition Good

Photograph



RECEIVED
SEP 13 2000
MASS. HIST. COMM

Recorded by Julie Ann Larry
Turk Tracey & Larry Architects, LLC

Organization City of Fitchburg, Office of Planning
Coordinator

Date (*month / year*) April 2000

Bibliography:

Assessor's Database, City of Fitchburg
Inventory of Historic and Archaeological Assets of the
Commonwealth of Massachusetts (inventory forms for historic
properties and archaeological sites recorded in Fitchburg).
Ongoing.
Atlas of Worcester County, Massachusetts. Boston: N.p., 1870

PI - FIT
USGS - FIT

FIT.161

FORM B - BUILDING

MASSACHUSETTS HISTORICAL COMMISSION
Office of the Secretary, State House, Boston

In Area no. <u>B</u>	Form no. 160 161 <u>161</u>
-------------------------	--



City Fitchburg, Massachusetts
 Address 98 Academy St.
 Name Fitchburg High School
 Present use High School
 Present owner City of Fitchburg

Description: 1937-38
 Source 1969 Sanborn Map

Architect Modern-Classical, Shepley, Bulfinch, Coolidge and Ritan or whatever this firm was called at this time
 Exterior wall fabric Brick
 Outbuildings (describe) None
 Other features Cupola

Altered No Date _____
 Moved No Date _____

5. Lot size:
 One acre or less _____ Over one acre ^x
 Approximate frontage 546' on Academy St.
133' on Davis St.
546' on Pleasant St.
 Approximate distance of building from street
0' on Academy and Pleasant Sts.
70' on Davis St.

6. Recorded by Bill Chittick and Frank Garretson
 Organization Fitchburg Historical Comm.
 Date March 1977

4. Map. Draw sketch of building location in relation to nearest cross streets and other buildings. Indicate north.

*Coolidge, Shepley,
Bulfinch + Abbott*

DO NOT WRITE IN THIS SPACE USGS Quadrant _____ MHC Photo no. _____
--

(over)

7. Original owner (if known) City of Fitchburg

Original use High School

Subsequent uses (if any) and dates _____

8. Themes (check as many as applicable)

Aboriginal	<u> </u>	Conservation	<u> </u>	Recreation	<u> </u>
Agricultural	<u> </u>	Education	<u> x </u>	Religion	<u> </u>
Architectural	<u> x </u>	Exploration/ settlement	<u> </u>	Science/ invention	<u> </u>
The Arts	<u> </u>	Industry	<u> </u>	Social/ humanitarian	<u> </u>
Commerce	<u> </u>	Military	<u> </u>	Transportation	<u> </u>
Communication	<u> </u>	Political	<u> </u>		
Community development	<u> x </u>				

9. Historical significance (include explanation of themes checked above)

This school was designed by one of the largest and most noted architectural firms in New England. It dominates the Downtown and acts as a wall to the North edge. It is on axis with Wallace Ave. This building was considered one of the finest schools in the state when dedicated in June 1937. It cost \$1,230,000. It replaced an 1894 school designed by H.M. Francis which burned December 15, 1934.

10. Bibliography and/or references (such as local histories, deeds, assessor's records, early maps, etc.)

- p. 22, Fitchburg of To-Day, 1894
- p. B-12 Sentinel, 20 December 1938



INVENTORY FORM CONTINUATION SHEET

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Town

Fitchburg

Property Address

92 Academy St

Area(s)

Form No.

FIT 101

DEPARTMENT OF PUBLIC SAFETY
DIVISION OF INSPECTION
PLAN RECORD

CASE B RACK 1 APART. 49 NO. 50423 ✓

BUILDING Fitchburg High School STORIES 3

CITY OR TOWN Fitchburg STREET Academy & Pleasant

TO BE USED FOR school CLASS 1 & 2

OWNER City of Fitchburg

ARCHITECT Coolidge Shepley Bulfinch & Abbott

CERTIFICATE APPROVAL - SPECIFICATION REQUIREMENTS - REFERRED

DATE 3/10/36 ✓

INSPECTOR Beyer

Form BU, 1-2m-9-32, No. 6268-b

FILING EQUIPMENT BUREAU H14889

Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No:	FIT.2018
Historic Name:	Goodrich Street School
Common Name:	
Address:	Goodrich St
City/Town:	Fitchburg
Village/Neighborhood:	Fitchburg
Local No:	
Year Constructed:	
Architect(s):	Francis, Henry M. and Sons
Architectural Style(s):	Romanesque Revival
Use(s):	Public School
Significance:	Architecture; Education
Area(s):	
Designation(s):	
Building Materials(s):	Roof: Asphalt Shingle Wall: Brick; Granite; Stone, Cut; Wood Foundation: Stone, Cut



The Massachusetts Historical Commission (MHC) has converted this paper record to digital format as part of ongoing projects to scan records of the Inventory of Historic Assets of the Commonwealth and National Register of Historic Places nominations for Massachusetts. Efforts are ongoing and not all inventory or National Register records related to this resource may be available in digital format at this time.

The MACRIS database and scanned files are highly dynamic; new information is added daily and both database records and related scanned files may be updated as new information is incorporated into MHC files. Users should note that there may be a considerable lag time between the receipt of new or updated records by MHC and the appearance of related information in MACRIS. Users should also note that not all source materials for the MACRIS database are made available as scanned images. Users may consult the records, files and maps available in MHC's public research area at its offices at the State Archives Building, 220 Morrissey Boulevard, Boston, open M-F, 9-5.

Users of this digital material acknowledge that they have read and understood the MACRIS Information and Disclaimer (<http://mhc-macris.net/macrisdisclaimer.htm>)

Data available via the MACRIS web interface, and associated scanned files are for information purposes only. THE ACT OF CHECKING THIS DATABASE AND ASSOCIATED SCANNED FILES DOES NOT SUBSTITUTE FOR COMPLIANCE WITH APPLICABLE LOCAL, STATE OR FEDERAL LAWS AND REGULATIONS. IF YOU ARE REPRESENTING A DEVELOPER AND/OR A PROPOSED PROJECT THAT WILL REQUIRE A PERMIT, LICENSE OR FUNDING FROM ANY STATE OR FEDERAL AGENCY YOU MUST SUBMIT A PROJECT NOTIFICATION FORM TO MHC FOR MHC'S REVIEW AND COMMENT. You can obtain a copy of a PNF through the MHC web site (www.sec.state.ma.us/mhc) under the subject heading "MHC Forms."

Commonwealth of Massachusetts
Massachusetts Historical Commission
220 Morrissey Boulevard, Boston, Massachusetts 02125
www.sec.state.ma.us/mhc

This file was accessed on:

Friday, June 12, 2015 at 10:31 AM

FORM B - BUILDING

MASSACHUSETTS HISTORICAL COMMISSION
Office of the Secretary, State House, Boston

*DL FT
2362 FT*

FIT. 2018

In Area no.	Form no. 2018
-------------	------------------



Fitchburg, Massachusetts

Address Goodrich St.

Building Name Goodrich St. School

Current use School

Current owner City of Fitchburg

Description:

Year built 1891

Source 1969 Sanborn Map

Style Romanesque



Architect Henry M. Francis + Sons

Exterior wall fabric Brick and granite

Outbuildings (describe) None

Other features Arched porch

Altered poor new windows Date ?

Moved _____ Date _____

5. Lot size:

One acre or less 36,557 sq. ft. Over one acre _____

Approximate frontage 162' on Goodrich St.
185' on St. Bernard St.

Approximate distance of building from street
35' from Goodrich St.
40' from St. Bernard St.

DO NOT WRITE IN THIS SPACE
USGS Quadrant _____
MHC Photo no. _____

6. Recorded by Bill Chittick and Frank Garretson

Organization Fitchburg Historical Comm.

Date March 1977

(over)

7. Original owner (if known) City of Fitchburg

Original use School

Subsequent uses (if any) and dates Same

8. Themes (check as many as applicable)

- | | | | | | |
|-----------------------|-------------------------------------|----------------------------|-------------------------------------|-------------------------|-------|
| Aboriginal | _____ | Conservation | _____ | Recreation | _____ |
| Agricultural | _____ | Education | <input checked="" type="checkbox"/> | Religion | _____ |
| Architectural | <input checked="" type="checkbox"/> | Exploration/
settlement | <input checked="" type="checkbox"/> | Science/
invention | _____ |
| The Arts | _____ | Industry | _____ | Social/
humanitarian | _____ |
| Commerce | _____ | Military | _____ | Transportation | _____ |
| Communication | _____ | Political | _____ | | |
| Community development | _____ | | | | |

9. Historical significance (include explanation of themes checked above)

This is a school in the Richardson Romanesque style. It was designed by ^{**}Henry M. Francis.

10. Bibliography and/or references (such as local histories, deeds, assessor's records, early maps, etc.)

Plans with Francis Family

INVENTORY FORM CONTINUATION SHEET

Town

Property Address

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Fitchburg

Goodrich St

Area(s) Form No.
FIT 2012

BUILDING INSPECTION DEPARTMENT—DISTRICT POLICE
PLAN RECORD

CASE **B** RACK **4** APART. **11** NO. **9109**

BUILDING **Goodrich St. School** STORIES **2B**

CITY OR TOWN **Fitchburg** STREET **Goodrich**

TO BE USED FOR **Heating Purposes** CLASS **School**

OWNER **City of Fitchburg** **Brick**

ARCHITECT **H. M. Francis & Sons Co.**

CERTIFICATE APPROVAL—SPECIFICATION REQUIREMENTS—REFERRED

DATE **July 20, 1910**

INSPECTOR **Penniman**

FORM 41, 5,000, 2-25-10.

BUILDING INSPECTION DEPARTMENT—DISTRICT POLICE
PLAN RECORD

CASE **B** RACK **4** APART. **13** NO. **9228** ✓

BUILDING **Goodrich St. School** STORIES

CITY OR TOWN **Fitchburg** STREET **GOODRICH ST.**

TO BE USED FOR **Alterations to School** CLASS

OWNER **City of Fitchburg**

ARCHITECT

CERTIFICATE APPROVAL—SPECIFICATION REQUIREMENTS—REFERRED

DATE

INSPECTOR

FORM 41, 5,000, 2-25-10.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID	170 5 0	Account Number	
Prior Parcel ID	--	Property Location	200 BIGELOW RD
Property Owner	FITCHBURG, CITY OF C/O SCHOOL DEPARTMENT	Property Use	IMPROVED
Mailing Address	376 SOUTH STREET	Most Recent Sale Date	5/21/1963
		Legal Reference	918-180
City	FITCHBURG	Grantor	CROCKER, BIGELOW
Mailing State	MA	Zip	01420
Parcel Zoning	RA1	Sale Price	1
		Land Area	17.383 acres

Current Property Assessment

Card 1 Value	Building Value	6,087,700	Xtra Features Value	179,200	Land Value	707,800	Total Value	6,974,700
--------------	----------------	-----------	---------------------	---------	------------	---------	-------------	-----------

Building Description

Building Style	SCHOOL	Foundation Type	CONCRETE	Flooring Type	LINO/VINYL
# of Living Units	1	Frame Type	OTHER	Basement Floor	N/A
Year Built	1964	Roof Structure	IRREGULAR	Heating Type	STEAM
Building Grade	GOOD	Roof Cover	MEMBRANE	Heating Fuel	OIL
Building Condition	Average	Siding	BRICK	Air Conditioning	0%
Finished Area (SF)	72568	Interior Walls	PLASTER	# of Bsmt Garages	0
Number Rooms	0	# of Bedrooms	0	# of Full Baths	0
# of 3/4 Baths	0	# of 1/2 Baths	10	# of Other Fixtures	69

Legal Description

see council order #409, #418, #419; 5/21/1963; for BIGELOW RD. SEE BOOK 928 PG. 410

Narrative Description of Property

This property contains 17.383 acres of land mainly classified as IMPROVED with a(n) SCHOOL style building, built about 1964 , having BRICK exterior and MEMBRANE roof cover, with 1 unit(s), 0 room(s), 0 bedroom(s), 0 bath(s), 10 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID	107 33 0	Account Number	
Prior Parcel ID	--	Property Location	366 396 SOUTH ST
Property Owner	FITCHBURG, CITY OF C/O SCHOOL DEPARTMENT	Property Use	IMPROVED
Mailing Address	376 SOUTH STREET	Most Recent Sale Date	9/27/1995
		Legal Reference	2760-250
City	FITCHBURG	Grantor	FITCHBURG, CITY/EASEMENT
Mailing State	MA	Zip	01420
Parcel Zoning	RA2	Sale Price	1
		Land Area	12.110 acres

Current Property Assessment

Card 1 Value	Building Value	2,420,900	Xtra Features Value	33,600	Land Value	756,700	Total Value	3,211,200
Total Parcel Value	Building Value	16,602,000	Xtra Features Value	33,600	Land Value	756,700	Total Value	17,392,300

Building Description

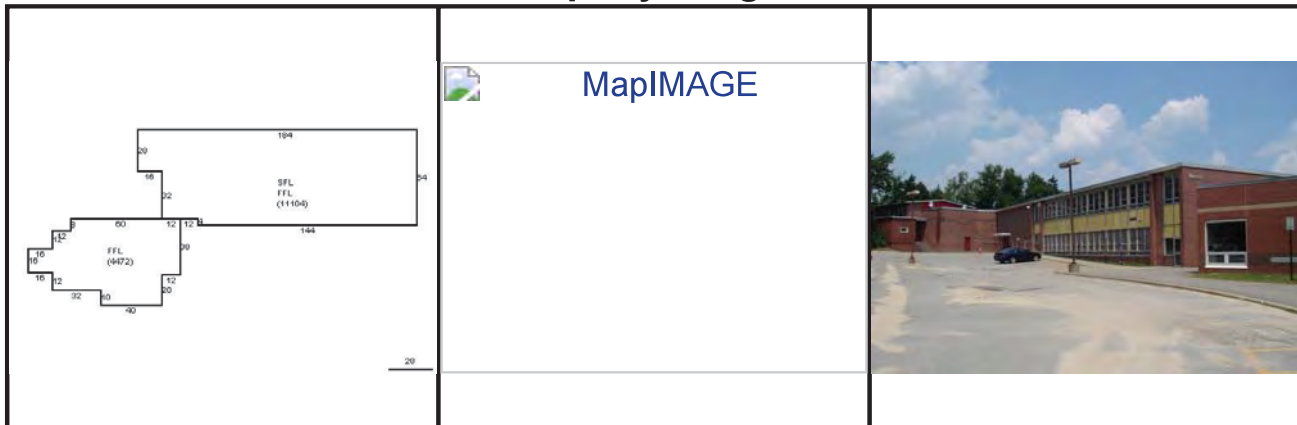
Building Style	ELEMENTARY S	Foundation Type	CONCRETE	Flooring Type	CONCRETE
# of Living Units	1	Frame Type	STEEL	Basement Floor	N/A
Year Built	1957	Roof Structure	FLAT	Heating Type	FORCED H/W
Building Grade	GOOD	Roof Cover	MEMBRANE	Heating Fuel	OIL
Building Condition	Average	Siding	BRICK	Air Conditioning	0%
Finished Area (SF)	26680	Interior Walls	DRYWALL	# of Bsmt Garages	0
Number Rooms	0	# of Bedrooms	0	# of Full Baths	1
# of 3/4 Baths	0	# of 1/2 Baths	0	# of Other Fixtures	20

Legal Description

Narrative Description of Property

This property contains 12.110 acres of land mainly classified as IMPROVED with a(n) ELEMENTARY S style building, built about 1957 , having BRICK exterior and MEMBRANE roof cover, with 1 unit(s), 0 room(s), 0 bedroom(s), 1 bath(s), 0 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID	107 33 0	Account Number	
Prior Parcel ID	--	Property Location	366 396 SOUTH ST
Property Owner	FITCHBURG, CITY OF C/O SCHOOL DEPARTMENT	Property Use	IMPROVED
Mailing Address	376 SOUTH STREET	Most Recent Sale Date	9/27/1995
		Legal Reference	2760-250
City	FITCHBURG	Grantor	FITCHBURG, CITY/EASEMENT
Mailing State	MA	Zip	01420
Parcel Zoning	RA2	Sale Price	1
		Land Area	0.000 acres

Current Property Assessment

Card 2 Value	Building Value	5,320,000	Xtra Features Value	0	Land Value	0	Total Value	5,320,000
Total Parcel Value	Building Value	16,602,000	Xtra Features Value	33,600	Land Value	756,700	Total Value	17,392,300

Building Description

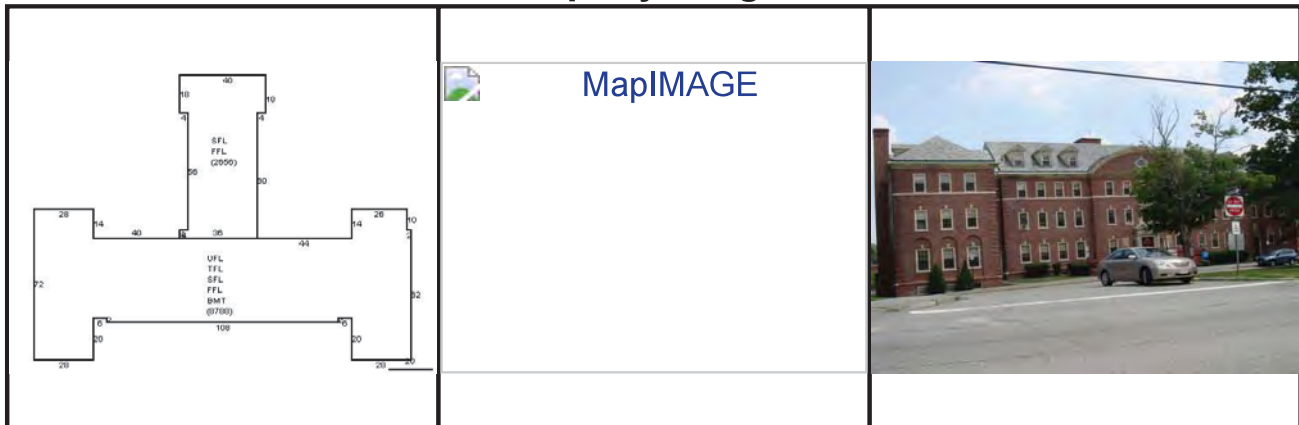
Building Style	SCHOOL	Foundation Type	CONCRETE	Flooring Type	CARPET
# of Living Units	1	Frame Type	STEEL	Basement Floor	N/A
Year Built	1950	Roof Structure	GABLE	Heating Type	FORCED H/W
Building Grade	V GOOD-	Roof Cover	SLATE	Heating Fuel	OIL
Building Condition	Average	Siding	BRICK	Air Conditioning	0%
Finished Area (SF)	49252	Interior Walls	DRYWALL	# of Bsmt Garages	0
Number Rooms	0	# of Bedrooms	0	# of Full Baths	1
# of 3/4 Baths	0	# of 1/2 Baths	30	# of Other Fixtures	0

Legal Description

Narrative Description of Property

This property contains 0.000 acres of land mainly classified as IMPROVED with a(n) SCHOOL style building, built about 1950 , having BRICK exterior and SLATE roof cover, with 1 unit(s), 0 room(s), 0 bedroom(s), 1 bath(s), 30 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID **107 33 0**
 Prior Parcel ID **--**
 Property Owner **FITCHBURG, CITY OF**
C/O SCHOOL DEPARTMENT
 Mailing Address **376 SOUTH STREET**

 City **FITCHBURG**
 Mailing State **MA** Zip **01420**
 ParcelZoning **RA2**

Account Number
 Property Location **366 396 SOUTH ST**
 Property Use **IMPROVED**
 Most Recent Sale Date **9/27/1995**
 Legal Reference **2760-250**
 Grantor **FITCHBURG, CITY/EASEMENT**
 Sale Price **1**
 Land Area **0.000 acres**

Current Property Assessment

Card 3 Value	Building Value 3,124,800	Xtra Features Value 0	Land Value 0	Total Value 3,124,800
Total Parcel Value	Building Value 16,602,000	Xtra Features Value 33,600	Land Value 756,700	Total Value 17,392,300

Building Description

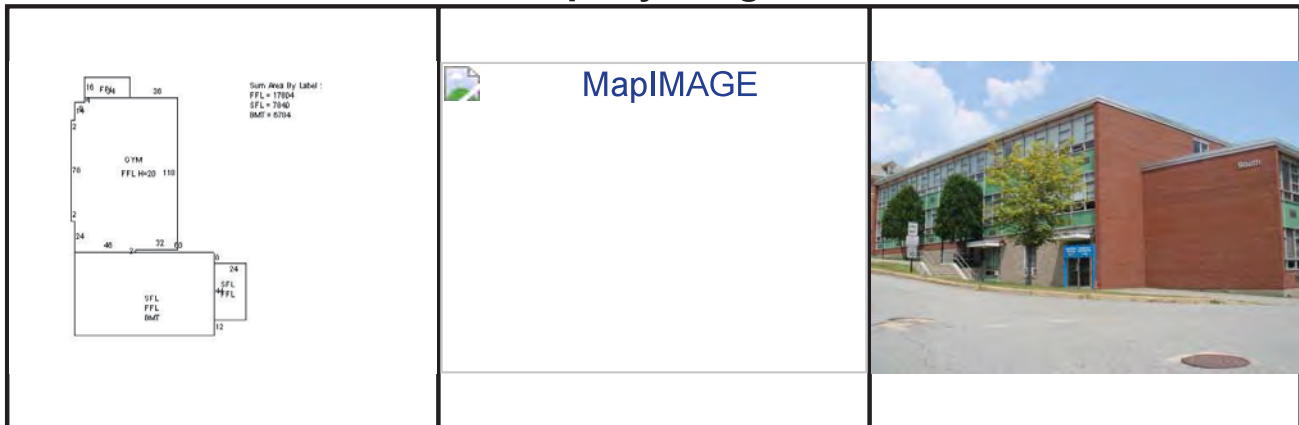
Building Style ELEMENTARY S	Foundation Type CONCRETE	Flooring Type CONCRETE
# of Living Units 1	Frame Type STEEL	Basement Floor N/A
Year Built 1961	Roof Structure FLAT	Heating Type FORCED H/W
Building Grade GOOD (+)	Roof Cover MEMBRANE	Heating Fuel OIL
Building Condition Average	Siding BRICK	Air Conditioning 0%
Finished Area (SF) 25644	Interior Walls DRYWALL	# of Bsmt Garages 0
Number Rooms 0	# of Bedrooms 0	# of Full Baths 1
# of 3/4 Baths 0	# of 1/2 Baths 0	# of Other Fixtures 24

Legal Description

Narrative Description of Property

This property contains 0.000 acres of land mainly classified as IMPROVED with a(n) ELEMENTARY S style building, built about 1961 , having BRICK exterior and MEMBRANE roof cover, with 1 unit(s), 0 room(s), 0 bedroom(s), 1 bath(s), 0 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID	107 33 0	Account Number	
Prior Parcel ID	--	Property Location	366 SOUTH ST
Property Owner	FITCHBURG, CITY OF C/O SCHOOL DEPARTMENT	Property Use	IMPROVED
Mailing Address	376 SOUTH STREET	Most Recent Sale Date	9/27/1995
		Legal Reference	2760-250
City	FITCHBURG	Grantor	FITCHBURG, CITY/EASEMENT
Mailing State	MA	Zip	01420
ParcelZoning	RA2	Sale Price	1
		Land Area	0.000 acres

Current Property Assessment

Card 4 Value	Building Value	5,736,300	Xtra Features Value	0	Land Value	0	Total Value	5,736,300
Total Parcel Value	Building Value	16,602,000	Xtra Features Value	33,600	Land Value	756,700	Total Value	17,392,300

Building Description

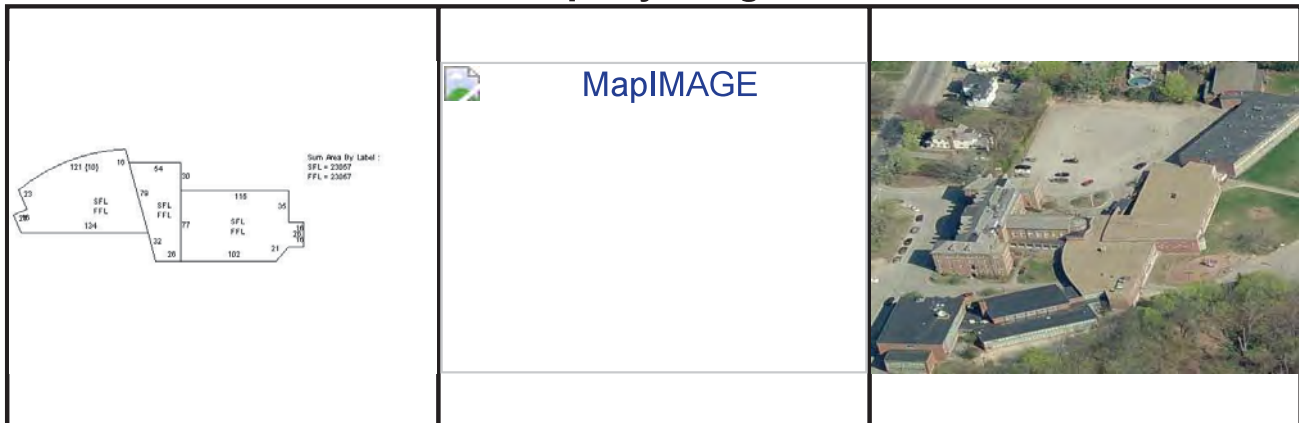
Building Style	ELEMENTARY S	Foundation Type	CONCRETE	Flooring Type	CARPET
# of Living Units	0	Frame Type	FIREPF STL	Basement Floor	N/A
Year Built	1992	Roof Structure	FLAT	Heating Type	FORCED H/W
Building Grade	GOOD (+)	Roof Cover	MEMBRANE	Heating Fuel	GAS
Building Condition	N/A	Siding	BRICK	Air Conditioning	0%
Finished Area (SF)	46114	Interior Walls	DRYWALL	# of Bsmt Garages	0
Number Rooms	0	# of Bedrooms	0	# of Full Baths	0
# of 3/4 Baths	0	# of 1/2 Baths	0	# of Other Fixtures	50

Legal Description

Narrative Description of Property

This property contains 0.000 acres of land mainly classified as IMPROVED with a(n) ELEMENTARY S style building, built about 1992 , having BRICK exterior and MEMBRANE roof cover, with 0 unit(s), 0 room(s), 0 bedroom(s), 0 bath(s), 0 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID **100 32 0**
 Prior Parcel ID **--**
 Property Owner **FITCHBURG, CITY OF**
C/O SCHOOL DEPARTMENT
 Mailing Address **376 SOUTH STREET**

 City **FITCHBURG**
 Mailing State **MA** Zip **01420**
 ParcelZoning **RA2**

Account Number
 Property Location **70 REINGOLD AV**
 Property Use **IMPROVED**
 Most Recent Sale Date **12/29/1965**
 Legal Reference **983-103**
 Grantor **HANNIGAN W.E.**
 Sale Price **1**
 Land Area **20.000 acres**

Current Property Assessment

Card 1 Value Building Value **6,599,600** Xtra Features Value **19,500** Land Value **891,600** Total Value **7,510,700**

Building Description

Building Style **ELEMENTARY S**
 # of Living Units **1**
 Year Built **1960**
 Building Grade **GOOD (-)**
 Building Condition **Average**
 Finished Area (SF) **99800**
 Number Rooms **0**
 # of 3/4 Baths **0**

Foundation Type **CONCRETE**
 Frame Type **OTHER**
 Roof Structure **FLAT**
 Roof Cover **MEMBRANE**
 Siding **BRICK**
 Interior Walls **PLASTER**
 # of Bedrooms **0**
 # of 1/2 Baths **20**

Flooring Type **CONCRETE**
 Basement Floor **N/A**
 Heating Type **FORCED H/W**
 Heating Fuel **OIL**
 Air Conditioning **0%**
 # of Bsmt Garages **0**
 # of Full Baths **1**
 # of Other Fixtures **0**

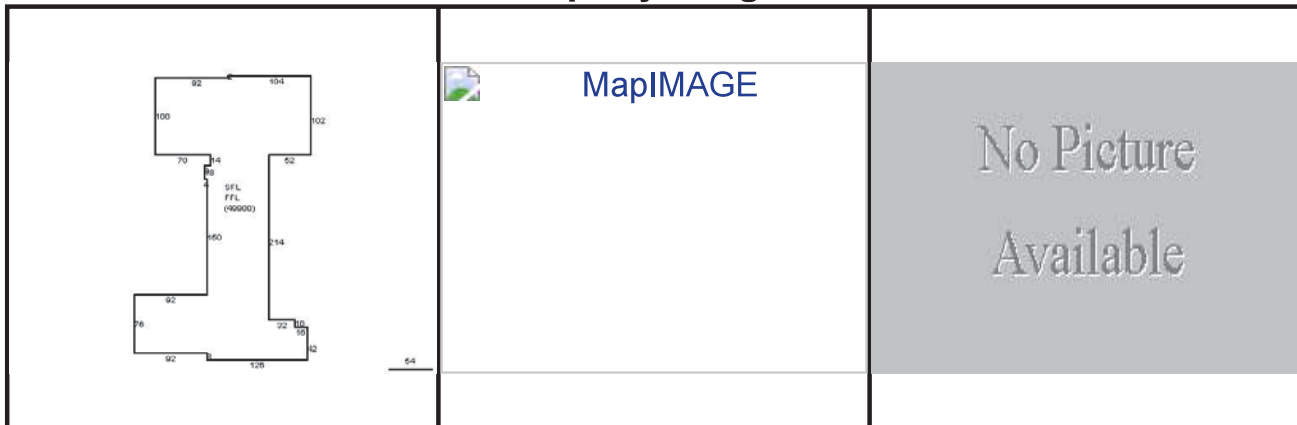
Legal Description

COUNCIL ORDER NUMBER 1116-65; ENGINEERS PLAN 30-G-9129

Narrative Description of Property

This property contains 20.000 acres of land mainly classified as IMPROVED with a(n) ELEMENTARY S style building, built about 1960 , having BRICK exterior and MEMBRANE roof cover, with 1 unit(s), 0 room(s), 0 bedroom(s), 1 bath(s), 20 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID 6 9 MS37	Account Number
Prior Parcel ID SOL --	
Property Owner MASSACHUSETTS, COMMONWEALTH OF FITCHBURG STATE COLLEGE	Property Location 67 RINDGE RD
Mailing Address 53 STATE STREET	Property Use EDUC
	Most Recent Sale Date 10/9/1950
City BOSTON	Legal Reference 677-143
Mailing State MA Zip 02109	Grantor MCKAY, E.
ParcelZoning RA2	Sale Price 1
	Land Area 12.494 acres

Current Property Assessment

Card 1 Value Building Value 120,000	Xtra Features Value 37,800	Land Value 184,200	Total Value 342,000
--	-----------------------------------	---------------------------	----------------------------

Building Description

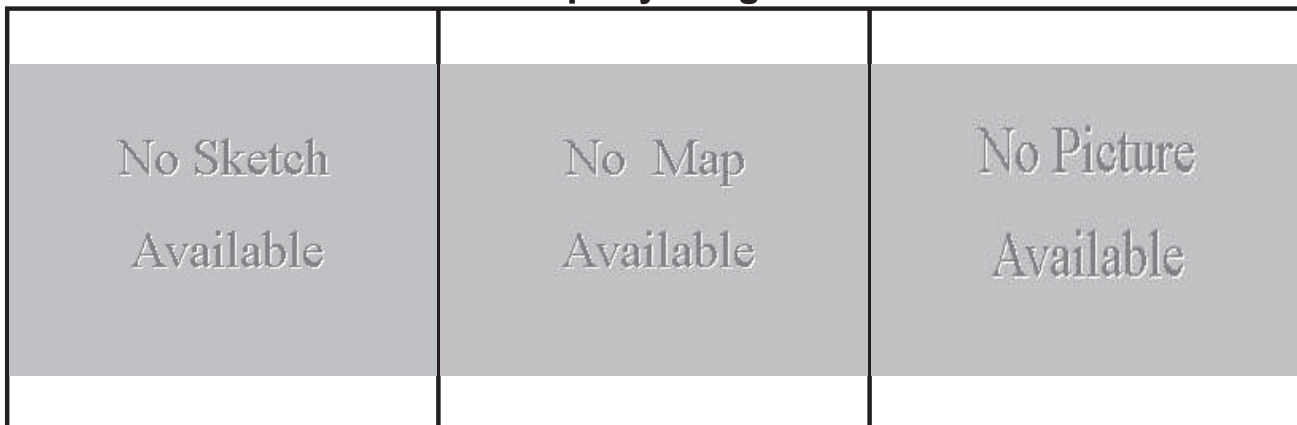
Building Style N/A	Foundation Type N/A	Flooring Type N/A
# of Living Units N/A	Frame Type N/A	Basement Floor N/A
Year Built N/A	Roof Structure N/A	Heating Type N/A
Building Grade N/A	Roof Cover N/A	Heating Fuel N/A
Building Condition Good	Siding N/A	Air Conditioning 0%
Finished Area (SF) N/A	Interior Walls N/A	# of Bsmt Garages 0
Number Rooms 0	# of Bedrooms 0	# of Full Baths 0
# of 3/4 Baths 0	# of 1/2 Baths 0	# of Other Fixtures 0

Legal Description

Narrative Description of Property

This property contains 12.494 acres of land mainly classified as EDUC with a(n) N/A style building, built about N/A , having N/A exterior and N/A roof cover, with N/A unit(s), 0 room(s), 0 bedroom(s), 0 bath(s), 0 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID 6 9 MS37	Account Number
Prior Parcel ID SOL --	
Property Owner MASSACHUSETTS, COMMONWEALTH OF FITCHBURG STATE COLLEGE	Property Location 67 RINDGE RD
Mailing Address 53 STATE STREET	Property Use EDUC
	Most Recent Sale Date 10/9/1950
City BOSTON	Legal Reference 677-143
Mailing State MA Zip 02109	Grantor MCKAY, E.
ParcelZoning RA2	Sale Price 1
	Land Area 12.494 acres

Current Property Assessment

Card 1 Value Building Value 120,000	Xtra Features Value 37,800	Land Value 184,200	Total Value 342,000
--	-----------------------------------	---------------------------	----------------------------

Building Description

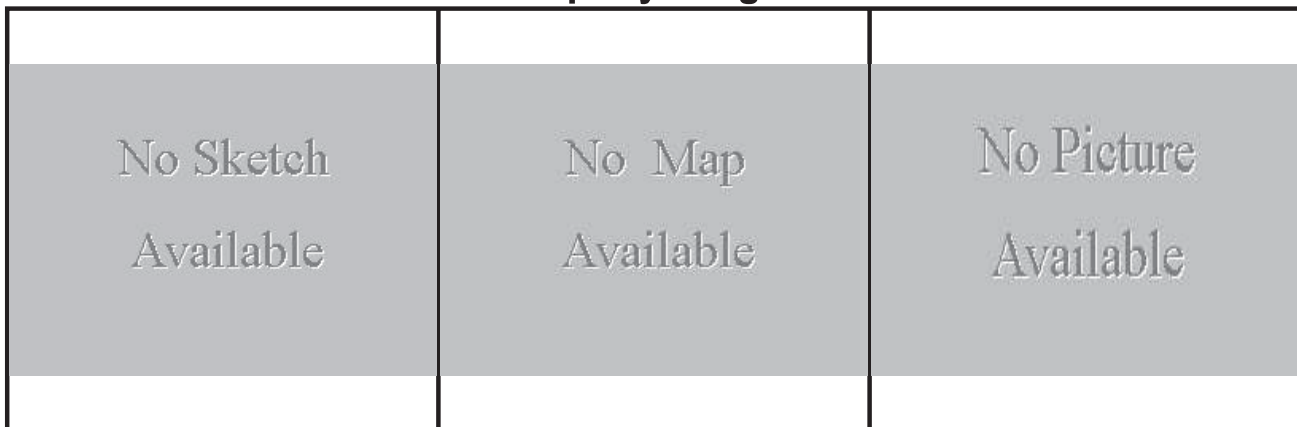
Building Style N/A	Foundation Type N/A	Flooring Type N/A
# of Living Units N/A	Frame Type N/A	Basement Floor N/A
Year Built N/A	Roof Structure N/A	Heating Type N/A
Building Grade N/A	Roof Cover N/A	Heating Fuel N/A
Building Condition Good	Siding N/A	Air Conditioning 0%
Finished Area (SF) N/A	Interior Walls N/A	# of Bsmt Garages 0
Number Rooms 0	# of Bedrooms 0	# of Full Baths 0
# of 3/4 Baths 0	# of 1/2 Baths 0	# of Other Fixtures 0

Legal Description

Narrative Description of Property

This property contains 12.494 acres of land mainly classified as EDUC with a(n) N/A style building, built about N/A , having N/A exterior and N/A roof cover, with N/A unit(s), 0 room(s), 0 bedroom(s), 0 bath(s), 0 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID	104 3 0	Account Number	
Prior Parcel ID	--	Property Location	615 ROLLSTONE ST
Property Owner	FITCHBURG, CITY OF C/O SCHOOL DEPARTMENT	Property Use	IMPROVED
Mailing Address	376 SOUTH STREET	Most Recent Sale Date	
		Legal Reference	
City	FITCHBURG	Grantor	
Mailing State	MA	Sale Price	0
Zip	01420	Land Area	6.096 acres
ParcelZoning	RA2		

Current Property Assessment

Card 1 Value	Building Value	11,277,600	Xtra Features Value	24,000	Land Value	609,400	Total Value	11,911,000
--------------	----------------	------------	---------------------	--------	------------	---------	-------------	------------

Building Description

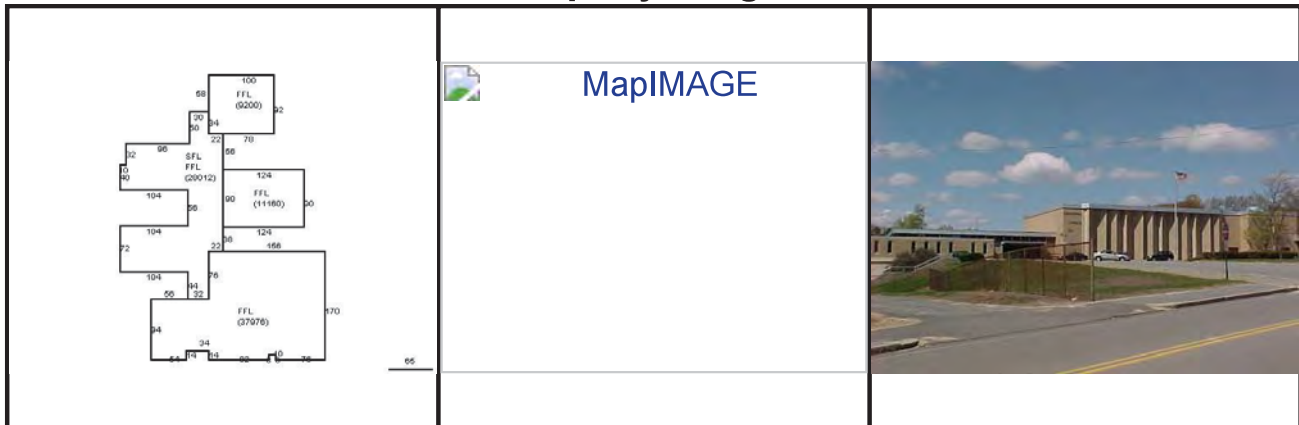
Building Style	SCHOOL	Foundation Type	CONCRETE	Flooring Type	CONCRETE
# of Living Units	1	Frame Type	FIREPF STL	Basement Floor	N/A
Year Built	1960	Roof Structure	FLAT	Heating Type	FORCED H/A
Building Grade	GOOD (+)	Roof Cover	RUBBER	Heating Fuel	OIL
Building Condition	Average	Siding	BRICK	Air Conditioning	0%
Finished Area (SF)	114360	Interior Walls	PLASTER	# of Bsmt Garages	0
Number Rooms	0	# of Bedrooms	0	# of Full Baths	1
# of 3/4 Baths	0	# of 1/2 Baths	20	# of Other Fixtures	20

Legal Description

Narrative Description of Property

This property contains 6.096 acres of land mainly classified as IMPROVED with a(n) SCHOOL style building, built about 1960 , having BRICK exterior and RUBBER roof cover, with 1 unit(s), 0 room(s), 0 bedroom(s), 1 bath(s), 20 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID **30 18 0**
 Prior Parcel ID **--**
 Property Owner **FITCHBURG, CITY OF**
 Mailing Address **376 SOUTH STREET**
 City **FITCHBURG**
 Mailing State **MA** Zip **01420**
 ParcelZoning **RB**

Account Number
 Property Location **62 ACADEMY ST**
 Property Use **IMPROVED**
 Most Recent Sale Date **2/6/1922**
 Legal Reference **381-306**
 Grantor **ARNOLD, A**
 Sale Price **1**
 Land Area **1.757 acres**

Current Property Assessment

Card 1 Value Building Value **1,932,800** Xtra Features Value **20,400** Land Value **133,400** Total Value **2,086,600**

Building Description

Building Style **SCHOOL**
 # of Living Units **1**
 Year Built **1922**
 Building Grade **GOOD (+)**
 Building Condition **Fair**
 Finished Area (SF) **71432**
 Number Rooms **0**
 # of 3/4 Baths **0**

Foundation Type **CONCRETE**
 Frame Type **OTHER**
 Roof Structure **GABLE**
 Roof Cover **SLATE**
 Siding **BRICK**
 Interior Walls **PLASTER**
 # of Bedrooms **0**
 # of 1/2 Baths **10**

Flooring Type **HARDWOOD**
 Basement Floor **N/A**
 Heating Type **STEAM**
 Heating Fuel **OIL**
 Air Conditioning **0%**
 # of Bsmt Garages **0**
 # of Full Baths **1**
 # of Other Fixtures **60**

Legal Description

06/23/1920 ORDER OF TAKING BK 364 PG 234; 52,373 SF;; SEE ORDER 063-10 TRANS. TO BLDG DEPT.

Narrative Description of Property

This property contains 1.757 acres of land mainly classified as IMPROVED with a(n) SCHOOL style building, built about 1922 , having BRICK exterior and SLATE roof cover, with 1 unit(s), 0 room(s), 0 bedroom(s), 1 bath(s), 10 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID 30 19 0 Prior Parcel ID -- Property Owner CHOATE LANE, LLC Mailing Address 750 WHITTENTON STREET #112 City TAUNTON Mailing State MA Zip 02780 ParcelZoning RC	Account Number Property Location 82 ACADEMY ST Property Use APTS >8 Most Recent Sale Date 11/28/2011 Legal Reference 7522-348 Grantor FITCHBURG, CITY OF, Sale Price 5,000 Land Area 0.571 acres
---	---

Current Property Assessment

Card 1 Value Building Value 8,100	Xtra Features Value 0	Land Value 39,000	Total Value 47,100
--	------------------------------	--------------------------	---------------------------

Building Description

Building Style APRTMNT-GN # of Living Units 12 Year Built 1900 Building Grade GOOD (-) Building Condition Poor Finished Area (SF) 16095 Number Rooms 0 # of 3/4 Baths 0	Foundation Type MASONRY Frame Type WOOD Roof Structure MANSARD Roof Cover SLATE Siding BRICK Interior Walls PLASTER # of Bedrooms 0 # of 1/2 Baths 0	Flooring Type HARDWOOD Basement Floor N/A Heating Type STEAM Heating Fuel OIL Air Conditioning 0% # of Bsmt Garages 0 # of Full Baths 0 # of Other Fixtures 0
--	---	--

Legal Description

10/04/1848 BK 439 PG--599; 8/6/1867 BK 745-468; 10/26/1872 BK. 885 PG. 151 L. PATCH; SEE ORDER 063-10 TRANSFER TO BUILDING DEPT.

Narrative Description of Property

This property contains 0.571 acres of land mainly classified as APTS >8 with a(n) APRTMNT-GN style building, built about 1900 , having BRICK exterior and SLATE roof cover, with 12 unit(s), 0 room(s), 0 bedroom(s), 0 bath(s), 0 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID **30 24 0**
 Prior Parcel ID **--**
 Property Owner **FITCHBURG, CITY OF**
C/O SCHOOL DEPARTMENT
 Mailing Address **376 SOUTH STREET**

 City **FITCHBURG**
 Mailing State **MA** Zip **01420**
 ParcelZoning **RC**

Account Number **0**
 Property Location **98 ACADEMY ST**
 Property Use **IMPROVED**
 Most Recent Sale Date **7/19/1893**
 Legal Reference **65-605**
 Grantor **DAVIS, D.**
 Sale Price **1**
 Land Area **1.577 acres**

Current Property Assessment

Card 1 Value Building Value **15,000,100** Xtra Features Value **0** Land Value **119,700** Total Value **15,119,800**

Building Description

Building Style **SCHOOL**
 # of Living Units **1**
 Year Built **1936**
 Building Grade **VERY GOOD**
 Building Condition **Average**
 Finished Area (SF) **144800**
 Number Rooms **0**
 # of 3/4 Baths **0**

Foundation Type **MASONRY**
 Frame Type **OTHER**
 Roof Structure **GABLE**
 Roof Cover **SLATE**
 Siding **BRICK**
 Interior Walls **PLASTER**
 # of Bedrooms **0**
 # of 1/2 Baths **20**

Flooring Type **HARDWOOD**
 Basement Floor **N/A**
 Heating Type **STEAM**
 Heating Fuel **OIL**
 Air Conditioning **0%**
 # of Bsmt Garages **0**
 # of Full Baths **1**
 # of Other Fixtures **60**

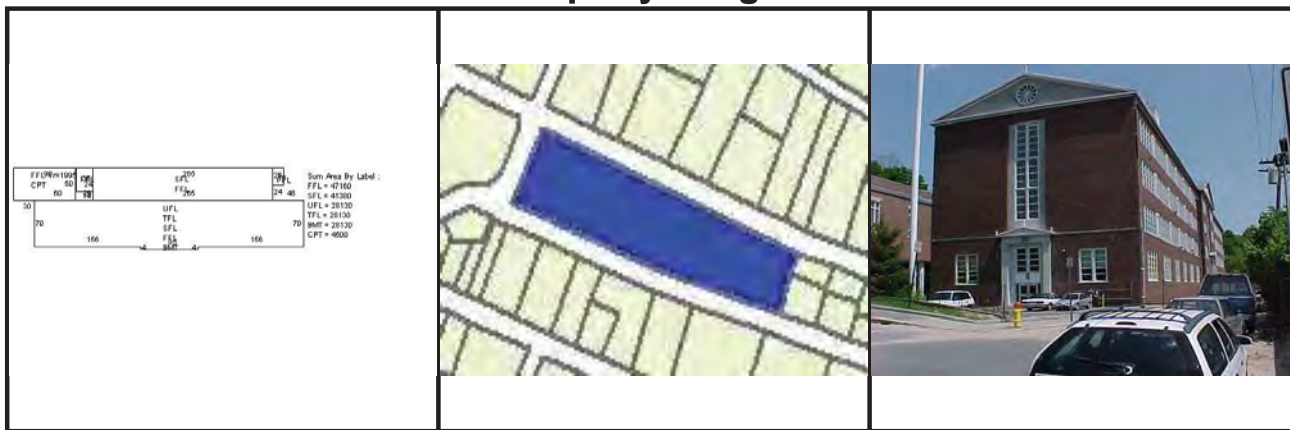
Legal Description

7/19/1893 BK-65 PG- 608; 65-611; 522-333; 65-609; 5/17/1935 BK 520/259

Narrative Description of Property

This property contains 1.577 acres of land mainly classified as IMPROVED with a(n) SCHOOL style building, built about 1936 , having BRICK exterior and SLATE roof cover, with 1 unit(s), 0 room(s), 0 bedroom(s), 1 bath(s), 20 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID	323 1 0	Account Number	0
Prior Parcel ID	--	Property Location	140 ARN-HOW FARM RD
Property Owner	FITCHBURG, CITY OF C/O SCHOOL DEPARTMENT	Property Use	IMPROVED
Mailing Address	376 SOUTH STREET	Most Recent Sale Date	4/30/1996
City	FITCHBURG	Legal Reference	2847-312
Mailing State	MA	Grantor	SUMNER, ARNOLD E. JR. TRS
ParcelZoning	RR	Sale Price	350,000
		Land Area	71.644 acres

Current Property Assessment

Card 1 Value	Building Value	36,028,700	Xtra Features Value	163,600	Land Value	2,843,100	Total Value	39,035,400
--------------	----------------	------------	---------------------	---------	------------	-----------	-------------	------------

Building Description

Building Style	SCHOOL	Foundation Type	CONCRETE	Flooring Type	ASPHL TILE
# of Living Units	1	Frame Type	STEEL	Basement Floor	N/A
Year Built	1999	Roof Structure	GABLE	Heating Type	FORCED H/W
Building Grade	GOOD (+)	Roof Cover	ASPHALT SH	Heating Fuel	GAS
Building Condition	Good	Siding	BRICK	Air Conditioning	50%
Finished Area (SF)	259736	Interior Walls	DRYWALL	# of Bsmt Garages	0
Number Rooms	0	# of Bedrooms	0	# of Full Baths	0
# of 3/4 Baths	0	# of 1/2 Baths	55	# of Other Fixtures	30

Legal Description

PLAN 467 PG 10

Narrative Description of Property

This property contains 71.644 acres of land mainly classified as IMPROVED with a(n) SCHOOL style building, built about 1999 , having BRICK exterior and ASPHALT SH roof cover, with 1 unit(s), 0 room(s), 0 bedroom(s), 0 bath(s), 55 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Unofficial Property Record Card - Fitchburg, MA

General Property Data

Parcel ID	71 42 0	Account Number	0
Prior Parcel ID	--	Property Location	111 GOODRICH ST
Property Owner	FITCHBURG, CITY OF C/O SCHOOL DEPARTMENT	Property Use	IMPROVED
Mailing Address	376 SOUTH STREET	Most Recent Sale Date	3/11/1891
		Legal Reference	45-269
City	FITCHBURG	Grantor	GOODRICH, A.
Mailing State	MA	Zip	01420
Parcel Zoning	RB	Sale Price	1
		Land Area	0.839 acres

Current Property Assessment

Card 1 Value	Building Value	954,200	Xtra Features Value	12,800	Land Value	46,100	Total Value	1,013,100
--------------	----------------	---------	---------------------	--------	------------	--------	-------------	-----------

Building Description

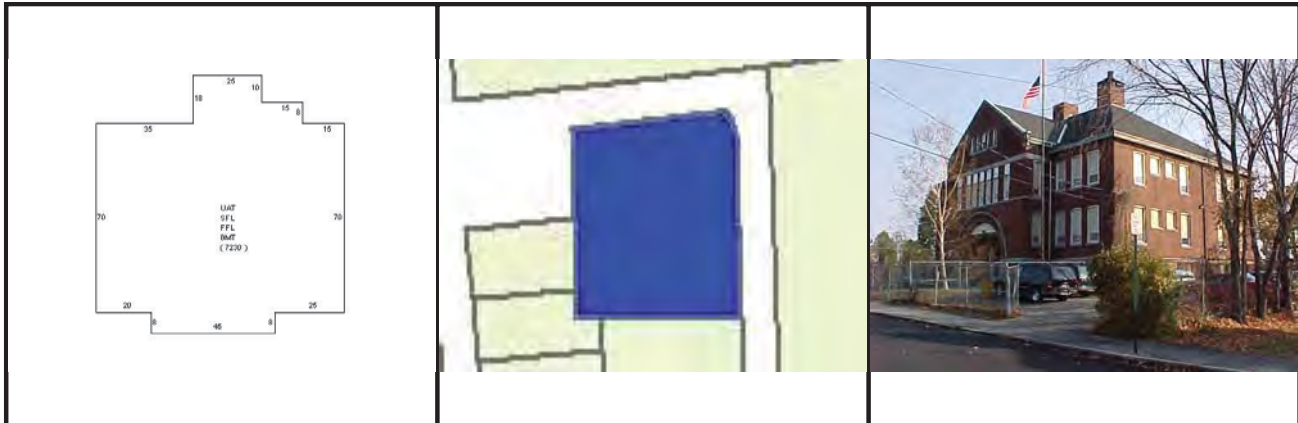
Building Style	SCHOOL	Foundation Type	CONCRETE	Flooring Type	SOFTWOOD
# of Living Units	1	Frame Type	OTHER	Basement Floor	N/A
Year Built	1900	Roof Structure	GABLE	Heating Type	FORCED H/A
Building Grade	GOOD (-)	Roof Cover	SLATE	Heating Fuel	OIL
Building Condition	Fair	Siding	BRICK	Air Conditioning	0%
Finished Area (SF)	14460	Interior Walls	PLASTER	# of Bsmt Garages	0
Number Rooms	0	# of Bedrooms	0	# of Full Baths	1
# of 3/4 Baths	0	# of 1/2 Baths	4	# of Other Fixtures	2

Legal Description

Narrative Description of Property

This property contains 0.839 acres of land mainly classified as IMPROVED with a(n) SCHOOL style building, built about 1900, having BRICK exterior and SLATE roof cover, with 1 unit(s), 0 room(s), 0 bedroom(s), 1 bath(s), 4 half bath(s).

Property Images



Disclaimer: This information is believed to be correct but is subject to change and is not warranted.

Massachusetts Department of Revenue
Division of Local Services
Municipal Databank/Local Aid Section
EQV Ratios

- 1. Where present, uncheck NULL boxes and enter values (no commas) to set min and max data ranges.
- 2. Report will always include all data, but will display only communities within set ranges.
- 3. Click "View Report" and scroll down to check report status.
- 4. To view or sort data, export to Excel.

[Close](#)

Municipality	Fitchburg	Year	2014
--------------	-----------	------	------

1 of 1 Find | Next

EQV Ratios

Municipality / Fiscal Year	Residential	Open Space	Commercial	Industrial	Personal Property	Aggregate	
097 Fitchburg	2014	0.95	0.00	0.94	0.94	1.00	0.95

**MASSACHUSETTS DEPARTMENT OF REVENUE
BUREAU OF LOCAL ASSESSMENT
FINAL 2014 EQUALIZATION STUDY
January 29, 2015**

FITCHBURG

Class	Assessed Value	Assessment Ratio	Estimated Full Value
Residential	\$1,622,193,081	0.95	\$1,707,571,700
Open Space	0		0
Commercial	209,564,577	0.94	222,786,000
Industrial	110,933,200	0.94	118,014,000
Personal Property	123,041,728	1.00	123,041,700
Total Real/Personal Property	\$2,065,732,586	0.95	\$2,171,413,400
Estimated Growth		1.04%	22,582,700
Proposed Equalized Valuation			\$2,193,996,100
Chapter 121A			3,102,200
2014 Final Equalized Valuation			\$2,197,098,300